Filed by:
G. Scott Shepherd, Sr. Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3808 - GShepherd@sbasite.com

August 2, 2019

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

RE: Notice of Exempt Modification
160 Witch Meadow Road, Salem CT
Latitude: 41.502828
Longitude: -72.297052
T-Mobile Site #: CTHA101F_L600

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 175-foot level of the existing 195-foot Monopole Tower at 160 Witch Meadow Road, Salem, CT. The 195-foot tower is owned by SBA Properties, LLC. The property is owned by Ronald Renz. T-Mobile now intends to replace three (3) existing antennas with three (3) new 600/700MHz antennas. The new antennas would be installed at the 175-foot level of the tower.

Planned Modifications:

TOWER

Remove:
- N/A

Remove and Replace:
- (3) RRUS11 (Remove) – (3) Ericsson RRUS11 B2RRU (Replace)
- (3) RRUS11 (Remove) – (3) Ericsson RRUS11 B4RRU (Replace)
- (3) Commscope LNX-6515DS-A1M Panel (Remove) -- (3) RFS APXVAARR24_43-U-NA20 – Panel 600/700 MHz (Replace)
- (3) 15" x 14" x 7.5" RRU (Remove) -- (3) Ericsson Radio 4449 B71+B12 RRU (Replace)

Install New:
- (1) Support rail with end connection Kit MSHRECP-35)

Existing Equipment to Remain:
- (3) RFS APX16DWV-16DWVS-E-A20 – Panel 1900/2100 MHz
- (3) RRUS11
- (1) low profile platform
- (2) 1-5/8" hybrid

Entitlements Only:

- (1) 1-1/4" hybrid (entitlements only)
- (3) Commscope LNX-6515DS-A1M – Panel {entitlements only}

GROUND

Install New:

- BB6630 to be installed inside existing 6102 equipment cabinet

This facility was approved by the Town of Salem's Planning and Zoning Commission on February 3, 2000. Approval was given for a galvanized steel pole. There were no 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 Salem's First Selectman, Kevin T. Lyden, and Zoning Enforcement Officer, Matt Allen, 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
Sr. Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3808 + T / 508.366.2610 + F
508.868.6000 + C
GShepherd@sbasite.com

Attachments

cc: Kevin T. Lyden, First Selectman / with attachments
Town of Salem, 270 Hartford Road, Salem, CT 06420
Matt Allen, Zoning Enforcement officer / with attachments
Town of Salem, 270 Hartford Road, Salem, CT 06420
Ronald Renz / with attachments
c/o Renz Construction Company, 44 Mustang Drive Monroe CT 06468 (SBA Overnight address on file)
PO Box 2100, Salem, CT 06420 (Town address on file)

EXHIBIT LIST

Exhibit 1	Check Copy	
Exhibit 2	Notification Receipts	
Exhibit 3	Property Card	
Exhibit 4	Property Map	
Exhibit 5	Original Zoning Approval	Town of Salem's P&Z Commission 2/3/00
Exhibit 6	Construction Drawings	Chappell 7/19/19
Exhibit 7	Structural Analysis	TES 7/17/19
Exhibit 8	Post Mod Mount Analysis	TESS 7/25/19
Exhibit 9	Mt Mod Drawings	TESS 7/30/19
Exhibit 10	EME Report	7/12/19

EXHIBIT 1

EXHIBIT 2

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.

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EXHIBIT 3

Town of Salem, CT

Property Listing Report

Map Block Lot **10-044-000** Account **659**

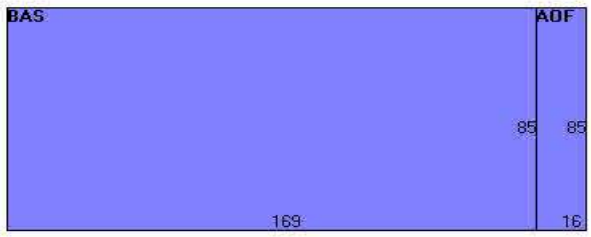
Property Information

Property Location	160 WITCH MEADOW RD
Owner	RENZ RONALD R
Co-Owner	
Mailing Address	PO BOX 2100 SALEM CT 06420-0000
Land Use	3222 Comm Bldg
Land Class	C
Zoning Code	I
Census Tract	7151

Neighborhood	C075
Acreage	100.8
Utilities	
Lot Setting/Desc	
Additional Info	

Photo

Sketch



Primary Construction Details

Year Built	1990
Stories	1
Building Style	Pre Engrd Gar
Building Use	Indus/Comm
Building Condition	03
Floors	Concrete
Total Rooms	

Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	Gable Or Hip
Roof Cover	Metal Or Tin

Exterior Walls	Wood Frame
Interior Walls	Wall Brd/Wood
Heating Type	None
Heating Fuel	None
AC Type	None/Partial
Gross Bldg Area	15725
Total Living Area	15725

Report Created On 6/18/2019

Town of Salem, CT

Property Listing Report | Map Block Lot **10-044-000** | Account **659**

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	358200	250700
Extras	3000	2100
Improvements	361200	252800
Outbuildings	0	0
Land	848100	372780
Total	1209300	625580

Outbuilding and Extra Items

Type	Description
Forced air heat	1360 S.F

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	15725	15725

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
RENZ RONALD R	0133/0303	11/5/2001	0
NATIONWIDE 1031	127/ 439	1/12/2001	1167000
PHILLIPS ROGER L & LINDA F	35/ 609	12/26/1984	80500

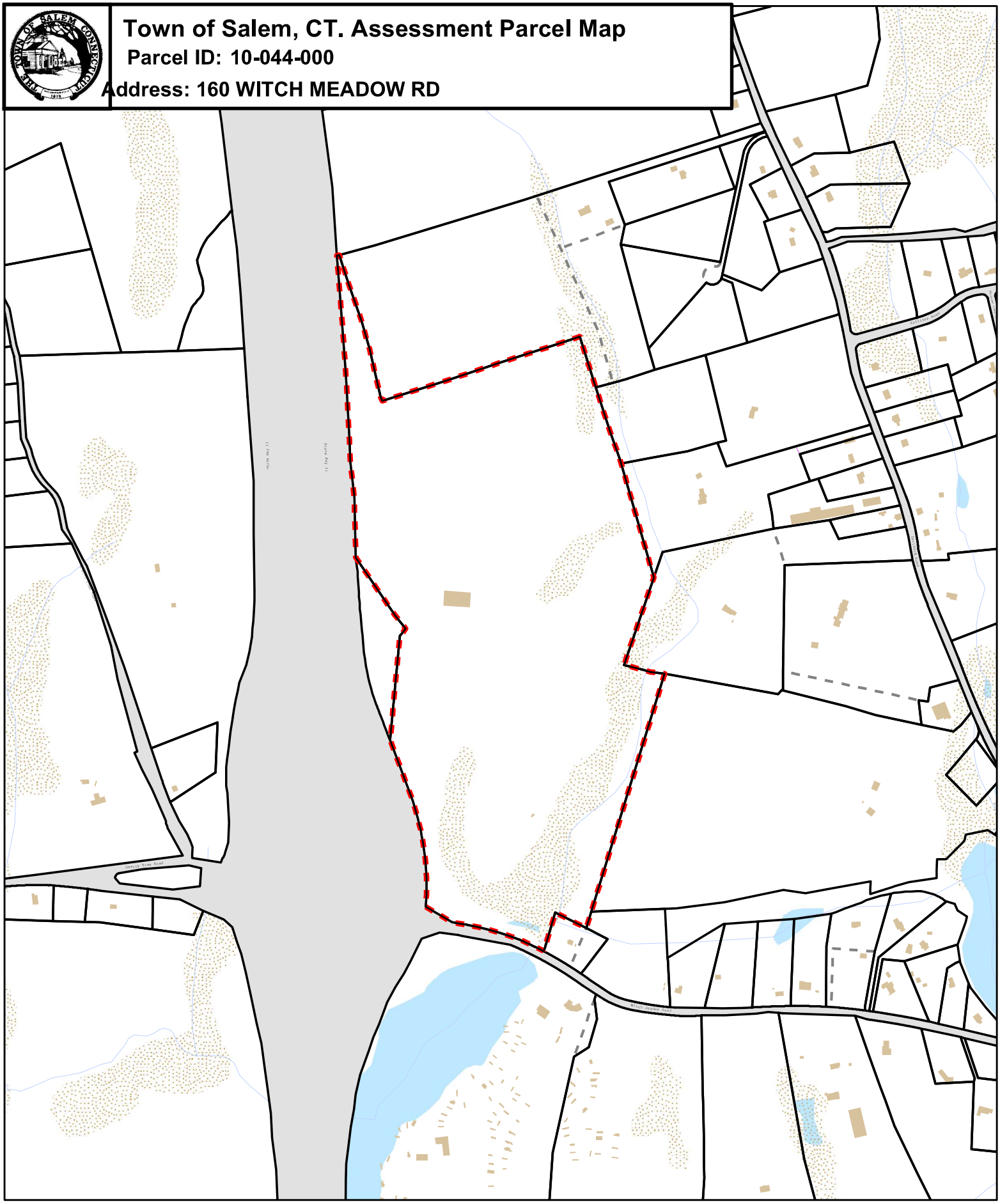
Report Created On 6/18/2019

EXHIBIT 4

Town of Salem, CT. Assessment Parcel Map

Parcel ID: 10-044-000

Address: 160 WITCH MEADOW RD



300 0 300 600 900 1,200

Feet

Map Produced: December 2018

EXHIBIT 5

LEGAL NOTICE
SALEM PLANNING AND ZONING COMMISSION

At a meeting of the Salem Planning and Zoning Commission held on Thursday, February 3, 2000, the Commission took the following action:

1. Approved, with conditions, the Special Exception application of SBA/Sprint for the construction of a telecommunications tower on the east side of the access road to 160 Witch Meadow Road (Phillips property).

Lawrence Stevens, Chairman

270 HARTFORD ROAD • SALEM, CONNECTICUT 06420-3809

M/S/C (Duncan/Asafaylo) to approve the Special Exception application of SBA/Sprint for the construction of a telecommunications tower on the east side of the access road to 160 Witch Meadow Road (Phillips property) with the following conditions:

1) It is stated in the Erosion & Sedimentation Control Narrative that extra silt fencing will be kept on site during construction and the anti-tracking pad will be in place prior to construction.
2) In the project summary box on drawing number T-1, the third paragraph shall be changed to state that the utilities will be <u>below</u> ground.
3) In the address box on drawing number T-1, the street name shall be corrected. It should read: "Witch Meadow Road".
4) Delete "or as otherwise shown on the contract drawings" under note #2 for access.
5) The pole shall be galvanized steel.
6) The site plan shall state that if the facility is not in use for 12 consecutive months, it shall be removed by the facility owner at his or her expense. The removal shall occur within 90 days of the end of such 12 month period.

Vote: approved unanimously.

EXHIBIT 6

CTHA101F

160 WITCH MEADOW ROAD
SALEM, CT 06420
NEW LONDON COUNTY

SITE NO.: CTHA101F

SITE TYPE: 195'± MONOPOLE

RF DESIGN GUIDELINE: 67D07C 6102 MUAC

APPROVALS

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

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

SITE NOTES

1. 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.
2. 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.
3. 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-H STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

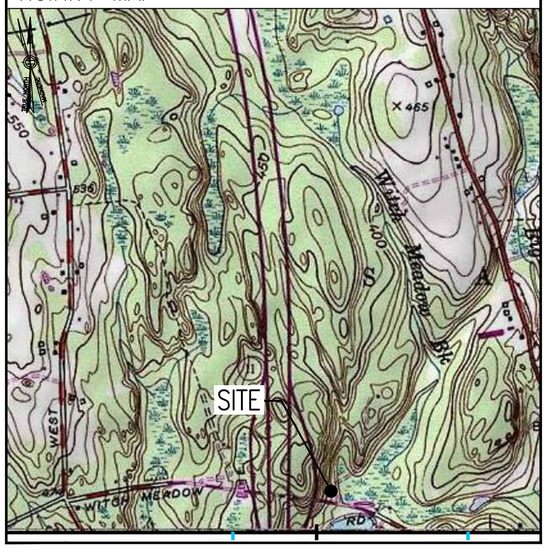
GENERAL NOTES

1. 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.
2. 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.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. 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.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. 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

SITE NUMBER:	CTHA101F
SBA SITE NUMBER:	CT01916-S
SBA SITE NAME:	NORTH SALEM
SITE ADDRESS:	160 WITCH MEADOW ROAD SALEM, CT 06420
PROPERTY OWNER:	RENZ RONALD R 44 MUSTANG DRIVE MONROE, CT 06468
TOWER OWNER:	SBA PROPERTIES, LLC. 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	NEW LONDON COUNTY
ZONING DISTRICT:	I, INDUSTRIAL DISTRICT
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	195'
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.41.502830° (41°-30'-10.19") LONGITUDE W.-72.297100° (72°-17'-49.56")

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

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil ·Structural ·Land Surveying
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
CLEMENT J. SAMEK
No. 26876
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	07/19/19	ISSUED FOR CONSTRUCTION	CMC
0	06/13/19	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTHA101F

SITE ADDRESS:
160 WITCH MEADOW ROAD
SALEM, CT 06420

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.107

GENERAL NOTES:

1. 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

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

4. 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.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. 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.

10. 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.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. 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.

14. 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.

15. CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.

16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

17. THE EXISTING CELL 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.

18. 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:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. 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.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. 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.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. 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.

9. 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.

10. 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.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. 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.

2. 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

3. 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.

4. 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 LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. 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.

7. 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.

8. 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.

9. 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:

1. 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".

2. 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.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅜" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. 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.

4. 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.

5. 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:

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

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. 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:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. 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.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

5. 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.

6. 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.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. 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.

11. 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.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. 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.

14. 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).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. 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.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. 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.

21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. 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.

26. 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.

27. 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.

28. 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.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. 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.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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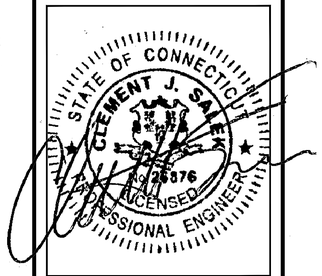


CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	07/19/19	ISSUED FOR CONSTRUCTION	CMC
0	06/13/19	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTHA101F

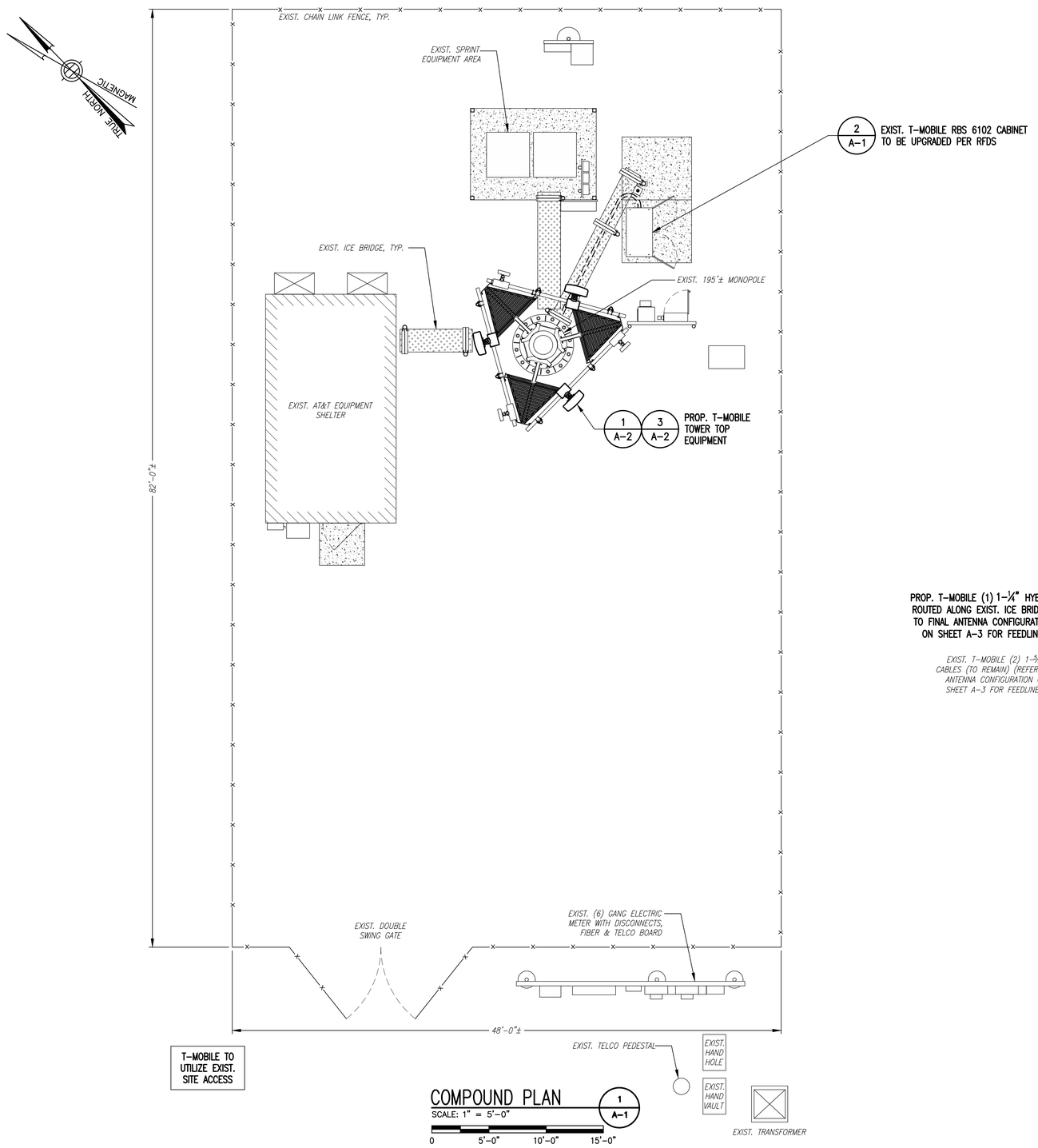
SITE ADDRESS:
160 WITCH MEADOW ROAD
SALEM, CT 06420

SHEET TITLE
GENERAL NOTES

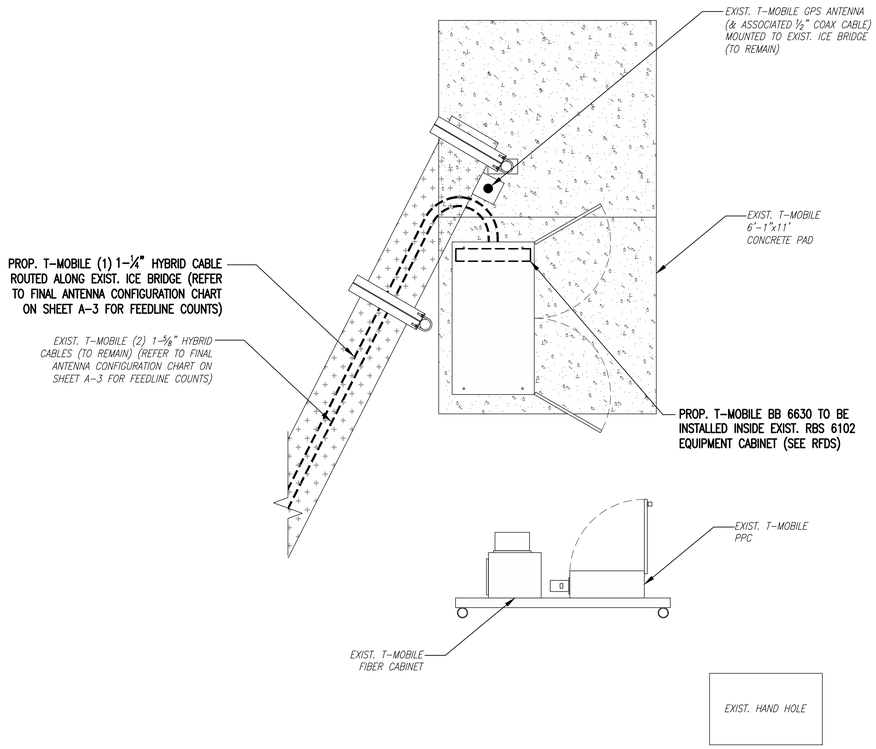
SHEET NUMBER
GN-1

1815.107

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
SCALE: 1" = 5'-0"
0 5'-0" 10'-0" 15'-0"



PROPOSED EQUIPMENT PLAN 2 A-1
SCALE: 1/2" = 1'-0"
0 2'-0" 4'-0" 6'-0"

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STATE OF CONNECTICUT
CLEMENT J. SAMEK
No. 26876
LICENSED
PROFESSIONAL ENGINEER

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APPROVED BY: JMT

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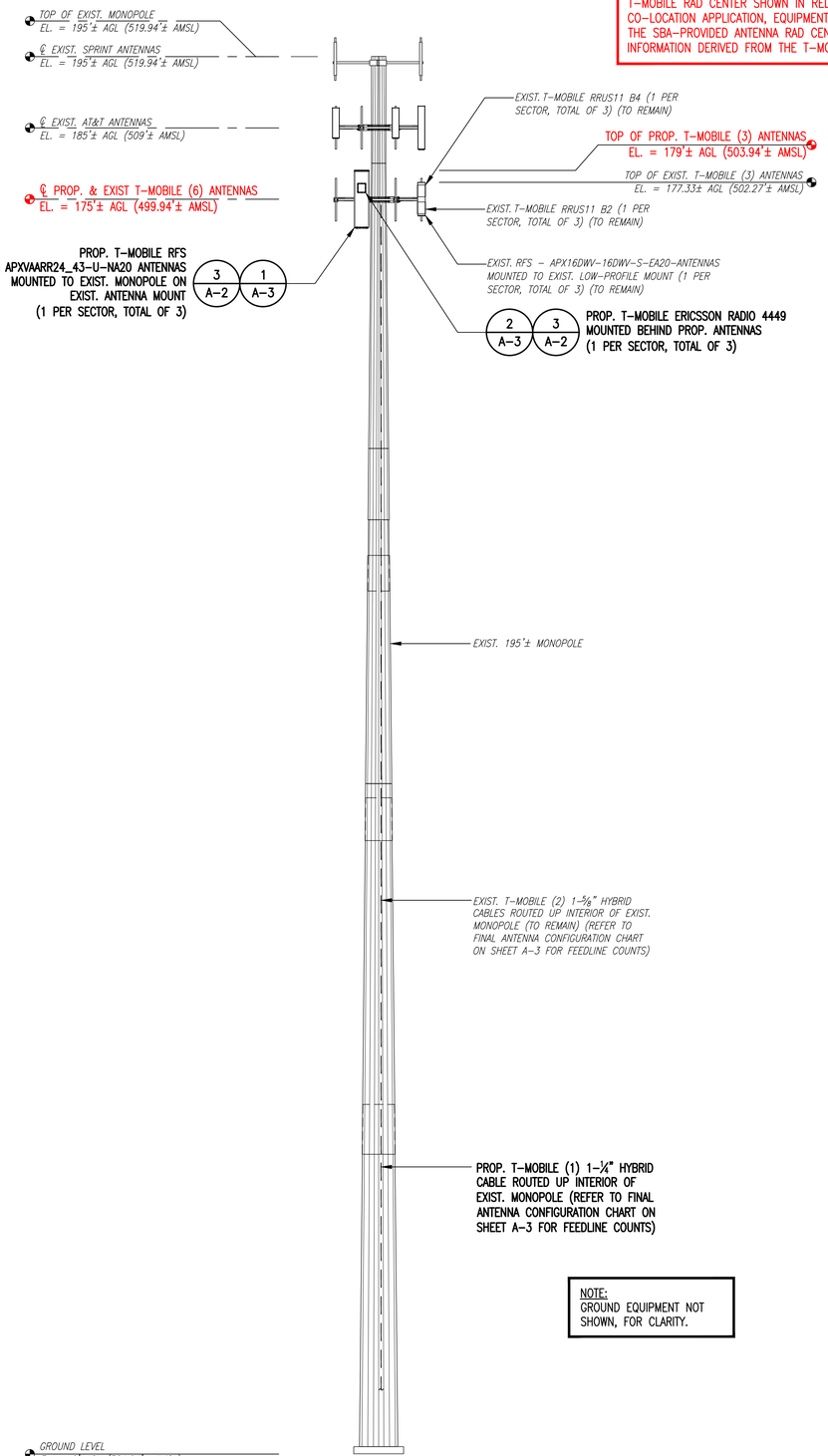
SHEET TITLE
COMPOUND & EQUIPMENT PLAN

SHEET NUMBER
A-1

1815.107

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.

