

October 20, 2020

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

RE: Notice of Exempt Modification
1291 Bantam Road, Litchfield, CT
Latitude: 41.717183
Longitude: -73.260928
T-Mobile Site #: CTNH546A_L600

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 115-foot level of the existing 149-foot Monopole Tower at 1291 Bantam Rd. Bantam, CT. The 149-foot tower is owned by SBA Towers V, LLC. The property is owned by Robert & Judith Hammer. T-Mobile now intends to remove three (3) 600/700MHz antennas with three (3) new 600/700MHz antennas. The new antennas would be installed at the 115-foot level of the tower.

Please note: Per the Connecticut Siting Council Website: CSC COVID 19 Guidelines.
In order to prevent the spread of Coronavirus and protect the health and safety of our members and staff, as of March 18, 2020, the Connecticut Siting Council shall convert to full remote operations until March 30, 2020. Please be advised that during this time period, all hard copy filing requirements will be waived in lieu of an electronic filing. Please also be advised that the March 26, 2020 regular meeting shall be held via teleconference. The Council's website is not equipped with an on-line filing fee receipt service. Therefore, filing fees and/or direct cost charges associated with matters received electronically during the above-mentioned time period will be directly invoiced at a later date.

Planned Modifications:

TOWER

Remove:

- N/A

Remove and Replace:

- (3) Commscope LNX-6515DS-A1M antenna – (remove) – (3) RFS APXVAARR24_43-U-NA20 antenna (replace)
- (3) Ericsson RRUS 11 – (remove) – (3) Ericsson Radio 4449 B71+b12 (replace)

Install New:

- (1) 1-5/8" Fiber
- Rotatable T-Arm kit

Existing Equipment to Remain:

- (2) 1-5/8" Hybrid
- (3) T-Arm (Site Pro #RMV12-3XX)

Entitlements:

- (2) 1-5/8" Fiber

GROUND

Install New:

- Upgrade Equipment inside existing 6102 cabinet
- (1) Symmetricon 58532A GPS antenna

This facility was approved by the Council on December 9, 2003 under Docket 258. Approval was given for a monopole with low profile antennas not to exceed a height of 150-feet above ground level. An RF report was to be provided with circumstances caused a change in RF levels. Upon the establishment of any new State or Federal RF standards applicable to the facility, it was to be brought into compliance. Space was to be permitted to public or private entities for fair consideration or reasons provided precluding same. Space was to be provided for no compensation for any municipal antennas provided they were compatible with the structural integrity of the tower. And any obsolete antenna was to be removed within 60 days. There were no further post construction stipulations set. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Litchfield's First Selectman, Denise Raap, and Land Use Administrator, Dennis P. Tobin, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modification will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-referenced telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

G. Scott Shepherd
 Site Development Specialist II
 SBA COMMUNICATIONS CORPORATION
 134 Flanders Rd., Suite 125
 Westborough, MA 01581
 508.251.0720 x3807 + T
 508.366.2610 + F
 508.868.6000 + C
 gshepherd@sbsite.com

Attachments

cc: Denise Raap, First Selectman / with attachments
Town of East Litchfield, 74 West Street, Litchfield, CT 06759
 Dennis P. Tobin, Land Use Administrator / with attachments
Town of East Litchfield, 74 West Street, Litchfield, CT 06759
 Robert & Judith Hammer / with attachments
30 Revere Road Washington CT 06793 (SBA address on file)

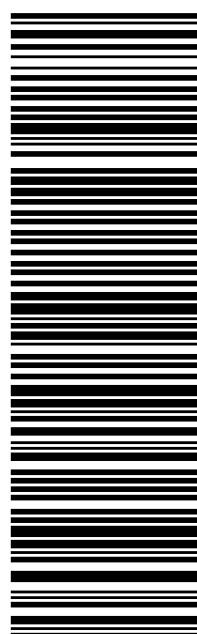
Exhibit List

Exhibit 1	Check Copy	X To be invoiced at a later date per COVID 19 guidelines
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	Docket 258 CSC 12/9/2003
Exhibit 6	Construction Drawings	Chappell Engineering Assoc. 9/17/19
Exhibit 7	Modification Drawings	TES 7/23/19
Exhibit 8	Structural Analysis	TES 7/11/19
Exhibit 9	Post-Mod Mount Analysis	TES 7/26/19
Exhibit 10	EME Report	Transcom 6/13/19

EXHIBIT 1

Normally, Exhibit 1
would contain the copy
of the check for the
filing fee.

EXHIBIT 2

ORIGIN ID: BFFA (508) 614-0389 RICK WOODS SBA COMMUNICATIONS CORPORATION 134 FLANDERS RD SUITE 125 WESTBOROUGH, MA 01581 UNITED STATES US		SHIP DATE: 20OCT20 ACTWGT: 1.00 LB CAD: 105843304/NET4280 BILL SENDER
TO MELANIE A. BACHMAN EXEC. DIR CONNECTICUT SITING COUNCIL TEN FRANKLIN SQUARE		
NEW BRITAIN CT 06051 (508) 251-0720 X 3807 REF: 105692009-6089 INV: DEPT:		
 		
TRK# 7718 4630 8954 0201	WED - 21 OCT 10:30A PRIORITY OVERNIGHT	
EB BDLA CT-US BDL 06051		

56B,12/A27E/B766

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID: BFFA (508) 614-0389 RICK WOODS SBA COMMUNICATIONS CORPORATION 134 FLANDERS RD SUITE 125 WESTBOROUGH, MA 01581 UNITED STATES US		SHIP DATE: 20OCT20 ACTWGT: 1.00 LB CAD: 105843304/MET4280
TO DENISE RAAP, 1ST SELECTMAN TOWN OF LITCHFIELD 74 WEST STREET LITCHFIELD CT 06759 (508) 251-0720 X 3807 INV: REF: 1056-92009-6089 PO: DEPT:		BILL SENDER
 		
TRK# 7718 4641 0800 0201	WED - 21 OCT 10:30A PRIORITY OVERNIGHT	
EB HFDA CT-US BDL 06759		

56B,I2/A27E/B766

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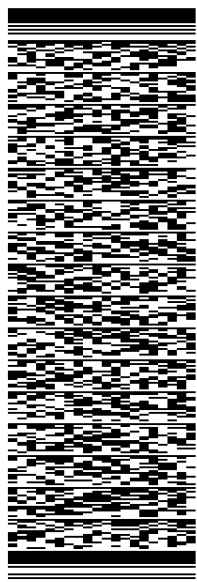
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ORIGIN ID: BFA	(508) 614-0389	SHIP DATE: 20OCT20
RICK WOODS		ACTWGT: 1.00 LB
SBA COMMUNICATIONS CORPORATION		CAD: 105843304/NET4280
134 FLANDERS RD		
SUITE 125		
WESTBOROUGH, MA 01581		
UNITED STATES US		
TO DENNIS TOBIN, LAND USE ADMIN.		BILL SENDER
TOWN OF LITCHFIELD		
74 WEST STREET		
LITCHFIELD CT 06759		
(508) 251-0720 X 3807	REF: 1056-92009-6089	
INV:		
PO:	DEPT:	



TRK#	7718 4642 7106	WED - 21 OCT 10:30A
0201		PRIORITY OVERNIGHT
EB HFDA		06759
CT-US		BDL


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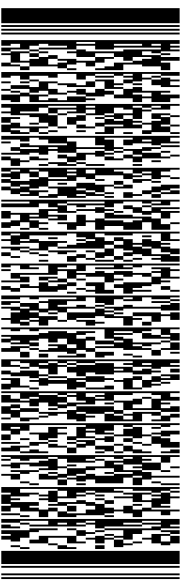
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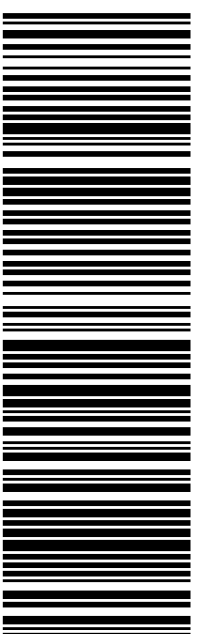
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TO ROBERT & JUDITH HAMMER 30 REVERE RD. WASHINGTON CT 06793 (508) 251-0720 X 3807 INV: REF: 1056-92009-6089 PO: DEPT:		BILL SENDER

TRK# 7718 4646 2391
 0201

WED - 21 OCT 10:30A
 PRIORITY OVERNIGHT




EB HFDA
 CT-US BDL
 06793


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EXHIBIT 3

1293 BANTAM RD

Location 1293 BANTAM RD

Mblu 61/ 87/ 42/ /

Acct# 008045

Owner HAMMER ROBERT & JUDITH
ET AL

Assessment \$883,500

PID 1384

Building Count 4

Current Value

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$638,430	\$245,070	\$883,500

Owner of Record

Owner HAMMER ROBERT & JUDITH ET AL
Co-Owner

Sale Price \$300,000
Certificate
Book & Page 307/ 353
Sale Date 03/14/2007
Instrument 08

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
HAMMER ROBERT & JUDITH ET AL	\$300,000		307/ 353	08	03/14/2007
HAMMER ROBERT ET AL	\$0		307/ 350		03/14/2007
HAMMER ROBERT & JOHN JR	\$0		135/ 574	25	04/19/1969

Building Information

Building 1 : Section 1

Year Built: 1970
Living Area: 988
Replacement Cost: \$221,961
Building Percent 70
Good:
Replacement Cost
Less Depreciation: \$155,370

Building Attributes	
Field	Description

STYLE	Restaurant
MODEL	Comm/Ind
Grade	D
Stories	1
Occupancy	1
Exterior Wall 1	Brick
Exterior Wall 2	Concr/Cinder
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Ceramic Tile
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Hot Air
Central Air	None
Sprinkler %	0
Bldg Use	Commercial
Total Rooms	0
Full Baths	0
Half Baths	0
Extra Fixtures	0
Total Fixtures	0
1st Floor Use	
Heat/AC	None
Frame Type	Reinf. Concr
Baths/Plumbing	Average
Common Wall	0
Wall Height	10
Perimeter	128

Building 2 : Section 1

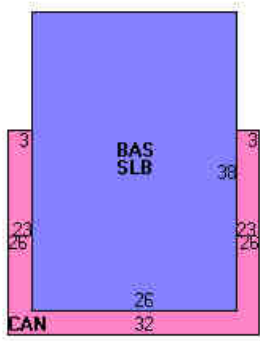
Year Built:	1977
Living Area:	450
Replacement Cost:	\$107,423
Building Percent Good:	84
Replacement Cost Less Depreciation:	\$90,240
Building Attributes : Bldg 2 of 4	
Field	Description
STYLE	Office

Building Photo



(<http://images.vgsi.com/photos/LitchfieldCTPhotos//\00\00\92\3>

Building Layout



(<http://images.vgsi.com/photos/LitchfieldCTPhotos//Sketches/13>

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	988	988
CAN	Canopy	234	0
SLB	Slab	988	0
		2,210	988

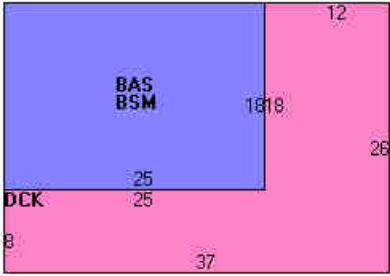
MODEL	Comm/Ind
Grade	D
Stories	1
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Arch Shingles
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Elec Baseboard
Central Air	None
Sprinkler %	0
Bldg Use	Commercial
Total Rooms	0
Full Baths	0
Half Baths	1
Extra Fixtures	0
Total Fixtures	2
1st Floor Use	
Heat/AC	None
Frame Type	Wood Frame
Baths/Plumbing	Average
Common Wall	0
Wall Height	9
Perimeter	86

Building Photo



(<http://images.vgsi.com/photos/LitchfieldCTPhotos//\00\00\92\3>

Building Layout



(<http://images.vgsi.com/photos/LitchfieldCTPhotos//Sketches/13>

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	450	450
BSM	Basement	450	0
DCK	Deck	512	0
		1,412	450

Building 3 : Section 1

Year Built:	2005
Living Area:	360
Replacement Cost:	\$33,787
Building Percent Good:	87
Replacement Cost Less Depreciation:	\$29,390
Building Attributes : Bldg 3 of 4	
Field	Description
STYLE	Pre-Eng Warehs

MODEL	Comm/Ind
Grade	A
Stories	1
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Rolled
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Concrete
Interior Floor 2	
Heating Fuel	None
Heating Type	None
Central Air	None
Sprinkler %	0
Bldg Use	Commercial
Total Rooms	0
Full Baths	0
Half Baths	0
Extra Fixtures	0
Total Fixtures	0
1st Floor Use	
Heat/AC	None
Frame Type	Reinf. Concr
Baths/Plumbing	Average
Common Wall	0
Wall Height	10
Perimeter	84

Building 4 : Section 1

Year Built:	2005
Living Area:	240
Replacement Cost:	\$23,950
Building Percent Good:	87
Replacement Cost Less Depreciation:	\$20,840

Building Attributes : Bldg 4 of 4	
Field	Description
STYLE	Pre-Eng Warehs
MODEL	Comm/Ind

Building Photo



(<http://images.vgsi.com/photos/LitchfieldCTPhotos//\00\00\92\3>)

Building Layout



(<http://images.vgsi.com/photos/LitchfieldCTPhotos//Sketches/13>)

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	360	360
SLB	Slab	360	0
		720	360

Grade	A
Stories	1
Occupancy	0
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Rolled
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Average
Interior Floor 2	
Heating Fuel	None
Heating Type	None
Central Air	None
Sprinkler %	0
Bldg Use	Commercial
Total Rooms	0
Full Baths	0
Half Baths	0
Extra Fixtures	0
Total Fixtures	0
1st Floor Use	
Heat/AC	None
Frame Type	Reinf. Concr
Baths/Plumbing	Average
Common Wall	0
Wall Height	10
Perimeter	64

Building Photo



(http://images.vgsi.com/photos/LitchfieldCTPhotos//\00\00\92\4

Building Layout



(http://images.vgsi.com/photos/LitchfieldCTPhotos//Sketches/13

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	240	240
SLB	Slab	240	0
		480	240

Extra Features

Extra Features	<u>Legend</u>
No Data for Extra Features	

Land

Land Use		Land Line Valuation	
Use Code	201	Size (Acres)	12.51
Description	Commercial	Frontage	

Zone

Neighborhood

Category

5

200

Depth

Assessed Value

\$245,070

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
CTWR	Cell Tower			3 UNITS	\$615,600	1
FN1	Fence			200 L.F.	\$600	4

Valuation History

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$620,010	\$245,070	\$865,080
2016	\$620,010	\$245,070	\$865,080
2015	\$620,010	\$245,070	\$865,080

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EXHIBIT 4

Google Maps 1293 Bantam Rd



Map data ©2019 200 ft



1293 Bantam Rd

Bantam, CT 06750



Directions



Save



Nearby



Send to your phone



Share



PP8P+VW Litchfield, CT

Photos



At this location

Gooseboro Drive-In

4.3 ★★★★★ (71)

Hamburger · 1293 Bantam Rd

Opens at 11:00 AM



EXHIBIT 5

DOCKET NO. 258 - Sprint Spectrum, L.P. d/b/a Sprint PCS }
application for a Certificate of Environmental Compatibility and }
Public Need for the construction, maintenance and operation of a }
wireless telecommunications facility at one of two sites on }
Bantam Road, Litchfield, Connecticut. }

Connecticut

Siting

Council

December 9, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the proposed site B located at 1291-1293 Bantam Road, Litchfield, Connecticut. The Council denies certification of proposed site A owned by Kathleen Higgins on Route 202 in Litchfield, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole with low profile antennas, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower shall not exceed a height of 150-feet above ground level.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, landscaping, and the movement of the tower compound not more than 50 feet to the southeast to increase wetland buffers; and
 - b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing. The Certificate Holder shall provide space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.
6. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
8. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Waterbury Republican-American and The Litchfield Enquirer.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant

Sprint Spectrum, L.P.
d/b/a Sprint PCS

Its Representative

Thomas J. Regan, Esq.
Brown Rudnick Berlack Israels LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402

Intervenor

Town of Litchfield

Its Representative

Steven E. Byrne, Esq.
Byrne & Byrne
2-B Farmington Commons
790 Farmington Avenue
Farmington, Connecticut 06032

CERTIFICATION

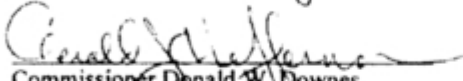
The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in **DOCKET NO. 258** - Sprint Spectrum, L.P. d/b/a Sprint PCS application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at one of two sites on Bantam Road, Litchfield, Connecticut, and voted as follows to approve the proposed Candidate B site located on Bantam Road, Litchfield, Connecticut, and deny certification of the proposed Candidate A site:

Council Members

Vote Cast


Pamela B. Katz, P.E., Chairman

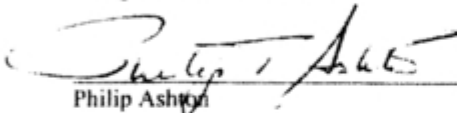
Yes


Commissioner Donald W. Downes
Designee: Gerald J. Heffernan

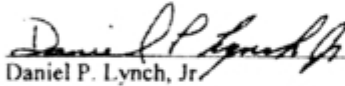
Abstain


Commissioner Arthur J. Rocque, Jr.
Designee: Brian J. Emerick

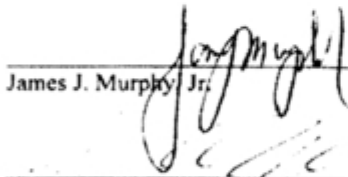
Yes


Philip Ashton

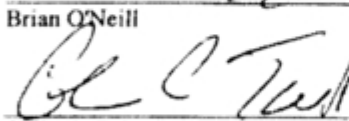
Yes


Daniel P. Lynch, Jr.

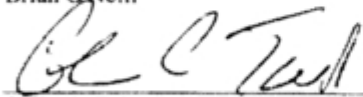
Yes


James J. Murphy, Jr.

Abstain


Brian O'Neill

Yes


Colin C. Tait

Yes


Edward S. Wilensky

Yes

Dated at New Britain, Connecticut December 9, 2003.

STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:



S. Derek Phelps
Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 258 has been forwarded by Certified First Class Return Receipt Requested mail on December 12, 2003, to all parties and intervenors of record as listed on the attached service list, dated July 8, 2003.

ATTEST:



Lisa A. Fontaine
Administrative Assistant
Connecticut Siting Council

EXHIBIT 6

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS): GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

CTH546A / BAYCOM LITCHFIELD

APPROVALS

PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

1291 BANTAM ROAD
BANTAM, CT 06750
LITCHFIELD COUNTY

SITE NO.: CTH546A

SITE TYPE: 149'± MONOPOLE

RF DESIGN GUIDELINE: 67D07C 6102 MUAC

SITE NOTES

- THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
 - ADA COMPLIANCE NOT REQUIRED.
 - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
 - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
 - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
 - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

GENERAL NOTES

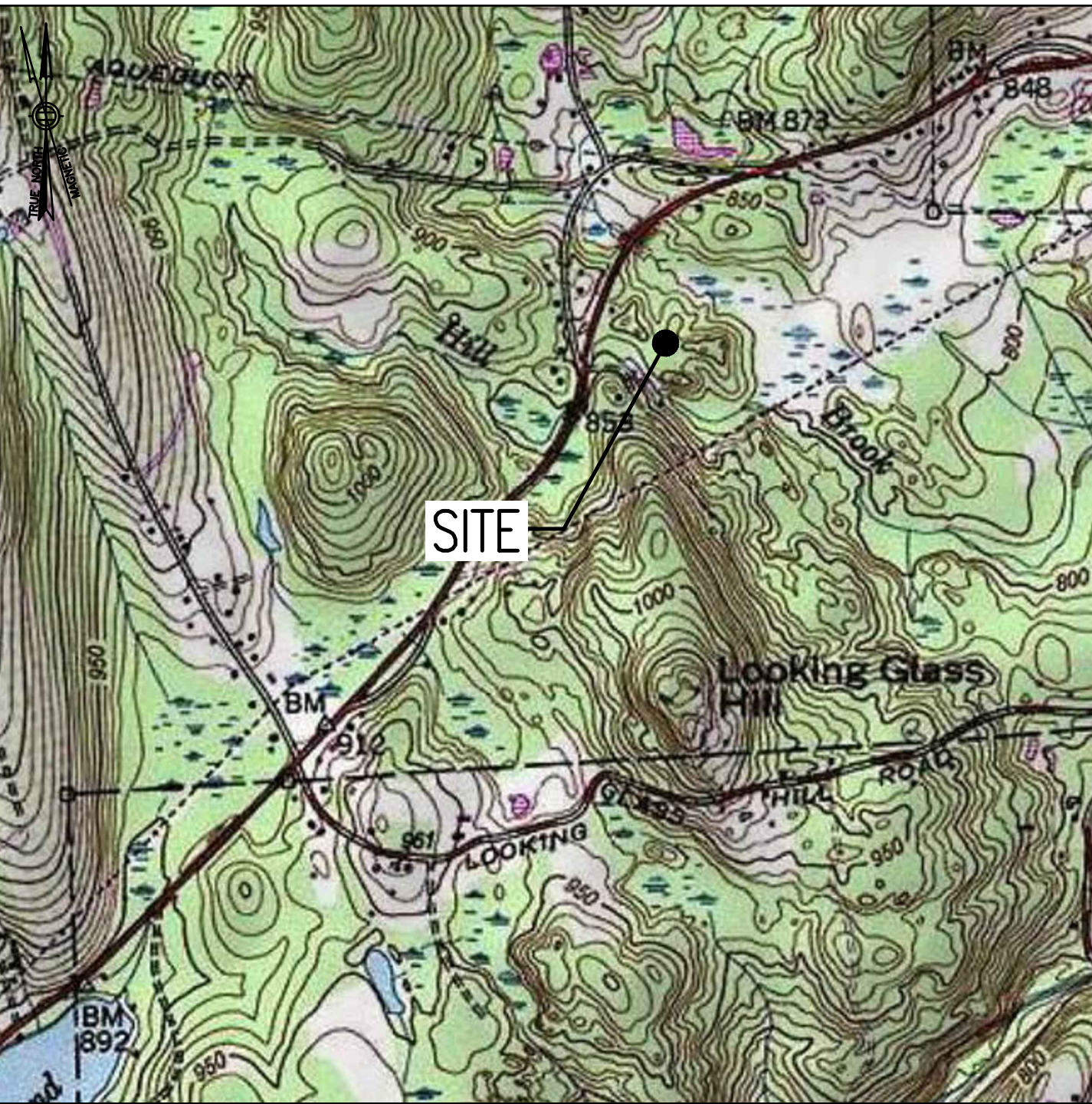
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811



VICINITY MAP

SCALE: 1" = 1000'-0"



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLAN	1
A-2	TOWER ELEVATIONS & ANTENNA PLAN	1
A-3	SITE DETAILS	1
E-1	ELECTRIC & GROUNDING DETAILS	1

SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

PROJECT SUMMARY

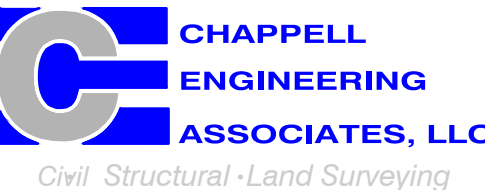
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SBA SITE NUMBER:	CT12215-A
SBA SITE NAME:	LITCHFIELD 3, CT
SITE ADDRESS:	1291 BANTAM ROAD BANTAM, CT 06750
PROPERTY OWNER:	ROBERT & JUDITH HAMMER 30 REVERE ROAD WASHINGTON, CT 06793
TOWER OWNER:	SBA TOWERS V, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	LITCHFIELD COUNTY
ZONING DISTRICT:	R-80 RESIDENTIAL DISTRICT
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	149'
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
SBA RSM:	STEPHEN ROTH PHONE: 860-539-4920 EMAIL: SROth@sbasite.com
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: N.41.717180° (41°-43'-1.85") LONGITUDE W.-73.260930° (-73°-15'-39.35")

T-MOBILE
NORTHEAST LLC

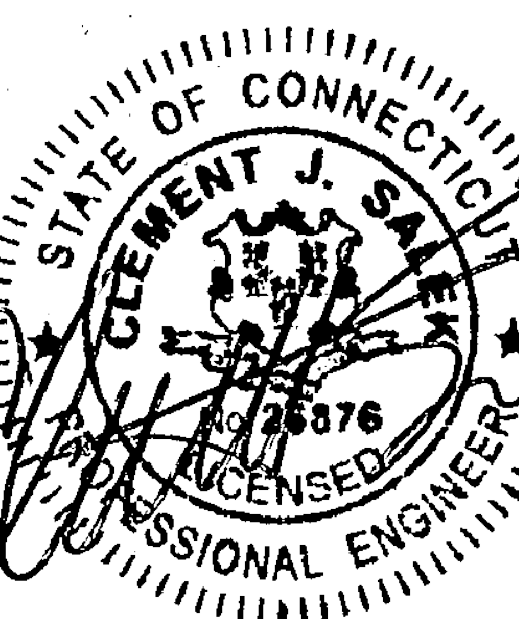
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720



R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	09/17/19	ISSUED FOR CONSTRUCTION	BDJ
0	06/07/19	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTNH546A

SITE ADDRESS:
1291 BANTAM ROAD
BANTAM, CT 06750

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – T-MOBILE
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – T-MOBILE
OEM – ORIGINAL EQUIPMENT MANUFACTURER
- 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.
- 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, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND 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 AND/OR LANDLORD PRIOR TO CONSTRUCTION.
- 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 THE OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
- THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
- CONSTRUCTION SHALL COMPLY WITH ALL T-MOBILE STANDARDS AND SPECIFICATIONS.
- 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.
- THE EXISTING CELL SITES ARE 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 SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- IF THE EXISTING CELL SITE IS 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 TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER
OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS1½ IN.
- A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
- CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T-MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
- COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
- AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

- FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T-MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.
- COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
- CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

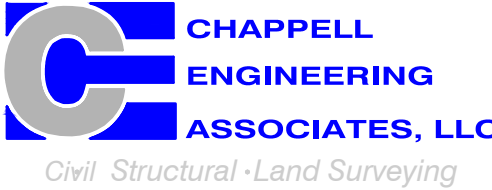
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
- POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATINGS, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

T-MOBILE
NORTHEAST LLC

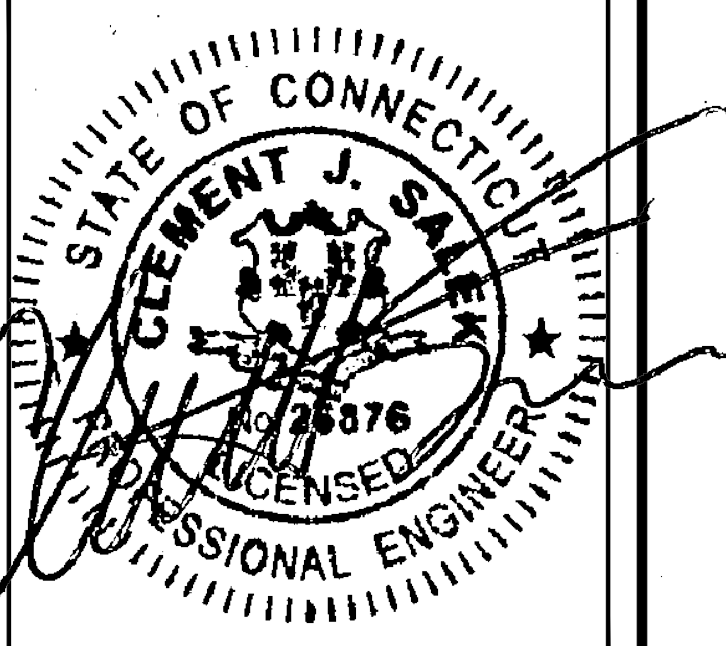
15 COMMERCE WAY, SUITE B
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(508) 481-7400
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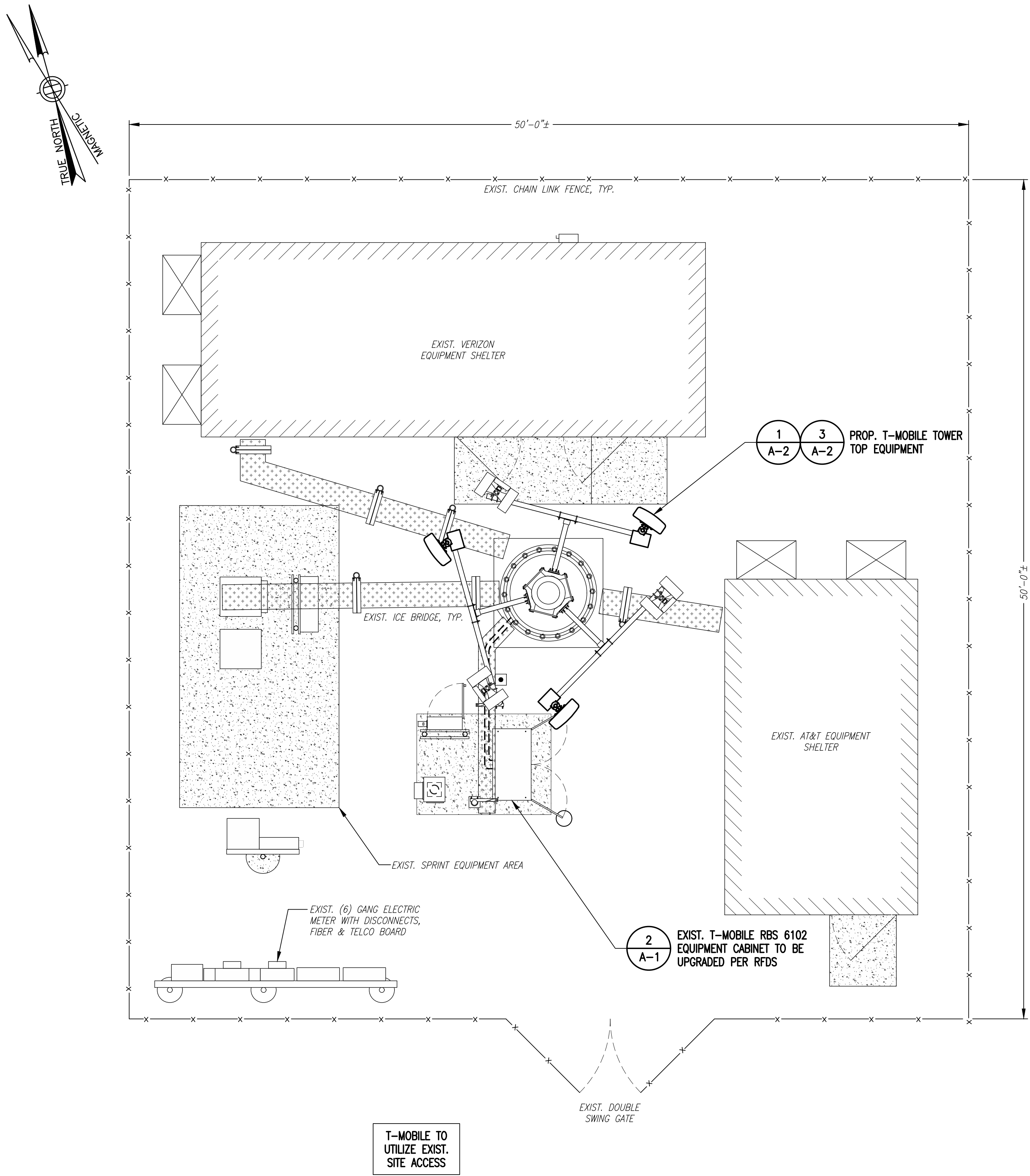
SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS, SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

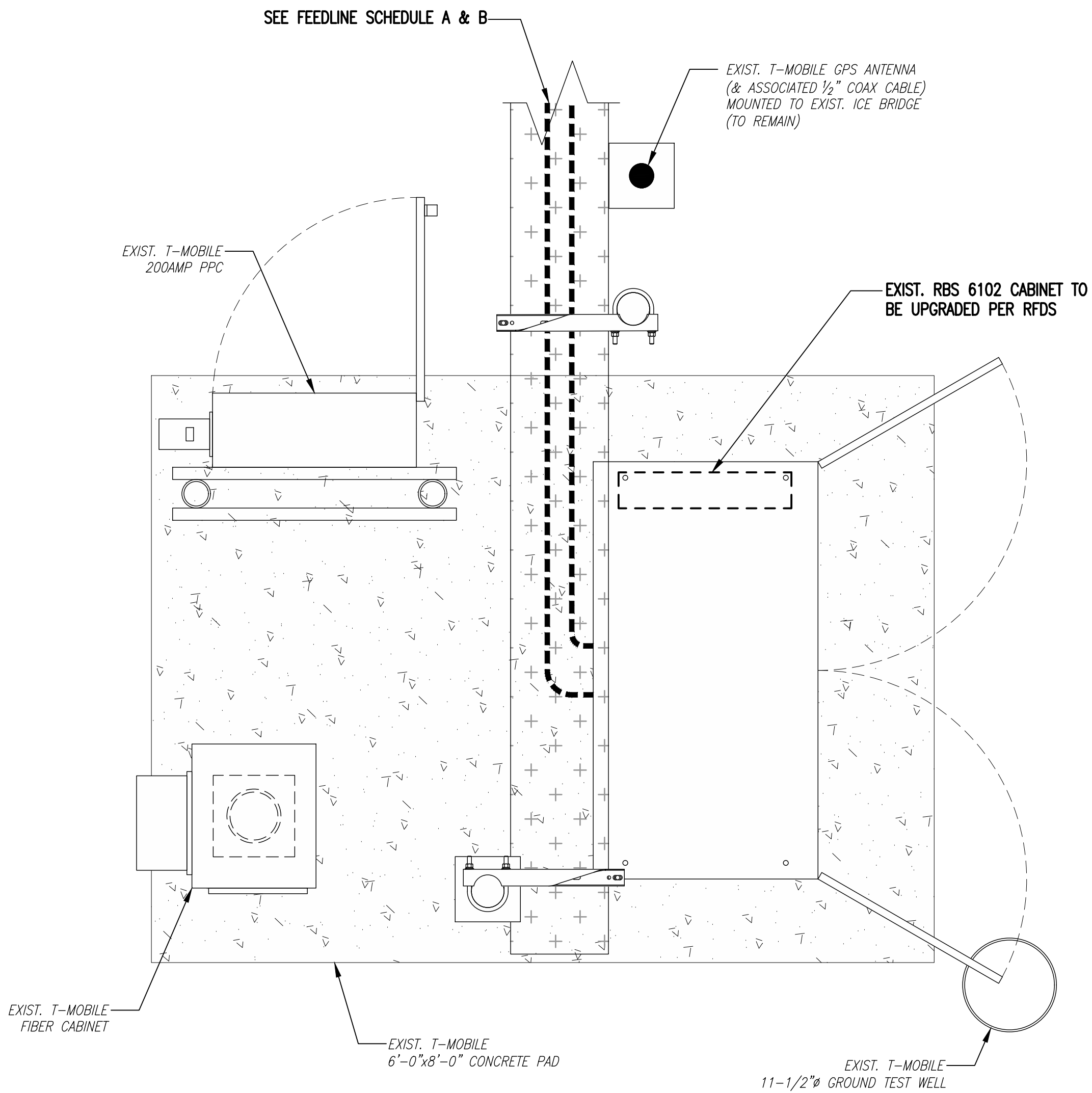


COMPOUND PLAN

1
A-1

FEEDLINE SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (2) 1-5/8" HCS FIBER CABLES	ROUTED PER TOWER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 1-5/8" HCS FIBER CABLE	

NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS, RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.



PROPOSED EQUIPMENT PLAN

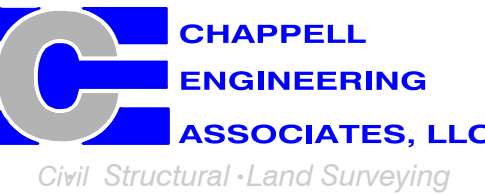
2
A-1

T-MOBILE NORTHEAST LLC

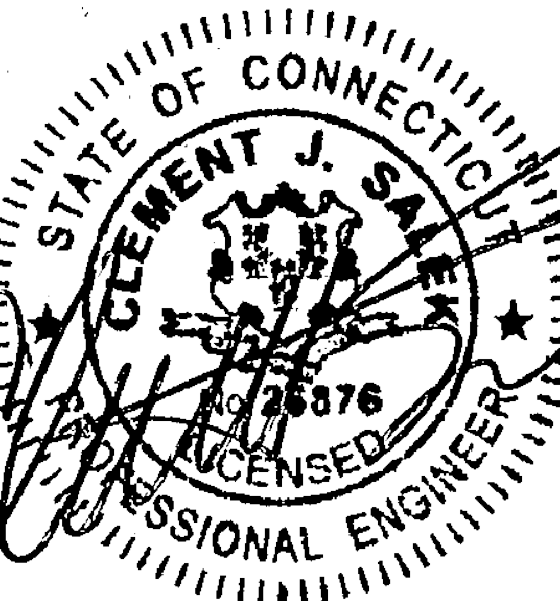
15 COMMERCE WAY, SUITE B
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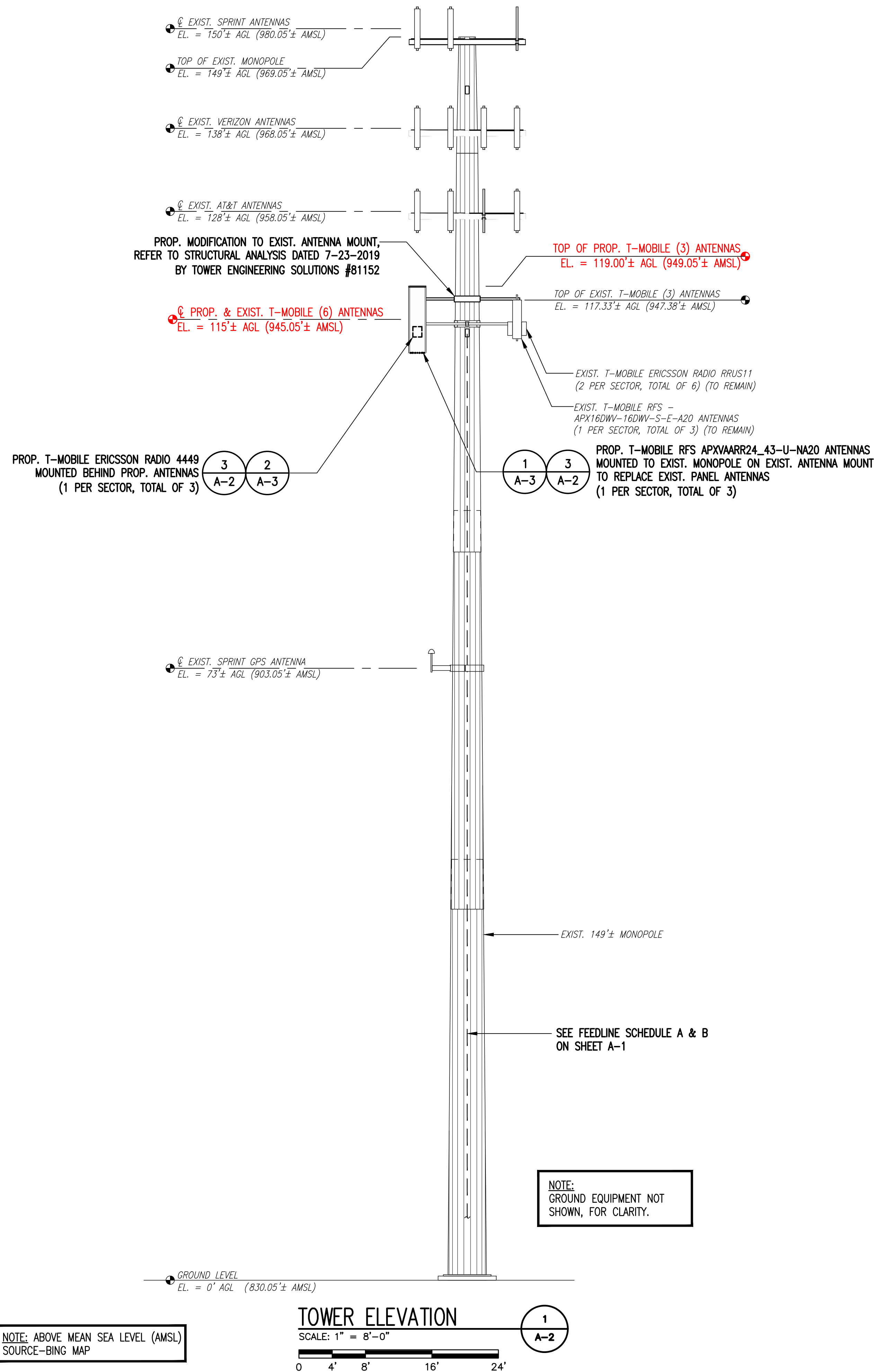
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SHEET TITLE
COMPOUND &
EQUIPMENT PLAN

SHEET NUMBER
A-1

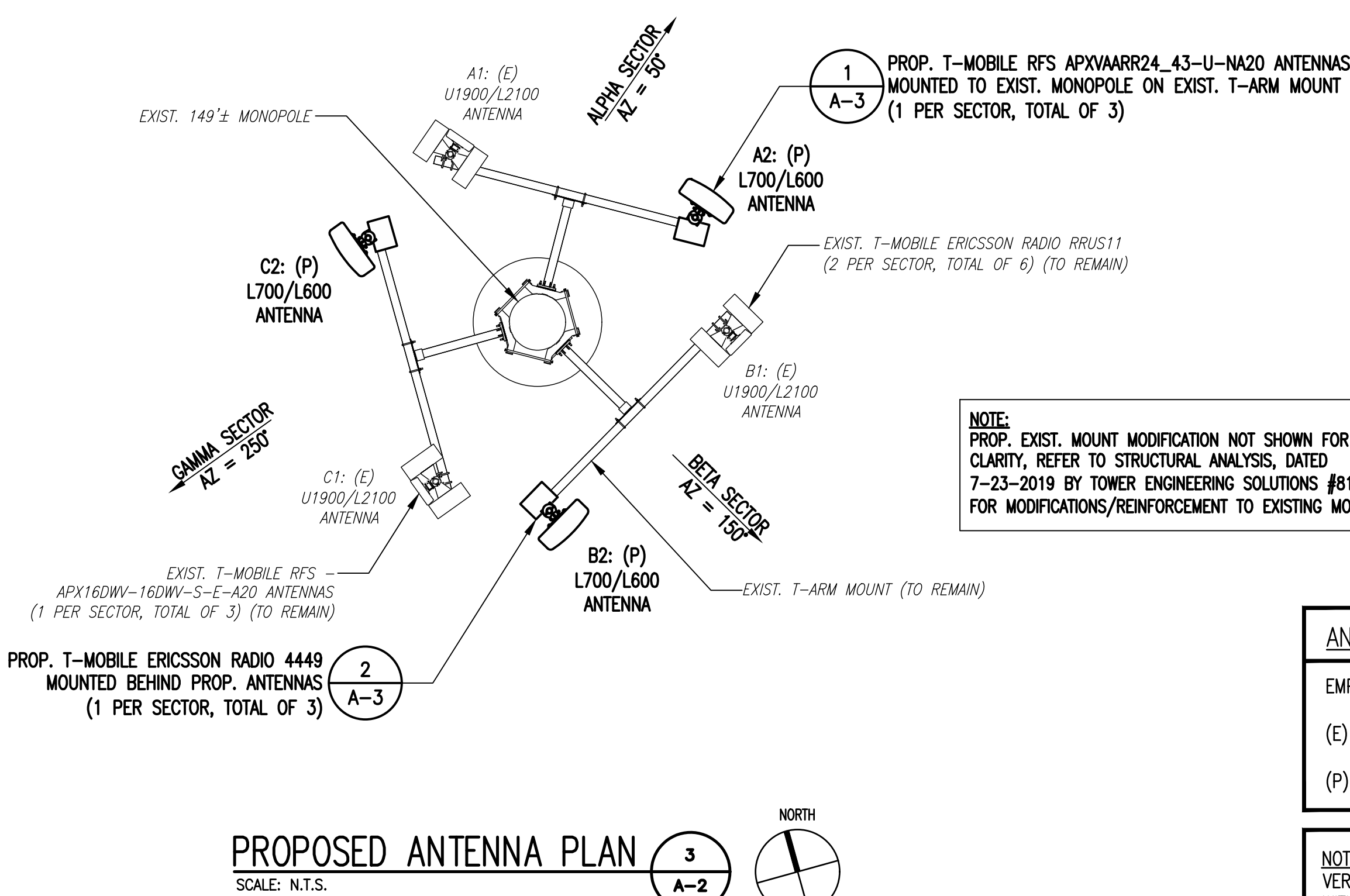
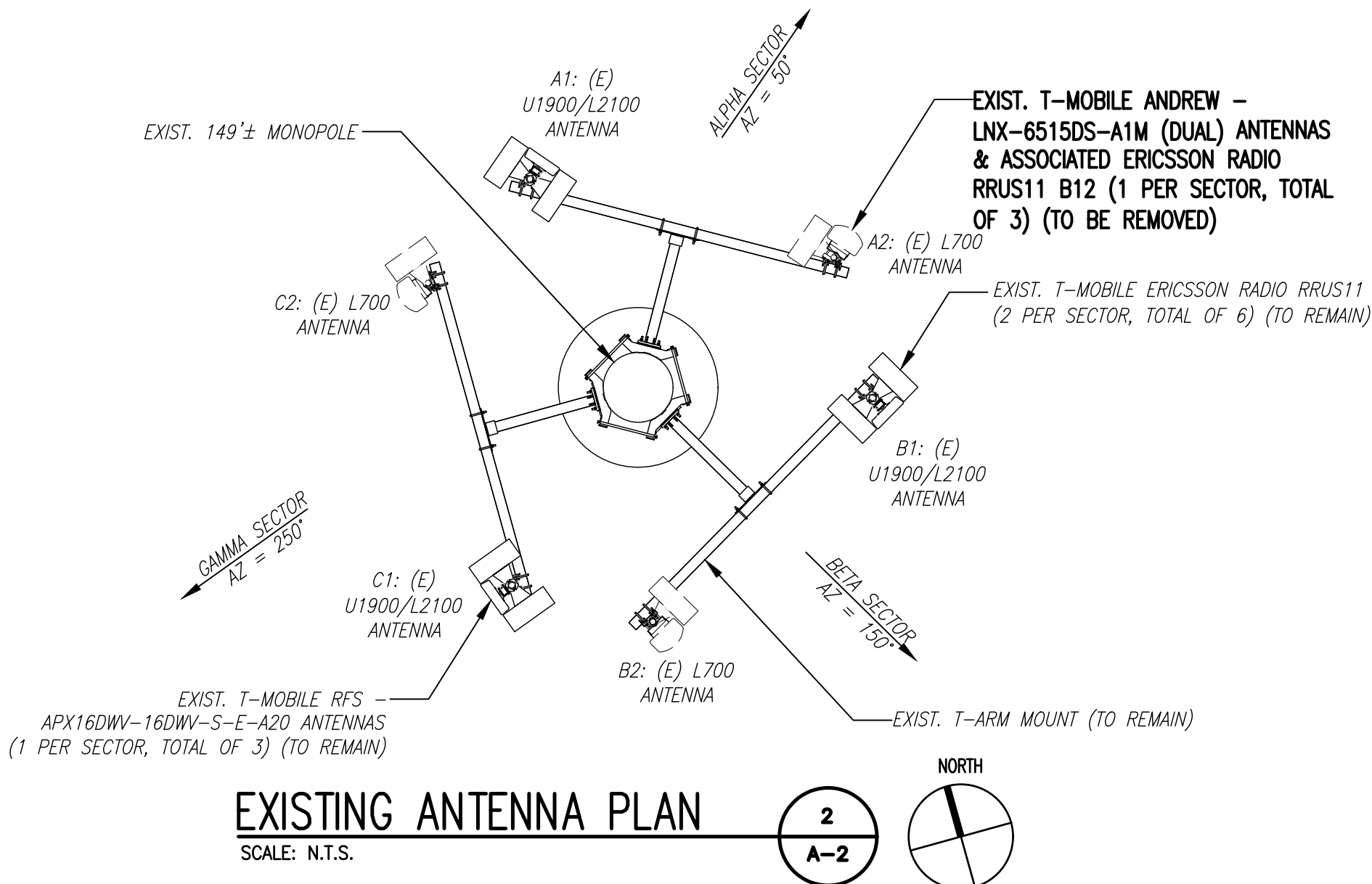
SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).



SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

RAD CENTER NOTE:
T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED
CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS.
THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING
INFORMATION DERIVED FROM THE T-MOBILE RFDS.

GENERAL CONTRACTOR SHALL REFER TO MOUNT
STRUCTURAL ANALYSIS AND ANY MOUNT
MODIFICATION DESIGN PROVIDED BY SBA



ANTENNA LEGEND:

EMPTY - EMPTY PIPE

(E) - EXISTING

(P) - INSTALL

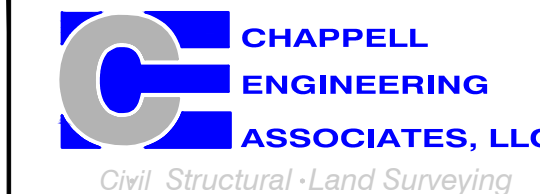
NOTE:
VERIFY PROPOSED AZIMUTHS
WITH RF ENGINEER PRIOR TO
INSTALLATION.

T-MOBILE
NORTHEAST LLC

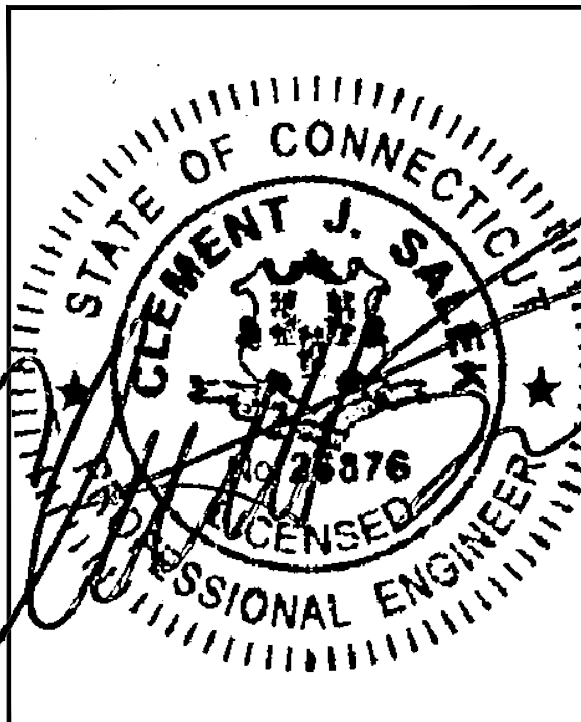
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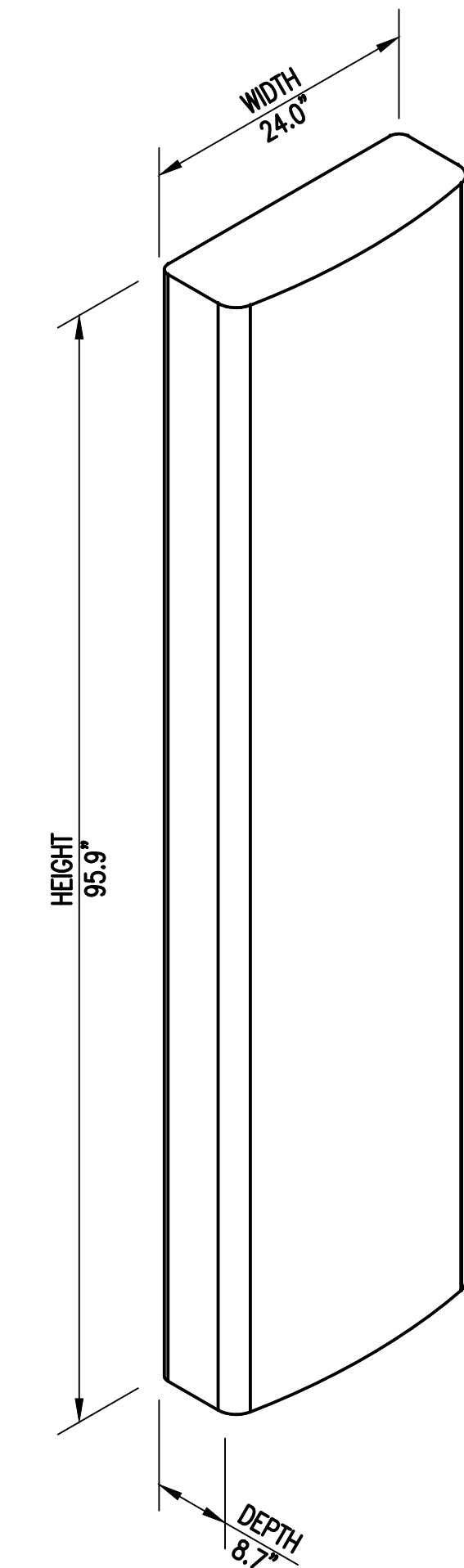
SHEET TITLE

TOWER ELEVATIONS &
ANTENNA PLAN

SHEET NUMBER

A-2

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	RFS - APX16DW-16DW-S-E-A20	115'± AGL	50°	0°	2°	U1900	ERICSSON RADIOS RRUS11 B2	(2) 1-5/8" HCS CABLES (1) 1-5/8" HCS FIBER CABLE
						L2100	ERICSSON RADIOS RRUS11 B4	
BETA	RFS APXVAARR24_43-U-NA20	115'± AGL	50°	0°	2°	L600/L700	ERICSSON RADIO 4449 B71+B12	
						U1900	ERICSSON RADIOS RRUS11 B2	
GAMMA	RFS - APX16DW-16DW-S-E-A20	115'± AGL	150°	0°	2°	L2100	ERICSSON RADIOS RRUS11 B4	
						L600/L700	ERICSSON RADIO 4449 B71+B12	
BETA	RFS APXVAARR24_43-U-NA20	115'± AGL	150°	0°	2°	L600/L700	ERICSSON RADIO 4449 B71+B12	
						U1900	ERICSSON RADIOS RRUS11 B2	
GAMMA	RFS - APX16DW-16DW-S-E-A20	115'± AGL	250°	0°	2°	L2100	ERICSSON RADIOS RRUS11 B4	
						L600/L700	ERICSSON RADIO 4449 B71+B12	



RFS APXVAARR24_43-NA20 PANEL ANTENNA
DIMENSIONS: 95.9"H x 24.0"W x 8.7"D
WEIGHT: 128.0 LBS
1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS
SCALE: N.T.S.