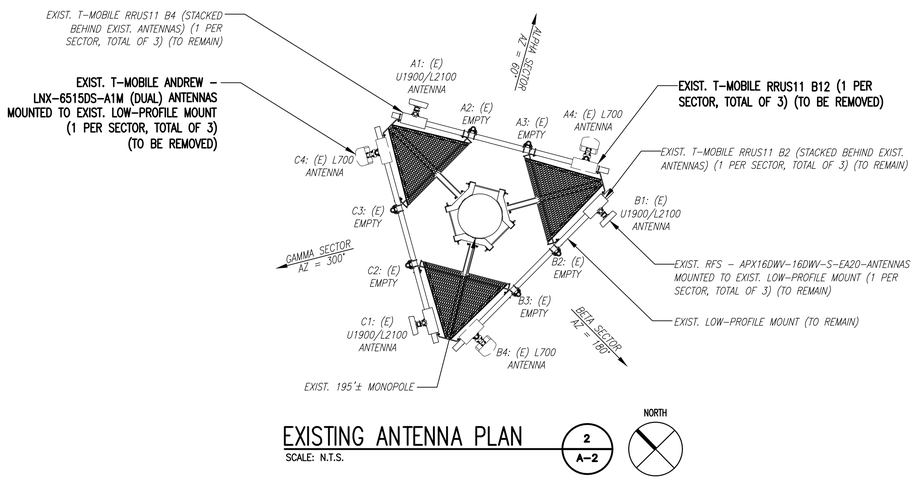
SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY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



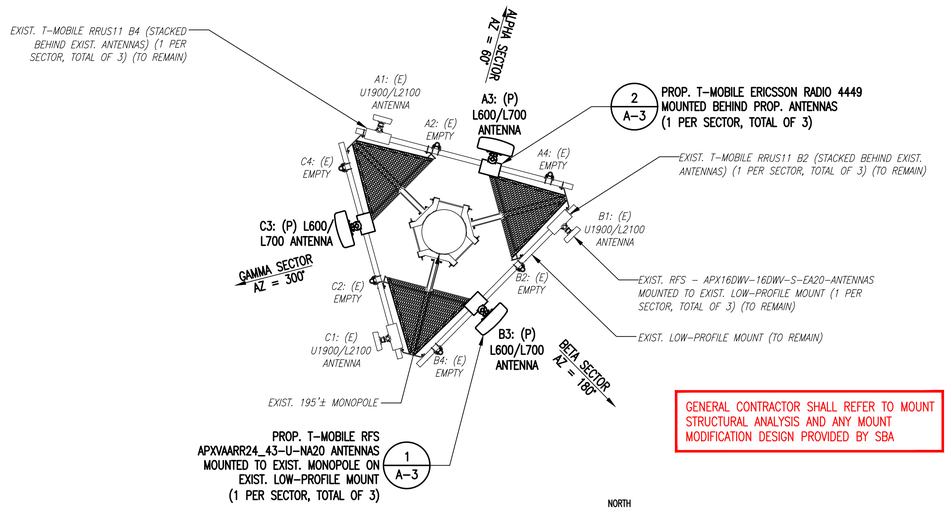
NOTE: ABOVE MEAN SEA LEVEL (AMSL) SOURCE-GOOGLE MAP

NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

TOWER ELEVATION
1 A-2
SCALE: 1" = 10'-0"
0 5' 10' 20' 30'



EXISTING ANTENNA PLAN
2 A-2
SCALE: N.T.S.



PROPOSED ANTENNA PLAN
3 A-2
SCALE: N.T.S.

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.

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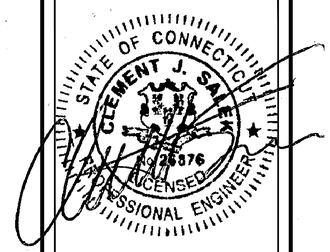

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TOWER ELEVATIONS & ANTENNA PLAN

SHEET NUMBER
A-2

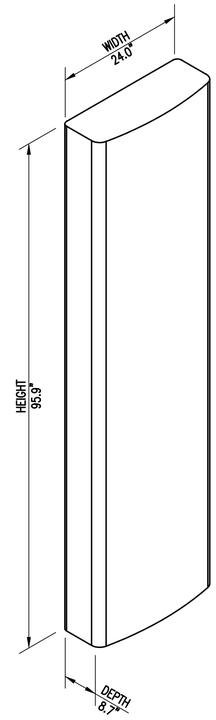
1815.107

FINAL ANTENNA CONFIGURATION

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	*RFS – APX16DWV-16DWV-S-EA20*	*175'± AGL*	*60°*	*0°*	*2°*	*U1900*	*ERICSSON RADIO RRUS11 B2*	*(2) 1-5/8" HCS CABLES (SHARED)*
						L2100	*ERICSSON RADIO RRUS11 B4*	
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	RFS APXVAARR24_43-U-NA20	**175'± AGL**	**60°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 1-¼" HCS CABLE (SHARED)**
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
BETA	*RFS – APX16DWV-16DWV-S-EA20*	*175'± AGL*	*180°*	*0°*	*2°*	*U1900*	*ERICSSON RADIO RRUS11 B2*	*(2) 1-5/8" HCS CABLES (SHARED)*
						L2100	*ERICSSON RADIO RRUS11 B4*	
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	RFS APXVAARR24_43-U-NA20	**175'± AGL**	**180°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 1-¼" HCS CABLE (SHARED)**
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
GAMMA	*RFS – APX16DWV-16DWV-S-EA20*	*175'± AGL*	*300°*	*0°*	*2°*	*U1900*	*ERICSSON RADIO RRUS11 B2*	*(2) 1-5/8" HCS CABLES (SHARED)*
						L2100	*ERICSSON RADIO RRUS11 B4*	
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	RFS APXVAARR24_43-U-NA20	**175'± AGL**	**300°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 1-¼" HCS CABLE (SHARED)**
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

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



RFS APXVAARR24_43-U-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

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STATE OF CONNECTICUT
CLEMENT J. GAMACK
No. 26876
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	07/19/19	ISSUED FOR CONSTRUCTION	CMC
0	06/13/19	ISSUED FOR REVIEW	BDJ

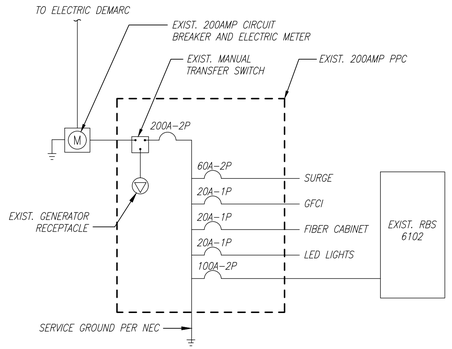
SITE NUMBER:
CTHA101F

SITE ADDRESS:
160 WITCH MEADOW ROAD
SALEM, CT 06420

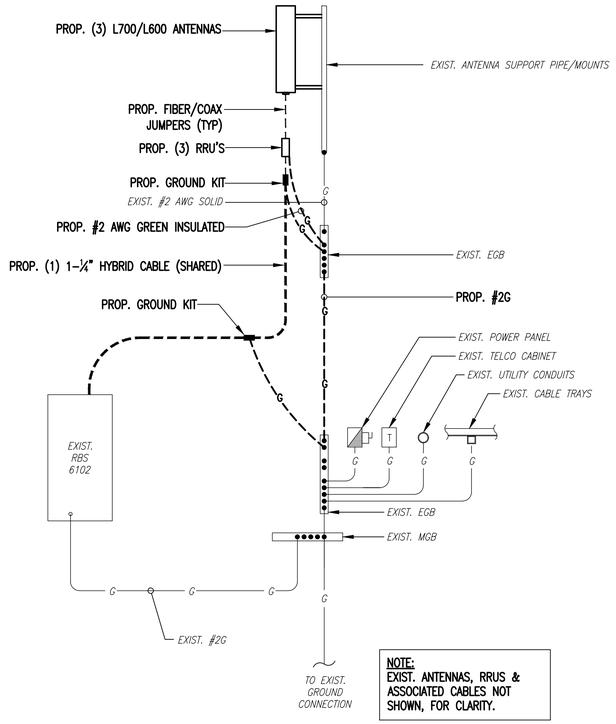
SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

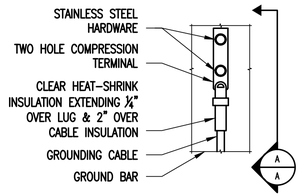
1815.107



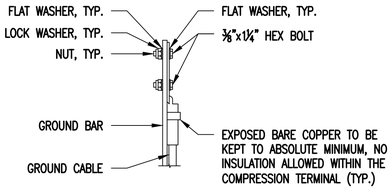
ONE LINE DIAGRAM (1 / E-1)
SCALE: NOT TO SCALE



GROUNDING RISER DIAGRAM (2 / E-1)
SCALE: NOT TO SCALE



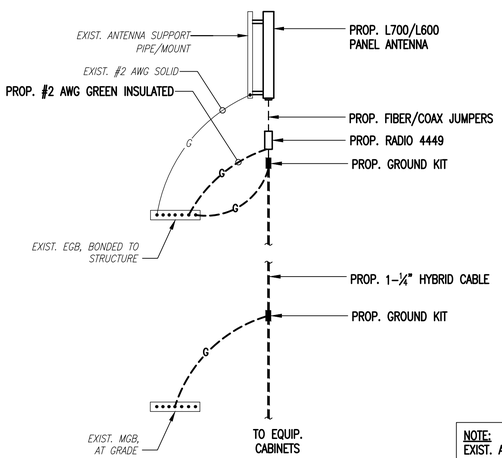
ELEVATION



SECTION A-A

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

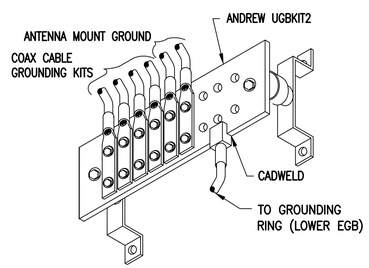
TYPICAL GROUND BAR CONNECTIONS DETAIL (3 / E-1)
SCALE: NOT TO SCALE



L700/L600

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

COAX CABLE CONNECTION AND GROUNDING DETAIL (4 / E-1)
SCALE: NOT TO SCALE



GROUND BAR (EGB) (5 / E-1)
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. 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.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHNINSULATION.
8. 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.
9. 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.
10. 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.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. 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".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. 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.
16. 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.
17. 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.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. 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.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	07/19/19	ISSUED FOR CONSTRUCTION	CMC
0	06/13/19	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTHA101F

SITE ADDRESS:
160 WITCH MEADOW ROAD
SALEM, CT 06420

SHEET TITLE
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.107

EXHIBIT 7

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

Structural Analysis Report

Existing 195 ft Nudd Corporation Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT01916-S
Customer Site Name: North Salem
Carrier Name: T-Mobile (App#: 117038, V1)
Carrier Site ID / Name: CTHA101F / North Salem
Site Location: 160 Witch Meadow Road
Salem, Connecticut
New London County
Latitude: 41.502828
Longitude: -72.297052

Analysis Result:

Max Structural Usage: 90.8% [Pass]
Max Foundation Usage: 35.0% [Pass]
Additional Usage Caused by Mount Modification: +0.9%

Report Prepared By : Linfeng Chen

Introduction

The purpose of this report is to summarize the analysis results on the 195 ft Nudd Corporation 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.

Sources of Information

Tower Drawings	Nudd Corporation, Project #7014 dated February 2, 2000
Foundation Drawing	Nudd Corporation, Project #7014 dated February 2, 2000
Geotechnical Report	FDH Engineering, Project #1207124EG1 dated August 10, 2012
Modification Drawings	Semaan Engineering, Project #CT-01916 dated May 6, 2002 FDH Engineering, Inc., Project #13SBAH1400 dated September 25, 2013

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:	123.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 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 / 2018 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.206, S_1 = 0.055

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	195.0	3	RFS APXVTM14-C-I20 - Panel	Platform w/ Hand Rail Site Pro Modification Kits: (1) HRK-14 (1) PRK-SFS-H-L (1) PRK-1245L	(4) 1-1/4" Fiber	Sprint Nextel
2		3	Commscope NNVV-65B-R4 - Panel			
3		3	ALU 1900 Mhz - RRU			
4		6	ALU 800 Mhz - RRU			
5		3	ALU TD-RRH8x20-25 - RRU			
6	185.0	6	Powerwave 7770.00 - Panel	Low Profile Platform	(12) 1 1/4" (1) 1/2" Fiber (2) 3/4" DC inside (1) 3" Innerduct	AT&T
7		1	Raycap DC6-48-60-18-8F – Surge Arrestor			
8		6	Powerwave LGP21401 – TMA			
9		6	Powerwave LGP21903 - Diplexers			
10		2	Powerwave P65-17-XLH-RR - Panel			
11		6	Ericsson RRUS-11 - RRU			
12		1	Andrew SBNH-1D6565C - Panel			
-	175.0	3	RFS APX16DWV-16DWVS-E-A20 - Panel	Low Profile Platform	(2) 1 5/8" Hybrid (1) 1-1/4" Hybrid	T-Mobile
-		3	Commscope LNX-6515DS-A1M - Panel			
-		9	RRUS11			
-		3	96"x15.6"x9" Panel			
-		3	15" x 14" x 7.5" RRU			

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
13	175.0	3	Ericsson RRUS11 B2 RRU	Modified Low Profile Platform w/ Add Support Rail with End Connection Kit (MS-HRECP-35)	(2) 1 5/8" Hybrid (1) 1-1/4" Hybrid	T-Mobile
14		3	Ericsson RRUS11 B4 RRU			
15		3	RFS APX16DWV-16DWVS-E-A20 - Panel			
16		3	RFS APXVAARR24_43-U-NA20 - Panel			
17		3	Ericsson RRUS11 RRU			
18		3	Commscope LNX-6515DS-A1M - Panel			
19		3	Ericsson Radio 4449 B71+B12 RRU			

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	Flange
Max. Usage:	**70.4%**	**36.7%**	**90.8%**	**55.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Analysis Reactions	4710.0	34.1

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 1.6475 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.

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 70.35% at 140.0ft

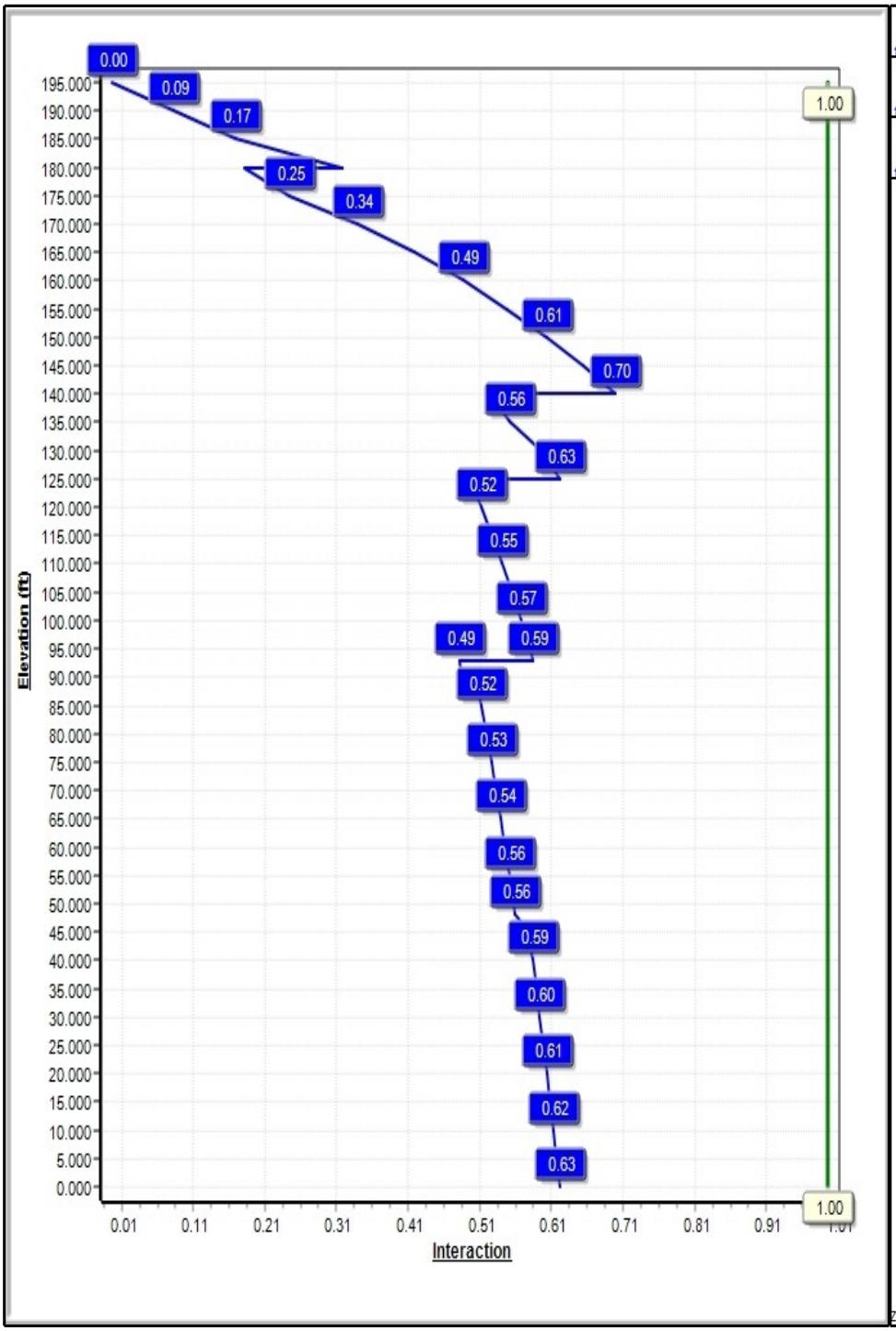
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019
Site Name:	North Salem	**Exposure:**	B	
Height:	195.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

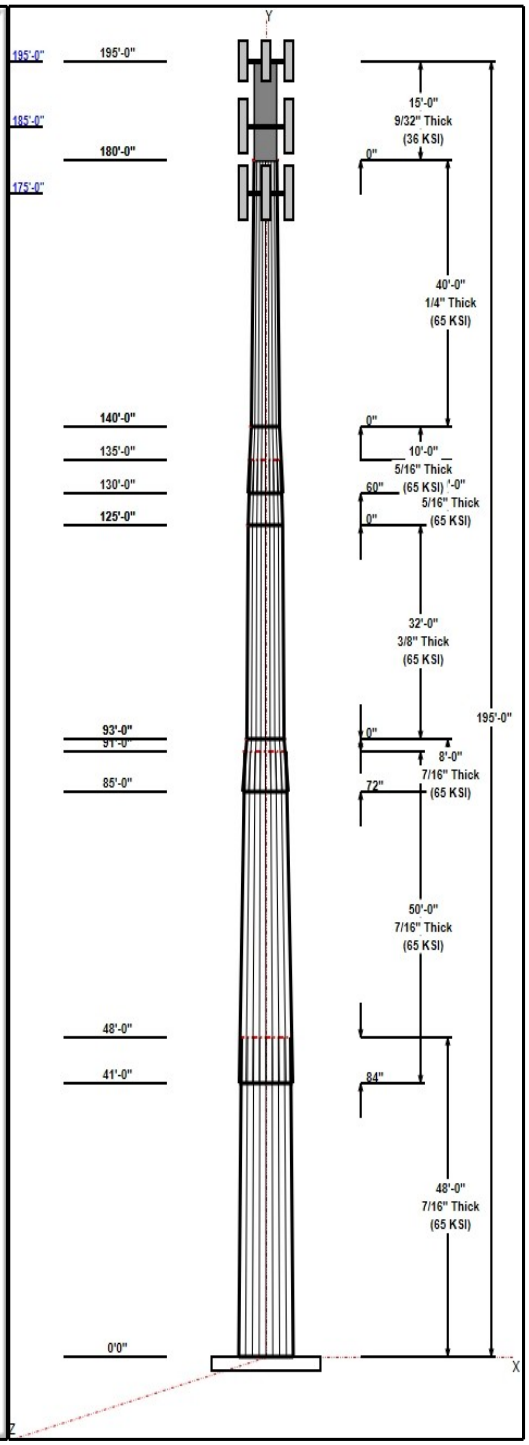
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.00

Load Case : 1.2D + 1.0W 123 mph Wind

Iterations: 25





Structure: CT01916-S-SBA

Type: Custom
Site Name: North Salem
Height: 195.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.00000

6/27/2019

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	53.07	64.50	0.438		0.23819	65
2	50.00	43.70	55.61	0.438	Slip	0.23819	65
3	8.00	44.10	46.00	0.438	Slip	0.23819	65
4	32.00	36.48	44.10	0.375	Butt	0.23819	65
5	10.00	34.09	36.48	0.313	Butt	0.23819	65
6	10.00	33.53	35.91	0.313	Slip	0.23819	65
7	40.00	24.00	33.53	0.250	Butt	0.23819	65
8	15.00	24.00	24.00	0.281	Butt	0.00000	36