1
A-3



ERICSSON RADIO 4449 B12+B71
DIMENSIONS: 14.9"H x 13.2"W x 9.3"D
WEIGHT: 74.0 LBS
1 PER SECTOR, TOTAL OF 3

RRU DETAIL
SCALE: N.T.S.

2
A-3

T-MOBILE
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SBA

SBA COMMUNICATIONS CORP.
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(508) 251-0720

CHAPPELL
ENGINEERING
ASSOCIATES, LLC

Civil Structural Land Surveying

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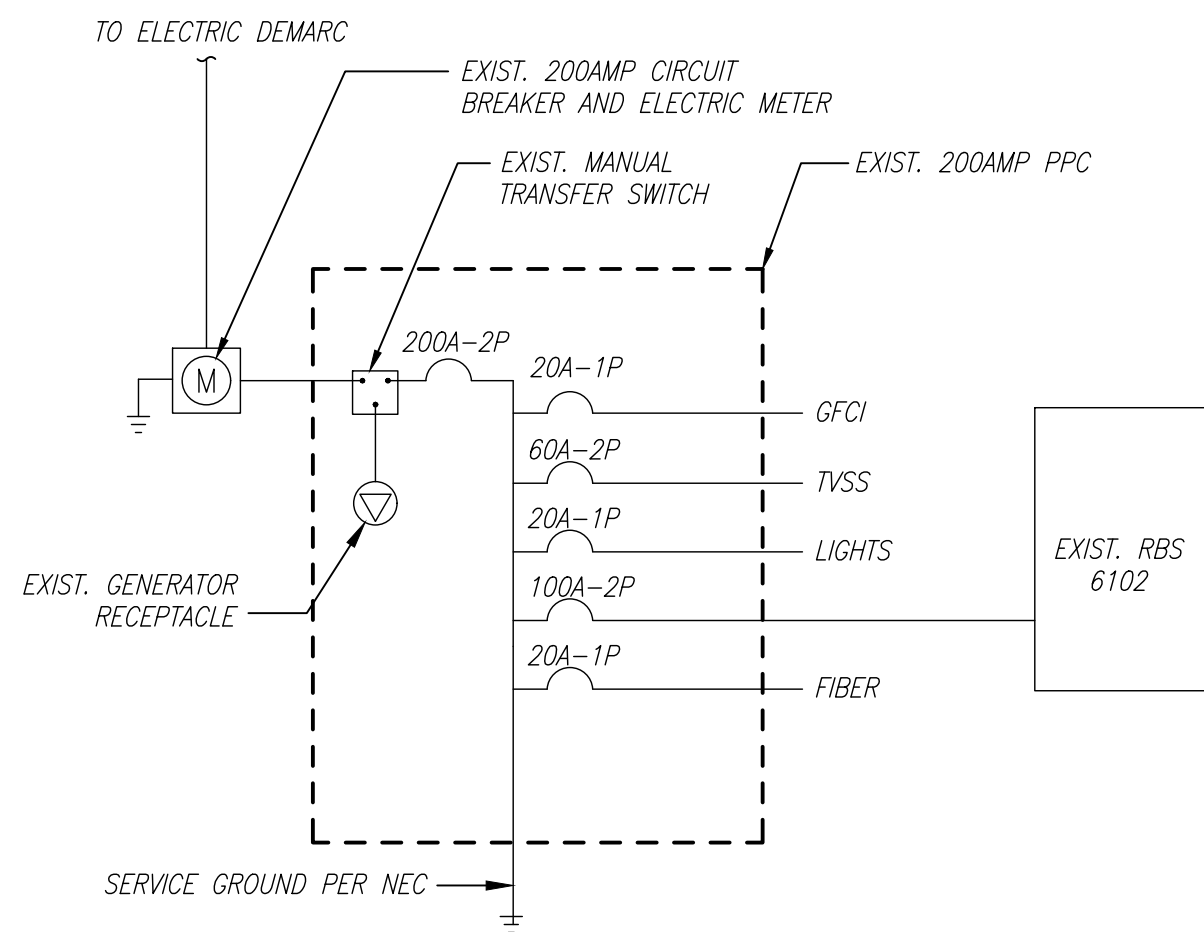
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SITE DETAILS

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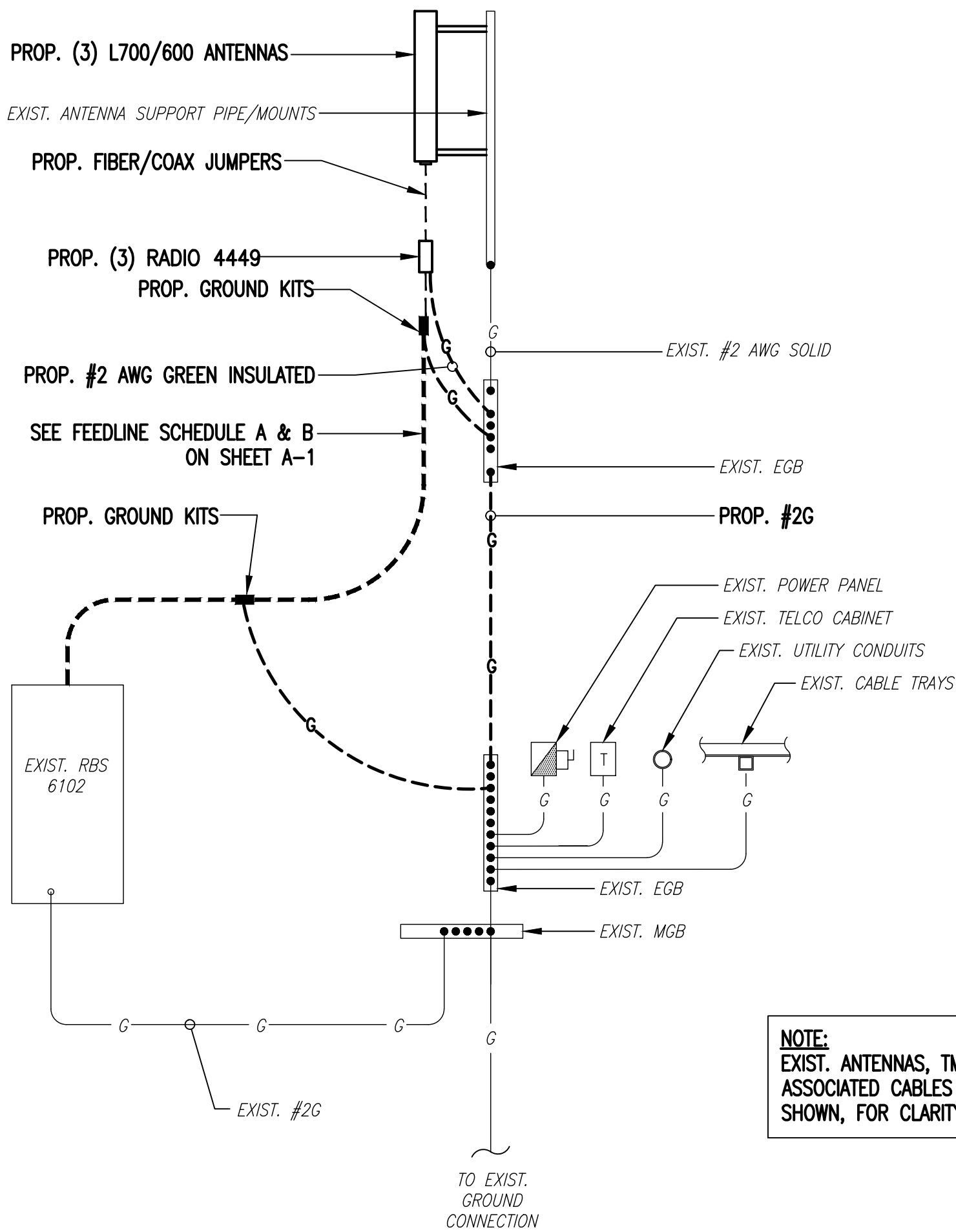
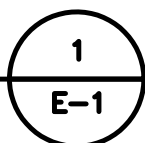
A-3

1815.119



ONE LINE DIAGRAM

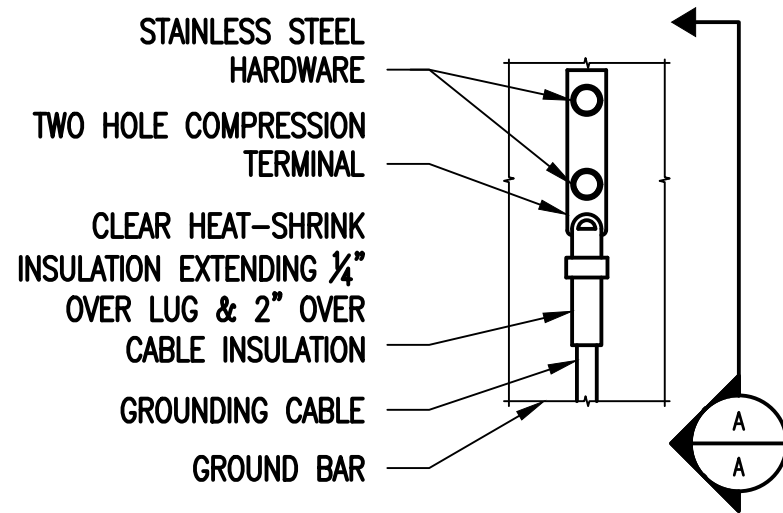
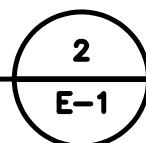
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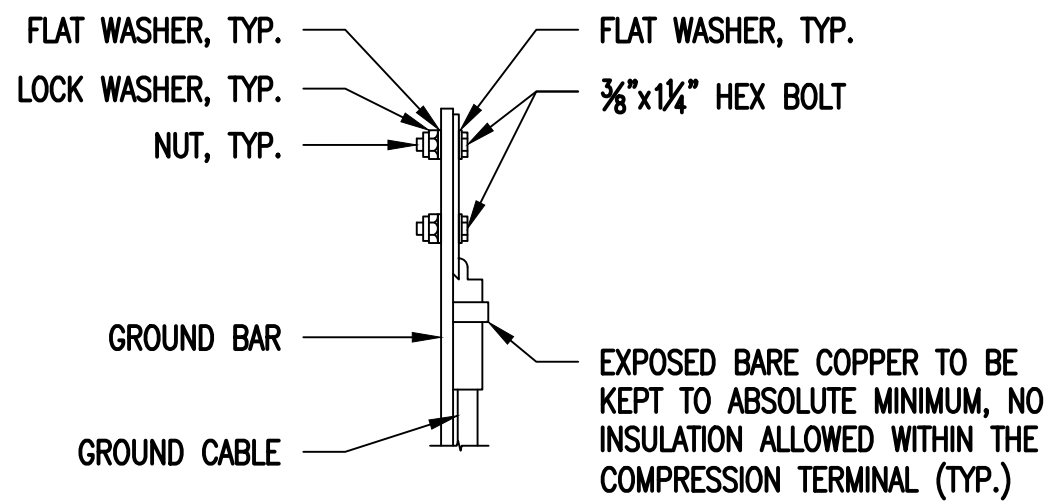
GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE

NOTE:
EXIST. ANTENNAS, TMAS &
ASSOCIATED CABLES NOT
SHOWN, FOR CLARITY.



ELEVATION

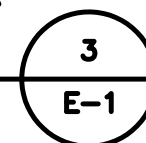


SECTION A-A

- NOTES:
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
 - CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

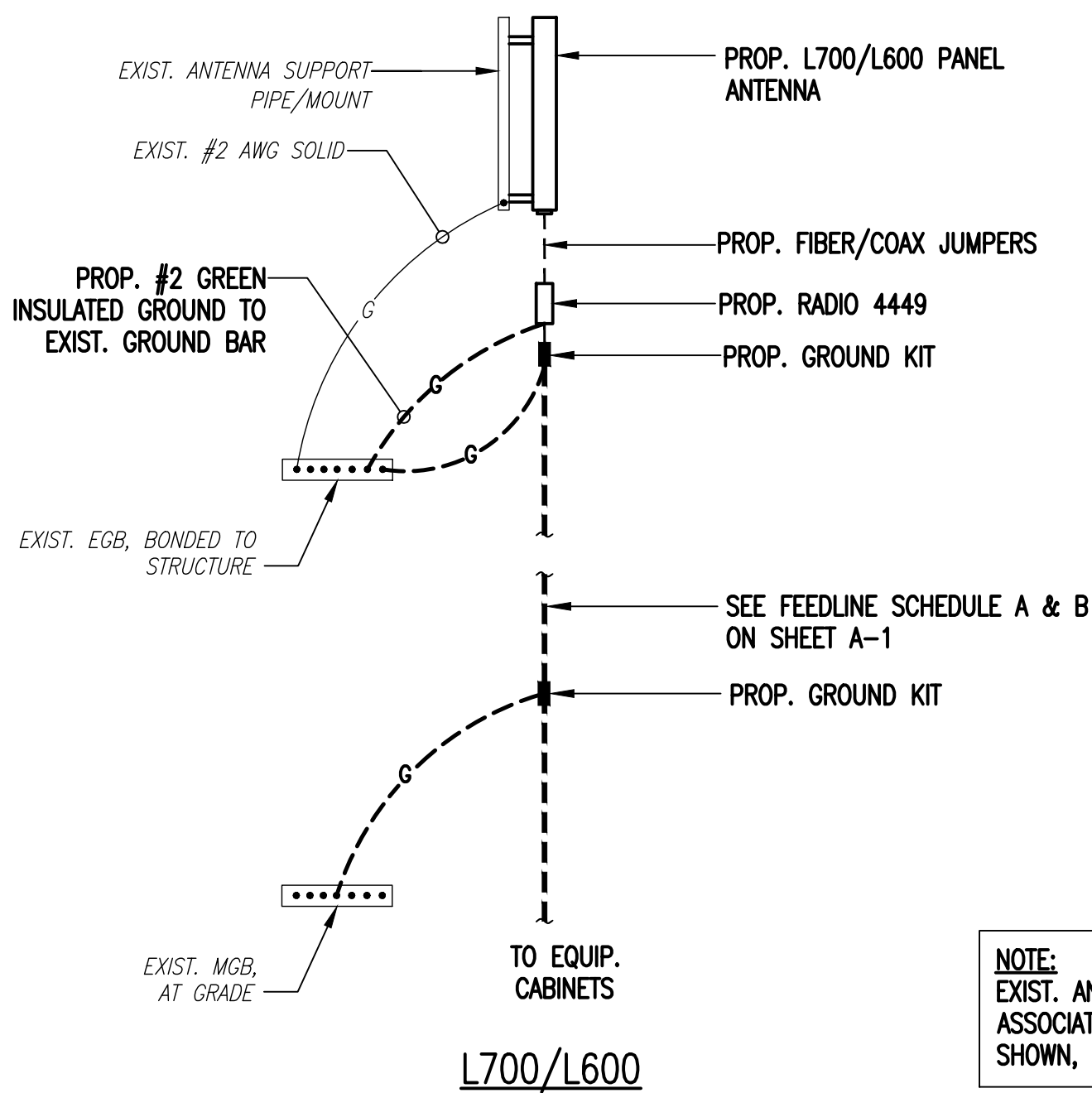
TYPICAL GROUND BAR
CONNECTIONS DETAIL

SCALE: NOT TO SCALE



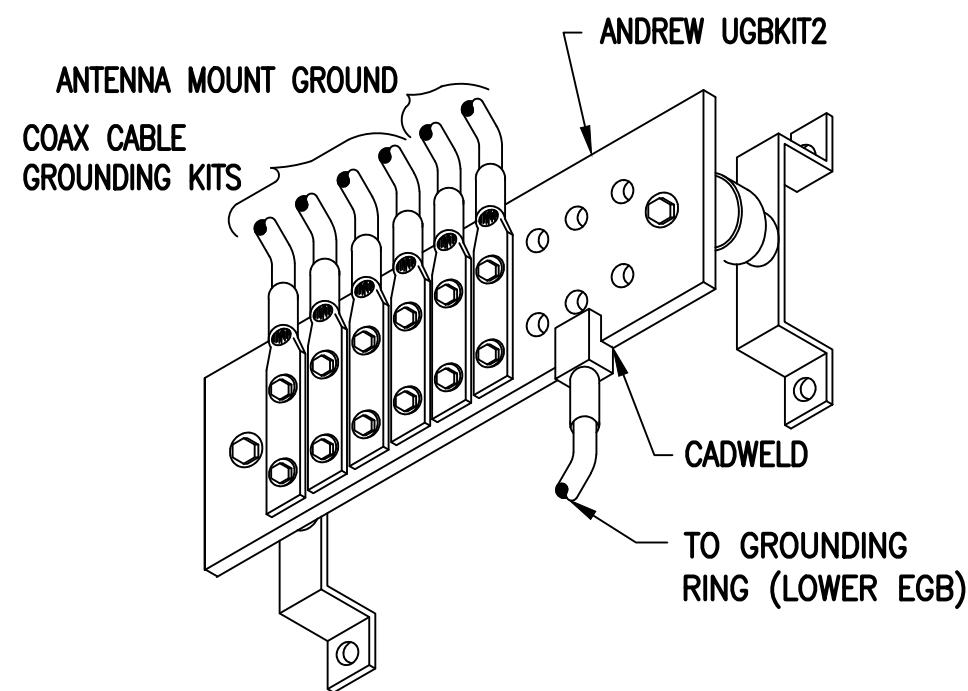
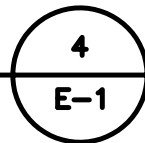
ELECTRICAL AND GROUNDING NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THINW, OR THININSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.



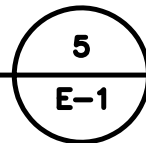
COAX CABLE CONNECTION
AND GROUNDING DETAIL

SCALE: NOT TO SCALE



GROUND BAR (EGB)

SCALE: NOT TO SCALE

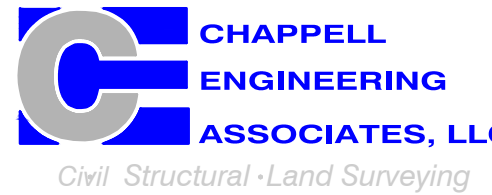


T-MOBILE NORTHEAST LLC

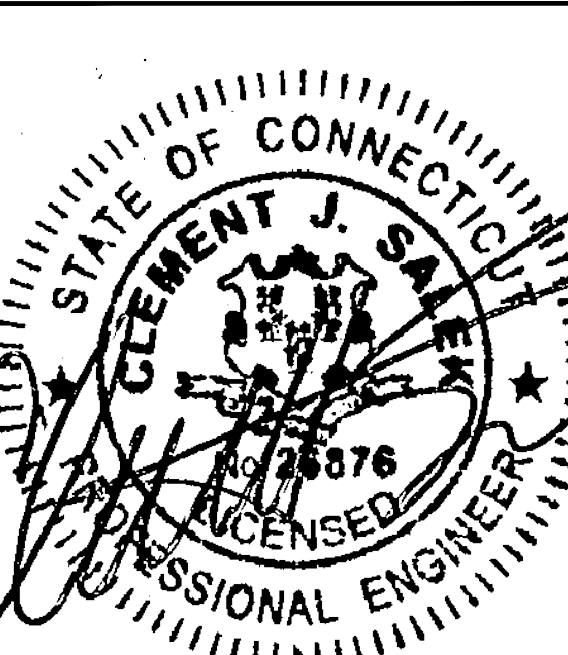
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720



R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	09/17/19	ISSUED FOR CONSTRUCTION	BDJ
0	06/07/19	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTNH546A

SITE ADDRESS:
1291 BANTAM ROAD
BANTAM, CT 06750

SHEET TITLE

ELECTRICAL &
GROUNDING DETAILS

SHEET NUMBER

E-1

EXHIBIT 7

MODIFICATION AND DESIGN
DRAWINGS FOR EXISTING ANTENNA MOUNTS
EXISTING MONOPOLE TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT12215-A
CARRIER SITE #/NAME: CTNH546A / BAYCOM LITCHFIELD

COORDINATES (LATITUDE: 41.717183°, LONGITUDE: -73.260928°)

PLEASE NOTE THIS SET OF DRAWINGS ARE FOR INSTALLATION AND
ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND
MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN
PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	ANTENNA MOUNT MODIFICATION DETAILS	0
A-2	ANTENNA MOUNT PHOTOS	0
MS-H1436	METROSTE HEAVY COLLAR MOUNT PLATE ASSEMBLY DETAIL	
MPHW-1	METROSTE HEAVY COLLAR MOUNT PLATE WELDMENT DETAIL	
MS-HR35-2375	METROSITE SUPPORT RAIL KIT	
MS-TAW-350RO	METROSITE ROTATABLE T-ARM KIT	

NOTE:
1. THE MODIFICATION DRAWINGS ARE BASED ON THE
TES PROJECT NO. 77891, DATED 06/17/19.



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(800)-487-SITE

TES JOB NO:
81152

CUSTOMER SITE NO:
CT12215-A-SBA
CUSTOMER SITE NAME:
LITCHFIELD 3, CT
1291 BANTAM ROAD
BANTAM, CT 06750



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△	FIRST ISSUE	TV	07/23/19
△			
△			
△			

SHEET TITLE:

TITLE SHEET

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T-1

REV #:
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[illegible]

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①	FIRST ISSUE	TV	07/23/1
△			
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△			

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BILL OF MATERIALS

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SHEET NUMBER

BOM

REV #:

0

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
- ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
- CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
- THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
- GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.
- IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES (WITH SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
- PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-TESCONSTRUCTION@TESTOWER.US

FABRICATION

- ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
- ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER’S RECOMMENDATIONS.

WELDING

- ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
- PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5” BEYOND THE PROPOSED FIELD WELD SURFACES.
- ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
- WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
- AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER’S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

- ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
- FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
- SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
- THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
- HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

- IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 FOR STEEL CONSTRUCTION AND TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT
CONDITION FOR TURN-OF-NUT PRETENSIONING^{a,b}

BOLT LENGTH ^f	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 ^d	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS ^d
NOT MORE THAN 4d _b	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d _b BUT NOT MORE THAN 8d _b	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d _b BUT NOT MORE THAN 12d _b	2/3 TURN	5/6 TURN	1 TURN
^a NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES. ^b APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL. ^c WHEN THE BOLT LENGTH EXCEEDS 12d_b, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL. ^d BEVELED WASHER NOT USED.			

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004
RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

- HB12 HOLLO BOLT: 59 FT-LBS
- HB16 HOLLO BOLT: 140 FT-LBS
- HB20 HOLLO BOLT: 221 FT-LBS
- M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

- CONTRACTOR’S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
- HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
- CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
- CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
- ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
- FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
- CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
- ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
- IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
- PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.



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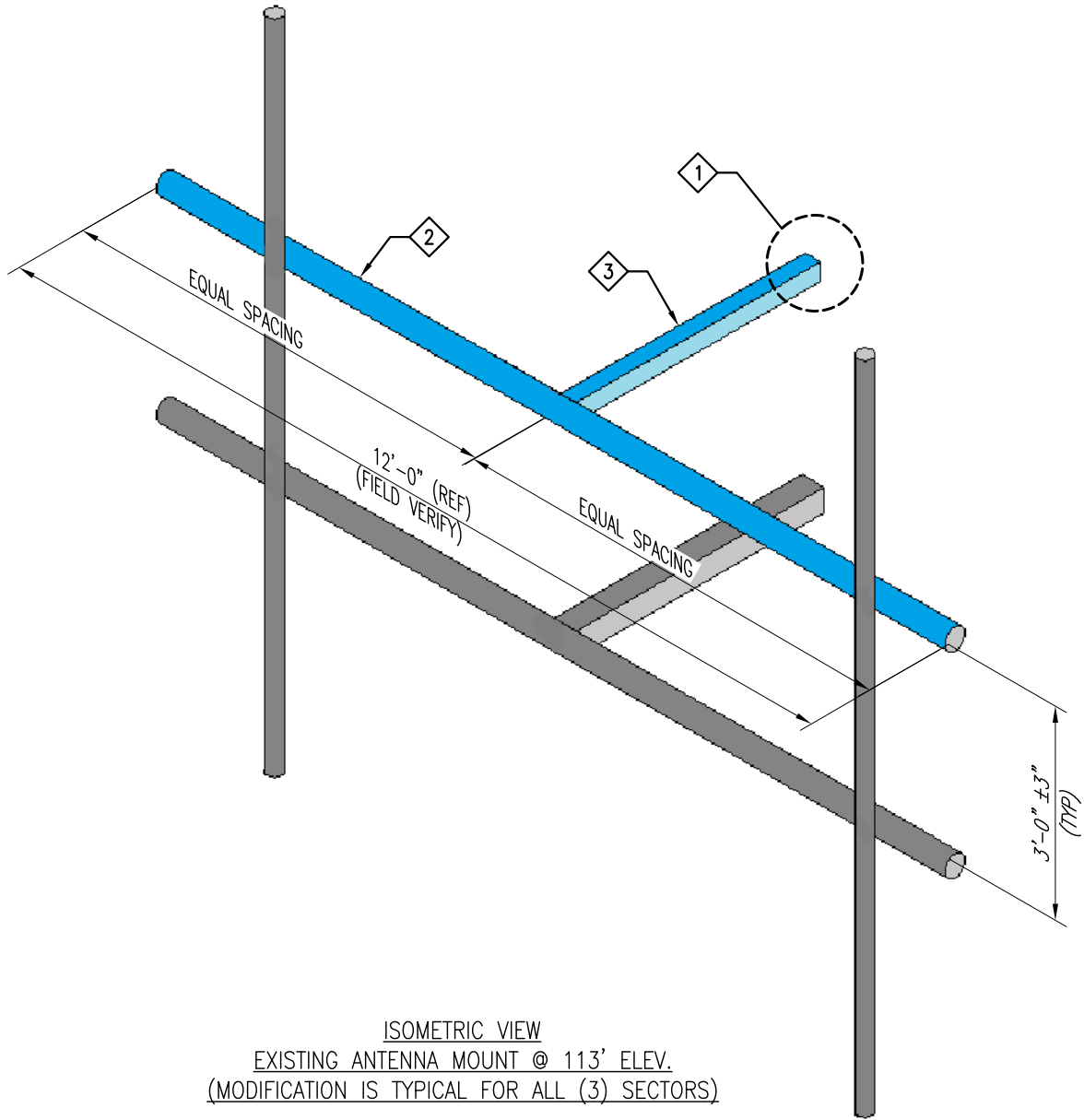
SCOPE OF WORK

- 1 INSTALL NEW HEAVY COLLAR MOUNT (NOT SHOWN FOR CLARITY). SEE SHEET MS-H1436 FOR DETAILS.
- 2 INSTALL NEW SUPPORT RAIL KIT. SEE SHEET MS-HR35-2375 FOR DETAILS.
- 3 INSTALL NEW ROTATABLE T-ARM KIT. SEE SHEET MS-TAW-350RO FOR DETAILS.
- 4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



PHOTO 1

EXISTING ANTENNA MOUNT
@ 113' ELEV



ISOMETRIC VIEW
EXISTING ANTENNA MOUNT @ 113' ELEV.
(MODIFICATION IS TYPICAL FOR ALL (3) SECTORS)

GC NOTE:

- 1. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES WITH (PORT HOLES, SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
- 2. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-TESCONSTRUCTION@TESTOWER.US

NOTES:

- 1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE LEGS AND/OR ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
- 2. WHEN FIELD CUTTING AND DRILLING ANGLES, USE SAME GAGE LINES AND EDGE DISTANCES AS INDICATED ON SHOP CUT AND DRILLED ENDS.
- 3. APPLY (2) COATS OF ZINC RICH GALVANIZING COMPOUND AS PER THE MANUFACTURER'S SPECIFICATIONS TO ALL FIELD CUT AND DRILLED AREAS.
- 4. MEMBERS IN BLUE COLOR ARE NEW REINFORCEMENTS.

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	MS-H1436	METROSITE HEAVY COLLAR MOUNT ASSEMBLY
2	1	MS-HR35-2375	METROSITE SUPPORT RAIL KIT
3	1	MS-TAW-350RO	METROSITE ROTATABLE T-ARM KIT



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TES JOB NO:
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CUSTOMER SITE NAME:
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1	FIRST ISSUE	TV	07/23/19

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ANTENNA MOUNT
MODIFICATION DETAILS

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A-1

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PHOTO 1



PHOTO 2



PHOTO 3

EXISTING EQUIPMENT MUST BE RELOCATED UP OR DOWN ALONG THE MEMBER TO ACCOMMODATE INSTALLATION OF MOUNT MODIFICATION



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1	FIRST ISSUE	TV	07/23/19

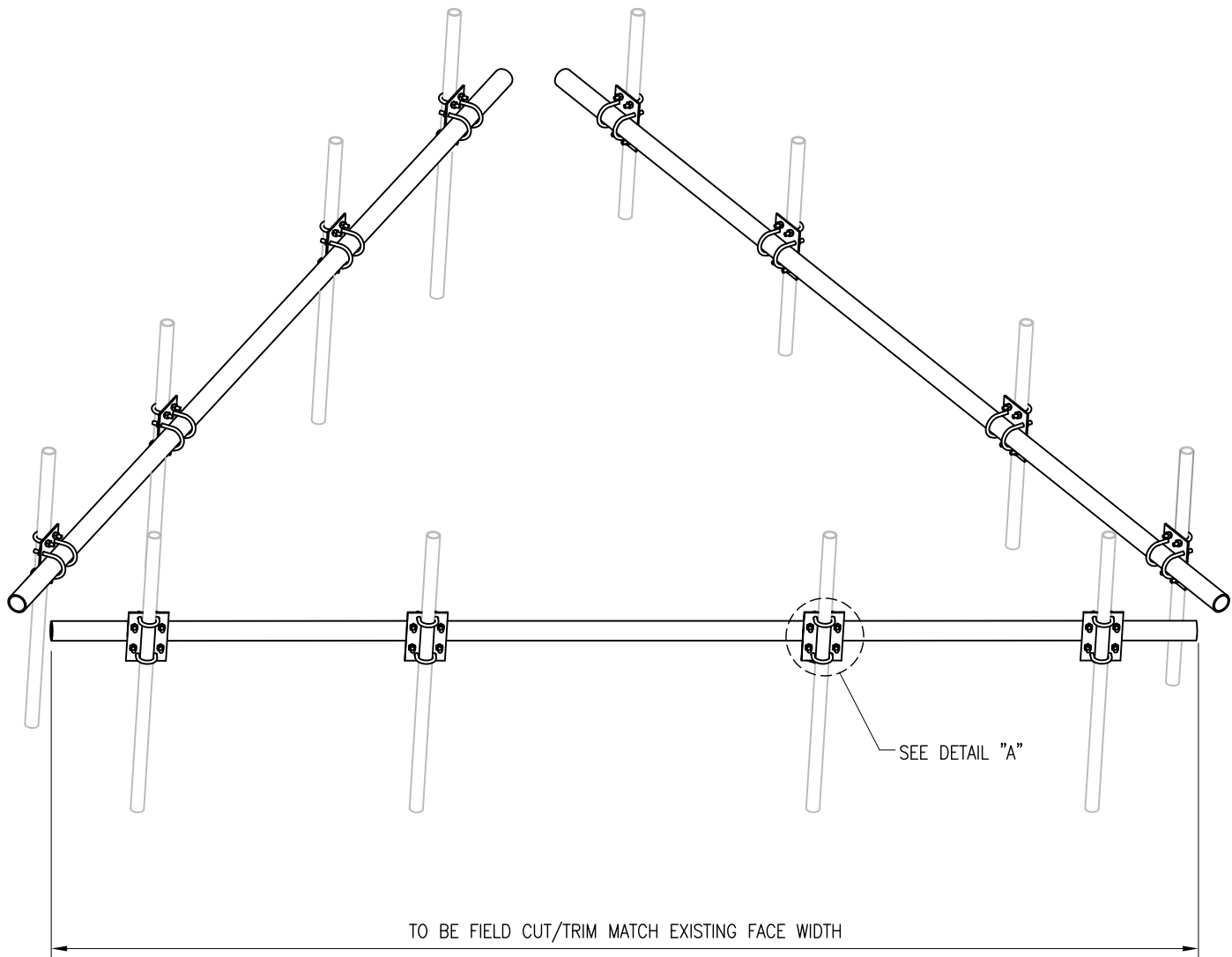
SHEET TITLE:

ANTENNA MOUNT
PHOTOS

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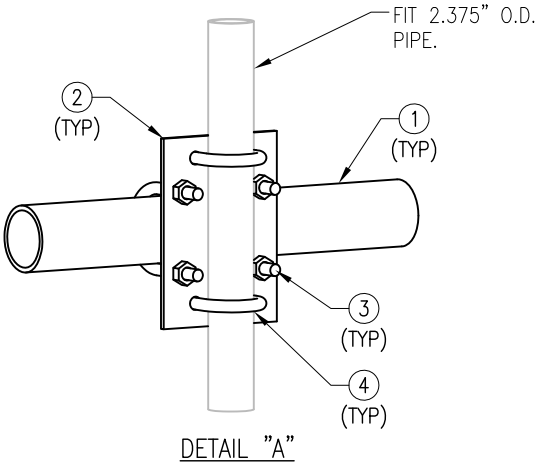
THE FOLLOWING DRAWINGS ARE INCLUDED FOR REFERENCE ONLY
PLEASE REFER TO THE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION DETAILS



ELEVATION VIEW

- NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
 2. HOT-DIPPED GALVANIZED PER ASTM A123.

MS-HR35-2375						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	3PST-140	3" PST (3.50" O.D X .216" THICK) X 14'-0"	A53 GR-B	TAF-1	337.2
2	12	PL375-10	PL 3/8" X 7 1/8" X 10"	A36	TAF-1	92.4
3	24	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
4	24	MS02-625-250-400	RU-BOLT 5/8" X 2 1/2" I.W. X 4" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
GALVANIZED WT						430

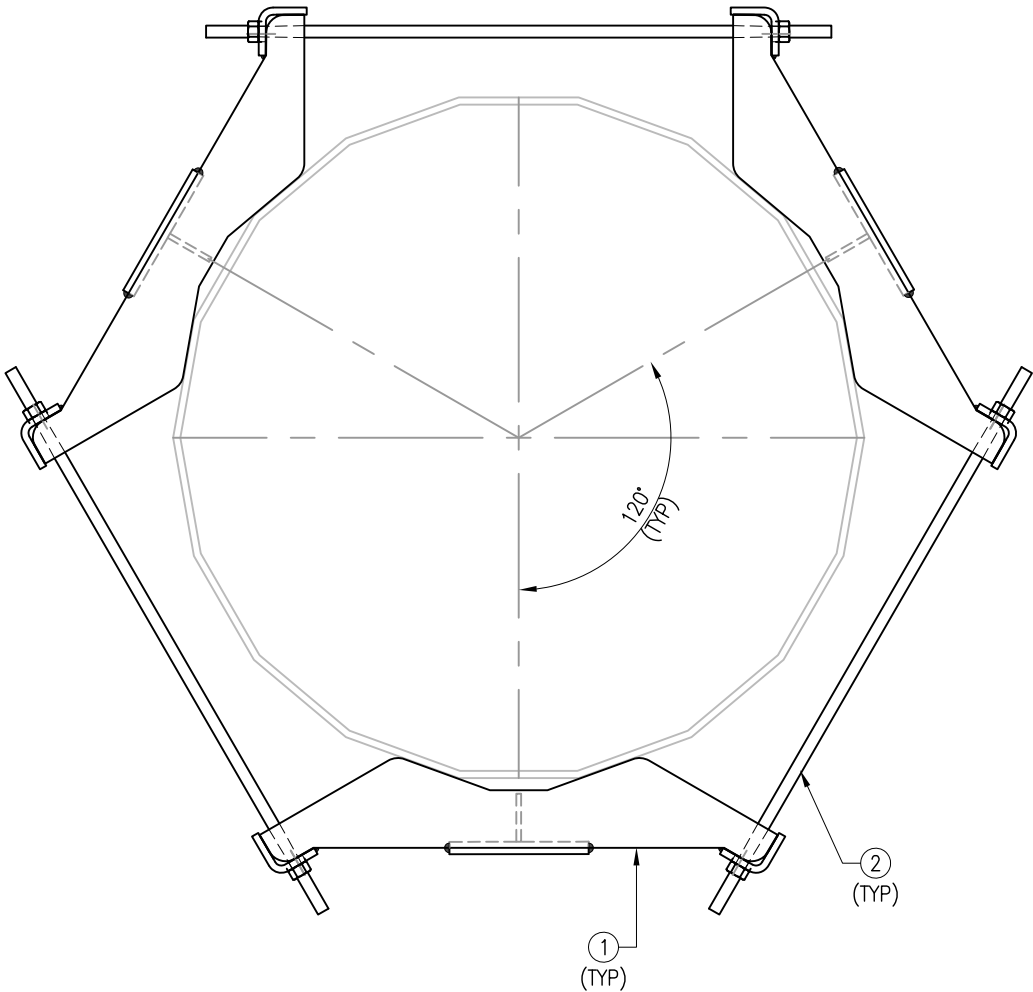


		THIRD ANGLE PROJECTION 		 METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC		TITLE MS-HR35-2375 SUPPORT RAIL KIT			
STANDARD SHEET TOLERANCES							
DECIMALS		APPROVAL / SIGNATURES				DATE	
ANGLES		DRAWN BY XXX				05/12/17	
.X ± 0.1		± 1°		SIZE DWG NO		REV	
.XX ± 0.02		FRACTIONS		B MS-HR35-2375		1	
.XXX ± 0.005		± 1/32		REVIEWED XXX		-	
		APPROVED XXX		-		SCALE	
						SHEET 1 OF 1	

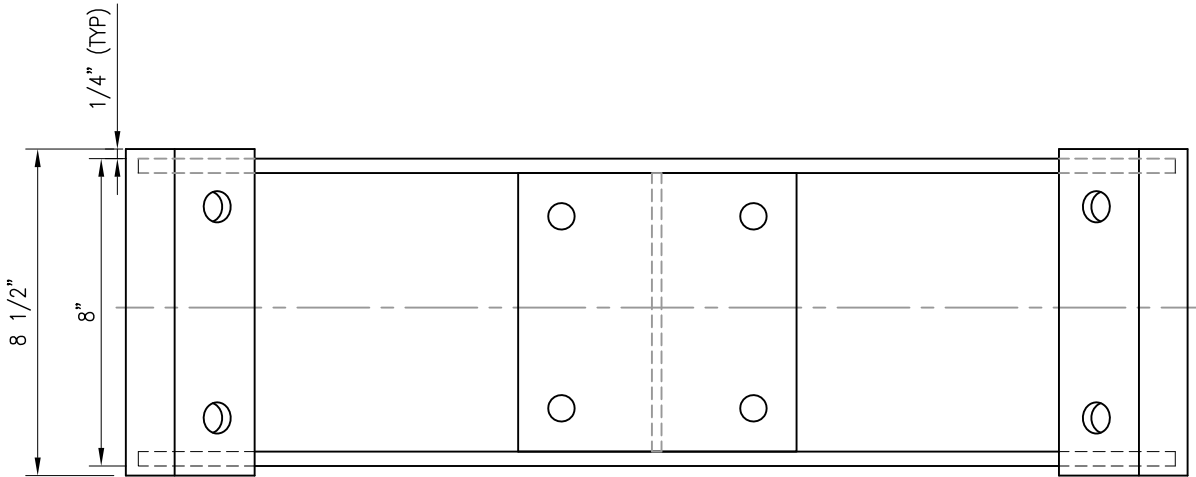
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	3	MPHW-1	MOUNT PLATE WELDMENT A36
2	6	---	THREADED ROD 3/4" X 2'-4 3/4" W/ 2 HHN & LW EA A36

GALVANIZED WEIGHT: 136.7 LBS

NOTE:
1) FITS 12" DIA TO 32" DIA.



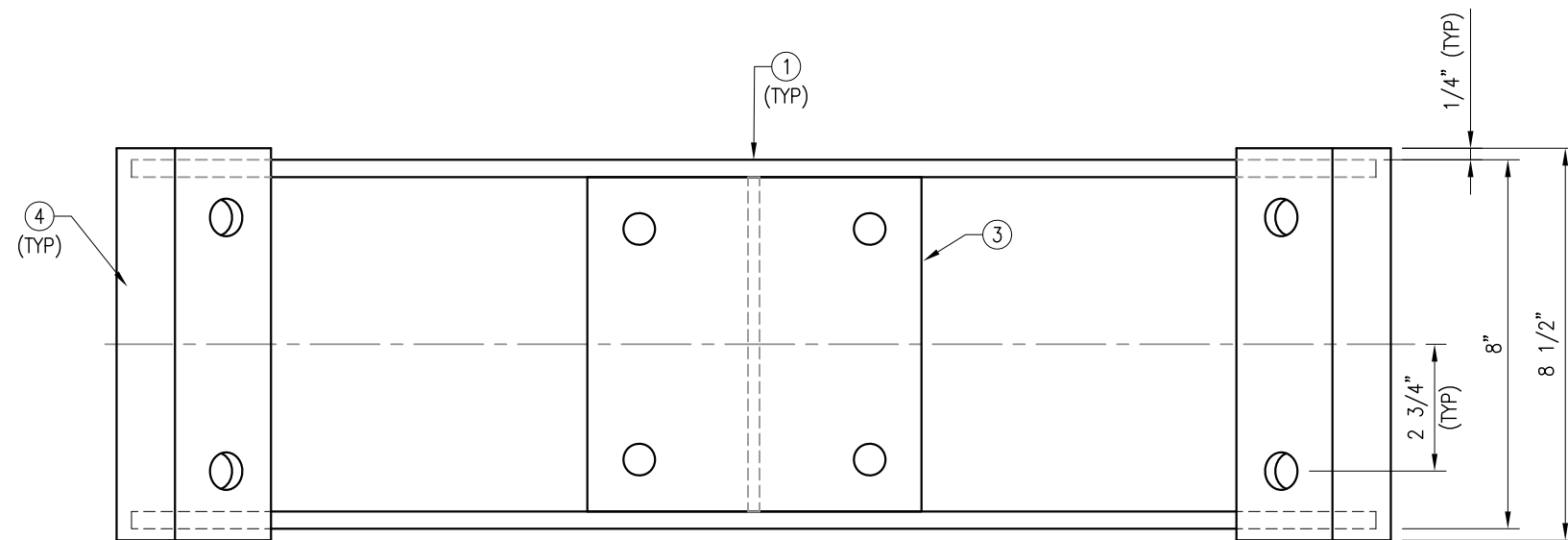
TOP VIEW



FRONT VIEW

		THIRD ANGLE PROJECTION			METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529		
							
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC		TITLE HEAVY COLLAR MOUNT PLATE ASSEMBLY DETAIL MS-H1436			
						STANDARD SHEET TOLERANCES	
DECIMALS		APPROVAL / SIGNATURES				DATE	
ANGLES		DRAWN BY XXX				05/12/17	
FRACTIONS		REVIEWED XXX				-	
.X ± 0.1		APPROVED XXX		-			
.XX ± 0.02							
.XXX ± 0.005							

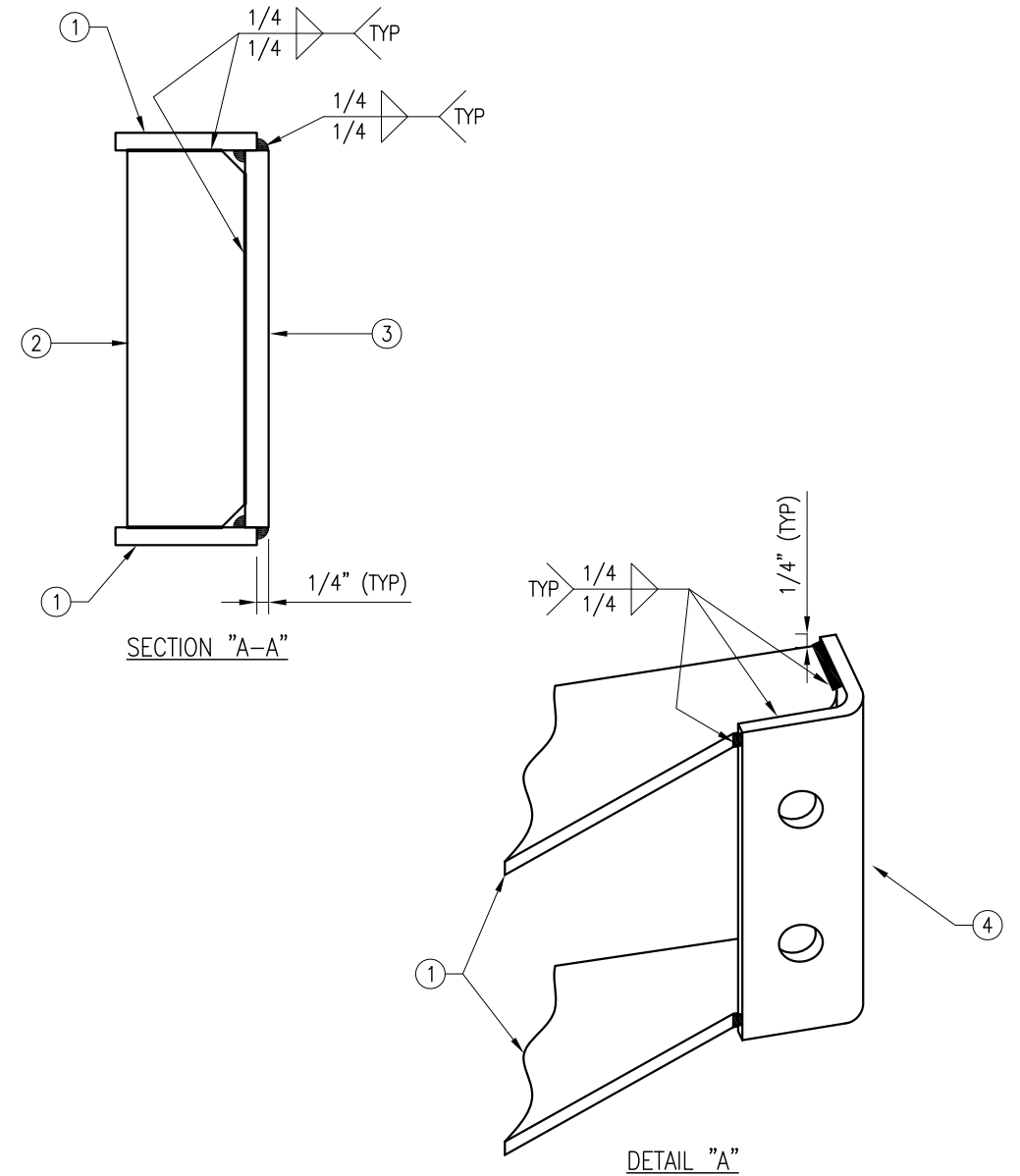
1. HOT-DIPPED GALVANIZED PER ASTM A123.
2. WELD TYPE: E70XX.