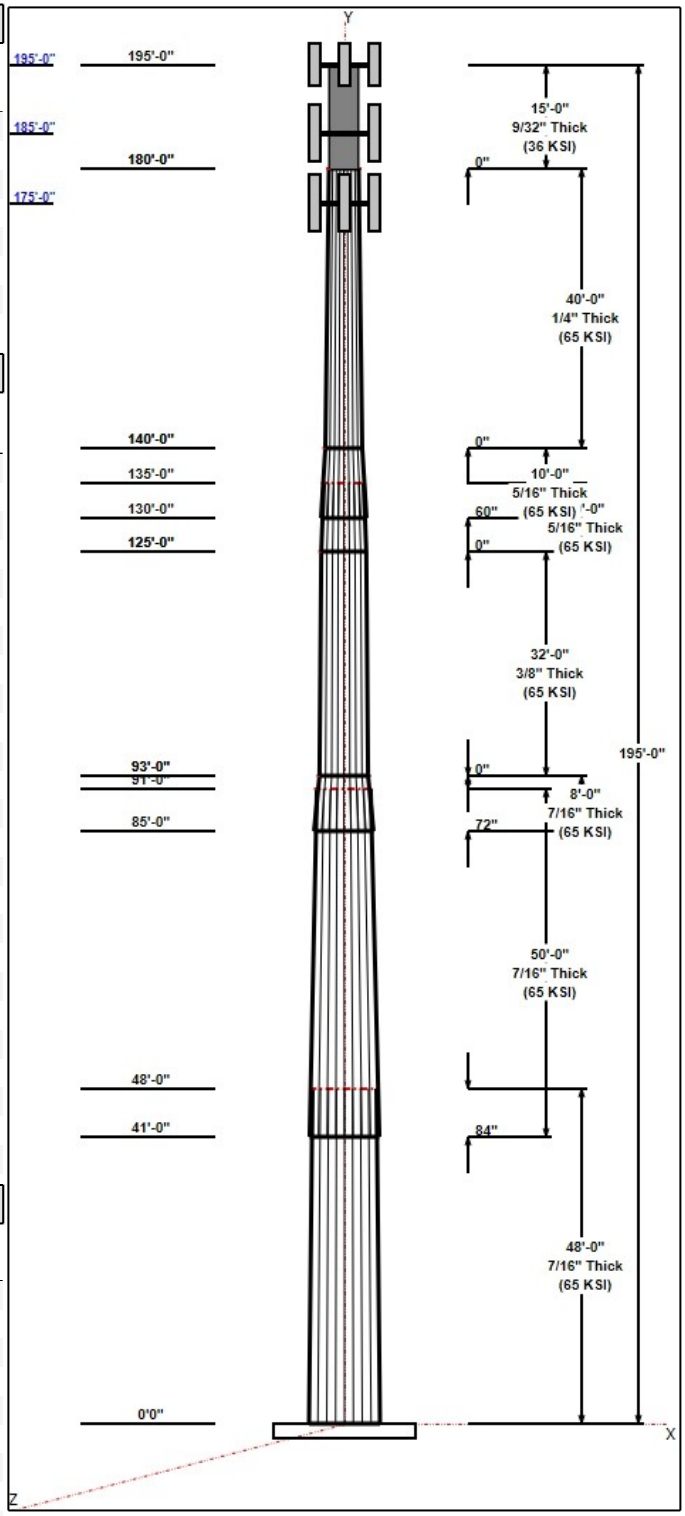
Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
195.00	195.00	1	Low Profile	Sprint Nextel
195.00	195.00	1	PRK-1245 (kicker kit)	Sprint Nextel
195.00	195.00	1	(3) SFS-H-L (V-Braces)	Sprint Nextel
195.00	195.00	1	HRK12 (Handrail Kit)	Sprint Nextel
195.00	195.00	3	APXVTM14-C-I20	Sprint Nextel
195.00	195.00	3	NNVV-65B-R4	Sprint Nextel
195.00	195.00	3	1900MHz RRH (65MHz)	Sprint Nextel
195.00	195.00	6	800 MHz RRH	Sprint Nextel
195.00	195.00	3	TD-RRH8x20-25	Sprint Nextel
185.00	185.00	1	Low Profile	AT&T
185.00	185.00	6	7770.00	AT&T
185.00	185.00	2	P65-17-XLH-RR	AT&T
185.00	185.00	1	SBNH-1D6565C	AT&T
185.00	185.00	6	LGP21401	AT&T
185.00	185.00	6	LGP21903	AT&T
185.00	185.00	6	RRUS-11	AT&T
185.00	185.00	1	DC6-48-60-18-8F	AT&T
175.00	175.00	3	RFS	T-Mobile
175.00	175.00	3	RFS	T-Mobile
175.00	175.00	3	Ericsson RRUS11	T-Mobile
175.00	175.00	3	Commscope	T-Mobile
175.00	175.00	3	Ericsson Radio 4449	T-Mobile
175.00	175.00	1	Platform w/ Hand Rail	T-Mobile
175.00	175.00	3	Ericsson RRUS11 B2	T-Mobile
175.00	175.00	3	Ericsson RRUS11 B4	T-Mobile

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	195.00	Inside	1-1/4" Fiber	Sprint
0.00	185.00	Inside	1 1/4" Coax	AT&T
0.00	185.00	Inside	1/2" Fiber	AT&T
0.00	185.00	Inside	3" Innerduct	AT&T
0.00	185.00	Inside	3/4" DC	AT&T
177.75	182.25	Outside	(3) Bypass Stiffeners	
0.00	175.00	Inside	1 5/8" Hybrid	T-Mobile
0.00	175.00	Inside	1-1/4" Hybrid	T-Mobile
0.00	143.00	Outside	(4) C6x10.5	
0.00	55.00	Outside	(4) C5x9	

Anchor Bolts



Qty	Specifications	Grade (ksi)	Arrangement
29	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	64.5	50.0	Round

Reactions

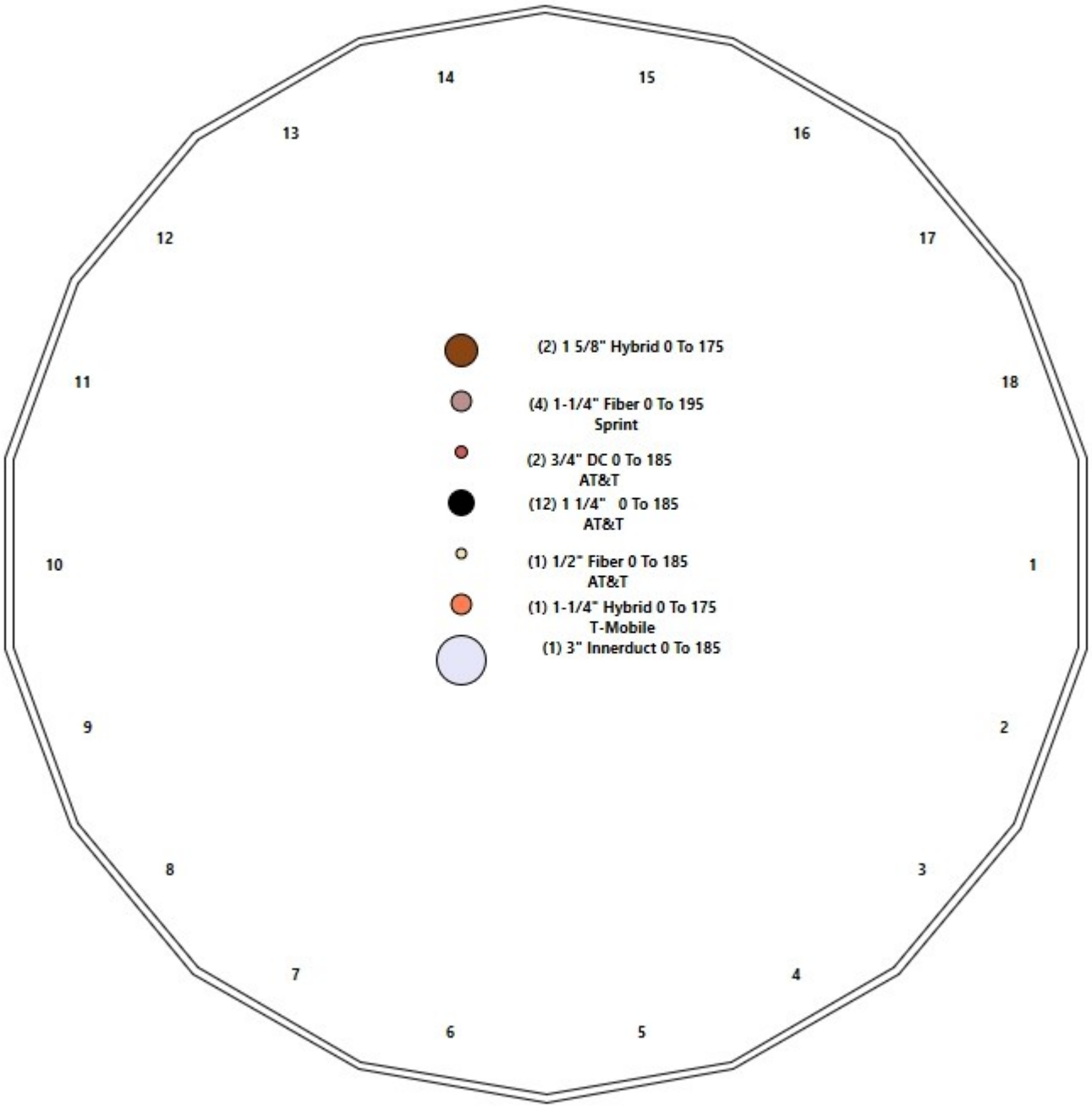
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 123 mph Wind	4710.0	34.1	60.4
0.9D + 1.0W 123 mph Wind	4647.4	34.1	45.3
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1183.8	8.7	79.5
1.2D + 1.0Ev + 1.0Eh	667.0	5.1	60.4
0.9D + 1.0Ev + 1.0Eh	657.9	5.1	45.3
1.0D + 1.0W 60 mph Wind	1112.8	8.1	50.3

Structure: CT01916-S-SBA - Coax Line Placement

Type: Monopole
Site Name: North Salem
Height: 195.00 (ft)

6/27/2019

Tower Engineering Solutions



Shaft Properties

Structure:	CT01916-S-SBA		**Code:**	EIA/TIA-222-H	6/27/2019
Site Name:	North Salem		**Exposure:**	B	
Height:	195.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.4375	65		0.00	13,233
2	18	50.000	0.4375	65	Slip	84.00	11,627
3	18	8.000	0.4375	65	Slip	72.00	1,686
4	18	32.000	0.3750	65	Flange	0.00	5,173
5	18	10.000	0.3125	65	Flange	0.00	1,180
6	18	10.000	0.3125	65	Slip	60.00	1,161
7	18	40.000	0.2500	65	Flange	0.00	3,080
8	R	15.000	0.2810	36	Flange	0.00	1,069
					Total Shaft Weight:		**38,209**

	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	64.50	0.00	88.96	46124.76	24.59	147.43	53.07	48.00	73.08	25574.1	19.98	121.3	0.238194
2	55.61	41.00	76.61	29462.36	21.00	127.11	43.70	91.00	60.07	14204.8	16.20	99.88	0.238194
3	46.00	85.00	63.27	16597.56	17.13	105.15	44.10	93.00	60.63	14601.1	16.36	100.8	0.238194
4	44.10	93.00	52.04	12569.07	19.32	117.59	36.48	125.00	42.97	7074.93	15.74	97.27	0.238194
5	36.48	125.0	35.87	5926.45	19.17	116.72	34.09	135.00	33.51	4830.83	17.83	109.1	0.238194
6	35.91	130.0	35.31	5652.53	18.85	114.91	33.53	140.00	32.94	4592.07	17.51	107.2	0.238194
7	33.53	140.0	26.40	3694.43	22.24	134.11	24.00	180.00	18.84	1343.00	15.52	96.00	0.238194
8	24.00	180.0	20.94	1473.63	0.00	85.41	24.00	195.00	20.94	1473.63	0.00	85.41	0.000000

Load Summary

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	195.00	Low Profile Platform-Round	1	1800.00	26.00	1.00	2874.97	40.285	1.00	0.00	0.00
2	195.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	687.03	16.308	1.00	0.00	0.00
3	195.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	449.77	11.502	1.00	0.00	0.00
4	195.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	474.29	11.265	1.00	0.00	0.00
5	195.00	APXVTM14-C-I20	3	56.20	6.34	0.78	159.07	7.086	0.81	0.00	0.00
6	195.00	NNVV-65B-R4	3	77.40	12.27	0.73	272.83	13.267	0.76	0.00	0.00
7	195.00	1900MHz RRH (65MHz)	3	60.00	2.77	0.67	117.10	3.638	0.67	0.00	0.00
8	195.00	800 MHz RRH	6	53.00	2.49	0.67	103.62	3.273	0.67	0.00	0.00
9	195.00	TD-RRH8x20-25	3	70.00	4.05	0.67	140.71	4.592	0.67	0.00	0.00
10	185.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2391.10	34.024	1.00	0.00	0.00
11	185.00	7770.00	6	35.00	5.50	0.73	120.43	6.210	0.73	0.00	0.00
12	185.00	P65-17-XLH-RR	2	59.00	11.44	0.75	206.46	13.642	0.75	0.00	0.00
13	185.00	SBNH-1D6565C	1	66.10	11.47	0.80	222.61	13.683	0.80	0.00	0.00
14	185.00	LGP21401	6	14.10	1.29	0.67	31.12	1.859	0.67	0.00	0.00
15	185.00	LGP21903	6	5.50	0.27	0.67	11.24	0.541	0.67	0.00	0.00
16	185.00	RRUS-11	6	51.00	2.52	0.75	100.20	2.951	0.75	0.00	0.00
17	185.00	DC6-48-60-18-8F	1	31.80	0.92	0.75	73.89	1.218	0.75	0.00	0.00
18	175.00	RFS APX16DWV-16DWVS-E-A20	3	40.70	6.46	0.62	126.71	7.198	0.62	0.00	0.00
19	175.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	399.42	21.511	0.70	0.00	0.00
20	175.00	Ericsson RRUS11	3	50.60	2.52	0.71	104.61	3.229	0.72	0.00	0.00
21	175.00	Commscope LNX-6515DS-A1M	3	49.80	11.47	0.80	205.21	13.682	0.80	0.00	0.00
22	175.00	Ericsson Radio 4449 B71+B12	3	70.00	1.65	0.67	112.46	2.001	0.67	0.00	0.00
23	175.00	Platform w/ Hand Rail	1	1600.00	32.00	1.00	3021.64	50.905	1.00	0.00	0.00
24	175.00	Ericsson RRUS11 B2	3	50.60	2.52	0.71	104.61	3.229	0.72	0.00	0.00
25	175.00	Ericsson RRUS11 B4	3	50.60	2.52	0.71	104.61	3.229	0.72	0.00	0.00
		Totals:	**73**	**9,135.83**			**18,349.90**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	195.00	(4) 1-1/4" Fiber	0.00	Inside
0.00	185.00	(12) 1 1/4" Coax	0.00	Inside
0.00	185.00	(1) 1/2" Fiber	0.00	Inside
0.00	185.00	(1) 3" Innerduct	0.00	Inside
0.00	185.00	(2) 3/4" DC	0.00	Inside
177.7	182.25	(3) (3) Bypass Stiffeners	12.60	Outside
0.00	175.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	175.00	(1) 1-1/4" Hybrid	0.00	Inside
0.00	143.00	(4) (4) C6x10.5	4.00	Outside
0.00	55.00	(4) (4) C5x9	3.78	Outside

Shaft Section Properties

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	64.500	88.956	46124.8	24.59	147.43	72.5	1408.	0.0
5.00		0.4375	63.309	87.302	43599.8	24.11	144.71	73.0	1356.	1499.4
10.00		0.4375	62.118	85.648	41168.7	23.63	141.98	73.6	1305.	1471.3
15.00		0.4375	60.927	83.994	38829.7	23.15	139.26	74.2	1255.	1443.1
20.00		0.4375	59.736	82.341	36581.0	22.67	136.54	74.7	1206.	1415.0
25.00		0.4375	58.545	80.687	34420.9	22.19	133.82	75.3	1158.	1386.9
30.00		0.4375	57.354	79.033	32347.5	21.71	131.10	75.9	1110.	1358.7
35.00		0.4375	56.163	77.379	30359.1	21.23	128.37	76.4	1064.	1330.6
40.00		0.4375	54.972	75.726	28453.9	20.75	125.65	77.0	1019.	1302.5
41.00	Bot - Section 2	0.4375	54.734	75.395	28082.7	20.65	125.11	77.1	1010.	257.1
45.00		0.4375	53.781	74.072	26630.1	20.27	122.93	77.6	975.3	2050.9
48.00	Top - Section 1	0.4375	53.942	74.295	26871.1	20.33	123.30	0.0	0.0	1514.6
50.00		0.4375	53.465	73.633	26159.7	20.14	122.21	77.7	963.7	503.4
55.00		0.4375	52.274	71.979	24436.4	19.66	119.48	78.3	920.7	1238.7
60.00		0.4375	51.083	70.326	22790.5	19.18	116.76	78.8	878.7	1210.6
65.00		0.4375	49.892	68.672	21220.2	18.70	114.04	79.4	837.7	1182.4
70.00		0.4375	48.701	67.018	19723.7	18.22	111.32	80.0	797.7	1154.3
75.00		0.4375	47.510	65.364	18299.4	17.74	108.60	80.5	758.6	1126.2
80.00		0.4375	46.319	63.711	16945.2	17.26	105.87	81.1	720.6	1098.0
85.00	Bot - Section 3	0.4375	45.128	62.057	15659.6	16.78	103.15	81.7	683.5	1069.9
90.00		0.4375	43.938	60.403	14440.8	16.30	100.43	82.2	647.3	2104.2
91.00	Top - Section 2	0.4375	44.574	61.287	15084.3	16.55	101.88	0.0	0.0	414.1
93.00	Top - Section 3	0.4375	44.098	60.626	14601.1	16.36	100.80	82.2	652.2	414.8
93.00	Bot - Section 4	0.3750	44.098	52.039	12569.1	19.09	117.59	78.7	561.4	
95.00		0.3750	43.622	51.472	12162.7	19.10	116.32	78.9	549.2	352.2
100.00		0.3750	42.431	50.055	11185.3	18.54	113.15	79.6	519.2	863.7
105.00		0.3750	41.240	48.637	10261.6	17.98	109.97	80.3	490.1	839.6
110.00		0.3750	40.049	47.220	9390.3	17.42	106.80	80.9	461.8	815.5
115.00		0.3750	38.858	45.802	8569.8	16.86	103.62	81.6	434.4	791.3
120.00		0.3750	37.667	44.385	7798.5	16.30	100.44	82.2	407.8	767.2
125.00	Top - Section 4	0.3750	36.476	42.967	7074.9	15.74	97.27	82.5	382.0	743.1
125.00	Bot - Section 5	0.3125	36.476	35.868	5926.5	18.89	116.72	78.9	320.0	
130.00	Bot - Section 6	0.3125	35.285	34.687	5360.0	18.50	112.91	79.6	299.2	600.2
135.00	Top - Section 5	0.3125	34.719	34.125	5104.0	18.18	111.10	0.0	0.0	1170.8
140.00	Top - Section 6	0.3125	33.528	32.944	4592.1	17.51	107.29	80.8	269.8	570.6
140.00	Bot - Section 7	0.2500	33.528	26.405	3694.4	21.88	134.11	75.2	217.0	
145.00		0.2500	32.337	25.460	3311.8	21.40	129.35	76.2	201.7	441.2
150.00		0.2500	31.146	24.515	2956.5	20.56	124.58	77.2	187.0	425.1
155.00		0.2500	29.955	23.570	2627.6	19.72	119.82	78.2	172.8	409.1
160.00		0.2500	28.764	22.625	2324.1	18.88	115.06	79.2	159.1	393.0
165.00		0.2500	27.573	21.680	2044.9	18.04	110.29	80.2	146.1	376.9
170.00		0.2500	26.382	20.735	1789.0	17.20	105.53	81.2	133.6	360.8
175.00		0.2500	25.191	19.790	1555.3	16.36	100.76	82.2	121.6	344.7
180.00	Top - Section 7	0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	328.7
180.00	Bot - Section 8	0.2810	24.000	20.939	1473.6	13.80	85.41	36.0	122.8	
185.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	356.3
190.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	356.3
195.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	356.3
										38209.1

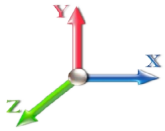
Wind Loading - Shaft

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

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	0.70	25.457	28.00	558.40	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	25.457	28.00	548.09	0.774 *	0.000	5.00	27.038	20.92	585.7	0.0	1799.3
10.00		1.00	0.70	25.457	28.00	537.78	0.779 *	0.000	5.00	26.534	20.66	578.5	0.0	1765.5
15.00		1.00	0.70	25.457	28.00	527.47	0.784 *	0.000	5.00	26.030	20.40	571.3	0.0	1731.8
20.00		1.00	0.70	25.457	28.00	517.16	0.789 *	0.000	5.00	25.526	20.14	564.1	0.0	1698.0
25.00		1.00	0.70	25.457	28.00	506.85	0.795 *	0.000	5.00	25.022	19.89	556.8	0.0	1664.2
30.00		1.00	0.70	25.478	28.03	496.75	0.801 *	0.000	5.00	24.518	19.63	550.1	0.0	1630.5
35.00		1.00	0.73	26.626	29.29	497.26	0.807 *	0.000	5.00	24.014	19.37	567.3	0.0	1596.7
40.00		1.00	0.76	27.661	30.43	496.09	0.813 *	0.000	5.00	23.510	19.11	581.6	0.0	1562.9
41.00	Bot - Section 2	1.00	0.77	27.857	30.64	495.69	0.817 *	0.000	1.00	4.642	3.79	116.2	0.0	308.5
45.00		1.00	0.79	28.608	31.47	493.58	0.820 *	0.000	4.00	18.661	15.31	481.7	0.0	2461.1
48.00	Top - Section 1	1.00	0.80	29.140	32.05	491.53	0.825 *	0.000	3.00	13.784	11.37	364.6	0.0	1817.5
50.00		1.00	0.81	29.482	32.43	498.12	0.823 *	0.000	2.00	9.089	7.48	242.7	0.0	604.0
55.00		1.00	0.83	30.296	33.33	493.70	0.828 *	0.000	5.00	22.369	18.53	617.5	0.0	1486.5
60.00		1.00	0.85	31.059	34.16	488.49	0.730	0.000	5.00	21.865	15.96	545.3	0.0	1452.7
65.00		1.00	0.87	31.777	34.95	482.59	0.730	0.000	5.00	21.361	15.59	545.1	0.0	1418.9
70.00		1.00	0.89	32.457	35.70	476.08	0.730	0.000	5.00	20.857	15.23	543.6	0.0	1385.2
75.00		1.00	0.91	33.103	36.41	469.04	0.730	0.000	5.00	20.353	14.86	541.0	0.0	1351.4
80.00		1.00	0.93	33.719	37.09	461.52	0.730	0.000	5.00	19.849	14.49	537.5	0.0	1317.6
85.00	Bot - Section 3	1.00	0.94	34.308	37.74	453.56	0.730	0.000	5.00	19.346	14.12	533.0	0.0	1283.9
90.00		1.00	0.96	34.873	38.36	445.21	0.730	0.000	5.00	19.212	14.02	538.0	0.0	2525.0
91.00	Top - Section 2	1.00	0.96	34.984	38.48	443.50	0.730	0.000	1.00	3.782	2.76	106.2	0.0	496.9
93.00	Top - Section 3	1.00	0.97	35.202	38.72	448.94	0.730	0.000	2.00	7.503	5.48	212.1	0.0	497.8
95.00		1.00	0.97	35.416	38.96	445.44	0.730	0.000	2.00	7.423	5.42	211.1	0.0	422.7
100.00		1.00	0.99	35.939	39.53	436.46	0.730	0.000	5.00	18.204	13.29	525.4	0.0	1036.4
105.00		1.00	1.00	36.444	40.09	427.18	0.730	0.000	5.00	17.700	12.92	518.0	0.0	1007.5
110.00		1.00	1.02	36.931	40.62	417.61	0.730	0.000	5.00	17.196	12.55	510.0	0.0	978.5
115.00		1.00	1.03	37.403	41.14	407.77	0.730	0.000	5.00	16.692	12.19	501.4	0.0	949.6
120.00		1.00	1.04	37.861	41.65	397.68	0.736 *	0.000	5.00	16.189	11.92	496.5	0.0	920.7
125.00	Top - Section 4	1.00	1.05	38.305	42.14	387.36	0.744 *	0.000	5.00	15.685	11.66	491.5	0.0	891.7
130.00	Bot - Section 6	1.00	1.07	38.737	42.61	376.82	0.751 *	0.000	5.00	15.181	11.41	486.1	0.0	720.2
135.00	Top - Section 5	1.00	1.08	39.157	43.07	366.07	0.760 *	0.000	5.00	14.941	11.35	488.9	0.0	1404.9
140.00	Top - Section 6	1.00	1.09	39.566	43.52	361.87	0.764 *	0.000	5.00	14.437	11.03	479.9	0.0	684.7
145.00		1.00	1.10	39.964	43.96	350.77	0.730	0.000	5.00	13.933	10.17	447.1	0.0	529.5
150.00		1.00	1.11	40.353	44.39	339.49	0.730	0.000	5.00	13.430	9.80	435.2	0.0	510.2
155.00		1.00	1.12	40.733	44.81	328.04	0.730	0.000	5.00	12.926	9.44	422.8	0.0	490.9
160.00		1.00	1.13	41.104	45.21	316.43	0.730	0.000	5.00	12.422	9.07	410.0	0.0	471.6
165.00		1.00	1.14	41.467	45.61	304.66	0.730	0.000	5.00	11.918	8.70	396.8	0.0	452.3
170.00		1.00	1.15	41.822	46.00	292.75	0.730	0.000	5.00	11.414	8.33	383.3	0.0	433.0
175.00	Appurtenance(s)	1.00	1.16	42.170	46.39	280.69	0.730	0.000	5.00	10.910	7.96	369.4	0.0	413.7
180.00	Top - Section 7	1.00	1.17	42.511	46.76	268.50	1.200 *	0.000	5.00	10.406	12.49	583.9	0.0	394.4
185.00	Appurtenance(s)	1.00	1.18	42.845	47.13	265.46	1.200 *	0.000	5.00	10.000	12.00	565.6	0.0	427.5
190.00		1.00	1.19	43.173	47.49	266.47	0.600	0.000	5.00	10.000	6.00	284.9	0.0	427.5
195.00	Appurtenance(s)	1.00	1.20	43.494	47.84	267.46	0.600	0.000	5.00	10.000	6.00	287.1	0.0	427.5
								Totals:	**195.00**			**19,774.6**		**45,850.9**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