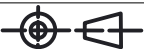


FRONT VIEW

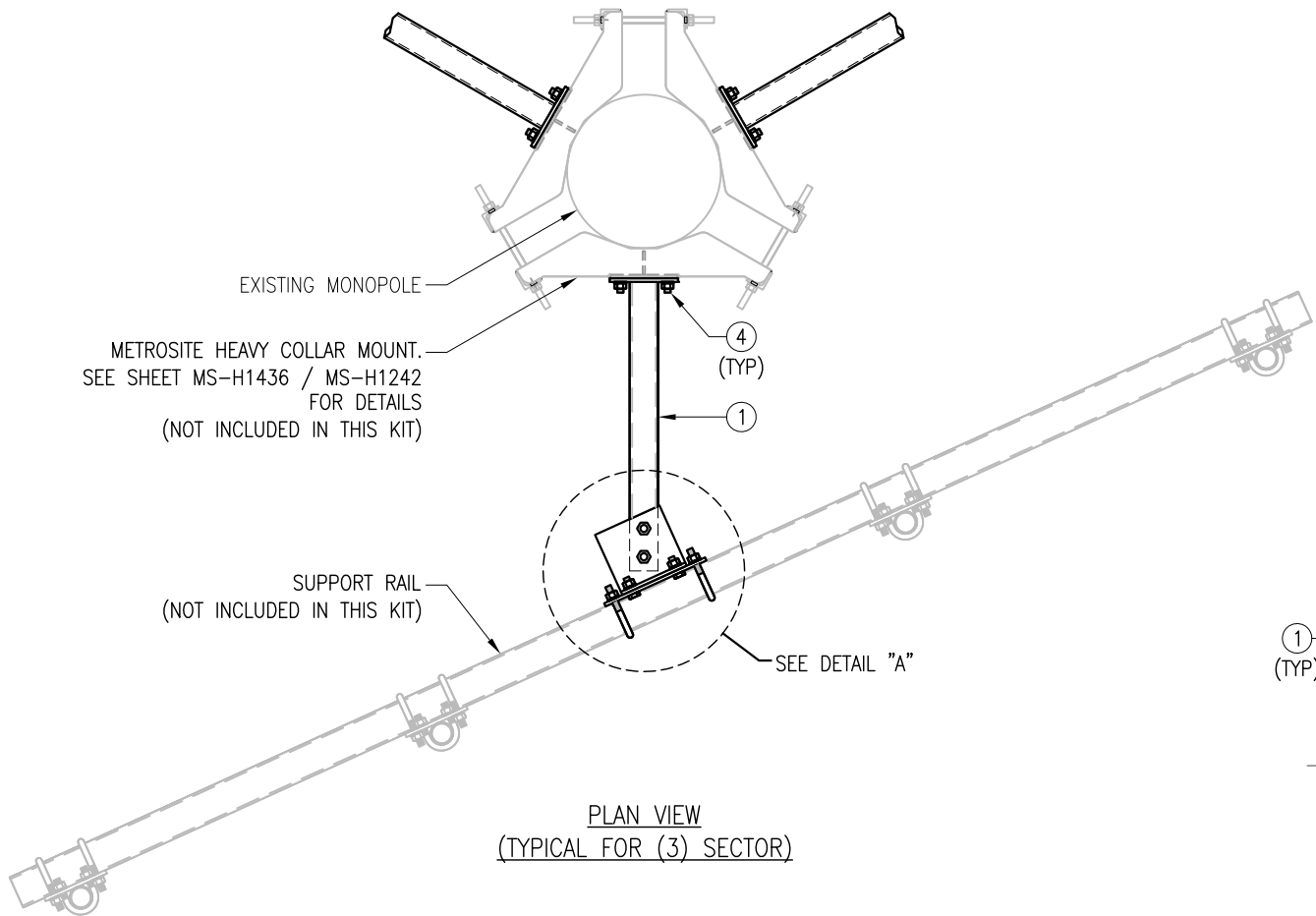
MPW-1 WELDMENT

MPHW-1 WELDMENT						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	2	PL-4	PL 3/8" X 5 3/8" X 2'-3"	A36	F-2	18.8
2	1	PL-5	PL 3/8" X 2 1/2" X 0'-7 1/4"	A36	F-2	1.9
3	1	PL-6	PL 1/2" X 7 1/4" X 0'-7 1/4"	A36	F-2	7.5
4	2	PL-7	PL 3/8" x 4 3/8" x 8 1/2"	A36	F-2	7.8
BLACK WT						36
GALVANIZED WT						38

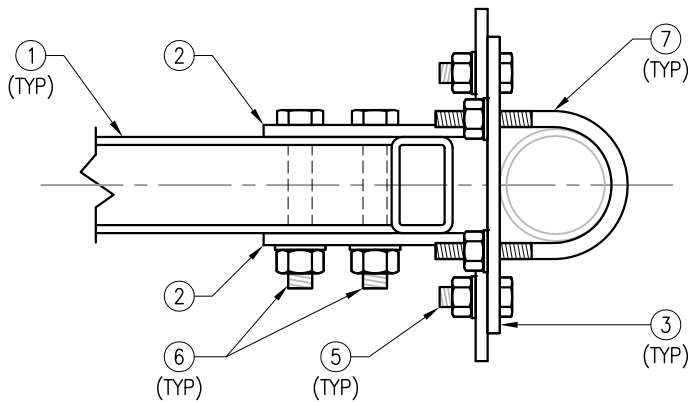


		THIRD ANGLE PROJECTION				METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529	
				TITLE HEAVY COLLAR MOUNT PLATE WELDMENT DETAIL			
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STANDARD SHEET TOLERANCES		APPROVAL / SIGNATURES					
DECIMALS $.X \pm 0.1$ $.XX \pm 0.02$ $.XXX \pm 0.005$	ANGLES $\pm 1^\circ$ FRACTIONS $\pm 1/32$	DRAWN BY XXX REVIEWED XXX APPROVED XXX	DATE 05/12/17 - -				
				SIZE/DWG NO B MPHW-1	REV 0		
				SCALE	-	SHEET 1 OF 1	

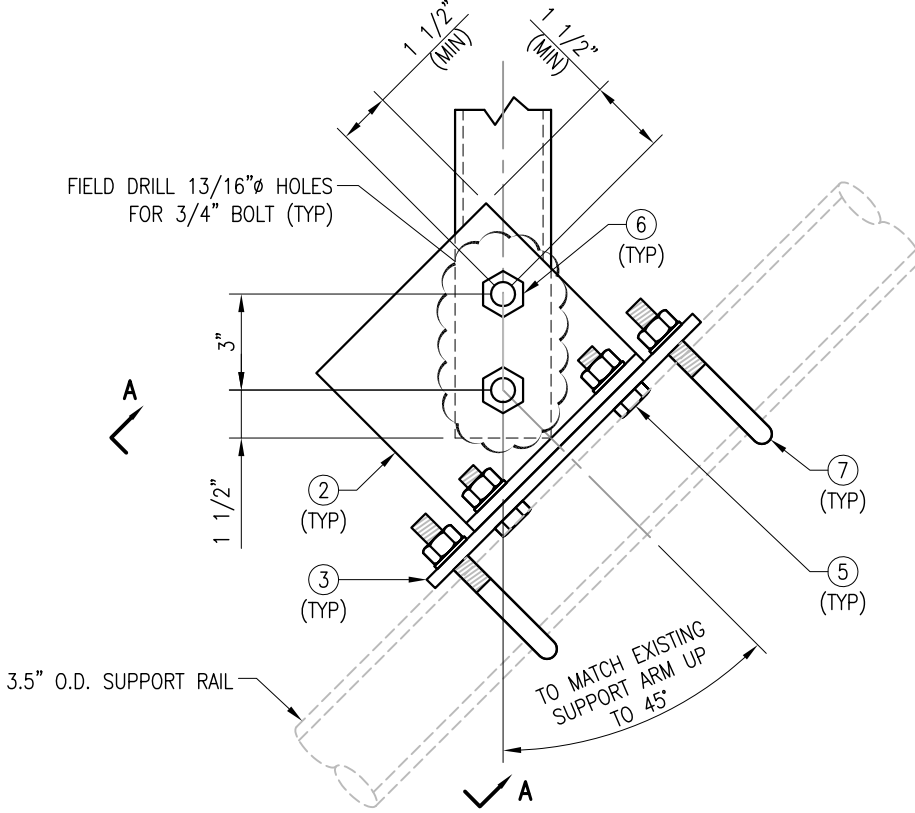
MS-TAW-350RO						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	TAW-6	T-ARM WELDMENT	A36	TAW-6	192
2	6	TARM-CPL-750	PL 3/8" X 7 1/2" X 9 7/16" A36 BENT PLATE	A36	BK-5	47.4
3	3	TARM-CPL-1175	PL 3/8" X 9 1/4" X 11 3/4"	A36	BK-5	36.3
4	12	----	BOLT 5/8" X 2 1/4" A325 W/ HHN & LKW EA.	A325	----	--
5	12	----	BOLT 5/8" X 2" A325 W/ HHN & LKW EA.	A325	----	--
6	6	----	BOLT 3/4" X 5" A325 W/ HHN & LKW EA.	A325	----	--
7	6	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	----	RBC-1	8.7
GALVANIZED WT						284



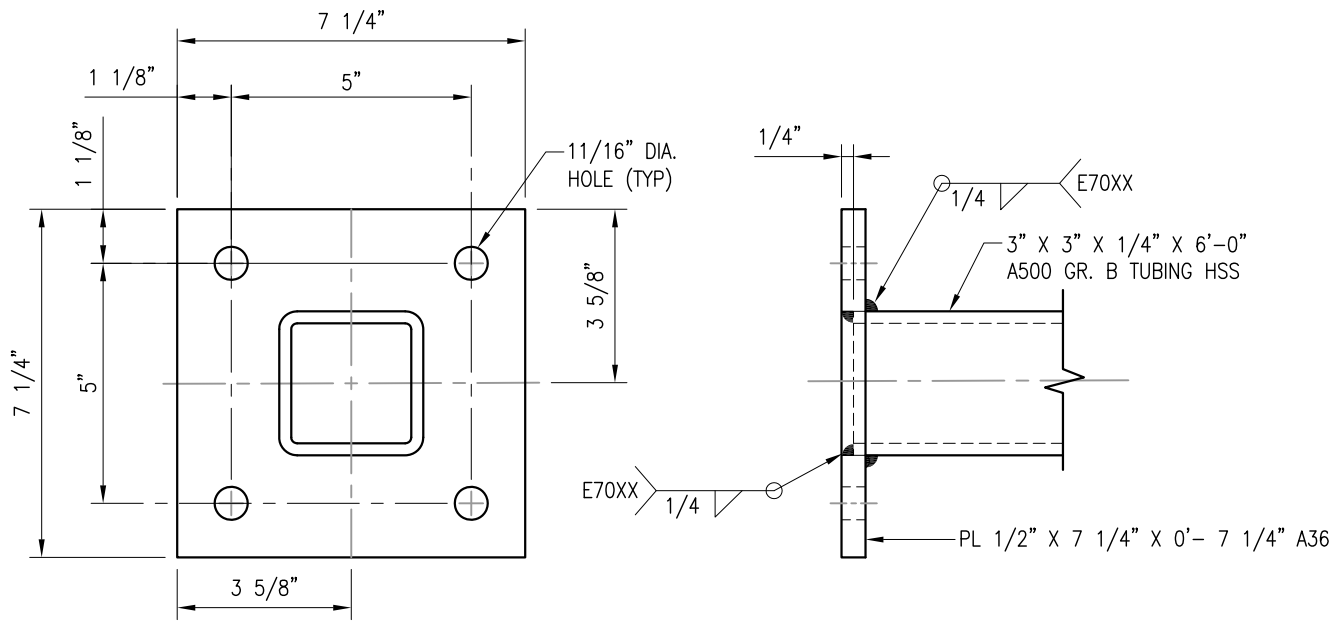
PLAN VIEW
(TYPICAL FOR (3) SECTOR)



SECTION "A-A"



DETAIL "A"



FRONT VIEW

TAW-6 WELDMENT

SIDE VIEW

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.
2. ALL HOLES ARE 11/16" DIA. U.N.O

THIRD ANGLE PROJECTION						METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC		TITLE ROTATABLE T-ARM KIT							
STANDARD SHEET TOLERANCES		APPROVAL / SIGNATURES		DATE		SIZE DWG NO					
DECIMALS .X ± 0.1 .XX ± 0.02 .XXX ± 0.005	ANGLES ± 1° FRACTIONS ± 1/32	DRAWN BY: XXX		11/19/18		B MS-TAW-350RO					
REVIEWED: XXX		APPROVED: XXX		-		SCALE -					
						SHEET 1 OF 1					
						REV	1				

EXHIBIT 8



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 149 ft. EEI Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT12215-A

Customer Site Name: Litchfield 3, CT

Carrier Name: T-Mobile (App#: 117047 V1)

Carrier Site ID / Name: CTNH546A / BayCom Litchfield

Site Location: 1291 Bantam Road

Bantam, Connecticut

Litchfield County

Latitude: 41.717183

Longitude: -73.260928

Analysis Result:

Max Structural Usage: 98.2% [Pass]

Max Foundation Usage: 76.0% [Pass]

Additional Usage Caused by Mount Modification: + 1.1%



Report Prepared By : Billy Davis

Introduction

The purpose of this report is to summarize the analysis results on the 149 ft. EEI Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

The pending modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Engineered Endeavors, Inc. (Job No. 12278) Structure and Foundation Design Calculations dated January 26, 2004
Foundation Drawing	Engineered Endeavors, Inc. (Job No. 12278) Design Calculations for a Spread Footer Foundation dated January 27, 2004
Geotechnical Report	Clarence Welti Associates, Inc. (Project Name: Sprint Site CT33XC204) Geotechnical Study dated January 24, 2004
Modification Drawings	FDH Engineering, Inc. (Project No. 12-06691E S3) Modification Drawings for a 149' Monopole dated February 6, 2013
Pending Modification	TES Job # 75424

Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-H. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	115.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	40 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft.
Seismic Parameters:	$S_s = 0.18$, $S_1 = 0.054$

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	150.0	3	RFS APXVSP18-C-A20 - Panel	Low Profile Platform	(4) 1-1/4" Fiber* Outside	Sprint Nextel
2		3	RFS APXV/TM14-C-I20 - Panel			
3		4	RFS ACU-A20-N RET			
4		3	Alcatel Lucent 1900 MHz RRH			
5		3	Alcatel Lucent 800 MHz RRH			
6		3	Alcatel Lucent TD-RRH8x20-25			
7		3	Alcatel Lucent 800 MHz Filter			
8	138.0	3	Antel LPA-80080/6CF - Panel	Low Profile Platform	(12) 1 5/8" (1) 1/2"	Verizon
9		3	Antel BXA-70063-6CF_2 - Panel			
10		3	Antel BXA-171085-12B_2 - Panel			
11		1	GPS Receiver			
12		6	RFS FD9R6004/2C-3L Diplexer			
13	128.0	3	Powerwave 7770.00 - Panel	Low Profile Platform w/ (2) Commscope VSR-MS-B Reinforcement Kit (24) Commscope XP- 2020 Crossover Plate	(12) 1 5/8" ** (1) 3" Conduit (2) 2" Conduit (2) 7/16" Fiber (6) 3/4" DC	AT&T
14		6	Kathrein 80010965 - Panel			
15		12	Powerwave LGP 21401 TMA			
16		3	Ericsson RRUS 4478 B14 RRU			
17		3	Ericsson 4449 B5/B12 RRU			
18		3	Ericsson 8843 B2/B66A RRU			
19		1	Raycap DC6-48-60-18-8F			
20		1	Raycap DC6-48-60-18-8C			
21		1	Raycap DC6-48-60-0-8C-EV			
22		1	Commscope ABT-DF-DM-ADBH			
-	115.0	3	Commscope LNX-6515DS-A1M - Panel	(3) T-Arm (Site Pro 1 #RMV12- 3XX)	(2) 1 5/8" Hybrid	T-Mobile
-		3	RFS APX16DWV-16DWVS-E-A20 - Panel			
-		3	Ericsson RRUS 11 (Band 4)			
-		3	Ericsson RRUS 11 (Band 12)			
-		3	Ericsson RRUS 11			
28	73.0	1	GPS Receiver	-	(1) 1/2"	Sprint Nextel
-	50.0	1	Symmetricon 58532A	-	(1) 1/2"	T-Mobile

*Sprint Nextel coax outside the pole.

**AT&T coax inside the pole. (1) 3" conduit housing (1) 7/16" fiber and (2) 3/4" DC
(1) 2" conduit housing (1) 7/16" fiber and (2) 3/4" DC
(1) 2" conduit housing (2) 3/4" DC

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
23	115.0	3	RFS APX16DWV-16DWVS-E-A20 - Panel	(3) T-Arm (Site Pro #RMV12-3XX) W/ Rotatable T-Arms	(3) 1 5/8" Fiber	T-Mobile
24		3	RFS APXVAARR24_43-U-NA20 - Panel			
25		3	Ericsson RRUS 11 (Band 4)			
26		3	Ericsson RRUS 11 B2			
27		3	Ericsson Radio 4449 B71+B12			
29	50.0	1	Symmetricon 58532A	-	(1) 1/2"	

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	98.2%	85.0%	72.4%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	1855.0	17.7	19.6
Analysis Reactions	2888.0	26.0	49.2
Factored Reactions*	2504.3	23.9	26.5

* Per section 15.6.2 of the TIA-222-H standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-H for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 2.0452 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-H Standard under the design basic wind speed as specified in the Analysis Criteria after the following modification is successfully completed.

- Pending modification design drawing by **TES** Job #75424.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 98.24% at 0.0ft

Structure: CT12215-A-SBA
Site Name: Litchfield 3, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-H
Exposure: C
Gh: 1.1

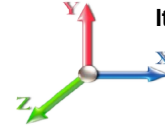
7/10/2019

Page: 1



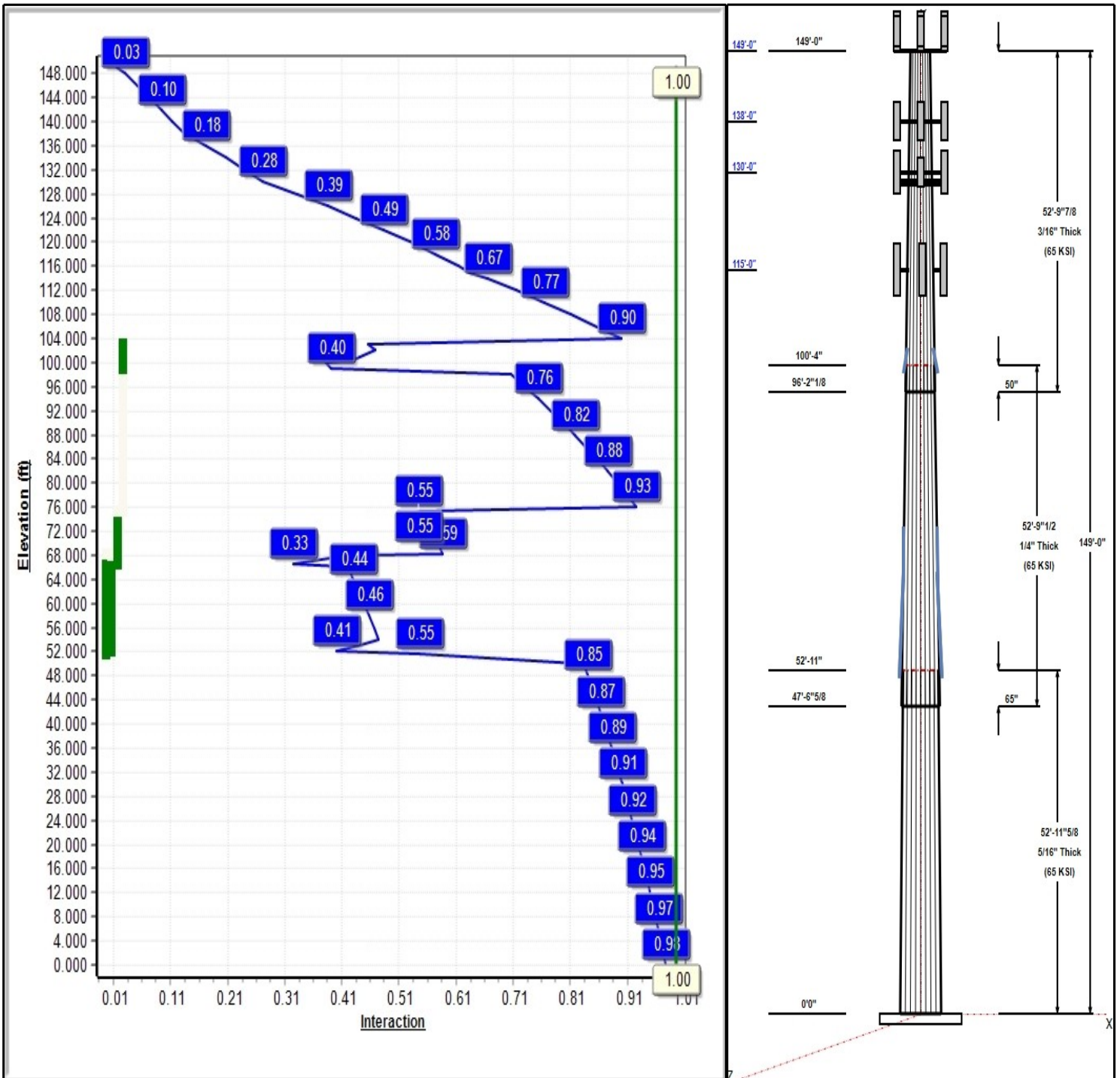
Dead Load Factor: 1.20
Wind Load Factor: 1.00

Load Case : 1.2D + 1.0W 115 mph Wind



Iterations: 31

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Structure: CT12215-A-SBA

Type: Tapered
Site Name: Litchfield 3, CT
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20721

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Shaft Properties

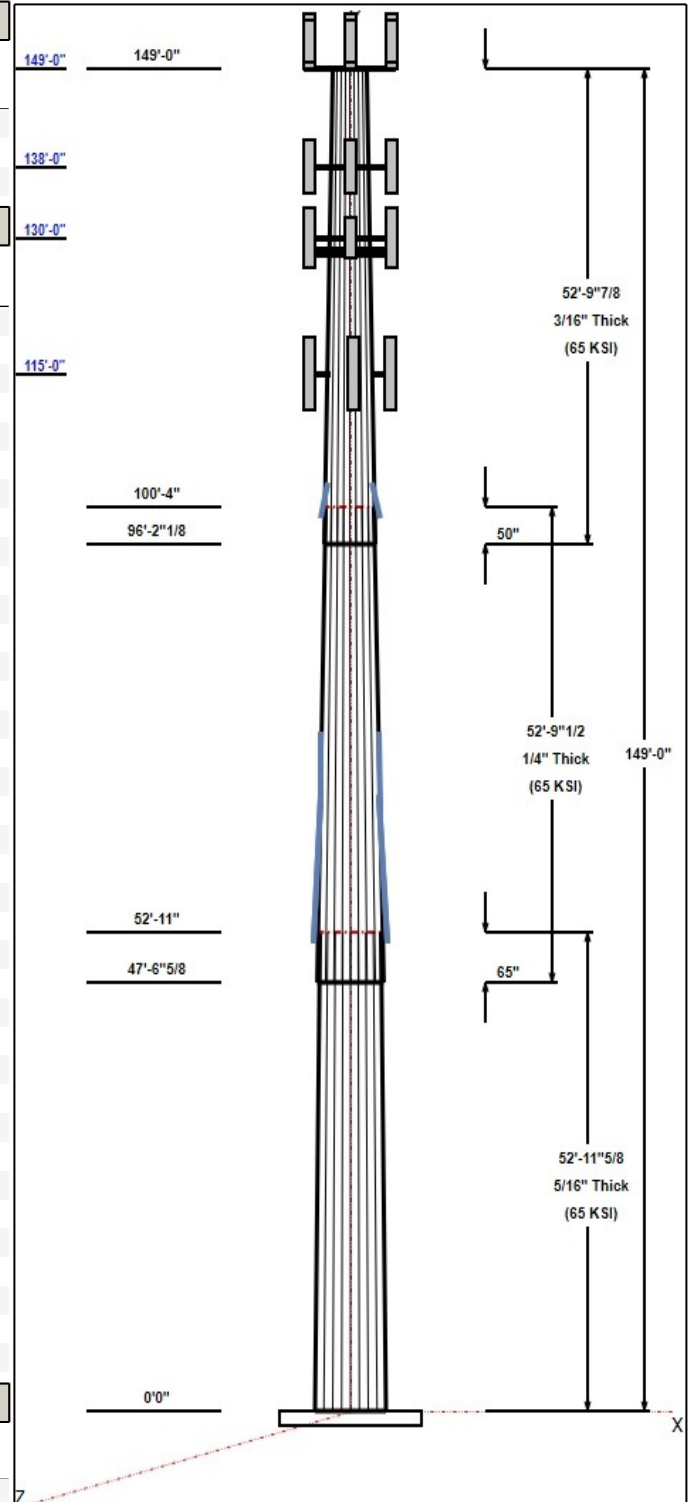
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	52.97	37.02	48.00	0.313		0.20721	65
2	52.79	27.71	38.65	0.250	Slip	0.20721	65
3	52.82	18.00	28.95	0.188	Slip	0.20721	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
149.00	152.00	3	APXVSP18-C-A20	Sprint Nextel
149.00	152.00	3	APXVTM14-C-I20	Sprint Nextel
149.00	152.00	3	1900MHZ	Sprint Nextel
149.00	152.00	3	800MHZ	Sprint Nextel
149.00	152.00	3	TD-RRH8x20-25	Sprint Nextel
149.00	152.00	3	800MHZ Filter	Sprint Nextel
149.00	152.00	4	ACU-A20-N	Sprint Nextel
149.00	149.00	1	Low Profile Platform	Sprint Nextel
138.00	138.00	3	LPA-80080/6CF	Verizon
138.00	138.00	3	BXA-70063-6CF_2	Verizon
138.00	138.00	3	BXA-171085-12B_2	Verizon
138.00	138.00	1	GPS Receiver	Verizon
138.00	138.00	6	FD9R6004/2C-3L	Verizon
138.00	138.00	1	Low Profile Platform	Verizon
130.00	130.00	3	7770.00	AT&T
130.00	130.00	12	LGP 21401	AT&T
130.00	130.00	1	DC6-48-60-18-8F	AT&T
130.00	130.00	1	ABT-DF-DM-ADBH	AT&T
130.00	130.00	1	Low Profile Platform	AT&T
130.00	130.00	6	80010965	AT&T
130.00	130.00	3	RRUS 4478 B14	AT&T
130.00	130.00	3	4449 B5/B12	AT&T
130.00	130.00	3	8843 B2/B66A	AT&T
130.00	130.00	1	DC6-48-60-18-8C	AT&T
130.00	130.00	1	DC6-48-60-0-8C-EV	AT&T
130.00	130.00	2	VSRDual-TS-B-HD	AT&T
130.00	130.00	24	XP-2020	AT&T
130.00	130.00	1	(3) 12.5' - 2" Horizontal	AT&T
115.00	115.00	3	APX16DWV-16DWVS-E-A	T-Mobile
115.00	115.00	3	RRUS 11 (Band 4)	T-Mobile
115.00	115.00	3	RRUS 11 (Band 12)	T-Mobile
115.00	115.00	3	T-Arm	T-Mobile
115.00	115.00	3	APXVAARR24_43-U-NA20	T-Mobile
115.00	115.00	3	Radio 4449 B71+B12	T-Mobile
115.00	115.00	1	(3) Stabilizer Kit (12' FW)	T-Mobile
73.00	73.00	1	GPS Receiver	Sprint
50.00	50.00	1	58532A	T-Mobile

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	149.00	Inside	1-1/4" Fiber	Sprint
0.00	138.00	Inside	1 5/8" Coax	Verizon
0.00	138.00	Inside	1/2" Coax	Verizon
0.00	130.00	Inside	1 5/8" Coax	AT&T
0.00	130.00	Inside	2" Conduit	AT&T
0.00	130.00	Inside	3" Conduit	AT&T



Structure: CT12215-A-SBA

Type: Tapered
Site Name: Litchfield 3, CT
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20721

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0.00	130.00	Inside	3/4" DC	AT&T
0.00	130.00	Inside	7/16" Fiber	AT&T
0.00	115.00	Outside	1 5/8" Fiber	T-Mobile
97.00	105.00	Outside	1.25" Reinforcing plate	
50.00	77.00	Outside	1.25" Reinforcing plate	
0.00	73.00	Inside	1/2" Coax	Sprint
0.00	50.00	Outside	1/2" Coax	T-Mobile

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.7500	63.0	60.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 115 mph Wind	2888.0	26.0	35.3
0.9D + 1.0W 115 mph Wind	2841.7	26.0	26.4
1.2D + 1.0Di + 1.0Wi 40 mph Wind	528.1	4.8	49.2
1.2D + 1.0Ev + 1.0Eh	138.7	1.3	35.3
0.9D + 1.0Ev + 1.0Eh	136.4	1.3	26.5
1.0D + 1.0W 60 mph Wind	779.9	7.1	29.4

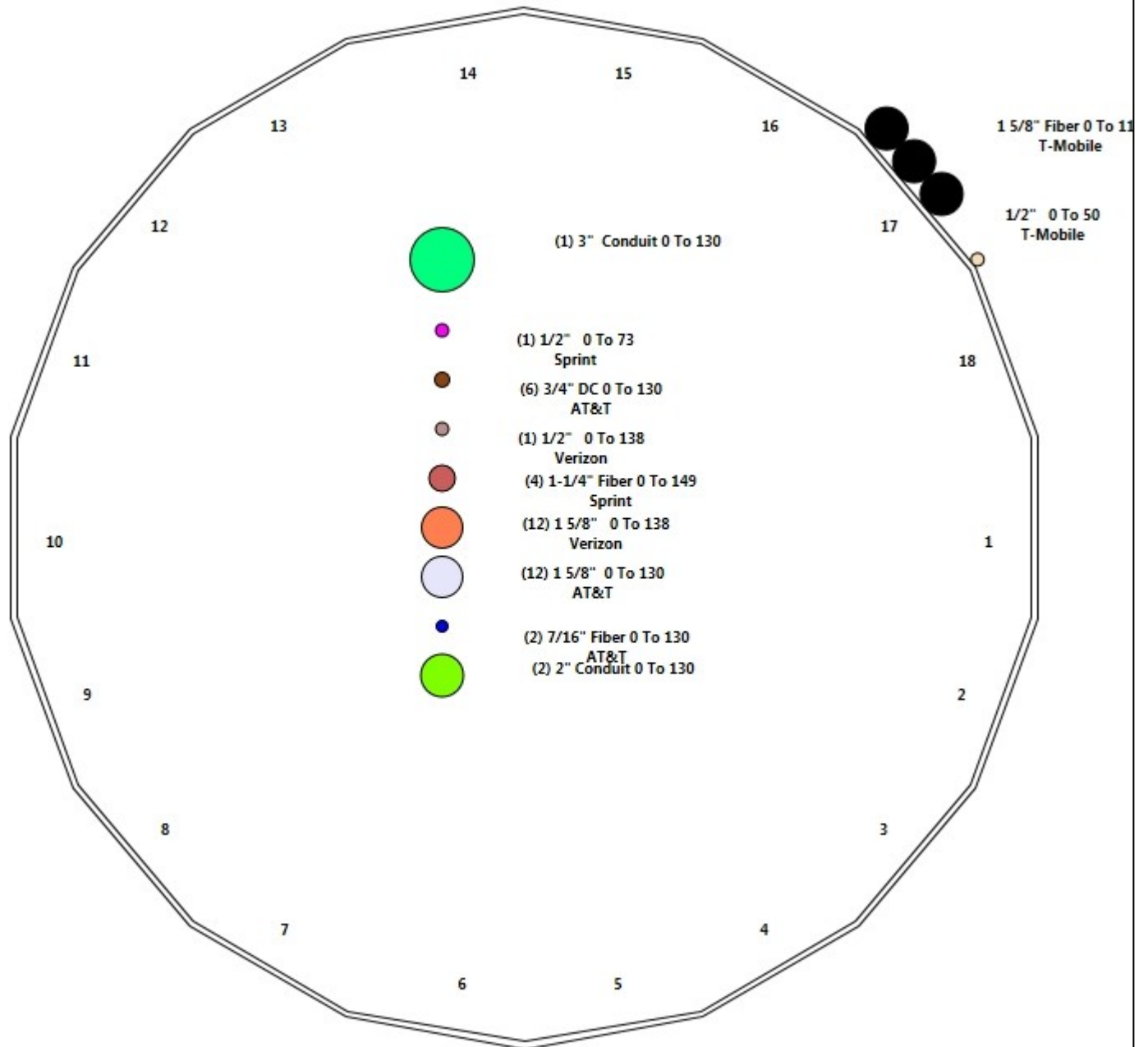
Structure: CT12215-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Litchfield 3, CT
Height: 149.00 (ft)

7/10/2019



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Shaft Properties

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	52.970	0.3125	65		0.00	7,544
2	18	52.790	0.2500	65	Slip	65.00	4,693
3	18	52.823	0.1875	65	Slip	50.00	2,491
Total Shaft Weight:							14,728

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	48.00	0.00	47.30	13589.64	25.67	153.60	37.02	52.97	36.41	6200.05	19.48	118.4	0.207215
2	38.65	47.55	30.47	5674.80	25.85	154.58	27.71	100.34	21.79	2075.21	18.13	110.8	0.207215
3	28.95	96.18	17.11	1788.27	25.81	154.38	18.00	149.00	10.60	424.93	15.52	96.00	0.207215

Additional Steel

							Intermediate Connectors			Termination Connectors			
Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Spacing (in)		Description	Spacing (in)		Lower Qty	Upper Qty
51.75	68.25	3	PLT 4.5"x 1-1/4" (1.25"ho	65	80	0.00	24.00		AJM20&sleeve	3.00		8	8
52.00	68.00	3	LNP LP6X100-G-20TT	65	80	0.00	24.00		5/8" Hollo Bolt	3.00		8	8
66.67	75.25	3	PLT 4.5"x 1-1/4" (1.25"ho	65	80	0.00	24.00		AJM20&sleeve	3.00		8	8
99.00	103.0	3	PLT 4x1.25 (1.25 Hole)	65	80	0.00	22.00		AJM20&sleeve	3.00		9	9

Load Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	149.00	APXVSP18-C-A20	3	57.00	8.02	0.83	172.16	9.881	0.83	0.00	3.00
2	149.00	APXVTM14-C-I20	3	56.00	6.34	0.79	155.76	7.066	0.79	0.00	3.00
3	149.00	1900MHZ	3	60.00	2.77	0.50	115.59	3.615	0.50	0.00	3.00
4	149.00	800MHZ	3	59.50	2.64	0.50	111.47	3.411	0.50	0.00	3.00
5	149.00	TD-RRH8x20-25	3	70.00	4.05	0.50	138.57	4.577	0.50	0.00	3.00
6	149.00	800MHz Filter	3	8.80	0.78	0.50	20.55	1.211	0.50	0.00	3.00
7	149.00	ACU-A20-N	4	1.00	0.14	0.50	3.86	0.338	0.50	0.00	3.00
8	149.00	Low Profile Platform	1	1200.00	25.00	1.00	1897.62	38.952	1.00	0.00	0.00
9	138.00	LPA-80080/6CF	3	21.00	4.33	1.70	141.44	5.081	1.70	0.00	0.00
10	138.00	BXA-70063-6CF_2	3	17.00	7.57	0.73	123.92	8.381	0.73	0.00	0.00
11	138.00	BXA-171085-12B_2	3	15.00	4.74	0.84	77.76	6.293	0.84	0.00	0.00
12	138.00	GPS Receiver	1	10.00	1.00	1.00	29.38	1.471	1.00	0.00	0.00
13	138.00	FD9R6004/2C-3L	6	3.10	0.36	0.50	8.41	0.653	0.50	0.00	0.00
14	138.00	Low Profile Platform	1	1200.00	25.00	1.00	1892.29	38.846	1.00	0.00	0.00
15	130.00	7770.00	3	35.00	5.50	0.73	117.01	6.185	0.73	0.00	0.00
16	130.00	LGP 21401	12	17.50	0.00	0.50	33.43	1.076	0.50	0.00	0.00
17	130.00	DC6-48-60-18-8F	1	31.80	0.92	1.00	72.43	1.208	1.00	0.00	0.00
18	130.00	ABT-DF-DM-ADBH	1	1.10	0.05	1.00	2.57	0.176	1.00	0.00	0.00
19	130.00	Low Profile Platform	1	1200.00	25.00	1.00	1888.17	38.763	1.00	0.00	0.00
20	130.00	80010965	6	108.60	13.81	0.71	294.64	14.834	0.71	0.00	0.00
21	130.00	RRUS 4478 B14	3	59.40	1.65	0.50	86.65	1.991	0.50	0.00	0.00
22	130.00	4449 B5/B12	3	71.00	1.97	0.50	106.08	2.330	0.50	0.00	0.00
23	130.00	8843 B2/B66A	3	72.00	1.64	0.50	102.79	1.966	0.50	0.00	0.00
24	130.00	DC6-48-60-18-8C	1	20.00	1.26	0.50	54.67	1.694	0.50	0.00	0.00
25	130.00	DC6-48-60-0-8C-EV	1	16.00	4.78	0.50	97.32	5.361	0.50	0.00	0.00
26	130.00	VSRDual-TS-B-HD	2	148.40	4.10	0.75	243.72	7.486	0.75	0.00	0.00
27	130.00	XP-2020	24	10.00	0.69	0.75	15.89	1.022	0.75	0.00	0.00
28	130.00	(3) 12.5' - 2" Horizontal Pipe	1	137.25	5.94	0.75	225.40	10.841	0.75	0.00	0.00
29	115.00	APX16DWV-16DWVS-E-A20	3	40.70	6.61	0.62	116.69	8.024	0.62	0.00	0.00
30	115.00	RRUS 11 (Band 4)	3	51.00	2.52	0.50	97.92	2.931	0.50	0.00	0.00
31	115.00	RRUS 11 (Band 12)	3	54.00	2.52	0.50	96.34	2.931	0.50	0.00	0.00
32	115.00	T-Arm	3	350.00	8.00	0.75	508.62	12.532	0.75	0.00	0.00
33	115.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	387.32	21.457	0.70	0.00	0.00
34	115.00	Radio 4449 B71+B12	3	74.00	1.65	0.50	113.82	1.960	0.50	0.00	0.00
35	115.00	(3) Stabilizer Kit (12' FW)	1	180.00	6.10	1.00	326.83	10.247	1.00	0.00	0.00
36	73.00	GPS Receiver	1	10.00	1.00	1.00	28.19	1.442	1.00	0.00	0.00
37	50.00	58532A	1	0.40	0.22	1.00	5.18	0.441	1.00	0.00	0.00
Totals:			123	9,325.75			17,994.94				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	149.00	(4) 1-1/4" Fiber	0.00	Inside
0.00	138.00	(12) 1 5/8" Coax	0.00	Inside
0.00	138.00	(1) 1/2" Coax	0.00	Inside
0.00	130.00	(12) 1 5/8" Coax	0.00	Inside

Discrete Appurtenances

				No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	130.00	(2) 2" Conduit			0.00	Inside					
0.00	130.00	(1) 3" Conduit			0.00	Inside					
0.00	130.00	(6) 3/4" DC			0.00	Inside					
0.00	130.00	(2) 7/16" Fiber			0.00	Inside					
0.00	115.00	(3) 1 5/8" Fiber			2.00	Outside					
97.00	105.00	(3) 1.25" Reinforcing plate			1.25	Outside					
50.00	77.00	(3) 1.25" Reinforcing plate			1.25	Outside					
0.00	73.00	(1) 1/2" Coax			0.00	Inside					
0.00	50.00	(1) 1/2" Coax			0.65	Outside					

Shaft Section Properties

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

Page: 8



Increment Length: 3 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00		0.3125	48.000	47.298	13589.6	25.67	153.60	65	71	0.0				
2.00		0.3125	47.586	46.887	13238.4	25.44	152.27	65	71	320.5				
4.00		0.3125	47.171	46.476	12893.3	25.21	150.95	65	72	317.7				
6.00		0.3125	46.757	46.065	12554.2	24.97	149.62	65	72	314.9				
8.00		0.3125	46.342	45.654	12221.1	24.74	148.30	65	72	312.1				
10.00		0.3125	45.928	45.243	11894.0	24.50	146.97	65	73	309.3				
12.00		0.3125	45.513	44.832	11572.7	24.27	145.64	65	73	306.5				
14.00		0.3125	45.099	44.421	11257.3	24.04	144.32	65	73	303.7				
16.00		0.3125	44.685	44.010	10947.7	23.80	142.99	65	73	300.9				
18.00		0.3125	44.270	43.599	10643.8	23.57	141.66	65	74	298.1				
20.00		0.3125	43.856	43.188	10345.6	23.33	140.34	65	74	295.3				
22.00		0.3125	43.441	42.777	10053.0	23.10	139.01	65	74	292.5				
24.00		0.3125	43.027	42.366	9766.0	22.87	137.69	65	75	289.7				
26.00		0.3125	42.612	41.955	9484.5	22.63	136.36	65	75	286.9				
28.00		0.3125	42.198	41.544	9208.4	22.40	135.03	65	75	284.1				
30.00		0.3125	41.784	41.133	8937.8	22.17	133.71	65	75	281.3				
32.00		0.3125	41.369	40.722	8672.5	21.93	132.38	65	76	278.5				
34.00		0.3125	40.955	40.311	8412.5	21.70	131.06	65	76	275.7				
36.00		0.3125	40.540	39.899	8157.8	21.46	129.73	65	76	272.9				
38.00		0.3125	40.126	39.488	7908.2	21.23	128.40	65	76	270.1				
40.00		0.3125	39.711	39.077	7663.9	21.00	127.08	65	77	267.3				
42.00		0.3125	39.297	38.666	7424.5	20.76	125.75	65	77	264.5				
44.00		0.3125	38.883	38.255	7190.3	20.53	124.42	65	77	261.7				
46.00		0.3125	38.468	37.844	6961.0	20.29	123.10	65	78	258.9				
47.55	Bot - Section 2	0.3125	38.146	37.525	6786.3	20.11	122.07	65	78	199.2				
48.00		0.3125	38.054	37.433	6736.6	20.06	121.77	65	78	103.2				
50.00		0.3125	37.639	37.022	6517.1	19.83	120.45	65	78	459.1				
51.75	RB1	0.3125	37.277	36.662	6329.0	19.62	119.29	65	78	397.6	16.88	3228.1	3228.1	100.5
52.00	RB2	0.3125	37.225	36.611	6302.4	19.59	119.12	65	78	56.5	34.88	6621.4	6621.4	29.7
52.97	Top - Section 1	0.2500	37.524	29.576	5191.5	25.06	150.10	65	72	218.4	34.88	6553.5	6553.5	115.1
54.00		0.2500	37.310	29.406	5102.9	24.90	149.24	65	72	103.4	34.88	6481.8	6481.8	122.2
56.00		0.2500	36.896	29.078	4933.6	24.61	147.58	65	72	199.0	34.88	6343.7	6343.7	237.3
58.00		0.2500	36.482	28.749	4768.1	24.32	145.93	65	73	196.8	34.88	6207.1	6207.1	237.3
60.00		0.2500	36.067	28.420	4606.3	24.03	144.27	65	73	194.5	34.88	6072.0	6072.0	237.3
62.00		0.2500	35.653	28.091	4448.3	23.74	142.61	65	73	192.3	34.88	5938.3	5938.3	237.3
64.00		0.2500	35.238	27.762	4293.9	23.44	140.95	65	74	190.1	34.88	5806.2	5806.2	237.3
66.00		0.2500	34.824	27.433	4143.1	23.15	139.30	65	74	187.8	34.88	5675.6	5675.6	237.3
66.67	RB3	0.2500	34.685	27.323	4093.4	23.05	138.74	65	74	62.4	51.75	8371.4	8371.4	118.0
68.00	RT2	0.2500	34.409	27.105	3995.9	22.86	137.64	65	75	123.2	33.75	5395.2	5395.2	152.7
68.25	RT1	0.2500	34.358	27.063	3977.8	22.82	137.43	65	75	23.0	16.88	2689.8	2689.8	14.4
70.00		0.2500	33.995	26.776	3852.2	22.57	135.98	65	75	160.3	16.88	2635.6	2635.6	100.5
72.00		0.2500	33.581	26.447	3712.0	22.27	134.32	65	75	181.1	16.88	2574.4	2574.4	114.8
73.00		0.2500	33.373	26.282	3643.2	22.13	133.49	65	75	89.7	16.88	2544.0	2544.0	57.4
74.00		0.2500	33.166	26.118	3575.3	21.98	132.66	65	76	89.2	16.88	2513.8	2513.8	57.4
75.25	RT3	0.2500	32.907	25.912	3491.5	21.80	131.63	65	76	110.7	16.88	2476.4	2476.4	71.8
76.00		0.2500	32.752	25.789	3441.9	21.69	131.01	65	76	66.0				
78.00		0.2500	32.337	25.460	3311.9	21.40	129.35	65	76	174.4				
80.00		0.2500	31.923	25.131	3185.3	21.10	127.69	65	77	172.2				
82.00		0.2500	31.508	24.803	3061.9	20.81	126.03	65	77	169.9				
84.00		0.2500	31.094	24.474	2941.7	20.52	124.38	65	77	167.7				

Increment Length: 3 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
86.00		0.2500	30.680	24.145	2824.7	20.23	122.72	65	78	165.4				
88.00		0.2500	30.265	23.816	2710.8	19.94	121.06	65	78	163.2				
90.00		0.2500	29.851	23.487	2600.1	19.64	119.40	65	78	161.0				
92.00		0.2500	29.436	23.158	2492.4	19.35	117.74	65	79	158.7				
94.00		0.2500	29.022	22.830	2387.7	19.06	116.09	65	79	156.5				
96.00		0.2500	28.607	22.501	2286.0	18.77	114.43	65	79	154.2				
96.18	Bot - Section 3	0.2500	28.571	22.472	2277.2	18.74	114.28	65	79	13.5				
98.00		0.2500	28.193	22.172	2187.3	18.47	112.77	65	80	244.0				
99.00	RB4	0.2500	27.986	22.008	2139.0	18.33	111.94	65	80	132.4	15.00	1655.0	1655.0	51.0
100.00		0.2500	27.779	21.843	2091.4	18.18	111.11	65	80	131.4	15.00	1632.0	1632.0	51.0
100.34	Top - Section 2	0.1875	28.082	16.600	1632.0	25.00	149.77	65	72	44.9	15.00	1624.2	1624.2	17.5
102.00		0.1875	27.739	16.396	1572.5	24.68	147.94	65	72	93.0	15.00	1586.7	1586.7	84.6
103.00	RT4	0.1875	27.532	16.273	1537.3	24.48	146.84	65	73	55.6	15.00	1564.2	1564.2	51.0
104.00		0.1875	27.325	16.149	1502.6	24.29	145.73	65	73	55.2				
106.00		0.1875	26.910	15.903	1434.8	23.90	143.52	65	73	109.1				
108.00		0.1875	26.496	15.656	1369.1	23.51	141.31	65	74	107.4				
110.00		0.1875	26.081	15.410	1305.4	23.12	139.10	65	74	105.7				
112.00		0.1875	25.667	15.163	1243.7	22.73	136.89	65	75	104.0				
114.00		0.1875	25.253	14.916	1184.0	22.34	134.68	65	75	102.4				
115.00		0.1875	25.045	14.793	1154.9	22.14	133.57	65	75	50.5				
116.00		0.1875	24.838	14.670	1126.2	21.95	132.47	65	76	50.1				
118.00		0.1875	24.424	14.423	1070.4	21.56	130.26	65	76	99.0				
120.00		0.1875	24.009	14.176	1016.4	21.17	128.05	65	77	97.3				
122.00		0.1875	23.595	13.930	964.3	20.78	125.84	65	77	95.6				
124.00		0.1875	23.180	13.683	914.0	20.39	123.63	65	77	94.0				
126.00		0.1875	22.766	13.437	865.4	20.00	121.42	65	78	92.3				
128.00		0.1875	22.352	13.190	818.6	19.61	119.21	65	78	90.6				
130.00		0.1875	21.937	12.943	773.6	19.22	117.00	65	79	88.9				
132.00		0.1875	21.523	12.697	730.2	18.83	114.79	65	79	87.2				
134.00		0.1875	21.108	12.450	688.5	18.44	112.58	65	80	85.6				
136.00		0.1875	20.694	12.203	648.3	18.05	110.37	65	80	83.9				
138.00		0.1875	20.279	11.957	609.8	17.66	108.16	65	81	82.2				
140.00		0.1875	19.865	11.710	572.9	17.27	105.95	65	81	80.5				
142.00		0.1875	19.451	11.463	537.4	16.88	103.74	65	82	78.9				
144.00		0.1875	19.036	11.217	503.5	16.49	101.53	65	82	77.2				
146.00		0.1875	18.622	10.970	471.0	16.10	99.32	65	82	75.5				
148.00		0.1875	18.207	10.724	439.9	15.71	97.11	65	83	73.8				
149.00		0.1875	18.000	10.600	424.9	15.52	96.00	65	83	36.3				
Total Weight										14728.1	2733.8			

Wind Loading - Shaft

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

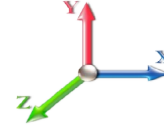
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Load Case: 1.2D + 1.0W 115 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 31

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	26.528	29.18	424.21	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	26.528	29.18	420.54	0.730	0.000	2.00	8.088	5.90	172.3	0.0	384.6
4.00		1.00	0.85	26.528	29.18	416.88	0.730	0.000	2.00	8.018	5.85	170.8	0.0	381.2
6.00		1.00	0.85	26.528	29.18	413.22	0.730	0.000	2.00	7.948	5.80	169.3	0.0	377.9
8.00		1.00	0.85	26.528	29.18	409.56	0.730	0.000	2.00	7.878	5.75	167.8	0.0	374.5
10.00		1.00	0.85	26.528	29.18	405.89	0.730	0.000	2.00	7.808	5.70	166.3	0.0	371.2
12.00		1.00	0.85	26.528	29.18	402.23	0.730	0.000	2.00	7.738	5.65	164.8	0.0	367.8
14.00		1.00	0.85	26.528	29.18	398.57	0.730	0.000	2.00	7.668	5.60	163.3	0.0	364.4
16.00		1.00	0.86	26.855	29.54	397.34	0.730	0.000	2.00	7.597	5.55	163.8	0.0	361.1
18.00		1.00	0.88	27.530	30.28	398.56	0.730	0.000	2.00	7.527	5.49	166.4	0.0	357.7
20.00		1.00	0.90	28.147	30.96	399.23	0.730	0.000	2.00	7.457	5.44	168.5	0.0	354.4
22.00		1.00	0.92	28.717	31.59	399.45	0.730	0.000	2.00	7.387	5.39	170.3	0.0	351.0
24.00		1.00	0.94	29.248	32.17	399.28	0.730	0.000	2.00	7.317	5.34	171.8	0.0	347.7
26.00		1.00	0.95	29.745	32.72	398.78	0.730	0.000	2.00	7.247	5.29	173.1	0.0	344.3
28.00		1.00	0.97	30.213	33.23	397.99	0.730	0.000	2.00	7.177	5.24	174.1	0.0	341.0
30.00		1.00	0.98	30.655	33.72	396.96	0.730	0.000	2.00	7.106	5.19	174.9	0.0	337.6
32.00		1.00	1.00	31.075	34.18	395.70	0.730	0.000	2.00	7.036	5.14	175.6	0.0	334.2
34.00		1.00	1.01	31.474	34.62	394.24	0.730	0.000	2.00	6.966	5.09	176.1	0.0	330.9
36.00		1.00	1.02	31.855	35.04	392.61	0.730	0.000	2.00	6.896	5.03	176.4	0.0	327.5
38.00		1.00	1.03	32.219	35.44	390.81	0.730	0.000	2.00	6.826	4.98	176.6	0.0	324.2
40.00		1.00	1.04	32.569	35.83	388.87	0.730	0.000	2.00	6.756	4.93	176.7	0.0	320.8
42.00		1.00	1.05	32.905	36.20	386.79	0.730	0.000	2.00	6.686	4.88	176.7	0.0	317.5
44.00		1.00	1.06	33.229	36.55	384.59	0.730	0.000	2.00	6.615	4.83	176.5	0.0	314.1
46.00		1.00	1.07	33.542	36.90	382.28	0.730	0.000	2.00	6.545	4.78	176.3	0.0	310.7
47.55 Bot - Section 2		1.00	1.08	33.777	37.15	380.41	0.730	0.000	1.55	5.035	3.68	136.6	0.0	239.0
48.00		1.00	1.08	33.844	37.23	379.86	0.730	0.000	0.45	1.459	1.07	39.6	0.0	123.9
50.00 Appurtenance(s)		1.00	1.09	34.136	37.55	377.34	0.730	0.000	2.00	6.490	4.74	177.9	0.0	550.9
51.75 RB1		1.00	1.10	34.384	37.82	375.06	0.730	0.000	1.75	5.621	4.10	155.2	0.0	477.1
52.00 RB2		1.00	1.10	34.419	37.86	374.73	0.730	0.000	0.25	0.799	0.58	22.1	0.0	67.8
52.97 Top - Section 1		1.00	1.11	34.553	38.01	373.43	0.730	0.000	0.97	3.088	2.25	85.7	0.0	262.1
54.00		1.00	1.11	34.693	38.16	377.08	0.730	0.000	1.03	3.261	2.38	90.9	0.0	124.0
56.00		1.00	1.12	34.960	38.46	374.33	0.730	0.000	2.00	6.279	4.58	176.3	0.0	238.8
58.00		1.00	1.13	35.219	38.74	371.49	0.730	0.000	2.00	6.209	4.53	175.6	0.0	236.1
60.00		1.00	1.14	35.471	39.02	368.58	0.730	0.000	2.00	6.139	4.48	174.9	0.0	233.4
62.00		1.00	1.14	35.717	39.29	365.61	0.730	0.000	2.00	6.069	4.43	174.1	0.0	230.8
64.00		1.00	1.15	35.957	39.55	362.57	0.730	0.000	2.00	5.999	4.38	173.2	0.0	228.1
66.00		1.00	1.16	36.190	39.81	359.47	0.730	0.000	2.00	5.929	4.33	172.3	0.0	225.4
66.67 RB3		1.00	1.16	36.267	39.89	358.41	0.730	0.000	0.67	1.970	1.44	57.4	0.0	74.9
68.00 RT2		1.00	1.17	36.418	40.06	356.31	0.730	0.000	1.33	3.888	2.84	113.7	0.0	147.8
68.25 RT1		1.00	1.17	36.447	40.09	355.91	0.730	0.000	0.25	0.727	0.53	21.3	0.0	27.6
70.00		1.00	1.17	36.641	40.31	353.09	0.730	0.000	1.75	5.061	3.69	148.9	0.0	192.4
72.00		1.00	1.18	36.859	40.55	349.82	0.730	0.000	2.00	5.718	4.17	169.2	0.0	217.3
73.00 Appurtenance(s)		1.00	1.18	36.967	40.66	348.17	0.730	0.000	1.00	2.833	2.07	84.1	0.0	107.7
74.00		1.00	1.19	37.073	40.78	346.50	0.730	0.000	1.00	2.815	2.06	83.8	0.0	107.0
75.25 RT3		1.00	1.19	37.204	40.92	344.40	0.730	0.000	1.25	3.494	2.55	104.4	0.0	132.8
76.00		1.00	1.19	37.281	41.01	343.13	0.730	0.000	0.75	2.083	1.52	62.4	0.0	79.2
78.00		1.00	1.20	37.486	41.23	339.72	0.730	0.000	2.00	5.508	4.02	165.8	0.0	209.3

Wind Loading - Shaft

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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80.00	1.00	1.21	37.686	41.45	336.26	0.730	0.000	2.00	5.438	3.97	164.6	0.0	206.6
82.00	1.00	1.21	37.883	41.67	332.76	0.730	0.000	2.00	5.367	3.92	163.3	0.0	203.9
84.00	1.00	1.22	38.075	41.88	329.22	0.730	0.000	2.00	5.297	3.87	162.0	0.0	201.2
86.00	1.00	1.23	38.264	42.09	325.63	0.730	0.000	2.00	5.227	3.82	160.6	0.0	198.5
88.00	1.00	1.23	38.450	42.29	322.01	0.730	0.000	2.00	5.157	3.76	159.2	0.0	195.8
90.00	1.00	1.24	38.632	42.50	318.36	0.730	0.000	2.00	5.087	3.71	157.8	0.0	193.2
92.00	1.00	1.24	38.811	42.69	314.66	0.730	0.000	2.00	5.017	3.66	156.4	0.0	190.5
94.00	1.00	1.25	38.988	42.89	310.94	0.730	0.000	2.00	4.947	3.61	154.9	0.0	187.8
96.00	1.00	1.25	39.161	43.08	307.18	0.730	0.000	2.00	4.877	3.56	153.3	0.0	185.1
96.18 Bot - Section 3	1.00	1.26	39.176	43.09	306.84	0.730	0.000	0.18	0.427	0.31	13.4	0.0	16.2
98.00	1.00	1.26	39.331	43.26	303.39	0.730	0.000	1.82	4.437	3.24	140.1	0.0	292.8
99.00 RB4	1.00	1.26	39.415	43.36	301.48	0.761 *	0.000	1.00	2.409	1.83	79.4	0.0	158.9
100.00	1.00	1.27	39.499	43.45	299.56	0.762 *	0.000	1.00	2.391	1.82	79.2	0.0	157.7
100.34 Top - Section 2	1.00	1.27	39.527	43.48	298.90	0.764 *	0.000	0.34	0.817	0.62	27.1	0.0	53.9
102.00	1.00	1.27	39.664	43.63	299.76	0.762 *	0.000	1.66	3.913	2.98	130.1	0.0	111.6
103.00 RT4	1.00	1.27	39.745	43.72	297.83	0.765 *	0.000	1.00	2.338	1.79	78.2	0.0	66.7
104.00	1.00	1.28	39.826	43.81	295.89	0.767 *	0.000	1.00	2.321	1.78	77.9	0.0	66.2
106.00	1.00	1.28	39.986	43.98	291.98	0.730	0.000	2.00	4.589	3.35	147.4	0.0	130.9
108.00	1.00	1.29	40.144	44.16	288.05	0.730	0.000	2.00	4.519	3.30	145.7	0.0	128.9
110.00	1.00	1.29	40.299	44.33	284.10	0.730	0.000	2.00	4.449	3.25	144.0	0.0	126.9
112.00	1.00	1.30	40.452	44.50	280.11	0.730	0.000	2.00	4.379	3.20	142.2	0.0	124.8
114.00	1.00	1.30	40.603	44.66	276.10	0.730	0.000	2.00	4.309	3.15	140.5	0.0	122.8
115.00 Appurtenance(s)	1.00	1.30	40.678	44.75	274.09	0.730	0.000	1.00	2.128	1.55	69.5	0.0	60.7
116.00	1.00	1.31	40.752	44.83	272.07	0.730	0.000	1.00	2.111	1.54	69.1	0.0	60.2
118.00	1.00	1.31	40.899	44.99	268.01	0.730	0.000	2.00	4.168	3.04	136.9	0.0	118.8
120.00	1.00	1.32	41.044	45.15	263.93	0.730	0.000	2.00	4.098	2.99	135.1	0.0	116.8
122.00	1.00	1.32	41.187	45.31	259.83	0.730	0.000	2.00	4.028	2.94	133.2	0.0	114.8
124.00	1.00	1.32	41.329	45.46	255.70	0.730	0.000	2.00	3.958	2.89	131.4	0.0	112.8
126.00	1.00	1.33	41.468	45.61	251.55	0.730	0.000	2.00	3.888	2.84	129.5	0.0	110.7
128.00	1.00	1.33	41.606	45.77	247.38	0.730	0.000	2.00	3.818	2.79	127.6	0.0	108.7
130.00 Appurtenance(s)	1.00	1.34	41.742	45.92	243.19	0.730	0.000	2.00	3.748	2.74	125.6	0.0	106.7
132.00	1.00	1.34	41.876	46.06	238.98	0.730	0.000	2.00	3.678	2.68	123.7	0.0	104.7
134.00	1.00	1.35	42.009	46.21	234.75	0.730	0.000	2.00	3.607	2.63	121.7	0.0	102.7
136.00	1.00	1.35	42.140	46.35	230.50	0.730	0.000	2.00	3.537	2.58	119.7	0.0	100.7
138.00 Appurtenance(s)	1.00	1.35	42.270	46.50	226.23	0.730	0.000	2.00	3.467	2.53	117.7	0.0	98.7
140.00	1.00	1.36	42.398	46.64	221.95	0.730	0.000	2.00	3.397	2.48	115.7	0.0	96.6
142.00	1.00	1.36	42.525	46.78	217.64	0.730	0.000	2.00	3.327	2.43	113.6	0.0	94.6
144.00	1.00	1.37	42.650	46.92	213.32	0.730	0.000	2.00	3.257	2.38	111.5	0.0	92.6
146.00	1.00	1.37	42.774	47.05	208.98	0.730	0.000	2.00	3.187	2.33	109.5	0.0	90.6
148.00	1.00	1.37	42.897	47.19	204.62	0.730	0.000	2.00	3.116	2.27	107.3	0.0	88.6
149.00 Appurtenance(s)	1.00	1.38	42.958	47.25	202.43	0.730	0.000	1.00	1.532	1.12	52.8	0.0	43.5
Totals:								149.00			11,642.0		17,673.7