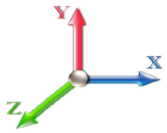
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

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	195.00	HRK12 (Handrail Kit)	1	43.494	47.844	1.00	1.00	6.75	314.06	0.000	0.000	322.95	0.00	0.00
2	195.00	Low Profile	1	43.494	47.844	1.00	1.00	26.00	2160.00	0.000	0.000	1243.94	0.00	0.00
3	195.00	PRK-1245 (kicker kit)	1	43.494	47.844	1.00	1.00	9.50	557.89	0.000	0.000	454.52	0.00	0.00
4	195.00	(3) SFS-H-L (V-Braces)	1	43.494	47.844	1.00	1.00	6.70	276.00	0.000	0.000	320.55	0.00	0.00
5	195.00	TD-RRH8x20-25	3	43.494	47.844	0.67	1.00	8.14	252.00	0.000	0.000	389.47	0.00	0.00
6	195.00	APXVTM14-C-I20	3	43.494	47.844	0.78	1.00	14.84	202.32	0.000	0.000	709.79	0.00	0.00
7	195.00	NNVV-65B-R4	3	43.494	47.844	0.73	1.00	26.87	278.64	0.000	0.000	1285.63	0.00	0.00
8	195.00	1900MHz RRH (65MHz)	3	43.494	47.844	0.67	1.00	5.57	216.00	0.000	0.000	266.38	0.00	0.00
9	195.00	800 MHz RRH	6	43.494	47.844	0.67	1.00	10.01	381.60	0.000	0.000	478.91	0.00	0.00
10	185.00	DC6-48-60-18-8F	1	42.845	47.130	0.60	0.80	0.55	38.16	0.000	0.000	26.02	0.00	0.00
11	185.00	RRUS-11	6	42.845	47.130	0.60	0.80	9.07	367.20	0.000	0.000	427.56	0.00	0.00
12	185.00	LGP21903	6	42.845	47.130	0.54	0.80	0.87	39.60	0.000	0.000	40.92	0.00	0.00
13	185.00	LGP21401	6	42.845	47.130	0.54	0.80	4.15	101.52	0.000	0.000	195.52	0.00	0.00
14	185.00	P65-17-XLH-RR	2	42.845	47.130	0.60	0.80	13.73	141.60	0.000	0.000	647.00	0.00	0.00
15	185.00	7770.00	6	42.845	47.130	0.58	0.80	19.27	252.00	0.000	0.000	908.28	0.00	0.00
16	185.00	Low Profile	1	42.845	47.130	1.00	1.00	22.00	1800.00	0.000	0.000	1036.85	0.00	0.00
17	185.00	SBNH-1D6565C	1	42.845	47.130	0.64	0.80	7.34	79.32	0.000	0.000	345.97	0.00	0.00
18	175.00	Commscope	3	42.170	46.387	0.60	0.75	20.65	179.28	0.000	0.000	957.71	0.00	0.00
19	175.00	RFS	3	42.170	46.387	0.46	0.75	9.01	146.52	0.000	0.000	418.03	0.00	0.00
20	175.00	RFS	3	42.170	46.387	0.52	0.75	31.88	460.80	0.000	0.000	1478.73	0.00	0.00
21	175.00	Ericsson RRUS11	3	42.170	46.387	0.53	0.75	4.03	182.16	0.000	0.000	186.74	0.00	0.00
22	175.00	Ericsson RRUS11 B2	3	42.170	46.387	0.53	0.75	4.03	182.16	0.000	0.000	186.74	0.00	0.00
23	175.00	Ericsson Radio 4449	3	42.170	46.387	0.50	0.75	2.49	252.00	0.000	0.000	115.38	0.00	0.00
24	175.00	Platform w/ Hand Rail	1	42.170	46.387	1.00	1.00	32.00	1920.00	0.000	0.000	1484.39	0.00	0.00
25	175.00	Ericsson RRUS11 B4	3	42.170	46.387	0.53	0.75	4.03	182.16	0.000	0.000	186.74	0.00	0.00
							Totals:		**10,963.00**			**14,114.73**		

Total Applied Force Summary

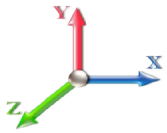
Structure:	CT01916-S-SBA		**Code:**	EIA/TIA-222-H	6/27/2019
Site Name:	North Salem		**Exposure:**	B	
Height:	195.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 10

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

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
5.00		585.69	1896.19	0.00	0.00
10.00		578.48	1862.43	0.00	0.00
15.00		571.27	1828.67	0.00	0.00
20.00		564.06	1794.90	0.00	0.00
25.00		556.85	1761.14	0.00	0.00
30.00		550.10	1727.37	0.00	0.00
35.00		567.33	1693.61	0.00	0.00
40.00		581.56	1659.85	0.00	0.00
41.00		116.19	327.92	0.00	0.00
45.00		481.68	2538.65	0.00	0.00
48.00		364.55	1875.63	0.00	0.00
50.00		242.71	642.80	0.00	0.00
55.00		617.51	1583.36	0.00	0.00
60.00		545.31	1549.60	0.00	0.00
65.00		545.07	1515.83	0.00	0.00
70.00		543.60	1482.07	0.00	0.00
75.00		541.03	1448.30	0.00	0.00
80.00		537.45	1414.54	0.00	0.00
85.00		532.96	1380.77	0.00	0.00
90.00		537.99	2621.93	0.00	0.00
91.00		106.24	516.28	0.00	0.00
93.00		212.10	536.57	0.00	0.00
95.00		211.10	461.43	0.00	0.00
100.00		525.35	1133.32	0.00	0.00
105.00		517.98	1104.38	0.00	0.00
110.00		509.97	1075.44	0.00	0.00
115.00		501.35	1046.50	0.00	0.00
120.00		496.53	1017.56	0.00	0.00
125.00		491.50	988.62	0.00	0.00
130.00		486.07	817.15	0.00	0.00
135.00		488.90	1501.82	0.00	0.00
140.00		479.94	781.57	0.00	0.00
145.00		447.14	626.35	0.00	0.00
150.00		435.17	607.06	0.00	0.00
155.00		422.78	587.77	0.00	0.00
160.00		410.00	568.47	0.00	0.00
165.00		396.84	549.18	0.00	0.00
170.00		383.32	529.89	0.00	0.00
175.00	(22) attachments	5383.92	4015.67	0.00	0.00
180.00		650.23	472.37	0.00	0.00
185.00	(29) attachments	4260.48	3324.88	0.00	0.00
190.00		284.94	450.40	0.00	0.00
195.00	(22) attachments	5759.20	5088.91	0.00	0.00
	Totals:	**34,022.45**	**60,407.15**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

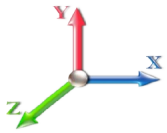
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

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)
5.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.120	1.060	25.457	0.00	0.00
5.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.120	1.060	25.457	0.00	0.00
10.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.122	1.067	25.457	0.00	0.00
10.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.122	1.067	25.457	0.00	0.00
15.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.125	1.074	25.457	0.00	0.00
15.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.125	1.074	25.457	0.00	0.00
20.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.127	1.081	25.457	0.00	0.00
20.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.127	1.081	25.457	0.00	0.00
25.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.130	1.089	25.457	0.00	0.00
25.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.130	1.089	25.457	0.00	0.00
30.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.132	1.097	25.478	0.00	0.00
30.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.132	1.097	25.478	0.00	0.00
35.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.135	1.105	26.626	0.00	0.00
35.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.135	1.105	26.626	0.00	0.00
40.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.138	1.114	27.661	0.00	0.00
40.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.138	1.114	27.661	0.00	0.00
41.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.140	1.119	27.857	0.00	0.00
41.00	(4) C5x9	Yes	1.00	0.000	3.78	0.32	0.00	0.140	1.119	27.857	0.00	0.00
45.00	(4) C6x10.5	Yes	4.00	0.000	4.00	1.33	0.00	0.141	1.124	28.608	0.00	0.00
45.00	(4) C5x9	Yes	4.00	0.000	3.78	1.26	0.00	0.141	1.124	28.608	0.00	0.00
48.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.143	1.130	29.140	0.00	0.00
48.00	(4) C5x9	Yes	3.00	0.000	3.78	0.94	0.00	0.143	1.130	29.140	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.143	1.128	29.482	0.00	0.00
50.00	(4) C5x9	Yes	2.00	0.000	3.78	0.63	0.00	0.143	1.128	29.482	0.00	0.00
55.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.145	1.135	30.296	0.00	0.00
55.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.145	1.135	30.296	0.00	0.00
60.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.076	0.000	31.059	0.00	0.00
65.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.078	0.000	31.777	0.00	0.00
70.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.080	0.000	32.457	0.00	0.00
75.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.082	0.000	33.103	0.00	0.00
80.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.084	0.000	33.719	0.00	0.00
85.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.086	0.000	34.308	0.00	0.00
90.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.088	0.000	34.873	0.00	0.00
91.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.090	0.000	34.984	0.00	0.00
93.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	35.202	0.00	0.00
95.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	35.416	0.00	0.00
100.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.092	0.000	35.939	0.00	0.00
105.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.094	0.000	36.444	0.00	0.00
110.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.097	0.000	36.931	0.00	0.00
115.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.100	0.000	37.403	0.00	0.00
120.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.103	1.009	37.861	0.00	0.00
125.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.106	1.019	38.305	0.00	0.00
130.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.110	1.029	38.737	0.00	0.00
135.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.114	1.041	39.157	0.00	0.00
140.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.115	1.046	39.566	0.00	0.00
145.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.072	0.000	39.964	0.00	0.00
180.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.227	0.000	42.511	66.29	0.00

Linear Appurtenance Segment Forces (Factored)

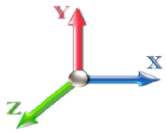
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

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)
185.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.236	0.000	42.845	66.81	0.00
										Totals:	**133.1**	**0.0**

Calculated Forces

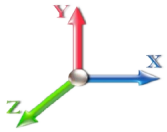
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

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	-60.36	-34.10	0.00	-4710.0	0.00	4710.03	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.626
5.00	-58.38	-33.66	0.00	-4539.5	0.00	4539.54	5739.58	1532.15	7992.25	7431.48	0.08	-0.143	0.000	0.622
10.00	-56.44	-33.22	0.00	-4371.2	0.00	4371.25	5674.37	1503.12	7692.32	7206.92	0.30	-0.288	0.000	0.617
15.00	-54.53	-32.78	0.00	-4205.1	0.00	4205.17	5607.48	1474.10	7398.13	6983.48	0.69	-0.436	0.000	0.612
20.00	-52.65	-32.34	0.00	-4041.2	0.00	4041.29	5538.91	1445.08	7109.68	6761.30	1.22	-0.587	0.000	0.608
25.00	-50.81	-31.90	0.00	-3879.6	0.00	3879.61	5468.67	1416.05	6826.96	6540.49	1.92	-0.741	0.000	0.603
30.00	-49.01	-31.46	0.00	-3720.1	0.00	3720.13	5396.74	1387.03	6549.98	6321.18	2.78	-0.898	0.000	0.598
35.00	-47.23	-31.00	0.00	-3562.8	0.00	3562.84	5323.13	1358.01	6278.73	6103.50	3.81	-1.058	0.000	0.593
40.00	-45.53	-30.46	0.00	-3407.8	0.00	3407.87	5247.84	1328.98	6013.22	5887.58	5.00	-1.222	0.000	0.588
41.00	-45.16	-30.40	0.00	-3377.4	0.00	3377.41	5232.58	1323.18	5960.81	5844.61	5.26	-1.256	0.000	0.587
45.00	-42.58	-29.95	0.00	-3255.8	0.00	3255.80	5170.87	1299.96	5753.45	5673.52	6.37	-1.390	0.000	0.583
48.00	-40.67	-29.60	0.00	-3165.9	0.00	3165.95	5181.33	1303.87	5788.10	5702.24	7.28	-1.493	0.000	0.564
50.00	-39.97	-29.42	0.00	-3106.7	0.00	3106.75	5150.16	1292.26	5685.49	5617.06	7.92	-1.563	0.000	0.561
55.00	-38.32	-28.87	0.00	-2959.6	0.00	2959.64	5071.07	1263.24	5432.97	5405.56	9.65	-1.728	0.000	0.556
60.00	-36.70	-28.39	0.00	-2815.2	0.00	2815.29	4990.29	1234.21	5186.19	5196.21	11.55	-1.896	0.000	0.550
65.00	-35.12	-27.89	0.00	-2673.3	0.00	2673.36	4907.83	1205.19	4945.14	4989.15	13.62	-2.067	0.000	0.544
70.00	-33.58	-27.40	0.00	-2533.8	0.00	2533.89	4823.69	1176.17	4709.83	4784.49	15.88	-2.242	0.000	0.537
75.00	-32.07	-26.90	0.00	-2396.9	0.00	2396.90	4737.87	1147.14	4480.26	4582.37	18.32	-2.419	0.000	0.530
80.00	-30.60	-26.40	0.00	-2262.4	0.00	2262.40	4650.37	1118.12	4256.42	4382.90	20.95	-2.600	0.000	0.523
85.00	-29.16	-25.90	0.00	-2130.4	0.00	2130.40	4561.19	1089.10	4038.32	4186.21	23.77	-2.785	0.000	0.516
90.00	-26.52	-25.28	0.00	-2000.9	0.00	2000.92	4470.33	1060.07	3825.95	3992.42	26.79	-2.973	0.000	0.508
91.00	-25.98	-25.17	0.00	-1975.6	0.00	1975.64	4519.12	1075.59	3938.79	4095.67	27.42	-3.012	0.000	0.489
93.00	-25.42	-24.97	0.00	-1925.2	0.00	1925.29	4482.67	1063.98	3854.22	4018.35	28.70	-3.090	0.000	0.485
93.00	-25.42	-24.97	0.00	-1925.2	0.00	1925.29	3684.61	913.29	3313.08	3312.42	28.70	-3.090	0.000	0.589
95.00	-24.91	-24.79	0.00	-1875.3	0.00	1875.36	3656.67	903.34	3241.28	3251.18	30.00	-3.164	0.000	0.584
100.00	-23.72	-24.29	0.00	-1751.3	0.00	1751.39	3585.64	878.46	3065.22	3099.48	33.43	-3.376	0.000	0.572
105.00	-22.56	-23.79	0.00	-1629.9	0.00	1629.93	3512.93	853.58	2894.07	2949.87	37.08	-3.591	0.000	0.560
110.00	-21.43	-23.30	0.00	-1510.9	0.00	1510.96	3438.54	828.71	2727.83	2802.49	40.95	-3.809	0.000	0.546
115.00	-20.33	-22.81	0.00	-1394.4	0.00	1394.47	3362.47	803.83	2566.52	2657.45	45.06	-4.029	0.000	0.532
120.00	-19.27	-22.31	0.00	-1280.4	0.00	1280.45	3284.72	778.95	2410.12	2514.88	49.39	-4.251	0.000	0.516
125.00	-18.23	-21.82	0.00	-1168.8	0.00	1168.89	3192.26	754.08	2258.63	2365.26	53.96	-4.474	0.000	0.501
125.00	-18.23	-21.82	0.00	-1168.8	0.00	1168.89	2545.46	629.48	1888.72	1892.56	53.96	-4.474	0.000	0.626
130.00	-17.37	-21.34	0.00	-1059.8	0.00	1059.81	2486.30	608.75	1766.36	1787.17	58.76	-4.698	0.000	0.601
135.00	-15.81	-20.80	0.00	-953.09	0.00	953.09	2457.60	598.90	1709.65	1737.70	63.82	-4.965	0.000	0.556
140.00	-14.99	-20.32	0.00	-849.08	0.00	849.08	2395.97	578.17	1593.34	1634.95	69.16	-5.231	0.000	0.527
140.00	-14.99	-20.32	0.00	-849.08	0.00	849.08	1788.19	463.41	1279.47	1224.81	69.16	-5.231	0.000	0.704
145.00	-14.31	-19.89	0.00	-747.47	0.00	747.47	1746.83	446.82	1189.53	1153.35	74.76	-5.478	0.000	0.658
150.00	-13.65	-19.47	0.00	-648.04	0.00	648.04	1703.79	430.24	1102.87	1082.85	80.65	-5.778	0.000	0.609
155.00	-13.02	-19.05	0.00	-550.71	0.00	550.71	1659.07	413.65	1019.48	1013.46	86.85	-6.066	0.000	0.553
160.00	-12.41	-18.64	0.00	-455.47	0.00	455.47	1612.67	397.07	939.37	945.29	93.34	-6.338	0.000	0.492
165.00	-11.83	-18.23	0.00	-362.29	0.00	362.29	1564.59	380.48	862.54	878.47	100.10	-6.589	0.000	0.422
170.00	-11.29	-17.83	0.00	-271.15	0.00	271.15	1514.83	363.90	788.98	813.12	107.11	-6.809	0.000	0.343
175.00	-7.92	-12.02	0.00	-182.02	0.00	182.02	1463.38	347.31	718.70	749.37	114.33	-6.989	0.000	0.250
180.00	-7.51	-11.33	0.00	-121.93	0.00	121.93	1400.09	330.73	651.70	682.38	121.71	-7.128	0.000	0.185
180.00	-7.51	-11.33	0.00	-121.93	0.00	121.93	678.42	203.53	25205.7	396.30	121.71	-7.128	0.000	0.322
185.00	-4.73	-6.70	0.00	-65.27	0.00	65.27	678.42	203.53	25205.7	396.30	129.21	-7.227	0.000	0.173
190.00	-4.32	-6.36	0.00	-31.79	0.00	31.79	678.42	203.53	25205.7	396.30	136.79	-7.274	0.000	0.088
195.00	0.00	-5.76	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	144.40	-7.289	0.000	0.001

Calculated Forces

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Wind Loading - Shaft

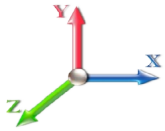
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

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	0.70	25.457	28.00	558.40	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	25.457	28.00	548.09	0.774 *	0.000	5.00	27.038	20.92	585.7	0.0	1349.5
10.00		1.00	0.70	25.457	28.00	537.78	0.779 *	0.000	5.00	26.534	20.66	578.5	0.0	1324.1
15.00		1.00	0.70	25.457	28.00	527.47	0.784 *	0.000	5.00	26.030	20.40	571.3	0.0	1298.8
20.00		1.00	0.70	25.457	28.00	517.16	0.789 *	0.000	5.00	25.526	20.14	564.1	0.0	1273.5
25.00		1.00	0.70	25.457	28.00	506.85	0.795 *	0.000	5.00	25.022	19.89	556.8	0.0	1248.2
30.00		1.00	0.70	25.478	28.03	496.75	0.801 *	0.000	5.00	24.518	19.63	550.1	0.0	1222.9
35.00		1.00	0.73	26.626	29.29	497.26	0.807 *	0.000	5.00	24.014	19.37	567.3	0.0	1197.5
40.00		1.00	0.76	27.661	30.43	496.09	0.813 *	0.000	5.00	23.510	19.11	581.6	0.0	1172.2
41.00	Bot - Section 2	1.00	0.77	27.857	30.64	495.69	0.817 *	0.000	1.00	4.642	3.79	116.2	0.0	231.4
45.00		1.00	0.79	28.608	31.47	493.58	0.820 *	0.000	4.00	18.661	15.31	481.7	0.0	1845.8
48.00	Top - Section 1	1.00	0.80	29.140	32.05	491.53	0.825 *	0.000	3.00	13.784	11.37	364.6	0.0	1363.1
50.00		1.00	0.81	29.482	32.43	498.12	0.823 *	0.000	2.00	9.089	7.48	242.7	0.0	453.0
55.00		1.00	0.83	30.296	33.33	493.70	0.828 *	0.000	5.00	22.369	18.53	617.5	0.0	1114.8
60.00		1.00	0.85	31.059	34.16	488.49	0.730	0.000	5.00	21.865	15.96	545.3	0.0	1089.5
65.00		1.00	0.87	31.777	34.95	482.59	0.730	0.000	5.00	21.361	15.59	545.1	0.0	1064.2
70.00		1.00	0.89	32.457	35.70	476.08	0.730	0.000	5.00	20.857	15.23	543.6	0.0	1038.9
75.00		1.00	0.91	33.103	36.41	469.04	0.730	0.000	5.00	20.353	14.86	541.0	0.0	1013.6
80.00		1.00	0.93	33.719	37.09	461.52	0.730	0.000	5.00	19.849	14.49	537.5	0.0	988.2
85.00	Bot - Section 3	1.00	0.94	34.308	37.74	453.56	0.730	0.000	5.00	19.346	14.12	533.0	0.0	962.9
90.00		1.00	0.96	34.873	38.36	445.21	0.730	0.000	5.00	19.212	14.02	538.0	0.0	1893.8
91.00	Top - Section 2	1.00	0.96	34.984	38.48	443.50	0.730	0.000	1.00	3.782	2.76	106.2	0.0	372.7
93.00	Top - Section 3	1.00	0.97	35.202	38.72	448.94	0.730	0.000	2.00	7.503	5.48	212.1	0.0	373.4
95.00		1.00	0.97	35.416	38.96	445.44	0.730	0.000	2.00	7.423	5.42	211.1	0.0	317.0
100.00		1.00	0.99	35.939	39.53	436.46	0.730	0.000	5.00	18.204	13.29	525.4	0.0	777.3
105.00		1.00	1.00	36.444	40.09	427.18	0.730	0.000	5.00	17.700	12.92	518.0	0.0	755.6
110.00		1.00	1.02	36.931	40.62	417.61	0.730	0.000	5.00	17.196	12.55	510.0	0.0	733.9
115.00		1.00	1.03	37.403	41.14	407.77	0.730	0.000	5.00	16.692	12.19	501.4	0.0	712.2
120.00		1.00	1.04	37.861	41.65	397.68	0.736 *	0.000	5.00	16.189	11.92	496.5	0.0	690.5
125.00	Top - Section 4	1.00	1.05	38.305	42.14	387.36	0.744 *	0.000	5.00	15.685	11.66	491.5	0.0	668.8
130.00	Bot - Section 6	1.00	1.07	38.737	42.61	376.82	0.751 *	0.000	5.00	15.181	11.41	486.1	0.0	540.2
135.00	Top - Section 5	1.00	1.08	39.157	43.07	366.07	0.760 *	0.000	5.00	14.941	11.35	488.9	0.0	1053.7
140.00	Top - Section 6	1.00	1.09	39.566	43.52	361.87	0.764 *	0.000	5.00	14.437	11.03	479.9	0.0	513.5
145.00		1.00	1.10	39.964	43.96	350.77	0.730	0.000	5.00	13.933	10.17	447.1	0.0	397.1
150.00		1.00	1.11	40.353	44.39	339.49	0.730	0.000	5.00	13.430	9.80	435.2	0.0	382.6
155.00		1.00	1.12	40.733	44.81	328.04	0.730	0.000	5.00	12.926	9.44	422.8	0.0	368.2
160.00		1.00	1.13	41.104	45.21	316.43	0.730	0.000	5.00	12.422	9.07	410.0	0.0	353.7
165.00		1.00	1.14	41.467	45.61	304.66	0.730	0.000	5.00	11.918	8.70	396.8	0.0	339.2
170.00		1.00	1.15	41.822	46.00	292.75	0.730	0.000	5.00	11.414	8.33	383.3	0.0	324.7
175.00	Appurtenance(s)	1.00	1.16	42.170	46.39	280.69	0.730	0.000	5.00	10.910	7.96	369.4	0.0	310.3
180.00	Top - Section 7	1.00	1.17	42.511	46.76	268.50	1.200 *	0.000	5.00	10.406	12.49	583.9	0.0	295.8
185.00	Appurtenance(s)	1.00	1.18	42.845	47.13	265.46	1.200 *	0.000	5.00	10.000	12.00	565.6	0.0	320.6
190.00		1.00	1.19	43.173	47.49	266.47	0.600	0.000	5.00	10.000	6.00	284.9	0.0	320.6
195.00	Appurtenance(s)	1.00	1.20	43.494	47.84	267.46	0.600	0.000	5.00	10.000	6.00	287.1	0.0	320.6
								Totals:	**195.00**			**19,774.6**		**34,388.2**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