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

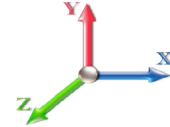
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Load Case: 1.2D + 1.0W 115 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 31

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	ACU-A20-N	4	43.139	47.452	0.40	0.80	0.22	4.80	0.000	3.000	10.63	0.00	31.89
2	149.00	800MHZ Filter	3	43.139	47.452	0.40	0.80	0.94	31.68	0.000	3.000	44.42	0.00	133.25
3	149.00	TD-RRH8x20-25	3	43.139	47.452	0.40	0.80	4.86	252.00	0.000	3.000	230.62	0.00	691.86
4	149.00	800MHZ	3	43.139	47.452	0.40	0.80	3.17	214.20	0.000	3.000	150.33	0.00	450.99
5	149.00	1900MHZ	3	43.139	47.452	0.40	0.80	3.32	216.00	0.000	3.000	157.73	0.00	473.20
6	149.00	APXVTM14-C-I20	3	43.139	47.452	0.63	0.80	12.02	201.60	0.000	3.000	570.41	0.00	1711.23
7	149.00	APXVSP18-C-A20	3	43.139	47.452	0.66	0.80	15.98	205.20	0.000	3.000	758.09	0.00	2274.28
8	149.00	Low Profile Platform	1	42.958	47.254	1.00	1.00	25.00	1440.00	0.000	0.000	1181.34	0.00	0.00
9	138.00	BXA-70063-6CF_2	3	42.270	46.497	0.58	0.80	13.26	61.20	0.000	0.000	616.67	0.00	0.00
10	138.00	BXA-171085-12B_2	3	42.270	46.497	0.67	0.80	9.56	54.00	0.000	0.000	444.32	0.00	0.00
11	138.00	LPA-80080/6CF	3	42.270	46.497	1.36	0.80	17.67	75.60	0.000	0.000	821.43	0.00	0.00
12	138.00	Low Profile Platform	1	42.270	46.497	1.00	1.00	25.00	1440.00	0.000	0.000	1162.42	0.00	0.00
13	138.00	GPS Receiver	1	42.270	46.497	1.00	1.00	1.00	12.00	0.000	0.000	46.50	0.00	0.00
14	138.00	FD9R6004/2C-3L	6	42.270	46.497	0.40	0.80	0.86	22.32	0.000	0.000	40.17	0.00	0.00
15	130.00	(3) 12.5' - 2" Horizontal	1	41.742	45.916	0.75	1.00	4.45	164.70	0.000	0.000	204.47	0.00	0.00
16	130.00	XP-2020	24	41.742	45.916	0.56	0.75	9.31	288.00	0.000	0.000	427.71	0.00	0.00
17	130.00	VSRDual-TS-B-HD	2	41.742	45.916	0.56	0.75	4.61	356.16	0.000	0.000	211.79	0.00	0.00
18	130.00	DC6-48-60-0-8C-EV	1	41.742	45.916	0.38	0.75	1.79	19.20	0.000	0.000	82.30	0.00	0.00
19	130.00	DC6-48-60-18-8C	1	41.742	45.916	0.38	0.75	0.47	24.00	0.000	0.000	21.70	0.00	0.00
20	130.00	ABT-DF-DM-ADBH	1	41.742	45.916	0.75	0.75	0.04	1.32	0.000	0.000	1.72	0.00	0.00
21	130.00	7770.00	3	41.742	45.916	0.55	0.75	9.03	126.00	0.000	0.000	414.79	0.00	0.00
22	130.00	LGP 21401	12	41.742	45.916	0.38	0.75	0.00	252.00	0.000	0.000	0.00	0.00	0.00
23	130.00	DC6-48-60-18-8F	1	41.742	45.916	0.75	0.75	0.69	38.16	0.000	0.000	31.68	0.00	0.00
24	130.00	8843 B2/B66A	3	41.742	45.916	0.38	0.75	1.84	259.20	0.000	0.000	84.72	0.00	0.00
25	130.00	80010965	6	41.742	45.916	0.53	0.75	44.12	781.92	0.000	0.000	2025.95	0.00	0.00
26	130.00	RRUS 4478 B14	3	41.742	45.916	0.38	0.75	1.86	213.84	0.000	0.000	85.23	0.00	0.00
27	130.00	4449 B5/B12	3	41.742	45.916	0.38	0.75	2.22	255.60	0.000	0.000	101.76	0.00	0.00
28	130.00	Low Profile Platform	1	41.742	45.916	1.00	1.00	25.00	1440.00	0.000	0.000	1147.90	0.00	0.00
29	115.00	RRUS 11 (Band 12)	3	40.678	44.746	0.40	0.80	3.02	194.40	0.000	0.000	135.31	0.00	0.00
30	115.00	APX16DWV-16DWVS-E-A	3	40.678	44.746	0.50	0.80	9.84	146.52	0.000	0.000	440.11	0.00	0.00
31	115.00	RRUS 11 (Band 4)	3	40.678	44.746	0.40	0.80	3.02	183.60	0.000	0.000	135.31	0.00	0.00
32	115.00	Radio 4449 B71+B12	3	40.678	44.746	0.40	0.80	1.98	266.40	0.000	0.000	88.60	0.00	0.00
33	115.00	APXVAARR24_43-U-NA2	3	40.678	44.746	0.56	0.80	34.00	460.80	0.000	0.000	1521.51	0.00	0.00
34	115.00	(3) Stabilizer Kit (12' FW)	1	40.678	44.746	1.00	1.00	6.10	216.00	0.000	0.000	272.95	0.00	0.00
35	115.00	T-Arm	3	40.678	44.746	0.56	0.75	13.50	1260.00	0.000	0.000	604.07	0.00	0.00
36	73.00	GPS Receiver	1	36.967	40.663	1.00	1.00	1.00	12.00	0.000	0.000	40.66	0.00	0.00
37	50.00	58532A	1	34.136	37.549	1.00	1.00	0.22	0.48	0.000	0.000	8.26	0.00	0.00

Totals: 11,190.90

14,323.59

Total Applied Force Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II

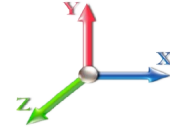


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Load Case: 1.2D + 1.0W 115 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 31

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		172.30	481.73	0.00	0.00
4.00		170.80	478.38	0.00	0.00
6.00		169.31	475.02	0.00	0.00
8.00		167.81	471.66	0.00	0.00
10.00		166.32	468.31	0.00	0.00
12.00		164.83	464.95	0.00	0.00
14.00		163.33	461.59	0.00	0.00
16.00		163.84	458.24	0.00	0.00
18.00		166.40	454.88	0.00	0.00
20.00		168.55	451.52	0.00	0.00
22.00		170.34	448.16	0.00	0.00
24.00		171.85	444.81	0.00	0.00
26.00		173.09	441.45	0.00	0.00
28.00		174.11	438.09	0.00	0.00
30.00		174.93	434.74	0.00	0.00
32.00		175.58	431.38	0.00	0.00
34.00		176.06	428.02	0.00	0.00
36.00		176.40	424.67	0.00	0.00
38.00		176.60	421.31	0.00	0.00
40.00		176.68	417.95	0.00	0.00
42.00		176.65	414.60	0.00	0.00
44.00		176.52	411.24	0.00	0.00
46.00		176.29	407.88	0.00	0.00
47.55		136.57	314.47	0.00	0.00
48.00		39.65	145.55	0.00	0.00
50.00	(1) attachments	186.15	648.51	0.00	0.00
51.75		155.19	561.74	0.00	0.00
52.00		22.07	79.87	0.00	0.00
52.97		85.69	309.00	0.00	0.00
54.00		90.85	173.86	0.00	0.00
56.00		176.28	335.57	0.00	0.00
58.00		175.60	332.88	0.00	0.00
60.00		174.86	330.20	0.00	0.00
62.00		174.06	327.51	0.00	0.00
64.00		173.20	324.83	0.00	0.00
66.00		172.29	322.14	0.00	0.00
66.67		57.38	107.32	0.00	0.00
68.00		113.70	212.14	0.00	0.00
68.25		21.29	39.74	0.00	0.00
70.00		148.91	277.03	0.00	0.00
72.00		169.25	314.08	0.00	0.00
73.00	(1) attachments	124.75	168.03	0.00	0.00
74.00		83.81	155.17	0.00	0.00
75.25		104.39	193.02	0.00	0.00
76.00		62.37	115.31	0.00	0.00
78.00		165.79	305.64	0.00	0.00

Total Applied Force Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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80.00		164.55	302.96	0.00	0.00
82.00		163.28	300.27	0.00	0.00
84.00		161.96	297.59	0.00	0.00
86.00		160.61	294.90	0.00	0.00
88.00		159.23	292.22	0.00	0.00
90.00		157.81	289.53	0.00	0.00
92.00		156.35	286.84	0.00	0.00
94.00		154.86	284.16	0.00	0.00
96.00		153.35	281.47	0.00	0.00
96.18		13.44	24.73	0.00	0.00
98.00		140.13	380.64	0.00	0.00
99.00		79.42	207.10	0.00	0.00
100.00		79.20	205.92	0.00	0.00
100.34		27.12	70.43	0.00	0.00
102.00		130.10	191.44	0.00	0.00
103.00		78.18	114.89	0.00	0.00
104.00		77.94	114.38	0.00	0.00
106.00		147.36	227.25	0.00	0.00
108.00		145.68	225.24	0.00	0.00
110.00		143.97	223.23	0.00	0.00
112.00		142.24	221.21	0.00	0.00
114.00		140.48	219.20	0.00	0.00
115.00	(19) attachments	3267.37	2836.56	0.00	0.00
116.00		69.07	104.38	0.00	0.00
118.00		136.90	207.25	0.00	0.00
120.00		135.08	205.24	0.00	0.00
122.00		133.23	203.22	0.00	0.00
124.00		131.36	201.21	0.00	0.00
126.00		129.46	199.19	0.00	0.00
128.00		127.55	197.18	0.00	0.00
130.00	(62) attachments	4967.34	4415.26	0.00	0.00
132.00		123.66	144.19	0.00	0.00
134.00		121.69	142.18	0.00	0.00
136.00		119.70	140.16	0.00	0.00
138.00	(17) attachments	3249.20	1803.27	0.00	0.00
140.00		115.65	105.80	0.00	0.00
142.00		113.60	103.78	0.00	0.00
144.00		111.54	101.77	0.00	0.00
146.00		109.45	99.76	0.00	0.00
148.00		107.35	97.74	0.00	0.00
149.00	(23) attachments	3156.41	2613.60	0.00	5766.68
Totals:		25,965.55	35,301.54	0.00	5,766.68

Linear Appurtenance Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

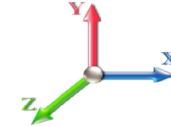
Page: 15



Load Case: 1.2D + 1.0W 115 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.055	0.000	26.528	0.00	7.92
2.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.055	0.000	26.528	0.00	0.38
4.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.055	0.000	26.528	0.00	7.92
4.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.055	0.000	26.528	0.00	0.38
6.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.056	0.000	26.528	0.00	7.92
6.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.056	0.000	26.528	0.00	0.38
8.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.056	0.000	26.528	0.00	7.92
8.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.056	0.000	26.528	0.00	0.38
10.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.057	0.000	26.528	0.00	7.92
10.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.057	0.000	26.528	0.00	0.38
12.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.057	0.000	26.528	0.00	7.92
12.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.057	0.000	26.528	0.00	0.38
14.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.058	0.000	26.528	0.00	7.92
14.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.058	0.000	26.528	0.00	0.38
16.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.058	0.000	26.855	0.00	7.92
16.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.058	0.000	26.855	0.00	0.38
18.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	27.530	0.00	7.92
18.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.059	0.000	27.530	0.00	0.38
20.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	28.147	0.00	7.92
20.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.059	0.000	28.147	0.00	0.38
22.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	28.717	0.00	7.92
22.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.060	0.000	28.717	0.00	0.38
24.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	29.248	0.00	7.92
24.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.060	0.000	29.248	0.00	0.38
26.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	29.745	0.00	7.92
26.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.061	0.000	29.745	0.00	0.38
28.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	30.213	0.00	7.92
28.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.062	0.000	30.213	0.00	0.38
30.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	30.655	0.00	7.92
30.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.062	0.000	30.655	0.00	0.38
32.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	31.075	0.00	7.92
32.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.063	0.000	31.075	0.00	0.38
34.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	31.474	0.00	7.92
34.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.063	0.000	31.474	0.00	0.38
36.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.064	0.000	31.855	0.00	7.92
36.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.064	0.000	31.855	0.00	0.38
38.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	32.219	0.00	7.92
38.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.065	0.000	32.219	0.00	0.38
40.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	32.569	0.00	7.92
40.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.065	0.000	32.569	0.00	0.38
42.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	32.905	0.00	7.92
42.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.066	0.000	32.905	0.00	0.38
44.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	33.229	0.00	7.92
44.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.067	0.000	33.229	0.00	0.38
46.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	33.542	0.00	7.92
46.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.067	0.000	33.542	0.00	0.38
47.55	1 5/8" Fiber	Yes	1.55	0.000	2.00	0.26	0.00	0.068	0.000	33.777	0.00	6.15

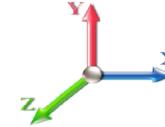
Linear Appurtenance Segment Forces (Factored)

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019	
Site Name: Litchfield 3, CT	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 16



Load Case: 1.2D + 1.0W 115 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
47.55	1/2" Coax	Yes	1.55	0.000	0.65	0.08	0.00	0.068	0.000	33.777	0.00	0.30
48.00	1 5/8" Fiber	Yes	0.45	0.000	2.00	0.07	0.00	0.068	0.000	33.844	0.00	1.77
48.00	1/2" Coax	Yes	0.45	0.000	0.65	0.02	0.00	0.068	0.000	33.844	0.00	0.09
50.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	34.136	0.00	7.92
50.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.069	0.000	34.136	0.00	0.38
51.75	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.085	0.000	34.384	0.00	6.93
51.75	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.085	0.000	34.384	0.00	0.00
52.00	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.086	0.000	34.419	0.00	0.99
52.00	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.086	0.000	34.419	0.00	0.00
52.97	1 5/8" Fiber	Yes	0.97	0.000	2.00	0.16	0.00	0.086	0.000	34.553	0.00	3.84
52.97	1.25" Reinforcing	Yes	0.97	0.000	1.25	0.10	0.00	0.086	0.000	34.553	0.00	0.00
54.00	1 5/8" Fiber	Yes	1.03	0.000	2.00	0.17	0.00	0.086	0.000	34.693	0.00	4.08
54.00	1.25" Reinforcing	Yes	1.03	0.000	1.25	0.11	0.00	0.086	0.000	34.693	0.00	0.00
56.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	34.960	0.00	7.92
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.086	0.000	34.960	0.00	0.00
58.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	35.219	0.00	7.92
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.087	0.000	35.219	0.00	0.00
60.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.088	0.000	35.471	0.00	7.92
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.088	0.000	35.471	0.00	0.00
62.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	35.717	0.00	7.92
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.089	0.000	35.717	0.00	0.00
64.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	35.957	0.00	7.92
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.090	0.000	35.957	0.00	0.00
66.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	36.190	0.00	7.92
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.091	0.000	36.190	0.00	0.00
66.67	1 5/8" Fiber	Yes	0.67	0.000	2.00	0.11	0.00	0.092	0.000	36.267	0.00	2.65
66.67	1.25" Reinforcing	Yes	0.67	0.000	1.25	0.07	0.00	0.092	0.000	36.267	0.00	0.00
68.00	1 5/8" Fiber	Yes	1.33	0.000	2.00	0.22	0.00	0.093	0.000	36.418	0.00	5.27
68.00	1.25" Reinforcing	Yes	1.33	0.000	1.25	0.14	0.00	0.093	0.000	36.418	0.00	0.00
68.25	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.093	0.000	36.447	0.00	0.99
68.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.093	0.000	36.447	0.00	0.00
70.00	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.094	0.000	36.641	0.00	6.93
70.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.094	0.000	36.641	0.00	0.00
72.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	36.859	0.00	7.92
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.095	0.000	36.859	0.00	0.00
73.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.096	0.000	36.967	0.00	3.96
73.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.096	0.000	36.967	0.00	0.00
74.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.096	0.000	37.073	0.00	3.96
74.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.096	0.000	37.073	0.00	0.00
75.25	1 5/8" Fiber	Yes	1.25	0.000	2.00	0.21	0.00	0.097	0.000	37.204	0.00	4.95
75.25	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.097	0.000	37.204	0.00	0.00
76.00	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.097	0.000	37.281	0.00	2.97
76.00	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.097	0.000	37.281	0.00	0.00
78.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	37.486	0.00	7.92
78.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.079	0.000	37.486	0.00	0.00
80.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	37.686	0.00	7.92
82.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	37.883	0.00	7.92

Linear Appurtenance Segment Forces (Factored)

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II

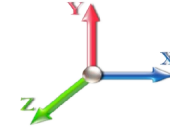


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Load Case: 1.2D + 1.0W 115 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
84.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	38.075	0.00	7.92
86.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.064	0.000	38.264	0.00	7.92
88.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	38.450	0.00	7.92
90.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	38.632	0.00	7.92
92.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	38.811	0.00	7.92
94.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	38.988	0.00	7.92
96.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	39.161	0.00	7.92
96.18	1 5/8" Fiber	Yes	0.18	0.000	2.00	0.03	0.00	0.069	0.000	39.176	0.00	0.70
98.00	1 5/8" Fiber	Yes	1.82	0.000	2.00	0.30	0.00	0.093	0.000	39.331	0.00	7.22
98.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.093	0.000	39.331	0.00	0.00
99.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.114	1.042	39.415	0.00	3.96
99.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.114	1.042	39.415	0.00	0.00
100.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.115	1.044	39.499	0.00	3.96
100.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.115	1.044	39.499	0.00	0.00
100.34	1 5/8" Fiber	Yes	0.34	0.000	2.00	0.06	0.00	0.115	1.046	39.527	0.00	1.36
100.34	1.25" Reinforcing	Yes	0.34	0.000	1.25	0.04	0.00	0.115	1.046	39.527	0.00	0.00
102.00	1 5/8" Fiber	Yes	1.66	0.000	2.00	0.28	0.00	0.115	1.044	39.664	0.00	6.56
102.00	1.25" Reinforcing	Yes	1.66	0.000	1.25	0.17	0.00	0.115	1.044	39.664	0.00	0.00
103.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.116	1.047	39.745	0.00	3.96
103.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.116	1.047	39.745	0.00	0.00
104.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.117	1.050	39.826	0.00	3.96
104.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.117	1.050	39.826	0.00	0.00
106.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	39.986	0.00	7.92
106.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.095	0.000	39.986	0.00	0.00
108.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	40.144	0.00	7.92
110.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	40.299	0.00	7.92
112.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	40.452	0.00	7.92
114.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	40.603	0.00	7.92
115.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.078	0.000	40.678	0.00	3.96
Totals:											0.0	465.0

Calculated Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

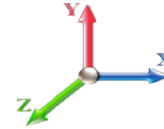
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Load Case: 1.2D + 1.0W 115 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 31

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-35.27	-26.00	0.00	-2888.0	0.00	2888.03	3031.07	830.09	3284.29	2977.95	0.00	0.000	0.000	0.982
2.00	-34.74	-25.90	0.00	-2836.0	0.00	2836.02	3016.33	822.87	3227.46	2937.55	0.03	-0.120	0.000	0.978
4.00	-34.20	-25.80	0.00	-2784.2	0.00	2784.22	3001.40	815.66	3171.12	2897.21	0.10	-0.241	0.000	0.973
6.00	-33.68	-25.70	0.00	-2732.6	0.00	2732.61	2986.25	808.44	3115.27	2856.93	0.23	-0.362	0.000	0.969
8.00	-33.15	-25.60	0.00	-2681.2	0.00	2681.21	2970.91	801.23	3059.93	2816.71	0.41	-0.485	0.000	0.964
10.00	-32.63	-25.50	0.00	-2630.0	0.00	2630.00	2955.36	794.02	3005.07	2776.57	0.64	-0.609	0.000	0.959
12.00	-32.11	-25.40	0.00	-2578.9	0.00	2578.99	2939.60	786.80	2950.72	2736.51	0.92	-0.733	0.000	0.954
14.00	-31.60	-25.30	0.00	-2528.1	0.00	2528.19	2923.65	779.59	2896.86	2696.53	1.25	-0.859	0.000	0.949
16.00	-31.08	-25.20	0.00	-2477.5	0.00	2477.58	2907.49	772.37	2843.49	2656.64	1.64	-0.985	0.000	0.944
18.00	-30.58	-25.09	0.00	-2427.1	0.00	2427.18	2891.12	765.16	2790.63	2616.84	2.08	-1.113	0.000	0.939
20.00	-30.07	-24.98	0.00	-2377.0	0.00	2377.00	2874.56	757.95	2738.25	2577.14	2.58	-1.241	0.000	0.934
22.00	-29.57	-24.87	0.00	-2327.0	0.00	2327.03	2857.79	750.73	2686.38	2537.55	3.12	-1.371	0.000	0.928
24.00	-29.08	-24.75	0.00	-2277.2	0.00	2277.29	2840.81	743.52	2635.00	2498.06	3.73	-1.501	0.000	0.923
26.00	-28.58	-24.64	0.00	-2227.7	0.00	2227.78	2823.63	736.31	2584.12	2458.69	4.38	-1.632	0.000	0.917
28.00	-28.09	-24.51	0.00	-2178.5	0.00	2178.51	2806.25	729.09	2533.73	2419.44	5.10	-1.764	0.000	0.912
30.00	-27.61	-24.39	0.00	-2129.4	0.00	2129.49	2788.67	721.88	2483.84	2380.32	5.86	-1.897	0.000	0.906
32.00	-27.13	-24.26	0.00	-2080.7	0.00	2080.71	2770.88	714.66	2434.44	2341.32	6.69	-2.031	0.000	0.900
34.00	-26.65	-24.13	0.00	-2032.1	0.00	2032.19	2752.89	707.45	2385.54	2302.46	7.57	-2.166	0.000	0.893
36.00	-26.17	-24.00	0.00	-1983.9	0.00	1983.92	2734.69	700.24	2337.14	2263.74	8.50	-2.302	0.000	0.887
38.00	-25.70	-23.87	0.00	-1935.9	0.00	1935.91	2716.29	693.02	2289.23	2225.17	9.50	-2.439	0.000	0.881
40.00	-25.23	-23.74	0.00	-1888.1	0.00	1888.17	2697.69	685.81	2241.82	2186.75	10.55	-2.576	0.000	0.874
42.00	-24.77	-23.60	0.00	-1840.7	0.00	1840.70	2678.89	678.59	2194.91	2148.48	11.66	-2.715	0.000	0.867
44.00	-24.31	-23.46	0.00	-1793.5	0.00	1793.50	2659.88	671.38	2148.49	2110.38	12.83	-2.854	0.000	0.860
46.00	-23.86	-23.32	0.00	-1746.5	0.00	1746.57	2640.67	664.17	2102.57	2072.44	14.05	-2.994	0.000	0.853
47.55	-23.53	-23.20	0.00	-1710.3	0.00	1710.35	2625.60	658.56	2067.24	2043.10	15.04	-3.104	0.000	0.847
48.00	-23.35	-23.18	0.00	-1699.9	0.00	1699.99	2621.25	656.95	2057.14	2034.68	15.34	-3.136	0.000	0.846
50.00	-22.66	-23.01	0.00	-1653.6	0.00	1653.62	2601.63	649.74	2012.21	1997.09	16.68	-3.277	0.000	0.838
51.75	-22.08	-22.85	0.00	-1613.3	0.00	1613.35	2584.30	643.43	1973.30	1964.36	17.90	-3.402	0.000	0.831
52.00	-21.99	-22.83	0.00	-1607.6	0.00	1607.64	2581.81	642.52	1967.78	1959.69	18.08	-3.414	0.000	0.830
52.97	-21.68	-22.74	0.00	-1585.4	0.00	1585.49	1914.68	519.05	1605.21	1470.11	18.78	-3.448	0.000	0.846
54.00	-21.49	-22.66	0.00	-1562.0	0.00	1562.06	1908.40	516.08	1586.88	1456.85	19.53	-3.485	0.000	0.479
56.00	-21.13	-22.49	0.00	-1516.7	0.00	1516.73	1896.06	510.31	1551.58	1431.13	21.00	-3.560	0.000	0.471
58.00	-20.78	-22.33	0.00	-1471.7	0.00	1471.75	1883.51	504.54	1516.69	1405.47	22.51	-3.636	0.000	0.462
60.00	-20.43	-22.16	0.00	-1427.0	0.00	1427.09	1870.76	498.77	1482.19	1379.88	24.05	-3.711	0.000	0.453
62.00	-20.09	-21.99	0.00	-1382.7	0.00	1382.78	1857.80	493.00	1448.09	1354.36	25.62	-3.786	0.000	0.444
64.00	-19.75	-21.82	0.00	-1338.8	0.00	1338.80	1844.65	487.23	1414.38	1328.91	27.22	-3.860	0.000	0.435
66.00	-19.42	-21.64	0.00	-1295.1	0.00	1295.17	1831.29	481.46	1381.08	1303.55	28.85	-3.934	0.000	0.426
66.67	-19.31	-21.59	0.00	-1280.6	0.00	1280.67	1826.76	479.52	1370.01	1295.07	29.40	-3.959	0.000	0.330
68.00	-19.09	-21.47	0.00	-1251.9	0.00	1251.95	1817.72	475.68	1348.17	1278.27	30.51	-3.998	0.000	0.423
68.25	-19.04	-21.46	0.00	-1246.5	0.00	1246.59	1816.01	474.96	1344.08	1275.12	30.72	-4.007	0.000	0.592
70.00	-18.73	-21.33	0.00	-1209.0	0.00	1209.03	1803.95	469.91	1315.65	1253.09	32.20	-4.099	0.000	0.581
72.00	-18.40	-21.16	0.00	-1166.3	0.00	1166.38	1789.98	464.14	1283.53	1228.00	33.94	-4.203	0.000	0.569
73.00	-18.23	-21.04	0.00	-1145.2	0.00	1145.22	1782.92	461.26	1267.62	1215.49	34.83	-4.255	0.000	0.563
74.00	-18.06	-20.96	0.00	-1124.1	0.00	1124.18	1775.81	458.37	1251.81	1203.02	35.72	-4.308	0.000	0.557
75.25	-17.85	-20.86	0.00	-1097.9	0.00	1097.98	1766.84	454.76	1232.19	1187.45	36.86	-4.372	0.000	0.549
75.25	-17.85	-20.86	0.00	-1097.9	0.00	1097.98	1766.84	454.76	1232.19	1187.45	36.86	-4.372	0.000	0.549
76.00	-17.70	-20.82	0.00	-1082.3	0.00	1082.34	1761.43	452.60	1220.49	1178.14	37.55	-4.411	0.000	0.931
78.00	-17.35	-20.69	0.00	-1040.6	0.00	1040.69	1746.84	446.83	1189.56	1153.37	39.43	-4.587	0.000	0.914

Calculated Forces

Structure: CT12215-A-SBA **Code:** EIA/TIA-222-H 7/10/2019
Site Name: Litchfield 3, CT **Exposure:** C
Height: 149.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** B - Competent Rock
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 19



80.00	-17.00	-20.55	0.00	-999.32	0.00	999.32	1732.06	441.06	1159.03	1128.72	41.39	-4.762	0.000	0.897
82.00	-16.65	-20.41	0.00	-958.23	0.00	958.23	1717.07	435.29	1128.90	1104.20	43.42	-4.937	0.000	0.880
84.00	-16.31	-20.27	0.00	-917.40	0.00	917.40	1701.88	429.52	1099.17	1079.81	45.52	-5.111	0.000	0.861
86.00	-15.97	-20.14	0.00	-876.86	0.00	876.86	1686.48	423.74	1069.83	1055.54	47.70	-5.285	0.000	0.842
88.00	-15.63	-20.00	0.00	-836.58	0.00	836.58	1670.88	417.97	1040.88	1031.42	49.95	-5.457	0.000	0.823
90.00	-15.30	-19.86	0.00	-796.59	0.00	796.59	1655.08	412.20	1012.34	1007.44	52.27	-5.629	0.000	0.802
92.00	-14.97	-19.72	0.00	-756.88	0.00	756.88	1639.07	406.43	984.19	983.61	54.66	-5.799	0.000	0.781
94.00	-14.65	-19.58	0.00	-717.44	0.00	717.44	1622.86	400.66	956.44	959.94	57.12	-5.967	0.000	0.759
96.00	-14.35	-19.42	0.00	-678.29	0.00	678.29	1606.45	394.89	929.08	936.43	59.65	-6.133	0.000	0.736
96.18	-14.30	-19.42	0.00	-674.86	0.00	674.86	1604.99	394.38	926.69	934.36	59.88	-6.148	0.000	0.734
98.00	-13.90	-19.27	0.00	-639.45	0.00	639.45	1589.83	389.12	902.13	913.08	62.25	-6.298	0.000	0.712
99.00	-13.68	-19.18	0.00	-620.18	0.00	620.18	1581.44	386.23	888.80	901.47	63.58	-6.380	0.000	0.395
100.00	-13.47	-19.09	0.00	-600.99	0.00	600.99	1573.01	383.35	875.57	889.90	64.92	-6.426	0.000	0.387
100.34	-13.39	-19.06	0.00	-594.44	0.00	594.44	1075.68	291.34	674.27	618.09	65.38	-6.441	0.000	0.434
102.00	-13.20	-18.93	0.00	-562.86	0.00	562.86	1068.04	287.75	657.78	606.10	67.62	-6.515	0.000	0.473
103.00	-13.08	-18.85	0.00	-543.93	0.00	543.93	1063.37	285.59	647.92	598.87	68.99	-6.565	0.000	0.461
103.00	-13.08	-18.85	0.00	-543.93	0.00	543.93	1063.37	285.59	647.92	598.87	68.99	-6.565	0.000	0.461
104.00	-12.93	-18.79	0.00	-525.08	0.00	525.08	1058.64	283.42	638.14	591.66	70.37	-6.614	0.000	0.904
106.00	-12.66	-18.65	0.00	-487.51	0.00	487.51	1049.03	279.09	618.79	577.28	73.17	-6.806	0.000	0.861
108.00	-12.39	-18.52	0.00	-450.20	0.00	450.20	1039.22	274.77	599.75	562.95	76.06	-6.992	0.000	0.816
110.00	-12.13	-18.39	0.00	-413.16	0.00	413.16	1029.21	270.44	581.00	548.68	79.02	-7.171	0.000	0.769
112.00	-11.88	-18.26	0.00	-376.38	0.00	376.38	1018.99	266.11	562.55	534.48	82.05	-7.343	0.000	0.721
114.00	-11.64	-18.11	0.00	-339.87	0.00	339.87	1008.57	261.78	544.40	520.34	85.16	-7.507	0.000	0.669
115.00	-9.24	-14.51	0.00	-321.76	0.00	321.76	1003.28	259.62	535.44	513.31	86.73	-7.586	0.000	0.639
116.00	-9.12	-14.45	0.00	-307.25	0.00	307.25	997.95	257.45	526.55	506.29	88.33	-7.664	0.000	0.619
118.00	-8.89	-14.31	0.00	-278.35	0.00	278.35	987.12	253.12	508.99	492.31	91.56	-7.812	0.000	0.578
120.00	-8.68	-14.17	0.00	-249.73	0.00	249.73	976.09	248.80	491.73	478.42	94.85	-7.952	0.000	0.534
122.00	-8.46	-14.03	0.00	-221.40	0.00	221.40	964.85	244.47	474.77	464.62	98.20	-8.084	0.000	0.489
124.00	-8.25	-13.88	0.00	-193.35	0.00	193.35	953.42	240.14	458.11	450.92	101.61	-8.206	0.000	0.441
126.00	-8.05	-13.74	0.00	-165.59	0.00	165.59	941.77	235.81	441.75	437.32	105.06	-8.318	0.000	0.391
128.00	-7.85	-13.60	0.00	-138.10	0.00	138.10	929.93	231.48	425.68	423.83	108.55	-8.418	0.000	0.338
130.00	-4.20	-8.04	0.00	-110.90	0.00	110.90	917.88	227.15	409.91	410.45	112.09	-8.505	0.000	0.276
132.00	-4.07	-7.90	0.00	-94.82	0.00	94.82	905.63	222.83	394.44	397.19	115.65	-8.580	0.000	0.244
134.00	-3.94	-7.77	0.00	-79.01	0.00	79.01	893.17	218.50	379.26	384.05	119.25	-8.648	0.000	0.211
136.00	-3.81	-7.63	0.00	-63.48	0.00	63.48	880.51	214.17	364.38	371.04	122.87	-8.707	0.000	0.177
138.00	-2.52	-4.15	0.00	-48.22	0.00	48.22	867.65	209.84	349.80	358.17	126.52	-8.756	0.000	0.138
140.00	-2.43	-4.02	0.00	-39.93	0.00	39.93	854.59	205.51	335.52	345.43	130.18	-8.797	0.000	0.119
142.00	-2.34	-3.89	0.00	-31.89	0.00	31.89	841.32	201.18	321.54	332.84	133.86	-8.833	0.000	0.099
144.00	-2.26	-3.77	0.00	-24.11	0.00	24.11	827.84	196.86	307.85	320.39	137.55	-8.862	0.000	0.078
146.00	-2.17	-3.64	0.00	-16.58	0.00	16.58	814.17	192.53	294.46	308.10	141.25	-8.885	0.000	0.057
148.00	-2.09	-3.52	0.00	-9.29	0.00	9.29	796.71	188.20	281.37	294.65	144.96	-8.901	0.000	0.035
149.00	0.00	-3.16	0.00	-5.77	0.00	5.77	787.55	186.03	274.94	287.88	146.82	-8.906	0.000	0.020

Wind Loading - Shaft

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

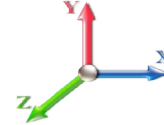
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Load Case: 0.9D + 1.0W 115 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	26.528	29.18	424.21	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	26.528	29.18	420.54	0.730	0.000	2.00	8.088	5.90	172.3	0.0	288.4
4.00		1.00	0.85	26.528	29.18	416.88	0.730	0.000	2.00	8.018	5.85	170.8	0.0	285.9
6.00		1.00	0.85	26.528	29.18	413.22	0.730	0.000	2.00	7.948	5.80	169.3	0.0	283.4
8.00		1.00	0.85	26.528	29.18	409.56	0.730	0.000	2.00	7.878	5.75	167.8	0.0	280.9
10.00		1.00	0.85	26.528	29.18	405.89	0.730	0.000	2.00	7.808	5.70	166.3	0.0	278.4
12.00		1.00	0.85	26.528	29.18	402.23	0.730	0.000	2.00	7.738	5.65	164.8	0.0	275.9
14.00		1.00	0.85	26.528	29.18	398.57	0.730	0.000	2.00	7.668	5.60	163.3	0.0	273.3
16.00		1.00	0.86	26.855	29.54	397.34	0.730	0.000	2.00	7.597	5.55	163.8	0.0	270.8
18.00		1.00	0.88	27.530	30.28	398.56	0.730	0.000	2.00	7.527	5.49	166.4	0.0	268.3
20.00		1.00	0.90	28.147	30.96	399.23	0.730	0.000	2.00	7.457	5.44	168.5	0.0	265.8
22.00		1.00	0.92	28.717	31.59	399.45	0.730	0.000	2.00	7.387	5.39	170.3	0.0	263.3
24.00		1.00	0.94	29.248	32.17	399.28	0.730	0.000	2.00	7.317	5.34	171.8	0.0	260.7
26.00		1.00	0.95	29.745	32.72	398.78	0.730	0.000	2.00	7.247	5.29	173.1	0.0	258.2
28.00		1.00	0.97	30.213	33.23	397.99	0.730	0.000	2.00	7.177	5.24	174.1	0.0	255.7
30.00		1.00	0.98	30.655	33.72	396.96	0.730	0.000	2.00	7.106	5.19	174.9	0.0	253.2
32.00		1.00	1.00	31.075	34.18	395.70	0.730	0.000	2.00	7.036	5.14	175.6	0.0	250.7
34.00		1.00	1.01	31.474	34.62	394.24	0.730	0.000	2.00	6.966	5.09	176.1	0.0	248.2
36.00		1.00	1.02	31.855	35.04	392.61	0.730	0.000	2.00	6.896	5.03	176.4	0.0	245.6
38.00		1.00	1.03	32.219	35.44	390.81	0.730	0.000	2.00	6.826	4.98	176.6	0.0	243.1
40.00		1.00	1.04	32.569	35.83	388.87	0.730	0.000	2.00	6.756	4.93	176.7	0.0	240.6
42.00		1.00	1.05	32.905	36.20	386.79	0.730	0.000	2.00	6.686	4.88	176.7	0.0	238.1
44.00		1.00	1.06	33.229	36.55	384.59	0.730	0.000	2.00	6.615	4.83	176.5	0.0	235.6
46.00		1.00	1.07	33.542	36.90	382.28	0.730	0.000	2.00	6.545	4.78	176.3	0.0	233.1
47.55 Bot - Section 2		1.00	1.08	33.777	37.15	380.41	0.730	0.000	1.55	5.035	3.68	136.6	0.0	179.3
48.00		1.00	1.08	33.844	37.23	379.86	0.730	0.000	0.45	1.459	1.07	39.6	0.0	92.9
50.00 Appurtenance(s)		1.00	1.09	34.136	37.55	377.34	0.730	0.000	2.00	6.490	4.74	177.9	0.0	413.2
51.75 RB1		1.00	1.10	34.384	37.82	375.06	0.730	0.000	1.75	5.621	4.10	155.2	0.0	357.8
52.00 RB2		1.00	1.10	34.419	37.86	374.73	0.730	0.000	0.25	0.799	0.58	22.1	0.0	50.8
52.97 Top - Section 1		1.00	1.11	34.553	38.01	373.43	0.730	0.000	0.97	3.088	2.25	85.7	0.0	196.6
54.00		1.00	1.11	34.693	38.16	377.08	0.730	0.000	1.03	3.261	2.38	90.9	0.0	93.0
56.00		1.00	1.12	34.960	38.46	374.33	0.730	0.000	2.00	6.279	4.58	176.3	0.0	179.1
58.00		1.00	1.13	35.219	38.74	371.49	0.730	0.000	2.00	6.209	4.53	175.6	0.0	177.1
60.00		1.00	1.14	35.471	39.02	368.58	0.730	0.000	2.00	6.139	4.48	174.9	0.0	175.1
62.00		1.00	1.14	35.717	39.29	365.61	0.730	0.000	2.00	6.069	4.43	174.1	0.0	173.1
64.00		1.00	1.15	35.957	39.55	362.57	0.730	0.000	2.00	5.999	4.38	173.2	0.0	171.1
66.00		1.00	1.16	36.190	39.81	359.47	0.730	0.000	2.00	5.929	4.33	172.3	0.0	169.0
66.67 RB3		1.00	1.16	36.267	39.89	358.41	0.730	0.000	0.67	1.970	1.44	57.4	0.0	56.2
68.00 RT2		1.00	1.17	36.418	40.06	356.31	0.730	0.000	1.33	3.888	2.84	113.7	0.0	110.8
68.25 RT1		1.00	1.17	36.447	40.09	355.91	0.730	0.000	0.25	0.727	0.53	21.3	0.0	20.7
70.00		1.00	1.17	36.641	40.31	353.09	0.730	0.000	1.75	5.061	3.69	148.9	0.0	144.3
72.00		1.00	1.18	36.859	40.55	349.82	0.730	0.000	2.00	5.718	4.17	169.2	0.0	163.0
73.00 Appurtenance(s)		1.00	1.18	36.967	40.66	348.17	0.730	0.000	1.00	2.833	2.07	84.1	0.0	80.7
74.00		1.00	1.19	37.073	40.78	346.50	0.730	0.000	1.00	2.815	2.06	83.8	0.0	80.2
75.25 RT3		1.00	1.19	37.204	40.92	344.40	0.730	0.000	1.25	3.494	2.55	104.4	0.0	99.6
76.00		1.00	1.19	37.281	41.01	343.13	0.730	0.000	0.75	2.083	1.52	62.4	0.0	59.4
78.00		1.00	1.20	37.486	41.23	339.72	0.730	0.000	2.00	5.508	4.02	165.8	0.0	157.0

Wind Loading - Shaft

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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80.00	1.00	1.21	37.686	41.45	336.26	0.730	0.000	2.00	5.438	3.97	164.6	0.0	154.9
82.00	1.00	1.21	37.883	41.67	332.76	0.730	0.000	2.00	5.367	3.92	163.3	0.0	152.9
84.00	1.00	1.22	38.075	41.88	329.22	0.730	0.000	2.00	5.297	3.87	162.0	0.0	150.9
86.00	1.00	1.23	38.264	42.09	325.63	0.730	0.000	2.00	5.227	3.82	160.6	0.0	148.9
88.00	1.00	1.23	38.450	42.29	322.01	0.730	0.000	2.00	5.157	3.76	159.2	0.0	146.9
90.00	1.00	1.24	38.632	42.50	318.36	0.730	0.000	2.00	5.087	3.71	157.8	0.0	144.9
92.00	1.00	1.24	38.811	42.69	314.66	0.730	0.000	2.00	5.017	3.66	156.4	0.0	142.9
94.00	1.00	1.25	38.988	42.89	310.94	0.730	0.000	2.00	4.947	3.61	154.9	0.0	140.8
96.00	1.00	1.25	39.161	43.08	307.18	0.730	0.000	2.00	4.877	3.56	153.3	0.0	138.8
96.18 Bot - Section 3	1.00	1.26	39.176	43.09	306.84	0.730	0.000	0.18	0.427	0.31	13.4	0.0	12.2
98.00	1.00	1.26	39.331	43.26	303.39	0.730	0.000	1.82	4.437	3.24	140.1	0.0	219.6
99.00 RB4	1.00	1.26	39.415	43.36	301.48	0.761 *	0.000	1.00	2.409	1.83	79.4	0.0	119.2
100.00	1.00	1.27	39.499	43.45	299.56	0.762 *	0.000	1.00	2.391	1.82	79.2	0.0	118.3
100.34 Top - Section 2	1.00	1.27	39.527	43.48	298.90	0.764 *	0.000	0.34	0.817	0.62	27.1	0.0	40.4
102.00	1.00	1.27	39.664	43.63	299.76	0.762 *	0.000	1.66	3.913	2.98	130.1	0.0	83.7
103.00 RT4	1.00	1.27	39.745	43.72	297.83	0.765 *	0.000	1.00	2.338	1.79	78.2	0.0	50.0
104.00	1.00	1.28	39.826	43.81	295.89	0.767 *	0.000	1.00	2.321	1.78	77.9	0.0	49.6
106.00	1.00	1.28	39.986	43.98	291.98	0.730	0.000	2.00	4.589	3.35	147.4	0.0	98.2
108.00	1.00	1.29	40.144	44.16	288.05	0.730	0.000	2.00	4.519	3.30	145.7	0.0	96.6
110.00	1.00	1.29	40.299	44.33	284.10	0.730	0.000	2.00	4.449	3.25	144.0	0.0	95.1
112.00	1.00	1.30	40.452	44.50	280.11	0.730	0.000	2.00	4.379	3.20	142.2	0.0	93.6
114.00	1.00	1.30	40.603	44.66	276.10	0.730	0.000	2.00	4.309	3.15	140.5	0.0	92.1
115.00 Appurtenance(s)	1.00	1.30	40.678	44.75	274.09	0.730	0.000	1.00	2.128	1.55	69.5	0.0	45.5
116.00	1.00	1.31	40.752	44.83	272.07	0.730	0.000	1.00	2.111	1.54	69.1	0.0	45.1
118.00	1.00	1.31	40.899	44.99	268.01	0.730	0.000	2.00	4.168	3.04	136.9	0.0	89.1
120.00	1.00	1.32	41.044	45.15	263.93	0.730	0.000	2.00	4.098	2.99	135.1	0.0	87.6
122.00	1.00	1.32	41.187	45.31	259.83	0.730	0.000	2.00	4.028	2.94	133.2	0.0	86.1
124.00	1.00	1.32	41.329	45.46	255.70	0.730	0.000	2.00	3.958	2.89	131.4	0.0	84.6
126.00	1.00	1.33	41.468	45.61	251.55	0.730	0.000	2.00	3.888	2.84	129.5	0.0	83.1
128.00	1.00	1.33	41.606	45.77	247.38	0.730	0.000	2.00	3.818	2.79	127.6	0.0	81.5
130.00 Appurtenance(s)	1.00	1.34	41.742	45.92	243.19	0.730	0.000	2.00	3.748	2.74	125.6	0.0	80.0
132.00	1.00	1.34	41.876	46.06	238.98	0.730	0.000	2.00	3.678	2.68	123.7	0.0	78.5
134.00	1.00	1.35	42.009	46.21	234.75	0.730	0.000	2.00	3.607	2.63	121.7	0.0	77.0
136.00	1.00	1.35	42.140	46.35	230.50	0.730	0.000	2.00	3.537	2.58	119.7	0.0	75.5
138.00 Appurtenance(s)	1.00	1.35	42.270	46.50	226.23	0.730	0.000	2.00	3.467	2.53	117.7	0.0	74.0
140.00	1.00	1.36	42.398	46.64	221.95	0.730	0.000	2.00	3.397	2.48	115.7	0.0	72.5
142.00	1.00	1.36	42.525	46.78	217.64	0.730	0.000	2.00	3.327	2.43	113.6	0.0	71.0
144.00	1.00	1.37	42.650	46.92	213.32	0.730	0.000	2.00	3.257	2.38	111.5	0.0	69.5
146.00	1.00	1.37	42.774	47.05	208.98	0.730	0.000	2.00	3.187	2.33	109.5	0.0	67.9
148.00	1.00	1.37	42.897	47.19	204.62	0.730	0.000	2.00	3.116	2.27	107.3	0.0	66.4
149.00 Appurtenance(s)	1.00	1.38	42.958	47.25	202.43	0.730	0.000	1.00	1.532	1.12	52.8	0.0	32.7
Totals:								149.00			11,642.0		13,255.3

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

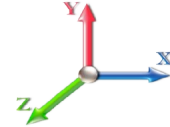
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Load Case: 0.9D + 1.0W 115 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	ACU-A20-N	4	43.139	47.452	0.40	0.80	0.22	3.60	0.000	3.000	10.63	0.00	31.89
2	149.00	800MHz Filter	3	43.139	47.452	0.40	0.80	0.94	23.76	0.000	3.000	44.42	0.00	133.25
3	149.00	TD-RRH8x20-25	3	43.139	47.452	0.40	0.80	4.86	189.00	0.000	3.000	230.62	0.00	691.86
4	149.00	800MHZ	3	43.139	47.452	0.40	0.80	3.17	160.65	0.000	3.000	150.33	0.00	450.99
5	149.00	1900MHZ	3	43.139	47.452	0.40	0.80	3.32	162.00	0.000	3.000	157.73	0.00	473.20
6	149.00	APXVTM14-C-I20	3	43.139	47.452	0.63	0.80	12.02	151.20	0.000	3.000	570.41	0.00	1711.23
7	149.00	APXVSP18-C-A20	3	43.139	47.452	0.66	0.80	15.98	153.90	0.000	3.000	758.09	0.00	2274.28
8	149.00	Low Profile Platform	1	42.958	47.254	1.00	1.00	25.00	1080.00	0.000	0.000	1181.34	0.00	0.00
9	138.00	BXA-70063-6CF_2	3	42.270	46.497	0.58	0.80	13.26	45.90	0.000	0.000	616.67	0.00	0.00
10	138.00	BXA-171085-12B_2	3	42.270	46.497	0.67	0.80	9.56	40.50	0.000	0.000	444.32	0.00	0.00
11	138.00	LPA-80080/6CF	3	42.270	46.497	1.36	0.80	17.67	56.70	0.000	0.000	821.43	0.00	0.00
12	138.00	Low Profile Platform	1	42.270	46.497	1.00	1.00	25.00	1080.00	0.000	0.000	1162.42	0.00	0.00
13	138.00	GPS Receiver	1	42.270	46.497	1.00	1.00	1.00	9.00	0.000	0.000	46.50	0.00	0.00
14	138.00	FD9R6004/2C-3L	6	42.270	46.497	0.40	0.80	0.86	16.74	0.000	0.000	40.17	0.00	0.00
15	130.00	(3) 12.5' - 2" Horizontal	1	41.742	45.916	0.75	1.00	4.45	123.53	0.000	0.000	204.47	0.00	0.00
16	130.00	XP-2020	24	41.742	45.916	0.56	0.75	9.31	216.00	0.000	0.000	427.71	0.00	0.00
17	130.00	VSRDual-TS-B-HD	2	41.742	45.916	0.56	0.75	4.61	267.12	0.000	0.000	211.79	0.00	0.00
18	130.00	DC6-48-60-0-8C-EV	1	41.742	45.916	0.38	0.75	1.79	14.40	0.000	0.000	82.30	0.00	0.00
19	130.00	DC6-48-60-18-8C	1	41.742	45.916	0.38	0.75	0.47	18.00	0.000	0.000	21.70	0.00	0.00
20	130.00	ABT-DF-DM-ADBH	1	41.742	45.916	0.75	0.75	0.04	0.99	0.000	0.000	1.72	0.00	0.00
21	130.00	7770.00	3	41.742	45.916	0.55	0.75	9.03	94.50	0.000	0.000	414.79	0.00	0.00
22	130.00	LGP 21401	12	41.742	45.916	0.38	0.75	0.00	189.00	0.000	0.000	0.00	0.00	0.00
23	130.00	DC6-48-60-18-8F	1	41.742	45.916	0.75	0.75	0.69	28.62	0.000	0.000	31.68	0.00	0.00
24	130.00	8843 B2/B66A	3	41.742	45.916	0.38	0.75	1.84	194.40	0.000	0.000	84.72	0.00	0.00
25	130.00	80010965	6	41.742	45.916	0.53	0.75	44.12	586.44	0.000	0.000	2025.95	0.00	0.00
26	130.00	RRUS 4478 B14	3	41.742	45.916	0.38	0.75	1.86	160.38	0.000	0.000	85.23	0.00	0.00
27	130.00	4449 B5/B12	3	41.742	45.916	0.38	0.75	2.22	191.70	0.000	0.000	101.76	0.00	0.00
28	130.00	Low Profile Platform	1	41.742	45.916	1.00	1.00	25.00	1080.00	0.000	0.000	1147.90	0.00	0.00
29	115.00	RRUS 11 (Band 12)	3	40.678	44.746	0.40	0.80	3.02	145.80	0.000	0.000	135.31	0.00	0.00
30	115.00	APX16DWV-16DWVS-E-A	3	40.678	44.746	0.50	0.80	9.84	109.89	0.000	0.000	440.11	0.00	0.00
31	115.00	RRUS 11 (Band 4)	3	40.678	44.746	0.40	0.80	3.02	137.70	0.000	0.000	135.31	0.00	0.00
32	115.00	Radio 4449 B71+B12	3	40.678	44.746	0.40	0.80	1.98	199.80	0.000	0.000	88.60	0.00	0.00
33	115.00	APXVAARR24_43-U-NA2	3	40.678	44.746	0.56	0.80	34.00	345.60	0.000	0.000	1521.51	0.00	0.00
34	115.00	(3) Stabilizer Kit (12' FW)	1	40.678	44.746	1.00	1.00	6.10	162.00	0.000	0.000	272.95	0.00	0.00
35	115.00	T-Arm	3	40.678	44.746	0.56	0.75	13.50	945.00	0.000	0.000	604.07	0.00	0.00
36	73.00	GPS Receiver	1	36.967	40.663	1.00	1.00	1.00	9.00	0.000	0.000	40.66	0.00	0.00
37	50.00	58532A	1	34.136	37.549	1.00	1.00	0.22	0.36	0.000	0.000	8.26	0.00	0.00