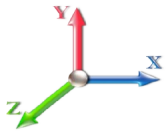
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

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	195.00	HRK12 (Handrail Kit)	1	43.494	47.844	1.00	1.00	6.75	235.55	0.000	0.000	322.95	0.00	0.00
2	195.00	Low Profile	1	43.494	47.844	1.00	1.00	26.00	1620.00	0.000	0.000	1243.94	0.00	0.00
3	195.00	PRK-1245 (kicker kit)	1	43.494	47.844	1.00	1.00	9.50	418.42	0.000	0.000	454.52	0.00	0.00
4	195.00	(3) SFS-H-L (V-Braces)	1	43.494	47.844	1.00	1.00	6.70	207.00	0.000	0.000	320.55	0.00	0.00
5	195.00	TD-RRH8x20-25	3	43.494	47.844	0.67	1.00	8.14	189.00	0.000	0.000	389.47	0.00	0.00
6	195.00	APXVTM14-C-I20	3	43.494	47.844	0.78	1.00	14.84	151.74	0.000	0.000	709.79	0.00	0.00
7	195.00	NNVV-65B-R4	3	43.494	47.844	0.73	1.00	26.87	208.98	0.000	0.000	1285.63	0.00	0.00
8	195.00	1900MHz RRH (65MHz)	3	43.494	47.844	0.67	1.00	5.57	162.00	0.000	0.000	266.38	0.00	0.00
9	195.00	800 MHz RRH	6	43.494	47.844	0.67	1.00	10.01	286.20	0.000	0.000	478.91	0.00	0.00
10	185.00	DC6-48-60-18-8F	1	42.845	47.130	0.60	0.80	0.55	28.62	0.000	0.000	26.02	0.00	0.00
11	185.00	RRUS-11	6	42.845	47.130	0.60	0.80	9.07	275.40	0.000	0.000	427.56	0.00	0.00
12	185.00	LGP21903	6	42.845	47.130	0.54	0.80	0.87	29.70	0.000	0.000	40.92	0.00	0.00
13	185.00	LGP21401	6	42.845	47.130	0.54	0.80	4.15	76.14	0.000	0.000	195.52	0.00	0.00
14	185.00	P65-17-XLH-RR	2	42.845	47.130	0.60	0.80	13.73	106.20	0.000	0.000	647.00	0.00	0.00
15	185.00	7770.00	6	42.845	47.130	0.58	0.80	19.27	189.00	0.000	0.000	908.28	0.00	0.00
16	185.00	Low Profile	1	42.845	47.130	1.00	1.00	22.00	1350.00	0.000	0.000	1036.85	0.00	0.00
17	185.00	SBNH-1D6565C	1	42.845	47.130	0.64	0.80	7.34	59.49	0.000	0.000	345.97	0.00	0.00
18	175.00	Commscope	3	42.170	46.387	0.60	0.75	20.65	134.46	0.000	0.000	957.71	0.00	0.00
19	175.00	RFS	3	42.170	46.387	0.46	0.75	9.01	109.89	0.000	0.000	418.03	0.00	0.00
20	175.00	RFS	3	42.170	46.387	0.52	0.75	31.88	345.60	0.000	0.000	1478.73	0.00	0.00
21	175.00	Ericsson RRUS11	3	42.170	46.387	0.53	0.75	4.03	136.62	0.000	0.000	186.74	0.00	0.00
22	175.00	Ericsson RRUS11 B2	3	42.170	46.387	0.53	0.75	4.03	136.62	0.000	0.000	186.74	0.00	0.00
23	175.00	Ericsson Radio 4449	3	42.170	46.387	0.50	0.75	2.49	189.00	0.000	0.000	115.38	0.00	0.00
24	175.00	Platform w/ Hand Rail	1	42.170	46.387	1.00	1.00	32.00	1440.00	0.000	0.000	1484.39	0.00	0.00
25	175.00	Ericsson RRUS11 B4	3	42.170	46.387	0.53	0.75	4.03	136.62	0.000	0.000	186.74	0.00	0.00
							Totals:		**8,222.25**			**14,114.73**		

Total Applied Force Summary

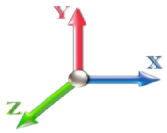
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

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
5.00		585.69	1422.15	0.00	0.00
10.00		578.48	1396.82	0.00	0.00
15.00		571.27	1371.50	0.00	0.00
20.00		564.06	1346.18	0.00	0.00
25.00		556.85	1320.85	0.00	0.00
30.00		550.10	1295.53	0.00	0.00
35.00		567.33	1270.21	0.00	0.00
40.00		581.56	1244.88	0.00	0.00
41.00		116.19	245.94	0.00	0.00
45.00		481.68	1903.99	0.00	0.00
48.00		364.55	1406.72	0.00	0.00
50.00		242.71	482.10	0.00	0.00
55.00		617.51	1187.52	0.00	0.00
60.00		545.31	1162.20	0.00	0.00
65.00		545.07	1136.87	0.00	0.00
70.00		543.60	1111.55	0.00	0.00
75.00		541.03	1086.23	0.00	0.00
80.00		537.45	1060.90	0.00	0.00
85.00		532.96	1035.58	0.00	0.00
90.00		537.99	1966.45	0.00	0.00
91.00		106.24	387.21	0.00	0.00
93.00		212.10	402.43	0.00	0.00
95.00		211.10	346.07	0.00	0.00
100.00		525.35	849.99	0.00	0.00
105.00		517.98	828.29	0.00	0.00
110.00		509.97	806.58	0.00	0.00
115.00		501.35	784.88	0.00	0.00
120.00		496.53	763.17	0.00	0.00
125.00		491.50	741.46	0.00	0.00
130.00		486.07	612.86	0.00	0.00
135.00		488.90	1126.36	0.00	0.00
140.00		479.94	586.18	0.00	0.00
145.00		447.14	469.77	0.00	0.00
150.00		435.17	455.30	0.00	0.00
155.00		422.78	440.83	0.00	0.00
160.00		410.00	426.35	0.00	0.00
165.00		396.84	411.88	0.00	0.00
170.00		383.32	397.41	0.00	0.00
175.00	(22) attachments	5383.92	3011.75	0.00	0.00
180.00		650.23	354.28	0.00	0.00
185.00	(29) attachments	4260.48	2493.66	0.00	0.00
190.00		284.94	337.80	0.00	0.00
195.00	(22) attachments	5759.20	3816.68	0.00	0.00
	Totals:	**34,022.45**	**45,305.36**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

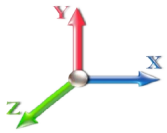
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

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)
5.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.120	1.060	25.457	0.00	0.00
5.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.120	1.060	25.457	0.00	0.00
10.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.122	1.067	25.457	0.00	0.00
10.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.122	1.067	25.457	0.00	0.00
15.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.125	1.074	25.457	0.00	0.00
15.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.125	1.074	25.457	0.00	0.00
20.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.127	1.081	25.457	0.00	0.00
20.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.127	1.081	25.457	0.00	0.00
25.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.130	1.089	25.457	0.00	0.00
25.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.130	1.089	25.457	0.00	0.00
30.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.132	1.097	25.478	0.00	0.00
30.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.132	1.097	25.478	0.00	0.00
35.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.135	1.105	26.626	0.00	0.00
35.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.135	1.105	26.626	0.00	0.00
40.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.138	1.114	27.661	0.00	0.00
40.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.138	1.114	27.661	0.00	0.00
41.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.140	1.119	27.857	0.00	0.00
41.00	(4) C5x9	Yes	1.00	0.000	3.78	0.32	0.00	0.140	1.119	27.857	0.00	0.00
45.00	(4) C6x10.5	Yes	4.00	0.000	4.00	1.33	0.00	0.141	1.124	28.608	0.00	0.00
45.00	(4) C5x9	Yes	4.00	0.000	3.78	1.26	0.00	0.141	1.124	28.608	0.00	0.00
48.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.143	1.130	29.140	0.00	0.00
48.00	(4) C5x9	Yes	3.00	0.000	3.78	0.94	0.00	0.143	1.130	29.140	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.143	1.128	29.482	0.00	0.00
50.00	(4) C5x9	Yes	2.00	0.000	3.78	0.63	0.00	0.143	1.128	29.482	0.00	0.00
55.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.145	1.135	30.296	0.00	0.00
55.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.145	1.135	30.296	0.00	0.00
60.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.076	0.000	31.059	0.00	0.00
65.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.078	0.000	31.777	0.00	0.00
70.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.080	0.000	32.457	0.00	0.00
75.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.082	0.000	33.103	0.00	0.00
80.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.084	0.000	33.719	0.00	0.00
85.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.086	0.000	34.308	0.00	0.00
90.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.088	0.000	34.873	0.00	0.00
91.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.090	0.000	34.984	0.00	0.00
93.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	35.202	0.00	0.00
95.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	35.416	0.00	0.00
100.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.092	0.000	35.939	0.00	0.00
105.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.094	0.000	36.444	0.00	0.00
110.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.097	0.000	36.931	0.00	0.00
115.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.100	0.000	37.403	0.00	0.00
120.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.103	1.009	37.861	0.00	0.00
125.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.106	1.019	38.305	0.00	0.00
130.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.110	1.029	38.737	0.00	0.00
135.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.114	1.041	39.157	0.00	0.00
140.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.115	1.046	39.566	0.00	0.00
145.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.072	0.000	39.964	0.00	0.00
180.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.227	0.000	42.511	66.29	0.00

Linear Appurtenance Segment Forces (Factored)

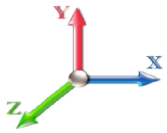
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

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)
185.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.236	0.000	42.845	66.81	0.00
										Totals:	**133.1**	**0.0**

Calculated Forces

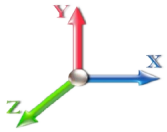
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

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	-45.26	-34.08	0.00	-4647.4	0.00	4647.42	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.615
5.00	-43.76	-33.60	0.00	-4477.0	0.00	4477.03	5739.58	1532.15	7992.25	7431.48	0.08	-0.141	0.000	0.611
10.00	-42.28	-33.12	0.00	-4309.0	0.00	4309.03	5674.37	1503.12	7692.32	7206.92	0.30	-0.284	0.000	0.606
15.00	-40.83	-32.65	0.00	-4143.4	0.00	4143.42	5607.48	1474.10	7398.13	6983.48	0.68	-0.430	0.000	0.601
20.00	-39.40	-32.18	0.00	-3980.1	0.00	3980.18	5538.91	1445.08	7109.68	6761.30	1.21	-0.579	0.000	0.596
25.00	-38.00	-31.71	0.00	-3819.3	0.00	3819.30	5468.67	1416.05	6826.96	6540.49	1.89	-0.731	0.000	0.591
30.00	-36.63	-31.24	0.00	-3660.7	0.00	3660.77	5396.74	1387.03	6549.98	6321.18	2.74	-0.885	0.000	0.586
35.00	-35.29	-30.75	0.00	-3504.5	0.00	3504.59	5323.13	1358.01	6278.73	6103.50	3.75	-1.043	0.000	0.581
40.00	-34.00	-30.20	0.00	-3350.8	0.00	3350.86	5247.84	1328.98	6013.22	5887.58	4.93	-1.203	0.000	0.576
41.00	-33.71	-30.13	0.00	-3320.6	0.00	3320.66	5232.58	1323.18	5960.81	5844.61	5.19	-1.237	0.000	0.575
45.00	-31.76	-29.67	0.00	-3200.1	0.00	3200.16	5170.87	1299.96	5753.45	5673.52	6.28	-1.369	0.000	0.571
48.00	-30.32	-29.31	0.00	-3111.1	0.00	3111.17	5181.33	1303.87	5788.10	5702.24	7.17	-1.470	0.000	0.552
50.00	-29.79	-29.12	0.00	-3052.5	0.00	3052.54	5150.16	1292.26	5685.49	5617.06	7.80	-1.538	0.000	0.550
55.00	-28.54	-28.55	0.00	-2906.9	0.00	2906.97	5071.07	1263.24	5432.97	5405.56	9.50	-1.700	0.000	0.544
60.00	-27.31	-28.04	0.00	-2764.2	0.00	2764.24	4990.29	1234.21	5186.19	5196.21	11.37	-1.866	0.000	0.538
65.00	-26.11	-27.54	0.00	-2624.0	0.00	2624.01	4907.83	1205.19	4945.14	4989.15	13.41	-2.034	0.000	0.532
70.00	-24.94	-27.03	0.00	-2486.3	0.00	2486.32	4823.69	1176.17	4709.83	4784.49	15.64	-2.205	0.000	0.525
75.00	-23.79	-26.52	0.00	-2351.1	0.00	2351.17	4737.87	1147.14	4480.26	4582.37	18.04	-2.379	0.000	0.519
80.00	-22.68	-26.01	0.00	-2218.5	0.00	2218.58	4650.37	1118.12	4256.42	4382.90	20.62	-2.557	0.000	0.512
85.00	-21.58	-25.50	0.00	-2088.5	0.00	2088.54	4561.19	1089.10	4038.32	4186.21	23.40	-2.738	0.000	0.504
90.00	-19.60	-24.90	0.00	-1961.0	0.00	1961.06	4470.33	1060.07	3825.95	3992.42	26.36	-2.922	0.000	0.496
91.00	-19.19	-24.79	0.00	-1936.1	0.00	1936.16	4519.12	1075.59	3938.79	4095.67	26.98	-2.960	0.000	0.478
93.00	-18.77	-24.58	0.00	-1886.5	0.00	1886.58	4482.67	1063.98	3854.22	4018.35	28.24	-3.037	0.000	0.474
93.00	-18.77	-24.58	0.00	-1886.5	0.00	1886.58	3684.61	913.29	3313.08	3312.42	28.24	-3.037	0.000	0.575
95.00	-18.38	-24.40	0.00	-1837.4	0.00	1837.41	3656.67	903.34	3241.28	3251.18	29.52	-3.109	0.000	0.571
100.00	-17.47	-23.89	0.00	-1715.4	0.00	1715.41	3585.64	878.46	3065.22	3099.48	32.89	-3.317	0.000	0.559
105.00	-16.59	-23.39	0.00	-1595.9	0.00	1595.95	3512.93	853.58	2894.07	2949.87	36.47	-3.528	0.000	0.546
110.00	-15.73	-22.89	0.00	-1479.0	0.00	1479.01	3438.54	828.71	2727.83	2802.49	40.28	-3.741	0.000	0.533
115.00	-14.89	-22.39	0.00	-1364.5	0.00	1364.59	3362.47	803.83	2566.52	2657.45	44.31	-3.956	0.000	0.519
120.00	-14.09	-21.89	0.00	-1252.6	0.00	1252.64	3284.72	778.95	2410.12	2514.88	48.57	-4.173	0.000	0.503
125.00	-13.30	-21.40	0.00	-1143.1	0.00	1143.17	3192.26	754.08	2258.63	2365.26	53.05	-4.392	0.000	0.488
125.00	-13.30	-21.40	0.00	-1143.1	0.00	1143.17	2545.46	629.48	1888.72	1892.56	53.05	-4.392	0.000	0.610
130.00	-12.64	-20.92	0.00	-1036.1	0.00	1036.18	2486.30	608.75	1766.36	1787.17	57.77	-4.611	0.000	0.586
135.00	-11.47	-20.39	0.00	-931.58	0.00	931.58	2457.60	598.90	1709.65	1737.70	62.73	-4.872	0.000	0.542
140.00	-10.84	-19.91	0.00	-829.62	0.00	829.62	2395.97	578.17	1593.34	1634.95	67.97	-5.131	0.000	0.513
140.00	-10.84	-19.91	0.00	-829.62	0.00	829.62	1788.19	463.41	1279.47	1224.81	67.97	-5.131	0.000	0.685
145.00	-10.32	-19.47	0.00	-730.07	0.00	730.07	1746.83	446.82	1189.53	1153.35	73.46	-5.373	0.000	0.641
150.00	-9.81	-19.04	0.00	-632.72	0.00	632.72	1703.79	430.24	1102.87	1082.85	79.24	-5.666	0.000	0.592
155.00	-9.33	-18.62	0.00	-537.50	0.00	537.50	1659.07	413.65	1019.48	1013.46	85.32	-5.947	0.000	0.538
160.00	-8.87	-18.21	0.00	-444.39	0.00	444.39	1612.67	397.07	939.37	945.29	91.68	-6.213	0.000	0.478
165.00	-8.43	-17.80	0.00	-353.34	0.00	353.34	1564.59	380.48	862.54	878.47	98.31	-6.457	0.000	0.410
170.00	-8.02	-17.40	0.00	-264.32	0.00	264.32	1514.83	363.90	788.98	813.12	105.18	-6.672	0.000	0.333
175.00	-5.63	-11.72	0.00	-177.30	0.00	177.30	1463.38	347.31	718.70	749.37	112.25	-6.847	0.000	0.242
180.00	-5.34	-11.04	0.00	-118.71	0.00	118.71	1400.09	330.73	651.70	682.38	119.48	-6.983	0.000	0.179
180.00	-5.34	-11.04	0.00	-118.71	0.00	118.71	678.42	203.53	25205.7	396.30	119.48	-6.983	0.000	0.310
185.00	-3.37	-6.51	0.00	-63.50	0.00	63.50	678.42	203.53	25205.7	396.30	126.83	-7.079	0.000	0.166
190.00	-3.07	-6.19	0.00	-30.94	0.00	30.94	678.42	203.53	25205.7	396.30	134.25	-7.125	0.000	0.084
195.00	0.00	-5.76	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	141.71	-7.140	0.000	0.001

Calculated Forces

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Wind Loading - Shaft

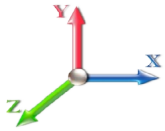
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	0.70	4.207	4.63	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.207	4.63	0.00	1.272 *	0.828	5.00	27.728	35.26	163.2	329.4	2128.6
10.00		1.00	0.70	4.207	4.63	0.00	1.280 *	0.887	5.00	27.273	34.90	161.5	346.8	2112.3
15.00		1.00	0.70	4.207	4.63	0.00	1.288 *	0.924	5.00	26.800	34.53	159.8	354.5	2086.3
20.00		1.00	0.70	4.207	4.63	0.00	1.297 *	0.951	5.00	26.319	34.14	158.0	358.0	2056.0
25.00		1.00	0.70	4.207	4.63	0.00	1.306 *	0.973	5.00	25.833	33.75	156.2	359.0	2023.2
30.00		1.00	0.70	4.210	4.63	0.00	1.316 *	0.991	5.00	25.344	33.35	154.5	358.4	1988.9
35.00		1.00	0.73	4.400	4.84	0.00	1.326 *	1.006	5.00	24.853	32.95	159.5	356.6	1953.3
40.00		1.00	0.76	4.571	5.03	0.00	1.336 *	1.019	5.00	24.360	32.55	163.7	354.0	1916.9
41.00	Bot - Section 2	1.00	0.77	4.603	5.06	0.00	1.343 *	1.022	1.00	4.812	6.46	32.7	70.7	379.2
45.00		1.00	0.79	4.727	5.20	0.00	1.348 *	1.032	4.00	19.349	26.09	135.7	285.0	2746.1
48.00	Top - Section 1	1.00	0.80	4.815	5.30	0.00	1.356 *	1.038	3.00	14.303	19.40	102.8	212.4	2029.9
50.00		1.00	0.81	4.872	5.36	0.00	1.354 *	1.042	2.00	9.436	12.77	68.4	140.9	745.0
55.00		1.00	0.83	5.006	5.51	0.00	1.362 *	1.052	5.00	23.246	31.65	174.3	348.0	1834.5
60.00		1.00	0.85	5.132	5.65	0.00	1.200	1.062	5.00	22.750	27.30	154.1	343.3	1796.0
65.00		1.00	0.87	5.251	5.78	0.00	1.200	1.070	5.00	22.253	26.70	154.2	338.2	1757.1
70.00		1.00	0.89	5.363	5.90	0.00	1.200	1.078	5.00	21.756	26.11	154.0	332.8	1717.9
75.00		1.00	0.91	5.470	6.02	0.00	1.200	1.086	5.00	21.258	25.51	153.5	327.1	1678.5
80.00		1.00	0.93	5.572	6.13	0.00	1.200	1.093	5.00	20.760	24.91	152.7	321.2	1638.8
85.00	Bot - Section 3	1.00	0.94	5.669	6.24	0.00	1.200	1.099	5.00	20.262	24.31	151.6	315.1	1599.0
90.00		1.00	0.96	5.763	6.34	0.00	1.200	1.106	5.00	20.133	24.16	153.1	314.8	2839.8
91.00	Top - Section 2	1.00	0.96	5.781	6.36	0.00	1.200	1.107	1.00	3.966	4.76	30.3	62.7	559.6
93.00	Top - Section 3	1.00	0.97	5.817	6.40	0.00	1.200	1.109	2.00	7.873	9.45	60.5	124.4	622.2
95.00		1.00	0.97	5.852	6.44	0.00	1.200	1.112	2.00	7.793	9.35	60.2	123.3	546.0
100.00		1.00	0.99	5.939	6.53	0.00	1.200	1.117	5.00	19.135	22.96	150.0	301.7	1338.1
105.00		1.00	1.00	6.022	6.62	0.00	1.200	1.123	5.00	18.636	22.36	148.1	294.9	1302.4
110.00		1.00	1.02	6.103	6.71	0.00	1.200	1.128	5.00	18.136	21.76	146.1	288.0	1266.5
115.00		1.00	1.03	6.181	6.80	0.00	1.200	1.133	5.00	17.637	21.16	143.9	280.9	1230.5
120.00		1.00	1.04	6.256	6.88	0.00	1.211 *	1.138	5.00	17.137	20.75	142.8	273.7	1194.4
125.00	Top - Section 4	1.00	1.05	6.330	6.96	0.00	1.223 *	1.142	5.00	16.637	20.34	141.6	266.5	1158.2
130.00	Bot - Section 6	1.00	1.07	6.401	7.04	0.00	1.235 *	1.147	5.00	16.137	19.93	140.3	259.1	979.3
135.00	Top - Section 5	1.00	1.08	6.470	7.12	0.00	1.249 *	1.151	5.00	15.901	19.86	141.3	256.0	1661.0
140.00	Top - Section 6	1.00	1.09	6.538	7.19	0.00	1.256 *	1.155	5.00	15.400	19.34	139.1	248.5	933.1
145.00		1.00	1.10	6.604	7.26	0.00	1.200	1.160	5.00	14.900	17.88	129.9	240.8	770.2
150.00		1.00	1.11	6.668	7.34	0.00	1.200	1.163	5.00	14.399	17.28	126.7	233.0	743.2
155.00		1.00	1.12	6.731	7.40	0.00	1.200	1.167	5.00	13.898	16.68	123.5	225.2	716.1
160.00		1.00	1.13	6.792	7.47	0.00	1.200	1.171	5.00	13.398	16.08	120.1	217.3	688.9
165.00		1.00	1.14	6.852	7.54	0.00	1.200	1.175	5.00	12.897	15.48	116.7	209.3	661.6
170.00		1.00	1.15	6.911	7.60	0.00	1.200	1.178	5.00	12.396	14.87	113.1	201.3	634.3
175.00	Appurtenance(s)	1.00	1.16	6.968	7.67	0.00	1.200	1.182	5.00	11.895	14.27	109.4	193.2	606.8
180.00	Top - Section 7	1.00	1.17	7.025	7.73	0.00	1.200 *	1.185	5.00	11.394	13.67	105.6	185.0	579.4
185.00	Appurtenance(s)	1.00	1.18	7.080	7.79	0.00	1.200 *	1.188	5.00	10.990	13.19	102.7	182.8	610.3
190.00		1.00	1.19	7.134	7.85	0.00	1.200	1.191	5.00	10.993	13.19	103.5	183.3	610.8
195.00	Appurtenance(s)	1.00	1.20	7.187	7.91	0.00	1.200	1.194	5.00	10.995	13.19	104.3	183.8	611.3
								Totals:	**195.00**			**5,563.2**		**57,051.4**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

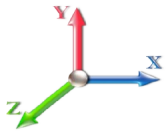
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	195.00	HRK12 (Handrail Kit)	1	7.187	7.906	1.00	1.00	11.26	788.35	0.000	0.000	89.06	0.00	0.00
2	195.00	Low Profile	1	7.187	7.906	1.00	1.00	40.29	3234.97	0.000	0.000	318.49	0.00	0.00
3	195.00	PRK-1245 (kicker kit)	1	7.187	7.906	1.00	1.00	16.31	684.92	0.000	0.000	128.93	0.00	0.00
4	195.00	(3) SFS-H-L (V-Braces)	1	7.187	7.906	1.00	1.00	11.50	394.77	0.000	0.000	90.93	0.00	0.00
5	195.00	TD-RRH8x20-25	3	7.187	7.906	0.67	1.00	9.23	464.14	0.000	0.000	72.98	0.00	0.00
6	195.00	APXVTM14-C-I20	3	7.187	7.906	0.81	1.00	17.22	510.93	0.000	0.000	136.14	0.00	0.00
7	195.00	NNVV-65B-R4	3	7.187	7.906	0.76	1.00	30.25	667.54	0.000	0.000	239.14	0.00	0.00
8	195.00	1900MHz RRH (65MHz)	3	7.187	7.906	0.67	1.00	7.31	315.61	0.000	0.000	57.81	0.00	0.00
9	195.00	800 MHz RRH	6	7.187	7.906	0.67	1.00	13.16	558.71	0.000	0.000	104.02	0.00	0.00
10	185.00	DC6-48-60-18-8F	1	7.080	7.788	0.60	0.80	0.73	62.55	0.000	0.000	5.69	0.00	0.00
11	185.00	RRUS-11	6	7.080	7.788	0.60	0.80	10.62	566.42	0.000	0.000	82.74	0.00	0.00
12	185.00	LGP21903	6	7.080	7.788	0.54	0.80	1.74	59.63	0.000	0.000	13.54	0.00	0.00
13	185.00	LGP21401	6	7.080	7.788	0.54	0.80	5.98	161.04	0.000	0.000	46.56	0.00	0.00
14	185.00	P65-17-XLH-RR	2	7.080	7.788	0.60	0.80	16.37	312.52	0.000	0.000	127.49	0.00	0.00
15	185.00	7770.00	6	7.080	7.788	0.58	0.80	21.76	764.58	0.000	0.000	169.48	0.00	0.00
16	185.00	Low Profile	1	7.080	7.788	1.00	1.00	34.02	2391.10	0.000	0.000	264.98	0.00	0.00
17	185.00	SBNH-1D6565C	1	7.080	7.788	0.64	0.80	8.76	169.93	0.000	0.000	68.20	0.00	0.00
18	175.00	Commscope	3	6.968	7.665	0.60	0.75	24.63	448.11	0.000	0.000	188.77	0.00	0.00
19	175.00	RFS	3	6.968	7.665	0.46	0.75	10.04	404.56	0.000	0.000	76.97	0.00	0.00
20	175.00	RFS	3	6.968	7.665	0.52	0.75	33.88	1275.06	0.000	0.000	259.70	0.00	0.00
21	175.00	Ericsson RRUS11	3	6.968	7.665	0.54	0.75	5.23	344.18	0.000	0.000	40.10	0.00	0.00
22	175.00	Ericsson RRUS11 B2	3	6.968	7.665	0.54	0.75	5.23	344.18	0.000	0.000	40.10	0.00	0.00
23	175.00	Ericsson Radio 4449	3	6.968	7.665	0.50	0.75	3.02	379.39	0.000	0.000	23.12	0.00	0.00
24	175.00	Platform w/ Hand Rail	1	6.968	7.665	1.00	1.00	50.90	2741.64	0.000	0.000	390.20	0.00	0.00
25	175.00	Ericsson RRUS11 B4	3	6.968	7.665	0.54	0.75	5.23	344.18	0.000	0.000	40.10	0.00	0.00
							Totals:		**18,388.99**			**3,075.26**		

Total Applied Force Summary

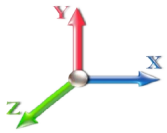
Structure:	CT01916-S-SBA		**Code:**	EIA/TIA-222-H	6/27/2019
Site Name:	North Salem		**Exposure:**	B	
Height:	195.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 24

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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
5.00		163.15	2252.63	0.00	0.00
10.00		161.52	2238.68	0.00	0.00
15.00		159.77	2214.17	0.00	0.00
20.00		157.98	2185.02	0.00	0.00
25.00		156.16	2153.20	0.00	0.00
30.00		154.46	2119.61	0.00	0.00
35.00		159.49	2084.75	0.00	0.00
40.00		163.68	2048.93	0.00	0.00
41.00		32.72	405.63	0.00	0.00
45.00		135.66	2852.15	0.00	0.00
48.00		102.76	2109.58	0.00	0.00
50.00		68.45	798.20	0.00	0.00
55.00		174.32	1967.97	0.00	0.00
60.00		154.12	1899.75	0.00	0.00
65.00		154.24	1861.01	0.00	0.00
70.00		154.02	1821.95	0.00	0.00
75.00		153.50	1782.62	0.00	0.00
80.00		152.69	1743.04	0.00	0.00
85.00		151.63	1703.24	0.00	0.00
90.00		153.15	2944.16	0.00	0.00
91.00		30.27	580.48	0.00	0.00
93.00		60.45	663.94	0.00	0.00
95.00		60.20	587.77	0.00	0.00
100.00		150.00	1442.62	0.00	0.00
105.00		148.14	1406.98	0.00	0.00
110.00		146.10	1371.19	0.00	0.00
115.00		143.89	1335.26	0.00	0.00
120.00		142.77	1299.22	0.00	0.00
125.00		141.61	1263.05	0.00	0.00
130.00		140.35	1084.25	0.00	0.00
135.00		141.33	1765.95	0.00	0.00
140.00		139.06	1038.18	0.00	0.00
145.00		129.88	872.08	0.00	0.00
150.00		126.74	840.11	0.00	0.00
155.00		123.49	812.98	0.00	0.00
160.00		120.12	785.78	0.00	0.00
165.00		116.65	758.50	0.00	0.00
170.00		113.08	731.16	0.00	0.00
175.00	(22) attachments	1168.48	6985.04	0.00	0.00
180.00		131.68	661.20	0.00	0.00
185.00	(29) attachments	907.63	5179.94	0.00	0.00
190.00		103.52	633.72	0.00	0.00
195.00	(22) attachments	1341.82	8254.15	0.00	0.00
	Totals:	**8,690.72**	**79,539.83**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

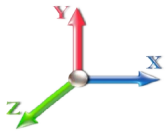
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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)
5.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.36	0.00	0.120	1.060	4.207	0.00	4.19
5.00	(4) C5x9	Yes	5.00	0.000	3.78	2.27	0.00	0.120	1.060	4.207	0.00	22.90
10.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.41	0.00	0.122	1.067	4.207	0.00	4.81
10.00	(4) C5x9	Yes	5.00	0.000	3.78	2.31	0.00	0.122	1.067	4.207	0.00	24.68
15.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.44	0.00	0.125	1.074	4.207	0.00	5.22
15.00	(4) C5x9	Yes	5.00	0.000	3.78	2.35	0.00	0.125	1.074	4.207	0.00	25.80
20.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.46	0.00	0.127	1.081	4.207	0.00	5.53
20.00	(4) C5x9	Yes	5.00	0.000	3.78	2.37	0.00	0.127	1.081	4.207	0.00	26.63
25.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.48	0.00	0.130	1.089	4.207	0.00	5.78
25.00	(4) C5x9	Yes	5.00	0.000	3.78	2.39	0.00	0.130	1.089	4.207	0.00	27.30
30.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.49	0.00	0.132	1.097	4.210	0.00	5.99
30.00	(4) C5x9	Yes	5.00	0.000	3.78	2.40	0.00	0.132	1.097	4.210	0.00	27.86
35.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.50	0.00	0.135	1.105	4.400	0.00	6.18
35.00	(4) C5x9	Yes	5.00	0.000	3.78	2.41	0.00	0.135	1.105	4.400	0.00	28.35
40.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.52	0.00	0.138	1.114	4.571	0.00	6.35
40.00	(4) C5x9	Yes	5.00	0.000	3.78	2.42	0.00	0.138	1.114	4.571	0.00	28.78
41.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.50	0.00	0.140	1.119	4.603	0.00	1.28
41.00	(4) C5x9	Yes	1.00	0.000	3.78	0.49	0.00	0.140	1.119	4.603	0.00	5.77
45.00	(4) C6x10.5	Yes	4.00	0.000	4.00	2.02	0.00	0.141	1.124	4.727	0.00	5.20
45.00	(4) C5x9	Yes	4.00	0.000	3.78	1.95	0.00	0.141	1.124	4.727	0.00	23.33
48.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.52	0.00	0.143	1.130	4.815	0.00	3.95
48.00	(4) C5x9	Yes	3.00	0.000	3.78	1.46	0.00	0.143	1.130	4.815	0.00	17.63
50.00	(4) C6x10.5	Yes	2.00	0.000	4.00	1.01	0.00	0.143	1.128	4.872	0.00	2.66
50.00	(4) C5x9	Yes	2.00	0.000	3.78	0.98	0.00	0.143	1.128	4.872	0.00	11.81
55.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.54	0.00	0.145	1.135	5.006	0.00	6.77
55.00	(4) C5x9	Yes	5.00	0.000	3.78	2.45	0.00	0.145	1.135	5.006	0.00	29.84
60.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.55	0.00	0.076	0.000	5.132	0.00	6.88
65.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.56	0.00	0.078	0.000	5.251	0.00	7.00
70.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.57	0.00	0.080	0.000	5.363	0.00	7.10
75.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.57	0.00	0.082	0.000	5.470	0.00	7.20
80.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.58	0.00	0.084	0.000	5.572	0.00	7.29
85.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.58	0.00	0.086	0.000	5.669	0.00	7.38
90.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.59	0.00	0.088	0.000	5.763	0.00	7.47
91.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.52	0.00	0.090	0.000	5.781	0.00	1.50
93.00	(4) C6x10.5	Yes	2.00	0.000	4.00	1.04	0.00	0.089	0.000	5.817	0.00	3.01
95.00	(4) C6x10.5	Yes	2.00	0.000	4.00	1.04	0.00	0.090	0.000	5.852	0.00	3.02
100.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.60	0.00	0.092	0.000	5.939	0.00	7.63
105.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.60	0.00	0.094	0.000	6.022	0.00	7.70
110.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.61	0.00	0.097	0.000	6.103	0.00	7.77
115.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.61	0.00	0.100	0.000	6.181	0.00	7.84
120.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.61	0.00	0.103	1.009	6.256	0.00	7.91
125.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.62	0.00	0.106	1.019	6.330	0.00	7.97
130.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.62	0.00	0.110	1.029	6.401	0.00	8.04
135.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.63	0.00	0.114	1.041	6.470	0.00	8.10
140.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.63	0.00	0.115	1.046	6.538	0.00	8.16
145.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.58	0.00	0.072	0.000	6.604	0.00	4.93
180.00	(3) Bypass Stiffeners	Yes	2.25	1.200	12.60	2.81	3.37	0.227	0.000	7.025	26.03	3.86

Linear Appurtenance Segment Forces (Factored)

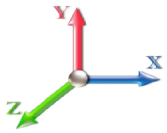
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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)
185.00	(3) Bypass Stiffeners	Yes	2.25	1.200	12.60	2.81	3.37	0.236	0.000	7.080	26.24	3.88
										Totals:	**52.3**	**506.2**

Calculated Forces

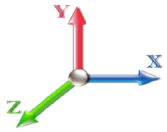
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	-79.54	-8.72	0.00	-1183.7	0.00	1183.76	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.168
5.00	-77.28	-8.60	0.00	-1140.1	0.00	1140.19	5739.58	1532.15	7992.25	7431.48	0.02	-0.036	0.000	0.167
10.00	-75.04	-8.49	0.00	-1097.1	0.00	1097.19	5674.37	1503.12	7692.32	7206.92	0.08	-0.072	0.000	0.165
15.00	-72.82	-8.37	0.00	-1054.7	0.00	1054.76	5607.48	1474.10	7398.13	6983.48	0.17	-0.110	0.000	0.164
20.00	-70.63	-8.25	0.00	-1012.9	0.00	1012.92	5538.91	1445.08	7109.68	6761.30	0.31	-0.147	0.000	0.163
25.00	-68.47	-8.14	0.00	-971.65	0.00	971.65	5468.67	1416.05	6826.96	6540.49	0.48	-0.186	0.000	0.161
30.00	-66.34	-8.02	0.00	-930.96	0.00	930.96	5396.74	1387.03	6549.98	6321.18	0.70	-0.225	0.000	0.160
35.00	-64.25	-7.90	0.00	-890.85	0.00	890.85	5323.13	1358.01	6278.73	6103.50	0.96	-0.265	0.000	0.158
40.00	-62.20	-7.75	0.00	-851.36	0.00	851.36	5247.84	1328.98	6013.22	5887.58	1.26	-0.306	0.000	0.156
41.00	-61.79	-7.74	0.00	-843.61	0.00	843.61	5232.58	1323.18	5960.81	5844.61	1.32	-0.315	0.000	0.156
45.00	-58.94	-7.62	0.00	-812.66	0.00	812.66	5170.87	1299.96	5753.45	5673.52	1.60	-0.348	0.000	0.155
48.00	-56.83	-7.52	0.00	-789.80	0.00	789.80	5181.33	1303.87	5788.10	5702.24	1.83	-0.374	0.000	0.150
50.00	-56.02	-7.48	0.00	-774.76	0.00	774.76	5150.16	1292.26	5685.49	5617.06	1.99	-0.391	0.000	0.149
55.00	-54.05	-7.33	0.00	-737.37	0.00	737.37	5071.07	1263.24	5432.97	5405.56	2.42	-0.432	0.000	0.147
60.00	-52.15	-7.20	0.00	-700.73	0.00	700.73	4990.29	1234.21	5186.19	5196.21	2.89	-0.474	0.000	0.145
65.00	-50.28	-7.07	0.00	-664.74	0.00	664.74	4907.83	1205.19	4945.14	4989.15	3.41	-0.517	0.000	0.144
70.00	-48.46	-6.93	0.00	-629.42	0.00	629.42	4823.69	1176.17	4709.83	4784.49	3.98	-0.560	0.000	0.142
75.00	-46.67	-6.80	0.00	-594.77	0.00	594.77	4737.87	1147.14	4480.26	4582.37	4.59	-0.604	0.000	0.140
80.00	-44.93	-6.66	0.00	-560.79	0.00	560.79	4650.37	1118.12	4256.42	4382.90	5.25	-0.649	0.000	0.138
85.00	-43.22	-6.52	0.00	-527.49	0.00	527.49	4561.19	1089.10	4038.32	4186.21	5.95	-0.695	0.000	0.136
90.00	-40.27	-6.35	0.00	-494.88	0.00	494.88	4470.33	1060.07	3825.95	3992.42	6.70	-0.741	0.000	0.133
91.00	-39.69	-6.32	0.00	-488.53	0.00	488.53	4519.12	1075.59	3938.79	4095.67	6.86	-0.751	0.000	0.128
93.00	-39.03	-6.27	0.00	-475.88	0.00	475.88	4482.67	1063.98	3854.22	4018.35	7.18	-0.770	0.000	0.127
93.00	-39.03	-6.27	0.00	-475.88	0.00	475.88	3684.61	913.29	3313.08	3312.42	7.18	-0.770	0.000	0.154
95.00	-38.44	-6.22	0.00	-463.35	0.00	463.35	3656.67	903.34	3241.28	3251.18	7.50	-0.789	0.000	0.153
100.00	-36.99	-6.09	0.00	-432.23	0.00	432.23	3585.64	878.46	3065.22	3099.48	8.36	-0.841	0.000	0.150
105.00	-35.58	-5.95	0.00	-401.80	0.00	401.80	3512.93	853.58	2894.07	2949.87	9.27	-0.894	0.000	0.146
110.00	-34.21	-5.81	0.00	-372.04	0.00	372.04	3438.54	828.71	2727.83	2802.49	10.23	-0.948	0.000	0.143
115.00	-32.87	-5.68	0.00	-342.97	0.00	342.97	3362.47	803.83	2566.52	2657.45	11.25	-1.002	0.000	0.139
120.00	-31.57	-5.54	0.00	-314.57	0.00	314.57	3284.72	778.95	2410.12	2514.88	12.33	-1.056	0.000	0.135
125.00	-30.30	-5.41	0.00	-286.86	0.00	286.86	3192.26	754.08	2258.63	2365.26	13.47	-1.111	0.000	0.131
125.00	-30.30	-5.41	0.00	-286.86	0.00	286.86	2545.46	629.48	1888.72	1892.56	13.47	-1.111	0.000	0.164
130.00	-29.21	-5.28	0.00	-259.82	0.00	259.82	2486.30	608.75	1766.36	1787.17	14.66	-1.166	0.000	0.157
135.00	-27.45	-5.13	0.00	-233.44	0.00	233.44	2457.60	598.90	1709.65	1737.70	15.92	-1.232	0.000	0.146
140.00	-26.41	-5.00	0.00	-207.80	0.00	207.80	2395.97	578.17	1593.34	1634.95	17.24	-1.297	0.000	0.138
140.00	-26.41	-5.00	0.00	-207.80	0.00	207.80	1788.19	463.41	1279.47	1224.81	17.24	-1.297	0.000	0.185
145.00	-25.53	-4.88	0.00	-182.82	0.00	182.82	1746.83	446.82	1189.53	1153.35	18.64	-1.357	0.000	0.173
150.00	-24.69	-4.76	0.00	-158.44	0.00	158.44	1703.79	430.24	1102.87	1082.85	20.10	-1.431	0.000	0.161
155.00	-23.87	-4.64	0.00	-134.64	0.00	134.64	1659.07	413.65	1019.48	1013.46	21.63	-1.501	0.000	0.147
160.00	-23.09	-4.53	0.00	-111.42	0.00	111.42	1612.67	397.07	939.37	945.29	23.24	-1.568	0.000	0.132
165.00	-22.33	-4.41	0.00	-88.77	0.00	88.77	1564.59	380.48	862.54	878.47	24.92	-1.629	0.000	0.115
170.00	-21.60	-4.30	0.00	-66.71	0.00	66.71	1514.83	363.90	788.98	813.12	26.65	-1.683	0.000	0.096
175.00	-14.65	-2.93	0.00	-45.22	0.00	45.22	1463.38	347.31	718.70	749.37	28.44	-1.727	0.000	0.070
180.00	-13.99	-2.79	0.00	-30.56	0.00	30.56	1400.09	330.73	651.70	682.38	30.27	-1.762	0.000	0.055
180.00	-13.99	-2.79	0.00	-30.56	0.00	30.56	678.42	203.53	25205.7	396.30	30.27	-1.762	0.000	0.098
185.00	-8.84	-1.72	0.00	-16.62	0.00	16.62	678.42	203.53	25205.7	396.30	32.13	-1.787	0.000	0.055
190.00	-8.21	-1.60	0.00	-8.00	0.00	8.00	678.42	203.53	25205.7	396.30	34.01	-1.799	0.000	0.032
195.00	0.00	-1.34	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	35.89	-1.803	0.000	0.000

Calculated Forces

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Seismic Segment Forces (Factored)

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.22	**Iterations**	23
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09	**Ss**	0.21
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**SA**	0.03	**S1**	0.06
						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	
5.00		1499.4	0.00	0.03	0.01	100.36	
10.00		1471.2	0.00	0.04	0.03	113.28	
15.00		1443.1	0.01	0.06	0.03	118.84	
20.00		1415.0	0.02	0.06	0.04	120.77	
25.00		1386.8	0.03	0.07	0.04	120.81	
30.00		1358.7	0.04	0.07	0.04	119.90	
35.00		1330.5	0.06	0.07	0.04	118.59	
40.00		1302.4	0.08	0.07	0.04	117.18	
41.00	Bot - Section 2	257.11	0.08	0.07	0.04	23.18	
45.00		2050.9	0.10	0.07	0.04	186.39	
48.00	Top - Section 1	1514.5	0.11	0.07	0.04	138.53	
50.00		503.36	0.12	0.07	0.03	46.24	
55.00		1238.7	0.15	0.07	0.03	114.98	
60.00		1210.5	0.18	0.07	0.03	113.28	
65.00		1182.4	0.21	0.06	0.02	110.93	
70.00		1154.3	0.24	0.06	0.02	107.48	
75.00		1126.1	0.28	0.05	0.01	102.34	
80.00		1098.0	0.32	0.04	0.01	94.81	
85.00	Bot - Section 3	1069.9	0.36	0.03	0.01	84.23	
90.00		2104.1	0.40	0.02	0.01	141.88	
91.00	Top - Section 2	414.08	0.41	0.01	0.01	26.80	
93.00	Top - Section 3	414.84	0.43	0.01	0.01	24.43	
95.00		352.23	0.45	0.00	0.01	18.53	
100.00		863.69	0.50	-0.02	0.01	30.81	
105.00		839.57	0.55	-0.03	0.01	15.94	
110.00		815.45	0.60	-0.05	0.01	3.97	
115.00		791.33	0.66	-0.07	0.02	-4.22	
120.00		767.22	0.72	-0.09	0.03	-8.64	
125.00	Top - Section 4	743.10	0.78	-0.11	0.05	-9.74	
130.00	Bot - Section 6	600.21	0.84	-0.12	0.07	-6.71	
135.00	Top - Section 5	1170.7	0.91	-0.12	0.09	-6.72	
140.00	Top - Section 6	570.56	0.97	-0.12	0.12	1.71	
145.00		441.21	1.05	-0.10	0.15	6.60	
150.00		425.13	1.12	-0.06	0.20	12.80	
155.00		409.06	1.19	0.00	0.25	19.83	
160.00		392.98	1.27	0.08	0.31	27.53	
165.00		376.90	1.35	0.20	0.39	35.78	
170.00		360.82	1.44	0.36	0.47	44.45	
175.00	Appurtenance(s)	3265.6	1.52	0.56	0.57	505.73	
180.00	Top - Section 7	328.66	1.61	0.81	0.68	62.47	
185.00	Appurtenance(s)	2705.7	1.70	1.13	0.82	619.24	
190.00		356.25	1.79	1.51	0.97	96.66	
195.00	Appurtenance(s)	4221.6	1.89	1.98	1.14	1340.56	
	Totals:	**47,344.9**				**5,051.8**	**Total Wind:** **34,022.5**