Totals: 8,393.17

14,323.59

Total Applied Force Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II

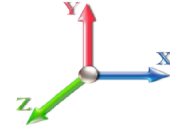


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Load Case: 0.9D + 1.0W 115 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		172.30	361.30	0.00	0.00
4.00		170.80	358.78	0.00	0.00
6.00		169.31	356.26	0.00	0.00
8.00		167.81	353.75	0.00	0.00
10.00		166.32	351.23	0.00	0.00
12.00		164.83	348.71	0.00	0.00
14.00		163.33	346.19	0.00	0.00
16.00		163.84	343.68	0.00	0.00
18.00		166.40	341.16	0.00	0.00
20.00		168.55	338.64	0.00	0.00
22.00		170.34	336.12	0.00	0.00
24.00		171.85	333.61	0.00	0.00
26.00		173.09	331.09	0.00	0.00
28.00		174.11	328.57	0.00	0.00
30.00		174.93	326.05	0.00	0.00
32.00		175.58	323.54	0.00	0.00
34.00		176.06	321.02	0.00	0.00
36.00		176.40	318.50	0.00	0.00
38.00		176.60	315.98	0.00	0.00
40.00		176.68	313.46	0.00	0.00
42.00		176.65	310.95	0.00	0.00
44.00		176.52	308.43	0.00	0.00
46.00		176.29	305.91	0.00	0.00
47.55		136.57	235.85	0.00	0.00
48.00		39.65	109.16	0.00	0.00
50.00	(1) attachments	186.15	486.39	0.00	0.00
51.75		155.19	421.30	0.00	0.00
52.00		22.07	59.90	0.00	0.00
52.97		85.69	231.75	0.00	0.00
54.00		90.85	130.40	0.00	0.00
56.00		176.28	251.68	0.00	0.00
58.00		175.60	249.66	0.00	0.00
60.00		174.86	247.65	0.00	0.00
62.00		174.06	245.63	0.00	0.00
64.00		173.20	243.62	0.00	0.00
66.00		172.29	241.61	0.00	0.00
66.67		57.38	80.49	0.00	0.00
68.00		113.70	159.10	0.00	0.00
68.25		21.29	29.81	0.00	0.00
70.00		148.91	207.77	0.00	0.00
72.00		169.25	235.56	0.00	0.00
73.00	(1) attachments	124.75	126.03	0.00	0.00
74.00		83.81	116.38	0.00	0.00
75.25		104.39	144.77	0.00	0.00
76.00		62.37	86.48	0.00	0.00
78.00		165.79	229.23	0.00	0.00

Total Applied Force Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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80.00		164.55	227.22	0.00	0.00
82.00		163.28	225.20	0.00	0.00
84.00		161.96	223.19	0.00	0.00
86.00		160.61	221.18	0.00	0.00
88.00		159.23	219.16	0.00	0.00
90.00		157.81	217.15	0.00	0.00
92.00		156.35	215.13	0.00	0.00
94.00		154.86	213.12	0.00	0.00
96.00		153.35	211.11	0.00	0.00
96.18		13.44	18.55	0.00	0.00
98.00		140.13	285.48	0.00	0.00
99.00		79.42	155.32	0.00	0.00
100.00		79.20	154.44	0.00	0.00
100.34		27.12	52.82	0.00	0.00
102.00		130.10	143.58	0.00	0.00
103.00		78.18	86.16	0.00	0.00
104.00		77.94	85.79	0.00	0.00
106.00		147.36	170.44	0.00	0.00
108.00		145.68	168.93	0.00	0.00
110.00		143.97	167.42	0.00	0.00
112.00		142.24	165.91	0.00	0.00
114.00		140.48	164.40	0.00	0.00
115.00	(19) attachments	3267.37	2127.42	0.00	0.00
116.00		69.07	78.29	0.00	0.00
118.00		136.90	155.44	0.00	0.00
120.00		135.08	153.93	0.00	0.00
122.00		133.23	152.42	0.00	0.00
124.00		131.36	150.91	0.00	0.00
126.00		129.46	149.39	0.00	0.00
128.00		127.55	147.88	0.00	0.00
130.00	(62) attachments	4967.34	3311.45	0.00	0.00
132.00		123.66	108.14	0.00	0.00
134.00		121.69	106.63	0.00	0.00
136.00		119.70	105.12	0.00	0.00
138.00	(17) attachments	3249.20	1352.45	0.00	0.00
140.00		115.65	79.35	0.00	0.00
142.00		113.60	77.84	0.00	0.00
144.00		111.54	76.33	0.00	0.00
146.00		109.45	74.82	0.00	0.00
148.00		107.35	73.31	0.00	0.00
149.00	(23) attachments	3156.41	1960.20	0.00	5766.68
Totals:		25,965.55	26,476.16	0.00	5,766.68

Linear Appurtenance Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

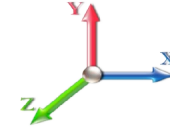
Page: 25



Load Case: 0.9D + 1.0W 115 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.055	0.000	26.528	0.00	5.94
2.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.055	0.000	26.528	0.00	0.29
4.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.055	0.000	26.528	0.00	5.94
4.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.055	0.000	26.528	0.00	0.29
6.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.056	0.000	26.528	0.00	5.94
6.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.056	0.000	26.528	0.00	0.29
8.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.056	0.000	26.528	0.00	5.94
8.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.056	0.000	26.528	0.00	0.29
10.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.057	0.000	26.528	0.00	5.94
10.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.057	0.000	26.528	0.00	0.29
12.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.057	0.000	26.528	0.00	5.94
12.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.057	0.000	26.528	0.00	0.29
14.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.058	0.000	26.528	0.00	5.94
14.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.058	0.000	26.528	0.00	0.29
16.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.058	0.000	26.855	0.00	5.94
16.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.058	0.000	26.855	0.00	0.29
18.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	27.530	0.00	5.94
18.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.059	0.000	27.530	0.00	0.29
20.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	28.147	0.00	5.94
20.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.059	0.000	28.147	0.00	0.29
22.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	28.717	0.00	5.94
22.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.060	0.000	28.717	0.00	0.29
24.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	29.248	0.00	5.94
24.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.060	0.000	29.248	0.00	0.29
26.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	29.745	0.00	5.94
26.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.061	0.000	29.745	0.00	0.29
28.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	30.213	0.00	5.94
28.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.062	0.000	30.213	0.00	0.29
30.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	30.655	0.00	5.94
30.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.062	0.000	30.655	0.00	0.29
32.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	31.075	0.00	5.94
32.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.063	0.000	31.075	0.00	0.29
34.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	31.474	0.00	5.94
34.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.063	0.000	31.474	0.00	0.29
36.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.064	0.000	31.855	0.00	5.94
36.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.064	0.000	31.855	0.00	0.29
38.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	32.219	0.00	5.94
38.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.065	0.000	32.219	0.00	0.29
40.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	32.569	0.00	5.94
40.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.065	0.000	32.569	0.00	0.29
42.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	32.905	0.00	5.94
42.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.066	0.000	32.905	0.00	0.29
44.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	33.229	0.00	5.94
44.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.067	0.000	33.229	0.00	0.29
46.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	33.542	0.00	5.94
46.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.067	0.000	33.542	0.00	0.29
47.55	1 5/8" Fiber	Yes	1.55	0.000	2.00	0.26	0.00	0.068	0.000	33.777	0.00	4.61

Linear Appurtenance Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

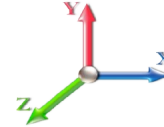
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Load Case: 0.9D + 1.0W 115 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
47.55	1/2" Coax	Yes	1.55	0.000	0.65	0.08	0.00	0.068	0.000	33.777	0.00	0.22
48.00	1 5/8" Fiber	Yes	0.45	0.000	2.00	0.07	0.00	0.068	0.000	33.844	0.00	1.33
48.00	1/2" Coax	Yes	0.45	0.000	0.65	0.02	0.00	0.068	0.000	33.844	0.00	0.06
50.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	34.136	0.00	5.94
50.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.069	0.000	34.136	0.00	0.29
51.75	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.085	0.000	34.384	0.00	5.20
51.75	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.085	0.000	34.384	0.00	0.00
52.00	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.086	0.000	34.419	0.00	0.74
52.00	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.086	0.000	34.419	0.00	0.00
52.97	1 5/8" Fiber	Yes	0.97	0.000	2.00	0.16	0.00	0.086	0.000	34.553	0.00	2.88
52.97	1.25" Reinforcing	Yes	0.97	0.000	1.25	0.10	0.00	0.086	0.000	34.553	0.00	0.00
54.00	1 5/8" Fiber	Yes	1.03	0.000	2.00	0.17	0.00	0.086	0.000	34.693	0.00	3.06
54.00	1.25" Reinforcing	Yes	1.03	0.000	1.25	0.11	0.00	0.086	0.000	34.693	0.00	0.00
56.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	34.960	0.00	5.94
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.086	0.000	34.960	0.00	0.00
58.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	35.219	0.00	5.94
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.087	0.000	35.219	0.00	0.00
60.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.088	0.000	35.471	0.00	5.94
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.088	0.000	35.471	0.00	0.00
62.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	35.717	0.00	5.94
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.089	0.000	35.717	0.00	0.00
64.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	35.957	0.00	5.94
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.090	0.000	35.957	0.00	0.00
66.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	36.190	0.00	5.94
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.091	0.000	36.190	0.00	0.00
66.67	1 5/8" Fiber	Yes	0.67	0.000	2.00	0.11	0.00	0.092	0.000	36.267	0.00	1.99
66.67	1.25" Reinforcing	Yes	0.67	0.000	1.25	0.07	0.00	0.092	0.000	36.267	0.00	0.00
68.00	1 5/8" Fiber	Yes	1.33	0.000	2.00	0.22	0.00	0.093	0.000	36.418	0.00	3.95
68.00	1.25" Reinforcing	Yes	1.33	0.000	1.25	0.14	0.00	0.093	0.000	36.418	0.00	0.00
68.25	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.093	0.000	36.447	0.00	0.74
68.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.093	0.000	36.447	0.00	0.00
70.00	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.094	0.000	36.641	0.00	5.20
70.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.094	0.000	36.641	0.00	0.00
72.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	36.859	0.00	5.94
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.095	0.000	36.859	0.00	0.00
73.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.096	0.000	36.967	0.00	2.97
73.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.096	0.000	36.967	0.00	0.00
74.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.096	0.000	37.073	0.00	2.97
74.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.096	0.000	37.073	0.00	0.00
75.25	1 5/8" Fiber	Yes	1.25	0.000	2.00	0.21	0.00	0.097	0.000	37.204	0.00	3.71
75.25	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.097	0.000	37.204	0.00	0.00
76.00	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.097	0.000	37.281	0.00	2.23
76.00	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.097	0.000	37.281	0.00	0.00
78.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	37.486	0.00	5.94
78.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.079	0.000	37.486	0.00	0.00
80.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	37.686	0.00	5.94
82.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	37.883	0.00	5.94

Linear Appurtenance Segment Forces (Factored)

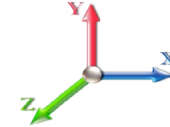
Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 115 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
84.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	38.075	0.00	5.94
86.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.064	0.000	38.264	0.00	5.94
88.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	38.450	0.00	5.94
90.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	38.632	0.00	5.94
92.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	38.811	0.00	5.94
94.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	38.988	0.00	5.94
96.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	39.161	0.00	5.94
96.18	1 5/8" Fiber	Yes	0.18	0.000	2.00	0.03	0.00	0.069	0.000	39.176	0.00	0.52
98.00	1 5/8" Fiber	Yes	1.82	0.000	2.00	0.30	0.00	0.093	0.000	39.331	0.00	5.42
98.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.093	0.000	39.331	0.00	0.00
99.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.114	1.042	39.415	0.00	2.97
99.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.114	1.042	39.415	0.00	0.00
100.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.115	1.044	39.499	0.00	2.97
100.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.115	1.044	39.499	0.00	0.00
100.34	1 5/8" Fiber	Yes	0.34	0.000	2.00	0.06	0.00	0.115	1.046	39.527	0.00	1.02
100.34	1.25" Reinforcing	Yes	0.34	0.000	1.25	0.04	0.00	0.115	1.046	39.527	0.00	0.00
102.00	1 5/8" Fiber	Yes	1.66	0.000	2.00	0.28	0.00	0.115	1.044	39.664	0.00	4.92
102.00	1.25" Reinforcing	Yes	1.66	0.000	1.25	0.17	0.00	0.115	1.044	39.664	0.00	0.00
103.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.116	1.047	39.745	0.00	2.97
103.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.116	1.047	39.745	0.00	0.00
104.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.117	1.050	39.826	0.00	2.97
104.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.117	1.050	39.826	0.00	0.00
106.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	39.986	0.00	5.94
106.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.095	0.000	39.986	0.00	0.00
108.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	40.144	0.00	5.94
110.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	40.299	0.00	5.94
112.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	40.452	0.00	5.94
114.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	40.603	0.00	5.94
115.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.078	0.000	40.678	0.00	2.97
Totals:											0.0	348.8

Calculated Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

Page: 28

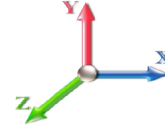


Load Case: 0.9D + 1.0W 115 mph Wind

Iterations 31

Dead Load Factor 0.90

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-26.45	-25.99	0.00	-2841.7	0.00	2841.75	3031.07	830.09	3284.29	2977.95	0.00	0.000	0.000	0.964
2.00	-26.03	-25.87	0.00	-2789.7	0.00	2789.76	3016.33	822.87	3227.46	2937.55	0.03	-0.118	0.000	0.959
4.00	-25.62	-25.76	0.00	-2738.0	0.00	2738.02	3001.40	815.66	3171.12	2897.21	0.10	-0.237	0.000	0.955
6.00	-25.21	-25.64	0.00	-2686.5	0.00	2686.51	2986.25	808.44	3115.27	2856.93	0.23	-0.356	0.000	0.950
8.00	-24.81	-25.52	0.00	-2635.2	0.00	2635.23	2970.91	801.23	3059.93	2816.71	0.40	-0.477	0.000	0.945
10.00	-24.40	-25.40	0.00	-2584.1	0.00	2584.19	2955.36	794.02	3005.07	2776.57	0.63	-0.598	0.000	0.940
12.00	-24.00	-25.28	0.00	-2533.3	0.00	2533.39	2939.60	786.80	2950.72	2736.51	0.91	-0.721	0.000	0.935
14.00	-23.60	-25.17	0.00	-2482.8	0.00	2482.82	2923.65	779.59	2896.86	2696.53	1.23	-0.844	0.000	0.930
16.00	-23.21	-25.05	0.00	-2432.4	0.00	2432.49	2907.49	772.37	2843.49	2656.64	1.61	-0.968	0.000	0.925
18.00	-22.82	-24.93	0.00	-2382.3	0.00	2382.39	2891.12	765.16	2790.63	2616.84	2.05	-1.094	0.000	0.919
20.00	-22.43	-24.80	0.00	-2332.5	0.00	2332.54	2874.56	757.95	2738.25	2577.14	2.53	-1.220	0.000	0.914
22.00	-22.04	-24.67	0.00	-2282.9	0.00	2282.94	2857.79	750.73	2686.38	2537.55	3.07	-1.347	0.000	0.908
24.00	-21.65	-24.54	0.00	-2233.6	0.00	2233.60	2840.81	743.52	2635.00	2498.06	3.66	-1.474	0.000	0.903
26.00	-21.27	-24.41	0.00	-2184.5	0.00	2184.52	2823.63	736.31	2584.12	2458.69	4.31	-1.603	0.000	0.897
28.00	-20.89	-24.27	0.00	-2135.7	0.00	2135.70	2806.25	729.09	2533.73	2419.44	5.01	-1.733	0.000	0.891
30.00	-20.52	-24.13	0.00	-2087.1	0.00	2087.16	2788.67	721.88	2483.84	2380.32	5.76	-1.863	0.000	0.885
32.00	-20.15	-23.99	0.00	-2038.9	0.00	2038.90	2770.88	714.66	2434.44	2341.32	6.57	-1.994	0.000	0.879
34.00	-19.78	-23.85	0.00	-1990.9	0.00	1990.92	2752.89	707.45	2385.54	2302.46	7.44	-2.127	0.000	0.873
36.00	-19.41	-23.71	0.00	-1943.2	0.00	1943.22	2734.69	700.24	2337.14	2263.74	8.35	-2.260	0.000	0.867
38.00	-19.05	-23.56	0.00	-1895.8	0.00	1895.80	2716.29	693.02	2289.23	2225.17	9.33	-2.394	0.000	0.860
40.00	-18.69	-23.42	0.00	-1848.6	0.00	1848.68	2697.69	685.81	2241.82	2186.75	10.36	-2.528	0.000	0.853
42.00	-18.33	-23.27	0.00	-1801.8	0.00	1801.84	2678.89	678.59	2194.91	2148.48	11.45	-2.664	0.000	0.847
44.00	-17.97	-23.12	0.00	-1755.3	0.00	1755.30	2659.88	671.38	2148.49	2110.38	12.59	-2.800	0.000	0.840
46.00	-17.63	-22.97	0.00	-1709.0	0.00	1709.06	2640.67	664.17	2102.57	2072.44	13.80	-2.937	0.000	0.833
47.55	-17.37	-22.84	0.00	-1673.3	0.00	1673.38	2625.60	658.56	2067.24	2043.10	14.77	-3.045	0.000	0.827
48.00	-17.23	-22.82	0.00	-1663.1	0.00	1663.18	2621.25	656.95	2057.14	2034.68	15.06	-3.076	0.000	0.825
50.00	-16.70	-22.65	0.00	-1617.5	0.00	1617.54	2601.63	649.74	2012.21	1997.09	16.37	-3.214	0.000	0.818
51.75	-16.27	-22.49	0.00	-1577.9	0.00	1577.91	2584.30	643.43	1973.30	1964.36	17.58	-3.336	0.000	0.813
52.00	-16.20	-22.47	0.00	-1572.2	0.00	1572.29	2581.81	642.52	1967.78	1959.69	17.75	-3.348	0.000	0.813
52.97	-15.96	-22.38	0.00	-1550.5	0.00	1550.50	1914.68	619.05	1605.21	1470.11	18.43	-3.381	0.000	0.813
54.00	-15.81	-22.29	0.00	-1527.4	0.00	1527.45	1908.40	616.08	1586.88	1456.85	19.17	-3.417	0.000	0.813
56.00	-15.54	-22.12	0.00	-1482.8	0.00	1482.86	1896.06	610.31	1551.58	1431.13	20.61	-3.491	0.000	0.813
58.00	-15.28	-21.95	0.00	-1438.6	0.00	1438.62	1883.51	604.54	1516.69	1405.47	22.09	-3.564	0.000	0.813
60.00	-15.01	-21.78	0.00	-1394.7	0.00	1394.71	1870.76	498.77	1482.19	1379.88	23.60	-3.638	0.000	0.813
62.00	-14.75	-21.61	0.00	-1351.1	0.00	1351.15	1857.80	493.00	1448.09	1354.36	25.14	-3.711	0.000	0.813
64.00	-14.49	-21.44	0.00	-1307.9	0.00	1307.93	1844.65	487.23	1414.38	1328.91	26.71	-3.784	0.000	0.813
66.00	-14.25	-21.26	0.00	-1265.0	0.00	1265.05	1831.29	481.46	1381.08	1303.55	28.31	-3.856	0.000	0.813
66.67	-14.16	-21.21	0.00	-1250.8	0.00	1250.81	1826.76	479.52	1370.01	1295.07	28.85	-3.881	0.000	0.813
68.00	-14.00	-21.09	0.00	-1222.6	0.00	1222.60	1817.72	475.68	1348.17	1278.27	29.94	-3.918	0.000	0.813
68.25	-13.95	-21.08	0.00	-1217.3	0.00	1217.33	1816.01	474.96	1344.08	1275.12	30.14	-3.928	0.000	0.813
70.00	-13.72	-20.94	0.00	-1180.4	0.00	1180.44	1803.95	469.91	1315.65	1253.09	31.60	-4.017	0.000	0.813
72.00	-13.47	-20.77	0.00	-1138.5	0.00	1138.56	1789.98	464.14	1283.53	1228.00	33.30	-4.119	0.000	0.813
73.00	-13.33	-20.65	0.00	-1117.7	0.00	1117.79	1782.92	461.26	1267.62	1215.49	34.17	-4.170	0.000	0.813
74.00	-13.20	-20.57	0.00	-1097.1	0.00	1097.14	1775.81	458.37	1251.81	1203.02	35.05	-4.221	0.000	0.813
75.25	-13.05	-20.47	0.00	-1071.4	0.00	1071.43	1766.84	454.76	1232.19	1187.45	36.16	-4.284	0.000	0.813
75.25	-13.05	-20.47	0.00	-1071.4	0.00	1071.43	1766.84	454.76	1232.19	1187.45	36.16	-4.284	0.000	0.813
76.00	-12.93	-20.42	0.00	-1056.0	0.00	1056.08	1761.43	452.60	1220.49	1178.14	36.83	-4.322	0.000	0.813
78.00	-12.65	-20.28	0.00	-1015.2	0.00	1015.23	1746.84	446.83	1189.56	1153.37	38.68	-4.493	0.000	0.813

Calculated Forces

Structure: CT12215-A-SBA **Code:** EIA/TIA-222-H 7/10/2019
Site Name: Litchfield 3, CT **Exposure:** C
Height: 149.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** B - Competent Rock
Gh: 1.1 **Topography:** 1 **Struct Class:** II **Page:** 29



80.00	-12.38	-20.13	0.00	-974.68	0.00	974.68	1732.06	441.06	1159.03	1128.72	40.60	-4.664	0.000	0.873
82.00	-12.11	-19.99	0.00	-934.41	0.00	934.41	1717.07	435.29	1128.90	1104.20	42.59	-4.835	0.000	0.855
84.00	-11.84	-19.84	0.00	-894.44	0.00	894.44	1701.88	429.52	1099.17	1079.81	44.65	-5.005	0.000	0.837
86.00	-11.58	-19.70	0.00	-854.75	0.00	854.75	1686.48	423.74	1069.83	1055.54	46.78	-5.174	0.000	0.819
88.00	-11.32	-19.55	0.00	-815.36	0.00	815.36	1670.88	417.97	1040.88	1031.42	48.98	-5.342	0.000	0.799
90.00	-11.06	-19.41	0.00	-776.26	0.00	776.26	1655.08	412.20	1012.34	1007.44	51.25	-5.509	0.000	0.779
92.00	-10.81	-19.26	0.00	-737.45	0.00	737.45	1639.07	406.43	984.19	983.61	53.59	-5.675	0.000	0.759
94.00	-10.56	-19.12	0.00	-698.93	0.00	698.93	1622.86	400.66	956.44	959.94	56.00	-5.839	0.000	0.737
96.00	-10.33	-18.96	0.00	-660.70	0.00	660.70	1606.45	394.89	929.08	936.43	58.47	-6.001	0.000	0.714
96.18	-10.29	-18.96	0.00	-657.35	0.00	657.35	1604.99	394.38	926.69	934.36	58.70	-6.015	0.000	0.712
98.00	-9.98	-18.81	0.00	-622.79	0.00	622.79	1589.83	389.12	902.13	913.08	61.02	-6.161	0.000	0.691
99.00	-9.82	-18.72	0.00	-603.98	0.00	603.98	1581.44	386.23	888.80	901.47	62.32	-6.241	0.000	0.384
100.00	-9.66	-18.63	0.00	-585.26	0.00	585.26	1573.01	383.35	875.57	889.90	63.63	-6.285	0.000	0.375
100.34	-9.60	-18.60	0.00	-578.86	0.00	578.86	1075.68	291.34	674.27	618.09	64.08	-6.301	0.000	0.421
102.00	-9.45	-18.47	0.00	-548.04	0.00	548.04	1068.04	287.75	657.78	606.10	66.27	-6.373	0.000	0.459
103.00	-9.36	-18.39	0.00	-529.57	0.00	529.57	1063.37	285.59	647.92	598.87	67.61	-6.421	0.000	0.447
103.00	-9.36	-18.39	0.00	-529.57	0.00	529.57	1063.37	285.59	647.92	598.87	67.61	-6.421	0.000	0.447
104.00	-9.24	-18.32	0.00	-511.18	0.00	511.18	1058.64	283.42	638.14	591.66	68.96	-6.469	0.000	0.877
106.00	-9.03	-18.19	0.00	-474.54	0.00	474.54	1049.03	279.09	618.79	577.28	71.70	-6.655	0.000	0.835
108.00	-8.83	-18.05	0.00	-438.17	0.00	438.17	1039.22	274.77	599.75	562.95	74.52	-6.836	0.000	0.791
110.00	-8.62	-17.91	0.00	-402.07	0.00	402.07	1029.21	270.44	581.00	548.68	77.42	-7.011	0.000	0.746
112.00	-8.43	-17.77	0.00	-366.25	0.00	366.25	1018.99	266.11	562.55	534.48	80.39	-7.178	0.000	0.698
114.00	-8.24	-17.63	0.00	-330.70	0.00	330.70	1008.57	261.78	544.40	520.34	83.42	-7.338	0.000	0.648
115.00	-6.54	-14.13	0.00	-313.07	0.00	313.07	1003.28	259.62	535.44	513.31	84.96	-7.415	0.000	0.619
116.00	-6.44	-14.06	0.00	-298.95	0.00	298.95	997.95	257.45	526.55	506.29	86.52	-7.491	0.000	0.600
118.00	-6.27	-13.92	0.00	-270.83	0.00	270.83	987.12	253.12	508.99	492.31	89.68	-7.635	0.000	0.559
120.00	-6.10	-13.78	0.00	-242.99	0.00	242.99	976.09	248.80	491.73	478.42	92.90	-7.771	0.000	0.517
122.00	-5.94	-13.64	0.00	-215.44	0.00	215.44	964.85	244.47	474.77	464.62	96.17	-7.899	0.000	0.473
124.00	-5.78	-13.50	0.00	-188.16	0.00	188.16	953.42	240.14	458.11	450.92	99.50	-8.019	0.000	0.427
126.00	-5.63	-13.36	0.00	-161.16	0.00	161.16	941.77	235.81	441.75	437.32	102.87	-8.127	0.000	0.378
128.00	-5.48	-13.22	0.00	-134.44	0.00	134.44	929.93	231.48	425.68	423.83	106.29	-8.224	0.000	0.326
130.00	-2.91	-7.83	0.00	-108.00	0.00	108.00	917.88	227.15	409.91	410.45	109.74	-8.309	0.000	0.267
132.00	-2.81	-7.70	0.00	-92.33	0.00	92.33	905.63	222.83	394.44	397.19	113.22	-8.382	0.000	0.237
134.00	-2.71	-7.57	0.00	-76.94	0.00	76.94	893.17	218.50	379.26	384.05	116.74	-8.448	0.000	0.205
136.00	-2.62	-7.43	0.00	-61.81	0.00	61.81	880.51	214.17	364.38	371.04	120.28	-8.506	0.000	0.171
138.00	-1.76	-4.02	0.00	-46.94	0.00	46.94	867.65	209.84	349.80	358.17	123.84	-8.553	0.000	0.133
140.00	-1.70	-3.90	0.00	-38.89	0.00	38.89	854.59	205.51	335.52	345.43	127.42	-8.593	0.000	0.115
142.00	-1.64	-3.77	0.00	-31.10	0.00	31.10	841.32	201.18	321.54	332.84	131.01	-8.628	0.000	0.096
144.00	-1.58	-3.65	0.00	-23.55	0.00	23.55	827.84	196.86	307.85	320.39	134.62	-8.657	0.000	0.076
146.00	-1.52	-3.53	0.00	-16.25	0.00	16.25	814.17	192.53	294.46	308.10	138.24	-8.680	0.000	0.055
148.00	-1.46	-3.42	0.00	-9.18	0.00	9.18	796.71	188.20	281.37	294.65	141.86	-8.695	0.000	0.033
149.00	0.00	-3.16	0.00	-5.77	0.00	5.77	787.55	186.03	274.94	287.88	143.68	-8.700	0.000	0.020

Wind Loading - Shaft

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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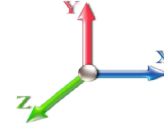


Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Iterations 29

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	3.209	3.53	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	3.209	3.53	0.00	1.200	0.756	2.00	8.340	10.01	35.3	91.5	476.1
4.00		1.00	0.85	3.209	3.53	0.00	1.200	0.810	2.00	8.288	9.95	35.1	97.4	478.6
6.00		1.00	0.85	3.209	3.53	0.00	1.200	0.843	2.00	8.229	9.87	34.9	100.6	478.5
8.00		1.00	0.85	3.209	3.53	0.00	1.200	0.868	2.00	8.167	9.80	34.6	102.7	477.2
10.00		1.00	0.85	3.209	3.53	0.00	1.200	0.887	2.00	8.104	9.72	34.3	104.1	475.3
12.00		1.00	0.85	3.209	3.53	0.00	1.200	0.904	2.00	8.039	9.65	34.1	105.1	472.9
14.00		1.00	0.85	3.209	3.53	0.00	1.200	0.918	2.00	7.973	9.57	33.8	105.8	470.3
16.00		1.00	0.86	3.249	3.57	0.00	1.200	0.930	2.00	7.907	9.49	33.9	106.3	467.4
18.00		1.00	0.88	3.331	3.66	0.00	1.200	0.941	2.00	7.841	9.41	34.5	106.6	464.4
20.00		1.00	0.90	3.405	3.75	0.00	1.200	0.951	2.00	7.774	9.33	34.9	106.8	461.2
22.00		1.00	0.92	3.474	3.82	0.00	1.200	0.960	2.00	7.707	9.25	35.3	106.8	457.9
24.00		1.00	0.94	3.539	3.89	0.00	1.200	0.969	2.00	7.640	9.17	35.7	106.8	454.5
26.00		1.00	0.95	3.599	3.96	0.00	1.200	0.976	2.00	7.572	9.09	36.0	106.7	451.0
28.00		1.00	0.97	3.655	4.02	0.00	1.200	0.984	2.00	7.504	9.01	36.2	106.4	447.4
30.00		1.00	0.98	3.709	4.08	0.00	1.200	0.991	2.00	7.437	8.92	36.4	106.2	443.8
32.00		1.00	1.00	3.759	4.14	0.00	1.200	0.997	2.00	7.369	8.84	36.6	105.8	440.1
34.00		1.00	1.01	3.808	4.19	0.00	1.200	1.003	2.00	7.300	8.76	36.7	105.4	436.3
36.00		1.00	1.02	3.854	4.24	0.00	1.200	1.009	2.00	7.232	8.68	36.8	105.0	432.5
38.00		1.00	1.03	3.898	4.29	0.00	1.200	1.014	2.00	7.164	8.60	36.9	104.6	428.7
40.00		1.00	1.04	3.940	4.33	0.00	1.200	1.019	2.00	7.096	8.51	36.9	104.0	424.9
42.00		1.00	1.05	3.981	4.38	0.00	1.200	1.024	2.00	7.027	8.43	36.9	103.5	421.0
44.00		1.00	1.06	4.020	4.42	0.00	1.200	1.029	2.00	6.959	8.35	36.9	102.9	417.0
46.00		1.00	1.07	4.058	4.46	0.00	1.200	1.034	2.00	6.890	8.27	36.9	102.3	413.1
47.55 Bot - Section 2		1.00	1.08	4.086	4.50	0.00	1.200	1.037	1.55	5.304	6.36	28.6	79.1	318.1
48.00		1.00	1.08	4.094	4.50	0.00	1.200	1.038	0.45	1.536	1.84	8.3	23.0	146.9
50.00 Appurtenance(s)		1.00	1.09	4.130	4.54	0.00	1.200	1.042	2.00	6.837	8.20	37.3	102.3	653.2
51.75 RB1		1.00	1.10	4.160	4.58	0.00	1.200	1.046	1.75	5.926	7.11	32.5	89.0	566.1
52.00 RB2		1.00	1.10	4.164	4.58	0.00	1.200	1.047	0.25	0.842	1.01	4.6	12.7	80.5
52.97 Top - Section 1		1.00	1.11	4.180	4.60	0.00	1.200	1.048	0.97	3.258	3.91	18.0	49.1	311.2
54.00		1.00	1.11	4.197	4.62	0.00	1.200	1.050	1.03	3.442	4.13	19.1	52.0	176.0
56.00		1.00	1.12	4.230	4.65	0.00	1.200	1.054	2.00	6.631	7.96	37.0	100.3	339.1
58.00		1.00	1.13	4.261	4.69	0.00	1.200	1.058	2.00	6.562	7.87	36.9	99.5	335.6
60.00		1.00	1.14	4.291	4.72	0.00	1.200	1.062	2.00	6.493	7.79	36.8	98.8	332.2
62.00		1.00	1.14	4.321	4.75	0.00	1.200	1.065	2.00	6.424	7.71	36.6	98.0	328.7
64.00		1.00	1.15	4.350	4.79	0.00	1.200	1.068	2.00	6.355	7.63	36.5	97.2	325.3
66.00		1.00	1.16	4.378	4.82	0.00	1.200	1.072	2.00	6.286	7.54	36.3	96.4	321.8
66.67 RB3		1.00	1.16	4.388	4.83	0.00	1.200	1.073	0.67	2.090	2.51	12.1	32.2	107.1
68.00 RT2		1.00	1.17	4.406	4.85	0.00	1.200	1.075	1.33	4.126	4.95	24.0	63.6	211.3
68.25 RT1		1.00	1.17	4.409	4.85	0.00	1.200	1.075	0.25	0.772	0.93	4.5	11.9	39.6
70.00		1.00	1.17	4.433	4.88	0.00	1.200	1.078	1.75	5.375	6.45	31.5	82.9	275.3
72.00		1.00	1.18	4.459	4.91	0.00	1.200	1.081	2.00	6.079	7.29	35.8	93.9	311.2
73.00 Appurtenance(s)		1.00	1.18	4.472	4.92	0.00	1.200	1.083	1.00	3.013	3.62	17.8	46.7	154.4
74.00		1.00	1.19	4.485	4.93	0.00	1.200	1.084	1.00	2.996	3.60	17.7	46.5	153.5
75.25 RT3		1.00	1.19	4.501	4.95	0.00	1.200	1.086	1.25	3.721	4.46	22.1	57.8	190.6
76.00		1.00	1.19	4.510	4.96	0.00	1.200	1.087	0.75	2.219	2.66	13.2	34.6	113.7
78.00		1.00	1.20	4.535	4.99	0.00	1.200	1.090	2.00	5.871	7.05	35.1	91.3	300.5

Wind Loading - Shaft

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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80.00	1.00	1.21	4.559	5.02	0.00	1.200	1.093	2.00	5.802	6.96	34.9	90.4	297.0
82.00	1.00	1.21	4.583	5.04	0.00	1.200	1.095	2.00	5.733	6.88	34.7	89.5	293.4
84.00	1.00	1.22	4.606	5.07	0.00	1.200	1.098	2.00	5.663	6.80	34.4	88.6	289.8
86.00	1.00	1.23	4.629	5.09	0.00	1.200	1.101	2.00	5.594	6.71	34.2	87.6	286.1
88.00	1.00	1.23	4.652	5.12	0.00	1.200	1.103	2.00	5.525	6.63	33.9	86.7	282.5
90.00	1.00	1.24	4.674	5.14	0.00	1.200	1.106	2.00	5.455	6.55	33.7	85.7	278.9
92.00	1.00	1.24	4.696	5.17	0.00	1.200	1.108	2.00	5.386	6.46	33.4	84.8	275.3
94.00	1.00	1.25	4.717	5.19	0.00	1.200	1.110	2.00	5.317	6.38	33.1	83.8	271.6
96.00	1.00	1.25	4.738	5.21	0.00	1.200	1.113	2.00	5.247	6.30	32.8	82.8	267.9
96.18 Bot - Section 3	1.00	1.26	4.740	5.21	0.00	1.200	1.113	0.18	0.460	0.55	2.9	7.3	23.5
98.00	1.00	1.26	4.758	5.23	0.00	1.200	1.115	1.82	4.776	5.73	30.0	75.6	368.4
99.00 RB4	1.00	1.26	4.769	5.25	0.00	1.250 *	1.116	1.00	2.595	3.24	17.0	41.2	200.1
100.00	1.00	1.27	4.779	5.26	0.00	1.253 *	1.117	1.00	2.577	3.23	17.0	41.0	198.7
100.34 Top - Section 2	1.00	1.27	4.782	5.26	0.00	1.255 *	1.118	0.34	0.881	1.11	5.8	14.0	67.9
102.00	1.00	1.27	4.799	5.28	0.00	1.253 *	1.119	1.66	4.222	5.29	27.9	67.0	178.6
103.00 RT4	1.00	1.27	4.809	5.29	0.00	1.257 *	1.121	1.00	2.525	3.17	16.8	40.2	106.9
104.00	1.00	1.28	4.818	5.30	0.00	1.260 *	1.122	1.00	2.508	3.16	16.7	40.0	106.2
106.00	1.00	1.28	4.838	5.32	0.00	1.200	1.124	2.00	4.964	5.96	31.7	78.9	209.8
108.00	1.00	1.29	4.857	5.34	0.00	1.200	1.126	2.00	4.894	5.87	31.4	77.9	206.8
110.00	1.00	1.29	4.876	5.36	0.00	1.200	1.128	2.00	4.825	5.79	31.1	76.9	203.7
112.00	1.00	1.30	4.894	5.38	0.00	1.200	1.130	2.00	4.756	5.71	30.7	75.9	200.7
114.00	1.00	1.30	4.912	5.40	0.00	1.200	1.132	2.00	4.686	5.62	30.4	74.8	197.6
115.00 Appurtenance(s)	1.00	1.30	4.921	5.41	0.00	1.200	1.133	1.00	2.317	2.78	15.1	37.1	97.8
116.00	1.00	1.31	4.930	5.42	0.00	1.200	1.134	1.00	2.300	2.76	15.0	36.9	97.0
118.00	1.00	1.31	4.948	5.44	0.00	1.200	1.136	2.00	4.547	5.46	29.7	72.7	191.5
120.00	1.00	1.32	4.966	5.46	0.00	1.200	1.138	2.00	4.478	5.37	29.3	71.7	188.5
122.00	1.00	1.32	4.983	5.48	0.00	1.200	1.140	2.00	4.408	5.29	29.0	70.6	185.4
124.00	1.00	1.32	5.000	5.50	0.00	1.200	1.142	2.00	4.339	5.21	28.6	69.5	182.3
126.00	1.00	1.33	5.017	5.52	0.00	1.200	1.143	2.00	4.269	5.12	28.3	68.5	179.2
128.00	1.00	1.33	5.034	5.54	0.00	1.200	1.145	2.00	4.200	5.04	27.9	67.4	176.1
130.00 Appurtenance(s)	1.00	1.34	5.050	5.56	0.00	1.200	1.147	2.00	4.130	4.96	27.5	66.3	173.0
132.00	1.00	1.34	5.066	5.57	0.00	1.200	1.149	2.00	4.060	4.87	27.2	65.2	169.9
134.00	1.00	1.35	5.082	5.59	0.00	1.200	1.150	2.00	3.991	4.79	26.8	64.1	166.8
136.00	1.00	1.35	5.098	5.61	0.00	1.200	1.152	2.00	3.921	4.71	26.4	63.0	163.7
138.00 Appurtenance(s)	1.00	1.35	5.114	5.63	0.00	1.200	1.154	2.00	3.852	4.62	26.0	61.9	160.6
140.00	1.00	1.36	5.129	5.64	0.00	1.200	1.155	2.00	3.782	4.54	25.6	60.8	157.5
142.00	1.00	1.36	5.145	5.66	0.00	1.200	1.157	2.00	3.713	4.46	25.2	59.7	154.3
144.00	1.00	1.37	5.160	5.68	0.00	1.200	1.159	2.00	3.643	4.37	24.8	58.6	151.2
146.00	1.00	1.37	5.175	5.69	0.00	1.200	1.160	2.00	3.573	4.29	24.4	57.5	148.1
148.00	1.00	1.37	5.190	5.71	0.00	1.200	1.162	2.00	3.504	4.20	24.0	56.4	144.9
149.00 Appurtenance(s)	1.00	1.38	5.197	5.72	0.00	1.200	1.163	1.00	1.726	2.07	11.8	27.9	71.4
								Totals:	149.00		2,469.1		24,252.7

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

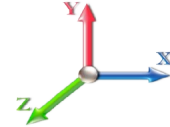
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Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	ACU-A20-N	4	5.219	5.741	0.40	0.80	0.54	11.05	0.000	3.000	3.10	0.00	9.31
2	149.00	800MHz Filter	3	5.219	5.741	0.40	0.80	1.45	51.94	0.000	3.000	8.34	0.00	25.03
3	149.00	TD-RRH8x20-25	3	5.219	5.741	0.40	0.80	5.49	457.71	0.000	3.000	31.53	0.00	94.60
4	149.00	800MHZ	3	5.219	5.741	0.40	0.80	4.09	302.91	0.000	3.000	23.50	0.00	70.50
5	149.00	1900MHZ	3	5.219	5.741	0.40	0.80	4.34	311.06	0.000	3.000	24.90	0.00	74.71
6	149.00	APXVTM14-C-I20	3	5.219	5.741	0.63	0.80	13.40	500.87	0.000	3.000	76.91	0.00	230.73
7	149.00	APXVSPP18-C-A20	3	5.219	5.741	0.66	0.80	19.68	402.17	0.000	3.000	113.00	0.00	339.00
8	149.00	Low Profile Platform	1	5.197	5.717	1.00	1.00	38.95	1837.62	0.000	0.000	222.69	0.00	0.00
9	138.00	BXA-70063-6CF_2	3	5.114	5.625	0.58	0.80	14.68	381.95	0.000	0.000	82.60	0.00	0.00
10	138.00	BXA-171085-12B_2	3	5.114	5.625	0.67	0.80	12.69	160.69	0.000	0.000	71.37	0.00	0.00
11	138.00	LPA-80080/6CF	3	5.114	5.625	1.36	0.80	20.73	436.92	0.000	0.000	116.62	0.00	0.00
12	138.00	Low Profile Platform	1	5.114	5.625	1.00	1.00	38.85	1832.29	0.000	0.000	218.52	0.00	0.00
13	138.00	GPS Receiver	1	5.114	5.625	1.00	1.00	1.47	23.38	0.000	0.000	8.27	0.00	0.00
14	138.00	FD9R6004/2C-3L	6	5.114	5.625	0.40	0.80	1.57	40.36	0.000	0.000	8.82	0.00	0.00
15	130.00	(3) 12.5' - 2" Horizontal	1	5.050	5.555	0.75	1.00	8.13	210.10	0.000	0.000	45.17	0.00	0.00
16	130.00	XP-2020	24	5.050	5.555	0.56	0.75	13.80	126.87	0.000	0.000	76.67	0.00	0.00
17	130.00	VSRDual-TS-B-HD	2	5.050	5.555	0.56	0.75	8.42	457.79	0.000	0.000	46.78	0.00	0.00
18	130.00	DC6-48-60-0-8C-EV	1	5.050	5.555	0.38	0.75	2.01	70.72	0.000	0.000	11.17	0.00	0.00
19	130.00	DC6-48-60-18-8C	1	5.050	5.555	0.38	0.75	0.64	43.57	0.000	0.000	3.53	0.00	0.00
20	130.00	ABT-DF-DM-ADBH	1	5.050	5.555	0.75	0.75	0.13	2.09	0.000	0.000	0.74	0.00	0.00
21	130.00	7770.00	3	5.050	5.555	0.55	0.75	10.16	372.02	0.000	0.000	56.43	0.00	0.00
22	130.00	LGP 21401	12	5.050	5.555	0.38	0.75	4.84	443.19	0.000	0.000	26.91	0.00	0.00
23	130.00	DC6-48-60-18-8F	1	5.050	5.555	0.75	0.75	0.91	61.09	0.000	0.000	5.03	0.00	0.00
24	130.00	8843 B2/B66A	3	5.050	5.555	0.38	0.75	2.21	315.56	0.000	0.000	12.29	0.00	0.00
25	130.00	80010965	6	5.050	5.555	0.53	0.75	47.39	1898.13	0.000	0.000	263.28	0.00	0.00
26	130.00	RRUS 4478 B14	3	5.050	5.555	0.38	0.75	2.24	267.39	0.000	0.000	12.44	0.00	0.00
27	130.00	4449 B5/B12	3	5.050	5.555	0.38	0.75	2.62	320.04	0.000	0.000	14.56	0.00	0.00
28	130.00	Low Profile Platform	1	5.050	5.555	1.00	1.00	38.76	1828.17	0.000	0.000	215.33	0.00	0.00
29	115.00	RRUS 11 (Band 12)	3	4.921	5.414	0.40	0.80	3.52	274.61	0.000	0.000	19.04	0.00	0.00
30	115.00	APX16DWV-16DWVS-E-A	3	4.921	5.414	0.50	0.80	11.94	274.00	0.000	0.000	64.63	0.00	0.00
31	115.00	RRUS 11 (Band 4)	3	4.921	5.414	0.40	0.80	3.52	276.36	0.000	0.000	19.04	0.00	0.00
32	115.00	Radio 4449 B71+B12	3	4.921	5.414	0.40	0.80	2.35	385.85	0.000	0.000	12.73	0.00	0.00
33	115.00	APXVAARR24_43-U-NA2	3	4.921	5.414	0.56	0.80	36.05	1238.75	0.000	0.000	195.15	0.00	0.00
34	115.00	(3) Stabilizer Kit (12' FW)	1	4.921	5.414	1.00	1.00	10.25	292.83	0.000	0.000	55.47	0.00	0.00
35	115.00	T-Arm	3	4.921	5.414	0.56	0.75	21.15	1525.85	0.000	0.000	114.48	0.00	0.00
36	73.00	GPS Receiver	1	4.472	4.920	1.00	1.00	1.44	22.19	0.000	0.000	7.09	0.00	0.00
37	50.00	58532A	1	4.130	4.543	1.00	1.00	0.44	2.86	0.000	0.000	2.00	0.00	0.00

Totals: 17,460.94

2,290.15

Total Applied Force Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II

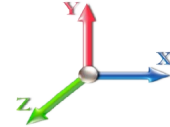


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Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 29

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		35.33	585.94	0.00	0.00
4.00		35.11	589.40	0.00	0.00
6.00		34.86	589.88	0.00	0.00
8.00		34.60	589.07	0.00	0.00
10.00		34.33	587.52	0.00	0.00
12.00		34.06	585.49	0.00	0.00
14.00		33.78	583.12	0.00	0.00
16.00		33.91	580.48	0.00	0.00
18.00		34.47	577.65	0.00	0.00
20.00		34.94	574.65	0.00	0.00
22.00		35.35	571.52	0.00	0.00
24.00		35.68	568.28	0.00	0.00
26.00		35.97	564.94	0.00	0.00
28.00		36.21	561.51	0.00	0.00
30.00		36.41	558.02	0.00	0.00
32.00		36.57	554.46	0.00	0.00
34.00		36.69	550.84	0.00	0.00
36.00		36.79	547.17	0.00	0.00
38.00		36.86	543.45	0.00	0.00
40.00		36.91	539.69	0.00	0.00
42.00		36.93	535.89	0.00	0.00
44.00		36.93	532.06	0.00	0.00
46.00		36.91	528.19	0.00	0.00
47.55		28.61	407.59	0.00	0.00
48.00		8.30	172.59	0.00	0.00
50.00	(1) attachments	39.28	771.40	0.00	0.00
51.75		32.54	671.77	0.00	0.00
52.00		4.63	95.58	0.00	0.00
52.97		17.98	369.82	0.00	0.00
54.00		19.07	238.28	0.00	0.00
56.00		37.02	460.03	0.00	0.00
58.00		36.91	456.70	0.00	0.00
60.00		36.78	453.35	0.00	0.00
62.00		36.64	449.98	0.00	0.00
64.00		36.49	446.59	0.00	0.00
66.00		36.33	443.19	0.00	0.00
66.67		12.11	147.78	0.00	0.00
68.00		24.00	292.14	0.00	0.00
68.25		4.49	54.77	0.00	0.00
70.00		31.45	381.64	0.00	0.00
72.00		35.78	432.87	0.00	0.00
73.00	(1) attachments	24.88	237.42	0.00	0.00
74.00		17.74	214.17	0.00	0.00
75.25		22.11	266.46	0.00	0.00
76.00		13.21	159.26	0.00	0.00
78.00		35.15	417.01	0.00	0.00

Total Applied Force Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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80.00		34.92	408.45	0.00	0.00
82.00		34.68	404.90	0.00	0.00
84.00		34.44	401.33	0.00	0.00
86.00		34.18	397.76	0.00	0.00
88.00		33.92	394.17	0.00	0.00
90.00		33.66	390.58	0.00	0.00
92.00		33.38	386.97	0.00	0.00
94.00		33.10	383.36	0.00	0.00
96.00		32.82	379.73	0.00	0.00
96.18		2.88	33.41	0.00	0.00
98.00		30.00	475.47	0.00	0.00
99.00		17.02	261.21	0.00	0.00
100.00		16.98	259.80	0.00	0.00
100.34		5.82	88.90	0.00	0.00
102.00		27.92	279.92	0.00	0.00
103.00		16.79	168.06	0.00	0.00
104.00		16.75	167.32	0.00	0.00
106.00		31.70	326.96	0.00	0.00
108.00		31.38	318.75	0.00	0.00
110.00		31.05	315.75	0.00	0.00
112.00		30.72	312.73	0.00	0.00
114.00		30.39	309.71	0.00	0.00
115.00	(19) attachments	495.60	4422.09	0.00	0.00
116.00		14.97	141.27	0.00	0.00
118.00		29.70	279.98	0.00	0.00
120.00		29.35	276.91	0.00	0.00
122.00		28.99	273.83	0.00	0.00
124.00		28.63	270.75	0.00	0.00
126.00		28.27	267.67	0.00	0.00
128.00		27.90	264.58	0.00	0.00
130.00	(62) attachments	817.85	6678.22	0.00	0.00
132.00		27.15	209.42	0.00	0.00
134.00		26.77	206.31	0.00	0.00
136.00		26.39	203.20	0.00	0.00
138.00	(17) attachments	532.21	3075.68	0.00	0.00
140.00		25.61	166.63	0.00	0.00
142.00		25.21	163.51	0.00	0.00
144.00		24.81	160.38	0.00	0.00
146.00		24.41	157.24	0.00	0.00
148.00		24.00	154.10	0.00	0.00
149.00	(23) attachments	515.82	3951.34	0.00	843.87
Totals:		4,759.21	49,227.97	0.00	843.87

Linear Appurtenance Segment Forces (Factored)