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

Calculated Forces

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Iterations 23

Gust Response Factor	1.10			**Sds**	0.22			**Ss**	0.21
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**SA**	0.03			**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	-60.41	-5.10	0.00	-667.03	0.00	667.03	5803.10	1561.17	8297.91	7657.05		0.00	0.00	0.098
5.00	-58.51	-5.02	0.00	-641.54	0.00	641.54	5739.58	1532.15	7992.25	7431.48		0.01	-0.02	0.097
10.00	-56.64	-4.92	0.00	-616.45	0.00	616.45	5674.37	1503.12	7692.32	7206.92		0.04	-0.04	0.096
15.00	-54.81	-4.82	0.00	-591.83	0.00	591.83	5607.48	1474.10	7398.13	6983.48		0.10	-0.06	0.095
20.00	-53.02	-4.72	0.00	-567.72	0.00	567.72	5538.91	1445.08	7109.68	6761.30		0.17	-0.08	0.094
25.00	-51.25	-4.62	0.00	-544.11	0.00	544.11	5468.67	1416.05	6826.96	6540.49		0.27	-0.10	0.093
30.00	-49.53	-4.51	0.00	-521.03	0.00	521.03	5396.74	1387.03	6549.98	6321.18		0.39	-0.13	0.092
35.00	-47.83	-4.41	0.00	-498.47	0.00	498.47	5323.13	1358.01	6278.73	6103.50		0.54	-0.15	0.091
40.00	-46.17	-4.30	0.00	-476.43	0.00	476.43	5247.84	1328.98	6013.22	5887.58		0.71	-0.17	0.090
41.00	-45.84	-4.28	0.00	-472.14	0.00	472.14	5232.58	1323.18	5960.81	5844.61		0.74	-0.18	0.090
45.00	-43.30	-4.10	0.00	-455.01	0.00	455.01	5170.87	1299.96	5753.45	5673.52		0.90	-0.20	0.089
48.00	-41.43	-3.96	0.00	-442.70	0.00	442.70	5181.33	1303.87	5788.10	5702.24		1.02	-0.21	0.086
50.00	-40.78	-3.93	0.00	-434.78	0.00	434.78	5150.16	1292.26	5685.49	5617.06		1.11	-0.22	0.085
55.00	-39.20	-3.82	0.00	-415.14	0.00	415.14	5071.07	1263.24	5432.97	5405.56		1.36	-0.24	0.085
60.00	-37.65	-3.72	0.00	-396.03	0.00	396.03	4990.29	1234.21	5186.19	5196.21		1.62	-0.27	0.084
65.00	-36.13	-3.61	0.00	-377.45	0.00	377.45	4907.83	1205.19	4945.14	4989.15		1.92	-0.29	0.083
70.00	-34.65	-3.51	0.00	-359.37	0.00	359.37	4823.69	1176.17	4709.83	4784.49		2.23	-0.31	0.082
75.00	-33.20	-3.42	0.00	-341.80	0.00	341.80	4737.87	1147.14	4480.26	4582.37		2.58	-0.34	0.082
80.00	-31.78	-3.33	0.00	-324.71	0.00	324.71	4650.37	1118.12	4256.42	4382.90		2.95	-0.37	0.081
85.00	-30.40	-3.25	0.00	-308.06	0.00	308.06	4561.19	1089.10	4038.32	4186.21		3.34	-0.39	0.080
90.00	-27.78	-3.10	0.00	-291.81	0.00	291.81	4470.33	1060.07	3825.95	3992.42		3.77	-0.42	0.079
91.00	-27.26	-3.07	0.00	-288.71	0.00	288.71	4519.12	1075.59	3938.79	4095.67		3.86	-0.43	0.077
93.00	-26.73	-3.05	0.00	-282.57	0.00	282.57	4482.67	1063.98	3854.22	4018.35		4.04	-0.44	0.076
93.00	-26.73	-3.05	0.00	-282.57	0.00	282.57	3684.61	913.29	3313.08	3312.42		4.04	-0.44	0.093
95.00	-26.26	-3.04	0.00	-276.47	0.00	276.47	3656.67	903.34	3241.28	3251.18		4.22	-0.45	0.092
100.00	-25.13	-3.01	0.00	-261.29	0.00	261.29	3585.64	878.46	3065.22	3099.48		4.71	-0.48	0.091
105.00	-24.02	-3.00	0.00	-246.24	0.00	246.24	3512.93	853.58	2894.07	2949.87		5.23	-0.51	0.090
110.00	-22.95	-3.00	0.00	-231.25	0.00	231.25	3438.54	828.71	2727.83	2802.49		5.78	-0.54	0.089
115.00	-21.90	-3.00	0.00	-216.27	0.00	216.27	3362.47	803.83	2566.52	2657.45		6.37	-0.58	0.088
120.00	-20.88	-3.00	0.00	-201.26	0.00	201.26	3284.72	778.95	2410.12	2514.88		7.00	-0.61	0.086
125.00	-19.89	-3.00	0.00	-186.25	0.00	186.25	3192.26	754.08	2258.63	2365.26		7.66	-0.65	0.085
125.00	-19.89	-3.00	0.00	-186.25	0.00	186.25	2545.46	629.48	1888.72	1892.56		7.66	-0.65	0.106
130.00	-19.07	-3.01	0.00	-171.23	0.00	171.23	2486.30	608.75	1766.36	1787.17		8.36	-0.68	0.104
135.00	-17.56	-3.00	0.00	-156.19	0.00	156.19	2457.60	598.90	1709.65	1737.70		9.10	-0.73	0.097
140.00	-16.78	-3.00	0.00	-141.17	0.00	141.17	2395.97	578.17	1593.34	1634.95		9.88	-0.77	0.093
140.00	-16.78	-3.00	0.00	-141.17	0.00	141.17	1788.19	463.41	1279.47	1224.81		9.88	-0.77	0.125
145.00	-16.15	-3.00	0.00	-126.16	0.00	126.16	1746.83	446.82	1189.53	1153.35		10.71	-0.81	0.119
150.00	-15.54	-2.99	0.00	-111.15	0.00	111.15	1703.79	430.24	1102.87	1082.85		11.59	-0.86	0.112
155.00	-14.95	-2.98	0.00	-96.18	0.00	96.18	1659.07	413.65	1019.48	1013.46		12.52	-0.91	0.104
160.00	-14.38	-2.95	0.00	-81.30	0.00	81.30	1612.67	397.07	939.37	945.29		13.51	-0.96	0.095
165.00	-13.83	-2.92	0.00	-66.53	0.00	66.53	1564.59	380.48	862.54	878.47		14.54	-1.01	0.085
170.00	-13.30	-2.87	0.00	-51.95	0.00	51.95	1514.83	363.90	788.98	813.12		15.62	-1.05	0.073
175.00	-9.29	-2.30	0.00	-37.58	0.00	37.58	1463.38	347.31	718.70	749.37		16.74	-1.08	0.057
180.00	-8.82	-2.23	0.00	-26.10	0.00	26.10	1400.09	330.73	651.70	682.38		17.89	-1.11	0.045
180.00	-8.82	-2.23	0.00	-26.10	0.00	26.10	678.42	203.53	25205.7	396.30		17.89	-1.11	0.079
185.00	-5.51	-1.55	0.00	-14.95	0.00	14.95	678.42	203.53	25205.7	396.30		19.07	-1.14	0.046
190.00	-5.06	-1.44	0.00	-7.21	0.00	7.21	678.42	203.53	25205.7	396.30		20.26	-1.15	0.026

Calculated Forces

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

195.00	0.00	-1.34	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	21.47	-1.15	0.000

Seismic Segment Forces (Factored)

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.22	**Ss**	0.21
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**SA**	0.03	**Seismic Importance Factor**	1.00

Iterations 23

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	
5.00		1499.4	0.00	0.03	0.01	100.36	
10.00		1471.2	0.00	0.04	0.03	113.28	
15.00		1443.1	0.01	0.06	0.03	118.84	
20.00		1415.0	0.02	0.06	0.04	120.77	
25.00		1386.8	0.03	0.07	0.04	120.81	
30.00		1358.7	0.04	0.07	0.04	119.90	
35.00		1330.5	0.06	0.07	0.04	118.59	
40.00		1302.4	0.08	0.07	0.04	117.18	
41.00	Bot - Section 2	257.11	0.08	0.07	0.04	23.18	
45.00		2050.9	0.10	0.07	0.04	186.39	
48.00	Top - Section 1	1514.5	0.11	0.07	0.04	138.53	
50.00		503.36	0.12	0.07	0.03	46.24	
55.00		1238.7	0.15	0.07	0.03	114.98	
60.00		1210.5	0.18	0.07	0.03	113.28	
65.00		1182.4	0.21	0.06	0.02	110.93	
70.00		1154.3	0.24	0.06	0.02	107.48	
75.00		1126.1	0.28	0.05	0.01	102.34	
80.00		1098.0	0.32	0.04	0.01	94.81	
85.00	Bot - Section 3	1069.9	0.36	0.03	0.01	84.23	
90.00		2104.1	0.40	0.02	0.01	141.88	
91.00	Top - Section 2	414.08	0.41	0.01	0.01	26.80	
93.00	Top - Section 3	414.84	0.43	0.01	0.01	24.43	
95.00		352.23	0.45	0.00	0.01	18.53	
100.00		863.69	0.50	-0.02	0.01	30.81	
105.00		839.57	0.55	-0.03	0.01	15.94	
110.00		815.45	0.60	-0.05	0.01	3.97	
115.00		791.33	0.66	-0.07	0.02	-4.22	
120.00		767.22	0.72	-0.09	0.03	-8.64	
125.00	Top - Section 4	743.10	0.78	-0.11	0.05	-9.74	
130.00	Bot - Section 6	600.21	0.84	-0.12	0.07	-6.71	
135.00	Top - Section 5	1170.7	0.91	-0.12	0.09	-6.72	
140.00	Top - Section 6	570.56	0.97	-0.12	0.12	1.71	
145.00		441.21	1.05	-0.10	0.15	6.60	
150.00		425.13	1.12	-0.06	0.20	12.80	
155.00		409.06	1.19	0.00	0.25	19.83	
160.00		392.98	1.27	0.08	0.31	27.53	
165.00		376.90	1.35	0.20	0.39	35.78	
170.00		360.82	1.44	0.36	0.47	44.45	
175.00	Appurtenance(s)	3265.6	1.52	0.56	0.57	505.73	
180.00	Top - Section 7	328.66	1.61	0.81	0.68	62.47	
185.00	Appurtenance(s)	2705.7	1.70	1.13	0.82	619.24	
190.00		356.25	1.79	1.51	0.97	96.66	
195.00	Appurtenance(s)	4221.6	1.89	1.98	1.14	1340.56	
	Totals:	**47,344.9**				**5,051.8**	**Total Wind:** **34,022.5**

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

Calculated Forces

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 33	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 23

Gust Response Factor	1.10			**Sds**	0.22			**Ss**	0.21
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**SA**	0.03			**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	-45.30	-5.09	0.00	-657.87	0.00	657.87	5803.10	1561.17	8297.91	7657.05		0.00	0.00	0.094
5.00	-43.88	-5.01	0.00	-632.40	0.00	632.40	5739.58	1532.15	7992.25	7431.48		0.01	-0.02	0.093
10.00	-42.48	-4.91	0.00	-607.35	0.00	607.35	5674.37	1503.12	7692.32	7206.92		0.04	-0.04	0.092
15.00	-41.11	-4.81	0.00	-582.80	0.00	582.80	5607.48	1474.10	7398.13	6983.48		0.10	-0.06	0.091
20.00	-39.76	-4.70	0.00	-558.77	0.00	558.77	5538.91	1445.08	7109.68	6761.30		0.17	-0.08	0.090
25.00	-38.44	-4.59	0.00	-535.28	0.00	535.28	5468.67	1416.05	6826.96	6540.49		0.27	-0.10	0.089
30.00	-37.14	-4.48	0.00	-512.33	0.00	512.33	5396.74	1387.03	6549.98	6321.18		0.39	-0.12	0.088
35.00	-35.87	-4.37	0.00	-489.93	0.00	489.93	5323.13	1358.01	6278.73	6103.50		0.53	-0.15	0.087
40.00	-34.62	-4.26	0.00	-468.06	0.00	468.06	5247.84	1328.98	6013.22	5887.58		0.69	-0.17	0.086
41.00	-34.38	-4.24	0.00	-463.80	0.00	463.80	5232.58	1323.18	5960.81	5844.61		0.73	-0.17	0.086
45.00	-32.47	-4.06	0.00	-446.83	0.00	446.83	5170.87	1299.96	5753.45	5673.52		0.88	-0.19	0.085
48.00	-31.07	-3.92	0.00	-434.65	0.00	434.65	5181.33	1303.87	5788.10	5702.24		1.01	-0.21	0.082
50.00	-30.58	-3.88	0.00	-426.80	0.00	426.80	5150.16	1292.26	5685.49	5617.06		1.10	-0.22	0.082
55.00	-29.39	-3.78	0.00	-407.38	0.00	407.38	5071.07	1263.24	5432.97	5405.56		1.34	-0.24	0.081
60.00	-28.23	-3.67	0.00	-388.50	0.00	388.50	4990.29	1234.21	5186.19	5196.21		1.60	-0.26	0.080
65.00	-27.09	-3.56	0.00	-370.15	0.00	370.15	4907.83	1205.19	4945.14	4989.15		1.88	-0.29	0.080
70.00	-25.98	-3.46	0.00	-352.33	0.00	352.33	4823.69	1176.17	4709.83	4784.49		2.20	-0.31	0.079
75.00	-24.89	-3.36	0.00	-335.02	0.00	335.02	4737.87	1147.14	4480.26	4582.37		2.53	-0.33	0.078
80.00	-23.83	-3.27	0.00	-318.20	0.00	318.20	4650.37	1118.12	4256.42	4382.90		2.90	-0.36	0.078
85.00	-22.80	-3.19	0.00	-301.82	0.00	301.82	4561.19	1089.10	4038.32	4186.21		3.29	-0.39	0.077
90.00	-20.83	-3.04	0.00	-285.86	0.00	285.86	4470.33	1060.07	3825.95	3992.42		3.71	-0.41	0.076
91.00	-20.44	-3.02	0.00	-282.81	0.00	282.81	4519.12	1075.59	3938.79	4095.67		3.79	-0.42	0.074
93.00	-20.04	-2.99	0.00	-276.78	0.00	276.78	4482.67	1063.98	3854.22	4018.35		3.97	-0.43	0.073
93.00	-20.04	-2.99	0.00	-276.78	0.00	276.78	3684.61	913.29	3313.08	3312.42		3.97	-0.43	0.089
95.00	-19.69	-2.98	0.00	-270.79	0.00	270.79	3656.67	903.34	3241.28	3251.18		4.15	-0.44	0.089
100.00	-18.84	-2.95	0.00	-255.89	0.00	255.89	3585.64	878.46	3065.22	3099.48		4.63	-0.47	0.088
105.00	-18.01	-2.94	0.00	-241.13	0.00	241.13	3512.93	853.58	2894.07	2949.87		5.14	-0.50	0.087
110.00	-17.20	-2.94	0.00	-226.43	0.00	226.43	3438.54	828.71	2727.83	2802.49		5.68	-0.53	0.086
115.00	-16.42	-2.94	0.00	-211.74	0.00	211.74	3362.47	803.83	2566.52	2657.45		6.26	-0.57	0.085
120.00	-15.65	-2.94	0.00	-197.04	0.00	197.04	3284.72	778.95	2410.12	2514.88		6.87	-0.60	0.083
125.00	-14.91	-2.94	0.00	-182.33	0.00	182.33	3192.26	754.08	2258.63	2365.26		7.52	-0.64	0.082
125.00	-14.91	-2.94	0.00	-182.33	0.00	182.33	2545.46	629.48	1888.72	1892.56		7.52	-0.64	0.102
130.00	-14.29	-2.95	0.00	-167.61	0.00	167.61	2486.30	608.75	1766.36	1787.17		8.21	-0.67	0.100
135.00	-13.17	-2.94	0.00	-152.88	0.00	152.88	2457.60	598.90	1709.65	1737.70		8.94	-0.71	0.093
140.00	-12.58	-2.94	0.00	-138.17	0.00	138.17	2395.97	578.17	1593.34	1634.95		9.71	-0.76	0.090
140.00	-12.58	-2.94	0.00	-138.17	0.00	138.17	1788.19	463.41	1279.47	1224.81		9.71	-0.76	0.120
145.00	-12.10	-2.94	0.00	-123.46	0.00	123.46	1746.83	446.82	1189.53	1153.35		10.52	-0.80	0.114
150.00	-11.65	-2.93	0.00	-108.77	0.00	108.77	1703.79	430.24	1102.87	1082.85		11.38	-0.85	0.107
155.00	-11.20	-2.91	0.00	-94.12	0.00	94.12	1659.07	413.65	1019.48	1013.46		12.30	-0.90	0.100
160.00	-10.78	-2.89	0.00	-79.56	0.00	79.56	1612.67	397.07	939.37	945.29		13.26	-0.94	0.091
165.00	-10.36	-2.85	0.00	-65.13	0.00	65.13	1564.59	380.48	862.54	878.47		14.27	-0.99	0.081
170.00	-9.96	-2.81	0.00	-50.87	0.00	50.87	1514.83	363.90	788.98	813.12		15.33	-1.03	0.069
175.00	-6.96	-2.25	0.00	-36.83	0.00	36.83	1463.38	347.31	718.70	749.37		16.43	-1.06	0.054
180.00	-6.61	-2.18	0.00	-25.58	0.00	25.58	1400.09	330.73	651.70	682.38		17.56	-1.09	0.042
180.00	-6.61	-2.18	0.00	-25.58	0.00	25.58	678.42	203.53	25205.7	396.30		17.56	-1.09	0.074
185.00	-4.13	-1.52	0.00	-14.67	0.00	14.67	678.42	203.53	25205.7	396.30		18.71	-1.11	0.043
190.00	-3.79	-1.42	0.00	-7.08	0.00	7.08	678.42	203.53	25205.7	396.30		19.88	-1.12	0.023

Calculated Forces

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

195.00	0.00	-1.34	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	21.06	-1.13	0.000

Wind Loading - Shaft

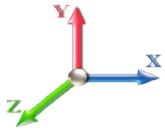
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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	0.70	6.058	6.66	272.39	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.058	6.66	267.36	0.774 *	0.000	5.00	27.038	20.92	139.4	0.0	1499.4
10.00		1.00	0.70	6.058	6.66	262.33	0.779 *	0.000	5.00	26.534	20.66	137.7	0.0	1471.3
15.00		1.00	0.70	6.058	6.66	257.30	0.784 *	0.000	5.00	26.030	20.40	135.9	0.0	1443.1
20.00		1.00	0.70	6.058	6.66	252.27	0.789 *	0.000	5.00	25.526	20.14	134.2	0.0	1415.0
25.00		1.00	0.70	6.058	6.66	247.24	0.795 *	0.000	5.00	25.022	19.89	132.5	0.0	1386.9
30.00		1.00	0.70	6.063	6.67	242.32	0.801 *	0.000	5.00	24.518	19.63	130.9	0.0	1358.7
35.00		1.00	0.73	6.336	6.97	242.57	0.807 *	0.000	5.00	24.014	19.37	135.0	0.0	1330.6
40.00		1.00	0.76	6.582	7.24	242.00	0.813 *	0.000	5.00	23.510	19.11	138.4	0.0	1302.5
41.00	Bot - Section 2	1.00	0.77	6.629	7.29	241.80	0.817 *	0.000	1.00	4.642	3.79	27.6	0.0	257.1
45.00		1.00	0.79	6.807	7.49	240.77	0.820 *	0.000	4.00	18.661	15.31	114.6	0.0	2050.9
48.00	Top - Section 1	1.00	0.80	6.934	7.63	239.77	0.825 *	0.000	3.00	13.784	11.37	86.7	0.0	1514.6
50.00		1.00	0.81	7.015	7.72	242.99	0.823 *	0.000	2.00	9.089	7.48	57.8	0.0	503.4
55.00		1.00	0.83	7.209	7.93	240.83	0.828 *	0.000	5.00	22.369	18.53	146.9	0.0	1238.7
60.00		1.00	0.85	7.390	8.13	238.29	0.730	0.000	5.00	21.865	15.96	129.8	0.0	1210.6
65.00		1.00	0.87	7.561	8.32	235.41	0.730	0.000	5.00	21.361	15.59	129.7	0.0	1182.4
70.00		1.00	0.89	7.723	8.50	232.23	0.730	0.000	5.00	20.857	15.23	129.4	0.0	1154.3
75.00		1.00	0.91	7.877	8.66	228.80	0.730	0.000	5.00	20.353	14.86	128.7	0.0	1126.2
80.00		1.00	0.93	8.024	8.83	225.13	0.730	0.000	5.00	19.849	14.49	127.9	0.0	1098.0
85.00	Bot - Section 3	1.00	0.94	8.164	8.98	221.25	0.730	0.000	5.00	19.346	14.12	126.8	0.0	1069.9
90.00		1.00	0.96	8.298	9.13	217.18	0.730	0.000	5.00	19.212	14.02	128.0	0.0	2104.2
91.00	Top - Section 2	1.00	0.96	8.324	9.16	216.34	0.730	0.000	1.00	3.782	2.76	25.3	0.0	414.1
93.00	Top - Section 3	1.00	0.97	8.376	9.21	218.99	0.730	0.000	2.00	7.503	5.48	50.5	0.0	414.8
95.00		1.00	0.97	8.427	9.27	217.29	0.730	0.000	2.00	7.423	5.42	50.2	0.0	352.2
100.00		1.00	0.99	8.552	9.41	212.91	0.730	0.000	5.00	18.204	13.29	125.0	0.0	863.7
105.00		1.00	1.00	8.672	9.54	208.38	0.730	0.000	5.00	17.700	12.92	123.3	0.0	839.6
110.00		1.00	1.02	8.788	9.67	203.71	0.730	0.000	5.00	17.196	12.55	121.3	0.0	815.5
115.00		1.00	1.03	8.900	9.79	198.91	0.730	0.000	5.00	16.692	12.19	119.3	0.0	791.3
120.00		1.00	1.04	9.009	9.91	193.99	0.736 *	0.000	5.00	16.189	11.92	118.2	0.0	767.2
125.00	Top - Section 4	1.00	1.05	9.115	10.03	188.96	0.744 *	0.000	5.00	15.685	11.66	117.0	0.0	743.1
130.00	Bot - Section 6	1.00	1.07	9.218	10.14	183.81	0.751 *	0.000	5.00	15.181	11.41	115.7	0.0	600.2
135.00	Top - Section 5	1.00	1.08	9.317	10.25	178.57	0.760 *	0.000	5.00	14.941	11.35	116.3	0.0	1170.8
140.00	Top - Section 6	1.00	1.09	9.415	10.36	176.52	0.764 *	0.000	5.00	14.437	11.03	114.2	0.0	570.6
145.00		1.00	1.10	9.510	10.46	171.11	0.730	0.000	5.00	13.933	10.17	106.4	0.0	441.2
150.00		1.00	1.11	9.602	10.56	165.60	0.730	0.000	5.00	13.430	9.80	103.5	0.0	425.1
155.00		1.00	1.12	9.693	10.66	160.02	0.730	0.000	5.00	12.926	9.44	100.6	0.0	409.1
160.00		1.00	1.13	9.781	10.76	154.36	0.730	0.000	5.00	12.422	9.07	97.6	0.0	393.0
165.00		1.00	1.14	9.867	10.85	148.62	0.730	0.000	5.00	11.918	8.70	94.4	0.0	376.9
170.00		1.00	1.15	9.952	10.95	142.80	0.730	0.000	5.00	11.414	8.33	91.2	0.0	360.8
175.00	Appurtenance(s)	1.00	1.16	10.035	11.04	136.92	0.730	0.000	5.00	10.910	7.96	87.9	0.0	344.7
180.00	Top - Section 7	1.00	1.17	10.116	11.13	130.98	1.200 *	0.000	5.00	10.406	12.49	139.0	0.0	328.7
185.00	Appurtenance(s)	1.00	1.18	10.195	11.21	129.49	1.200 *	0.000	5.00	10.000	12.00	134.6	0.0	356.3
190.00		1.00	1.19	10.273	11.30	129.99	0.600	0.000	5.00	10.000	6.00	67.8	0.0	356.3
195.00	Appurtenance(s)	1.00	1.20	10.350	11.38	130.47	0.600	0.000	5.00	10.000	6.00	68.3	0.0	356.3
								Totals:	**195.00**			**4,705.4**		**38,209.1**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