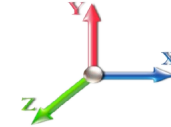
Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.59	0.00	0.055	0.000	3.209	0.00	18.37
2.00	1/2" Coax	Yes	2.00	0.000	0.65	0.36	0.00	0.055	0.000	3.209	0.00	2.61
4.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.60	0.00	0.055	0.000	3.209	0.00	19.08
4.00	1/2" Coax	Yes	2.00	0.000	0.65	0.38	0.00	0.055	0.000	3.209	0.00	2.88
6.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.61	0.00	0.056	0.000	3.209	0.00	19.53
6.00	1/2" Coax	Yes	2.00	0.000	0.65	0.39	0.00	0.056	0.000	3.209	0.00	3.04
8.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.62	0.00	0.056	0.000	3.209	0.00	19.86
8.00	1/2" Coax	Yes	2.00	0.000	0.65	0.40	0.00	0.056	0.000	3.209	0.00	3.17
10.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.63	0.00	0.057	0.000	3.209	0.00	20.13
10.00	1/2" Coax	Yes	2.00	0.000	0.65	0.40	0.00	0.057	0.000	3.209	0.00	3.28
12.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.63	0.00	0.057	0.000	3.209	0.00	20.35
12.00	1/2" Coax	Yes	2.00	0.000	0.65	0.41	0.00	0.057	0.000	3.209	0.00	3.36
14.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.64	0.00	0.058	0.000	3.209	0.00	20.55
14.00	1/2" Coax	Yes	2.00	0.000	0.65	0.41	0.00	0.058	0.000	3.209	0.00	3.44
16.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.64	0.00	0.058	0.000	3.249	0.00	20.72
16.00	1/2" Coax	Yes	2.00	0.000	0.65	0.42	0.00	0.058	0.000	3.249	0.00	3.51
18.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.65	0.00	0.059	0.000	3.331	0.00	20.87
18.00	1/2" Coax	Yes	2.00	0.000	0.65	0.42	0.00	0.059	0.000	3.331	0.00	3.57
20.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.65	0.00	0.059	0.000	3.405	0.00	21.01
20.00	1/2" Coax	Yes	2.00	0.000	0.65	0.43	0.00	0.059	0.000	3.405	0.00	3.63
22.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.65	0.00	0.060	0.000	3.474	0.00	21.14
22.00	1/2" Coax	Yes	2.00	0.000	0.65	0.43	0.00	0.060	0.000	3.474	0.00	3.68
24.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.66	0.00	0.060	0.000	3.539	0.00	21.26
24.00	1/2" Coax	Yes	2.00	0.000	0.65	0.43	0.00	0.060	0.000	3.539	0.00	3.73
26.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.66	0.00	0.061	0.000	3.599	0.00	21.37
26.00	1/2" Coax	Yes	2.00	0.000	0.65	0.43	0.00	0.061	0.000	3.599	0.00	3.77
28.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.66	0.00	0.062	0.000	3.655	0.00	21.47
28.00	1/2" Coax	Yes	2.00	0.000	0.65	0.44	0.00	0.062	0.000	3.655	0.00	3.81
30.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.66	0.00	0.062	0.000	3.709	0.00	21.57
30.00	1/2" Coax	Yes	2.00	0.000	0.65	0.44	0.00	0.062	0.000	3.709	0.00	3.85
32.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.063	0.000	3.759	0.00	21.66
32.00	1/2" Coax	Yes	2.00	0.000	0.65	0.44	0.00	0.063	0.000	3.759	0.00	3.89
34.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.063	0.000	3.808	0.00	21.74
34.00	1/2" Coax	Yes	2.00	0.000	0.65	0.44	0.00	0.063	0.000	3.808	0.00	3.93
36.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.064	0.000	3.854	0.00	21.82
36.00	1/2" Coax	Yes	2.00	0.000	0.65	0.44	0.00	0.064	0.000	3.854	0.00	3.96
38.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.065	0.000	3.898	0.00	21.90
38.00	1/2" Coax	Yes	2.00	0.000	0.65	0.45	0.00	0.065	0.000	3.898	0.00	3.99
40.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.065	0.000	3.940	0.00	21.98
40.00	1/2" Coax	Yes	2.00	0.000	0.65	0.45	0.00	0.065	0.000	3.940	0.00	4.02
42.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.066	0.000	3.981	0.00	22.05
42.00	1/2" Coax	Yes	2.00	0.000	0.65	0.45	0.00	0.066	0.000	3.981	0.00	4.05
44.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.067	0.000	4.020	0.00	22.12
44.00	1/2" Coax	Yes	2.00	0.000	0.65	0.45	0.00	0.067	0.000	4.020	0.00	4.08
46.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.067	0.000	4.058	0.00	22.18
46.00	1/2" Coax	Yes	2.00	0.000	0.65	0.45	0.00	0.067	0.000	4.058	0.00	4.11
47.55	1 5/8" Fiber	Yes	1.55	0.000	2.00	0.53	0.00	0.068	0.000	4.086	0.00	17.27

Linear Appurtenance Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

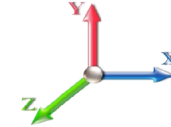
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Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
47.55	1/2" Coax	Yes	1.55	0.000	0.65	0.35	0.00	0.068	0.000	4.086	0.00	3.21
48.00	1 5/8" Fiber	Yes	0.45	0.000	2.00	0.15	0.00	0.068	0.000	4.094	0.00	4.97
48.00	1/2" Coax	Yes	0.45	0.000	0.65	0.10	0.00	0.068	0.000	4.094	0.00	0.92
50.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.069	0.000	4.130	0.00	22.31
50.00	1/2" Coax	Yes	2.00	0.000	0.65	0.46	0.00	0.069	0.000	4.130	0.00	4.16
51.75	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.60	0.00	0.085	0.000	4.160	0.00	19.56
51.75	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.49	0.00	0.085	0.000	4.160	0.00	8.36
52.00	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.09	0.00	0.086	0.000	4.164	0.00	2.80
52.00	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.07	0.00	0.086	0.000	4.164	0.00	1.20
52.97	1 5/8" Fiber	Yes	0.97	0.000	2.00	0.33	0.00	0.086	0.000	4.180	0.00	10.86
52.97	1.25" Reinforcing	Yes	0.97	0.000	1.25	0.27	0.00	0.086	0.000	4.180	0.00	4.65
54.00	1 5/8" Fiber	Yes	1.03	0.000	2.00	0.35	0.00	0.086	0.000	4.197	0.00	11.55
54.00	1.25" Reinforcing	Yes	1.03	0.000	1.25	0.29	0.00	0.086	0.000	4.197	0.00	4.95
56.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.086	0.000	4.230	0.00	22.48
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.086	0.000	4.230	0.00	9.65
58.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.087	0.000	4.261	0.00	22.53
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.087	0.000	4.261	0.00	9.69
60.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.088	0.000	4.291	0.00	22.59
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.088	0.000	4.291	0.00	9.73
62.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.089	0.000	4.321	0.00	22.64
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.089	0.000	4.321	0.00	9.77
64.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.090	0.000	4.350	0.00	22.69
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.090	0.000	4.350	0.00	9.80
66.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.091	0.000	4.378	0.00	22.73
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.091	0.000	4.378	0.00	9.84
66.67	1 5/8" Fiber	Yes	0.67	0.000	2.00	0.23	0.00	0.092	0.000	4.388	0.00	7.62
66.67	1.25" Reinforcing	Yes	0.67	0.000	1.25	0.19	0.00	0.092	0.000	4.388	0.00	3.30
68.00	1 5/8" Fiber	Yes	1.33	0.000	2.00	0.46	0.00	0.093	0.000	4.406	0.00	15.15
68.00	1.25" Reinforcing	Yes	1.33	0.000	1.25	0.38	0.00	0.093	0.000	4.406	0.00	6.57
68.25	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.09	0.00	0.093	0.000	4.409	0.00	2.85
68.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.07	0.00	0.093	0.000	4.409	0.00	1.24
70.00	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.61	0.00	0.094	0.000	4.433	0.00	19.97
70.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.50	0.00	0.094	0.000	4.433	0.00	8.67
72.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.095	0.000	4.459	0.00	22.87
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.095	0.000	4.459	0.00	9.95
73.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.35	0.00	0.096	0.000	4.472	0.00	11.45
73.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.28	0.00	0.096	0.000	4.472	0.00	4.98
74.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.35	0.00	0.096	0.000	4.485	0.00	11.46
74.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.28	0.00	0.096	0.000	4.485	0.00	4.99
75.25	1 5/8" Fiber	Yes	1.25	0.000	2.00	0.43	0.00	0.097	0.000	4.501	0.00	14.34
75.25	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.36	0.00	0.097	0.000	4.501	0.00	6.25
76.00	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.26	0.00	0.097	0.000	4.510	0.00	8.61
76.00	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.21	0.00	0.097	0.000	4.510	0.00	3.75
78.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.079	0.000	4.535	0.00	23.00
78.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.29	0.00	0.079	0.000	4.535	0.00	5.02
80.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.061	0.000	4.559	0.00	23.04
82.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.062	0.000	4.583	0.00	23.08

Linear Appurtenance Segment Forces (Factored)

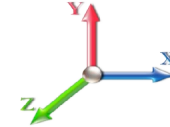
Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
84.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.063	0.000	4.606	0.00	23.12
86.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.064	0.000	4.629	0.00	23.15
88.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.065	0.000	4.652	0.00	23.19
90.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.066	0.000	4.674	0.00	23.23
92.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.066	0.000	4.696	0.00	23.26
94.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.067	0.000	4.717	0.00	23.30
96.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.068	0.000	4.738	0.00	23.33
96.18	1 5/8" Fiber	Yes	0.18	0.000	2.00	0.06	0.00	0.069	0.000	4.740	0.00	2.06
98.00	1 5/8" Fiber	Yes	1.82	0.000	2.00	0.64	0.00	0.093	0.000	4.758	0.00	21.30
98.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.29	0.00	0.093	0.000	4.758	0.00	5.16
99.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.35	0.00	0.114	1.042	4.769	0.00	11.69
99.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.29	0.00	0.114	1.042	4.769	0.00	5.17
100.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.35	0.00	0.115	1.044	4.779	0.00	11.70
100.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.29	0.00	0.115	1.044	4.779	0.00	5.17
100.34	1 5/8" Fiber	Yes	0.34	0.000	2.00	0.12	0.00	0.115	1.046	4.782	0.00	4.02
100.34	1.25" Reinforcing	Yes	0.34	0.000	1.25	0.10	0.00	0.115	1.046	4.782	0.00	1.78
102.00	1 5/8" Fiber	Yes	1.66	0.000	2.00	0.59	0.00	0.115	1.044	4.799	0.00	19.41
102.00	1.25" Reinforcing	Yes	1.66	0.000	1.25	0.48	0.00	0.115	1.044	4.799	0.00	8.59
103.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.35	0.00	0.116	1.047	4.809	0.00	11.72
103.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.29	0.00	0.116	1.047	4.809	0.00	5.19
104.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.35	0.00	0.117	1.050	4.818	0.00	11.73
104.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.29	0.00	0.117	1.050	4.818	0.00	5.20
106.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.095	0.000	4.838	0.00	23.50
106.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.29	0.00	0.095	0.000	4.838	0.00	5.21
108.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.074	0.000	4.857	0.00	23.53
110.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.075	0.000	4.876	0.00	23.56
112.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.076	0.000	4.894	0.00	23.59
114.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.077	0.000	4.912	0.00	23.62
115.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.36	0.00	0.078	0.000	4.921	0.00	11.82
Totals:											0.0	1,542.5

Calculated Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

Page: 38

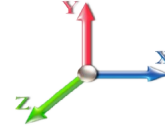


Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Iterations 29

Dead Load Factor 1.20

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-49.23	-4.77	0.00	-528.13	0.00	528.13	3031.07	830.09	3284.29	2977.95	0.00	0.000	0.000	0.194
2.00	-48.64	-4.75	0.00	-518.60	0.00	518.60	3016.33	822.87	3227.46	2937.55	0.00	-0.022	0.000	0.193
4.00	-48.05	-4.73	0.00	-509.10	0.00	509.10	3001.40	815.66	3171.12	2897.21	0.02	-0.044	0.000	0.192
6.00	-47.46	-4.72	0.00	-499.63	0.00	499.63	2986.25	808.44	3115.27	2856.93	0.04	-0.066	0.000	0.191
8.00	-46.87	-4.70	0.00	-490.20	0.00	490.20	2970.91	801.23	3059.93	2816.71	0.07	-0.089	0.000	0.190
10.00	-46.28	-4.68	0.00	-480.80	0.00	480.80	2955.36	794.02	3005.07	2776.57	0.12	-0.111	0.000	0.189
12.00	-45.69	-4.67	0.00	-471.43	0.00	471.43	2939.60	786.80	2950.72	2736.51	0.17	-0.134	0.000	0.188
14.00	-45.10	-4.65	0.00	-462.10	0.00	462.10	2923.65	779.59	2896.86	2696.53	0.23	-0.157	0.000	0.187
16.00	-44.52	-4.63	0.00	-452.80	0.00	452.80	2907.49	772.37	2843.49	2656.64	0.30	-0.180	0.000	0.186
18.00	-43.94	-4.61	0.00	-443.54	0.00	443.54	2891.12	765.16	2790.63	2616.84	0.38	-0.203	0.000	0.185
20.00	-43.37	-4.59	0.00	-434.31	0.00	434.31	2874.56	757.95	2738.25	2577.14	0.47	-0.227	0.000	0.184
22.00	-42.79	-4.57	0.00	-425.13	0.00	425.13	2857.79	750.73	2686.38	2537.55	0.57	-0.251	0.000	0.183
24.00	-42.22	-4.55	0.00	-415.98	0.00	415.98	2840.81	743.52	2635.00	2498.06	0.68	-0.274	0.000	0.181
26.00	-41.66	-4.53	0.00	-406.88	0.00	406.88	2823.63	736.31	2584.12	2458.69	0.80	-0.298	0.000	0.180
28.00	-41.09	-4.51	0.00	-397.81	0.00	397.81	2806.25	729.09	2533.73	2419.44	0.93	-0.322	0.000	0.179
30.00	-40.53	-4.49	0.00	-388.79	0.00	388.79	2788.67	721.88	2483.84	2380.32	1.07	-0.347	0.000	0.178
32.00	-39.98	-4.46	0.00	-379.82	0.00	379.82	2770.88	714.66	2434.44	2341.32	1.22	-0.371	0.000	0.177
34.00	-39.42	-4.44	0.00	-370.89	0.00	370.89	2752.89	707.45	2385.54	2302.46	1.38	-0.396	0.000	0.175
36.00	-38.88	-4.42	0.00	-362.01	0.00	362.01	2734.69	700.24	2337.14	2263.74	1.55	-0.421	0.000	0.174
38.00	-38.33	-4.39	0.00	-353.18	0.00	353.18	2716.29	693.02	2289.23	2225.17	1.74	-0.446	0.000	0.173
40.00	-37.79	-4.37	0.00	-344.39	0.00	344.39	2697.69	685.81	2241.82	2186.75	1.93	-0.471	0.000	0.172
42.00	-37.25	-4.34	0.00	-335.66	0.00	335.66	2678.89	678.59	2194.91	2148.48	2.13	-0.496	0.000	0.170
44.00	-36.72	-4.32	0.00	-326.97	0.00	326.97	2659.88	671.38	2148.49	2110.38	2.34	-0.521	0.000	0.169
46.00	-36.19	-4.29	0.00	-318.33	0.00	318.33	2640.67	664.17	2102.57	2072.44	2.57	-0.547	0.000	0.167
47.55	-35.78	-4.27	0.00	-311.67	0.00	311.67	2625.60	658.56	2067.24	2043.10	2.75	-0.567	0.000	0.166
48.00	-35.61	-4.27	0.00	-309.76	0.00	309.76	2621.25	656.95	2057.14	2034.68	2.80	-0.573	0.000	0.166
50.00	-34.83	-4.23	0.00	-301.23	0.00	301.23	2601.63	649.74	2012.21	1997.09	3.05	-0.598	0.000	0.164
51.75	-34.16	-4.20	0.00	-293.82	0.00	293.82	2584.30	643.43	1973.30	1964.36	3.27	-0.621	0.000	0.108
52.00	-34.07	-4.20	0.00	-292.77	0.00	292.77	2581.81	642.52	1967.78	1959.69	3.30	-0.623	0.000	0.080
52.97	-33.70	-4.18	0.00	-288.70	0.00	288.70	1914.68	519.05	1605.21	1470.11	3.43	-0.630	0.000	0.087
54.00	-33.46	-4.16	0.00	-284.40	0.00	284.40	1908.40	516.08	1586.88	1456.85	3.57	-0.636	0.000	0.094
56.00	-33.00	-4.13	0.00	-276.07	0.00	276.07	1896.06	510.31	1551.58	1431.13	3.84	-0.650	0.000	0.092
58.00	-32.54	-4.10	0.00	-267.81	0.00	267.81	1883.51	504.54	1516.69	1405.47	4.11	-0.664	0.000	0.091
60.00	-32.09	-4.06	0.00	-259.62	0.00	259.62	1870.76	498.77	1482.19	1379.88	4.39	-0.677	0.000	0.089
62.00	-31.63	-4.03	0.00	-251.50	0.00	251.50	1857.80	493.00	1448.09	1354.36	4.68	-0.691	0.000	0.087
64.00	-31.19	-3.99	0.00	-243.45	0.00	243.45	1844.65	487.23	1414.38	1328.91	4.97	-0.704	0.000	0.085
66.00	-30.74	-3.95	0.00	-235.46	0.00	235.46	1831.29	481.46	1381.08	1303.55	5.27	-0.718	0.000	0.084
66.67	-30.60	-3.94	0.00	-232.82	0.00	232.82	1826.76	479.52	1370.01	1295.07	5.37	-0.723	0.000	0.065
68.00	-30.30	-3.92	0.00	-227.57	0.00	227.57	1817.72	475.68	1348.17	1278.27	5.57	-0.730	0.000	0.083
68.25	-30.25	-3.92	0.00	-226.59	0.00	226.59	1816.01	474.96	1344.08	1275.12	5.61	-0.731	0.000	0.116
70.00	-29.87	-3.89	0.00	-219.73	0.00	219.73	1803.95	469.91	1315.65	1253.09	5.88	-0.748	0.000	0.114
72.00	-29.43	-3.86	0.00	-211.95	0.00	211.95	1789.98	464.14	1283.53	1228.00	6.20	-0.767	0.000	0.112
73.00	-29.20	-3.83	0.00	-208.10	0.00	208.10	1782.92	461.26	1267.62	1215.49	6.36	-0.776	0.000	0.111
74.00	-28.98	-3.82	0.00	-204.26	0.00	204.26	1775.81	458.37	1251.81	1203.02	6.53	-0.786	0.000	0.110
75.25	-28.71	-3.80	0.00	-199.49	0.00	199.49	1766.84	454.76	1232.19	1187.45	6.73	-0.798	0.000	0.108
75.25	-28.71	-3.80	0.00	-199.49	0.00	199.49	1766.84	454.76	1232.19	1187.45	6.73	-0.798	0.000	0.108
76.00	-28.55	-3.79	0.00	-196.64	0.00	196.64	1761.43	452.60	1220.49	1178.14	6.86	-0.805	0.000	0.183
78.00	-28.14	-3.77	0.00	-189.06	0.00	189.06	1746.84	446.83	1189.56	1153.37	7.20	-0.837	0.000	0.180

Calculated Forces

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 39



80.00	-27.73	-3.74	0.00	-181.53	0.00	181.53	1732.06	441.06	1159.03	1128.72	7.56	-0.868	0.000	0.177
82.00	-27.32	-3.71	0.00	-174.04	0.00	174.04	1717.07	435.29	1128.90	1104.20	7.93	-0.900	0.000	0.174
84.00	-26.92	-3.69	0.00	-166.61	0.00	166.61	1701.88	429.52	1099.17	1079.81	8.32	-0.932	0.000	0.170
86.00	-26.52	-3.66	0.00	-159.24	0.00	159.24	1686.48	423.74	1069.83	1055.54	8.71	-0.963	0.000	0.167
88.00	-26.12	-3.64	0.00	-151.91	0.00	151.91	1670.88	417.97	1040.88	1031.42	9.12	-0.995	0.000	0.163
90.00	-25.73	-3.61	0.00	-144.64	0.00	144.64	1655.08	412.20	1012.34	1007.44	9.55	-1.026	0.000	0.159
92.00	-25.34	-3.58	0.00	-137.42	0.00	137.42	1639.07	406.43	984.19	983.61	9.98	-1.057	0.000	0.155
94.00	-24.96	-3.56	0.00	-130.26	0.00	130.26	1622.86	400.66	956.44	959.94	10.43	-1.087	0.000	0.151
96.00	-24.58	-3.52	0.00	-123.14	0.00	123.14	1606.45	394.89	929.08	936.43	10.89	-1.117	0.000	0.147
96.18	-24.54	-3.53	0.00	-122.52	0.00	122.52	1604.99	394.38	926.69	934.36	10.94	-1.120	0.000	0.147
98.00	-24.07	-3.50	0.00	-116.09	0.00	116.09	1589.83	389.12	902.13	913.08	11.37	-1.147	0.000	0.142
99.00	-23.81	-3.48	0.00	-112.60	0.00	112.60	1581.44	386.23	888.80	901.47	11.61	-1.162	0.000	0.079
100.00	-23.55	-3.46	0.00	-109.12	0.00	109.12	1573.01	383.35	875.57	889.90	11.86	-1.170	0.000	0.078
100.34	-23.46	-3.45	0.00	-107.93	0.00	107.93	1075.68	291.34	674.27	618.09	11.94	-1.173	0.000	0.087
102.00	-23.18	-3.42	0.00	-102.21	0.00	102.21	1068.04	287.75	657.78	606.10	12.35	-1.187	0.000	0.095
103.00	-23.01	-3.41	0.00	-98.79	0.00	98.79	1063.37	285.59	647.92	598.87	12.60	-1.196	0.000	0.093
103.00	-23.01	-3.41	0.00	-98.79	0.00	98.79	1063.37	285.59	647.92	598.87	12.60	-1.196	0.000	0.093
104.00	-22.84	-3.40	0.00	-95.38	0.00	95.38	1058.64	283.42	638.14	591.66	12.85	-1.205	0.000	0.183
106.00	-22.51	-3.37	0.00	-88.59	0.00	88.59	1049.03	279.09	618.79	577.28	13.36	-1.239	0.000	0.175
108.00	-22.19	-3.35	0.00	-81.85	0.00	81.85	1039.22	274.77	599.75	562.95	13.89	-1.273	0.000	0.167
110.00	-21.87	-3.32	0.00	-75.16	0.00	75.16	1029.21	270.44	581.00	548.68	14.43	-1.306	0.000	0.158
112.00	-21.56	-3.29	0.00	-68.52	0.00	68.52	1018.99	266.11	562.55	534.48	14.98	-1.337	0.000	0.150
114.00	-21.25	-3.26	0.00	-61.93	0.00	61.93	1008.57	261.78	544.40	520.34	15.55	-1.367	0.000	0.140
115.00	-16.84	-2.67	0.00	-58.67	0.00	58.67	1003.28	259.62	535.44	513.31	15.84	-1.382	0.000	0.131
116.00	-16.70	-2.65	0.00	-56.00	0.00	56.00	997.95	257.45	526.55	506.29	16.13	-1.396	0.000	0.127
118.00	-16.42	-2.63	0.00	-50.69	0.00	50.69	987.12	253.12	508.99	492.31	16.72	-1.423	0.000	0.120
120.00	-16.14	-2.60	0.00	-45.44	0.00	45.44	976.09	248.80	491.73	478.42	17.32	-1.448	0.000	0.112
122.00	-15.87	-2.57	0.00	-40.25	0.00	40.25	964.85	244.47	474.77	464.62	17.93	-1.472	0.000	0.103
124.00	-15.60	-2.54	0.00	-35.12	0.00	35.12	953.42	240.14	458.11	450.92	18.56	-1.494	0.000	0.094
126.00	-15.33	-2.51	0.00	-30.04	0.00	30.04	941.77	235.81	441.75	437.32	19.19	-1.515	0.000	0.085
128.00	-15.06	-2.48	0.00	-25.03	0.00	25.03	929.93	231.48	425.68	423.83	19.82	-1.533	0.000	0.075
130.00	-8.41	-1.48	0.00	-20.08	0.00	20.08	917.88	227.15	409.91	410.45	20.47	-1.548	0.000	0.058
132.00	-8.20	-1.45	0.00	-17.12	0.00	17.12	905.63	222.83	394.44	397.19	21.12	-1.562	0.000	0.052
134.00	-8.00	-1.42	0.00	-14.22	0.00	14.22	893.17	218.50	379.26	384.05	21.78	-1.574	0.000	0.046
136.00	-7.79	-1.39	0.00	-11.38	0.00	11.38	880.51	214.17	364.38	371.04	22.44	-1.585	0.000	0.040
138.00	-4.73	-0.77	0.00	-8.60	0.00	8.60	867.65	209.84	349.80	358.17	23.11	-1.594	0.000	0.029
140.00	-4.57	-0.74	0.00	-7.06	0.00	7.06	854.59	205.51	335.52	345.43	23.78	-1.601	0.000	0.026
142.00	-4.40	-0.71	0.00	-5.58	0.00	5.58	841.32	201.18	321.54	332.84	24.45	-1.607	0.000	0.022
144.00	-4.25	-0.68	0.00	-4.15	0.00	4.15	827.84	196.86	307.85	320.39	25.12	-1.612	0.000	0.018
146.00	-4.09	-0.66	0.00	-2.78	0.00	2.78	814.17	192.53	294.46	308.10	25.80	-1.616	0.000	0.014
148.00	-3.94	-0.63	0.00	-1.47	0.00	1.47	796.71	188.20	281.37	294.65	26.48	-1.619	0.000	0.010
149.00	0.00	-0.52	0.00	-0.84	0.00	0.84	787.55	186.03	274.94	287.88	26.82	-1.620	0.000	0.003

Seismic Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

Page: 40



Load Case: 1.2D + 1.0Ev + 1.0Eh

Iterations 27

Gust Response Factor 1.10

Sds 0.11

Ss 0.18

Dead Load Factor 1.20 **Seismic Load Factor** 1.00

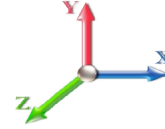
Sd1 0.03

S1 0.05

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.28

SA 0.01

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
2.00		320.49	0.00	0.01	0.01	9.87	
4.00		317.70	0.00	0.03	0.01	11.21	
6.00		314.90	0.00	0.04	0.02	12.02	
8.00		312.10	0.01	0.05	0.03	12.53	
10.00		309.30	0.01	0.05	0.03	12.85	
12.00		306.51	0.01	0.06	0.03	13.05	
14.00		303.71	0.02	0.06	0.04	13.16	
16.00		300.91	0.02	0.07	0.04	13.21	
18.00		298.11	0.03	0.07	0.04	13.21	
20.00		295.32	0.03	0.07	0.04	13.19	
22.00		292.52	0.04	0.07	0.04	13.14	
24.00		289.72	0.05	0.07	0.04	13.09	
26.00		286.92	0.06	0.07	0.04	13.03	
28.00		284.13	0.07	0.07	0.04	12.96	
30.00		281.33	0.08	0.07	0.04	12.90	
32.00		278.53	0.09	0.07	0.04	12.85	
34.00		275.73	0.10	0.07	0.04	12.80	
36.00		272.94	0.11	0.07	0.04	12.75	
38.00		270.14	0.12	0.07	0.03	12.71	
40.00		267.34	0.14	0.07	0.03	12.67	
42.00		264.54	0.15	0.07	0.03	12.63	
44.00		261.75	0.16	0.07	0.03	12.58	
46.00		258.95	0.18	0.07	0.03	12.52	
47.55	Bot - Section 2	199.19	0.19	0.06	0.02	9.67	
48.00		103.21	0.20	0.06	0.02	5.02	
50.00	Appurtenance(s)	459.48	0.21	0.06	0.02	22.40	
51.75	RB1	397.56	0.23	0.06	0.02	19.40	
52.00	RB2	56.48	0.23	0.06	0.02	2.76	
52.97	Top - Section 1	218.40	0.24	0.06	0.02	10.64	
54.00		103.36	0.25	0.06	0.02	5.03	
56.00		199.01	0.27	0.05	0.02	9.60	
58.00		196.77	0.29	0.05	0.01	9.35	
60.00		194.53	0.31	0.04	0.01	9.03	
62.00		192.29	0.33	0.04	0.01	8.62	
64.00		190.06	0.35	0.03	0.01	8.10	
66.00		187.82	0.37	0.03	0.01	7.46	
66.67	RB3	62.42	0.38	0.02	0.01	2.41	
68.00	RT2	123.16	0.39	0.02	0.01	4.43	
68.25	RT1	23.04	0.40	0.02	0.01	0.82	
70.00		160.30	0.42	0.01	0.01	5.05	
72.00		181.10	0.44	0.00	0.01	4.77	
73.00	Appurtenance(s)	99.71	0.45	0.00	0.01	2.35	
74.00		89.15	0.47	0.00	0.01	1.85	
75.25	RT3	110.66	0.48	-0.01	0.01	1.89	
76.00		65.97	0.49	-0.01	0.01	0.99	

Seismic Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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78.00		174.39	0.52	-0.02	0.01	1.65
80.00		172.15	0.54	-0.03	0.01	0.76
82.00		169.91	0.57	-0.04	0.01	0.01
84.00		167.68	0.60	-0.05	0.01	-0.58
86.00		165.44	0.63	-0.06	0.02	-1.04
88.00		163.20	0.66	-0.07	0.02	-1.36
90.00		160.96	0.69	-0.08	0.03	-1.56
92.00		158.73	0.72	-0.09	0.03	-1.66
94.00		156.49	0.75	-0.10	0.04	-1.67
96.00		154.25	0.78	-0.11	0.05	-1.60
96.18	Bot - Section 3	13.52	0.79	-0.11	0.05	-0.14
98.00		243.98	0.82	-0.11	0.06	-2.34
99.00	RB4	132.43	0.83	-0.12	0.06	-1.20
100.00		131.45	0.85	-0.12	0.07	-1.10
100.34	Top - Section 2	44.90	0.86	-0.12	0.07	-0.36
102.00		93.00	0.89	-0.12	0.08	-0.62
103.00	RT4	55.58	0.90	-0.12	0.09	-0.32
104.00		55.16	0.92	-0.12	0.10	-0.26
106.00		109.07	0.96	-0.12	0.11	-0.23
108.00		107.39	0.99	-0.11	0.13	0.08
110.00		105.71	1.03	-0.10	0.15	0.43
112.00		104.03	1.07	-0.09	0.17	0.81
114.00		102.35	1.11	-0.07	0.19	1.22
115.00	Appurtenance(s)	2323.6	1.13	-0.05	0.20	32.73
116.00		50.13	1.15	-0.04	0.22	0.82
118.00		99.00	1.19	-0.01	0.24	2.11
120.00		97.32	1.23	0.03	0.27	2.60
122.00		95.64	1.27	0.08	0.31	3.11
124.00		93.96	1.31	0.13	0.34	3.64
126.00		92.28	1.35	0.20	0.38	4.19
128.00		90.60	1.39	0.27	0.43	4.76
130.00	Appurtenance(s)	3605.6	1.44	0.36	0.47	216.54
132.00		87.25	1.48	0.46	0.52	5.94
134.00		85.57	1.53	0.57	0.58	6.55
136.00		83.89	1.57	0.70	0.64	7.17
138.00	Appurtenance(s)	1469.8	1.62	0.85	0.70	139.52
140.00		80.53	1.67	1.01	0.77	8.44
142.00		78.85	1.72	1.19	0.84	9.09
144.00		77.18	1.77	1.39	0.92	9.73
146.00		75.50	1.81	1.61	1.00	10.38
148.00		73.82	1.86	1.85	1.09	11.03
149.00	Appurtenance(s)	2174.1	1.89	1.98	1.14	338.12
Totals:		24,053.9				1,248.0
						Total Wind: 25,965.6

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT12215-A-SBA **Code:** EIA/TIA-222-H 7/10/2019
Site Name: Litchfield 3, CT **Exposure:** C
Height: 149.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** B - Competent Rock
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 42



Load Case: 1.2D + 1.0Ev + 1.0Eh

Iterations 27

Gust Response Factor 1.10

Sds 0.11

Ss 0.18

Dead Load Factor 1.20

Seismic Load Factor 1.00

Sd1 0.03

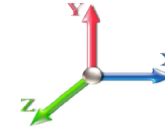
S1 0.05

Wind Load Factor 0.00

Structure Frequency (f1) 0.28

SA 0.01

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-35.30	-1.26	0.00	-138.74	0.00	138.74	3031.07	830.09	3284.29	2977.95	0.00	0.00	0.00	0.058
2.00	-34.82	-1.26	0.00	-136.21	0.00	136.21	3016.33	822.87	3227.46	2937.55	0.00	-0.01	0.058	
4.00	-34.34	-1.25	0.00	-133.69	0.00	133.69	3001.40	815.66	3171.12	2897.21	0.00	-0.01	0.058	
6.00	-33.87	-1.24	0.00	-131.20	0.00	131.20	2986.25	808.44	3115.27	2856.93	0.01	-0.02	0.057	
8.00	-33.39	-1.23	0.00	-128.71	0.00	128.71	2970.91	801.23	3059.93	2816.71	0.02	-0.02	0.057	
10.00	-32.93	-1.22	0.00	-126.25	0.00	126.25	2955.36	794.02	3005.07	2776.57	0.03	-0.03	0.057	
12.00	-32.46	-1.21	0.00	-123.81	0.00	123.81	2939.60	786.80	2950.72	2736.51	0.04	-0.04	0.056	
14.00	-32.00	-1.20	0.00	-121.38	0.00	121.38	2923.65	779.59	2896.86	2696.53	0.06	-0.04	0.056	
16.00	-31.54	-1.19	0.00	-118.98	0.00	118.98	2907.49	772.37	2843.49	2656.64	0.08	-0.05	0.056	
18.00	-31.09	-1.18	0.00	-116.59	0.00	116.59	2891.12	765.16	2790.63	2616.84	0.10	-0.05	0.055	
20.00	-30.63	-1.17	0.00	-114.23	0.00	114.23	2874.56	757.95	2738.25	2577.14	0.12	-0.06	0.055	
22.00	-30.19	-1.16	0.00	-111.89	0.00	111.89	2857.79	750.73	2686.38	2537.55	0.15	-0.07	0.055	
24.00	-29.74	-1.15	0.00	-109.56	0.00	109.56	2840.81	743.52	2635.00	2498.06	0.18	-0.07	0.054	
26.00	-29.30	-1.14	0.00	-107.26	0.00	107.26	2823.63	736.31	2584.12	2458.69	0.21	-0.08	0.054	
28.00	-28.86	-1.13	0.00	-104.98	0.00	104.98	2806.25	729.09	2533.73	2419.44	0.24	-0.08	0.054	
30.00	-28.43	-1.12	0.00	-102.72	0.00	102.72	2788.67	721.88	2483.84	2380.32	0.28	-0.09	0.053	
32.00	-27.99	-1.11	0.00	-100.48	0.00	100.48	2770.88	714.66	2434.44	2341.32	0.32	-0.10	0.053	
34.00	-27.57	-1.10	0.00	-98.26	0.00	98.26	2752.89	707.45	2385.54	2302.46	0.36	-0.10	0.053	
36.00	-27.14	-1.09	0.00	-96.07	0.00	96.07	2734.69	700.24	2337.14	2263.74	0.41	-0.11	0.052	
38.00	-26.72	-1.08	0.00	-93.89	0.00	93.89	2716.29	693.02	2289.23	2225.17	0.46	-0.12	0.052	
40.00	-26.30	-1.07	0.00	-91.73	0.00	91.73	2697.69	685.81	2241.82	2186.75	0.51	-0.12	0.052	
42.00	-25.89	-1.06	0.00	-89.60	0.00	89.60	2678.89	678.59	2194.91	2148.48	0.56	-0.13	0.051	
44.00	-25.48	-1.05	0.00	-87.49	0.00	87.49	2659.88	671.38	2148.49	2110.38	0.62	-0.14	0.051	
46.00	-25.07	-1.04	0.00	-85.39	0.00	85.39	2640.67	664.17	2102.57	2072.44	0.68	-0.14	0.051	
47.55	-24.75	-1.03	0.00	-83.78	0.00	83.78	2625.60	658.56	2067.24	2043.10	0.72	-0.15	0.050	
48.00	-24.61	-1.02	0.00	-83.32	0.00	83.32	2621.25	656.95	2057.14	2034.68	0.74	-0.15	0.050	
50.00	-23.96	-1.00	0.00	-81.28	0.00	81.28	2601.63	649.74	2012.21	1997.09	0.80	-0.16	0.050	
51.75	-23.40	-0.98	0.00	-79.53	0.00	79.53	2584.30	643.43	1973.30	1964.36	0.86	-0.16	0.033	
52.00	-23.32	-0.98	0.00	-79.28	0.00	79.28	2581.81	642.52	1967.78	1959.69	0.87	-0.17	0.024	
52.97	-23.01	-0.97	0.00	-78.33	0.00	78.33	1914.68	519.05	1605.21	1470.11	0.90	-0.17	0.027	
54.00	-22.84	-0.96	0.00	-77.33	0.00	77.33	1908.40	516.08	1586.88	1456.85	0.94	-0.17	0.029	
56.00	-22.50	-0.96	0.00	-75.40	0.00	75.40	1896.06	510.31	1551.58	1431.13	1.01	-0.17	0.028	
58.00	-22.17	-0.95	0.00	-73.49	0.00	73.49	1883.51	504.54	1516.69	1405.47	1.08	-0.18	0.028	
60.00	-21.84	-0.94	0.00	-71.60	0.00	71.60	1870.76	498.77	1482.19	1379.88	1.16	-0.18	0.028	
62.00	-21.51	-0.93	0.00	-69.73	0.00	69.73	1857.80	493.00	1448.09	1354.36	1.24	-0.18	0.027	
64.00	-21.18	-0.92	0.00	-67.87	0.00	67.87	1844.65	487.23	1414.38	1328.91	1.31	-0.19	0.027	
66.00	-20.86	-0.91	0.00	-66.02	0.00	66.02	1831.29	481.46	1381.08	1303.55	1.39	-0.19	0.026	
66.67	-20.75	-0.91	0.00	-65.41	0.00	65.41	1826.76	479.52	1370.01	1295.07	1.42	-0.19	0.021	
68.00	-20.54	-0.91	0.00	-64.20	0.00	64.20	1817.72	475.68	1348.17	1278.27	1.47	-0.19	0.026	
68.25	-20.50	-0.91	0.00	-63.97	0.00	63.97	1816.01	474.96	1344.08	1275.12	1.48	-0.19	0.037	
70.00	-20.23	-0.90	0.00	-62.38	0.00	62.38	1803.95	469.91	1315.65	1253.09	1.56	-0.20	0.036	
72.00	-19.91	-0.90	0.00	-60.58	0.00	60.58	1789.98	464.14	1283.53	1228.00	1.64	-0.20	0.036	
73.00	-19.74	-0.90	0.00	-59.68	0.00	59.68	1782.92	461.26	1267.62	1215.49	1.68	-0.21	0.036	
74.00	-19.59	-0.90	0.00	-58.78	0.00	58.78	1775.81	458.37	1251.81	1203.02	1.73	-0.21	0.035	
75.25	-19.40	-0.89	0.00	-57.66	0.00	57.66	1766.84	454.76	1232.19	1187.45	1.78	-0.21	0.035	
75.25	-19.40	-0.89	0.00	-57.66	0.00	57.66	1766.84	454.76	1232.19	1187.45	1.78	-0.21	0.035	
76.00	-19.28	-0.89	0.00	-56.99	0.00	56.99	1761.43	452.60	1220.49	1178.14	1.82	-0.22	0.059	

Calculated Forces

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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78.00	-18.97	-0.89	0.00	-55.21	0.00	55.21	1746.84	446.83	1189.56	1153.37	1.91	-0.23	0.059
80.00	-18.67	-0.90	0.00	-53.42	0.00	53.42	1732.06	441.06	1159.03	1128.72	2.01	-0.23	0.058
82.00	-18.37	-0.90	0.00	-51.63	0.00	51.63	1717.07	435.29	1128.90	1104.20	2.11	-0.24	0.057
84.00	-18.07	-0.90	0.00	-49.83	0.00	49.83	1701.88	429.52	1099.17	1079.81	2.21	-0.25	0.057
86.00	-17.78	-0.90	0.00	-48.03	0.00	48.03	1686.48	423.74	1069.83	1055.54	2.32	-0.26	0.056
88.00	-17.49	-0.90	0.00	-46.23	0.00	46.23	1670.88	417.97	1040.88	1031.42	2.43	-0.27	0.055
90.00	-17.20	-0.90	0.00	-44.43	0.00	44.43	1655.08	412.20	1012.34	1007.44	2.55	-0.28	0.054
92.00	-16.91	-0.91	0.00	-42.62	0.00	42.62	1639.07	406.43	984.19	983.61	2.67	-0.29	0.054
94.00	-16.62	-0.91	0.00	-40.81	0.00	40.81	1622.86	400.66	956.44	959.94	2.79	-0.30	0.053
96.00	-16.34	-0.91	0.00	-39.00	0.00	39.00	1606.45	394.89	929.08	936.43	2.92	-0.31	0.052
96.18	-16.32	-0.91	0.00	-38.84	0.00	38.84	1604.99	394.38	926.69	934.36	2.93	-0.31	0.052
98.00	-15.94	-0.91	0.00	-37.18	0.00	37.18	1589.83	389.12	902.13	913.08	3.05	-0.32	0.051
99.00	-15.73	-0.91	0.00	-36.28	0.00	36.28	1581.44	386.23	888.80	901.47	3.12	-0.32	0.029
100.00	-15.52	-0.91	0.00	-35.37	0.00	35.37	1573.01	383.35	875.57	889.90	3.19	-0.33	0.028
100.34	-15.45	-0.91	0.00	-35.06	0.00	35.06	1075.68	291.34	674.27	618.09	3.21	-0.33	0.032
102.00	-15.26	-0.91	0.00	-33.55	0.00	33.55	1068.04	287.75	657.78	606.10	3.32	-0.33	0.035
103.00	-15.15	-0.91	0.00	-32.65	0.00	32.65	1063.37	285.59	647.92	598.87	3.39	-0.34	0.034
103.00	-15.15	-0.91	0.00	-32.65	0.00	32.65	1063.37	285.59	647.92	598.87	3.39	-0.34	0.034
104.00	-15.03	-0.91	0.00	-31.74	0.00	31.74	1058.64	283.42	638.14	591.66	3.46	-0.34	0.068
106.00	-14.81	-0.91	0.00	-29.92	0.00	29.92	1049.03	279.09	618.79	577.28	3.61	-0.35	0.066
108.00	-14.58	-0.91	0.00	-28.10	0.00	28.10	1039.22	274.77	599.75	562.95	3.76	-0.36	0.064
110.00	-14.36	-0.91	0.00	-26.28	0.00	26.28	1029.21	270.44	581.00	548.68	3.91	-0.37	0.062
112.00	-14.14	-0.91	0.00	-24.46	0.00	24.46	1018.99	266.11	562.55	534.48	4.07	-0.38	0.060
114.00	-13.92	-0.91	0.00	-22.63	0.00	22.63	1008.57	261.78	544.40	520.34	4.23	-0.39	0.057
115.00	-11.08	-0.86	0.00	-21.72	0.00	21.72	1003.28	259.62	535.44	513.31	4.32	-0.40	0.053
116.00	-10.97	-0.86	0.00	-20.86	0.00	20.86	997.95	257.45	526.55	506.29	4.40	-0.41	0.052
118.00	-10.77	-0.86	0.00	-19.14	0.00	19.14	987.12	253.12	508.99	492.31	4.57	-0.42	0.050
120.00	-10.56	-0.86	0.00	-17.42	0.00	17.42	976.09	248.80	491.73	478.42	4.75	-0.43	0.047
122.00	-10.36	-0.85	0.00	-15.71	0.00	15.71	964.85	244.47	474.77	464.62	4.93	-0.43	0.045
124.00	-10.16	-0.85	0.00	-14.00	0.00	14.00	953.42	240.14	458.11	450.92	5.11	-0.44	0.042
126.00	-9.96	-0.85	0.00	-12.30	0.00	12.30	941.77	235.81	441.75	437.32	5.30	-0.45	0.039
128.00	-9.76	-0.84	0.00	-10.61	0.00	10.61	929.93	231.48	425.68	423.83	5.49	-0.46	0.036
130.00	-5.35	-0.59	0.00	-8.93	0.00	8.93	917.88	227.15	409.91	410.45	5.69	-0.47	0.028
132.00	-5.20	-0.58	0.00	-7.75	0.00	7.75	905.63	222.83	394.44	397.19	5.88	-0.47	0.025
134.00	-5.06	-0.58	0.00	-6.58	0.00	6.58	893.17	218.50	379.26	384.05	6.08	-0.48	0.023
136.00	-4.92	-0.57	0.00	-5.43	0.00	5.43	880.51	214.17	364.38	371.04	6.28	-0.48	0.020
138.00	-3.12	-0.41	0.00	-4.30	0.00	4.30	867.65	209.84	349.80	358.17	6.49	-0.49	0.016
140.00	-3.01	-0.40	0.00	-3.47	0.00	3.47	854.59	205.51	335.52	345.43	6.69	-0.49	0.014
142.00	-2.91	-0.39	0.00	-2.66	0.00	2.66	841.32	201.18	321.54	332.84	6.90	-0.49	0.011
144.00	-2.81	-0.38	0.00	-1.87	0.00	1.87	827.84	196.86	307.85	320.39	7.10	-0.50	0.009
146.00	-2.71	-0.37	0.00	-1.11	0.00	1.11	814.17	192.53	294.46	308.10	7.31	-0.50	0.007
148.00	-2.61	-0.36	0.00	-0.36	0.00	0.36	796.71	188.20	281.37	294.65	7.52	-0.50	0.005
149.00	0.00	-0.34	0.00	0.00	0.00	0.00	787.55	186.03	274.94	287.88	7.63	-0.50	0.000

Seismic Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 27

Gust Response Factor 1.10

Sds 0.11

Ss 0.18

Dead Load Factor 0.90 **Seismic Load Factor** 1.00

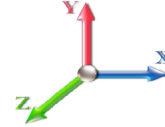
Sd1 0.03

S1 0.05

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.28

SA 0.01

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
2.00		320.49	0.00	0.01	0.01	9.87	
4.00		317.70	0.00	0.03	0.01	11.21	
6.00		314.90	0.00	0.04	0.02	12.02	
8.00		312.10	0.01	0.05	0.03	12.53	
10.00		309.30	0.01	0.05	0.03	12.85	
12.00		306.51	0.01	0.06	0.03	13.05	
14.00		303.71	0.02	0.06	0.04	13.16	
16.00		300.91	0.02	0.07	0.04	13.21	
18.00		298.11	0.03	0.07	0.04	13.21	
20.00		295.32	0.03	0.07	0.04	13.19	
22.00		292.52	0.04	0.07	0.04	13.14	
24.00		289.72	0.05	0.07	0.04	13.09	
26.00		286.92	0.06	0.07	0.04	13.03	
28.00		284.13	0.07	0.07	0.04	12.96	
30.00		281.33	0.08	0.07	0.04	12.90	
32.00		278.53	0.09	0.07	0.04	12.85	
34.00		275.73	0.10	0.07	0.04	12.80	
36.00		272.94	0.11	0.07	0.04	12.75	
38.00		270.14	0.12	0.07	0.03	12.71	
40.00		267.34	0.14	0.07	0.03	12.67	
42.00		264.54	0.15	0.07	0.03	12.63	
44.00		261.75	0.16	0.07	0.03	12.58	
46.00		258.95	0.18	0.07	0.03	12.52	
47.55	Bot - Section 2	199.19	0.19	0.06	0.02	9.67	
48.00		103.21	0.20	0.06	0.02	5.02	
50.00	Appurtenance(s)	459.48	0.21	0.06	0.02	22.40	
51.75	RB1	397.56	0.23	0.06	0.02	19.40	
52.00	RB2	56.48	0.23	0.06	0.02	2.76	
52.97	Top - Section 1	218.40	0.24	0.06	0.02	10.64	
54.00		103.36	0.25	0.06	0.02	5.03	
56.00		199.01	0.27	0.05	0.02	9.60	
58.00		196.77	0.29	0.05	0.01	9.35	
60.00		194.53	0.31	0.04	0.01	9.03	
62.00		192.29	0.33	0.04	0.01	8.62	
64.00		190.06	0.35	0.03	0.01	8.10	
66.00		187.82	0.37	0.03	0.01	7.46	
66.67	RB3	62.42	0.38	0.02	0.01	2.41	
68.00	RT2	123.16	0.39	0.02	0.01	4.43	
68.25	RT1	23.04	0.40	0.02	0.01	0.82	
70.00		160.30	0.42	0.01	0.01	5.05	
72.00		181.10	0.44	0.00	0.01	4.77	
73.00	Appurtenance(s)	99.71	0.45	0.00	0.01	2.35	
74.00		89.15	0.47	0.00	0.01	1.85	
75.25	RT3	110.66	0.48	-0.01	0.01	1.89	
76.00		65.97	0.49	-0.01	0.01	0.99	

Seismic Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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78.00		174.39	0.52	-0.02	0.01	1.65
80.00		172.15	0.54	-0.03	0.01	0.76
82.00		169.91	0.57	-0.04	0.01	0.01
84.00		167.68	0.60	-0.05	0.01	-0.58
86.00		165.44	0.63	-0.06	0.02	-1.04
88.00		163.20	0.66	-0.07	0.02	-1.36
90.00		160.96	0.69	-0.08	0.03	-1.56
92.00		158.73	0.72	-0.09	0.03	-1.66
94.00		156.49	0.75	-0.10	0.04	-1.67
96.00		154.25	0.78	-0.11	0.05	-1.60
96.18	Bot - Section 3	13.52	0.79	-0.11	0.05	-0.14
98.00		243.98	0.82	-0.11	0.06	-2.34
99.00	RB4	132.43	0.83	-0.12	0.06	-1.20
100.00		131.45	0.85	-0.12	0.07	-1.10
100.34	Top - Section 2	44.90	0.86	-0.12	0.07	-0.36
102.00		93.00	0.89	-0.12	0.08	-0.62
103.00	RT4	55.58	0.90	-0.12	0.09	-0.32
104.00		55.16	0.92	-0.12	0.10	-0.26
106.00		109.07	0.96	-0.12	0.11	-0.23
108.00		107.39	0.99	-0.11	0.13	0.08
110.00		105.71	1.03	-0.10	0.15	0.43
112.00		104.03	1.07	-0.09	0.17	0.81
114.00		102.35	1.11	-0.07	0.19	1.22
115.00	Appurtenance(s)	2323.6	1.13	-0.05	0.20	32.73
116.00		50.13	1.15	-0.04	0.22	0.82
118.00		99.00	1.19	-0.01	0.24	2.11
120.00		97.32	1.23	0.03	0.27	2.60
122.00		95.64	1.27	0.08	0.31	3.11
124.00		93.96	1.31	0.13	0.34	3.64
126.00		92.28	1.35	0.20	0.38	4.19
128.00		90.60	1.39	0.27	0.43	4.76
130.00	Appurtenance(s)	3605.6	1.44	0.36	0.47	216.54
132.00		87.25	1.48	0.46	0.52	5.94
134.00		85.57	1.53	0.57	0.58	6.55
136.00		83.89	1.57	0.70	0.64	7.17
138.00	Appurtenance(s)	1469.8	1.62	0.85	0.70	139.52
140.00		80.53	1.67	1.01	0.77	8.44
142.00		78.85	1.72	1.19	0.84	9.09
144.00		77.18	1.77	1.39	0.92	9.73
146.00		75.50	1.81	1.61	1.00	10.38
148.00		73.82	1.86	1.85	1.09	11.03
149.00	Appurtenance(s)	2174.1	1.89	1.98	1.14	338.12
Totals:		24,053.9				1,248.0
						Total Wind: 25,965.6

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

Page: 46



Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 27

Gust Response Factor 1.10

Sds 0.11

Ss 0.18

Dead Load Factor 0.90

Seismic Load Factor 1.00

Sd1 0.03

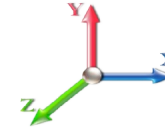
S1 0.05

Wind Load Factor 0.00

Structure Frequency (f1) 0.28

SA 0.01

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-26.48	-1.26	0.00	-136.40	0.00	136.40	3031.07	830.09	3284.29	2977.95	0.00	0.00	0.00	0.055
2.00	-26.11	-1.26	0.00	-133.88	0.00	133.88	3016.33	822.87	3227.46	2937.55	0.00	-0.01	0.054	
4.00	-25.76	-1.25	0.00	-131.36	0.00	131.36	3001.40	815.66	3171.12	2897.21	0.00	-0.01	0.054	
6.00	-25.40	-1.24	0.00	-128.87	0.00	128.87	2986.25	808.44	3115.27	2856.93	0.01	-0.02	0.054	
8.00	-25.05	-1.23	0.00	-126.39	0.00	126.39	2970.91	801.23	3059.93	2816.71	0.02	-0.02	0.053	
10.00	-24.69	-1.22	0.00	-123.94	0.00	123.94	2955.36	794.02	3005.07	2776.57	0.03	-0.03	0.053	
12.00	-24.35	-1.21	0.00	-121.50	0.00	121.50	2939.60	786.80	2950.72	2736.51	0.04	-0.03	0.053	
14.00	-24.00	-1.20	0.00	-119.09	0.00	119.09	2923.65	779.59	2896.86	2696.53	0.06	-0.04	0.052	
16.00	-23.66	-1.18	0.00	-116.70	0.00	116.70	2907.49	772.37	2843.49	2656.64	0.08	-0.05	0.052	
18.00	-23.31	-1.17	0.00	-114.33	0.00	114.33	2891.12	765.16	2790.63	2616.84	0.10	-0.05	0.052	
20.00	-22.98	-1.16	0.00	-111.98	0.00	111.98	2874.56	757.95	2738.25	2577.14	0.12	-0.06	0.051	
22.00	-22.64	-1.15	0.00	-109.65	0.00	109.65	2857.79	750.73	2686.38	2537.55	0.15	-0.06	0.051	
24.00	-22.31	-1.14	0.00	-107.35	0.00	107.35	2840.81	743.52	2635.00	2498.06	0.18	-0.07	0.051	
26.00	-21.97	-1.13	0.00	-105.07	0.00	105.07	2823.63	736.31	2584.12	2458.69	0.21	-0.08	0.051	
28.00	-21.65	-1.12	0.00	-102.81	0.00	102.81	2806.25	729.09	2533.73	2419.44	0.24	-0.08	0.050	
30.00	-21.32	-1.11	0.00	-100.57	0.00	100.57	2788.67	721.88	2483.84	2380.32	0.28	-0.09	0.050	
32.00	-21.00	-1.10	0.00	-98.36	0.00	98.36	2770.88	714.66	2434.44	2341.32	0.32	-0.10	0.050	
34.00	-20.67	-1.09	0.00	-96.16	0.00	96.16	2752.89	707.45	2385.54	2302.46	0.36	-0.10	0.049	
36.00	-20.36	-1.07	0.00	-93.99	0.00	93.99	2734.69	700.24	2337.14	2263.74	0.40	-0.11	0.049	
38.00	-20.04	-1.06	0.00	-91.85	0.00	91.85	2716.29	693.02	2289.23	2225.17	0.45	-0.12	0.049	
40.00	-19.73	-1.05	0.00	-89.72	0.00	89.72	2697.69	685.81	2241.82	2186.75	0.50	-0.12	0.048	
42.00	-19.42	-1.04	0.00	-87.61	0.00	87.61	2678.89	678.59	2194.91	2148.48	0.55	-0.13	0.048	
44.00	-19.11	-1.03	0.00	-85.53	0.00	85.53	2659.88	671.38	2148.49	2110.38	0.61	-0.13	0.048	
46.00	-18.80	-1.02	0.00	-83.47	0.00	83.47	2640.67	664.17	2102.57	2072.44	0.66	-0.14	0.047	
47.55	-18.56	-1.01	0.00	-81.89	0.00	81.89	2625.60	658.56	2067.24	2043.10	0.71	-0.15	0.047	
48.00	-18.46	-1.01	0.00	-81.44	0.00	81.44	2621.25	656.95	2057.14	2034.68	0.72	-0.15	0.047	
50.00	-17.97	-0.98	0.00	-79.43	0.00	79.43	2601.63	649.74	2012.21	1997.09	0.79	-0.16	0.047	
51.75	-17.55	-0.96	0.00	-77.71	0.00	77.71	2584.30	643.43	1973.30	1964.36	0.85	-0.16	0.031	
52.00	-17.49	-0.96	0.00	-77.46	0.00	77.46	2581.81	642.52	1967.78	1959.69	0.85	-0.16	0.023	
52.97	-17.26	-0.95	0.00	-76.53	0.00	76.53	1914.68	519.05	1605.21	1470.11	0.89	-0.16	0.025	
54.00	-17.13	-0.95	0.00	-75.55	0.00	75.55	1908.40	516.08	1586.88	1456.85	0.92	-0.17	0.027	
56.00	-16.87	-0.94	0.00	-73.66	0.00	73.66	1896.06	510.31	1551.58	1431.13	0.99	-0.17	0.027	
58.00	-16.62	-0.93	0.00	-71.78	0.00	71.78	1883.51	504.54	1516.69	1405.47	1.06	-0.17	0.026	
60.00	-16.38	-0.92	0.00	-69.93	0.00	69.93	1870.76	498.77	1482.19	1379.88	1.14	-0.18	0.026	
62.00	-16.13	-0.91	0.00	-68.09	0.00	68.09	1857.80	493.00	1448.09	1354.36	1.21	-0.18	0.025	
64.00	-15.89	-0.90	0.00	-66.27	0.00	66.27	1844.65	487.23	1414.38	1328.91	1.29	-0.18	0.025	
66.00	-15.65	-0.90	0.00	-64.46	0.00	64.46	1831.29	481.46	1381.08	1303.55	1.36	-0.19	0.025	
66.67	-15.57	-0.89	0.00	-63.86	0.00	63.86	1826.76	479.52	1370.01	1295.07	1.39	-0.19	0.019	
68.00	-15.41	-0.89	0.00	-62.67	0.00	62.67	1817.72	475.68	1348.17	1278.27	1.44	-0.19	0.025	
68.25	-15.38	-0.89	0.00	-62.45	0.00	62.45	1816.01	474.96	1344.08	1275.12	1.45	-0.19	0.034	
70.00	-15.17	-0.88	0.00	-60.89	0.00	60.89	1803.95	469.91	1315.65	1253.09	1.52	-0.20	0.034	
72.00	-14.93	-0.88	0.00	-59.13	0.00	59.13	1789.98	464.14	1283.53	1228.00	1.61	-0.20	0.034	
73.00	-14.81	-0.88	0.00	-58.25	0.00	58.25	1782.92	461.26	1267.62	1215.49	1.65	-0.20	0.033	
74.00	-14.69	-0.88	0.00	-57.37	0.00	57.37	1775.81	458.37	1251.81	1203.02	1.69	-0.21	0.033	
75.25	-14.55	-0.87	0.00	-56.27	0.00	56.27	1766.84	454.76	1232.19	1187.45	1.75	-0.21	0.033	
75.25	-14.55	-0.87	0.00	-56.27	0.00	56.27	1766.84	454.76	1232.19	1187.45	1.75	-0.21	0.033	
76.00	-14.46	-0.87	0.00	-55.62	0.00	55.62	1761.43	452.60	1220.49	1178.14	1.78	-0.21	0.055	

Calculated Forces

Structure: CT12215-A-SBA **Code:** EIA/TIA-222-H 7/10/2019
Site Name: Litchfield 3, CT **Exposure:** C
Height: 149.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** B - Competent Rock
Gh: 1.1 **Topography:** 1 **Struct Class:** II **Page:** 47



78.00	-14.23	-0.87	0.00	-53.87	0.00	53.87	1746.84	446.83	1189.56	1153.37	1.87	-0.22	0.055
80.00	-14.00	-0.87	0.00	-52.12	0.00	52.12	1732.06	441.06	1159.03	1128.72	1.97	-0.23	0.054
82.00	-13.78	-0.88	0.00	-50.37	0.00	50.37	1717.07	435.29	1128.90	1104.20	2.06	-0.24	0.054
84.00	-13.55	-0.88	0.00	-48.62	0.00	48.62	1701.88	429.52	1099.17	1079.81	2.17	-0.25	0.053
86.00	-13.33	-0.88	0.00	-46.86	0.00	46.86	1686.48	423.74	1069.83	1055.54	2.27	-0.26	0.052
88.00	-13.11	-0.88	0.00	-45.11	0.00	45.11	1670.88	417.97	1040.88	1031.42	2.38	-0.27	0.052
90.00	-12.90	-0.88	0.00	-43.35	0.00	43.35	1655.08	412.20	1012.34	1007.44	2.49	-0.28	0.051
92.00	-12.68	-0.88	0.00	-41.59	0.00	41.59	1639.07	406.43	984.19	983.61	2.61	-0.28	0.050
94.00	-12.47	-0.88	0.00	-39.82	0.00	39.82	1622.86	400.66	956.44	959.94	2.73	-0.29	0.049
96.00	-12.26	-0.88	0.00	-38.06	0.00	38.06	1606.45	394.89	929.08	936.43	2.86	-0.30	0.048
96.18	-12.24	-0.88	0.00	-37.90	0.00	37.90	1604.99	394.38	926.69	934.36	2.87	-0.30	0.048
98.00	-11.95	-0.88	0.00	-36.29	0.00	36.29	1589.83	389.12	902.13	913.08	2.99	-0.31	0.047
99.00	-11.80	-0.88	0.00	-35.41	0.00	35.41	1581.44	386.23	888.80	901.47	3.05	-0.32	0.027
100.00	-11.64	-0.88	0.00	-34.52	0.00	34.52	1573.01	383.35	875.57	889.90	3.12	-0.32	0.026
100.34	-11.59	-0.88	0.00	-34.22	0.00	34.22	1075.68	291.34	674.27	618.09	3.14	-0.32	0.029
102.00	-11.45	-0.88	0.00	-32.76	0.00	32.76	1068.04	287.75	657.78	606.10	3.26	-0.33	0.033
103.00	-11.36	-0.88	0.00	-31.87	0.00	31.87	1063.37	285.59	647.92	598.87	3.32	-0.33	0.032
103.00	-11.36	-0.88	0.00	-31.87	0.00	31.87	1063.37	285.59	647.92	598.87	3.32	-0.33	0.032
104.00	-11.27	-0.88	0.00	-30.99	0.00	30.99	1058.64	283.42	638.14	591.66	3.39	-0.33	0.063
106.00	-11.10	-0.89	0.00	-29.22	0.00	29.22	1049.03	279.09	618.79	577.28	3.53	-0.34	0.061
108.00	-10.93	-0.89	0.00	-27.45	0.00	27.45	1039.22	274.77	599.75	562.95	3.68	-0.35	0.059
110.00	-10.77	-0.89	0.00	-25.68	0.00	25.68	1029.21	270.44	581.00	548.68	3.83	-0.36	0.057
112.00	-10.60	-0.89	0.00	-23.90	0.00	23.90	1018.99	266.11	562.55	534.48	3.99	-0.38	0.055
114.00	-10.44	-0.89	0.00	-22.13	0.00	22.13	1008.57	261.78	544.40	520.34	4.14	-0.39	0.053
115.00	-8.31	-0.84	0.00	-21.24	0.00	21.24	1003.28	259.62	535.44	513.31	4.23	-0.39	0.050
116.00	-8.23	-0.84	0.00	-20.40	0.00	20.40	997.95	257.45	526.55	506.29	4.31	-0.40	0.049
118.00	-8.07	-0.84	0.00	-18.72	0.00	18.72	987.12	253.12	508.99	492.31	4.48	-0.41	0.046
120.00	-7.92	-0.84	0.00	-17.05	0.00	17.05	976.09	248.80	491.73	478.42	4.65	-0.42	0.044
122.00	-7.77	-0.83	0.00	-15.37	0.00	15.37	964.85	244.47	474.77	464.62	4.83	-0.42	0.041
124.00	-7.62	-0.83	0.00	-13.71	0.00	13.71	953.42	240.14	458.11	450.92	5.01	-0.43	0.038
126.00	-7.47	-0.82	0.00	-12.05	0.00	12.05	941.77	235.81	441.75	437.32	5.19	-0.44	0.035
128.00	-7.32	-0.82	0.00	-10.40	0.00	10.40	929.93	231.48	425.68	423.83	5.37	-0.45	0.032
130.00	-4.01	-0.58	0.00	-8.76	0.00	8.76	917.88	227.15	409.91	410.45	5.56	-0.46	0.026
132.00	-3.90	-0.57	0.00	-7.61	0.00	7.61	905.63	222.83	394.44	397.19	5.76	-0.46	0.023
134.00	-3.79	-0.56	0.00	-6.46	0.00	6.46	893.17	218.50	379.26	384.05	5.95	-0.47	0.021
136.00	-3.69	-0.56	0.00	-5.34	0.00	5.34	880.51	214.17	364.38	371.04	6.15	-0.47	0.019
138.00	-2.34	-0.41	0.00	-4.22	0.00	4.22	867.65	209.84	349.80	358.17	6.35	-0.48	0.014
140.00	-2.26	-0.40	0.00	-3.41	0.00	3.41	854.59	205.51	335.52	345.43	6.55	-0.48	0.013
142.00	-2.18	-0.39	0.00	-2.62	0.00	2.62	841.32	201.18	321.54	332.84	6.75	-0.48	0.010
144.00	-2.11	-0.38	0.00	-1.84	0.00	1.84	827.84	196.86	307.85	320.39	6.95	-0.48	0.008
146.00	-2.03	-0.37	0.00	-1.09	0.00	1.09	814.17	192.53	294.46	308.10	7.15	-0.49	0.006
148.00	-1.96	-0.35	0.00	-0.35	0.00	0.35	796.71	188.20	281.37	294.65	7.36	-0.49	0.004
149.00	0.00	-0.34	0.00	0.00	0.00	0.00	787.55	186.03	274.94	287.88	7.46	-0.49	0.000

Wind Loading - Shaft

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

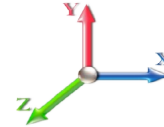
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.221	7.94	221.32	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	7.221	7.94	219.41	0.730	0.000	2.00	8.088	5.90	46.9	0.0	320.5
4.00		1.00	0.85	7.221	7.94	217.50	0.730	0.000	2.00	8.018	5.85	46.5	0.0	317.7
6.00		1.00	0.85	7.221	7.94	215.59	0.730	0.000	2.00	7.948	5.80	46.1	0.0	314.9
8.00		1.00	0.85	7.221	7.94	213.68	0.730	0.000	2.00	7.878	5.75	45.7	0.0	312.1
10.00		1.00	0.85	7.221	7.94	211.77	0.730	0.000	2.00	7.808	5.70	45.3	0.0	309.3
12.00		1.00	0.85	7.221	7.94	209.86	0.730	0.000	2.00	7.738	5.65	44.9	0.0	306.5
14.00		1.00	0.85	7.221	7.94	207.95	0.730	0.000	2.00	7.668	5.60	44.5	0.0	303.7
16.00		1.00	0.86	7.310	8.04	207.31	0.730	0.000	2.00	7.597	5.55	44.6	0.0	300.9
18.00		1.00	0.88	7.494	8.24	207.95	0.730	0.000	2.00	7.527	5.49	45.3	0.0	298.1
20.00		1.00	0.90	7.662	8.43	208.30	0.730	0.000	2.00	7.457	5.44	45.9	0.0	295.3
22.00		1.00	0.92	7.817	8.60	208.41	0.730	0.000	2.00	7.387	5.39	46.4	0.0	292.5
24.00		1.00	0.94	7.962	8.76	208.32	0.730	0.000	2.00	7.317	5.34	46.8	0.0	289.7
26.00		1.00	0.95	8.097	8.91	208.06	0.730	0.000	2.00	7.247	5.29	47.1	0.0	286.9
28.00		1.00	0.97	8.224	9.05	207.65	0.730	0.000	2.00	7.177	5.24	47.4	0.0	284.1
30.00		1.00	0.98	8.345	9.18	207.11	0.730	0.000	2.00	7.106	5.19	47.6	0.0	281.3
32.00		1.00	1.00	8.459	9.30	206.45	0.730	0.000	2.00	7.036	5.14	47.8	0.0	278.5
34.00		1.00	1.01	8.567	9.42	205.69	0.730	0.000	2.00	6.966	5.09	47.9	0.0	275.7
36.00		1.00	1.02	8.671	9.54	204.84	0.730	0.000	2.00	6.896	5.03	48.0	0.0	272.9
38.00		1.00	1.03	8.770	9.65	203.90	0.730	0.000	2.00	6.826	4.98	48.1	0.0	270.1
40.00		1.00	1.04	8.866	9.75	202.89	0.730	0.000	2.00	6.756	4.93	48.1	0.0	267.3
42.00		1.00	1.05	8.957	9.85	201.80	0.730	0.000	2.00	6.686	4.88	48.1	0.0	264.5
44.00		1.00	1.06	9.045	9.95	200.66	0.730	0.000	2.00	6.615	4.83	48.1	0.0	261.7
46.00		1.00	1.07	9.130	10.04	199.45	0.730	0.000	2.00	6.545	4.78	48.0	0.0	258.9
47.55 Bot - Section 2		1.00	1.08	9.195	10.11	198.47	0.730	0.000	1.55	5.035	3.68	37.2	0.0	199.2
48.00		1.00	1.08	9.213	10.13	198.19	0.730	0.000	0.45	1.459	1.07	10.8	0.0	103.2
50.00 Appurtenance(s)		1.00	1.09	9.292	10.22	196.87	0.730	0.000	2.00	6.490	4.74	48.4	0.0	459.1
51.75 RB1		1.00	1.10	9.360	10.30	195.68	0.730	0.000	1.75	5.621	4.10	42.2	0.0	397.6
52.00 RB2		1.00	1.10	9.369	10.31	195.51	0.730	0.000	0.25	0.799	0.58	6.0	0.0	56.5
52.97 Top - Section 1		1.00	1.11	9.406	10.35	194.83	0.730	0.000	0.97	3.088	2.25	23.3	0.0	218.4
54.00		1.00	1.11	9.444	10.39	196.74	0.730	0.000	1.03	3.261	2.38	24.7	0.0	103.4
56.00		1.00	1.12	9.516	10.47	195.30	0.730	0.000	2.00	6.279	4.58	48.0	0.0	199.0
58.00		1.00	1.13	9.587	10.55	193.82	0.730	0.000	2.00	6.209	4.53	47.8	0.0	196.8
60.00		1.00	1.14	9.656	10.62	192.30	0.730	0.000	2.00	6.139	4.48	47.6	0.0	194.5
62.00		1.00	1.14	9.723	10.69	190.75	0.730	0.000	2.00	6.069	4.43	47.4	0.0	192.3
64.00		1.00	1.15	9.788	10.77	189.17	0.730	0.000	2.00	5.999	4.38	47.1	0.0	190.1
66.00		1.00	1.16	9.851	10.84	187.55	0.730	0.000	2.00	5.929	4.33	46.9	0.0	187.8
66.67 RB3		1.00	1.16	9.872	10.86	187.00	0.730	0.000	0.67	1.970	1.44	15.6	0.0	62.4
68.00 RT2		1.00	1.17	9.914	10.90	185.90	0.730	0.000	1.33	3.888	2.84	31.0	0.0	123.2
68.25 RT1		1.00	1.17	9.921	10.91	185.69	0.730	0.000	0.25	0.727	0.53	5.8	0.0	23.0
70.00		1.00	1.17	9.974	10.97	184.22	0.730	0.000	1.75	5.061	3.69	40.5	0.0	160.3
72.00		1.00	1.18	10.034	11.04	182.52	0.730	0.000	2.00	5.718	4.17	46.1	0.0	181.1
73.00 Appurtenance(s)		1.00	1.18	10.063	11.07	181.65	0.730	0.000	1.00	2.833	2.07	22.9	0.0	89.7
74.00		1.00	1.19	10.092	11.10	180.78	0.730	0.000	1.00	2.815	2.06	22.8	0.0	89.2
75.25 RT3		1.00	1.19	10.127	11.14	179.69	0.730	0.000	1.25	3.494	2.55	28.4	0.0	110.7
76.00		1.00	1.19	10.148	11.16	179.03	0.730	0.000	0.75	2.083	1.52	17.0	0.0	66.0
78.00		1.00	1.20	10.204	11.22	177.25	0.730	0.000	2.00	5.508	4.02	45.1	0.0	174.4

Wind Loading - Shaft

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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80.00	1.00	1.21	10.259	11.28	175.44	0.730	0.000	2.00	5.438	3.97	44.8	0.0	172.2
82.00	1.00	1.21	10.312	11.34	173.61	0.730	0.000	2.00	5.367	3.92	44.4	0.0	169.9
84.00	1.00	1.22	10.365	11.40	171.77	0.730	0.000	2.00	5.297	3.87	44.1	0.0	167.7
86.00	1.00	1.23	10.416	11.46	169.90	0.730	0.000	2.00	5.227	3.82	43.7	0.0	165.4
88.00	1.00	1.23	10.467	11.51	168.01	0.730	0.000	2.00	5.157	3.76	43.3	0.0	163.2
90.00	1.00	1.24	10.516	11.57	166.10	0.730	0.000	2.00	5.087	3.71	43.0	0.0	161.0
92.00	1.00	1.24	10.565	11.62	164.17	0.730	0.000	2.00	5.017	3.66	42.6	0.0	158.7
94.00	1.00	1.25	10.613	11.67	162.23	0.730	0.000	2.00	4.947	3.61	42.2	0.0	156.5
96.00	1.00	1.25	10.660	11.73	160.27	0.730	0.000	2.00	4.877	3.56	41.7	0.0	154.2
96.18 Bot - Section 3	1.00	1.26	10.664	11.73	160.09	0.730	0.000	0.18	0.427	0.31	3.7	0.0	13.5
98.00	1.00	1.26	10.706	11.78	158.29	0.730	0.000	1.82	4.437	3.24	38.1	0.0	244.0
99.00 RB4	1.00	1.26	10.729	11.80	157.29	0.761 *	0.000	1.00	2.409	1.83	21.6	0.0	132.4
100.00	1.00	1.27	10.752	11.83	156.29	0.762 *	0.000	1.00	2.391	1.82	21.6	0.0	131.4
100.34 Top - Section 2	1.00	1.27	10.760	11.84	155.95	0.764 *	0.000	0.34	0.817	0.62	7.4	0.0	44.9
102.00	1.00	1.27	10.797	11.88	156.40	0.762 *	0.000	1.66	3.913	2.98	35.4	0.0	93.0
103.00 RT4	1.00	1.27	10.819	11.90	155.39	0.765 *	0.000	1.00	2.338	1.79	21.3	0.0	55.6
104.00	1.00	1.28	10.841	11.93	154.38	0.767 *	0.000	1.00	2.321	1.78	21.2	0.0	55.2
106.00	1.00	1.28	10.885	11.97	152.34	0.730	0.000	2.00	4.589	3.35	40.1	0.0	109.1
108.00	1.00	1.29	10.928	12.02	150.29	0.730	0.000	2.00	4.519	3.30	39.7	0.0	107.4
110.00	1.00	1.29	10.970	12.07	148.22	0.730	0.000	2.00	4.449	3.25	39.2	0.0	105.7
112.00	1.00	1.30	11.012	12.11	146.15	0.730	0.000	2.00	4.379	3.20	38.7	0.0	104.0
114.00	1.00	1.30	11.053	12.16	144.05	0.730	0.000	2.00	4.309	3.15	38.2	0.0	102.4
115.00 Appurtenance(s)	1.00	1.30	11.073	12.18	143.00	0.730	0.000	1.00	2.128	1.55	18.9	0.0	50.5
116.00	1.00	1.31	11.093	12.20	141.95	0.730	0.000	1.00	2.111	1.54	18.8	0.0	50.1
118.00	1.00	1.31	11.133	12.25	139.83	0.730	0.000	2.00	4.168	3.04	37.3	0.0	99.0
120.00	1.00	1.32	11.173	12.29	137.70	0.730	0.000	2.00	4.098	2.99	36.8	0.0	97.3
122.00	1.00	1.32	11.212	12.33	135.56	0.730	0.000	2.00	4.028	2.94	36.3	0.0	95.6
124.00	1.00	1.32	11.250	12.38	133.41	0.730	0.000	2.00	3.958	2.89	35.8	0.0	94.0
126.00	1.00	1.33	11.288	12.42	131.24	0.730	0.000	2.00	3.888	2.84	35.2	0.0	92.3
128.00	1.00	1.33	11.326	12.46	129.07	0.730	0.000	2.00	3.818	2.79	34.7	0.0	90.6
130.00 Appurtenance(s)	1.00	1.34	11.363	12.50	126.88	0.730	0.000	2.00	3.748	2.74	34.2	0.0	88.9
132.00	1.00	1.34	11.399	12.54	124.69	0.730	0.000	2.00	3.678	2.68	33.7	0.0	87.2
134.00	1.00	1.35	11.435	12.58	122.48	0.730	0.000	2.00	3.607	2.63	33.1	0.0	85.6
136.00	1.00	1.35	11.471	12.62	120.26	0.730	0.000	2.00	3.537	2.58	32.6	0.0	83.9
138.00 Appurtenance(s)	1.00	1.35	11.506	12.66	118.03	0.730	0.000	2.00	3.467	2.53	32.0	0.0	82.2
140.00	1.00	1.36	11.541	12.70	115.80	0.730	0.000	2.00	3.397	2.48	31.5	0.0	80.5
142.00	1.00	1.36	11.576	12.73	113.55	0.730	0.000	2.00	3.327	2.43	30.9	0.0	78.9
144.00	1.00	1.37	11.610	12.77	111.30	0.730	0.000	2.00	3.257	2.38	30.4	0.0	77.2
146.00	1.00	1.37	11.644	12.81	109.03	0.730	0.000	2.00	3.187	2.33	29.8	0.0	75.5
148.00	1.00	1.37	11.677	12.84	106.76	0.730	0.000	2.00	3.116	2.27	29.2	0.0	73.8
149.00 Appurtenance(s)	1.00	1.38	11.694	12.86	105.62	0.730	0.000	1.00	1.532	1.12	14.4	0.0	36.3
Totals:								149.00			3,169.1		14,728.1

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

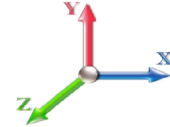
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	ACU-A20-N	4	11.743	12.917	0.40	0.80	0.22	4.00	0.000	3.000	2.89	0.00	8.68
2	149.00	800MHZ Filter	3	11.743	12.917	0.40	0.80	0.94	26.40	0.000	3.000	12.09	0.00	36.27
3	149.00	TD-RRH8x20-25	3	11.743	12.917	0.40	0.80	4.86	210.00	0.000	3.000	62.78	0.00	188.33
4	149.00	800MHZ	3	11.743	12.917	0.40	0.80	3.17	178.50	0.000	3.000	40.92	0.00	122.76
5	149.00	1900MHZ	3	11.743	12.917	0.40	0.80	3.32	180.00	0.000	3.000	42.94	0.00	128.81
6	149.00	APXVTM14-C-I20	3	11.743	12.917	0.63	0.80	12.02	168.00	0.000	3.000	155.27	0.00	465.82
7	149.00	APXVSPP18-C-A20	3	11.743	12.917	0.66	0.80	15.98	171.00	0.000	3.000	206.36	0.00	619.09
8	149.00	Low Profile Platform	1	11.694	12.863	1.00	1.00	25.00	1200.00	0.000	0.000	321.58	0.00	0.00
9	138.00	BXA-70063-6CF_2	3	11.506	12.657	0.58	0.80	13.26	51.00	0.000	0.000	167.87	0.00	0.00
10	138.00	BXA-171085-12B_2	3	11.506	12.657	0.67	0.80	9.56	45.00	0.000	0.000	120.95	0.00	0.00
11	138.00	LPA-80080/6CF	3	11.506	12.657	1.36	0.80	17.67	63.00	0.000	0.000	223.60	0.00	0.00
12	138.00	Low Profile Platform	1	11.506	12.657	1.00	1.00	25.00	1200.00	0.000	0.000	316.43	0.00	0.00
13	138.00	GPS Receiver	1	11.506	12.657	1.00	1.00	1.00	10.00	0.000	0.000	12.66	0.00	0.00
14	138.00	FD9R6004/2C-3L	6	11.506	12.657	0.40	0.80	0.86	18.60	0.000	0.000	10.94	0.00	0.00
15	130.00	(3) 12.5' - 2" Horizontal	1	11.363	12.499	0.75	1.00	4.45	137.25	0.000	0.000	55.66	0.00	0.00
16	130.00	XP-2020	24	11.363	12.499	0.56	0.75	9.31	240.00	0.000	0.000	116.43	0.00	0.00
17	130.00	VSRDual-TS-B-HD	2	11.363	12.499	0.56	0.75	4.61	296.80	0.000	0.000	57.65	0.00	0.00
18	130.00	DC6-48-60-0-8C-EV	1	11.363	12.499	0.38	0.75	1.79	16.00	0.000	0.000	22.40	0.00	0.00
19	130.00	DC6-48-60-18-8C	1	11.363	12.499	0.38	0.75	0.47	20.00	0.000	0.000	5.91	0.00	0.00
20	130.00	ABT-DF-DM-ADBH	1	11.363	12.499	0.75	0.75	0.04	1.10	0.000	0.000	0.47	0.00	0.00
21	130.00	7770.00	3	11.363	12.499	0.55	0.75	9.03	105.00	0.000	0.000	112.91	0.00	0.00
22	130.00	LGP 21401	12	11.363	12.499	0.38	0.75	0.00	210.00	0.000	0.000	0.00	0.00	0.00
23	130.00	DC6-48-60-18-8F	1	11.363	12.499	0.75	0.75	0.69	31.80	0.000	0.000	8.62	0.00	0.00
24	130.00	8843 B2/B66A	3	11.363	12.499	0.38	0.75	1.84	216.00	0.000	0.000	23.06	0.00	0.00
25	130.00	80010965	6	11.363	12.499	0.53	0.75	44.12	651.60	0.000	0.000	551.49	0.00	0.00
26	130.00	RRUS 4478 B14	3	11.363	12.499	0.38	0.75	1.86	178.20	0.000	0.000	23.20	0.00	0.00
27	130.00	4449 B5/B12	3	11.363	12.499	0.38	0.75	2.22	213.00	0.000	0.000	27.70	0.00	0.00
28	130.00	Low Profile Platform	1	11.363	12.499	1.00	1.00	25.00	1200.00	0.000	0.000	312.47	0.00	0.00
29	115.00	RRUS 11 (Band 12)	3	11.073	12.180	0.40	0.80	3.02	162.00	0.000	0.000	36.83	0.00	0.00
30	115.00	APX16DWV-16DWVS-E-A	3	11.073	12.180	0.50	0.80	9.84	122.10	0.000	0.000	119.80	0.00	0.00
31	115.00	RRUS 11 (Band 4)	3	11.073	12.180	0.40	0.80	3.02	153.00	0.000	0.000	36.83	0.00	0.00
32	115.00	Radio 4449 B71+B12	3	11.073	12.180	0.40	0.80	1.98	222.00	0.000	0.000	24.12	0.00	0.00
33	115.00	APXVAARR24_43-U-NA2	3	11.073	12.180	0.56	0.80	34.00	384.00	0.000	0.000	414.17	0.00	0.00
34	115.00	(3) Stabilizer Kit (12' FW)	1	11.073	12.180	1.00	1.00	6.10	180.00	0.000	0.000	74.30	0.00	0.00
35	115.00	T-Arm	3	11.073	12.180	0.56	0.75	13.50	1050.00	0.000	0.000	164.44	0.00	0.00
36	73.00	GPS Receiver	1	10.063	11.069	1.00	1.00	1.00	10.00	0.000	0.000	11.07	0.00	0.00
37	50.00	58532A	1	9.292	10.221	1.00	1.00	0.22	0.40	0.000	0.000	2.25	0.00	0.00

Totals: 9,325.75

3,899.05

Total Applied Force Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II

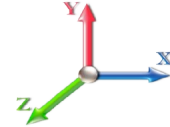


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		46.90	401.44	0.00	0.00
4.00		46.49	398.65	0.00	0.00
6.00		46.09	395.85	0.00	0.00
8.00		45.68	393.05	0.00	0.00
10.00		45.27	390.26	0.00	0.00
12.00		44.87	387.46	0.00	0.00
14.00		44.46	384.66	0.00	0.00
16.00		44.60	381.86	0.00	0.00
18.00		45.30	379.07	0.00	0.00
20.00		45.88	376.27	0.00	0.00
22.00		46.37	373.47	0.00	0.00
24.00		46.78	370.67	0.00	0.00
26.00		47.12	367.88	0.00	0.00
28.00		47.40	365.08	0.00	0.00
30.00		47.62	362.28	0.00	0.00
32.00		47.79	359.48	0.00	0.00
34.00		47.93	356.69	0.00	0.00
36.00		48.02	353.89	0.00	0.00
38.00		48.07	351.09	0.00	0.00
40.00		48.10	348.29	0.00	0.00
42.00		48.09	345.50	0.00	0.00
44.00		48.05	342.70	0.00	0.00
46.00		47.99	339.90	0.00	0.00
47.55		37.18	262.06	0.00	0.00
48.00		10.79	121.29	0.00	0.00
50.00	(1) attachments	50.67	540.43	0.00	0.00
51.75		42.25	468.11	0.00	0.00
52.00		6.01	66.56	0.00	0.00
52.97		23.32	257.50	0.00	0.00
54.00		24.73	144.89	0.00	0.00
56.00		47.98	279.64	0.00	0.00
58.00		47.80	277.40	0.00	0.00
60.00		47.60	275.16	0.00	0.00
62.00		47.38	272.93	0.00	0.00
64.00		47.15	270.69	0.00	0.00
66.00		46.90	268.45	0.00	0.00
66.67		15.62	89.43	0.00	0.00
68.00		30.95	176.78	0.00	0.00
68.25		5.79	33.12	0.00	0.00
70.00		40.53	230.86	0.00	0.00
72.00		46.07	261.74	0.00	0.00
73.00	(1) attachments	33.96	140.03	0.00	0.00
74.00		22.81	129.31	0.00	0.00
75.25		28.42	160.85	0.00	0.00
76.00		16.98	96.09	0.00	0.00
78.00		45.13	254.70	0.00	0.00

Total Applied Force Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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80.00		44.79	252.46	0.00	0.00
82.00		44.45	250.23	0.00	0.00
84.00		44.09	247.99	0.00	0.00
86.00		43.72	245.75	0.00	0.00
88.00		43.34	243.51	0.00	0.00
90.00		42.96	241.27	0.00	0.00
92.00		42.56	239.04	0.00	0.00
94.00		42.16	236.80	0.00	0.00
96.00		41.74	234.56	0.00	0.00
96.18		3.66	20.61	0.00	0.00
98.00		38.14	317.20	0.00	0.00
99.00		21.62	172.58	0.00	0.00
100.00		21.56	171.60	0.00	0.00
100.34		7.38	58.69	0.00	0.00
102.00		35.42	159.53	0.00	0.00
103.00		21.28	95.74	0.00	0.00
104.00		21.22	95.32	0.00	0.00
106.00		40.11	189.38	0.00	0.00
108.00		39.66	187.70	0.00	0.00
110.00		39.19	186.02	0.00	0.00
112.00		38.72	184.34	0.00	0.00
114.00		38.24	182.66	0.00	0.00
115.00	(19) attachments	889.42	2363.80	0.00	0.00
116.00		18.80	86.98	0.00	0.00
118.00		37.27	172.71	0.00	0.00
120.00		36.77	171.03	0.00	0.00
122.00		36.27	169.35	0.00	0.00
124.00		35.76	167.67	0.00	0.00
126.00		35.24	165.99	0.00	0.00
128.00		34.72	164.32	0.00	0.00
130.00	(62) attachments	1352.17	3679.39	0.00	0.00
132.00		33.66	120.16	0.00	0.00
134.00		33.13	118.48	0.00	0.00
136.00		32.58	116.80	0.00	0.00
138.00	(17) attachments	884.47	1502.72	0.00	0.00
140.00		31.48	88.17	0.00	0.00
142.00		30.92	86.49	0.00	0.00
144.00		30.36	84.81	0.00	0.00
146.00		29.79	83.13	0.00	0.00
148.00		29.22	81.45	0.00	0.00
149.00	(23) attachments	859.21	2178.00	0.00	1569.76
Totals:		7,068.13	29,417.95	0.00	1,569.76

Linear Appurtenance Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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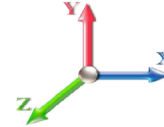


Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 29



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.055	0.000	7.221	0.00	6.60
2.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.055	0.000	7.221	0.00	0.32
4.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.055	0.000	7.221	0.00	6.60
4.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.055	0.000	7.221	0.00	0.32
6.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.056	0.000	7.221	0.00	6.60
6.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.056	0.000	7.221	0.00	0.32
8.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.056	0.000	7.221	0.00	6.60
8.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.056	0.000	7.221	0.00	0.32
10.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.057	0.000	7.221	0.00	6.60
10.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.057	0.000	7.221	0.00	0.32
12.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.057	0.000	7.221	0.00	6.60
12.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.057	0.000	7.221	0.00	0.32
14.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.058	0.000	7.221	0.00	6.60
14.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.058	0.000	7.221	0.00	0.32
16.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.058	0.000	7.310	0.00	6.60
16.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.058	0.000	7.310	0.00	0.32
18.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	7.494	0.00	6.60
18.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.059	0.000	7.494	0.00	0.32
20.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	7.662	0.00	6.60
20.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.059	0.000	7.662	0.00	0.32
22.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	7.817	0.00	6.60
22.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.060	0.000	7.817	0.00	0.32
24.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	7.962	0.00	6.60
24.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.060	0.000	7.962	0.00	0.32
26.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	8.097	0.00	6.60
26.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.061	0.000	8.097	0.00	0.32
28.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	8.224	0.00	6.60
28.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.062	0.000	8.224	0.00	0.32
30.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	8.345	0.00	6.60
30.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.062	0.000	8.345	0.00	0.32
32.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	8.459	0.00	6.60
32.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.063	0.000	8.459	0.00	0.32
34.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	8.567	0.00	6.60
34.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.063	0.000	8.567	0.00	0.32
36.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.064	0.000	8.671	0.00	6.60
36.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.064	0.000	8.671	0.00	0.32
38.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	8.770	0.00	6.60
38.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.065	0.000	8.770	0.00	0.32
40.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	8.866	0.00	6.60
40.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.065	0.000	8.866	0.00	0.32
42.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	8.957	0.00	6.60
42.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.066	0.000	8.957	0.00	0.32
44.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	9.045	0.00	6.60
44.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.067	0.000	9.045	0.00	0.32
46.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	9.130	0.00	6.60
46.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.067	0.000	9.130	0.00	0.32
47.55	1 5/8" Fiber	Yes	1.55	0.000	2.00	0.26	0.00	0.068	0.000	9.195	0.00	5.13

Linear Appurtenance Segment Forces (Factored)

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

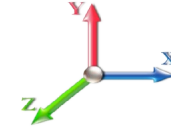
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
47.55	1/2" Coax	Yes	1.55	0.000	0.65	0.08	0.00	0.068	0.000	9.195	0.00	0.25
48.00	1 5/8" Fiber	Yes	0.45	0.000	2.00	0.07	0.00	0.068	0.000	9.213	0.00	1.47
48.00	1/2" Coax	Yes	0.45	0.000	0.65	0.02	0.00	0.068	0.000	9.213	0.00	0.07
50.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	9.292	0.00	6.60
50.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.069	0.000	9.292	0.00	0.32
51.75	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.085	0.000	9.360	0.00	5.78
51.75	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.085	0.000	9.360	0.00	0.00
52.00	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.086	0.000	9.369	0.00	0.83
52.00	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.086	0.000	9.369	0.00	0.00
52.97	1 5/8" Fiber	Yes	0.97	0.000	2.00	0.16	0.00	0.086	0.000	9.406	0.00	3.20
52.97	1.25" Reinforcing	Yes	0.97	0.000	1.25	0.10	0.00	0.086	0.000	9.406	0.00	0.00
54.00	1 5/8" Fiber	Yes	1.03	0.000	2.00	0.17	0.00	0.086	0.000	9.444	0.00	3.40
54.00	1.25" Reinforcing	Yes	1.03	0.000	1.25	0.11	0.00	0.086	0.000	9.444	0.00	0.00
56.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	9.516	0.00	6.60
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.086	0.000	9.516	0.00	0.00
58.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	9.587	0.00	6.60
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.087	0.000	9.587	0.00	0.00
60.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.088	0.000	9.656	0.00	6.60
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.088	0.000	9.656	0.00	0.00
62.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	9.723	0.00	6.60
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.089	0.000	9.723	0.00	0.00
64.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	9.788	0.00	6.60
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.090	0.000	9.788	0.00	0.00
66.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	9.851	0.00	6.60
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.091	0.000	9.851	0.00	0.00
66.67	1 5/8" Fiber	Yes	0.67	0.000	2.00	0.11	0.00	0.092	0.000	9.872	0.00	2.21
66.67	1.25" Reinforcing	Yes	0.67	0.000	1.25	0.07	0.00	0.092	0.000	9.872	0.00	0.00
68.00	1 5/8" Fiber	Yes	1.33	0.000	2.00	0.22	0.00	0.093	0.000	9.914	0.00	4.39
68.00	1.25" Reinforcing	Yes	1.33	0.000	1.25	0.14	0.00	0.093	0.000	9.914	0.00	0.00
68.25	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.093	0.000	9.921	0.00	0.83
68.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.093	0.000	9.921	0.00	0.00
70.00	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.094	0.000	9.974	0.00	5.78
70.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.094	0.000	9.974	0.00	0.00
72.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	10.034	0.00	6.60
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.095	0.000	10.034	0.00	0.00
73.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.096	0.000	10.063	0.00	3.30
73.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.096	0.000	10.063	0.00	0.00
74.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.096	0.000	10.092	0.00	3.30
74.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.096	0.000	10.092	0.00	0.00
75.25	1 5/8" Fiber	Yes	1.25	0.000	2.00	0.21	0.00	0.097	0.000	10.127	0.00	4.13
75.25	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.097	0.000	10.127	0.00	0.00
76.00	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.097	0.000	10.148	0.00	2.48
76.00	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.097	0.000	10.148	0.00	0.00
78.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	10.204	0.00	6.60
78.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.079	0.000	10.204	0.00	0.00
80.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	10.259	0.00	6.60
82.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	10.312	0.00	6.60

Linear Appurtenance Segment Forces (Factored)

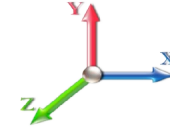
Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019
Site Name: Litchfield 3, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
84.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	10.365	0.00	6.60
86.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.064	0.000	10.416	0.00	6.60
88.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	10.467	0.00	6.60
90.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	10.516	0.00	6.60
92.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	10.565	0.00	6.60
94.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	10.613	0.00	6.60
96.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	10.660	0.00	6.60
96.18	1 5/8" Fiber	Yes	0.18	0.000	2.00	0.03	0.00	0.069	0.000	10.664	0.00	0.58
98.00	1 5/8" Fiber	Yes	1.82	0.000	2.00	0.30	0.00	0.093	0.000	10.706	0.00	6.02
98.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.093	0.000	10.706	0.00	0.00
99.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.114	1.042	10.729	0.00	3.30
99.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.114	1.042	10.729	0.00	0.00
100.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.115	1.044	10.752	0.00	3.30
100.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.115	1.044	10.752	0.00	0.00
100.34	1 5/8" Fiber	Yes	0.34	0.000	2.00	0.06	0.00	0.115	1.046	10.760	0.00	1.13
100.34	1.25" Reinforcing	Yes	0.34	0.000	1.25	0.04	0.00	0.115	1.046	10.760	0.00	0.00
102.00	1 5/8" Fiber	Yes	1.66	0.000	2.00	0.28	0.00	0.115	1.044	10.797	0.00	5.47
102.00	1.25" Reinforcing	Yes	1.66	0.000	1.25	0.17	0.00	0.115	1.044	10.797	0.00	0.00
103.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.116	1.047	10.819	0.00	3.30
103.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.116	1.047	10.819	0.00	0.00
104.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.117	1.050	10.841	0.00	3.30
104.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.117	1.050	10.841	0.00	0.00
106.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	10.885	0.00	6.60
106.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.095	0.000	10.885	0.00	0.00
108.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	10.928	0.00	6.60
110.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	10.970	0.00	6.60
112.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	11.012	0.00	6.60
114.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	11.053	0.00	6.60
115.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.078	0.000	11.073	0.00	3.30
Totals:											0.0	387.5

Calculated Forces

Structure: CT12215-A-SBA

Code: EIA/TIA-222-H

7/10/2019

Site Name: Litchfield 3, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: B - Competent Rock

Gh: 1.1

Topography: 1

Struct Class: II

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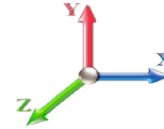


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 29

Dead Load Factor 1.00

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-29.42	-7.08	0.00	-779.91	0.00	779.91	3031.07	830.09	3284.29	2977.95	0.00	0.000	0.000	0.272
2.00	-29.01	-7.04	0.00	-765.76	0.00	765.76	3016.33	822.87	3227.46	2937.55	0.01	-0.032	0.000	0.270
4.00	-28.61	-7.01	0.00	-751.67	0.00	751.67	3001.40	815.66	3171.12	2897.21	0.03	-0.065	0.000	0.269
6.00	-28.21	-6.98	0.00	-737.64	0.00	737.64	2986.25	808.44	3115.27	2856.93	0.06	-0.098	0.000	0.268
8.00	-27.81	-6.95	0.00	-723.67	0.00	723.67	2970.91	801.23	3059.93	2816.71	0.11	-0.131	0.000	0.266
10.00	-27.42	-6.92	0.00	-709.77	0.00	709.77	2955.36	794.02	3005.07	2776.57	0.17	-0.164	0.000	0.265
12.00	-27.03	-6.89	0.00	-695.92	0.00	695.92	2939.60	786.80	2950.72	2736.51	0.25	-0.198	0.000	0.264
14.00	-26.64	-6.86	0.00	-682.14	0.00	682.14	2923.65	779.59	2896.86	2696.53	0.34	-0.232	0.000	0.262
16.00	-26.25	-6.83	0.00	-668.41	0.00	668.41	2907.49	772.37	2843.49	2656.64	0.44	-0.266	0.000	0.261
18.00	-25.87	-6.80	0.00	-654.75	0.00	654.75	2891.12	765.16	2790.63	2616.84	0.56	-0.300	0.000	0.259
20.00	-25.49	-6.77	0.00	-641.14	0.00	641.14	2874.56	757.95	2738.25	2577.14	0.70	-0.335	0.000	0.258
22.00	-25.11	-6.73	0.00	-627.61	0.00	627.61	2857.79	750.73	2686.38	2537.55	0.84	-0.370	0.000	0.256
24.00	-24.74	-6.70	0.00	-614.14	0.00	614.14	2840.81	743.52	2635.00	2498.06	1.01	-0.405	0.000	0.255
26.00	-24.36	-6.67	0.00	-600.74	0.00	600.74	2823.63	736.31	2584.12	2458.69	1.18	-0.440	0.000	0.253
28.00	-24.00	-6.63	0.00	-587.41	0.00	587.41	2806.25	729.09	2533.73	2419.44	1.38	-0.476	0.000	0.251
30.00	-23.63	-6.59	0.00	-574.14	0.00	574.14	2788.67	721.88	2483.84	2380.32	1.58	-0.512	0.000	0.250
32.00	-23.27	-6.56	0.00	-560.96	0.00	560.96	2770.88	714.66	2434.44	2341.32	1.81	-0.548	0.000	0.248
34.00	-22.91	-6.52	0.00	-547.84	0.00	547.84	2752.89	707.45	2385.54	2302.46	2.04	-0.584	0.000	0.246
36.00	-22.55	-6.48	0.00	-534.80	0.00	534.80	2734.69	700.24	2337.14	2263.74	2.30	-0.621	0.000	0.245
38.00	-22.19	-6.45	0.00	-521.83	0.00	521.83	2716.29	693.02	2289.23	2225.17	2.56	-0.658	0.000	0.243
40.00	-21.84	-6.41	0.00	-508.93	0.00	508.93	2697.69	685.81	2241.82	2186.75	2.85	-0.695	0.000	0.241
42.00	-21.49	-6.37	0.00	-496.12	0.00	496.12	2678.89	678.59	2194.91	2148.48	3.15	-0.732	0.000	0.239
44.00	-21.15	-6.33	0.00	-483.38	0.00	483.38	2659.88	671.38	2148.49	2110.38	3.46	-0.770	0.000	0.237
46.00	-20.80	-6.29	0.00	-470.71	0.00	470.71	2640.67	664.17	2102.57	2072.44	3.79	-0.808	0.000	0.235
47.55	-20.54	-6.26	0.00	-460.94	0.00	460.94	2625.60	658.56	2067.24	2043.10	4.06	-0.837	0.000	0.234
48.00	-20.42	-6.25	0.00	-458.15	0.00	458.15	2621.25	656.95	2057.14	2034.68	4.14	-0.846	0.000	0.233
50.00	-19.87	-6.21	0.00	-445.64	0.00	445.64	2601.63	649.74	2012.21	1997.09	4.50	-0.884	0.000	0.231
51.75	-19.40	-6.16	0.00	-434.78	0.00	434.78	2584.30	643.43	1973.30	1964.36	4.83	-0.918	0.000	0.152
52.00	-19.34	-6.16	0.00	-433.24	0.00	433.24	2581.81	642.52	1967.78	1959.69	4.88	-0.921	0.000	0.112
52.97	-19.08	-6.13	0.00	-427.27	0.00	427.27	1914.68	519.05	1605.21	1470.11	5.07	-0.930	0.000	0.123
54.00	-18.93	-6.11	0.00	-420.95	0.00	420.95	1908.40	516.08	1586.88	1456.85	5.27	-0.940	0.000	0.132
56.00	-18.65	-6.07	0.00	-408.72	0.00	408.72	1896.06	510.31	1551.58	1431.13	5.67	-0.960	0.000	0.130
58.00	-18.37	-6.02	0.00	-396.59	0.00	396.59	1883.51	504.54	1516.69	1405.47	6.07	-0.980	0.000	0.127
60.00	-18.10	-5.97	0.00	-384.55	0.00	384.55	1870.76	498.77	1482.19	1379.88	6.49	-1.001	0.000	0.125
62.00	-17.82	-5.93	0.00	-372.61	0.00	372.61	1857.80	493.00	1448.09	1354.36	6.91	-1.021	0.000	0.122
64.00	-17.55	-5.88	0.00	-360.75	0.00	360.75	1844.65	487.23	1414.38	1328.91	7.34	-1.041	0.000	0.120
66.00	-17.28	-5.83	0.00	-348.99	0.00	348.99	1831.29	481.46	1381.08	1303.55	7.78	-1.061	0.000	0.117
66.67	-17.19	-5.82	0.00	-345.08	0.00	345.08	1826.76	479.52	1370.01	1295.07	7.93	-1.068	0.000	0.091
68.00	-17.02	-5.79	0.00	-337.34	0.00	337.34	1817.72	475.68	1348.17	1278.27	8.23	-1.078	0.000	0.117
68.25	-16.98	-5.78	0.00	-335.89	0.00	335.89	1816.01	474.96	1344.08	1275.12	8.29	-1.081	0.000	0.163
70.00	-16.75	-5.75	0.00	-325.77	0.00	325.77	1803.95	469.91	1315.65	1253.09	8.69	-1.105	0.000	0.160
72.00	-16.49	-5.70	0.00	-314.27	0.00	314.27	1789.98	464.14	1283.53	1228.00	9.16	-1.133	0.000	0.157
73.00	-16.34	-5.67	0.00	-308.57	0.00	308.57	1782.92	461.26	1267.62	1215.49	9.40	-1.147	0.000	0.155
74.00	-16.21	-5.65	0.00	-302.90	0.00	302.90	1775.81	458.37	1251.81	1203.02	9.64	-1.161	0.000	0.154
75.25	-16.05	-5.62	0.00	-295.84	0.00	295.84	1766.84	454.76	1232.19	1187.45	9.95	-1.179	0.000	0.151
75.25	-16.05	-5.62	0.00	-295.84	0.00	295.84	1766.84	454.76	1232.19	1187.45	9.95	-1.179	0.000	0.151
76.00	-15.95	-5.61	0.00	-291.62	0.00	291.62	1761.43	452.60	1220.49	1178.14	10.13	-1.189	0.000	0.257
78.00	-15.70	-5.57	0.00	-280.40	0.00	280.40	1746.84	446.83	1189.56	1153.37	10.64	-1.237	0.000	0.252

Calculated Forces

Structure: CT12215-A-SBA **Code:** EIA/TIA-222-H 7/10/2019
Site Name: Litchfield 3, CT **Exposure:** C
Height: 149.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** B - Competent Rock
Gh: 1.1 **Topography:** 1 **Struct Class:** II **Page:** 57



80.00	-15.44	-5.54	0.00	-269.26	0.00	269.26	1732.06	441.06	1159.03	1128.72	11.17	-1.284	0.000	0.248
82.00	-15.19	-5.50	0.00	-258.19	0.00	258.19	1717.07	435.29	1128.90	1104.20	11.72	-1.331	0.000	0.243
84.00	-14.93	-5.46	0.00	-247.19	0.00	247.19	1701.88	429.52	1099.17	1079.81	12.29	-1.378	0.000	0.238
86.00	-14.69	-5.42	0.00	-236.27	0.00	236.27	1686.48	423.74	1069.83	1055.54	12.87	-1.425	0.000	0.233
88.00	-14.44	-5.38	0.00	-225.43	0.00	225.43	1670.88	417.97	1040.88	1031.42	13.48	-1.471	0.000	0.227
90.00	-14.19	-5.35	0.00	-214.66	0.00	214.66	1655.08	412.20	1012.34	1007.44	14.11	-1.517	0.000	0.222
92.00	-13.95	-5.31	0.00	-203.97	0.00	203.97	1639.07	406.43	984.19	983.61	14.75	-1.563	0.000	0.216
94.00	-13.71	-5.27	0.00	-193.35	0.00	193.35	1622.86	400.66	956.44	959.94	15.42	-1.609	0.000	0.210
96.00	-13.48	-5.23	0.00	-182.81	0.00	182.81	1606.45	394.89	929.08	936.43	16.10	-1.653	0.000	0.204
96.18	-13.45	-5.23	0.00	-181.89	0.00	181.89	1604.99	394.38	926.69	934.36	16.16	-1.657	0.000	0.203
98.00	-13.14	-5.19	0.00	-172.35	0.00	172.35	1589.83	389.12	902.13	913.08	16.80	-1.698	0.000	0.197
99.00	-12.96	-5.17	0.00	-167.16	0.00	167.16	1581.44	386.23	888.80	901.47	17.16	-1.720	0.000	0.110
100.00	-12.79	-5.14	0.00	-162.00	0.00	162.00	1573.01	383.35	875.57	889.90	17.52	-1.732	0.000	0.107
100.34	-12.73	-5.13	0.00	-160.23	0.00	160.23	1075.68	291.34	674.27	618.09	17.65	-1.736	0.000	0.120
102.00	-12.57	-5.10	0.00	-151.73	0.00	151.73	1068.04	287.75	657.78	606.10	18.25	-1.756	0.000	0.131
103.00	-12.48	-5.08	0.00	-146.63	0.00	146.63	1063.37	285.59	647.92	598.87	18.62	-1.770	0.000	0.128
103.00	-12.48	-5.08	0.00	-146.63	0.00	146.63	1063.37	285.59	647.92	598.87	18.62	-1.770	0.000	0.128
104.00	-12.38	-5.06	0.00	-141.55	0.00	141.55	1058.64	283.42	638.14	591.66	18.99	-1.783	0.000	0.251
106.00	-12.19	-5.02	0.00	-131.43	0.00	131.43	1049.03	279.09	618.79	577.28	19.75	-1.835	0.000	0.240
108.00	-11.99	-4.99	0.00	-121.38	0.00	121.38	1039.22	274.77	599.75	562.95	20.53	-1.885	0.000	0.227
110.00	-11.81	-4.95	0.00	-111.41	0.00	111.41	1029.21	270.44	581.00	548.68	21.33	-1.933	0.000	0.215
112.00	-11.62	-4.92	0.00	-101.50	0.00	101.50	1018.99	266.11	562.55	534.48	22.15	-1.980	0.000	0.202
114.00	-11.44	-4.88	0.00	-91.66	0.00	91.66	1008.57	261.78	544.40	520.34	22.99	-2.024	0.000	0.188
115.00	-9.10	-3.91	0.00	-86.78	0.00	86.78	1003.28	259.62	535.44	513.31	23.42	-2.045	0.000	0.178
116.00	-9.01	-3.89	0.00	-82.87	0.00	82.87	997.95	257.45	526.55	506.29	23.85	-2.066	0.000	0.173
118.00	-8.84	-3.86	0.00	-75.09	0.00	75.09	987.12	253.12	508.99	492.31	24.72	-2.106	0.000	0.162
120.00	-8.67	-3.82	0.00	-67.38	0.00	67.38	976.09	248.80	491.73	478.42	25.61	-2.144	0.000	0.150
122.00	-8.50	-3.78	0.00	-59.74	0.00	59.74	964.85	244.47	474.77	464.62	26.52	-2.179	0.000	0.138
124.00	-8.33	-3.74	0.00	-52.18	0.00	52.18	953.42	240.14	458.11	450.92	27.44	-2.212	0.000	0.125
126.00	-8.16	-3.71	0.00	-44.69	0.00	44.69	941.77	235.81	441.75	437.32	28.37	-2.243	0.000	0.111
128.00	-8.00	-3.67	0.00	-37.28	0.00	37.28	929.93	231.48	425.68	423.83	29.32	-2.270	0.000	0.097
130.00	-4.38	-2.17	0.00	-29.95	0.00	29.95	917.88	227.15	409.91	410.45	30.27	-2.293	0.000	0.078
132.00	-4.26	-2.14	0.00	-25.60	0.00	25.60	905.63	222.83	394.44	397.19	31.24	-2.313	0.000	0.069
134.00	-4.14	-2.10	0.00	-21.33	0.00	21.33	893.17	218.50	379.26	384.05	32.21	-2.332	0.000	0.060
136.00	-4.02	-2.06	0.00	-17.14	0.00	17.14	880.51	214.17	364.38	371.04	33.19	-2.348	0.000	0.051
138.00	-2.56	-1.12	0.00	-13.01	0.00	13.01	867.65	209.84	349.80	358.17	34.18	-2.361	0.000	0.039
140.00	-2.47	-1.08	0.00	-10.78	0.00	10.78	854.59	205.51	335.52	345.43	35.17	-2.372	0.000	0.034
142.00	-2.39	-1.05	0.00	-8.61	0.00	8.61	841.32	201.18	321.54	332.84	36.16	-2.382	0.000	0.029
144.00	-2.30	-1.02	0.00	-6.51	0.00	6.51	827.84	196.86	307.85	320.39	37.16	-2.390	0.000	0.023
146.00	-2.22	-0.98	0.00	-4.48	0.00	4.48	814.17	192.53	294.46	308.10	38.17	-2.396	0.000	0.017
148.00	-2.14	-0.95	0.00	-2.52	0.00	2.52	796.71	188.20	281.37	294.65	39.17	-2.400	0.000	0.011
149.00	0.00	-0.86	0.00	-1.57	0.00	1.57	787.55	186.03	274.94	287.88	39.67	-2.401	0.000	0.005

Final Analysis Summary

Structure: CT12215-A-SBA	Code: EIA/TIA-222-H	7/10/2019	
Site Name: Litchfield 3, CT	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: B - Competent Rock		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 58



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 115 mph Wind	26.0	0.00	35.27	0.00	0.00	2888.03
0.9D + 1.0W 115 mph Wind	26.0	0.00	26.45	0.00	0.00	2841.75
1.2D + 1.0Di + 1.0Wi 40 mph Wind	4.8	0.00	49.23	0.00	0.00	528.13
1.2D + 1.0Ev + 1.0Eh	1.3	0.00	35.30	0.00	0.00	138.74
0.9D + 1.0Ev + 1.0Eh	1.3	0.00	26.48	0.00	0.00	136.40
1.0D + 1.0W 60 mph Wind	7.1	0.00	29.42	0.00	0.00	779.91

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 115 mph Wind	-35.27	-26.00	0.00	-2888.0	0.00	-2888.0	3031.07	830.09	3284.29	2977.95	0.00	0.982
0.9D + 1.0W 115 mph Wind	-26.45	-25.99	0.00	-2841.7	0.00	-2841.7	3031.07	830.09	3284.29	2977.95	0.00	0.964
1.2D + 1.0Di + 1.0Wi 40 mph Wind	-49.23	-4.77	0.00	-528.13	0.00	-528.13	3031.07	830.09	3284.29	2977.95	0.00	0.194
1.2D + 1.0Ev + 1.0Eh	-15.03	-0.91	0.00	-31.74	0.00	-31.74	1058.64	283.42	638.14	591.66	104.00	0.068
0.9D + 1.0Ev + 1.0Eh	-11.27	-0.88	0.00	-30.99	0.00	-30.99	1058.64	283.42	638.14	591.66	104.00	0.063
1.0D + 1.0W 60 mph Wind	-29.42	-7.08	0.00	-779.91	0.00	-779.91	3031.07	830.09	3284.29	2977.95	0.00	0.272

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
			VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
51.8	68.3	(3) PLT-4.5"x 1-1/4" (1.25"ho	262.9	6.31	37.1	222.3	37.1	6	8	160.1	37.1	5	8	222.35	296.2	243.75	0.912
52.0	68.0	(3) LNP-LP6X100-G-20TT	237.6	5.70	25.3	173.4	25.3	7	8	130.4	25.3	6	8	185.97	297.8	292.50	0.636
66.7	75.3	(3) PLT-4.5"x 1-1/4" (1.25"ho	335.8	8.06	37.1	124.6	37.1	4	8	212.1	37.1	6	8	224.68	296.2	243.75	0.922
99.0	103.0	(3) PLT-4x1.25 (1.25 Hole)	437.3	9.62	37.1	145.2	37.1	4	9	151.4	37.1	5	9	154.95	267.8	206.25	0.751

	Monopole Mat Foundation Design		Date	
			7/10/2019	
	Customer Name:	T-Mobile	EIA/TIA Standard:	EIA-222-H
	Site Name:		Structure Height (Ft.):	149
	Site Number:	CT12215-A-SBA	Engineer Name:	B. Davis
	Engr. Number:	77996	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	49.2	Shear Force (Kips):	26.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2888.0

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	6.5	Depth of Base BG (ft.):	4.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	3.00
Length of Pad (ft.):	23	Width of Pad (ft.):	23

Final Length of pad (ft)	23.0	Final width of pad (ft):	23.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	38	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	34	Qty. of Rebar in Pad (W):	34
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	34	Qty. of Rebar in Pad (W):	34
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

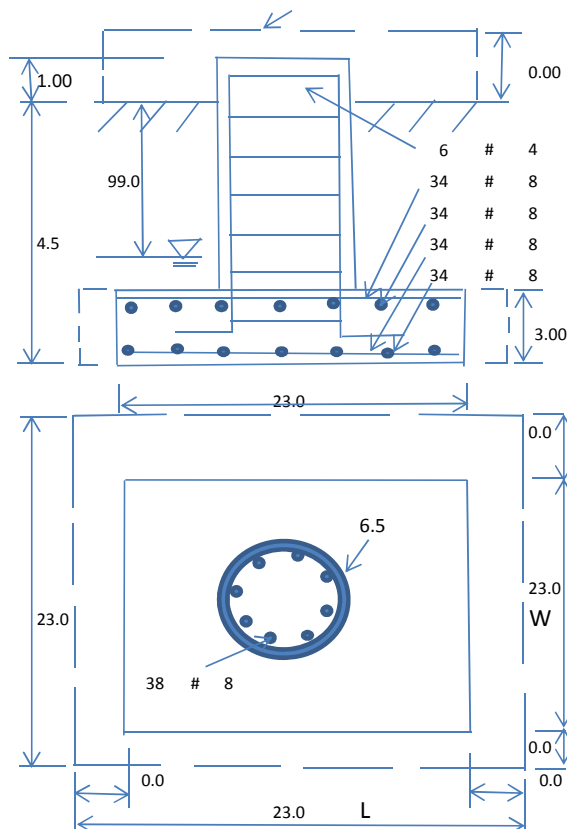
Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	50.0	Pcf	
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:
Ultimate Bearing Pressure (psf):	12000	Ultimate Skin Friction:		Psf	Angle from Botm of Pad:
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Botm of Pad:
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00		

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	743.73	Total Dry Soil Weight (Kips):	81.81
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	81.81	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1669.96	Total Dry Concrete Weight (Kips):	250.49
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	250.49	Total Vertical Load on Base (Kips):	381.50

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3020	<	Allowable Factored Soil Bearing (psf):	9000	0.34	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	4005.1	>	Design Factored Momont (kips-ft):	3031	0.76	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.32	OK!				



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75	
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00	
				Capacity Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	4704.5	>	Design Factored Moment (Mu, Kips-Ft)	2953.0	0.63 OK!
Calculated Shear Capacity (Kips):	578.1	>	Design Factored Shear (Kips):	26.0	0.04 OK!
Calculated Tension Capacity (Tn, Kips):	1621.1	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	8395.1	>	Design Factored Axial Load (Pu Kips):	49.2	0.01 OK!
Moment & Axial Strength Combination:	0.63	OK!	Check Tie Spacing (Design/Required):	1	OK!
Pier Reinforcement Ratio:	0.006	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	851.0	>	One-Way Factored Shear (L-D. Kips):	200.2	0.24 OK!
One-Way Design Shear Capacity (W-Direction, Kips):	851.0	>	One-Way Factored Shear (W-D., Kips)	200.2	0.24 OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	762.6	>	One-Way Factored Shear (C-C, Kips):	200.1	0.26 OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0030	OK!	Lower Steel Pad Reinf. Ratio (W-Direct.):	0.0030	
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3824.5	>	Moment at Bottom (L-Dir. K-Ft):	1004.4	0.26 OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3824.5	>	Moment at Bottom (W-Dir. K-Ft):	1004.4	0.26 OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	5372.0	>	Moment at Bottom (C-C Dir. K-Ft):	1420.4	0.26 OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0030	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0030	
Upper Steel Pad Moment Capacity (L-Direct. Kips-ft):	3824.5	>	Moment at the top (L-Dir K-Ft):	437.1	0.11 OK!
Upper Steel Pad Moment Capacity (W-Direct. Kips-ft):	3824.5	>	Moment at the top (W-Dir K-Ft):	437.1	0.11 OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	5372.0	>	Moment at the top (C-C Dir. K-Ft):	410.3	0.08 OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:	1155.2	k-ft.	Max. factored shear stress $v_{u,CD}$:	3.1	Psi
Max. factored shear stress $v_{u,AB}$:	9.9	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	9.9	Psi	Check Usage of Punching Shear Capacity:	0.05	OK!

EXHIBIT 9



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Post-Mod Antenna Mount Analysis Report

Existing 150-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT12215-A-SBA

Customer Site Name: Litchfield 3, CT

Carrier Name: T-Mobile (App#: 117047, V1)

Carrier Site ID / Name: CTNH546A / BayCom Litchfield

Site Location: 1291 Bantam Road

Bantam, Connecticut

Litchfield County

Latitude: 41.717183

Longitude: -73.260928

Analysis Result:

Max Structural Usage: 78.5% [Pass]

Report Prepared By : Dipika Dhungana



Introduction

The purpose of this report is to summarize the analysis results on 3) T-Arms (RMV12-3XX) at 115.0' elevation including the proposed modifications to support the proposed antenna configuration. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Mount Drawings	SBA Site: CT12215-A-04 / Litchfield 3, CT/ Application #: 117047, v1
Antenna Loading	SBA Site: CT12215-A-04 / Litchfield 3, CT/ Application #: 117047, v1
Existing Modification	N/A
Proposed Modification	TES Project No. 81152

Analysis Criteria

Basic Wind Speed Used in the Analysis: $V_{ULT} = 120.0\text{mph}$ (3-Sec. Gust) / Equivalent to
 $V_{ASD} = 93\text{ mph}$ (3-Sec. Gust)

Basic Wind Speed with Ice: 40 mph (3-Sec. Gust) with 1" radial ice concurrent

Operational Wind Speed: 60 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-G/2015 IBC/2018 CSBC

Exposure Category: C

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

The site is a Risk Category II structure per table 1604.5 of the 2015 IBC. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

(3) T-Arms RMV12-3XX at 115' elevation at azimuths 60/180/270

Proposed Modification

- (1) MetroSite Heavy Collar Mount Assembly (MS-H1436)
- (1) MetroSite Support Rail Pipe Kit (MS-HR35-2375)
- (1) Metrosite T-Arm Kit (MS-TAW-35)

Final Antenna Configuration

3	RFS APX16DWV-16DWVS-E-A20
3	RFS APXVAARR24_43-U-NA20
3	Ericsson RRUS 11 (Band 4)
3	Ericsson RRUS 11 B2
3	Ericsson 4449

Any proposed antennas not currently installed should be mounted such that the centers of the antennas do not exceed 0.5 ft vertically from the center of the T-Arms RMV12-3XX.

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration after the proposed modification is successfully completed. The maximum structural usage is 78.5%, which occurs in the mount pipe. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

1. Mount Photos Before Modification
2. Antenna Placement Diagram
3. Mount Mapping Information
4. Analysis Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.
2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.
4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.
6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.
7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.
8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.
9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.



Structure: CT12215-A-SBA - Litchfield 3, CT

Sector: **A,B&C**

6/17/2019

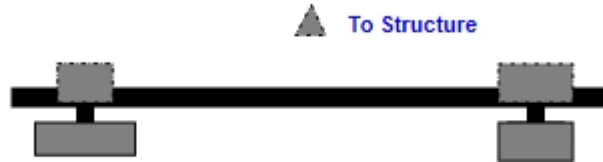
Structure Type: Monopole

Mount Elev: 113.10

Page: 1

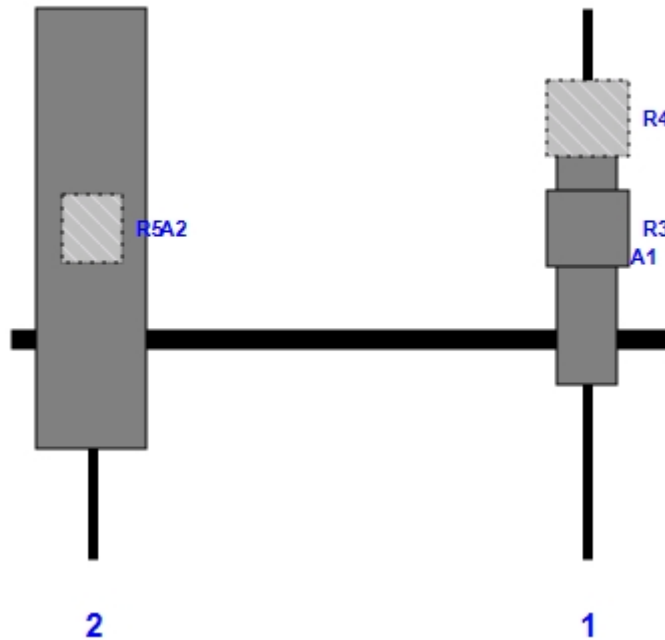


Plan View



Front View

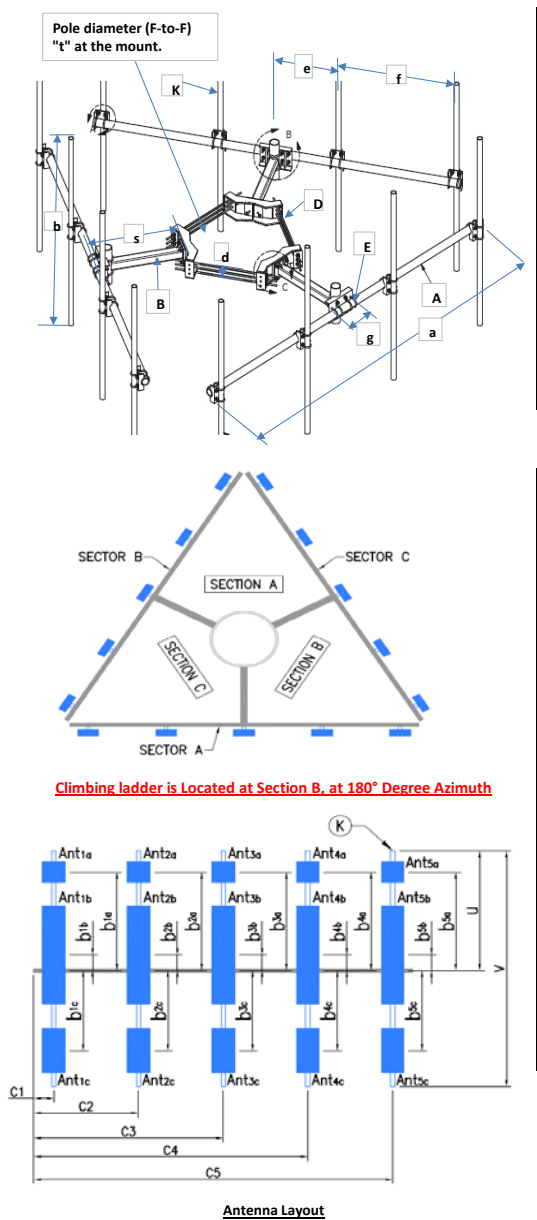
Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist From Left	Pipe	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	APX16DWV-16DWVS-E-A20	55.90	13.30	126.00	1	a	Front	54.00	0.00
R3	RRUS 11	17.00	17.80	126.00	1	a	Front	48.00	0.00
R4	RRUS 11 B2	17.00	17.80	126.00	1	a	Behind	24.00	0.00
A2	APXVAARR24_43-U-NA20	95.90	24.00	18.00	2	a	Front	48.00	0.00
R5	4449	15.00	13.20	18.00	2	a	Behind	48.00	0.00

Antenna Mount Type "MT-Z" Mapping Form (PATENT PENDING)				FCC #
				Not Posted
Tower Owner:	SBA Communications	Mapping Date:	4/27/19	
Site Name:	Litchfield 3, CT	Structure Type:	Monopole	
Site Number or ID:	CT12215-A-SBA	Structure Height (Ft.):	150	
Mapping Contractor:	Full Metal Tower Services	Mount Height (Ft.):	113.1	

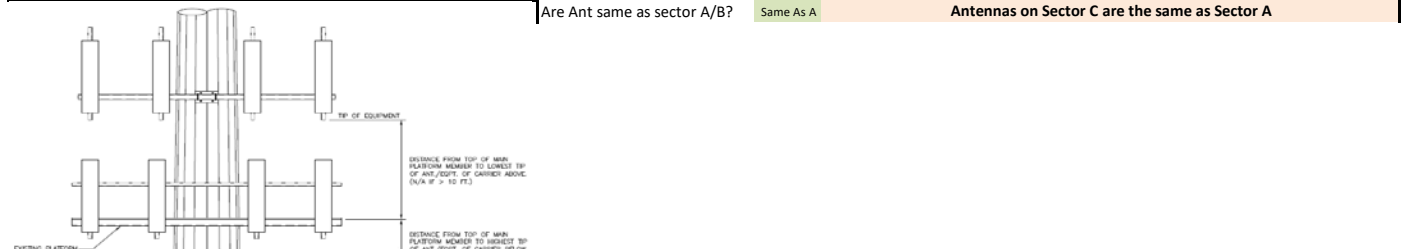
This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited except by express written permission of TES. All means and methods are the responsibility of the contractor and the work shall be compliant with ANSI/ASSE A 10.48, OSHA, FCC, FAA and other safety requirements that may apply. TES is not warranting the usability of the safety climb as it must be assessed prior to each use in compliance with OSHA requirements.

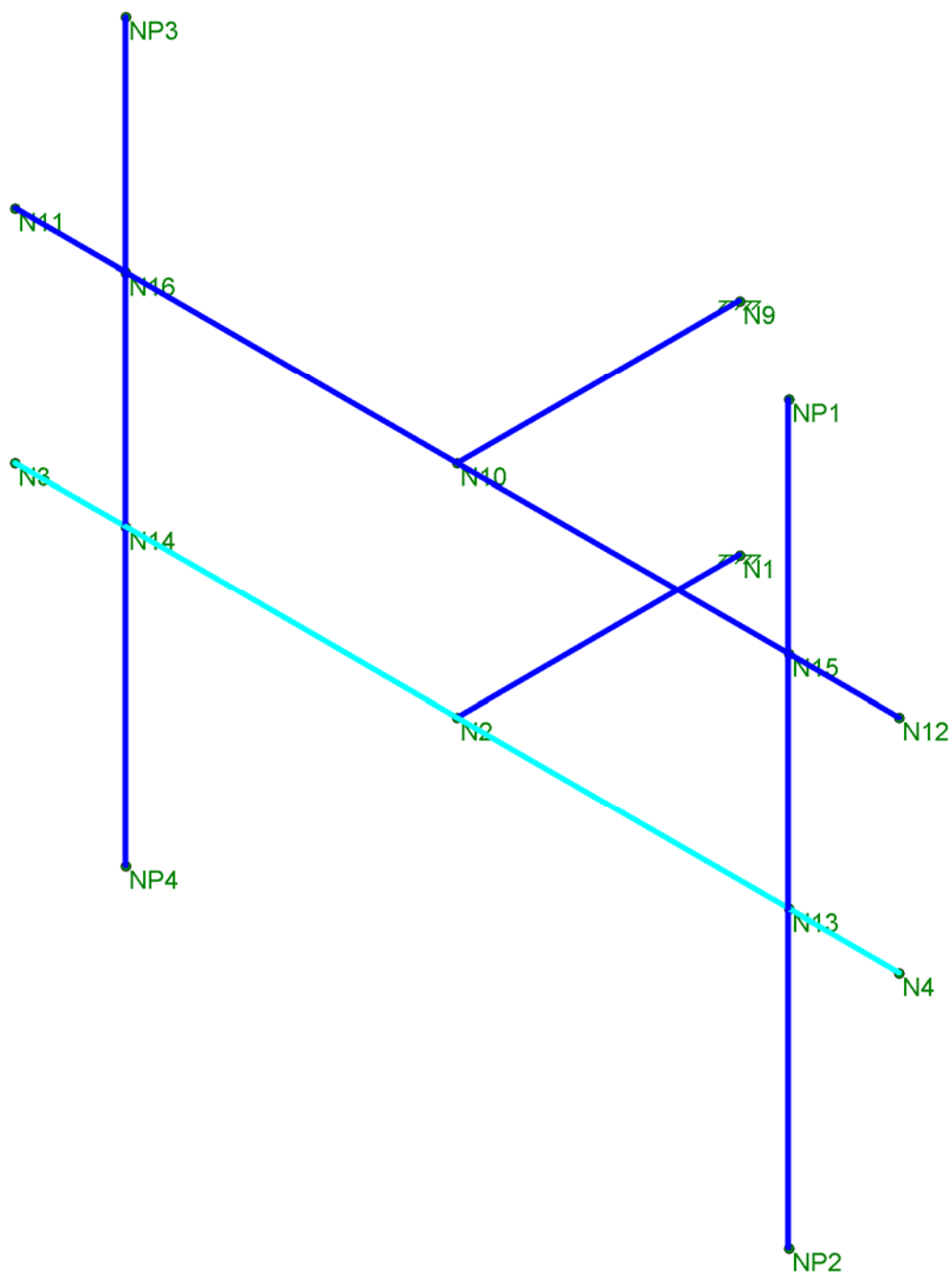
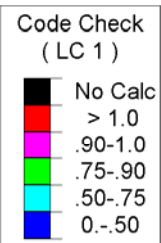


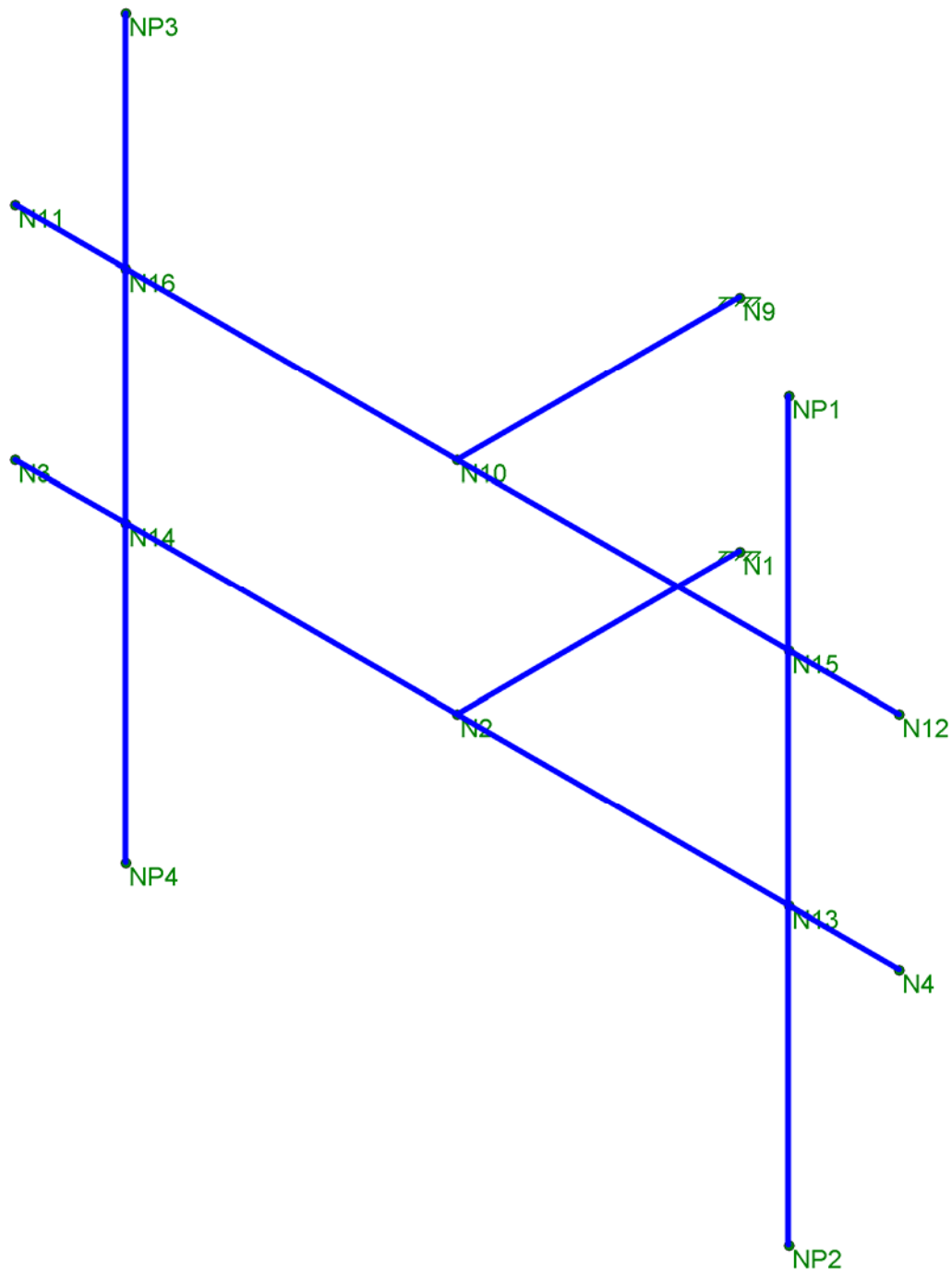
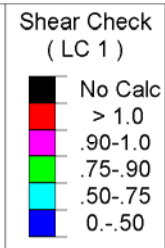
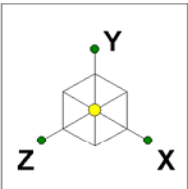
Geometries (Unit: inches)									
a	144	e	54	j	N/A	o	N/A	s	46
b	120	f	N/A	k	N/A	p	N/A	t	19
c	N/A	g	15	m	N/A	q	N/A	u *	72
d	6	h	N/A	n	N/A	r	N/A	v *	120
Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)									
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	F				
B	Tubing 4x4x1/4	4	4	0.25	G				
C					H				
D	5/8" Bolt	32			J				
E	5/8" Bolt	U-Bolt			K* (pipe)	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									N/A
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									N/A
Please enter the information below if members can't be found from the drop down lists									

Enter antenna model. If not labled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.						Mounting Locations (Unit: inches)			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances "b _{1a} ", "b _{2a} ", "b _{3a} ", "b _{1b}" (in.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C ₁ ", "C ₂ ", "C ₃ ", "C ₄ ", "C ₅ " (in.)	Photo Numbers
Sector A									
Ant _{1a}	RRH A	17	7	20	1/2" (2)	+18"	N/A	18	
Ant _{1b}	Antenna A	13	3.5	53	1/2" (4)	+34"	6	18	
Ant _{1c}	RRH A	17	7	20	1/2" (2)	+18"	N/A	18	
Ant _{2a}									
Ant _{2b}	Antenna B	12	7.5	96.5	1/2" (2)	+38"	7	126	
Ant _{2c}	RRH A	17	7	20	1/2" (2)	+20"	N/A	126	
Ant _{3a}									
Ant _{3b}									
Ant _{3c}									
Ant _{4a}									
Ant _{4b}									
Ant _{4c}									
Ant _{5a}									
Ant _{5b}									
Ant _{5c}									
Are Ant same as sector A?		Yes	Antennas on Sector B are the same as Sector A						

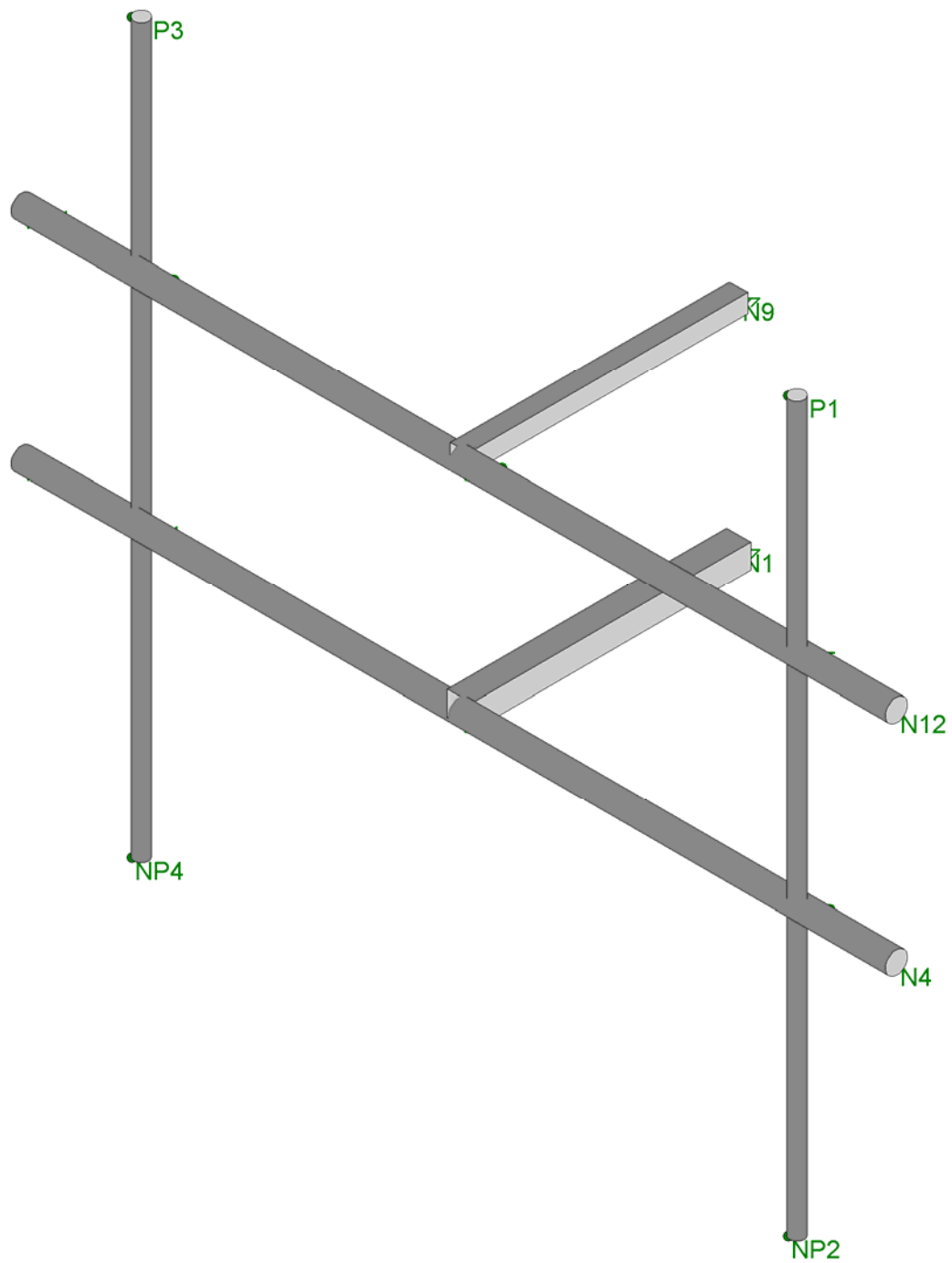
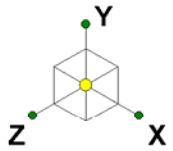
Azimuth (Degree) of Each Sector and Climbing Information			
Sector A:	60°	Deg	
Sector B:	180°	Deg	
Sector C:	270°	Deg	
Climbing	180°	Deg	Located at Section B
Climbing Facility	Corrosion Type:	No corrosion observed	
	Access:	Climbing path was unobstructed.	
	Condition:	N/A	







Tower Engineering Solutio...	CT12215-A-SBA_MT-Z_Sector A_G	SK - 5
		July 16, 2019 at 2:29 PM
TES Project No. 77891		CT12215-A-SBA_77891_G_RISA - ...





Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 77891
 Model Name : CT12215-A-SBA_MT-Z_Sector A_G

July 16, 2019
 2:29 PM
 Checked By: _____

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(M...	Surface...
1	Antenna D	None					7			
2	Antenna Di	None					7			
3	Antenna W Front	None					7			
4	Antenna Wi Front	None					7			
5	Antenna W Side	None					7			
6	Antenna Wi Side	None					7			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1						
10	Structure Di	None						6		
11	Structure W Front	None						6		
12	Structure Wi Front	None						6		
13	Structure W Side	None						6		
14	Structure Wi Side	None						6		

Load Combinations

	Description	So...	P...	S...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...
1	1.2D+1.6W (Front)	Yes	Y		1	1.2	9	1.2	3	1.6	11	1.6									
2	1.2D+1.6W (Back)	Yes	Y		1	1.2	9	1.2	3	-1.6	11	-1.6									
3	1.2D+1.6W (Left)	Yes	Y		1	1.2	9	1.2	5	1.6	13	1.6									
4	1.2D+1.6W (Right)	Yes	Y		1	1.2	9	1.2	5	-1.6	13	-1.6									
5	1.2D+1.0Di+1.0Wi (Fr...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	1	12	1					
6	1.2D+1.0Di+1.0Wi (Ba...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-1	12	-1					
7	1.2D+1.0Di+1.0Wi (Left)	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	1	14	1					
8	1.2D+1.0Di+1.0Wi (Ri...	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	-1	14	-1					
9	1.2D+1.5L1+.16W (Ma...	Yes	Y		1	1.2	9	1.2	7	1.5	3	.16	11	.16							
10	1.2D+1.5L2+.16W (Ma...	Yes	Y		1	1.2	9	1.2	8	1.5	3	.16	11	.16							
11	1.4D	Yes	Y		1	1.4	9	1.4													

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	0	0	3.833333	0	
3	N3	-6	0	3.833333	0	
4	N4	6	0	3.833333	0	
5	NP1	4.5	6	3.833333	0	
6	NP2	4.5	-4	3.833333	0	
7	NP3	-4.5	6	3.833333	0	
8	NP4	-4.5	-4	3.833333	0	
9	N9	0	3	0	0	
10	N10	0	3	3.833333	0	
11	N11	-6	3	3.833333	0	
12	N12	6	3	3.833333	0	
13	N13	4.5	0	3.833333	0	
14	N14	-4.5	0	3.833333	0	
15	N15	4.5	3	3.833333	0	
16	N16	-4.5	3	3.833333	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	xxxxx	HSS16x0.438	Beam	None	A572 Gr.50	Typical	19.9	606	606	1210

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF	4CU5.25X03...	Beam	CU	A570 Gr.33	Typical	4.854	13.238	12.817	.228

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	AL1A	AACS14X13.9	Beam	AA Channel	3003-H14	Typical	11.8	44.7	401	1.19

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A570 Gr.33	29500	11346	.3	.65	.49	33	52
2	A607 C1 Gr.55	29500	11346	.3	.65	.49	55	70

Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...Density[...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B...	1	19	16	13	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B...	1	38	35	35	24
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B...	1	22	16	16	13
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B...	1	30	25	25	19
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B...	1	34	26	24	20
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B...	1	24	15	15	15

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N4			PIPE 3.0	Beam	Pipe	A53 Gr.B	DR1
2	M2	N1	N2			HSS4x4x4	Beam	None	A500 Gr.B...	DR1
3	MP1A	NP1	NP2			PIPE 2.0	Beam	Pipe	A53 Gr.B	DR1
4	MP2A	NP3	NP4			PIPE 2.0	Beam	Pipe	A53 Gr.B	DR1
5	M5	N11	N12			PIPE 3.0	Beam	Pipe	A53 Gr.B	DR1
6	M6	N9	N10			HSS3x3x4	Beam	None	A500 Gr.B...	DR1

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
1	M1						Yes			None
2	M2						Yes			None
3	MP1A						Yes	-z		None
4	MP2A						Yes	-z		None
5	M5						Yes			None
6	M6						Yes			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	PIPE 3.0	12			Lbyy						Gravity
2	M2	HSS4x4x4	3.833			Lbyy						Gravity
3	MP1A	PIPE 2.0	10			Lbyy						Gravity
4	MP2A	PIPE 2.0	10			Lbyy						Gravity
5	M5	PIPE 3.0	12			Lbyy						Gravity
6	M6	HSS3x3x4	3.833			Lbyy						Lateral

Cold Formed Steel Design Parameters

Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp t...	Lcomp ...	L-torque...	Kyy	Kzz	Cm-...	Cm-...	Cb	R	a[ft]	y sw...	z sw...
No Data to Print ...																

Aluminum Design Parameters

Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
No Data to Print ...											

Joint Loads and Enforced Displacements

Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
No Data to Print ...			

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-20.35	3
2	MP1A	Y	-20.35	6
3	MP2A	Y	-64	2
4	MP2A	Y	-64	6
5	MP1A	Y	-50.7	4
6	MP1A	Y	-50.7	2
7	MP2A	Y	-70	4

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-95.713	3
2	MP1A	Y	-95.713	6
3	MP2A	Y	-281.151	2
4	MP2A	Y	-281.151	6
5	MP1A	Y	-123.5	4
6	MP1A	Y	-123.5	2
7	MP2A	Y	-95.362	4

Member Point Loads (BLC 3 : Antenna W Front)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-99.323	3
2	MP1A	Z	-99.323	6
3	MP2A	Z	-304.131	2
4	MP2A	Z	-304.131	6
5	MP1A	Z	-75.732	4
6	MP1A	Z	-37.866	2
7	MP2A	Z	-24.793	4

Member Point Loads (BLC 4 : Antenna Wi Front)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-22.424	3
2	MP1A	Z	-22.424	6
3	MP2A	Z	-63.184	2
4	MP2A	Z	-63.184	6
5	MP1A	Z	-18.827	4
6	MP1A	Z	-9.414	2
7	MP2A	Z	-6.587	4

Member Point Loads (BLC 5 : Antenna W Side)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	31.965	3
2	MP1A	X	31.965	6
3	MP2A	X	123.053	2
4	MP2A	X	123.053	6
5	MP1A	X	39.168	4
6	MP1A	X	39.168	2
7	MP2A	X	34.936	4

Member Point Loads (BLC 6 : Antenna Wi Side)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	9.339	3
2	MP1A	X	9.339	6
3	MP2A	X	28.571	2
4	MP2A	X	28.571	6
5	MP1A	X	11.003	4
6	MP1A	X	11.003	2
7	MP2A	X	9.987	4

Member Point Loads (BLC 7 : Service Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-500	0

Member Point Loads (BLC 8 : Service Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-500	%50

Member Distributed Loads (BLC 10 : Structure Di)

	Member Label	Direction	Start Magnitude[lb/ft,...]	End Magnitude[lb/ft,...]	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-15.925	-15.925	0	%100
2	M2	Y	-22.036	-22.036	0	%100
3	MP1A	Y	-12.816	-12.816	0	%100
4	MP2A	Y	-12.816	-12.816	0	%100
5	M5	Y	-15.925	-15.925	0	%100

Member Distributed Loads (BLC 10 : Structure Di) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft,%]	End Location[ft,%]
6	M6	Y	-22.036	-22.036	0	%100

Member Distributed Loads (BLC 11 : Structure W Front)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft,%]	End Location[ft,%]
1	M1	PZ	-10.518	-10.518	0	%100
2	M2	PZ	-20.035	-20.035	0	%100
3	MP1A	PZ	-7.137	-7.137	0	%100
4	MP2A	PZ	-7.137	-7.137	0	%100
5	M5	PZ	-10.518	-10.518	0	%100
6	M6	PZ	-20.035	-20.035	0	%100

Member Distributed Loads (BLC 12 : Structure Wi Front)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft,%]	End Location[ft,%]
1	M1	PZ	-4.461	-4.461	0	%100
2	M2	PZ	-6.222	-6.222	0	%100
3	MP1A	PZ	-3.836	-3.836	0	%100
4	MP2A	PZ	-3.836	-3.836	0	%100
5	M5	PZ	-4.461	-4.461	0	%100
6	M6	PZ	-6.222	-6.222	0	%100

Member Distributed Loads (BLC 13 : Structure W Side)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft,%]	End Location[ft,%]
1	M1	PX	10.518	10.518	0	%100
2	M2	PX	20.035	20.035	0	%100
3	MP1A	PX	7.137	7.137	0	%100
4	MP2A	PX	7.137	7.137	0	%100
5	M5	PX	10.518	10.518	0	%100
6	M6	PX	20.035	20.035	0	%100

Member Distributed Loads (BLC 14 : Structure Wi Side)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft,%]	End Location[ft,%]
1	M1	PX	4.461	4.461	0	%100
2	M2	PX	6.222	6.222	0	%100
3	MP1A	PX	3.836	3.836	0	%100
4	MP2A	PX	3.836	3.836	0	%100
5	M5	PX	4.461	4.461	0	%100
6	M6	PX	6.222	6.222	0	%100

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N9	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	553.723	4	1652.416	6	1070.857	1	-1.469	1	2.31	4	.151	3
2		min	-763.153	9	438.478	1	-860.717	2	-5.717	6	-2.539	3	-1.68	9
3	N9	max	763.154	9	1059.107	5	1073.928	1	-.827	1	1.96	9	.05	3
4		min	-507.042	3	257.609	2	-1284.069	2	-3.155	6	-1.466	3	-.836	9
5	Totals:	max	1151.46	4	2695.649	6	2144.785	1						
6		min	-1151.46	3	792.09	1	-2144.785	2						

Envelope Member Section Forces

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
1	M1	1	max	0	1	0	1	0	1	0	1	0	1	0	1
2			min	0	1	-750	9	0	1	0	1	0	1	0	1
3		2	max	842.31	9	-156.997	10	535.716	2	.005	2	.909	2	.516	9
4			min	-120.887	4	-775.805	8	-655.438	1	-.295	9	-.986	1	-.023	3
5		3	max	842.31	9	219.151	3	586.205	2	.089	2	2.591	2	2.49	8
6			min	153.601	1	-848.939	8	-705.926	1	-.295	9	-3.028	1	.493	10
7		4	max	492.138	8	599.765	7	316.144	1	.134	6	.413	2	.1	6
8			min	-51.528	3	115.521	10	-226.125	2	-.098	9	-.451	1	-.031	1
9		5	max	0	1	0	1	0	1	0	1	0	1	0	1
10			min	0	1	0	1	0	1	0	1	0	1	0	1
11	M2	1	max	1070.857	1	1653.245	6	763.46	9	.151	3	2.31	4	5.717	6
12			min	-860.717	2	439.711	1	-553.936	4	-1.68	9	-2.539	3	1.469	1
13		2	max	1070.857	1	1617.944	6	763.46	9	.151	3	1.794	4	4.15	6
14			min	-860.717	2	425.528	1	-523.216	4	-1.68	9	-1.936	3	1.054	1
15		3	max	1070.857	1	1582.643	6	763.46	9	.151	3	1.571	1	2.62	5
16			min	-860.717	2	411.345	1	-492.495	4	-1.68	9	-1.607	2	.653	1
17		4	max	1070.857	1	1547.341	6	763.46	9	.151	3	1.562	1	1.134	5
18			min	-860.717	2	397.162	1	-461.775	4	-1.68	9	-1.516	2	.266	1
19		5	max	1070.857	1	1512.04	6	763.46	9	.151	3	1.553	1	-.085	2
20			min	-860.717	2	382.978	1	-431.055	4	-1.68	9	-1.425	2	-.35	6
21	MP1A	1	max	0	1	.252	9	-.019	1	0	3	0	1	0	1
22			min	0	1	-.081	3	-.838	6	0	9	0	1	0	1
23		2	max	226.792	7	91.303	4	89.116	1	0	3	.066	1	.067	3
24			min	71.252	10	-91.301	3	-89.258	2	0	9	-.066	2	-.067	4
25		3	max	320.618	7	464.035	8	156.933	7	.126	6	.056	10	-.055	10
26			min	44.891	10	56.576	3	-9.478	9	.008	1	-.067	9	-.356	8
27		4	max	-10.412	9	28.564	3	28.554	2	0	9	.036	1	.036	3
28			min	-42.454	7	-28.55	4	-28.529	1	0	6	-.036	2	-.036	4
29		5	max	0	9	.091	6	.19	5	0	9	0	9	0	4
30			min	0	7	-.04	9	.004	2	0	6	0	6	0	3
31	MP2A	1	max	0	1	.891	8	.225	1	0	3	0	1	0	1
32			min	0	1	-.098	3	-1.432	6	0	8	0	1	0	1
33		2	max	400.404	5	225.618	4	515.384	1	0	3	.28	1	.134	3
34			min	87.212	9	-225.533	3	-515.539	2	0	8	-.28	2	-.135	4
35		3	max	255.707	8	-132.923	4	230.698	9	.018	1	.158	1	.646	9
36			min	-295.534	9	-844.437	9	22.928	3	-.122	6	-1.138	2	.077	10
37		4	max	-10.413	3	28.541	3	28.562	2	0	5	.036	1	.036	3
38			min	-42.454	8	-28.572	4	-28.541	1	0	3	-.036	2	-.036	4
39		5	max	0	3	-.009	3	.154	5	0	5	0	1	0	1
40			min	-.002	9	-.239	5	.004	9	0	3	0	9	0	2
41	M5	1	max	0	1	0	1	0	1	0	1	0	1	0	1
42			min	0	1	0	1	0	1	0	1	0	1	0	1
43		2	max	93.86	3	-84.866	4	691.831	2	.225	2	.933	2	.126	4
44			min	-842.311	9	-494.121	9	-572.473	1	-.426	1	-.856	1	-.301	9
45		3	max	-153.601	1	-110.223	4	742.319	2	.225	2	3.084	2	1.301	5
46			min	-842.311	9	-525.038	7	-622.961	1	-.426	1	-2.649	1	.239	2

Envelope Member Section Forces (Continued)

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
47		4 max	31.874	4	338.629	8	398.761	1	.286	7	.659	2	.092	3
48		min	-482.836	7	66.762	2	-488.537	2	.023	4	-.621	1	-.128	4
49		5 max	0	1	0	1	0	1	0	1	0	1	0	1
50		min	0	1	0	1	0	1	0	1	0	1	0	1
51	M6	1 max	1073.928	1	1057.949	5	506.683	3	.05	3	1.96	9	3.155	6
52		min	-1284.069	2	254.163	2	-762.747	9	-.836	9	-1.466	3	.827	1
53		2 max	1073.928	1	1026.562	5	475.963	3	.05	3	1.229	9	2.174	6
54		min	-1284.069	2	243.894	2	-762.747	9	-.836	9	-.995	3	.491	1
55		3 max	1073.928	1	995.175	5	445.243	3	.05	3	.747	1	1.224	6
56		min	-1284.069	2	233.625	2	-762.747	9	-.836	9	-.691	2	.166	1
57		4 max	1073.928	1	963.788	5	414.522	3	.05	3	.752	1	.303	6
58		min	-1284.069	2	223.355	2	-762.747	9	-.836	9	-.787	2	-.15	1
59		5 max	1073.928	1	932.401	5	383.802	3	.05	3	.756	1	.093	2
60		min	-1284.069	2	213.086	2	-762.747	9	-.836	9	-.964	9	-.671	5

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc.....	Shea.....	Loc.....	phi*Pn.....	phi*Pn.....	phi*M.....	phi*M.....	Eqn			
1	MP2A	PIPE_2.0	.785	5.938	9	.144	3.021	6	9836....	32130	1.872	1.872	...	H1-1b
2	M1	PIPE_3.0	.541	6	1	.097	1.5	9	30165....	65205	5.749	5.749	...	H1-1b
3	M5	PIPE_3.0	.540	6	2	.116	6	1	30165....	65205	5.749	5.749	...	H1-1b
4	M6	HSS3x3x4	.471	0	9	.142	0	z	90042....	101016	8.556	8.556	...	H1-1b
5	MP1A	PIPE_2.0	.447	5.938	8	.125	3.021	6	9836....	32130	1.872	1.872	...	H1-1b
6	M2	HSS4x4x4	.415	0	7	.145	0	y	913119....	139518	16.181	16.181	...	H1-1b

Envelope AISI S100-10: LRFD Cold Formed Steel Code Checks

Member	Shape	Code ...	Loc[ft]	LC Shear ...	Loc[ft]	Dir	LC phi*Pn[lb]	phi*Tn[lb]	phi*Mny...	phi*Mnz...	Cb	Cmyy	Cmzz	Eqn
No Data to Print ...														

Envelope AA ADM1-10: ASD - Building Aluminum Code Checks

Member	Shape	Code C...	Loc[ft]	LC Shear ...	Loc[ft]	Dir	LC Pnc/O...	Pnt/Om...	Mny/O...	Mnz/O...	Vny/O...	Vnz/O...	Cb	Eqn
No Data to Print ...														

EXHIBIT 10

Transcom Engineering, Inc.

Wireless Network Design and Deployment

Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CTNH546A

SBA Bantam Rd
1291 Bantam Rd
Bantam, CT 06750

June 13, 2019

Transcom Engineering Project Number: 737001-0102

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	10.02 %

Transcom Engineering, Inc.

Wireless Network Design and Deployment

June 13, 2019

T-MOBILE

Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 6009

Emissions Analysis for Site: **CTNH546A – SBA Bantam Rd**

Transcom Engineering, Inc (“Transcom”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **1291 Bantam Rd, Bantam, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE 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 600 MHz & 700 MHz bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) 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.

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Wireless Network Design and Deployment

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.

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Wireless Network Design and Deployment

CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **1291 Bantam Rd, Bantam, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE 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 for directional panel antennas, 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	1900 MHz (PCS)	1	40
LTE	2100 MHz (AWS)	2	60
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20

Table 1: Channel Data Table

Transcom Engineering, Inc.

Wireless Network Design and Deployment

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) 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 for directional panel antennas, 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	RFS APX16DWV-16DWV-S-E-ACU	115
A	2	RFS APXVAARR24_43-U-NA20	115
B	1	RFS APX16DWV-16DWV-S-E-ACU	115
B	2	RFS APXVAARR24_43-U-NA20	115
C	1	RFS APX16DWV-16DWV-S-E-ACU	115
C	2	RFS APXVAARR24_43-U-NA20	115

Table 2: Antenna Data

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

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Wireless Network Design and Deployment

RESULTS

Per the calculations completed for the proposed T-MOBILE 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	RFS APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	3	160	6,224.72	1.88
Antenna A2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.75
Sector A Composite MPE%							3.63
Antenna B1	RFS APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	3	160	6,224.72	1.88
Antenna B2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.75
Sector B Composite MPE%							3.63
Antenna C1	RFS APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	3	160	6,224.72	1.88
Antenna C2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.75
Sector C Composite MPE%							3.63

Table 3: T-MOBILE Emissions Levels

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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 T-MOBILE 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 T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE %
T-MOBILE – Max Per Sector Value	3.63 %
Sprint	2.60 %
AT&T	2.14 %
Verizon Wireless	1.65 %
Site Total MPE %:	10.02 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	3.63 %
T-MOBILE Sector B Total:	3.63 %
T-MOBILE Sector C Total:	3.63 %
Site Total:	10.02 %

Table 5: Site MPE Summary

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Wireless Network Design and Deployment

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 T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# 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
T-Mobile 1900 MHz (PCS) UMTS	1	1,556.18	115	4.71	1900 MHz (PCS)	1000	0.47%
T-Mobile 2100 MHz (AWS) LTE	2	2,334.27	115	14.13	2100 MHz (AWS)	1000	1.41%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	115	4.77	600 MHz	400	1.19%
T-Mobile 700 MHz LTE	2	432.54	115	2.62	700 MHz	467	0.56%
						Total:	3.63%

Table 6: T-MOBILE Maximum Sector MPE Power Values

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Wireless Network Design and Deployment

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 T-MOBILE 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:

T-MOBILE Sector	Power Density Value (%)
Sector A:	3.63 %
Sector B:	3.63 %
Sector C:	3.63 %
T-MOBILE Maximum Total (per sector):	3.63 %
Site Total:	10.02 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **10.02 %** 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.



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