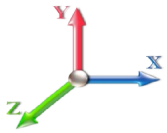
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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	195.00	HRK12 (Handrail Kit)	1	10.350	11.385	1.00	1.00	6.75	261.72	0.000	0.000	76.85	0.00	0.00
2	195.00	Low Profile	1	10.350	11.385	1.00	1.00	26.00	1800.00	0.000	0.000	296.00	0.00	0.00
3	195.00	PRK-1245 (kicker kit)	1	10.350	11.385	1.00	1.00	9.50	464.91	0.000	0.000	108.15	0.00	0.00
4	195.00	(3) SFS-H-L (V-Braces)	1	10.350	11.385	1.00	1.00	6.70	230.00	0.000	0.000	76.28	0.00	0.00
5	195.00	TD-RRH8x20-25	3	10.350	11.385	0.67	1.00	8.14	210.00	0.000	0.000	92.68	0.00	0.00
6	195.00	APXVTM14-C-I20	3	10.350	11.385	0.78	1.00	14.84	168.60	0.000	0.000	168.90	0.00	0.00
7	195.00	NNVV-65B-R4	3	10.350	11.385	0.73	1.00	26.87	232.20	0.000	0.000	305.92	0.00	0.00
8	195.00	1900MHz RRH (65MHz)	3	10.350	11.385	0.67	1.00	5.57	180.00	0.000	0.000	63.39	0.00	0.00
9	195.00	800 MHz RRH	6	10.350	11.385	0.67	1.00	10.01	318.00	0.000	0.000	113.96	0.00	0.00
10	185.00	DC6-48-60-18-8F	1	10.195	11.215	0.60	0.80	0.55	31.80	0.000	0.000	6.19	0.00	0.00
11	185.00	RRUS-11	6	10.195	11.215	0.60	0.80	9.07	306.00	0.000	0.000	101.74	0.00	0.00
12	185.00	LGP21903	6	10.195	11.215	0.54	0.80	0.87	33.00	0.000	0.000	9.74	0.00	0.00
13	185.00	LGP21401	6	10.195	11.215	0.54	0.80	4.15	84.60	0.000	0.000	46.53	0.00	0.00
14	185.00	P65-17-XLH-RR	2	10.195	11.215	0.60	0.80	13.73	118.00	0.000	0.000	153.95	0.00	0.00
15	185.00	7770.00	6	10.195	11.215	0.58	0.80	19.27	210.00	0.000	0.000	216.13	0.00	0.00
16	185.00	Low Profile	1	10.195	11.215	1.00	1.00	22.00	1500.00	0.000	0.000	246.72	0.00	0.00
17	185.00	SBNH-1D6565C	1	10.195	11.215	0.64	0.80	7.34	66.10	0.000	0.000	82.32	0.00	0.00
18	175.00	Commscope	3	10.035	11.038	0.60	0.75	20.65	149.40	0.000	0.000	227.89	0.00	0.00
19	175.00	RFS	3	10.035	11.038	0.46	0.75	9.01	122.10	0.000	0.000	99.47	0.00	0.00
20	175.00	RFS	3	10.035	11.038	0.52	0.75	31.88	384.00	0.000	0.000	351.87	0.00	0.00
21	175.00	Ericsson RRUS11	3	10.035	11.038	0.53	0.75	4.03	151.80	0.000	0.000	44.44	0.00	0.00
22	175.00	Ericsson RRUS11 B2	3	10.035	11.038	0.53	0.75	4.03	151.80	0.000	0.000	44.44	0.00	0.00
23	175.00	Ericsson Radio 4449	3	10.035	11.038	0.50	0.75	2.49	210.00	0.000	0.000	27.46	0.00	0.00
24	175.00	Platform w/ Hand Rail	1	10.035	11.038	1.00	1.00	32.00	1600.00	0.000	0.000	353.22	0.00	0.00
25	175.00	Ericsson RRUS11 B4	3	10.035	11.038	0.53	0.75	4.03	151.80	0.000	0.000	44.44	0.00	0.00
							Totals:		**9,135.83**			**3,358.65**		

Total Applied Force Summary

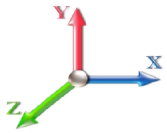
Structure:	CT01916-S-SBA		**Code:**	EIA/TIA-222-H	6/27/2019
Site Name:	North Salem		**Exposure:**	B	
Height:	195.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 37

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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
5.00		139.37	1580.16	0.00	0.00
10.00		137.65	1552.03	0.00	0.00
15.00		135.94	1523.89	0.00	0.00
20.00		134.22	1495.75	0.00	0.00
25.00		132.50	1467.61	0.00	0.00
30.00		130.90	1439.48	0.00	0.00
35.00		135.00	1411.34	0.00	0.00
40.00		138.38	1383.20	0.00	0.00
41.00		27.65	273.26	0.00	0.00
45.00		114.62	2115.54	0.00	0.00
48.00		86.75	1563.02	0.00	0.00
50.00		57.75	535.66	0.00	0.00
55.00		146.94	1319.47	0.00	0.00
60.00		129.76	1291.33	0.00	0.00
65.00		129.70	1263.19	0.00	0.00
70.00		129.35	1235.06	0.00	0.00
75.00		128.74	1206.92	0.00	0.00
80.00		127.89	1178.78	0.00	0.00
85.00		126.82	1150.65	0.00	0.00
90.00		128.02	2184.94	0.00	0.00
91.00		25.28	430.23	0.00	0.00
93.00		50.47	447.14	0.00	0.00
95.00		50.23	384.53	0.00	0.00
100.00		125.01	944.44	0.00	0.00
105.00		123.26	920.32	0.00	0.00
110.00		121.35	896.20	0.00	0.00
115.00		119.30	872.08	0.00	0.00
120.00		118.15	847.97	0.00	0.00
125.00		116.95	823.85	0.00	0.00
130.00		115.66	680.96	0.00	0.00
135.00		116.34	1251.51	0.00	0.00
140.00		114.20	651.31	0.00	0.00
145.00		106.40	521.96	0.00	0.00
150.00		103.55	505.88	0.00	0.00
155.00		100.60	489.81	0.00	0.00
160.00		97.56	473.73	0.00	0.00
165.00		94.43	457.65	0.00	0.00
170.00		91.21	441.57	0.00	0.00
175.00	(22) attachments	1281.12	3346.39	0.00	0.00
180.00		154.72	393.64	0.00	0.00
185.00	(29) attachments	1013.80	2770.73	0.00	0.00
190.00		67.80	375.33	0.00	0.00
195.00	(22) attachments	1370.42	4240.76	0.00	0.00
	Totals:	**8,095.76**	**50,339.29**	**0.00**	**0.00**

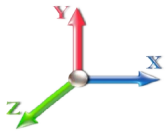
Linear Appurtenance Segment Forces (Factored)

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 38	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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)
5.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.120	1.060	6.058	0.00	0.00
5.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.120	1.060	6.058	0.00	0.00
10.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.122	1.067	6.058	0.00	0.00
10.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.122	1.067	6.058	0.00	0.00
15.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.125	1.074	6.058	0.00	0.00
15.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.125	1.074	6.058	0.00	0.00
20.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.127	1.081	6.058	0.00	0.00
20.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.127	1.081	6.058	0.00	0.00
25.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.130	1.089	6.058	0.00	0.00
25.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.130	1.089	6.058	0.00	0.00
30.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.132	1.097	6.063	0.00	0.00
30.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.132	1.097	6.063	0.00	0.00
35.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.135	1.105	6.336	0.00	0.00
35.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.135	1.105	6.336	0.00	0.00
40.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.138	1.114	6.582	0.00	0.00
40.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.138	1.114	6.582	0.00	0.00
41.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.140	1.119	6.629	0.00	0.00
41.00	(4) C5x9	Yes	1.00	0.000	3.78	0.32	0.00	0.140	1.119	6.629	0.00	0.00
45.00	(4) C6x10.5	Yes	4.00	0.000	4.00	1.33	0.00	0.141	1.124	6.807	0.00	0.00
45.00	(4) C5x9	Yes	4.00	0.000	3.78	1.26	0.00	0.141	1.124	6.807	0.00	0.00
48.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.143	1.130	6.934	0.00	0.00
48.00	(4) C5x9	Yes	3.00	0.000	3.78	0.94	0.00	0.143	1.130	6.934	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.143	1.128	7.015	0.00	0.00
50.00	(4) C5x9	Yes	2.00	0.000	3.78	0.63	0.00	0.143	1.128	7.015	0.00	0.00
55.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.145	1.135	7.209	0.00	0.00
55.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.145	1.135	7.209	0.00	0.00
60.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.076	0.000	7.390	0.00	0.00
65.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.078	0.000	7.561	0.00	0.00
70.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.080	0.000	7.723	0.00	0.00
75.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.082	0.000	7.877	0.00	0.00
80.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.084	0.000	8.024	0.00	0.00
85.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.086	0.000	8.164	0.00	0.00
90.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.088	0.000	8.298	0.00	0.00
91.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.090	0.000	8.324	0.00	0.00
93.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	8.376	0.00	0.00
95.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	8.427	0.00	0.00
100.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.092	0.000	8.552	0.00	0.00
105.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.094	0.000	8.672	0.00	0.00
110.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.097	0.000	8.788	0.00	0.00
115.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.100	0.000	8.900	0.00	0.00
120.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.103	1.009	9.009	0.00	0.00
125.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.106	1.019	9.115	0.00	0.00
130.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.110	1.029	9.218	0.00	0.00
135.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.114	1.041	9.317	0.00	0.00
140.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.115	1.046	9.415	0.00	0.00
145.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.072	0.000	9.510	0.00	0.00
180.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.227	0.000	10.116	15.77	0.00

Linear Appurtenance Segment Forces (Factored)

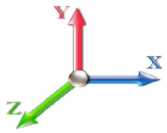
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 39	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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)
185.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.236	0.000	10.195	15.90	0.00
										Totals:	**31.7**	**0.0**

Calculated Forces

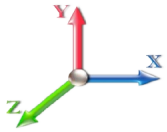
Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 40	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 24



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	-50.34	-8.11	0.00	-1112.7	0.00	1112.78	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.154
5.00	-48.75	-8.00	0.00	-1072.2	0.00	1072.23	5739.58	1532.15	7992.25	7431.48	0.02	-0.034	0.000	0.153
10.00	-47.20	-7.89	0.00	-1032.2	0.00	1032.23	5674.37	1503.12	7692.32	7206.92	0.07	-0.068	0.000	0.152
15.00	-45.67	-7.78	0.00	-992.79	0.00	992.79	5607.48	1474.10	7398.13	6983.48	0.16	-0.103	0.000	0.150
20.00	-44.17	-7.67	0.00	-953.89	0.00	953.89	5538.91	1445.08	7109.68	6761.30	0.29	-0.139	0.000	0.149
25.00	-42.69	-7.56	0.00	-915.55	0.00	915.55	5468.67	1416.05	6826.96	6540.49	0.45	-0.175	0.000	0.148
30.00	-41.25	-7.45	0.00	-877.75	0.00	877.75	5396.74	1387.03	6549.98	6321.18	0.66	-0.212	0.000	0.147
35.00	-39.83	-7.34	0.00	-840.49	0.00	840.49	5323.13	1358.01	6278.73	6103.50	0.90	-0.250	0.000	0.145
40.00	-38.45	-7.21	0.00	-803.81	0.00	803.81	5247.84	1328.98	6013.22	5887.58	1.18	-0.288	0.000	0.144
41.00	-38.17	-7.19	0.00	-796.60	0.00	796.60	5232.58	1323.18	5960.81	5844.61	1.24	-0.296	0.000	0.144
45.00	-36.06	-7.08	0.00	-767.83	0.00	767.83	5170.87	1299.96	5753.45	5673.52	1.50	-0.328	0.000	0.142
48.00	-34.49	-7.00	0.00	-746.58	0.00	746.58	5181.33	1303.87	5788.10	5702.24	1.72	-0.352	0.000	0.138
50.00	-33.95	-6.96	0.00	-732.58	0.00	732.58	5150.16	1292.26	5685.49	5617.06	1.87	-0.369	0.000	0.137
55.00	-32.63	-6.82	0.00	-697.81	0.00	697.81	5071.07	1263.24	5432.97	5405.56	2.28	-0.408	0.000	0.136
60.00	-31.33	-6.70	0.00	-663.70	0.00	663.70	4990.29	1234.21	5186.19	5196.21	2.73	-0.447	0.000	0.134
65.00	-30.07	-6.59	0.00	-630.18	0.00	630.18	4907.83	1205.19	4945.14	4989.15	3.22	-0.488	0.000	0.132
70.00	-28.83	-6.47	0.00	-597.25	0.00	597.25	4823.69	1176.17	4709.83	4784.49	3.75	-0.529	0.000	0.131
75.00	-27.62	-6.35	0.00	-564.92	0.00	564.92	4737.87	1147.14	4480.26	4582.37	4.32	-0.571	0.000	0.129
80.00	-26.44	-6.23	0.00	-533.19	0.00	533.19	4650.37	1118.12	4256.42	4382.90	4.95	-0.613	0.000	0.127
85.00	-25.28	-6.11	0.00	-502.07	0.00	502.07	4561.19	1089.10	4038.32	4186.21	5.61	-0.657	0.000	0.126
90.00	-23.10	-5.96	0.00	-471.54	0.00	471.54	4470.33	1060.07	3825.95	3992.42	6.32	-0.701	0.000	0.123
91.00	-22.66	-5.94	0.00	-465.58	0.00	465.58	4519.12	1075.59	3938.79	4095.67	6.47	-0.710	0.000	0.119
93.00	-22.22	-5.89	0.00	-453.70	0.00	453.70	4482.67	1063.98	3854.22	4018.35	6.77	-0.729	0.000	0.118
93.00	-22.22	-5.89	0.00	-453.70	0.00	453.70	3684.61	913.29	3313.08	3312.42	6.77	-0.729	0.000	0.143
95.00	-21.83	-5.85	0.00	-441.92	0.00	441.92	3656.67	903.34	3241.28	3251.18	7.08	-0.746	0.000	0.142
100.00	-20.88	-5.73	0.00	-412.70	0.00	412.70	3585.64	878.46	3065.22	3099.48	7.89	-0.796	0.000	0.139
105.00	-19.96	-5.61	0.00	-384.06	0.00	384.06	3512.93	853.58	2894.07	2949.87	8.75	-0.847	0.000	0.136
110.00	-19.06	-5.49	0.00	-356.02	0.00	356.02	3438.54	828.71	2727.83	2802.49	9.67	-0.898	0.000	0.133
115.00	-18.18	-5.37	0.00	-328.57	0.00	328.57	3362.47	803.83	2566.52	2657.45	10.63	-0.950	0.000	0.129
120.00	-17.33	-5.26	0.00	-301.71	0.00	301.71	3284.72	778.95	2410.12	2514.88	11.66	-1.002	0.000	0.125
125.00	-16.51	-5.14	0.00	-275.42	0.00	275.42	3192.26	754.08	2258.63	2365.26	12.73	-1.055	0.000	0.122
125.00	-16.51	-5.14	0.00	-275.42	0.00	275.42	2545.46	629.48	1888.72	1892.56	12.73	-1.055	0.000	0.152
130.00	-15.82	-5.03	0.00	-249.72	0.00	249.72	2486.30	608.75	1766.36	1787.17	13.87	-1.108	0.000	0.146
135.00	-14.57	-4.90	0.00	-224.59	0.00	224.59	2457.60	598.90	1709.65	1737.70	15.06	-1.171	0.000	0.135
140.00	-13.92	-4.79	0.00	-200.07	0.00	200.07	2395.97	578.17	1593.34	1634.95	16.32	-1.233	0.000	0.128
140.00	-13.92	-4.79	0.00	-200.07	0.00	200.07	1788.19	463.41	1279.47	1224.81	16.32	-1.233	0.000	0.171
145.00	-13.39	-4.69	0.00	-176.13	0.00	176.13	1746.83	446.82	1189.53	1153.35	17.64	-1.291	0.000	0.160
150.00	-12.88	-4.59	0.00	-152.69	0.00	152.69	1703.79	430.24	1102.87	1082.85	19.04	-1.362	0.000	0.149
155.00	-12.39	-4.49	0.00	-129.76	0.00	129.76	1659.07	413.65	1019.48	1013.46	20.50	-1.430	0.000	0.136
160.00	-11.91	-4.39	0.00	-107.32	0.00	107.32	1612.67	397.07	939.37	945.29	22.03	-1.494	0.000	0.121
165.00	-11.45	-4.30	0.00	-85.36	0.00	85.36	1564.59	380.48	862.54	878.47	23.63	-1.553	0.000	0.105
170.00	-11.01	-4.20	0.00	-63.88	0.00	63.88	1514.83	363.90	788.98	813.12	25.28	-1.605	0.000	0.086
175.00	-7.70	-2.83	0.00	-42.86	0.00	42.86	1463.38	347.31	718.70	749.37	26.99	-1.648	0.000	0.063
180.00	-7.31	-2.67	0.00	-28.71	0.00	28.71	1400.09	330.73	651.70	682.38	28.73	-1.680	0.000	0.047
180.00	-7.31	-2.67	0.00	-28.71	0.00	28.71	678.42	203.53	25205.7	396.30	28.73	-1.680	0.000	0.083
185.00	-4.57	-1.58	0.00	-15.36	0.00	15.36	678.42	203.53	25205.7	396.30	30.51	-1.704	0.000	0.046
190.00	-4.20	-1.50	0.00	-7.48	0.00	7.48	678.42	203.53	25205.7	396.30	32.30	-1.715	0.000	0.025
195.00	0.00	-1.37	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	34.10	-1.718	0.000	0.000

Calculated Forces

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 41	

Final Analysis Summary

Structure:	CT01916-S-SBA	**Code:**	EIA/TIA-222-H	6/27/2019	
Site Name:	North Salem	**Exposure:**	B		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 42	

Tower Engineering Solutions

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 123 mph Wind	34.1	0.00	60.36	0.00	0.00	4710.03
0.9D + 1.0W 123 mph Wind	34.1	0.00	45.26	0.00	0.00	4647.42
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.7	0.00	79.54	0.00	0.00	1183.76
1.2D + 1.0Ev + 1.0Eh	5.1	0.00	60.41	0.00	0.00	667.03
0.9D + 1.0Ev + 1.0Eh	5.1	0.00	45.30	0.00	0.00	657.87
1.0D + 1.0W 60 mph Wind	8.1	0.00	50.34	0.00	0.00	1112.78

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 123 mph Wind	-14.99	-20.32	0.00	-849.08	0.00	-849.08	2395.97	578.17	1593.34	1634.95	140.00	0.704
0.9D + 1.0W 123 mph Wind	-10.84	-19.91	0.00	-829.62	0.00	-829.62	2395.97	578.17	1593.34	1634.95	140.00	0.685
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-26.41	-5.00	0.00	-207.80	0.00	-207.80	2395.97	578.17	1593.34	1634.95	140.00	0.185
1.2D + 1.0Ev + 1.0Eh	-16.78	-3.00	0.00	-141.17	0.00	-141.17	2395.97	578.17	1593.34	1634.95	140.00	0.125
0.9D + 1.0Ev + 1.0Eh	-12.58	-2.94	0.00	-138.17	0.00	-138.17	2395.97	578.17	1593.34	1634.95	140.00	0.120
1.0D + 1.0W 60 mph Wind	-13.92	-4.79	0.00	-200.07	0.00	-200.07	2395.97	578.17	1593.34	1634.95	140.00	0.171

Monopole Mat Foundation Design

			Date: 6/27/2019
Customer Name:	T-Mobile	**EIA/TIA Standard:**	EIA-222-H
Site Name:		**Structure Height (Ft.):**	195
Site Number:	CT01916-S-SBA	**Engineer Name:**	H. You
Engr. Number:	77995	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

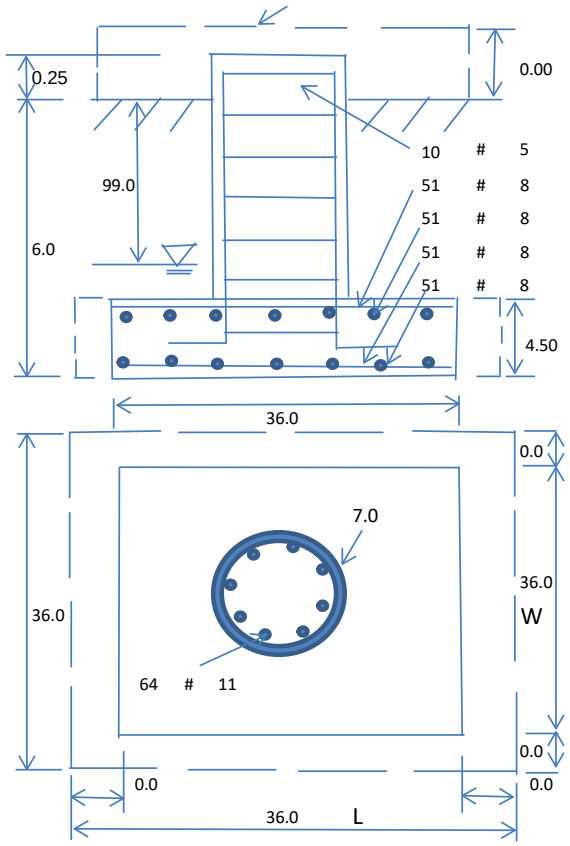
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	60.4	Shear Force (Kips):	34.1
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4710.0
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.25	Thickness of Pad (ft):	4.50
Length of Pad (ft.):	36	Width of Pad (ft.):	36
Final Length of pad (ft)	36.0	Final width of pad (ft):	36.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3500	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	64	Tie Spacing (in):	8.0	
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):	51	Qty. of Rebar in Pad (W):	51	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	51	Qty. of Rebar in Pad (W):	51	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	100.0	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:	30
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	425	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
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.):	1886.27	Total Dry Soil Weight (Kips):	188.63
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	188.63	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	5899.35	Total Dry Concrete Weight (Kips):	884.90
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	884.90	Total Vertical Load on Base (Kips):	1133.93

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1077	<	Allowable Factored Soil Bearing (psf): 22500	0.05	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	18478.4	>	Design Factored Momont (kips-ft): 4923	0.27	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	3.75	OK!			

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	15779.9	>	Design Factored Moment (Mu, Kips-F	4769.7	0.30	OK!
Calculated Shear Capacity (Kips):	804.3	>	Design Factored Shear (Kips):	34.1	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	5391.4	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	8418.7	>	Design Factored Axial Load (Pu Kips):	60.4	0.01	OK!
Moment & Axial Strength Combination:	0.30	OK!	Check Tie Spacing (Design/Required):		0.6667	OK!
Pier Reinforcement Ratio:	0.018		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1936.0	>	One-Way Factored Shear (L-D. Kips):	342.2	0.18	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1936.0	>	One-Way Factored Shear (W-D., Kips)	342.2	0.18	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1908.8	>	One-Way Factored Shear (C-C, Kips):	302.2	0.16	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	8985.4	>	Moment at Bottom (L-Dir. K-Ft):	3093.7	0.34	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	8985.4	>	Moment at Bottom (W-Dir. K-Ft):	3093.7	0.34	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	12668.8	>	Moment at Bottom (C-C Dir. K-Ft):	4375.2	0.35	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	8985.4	>	Moment at the top (L-Dir K-Ft):	998.2	0.11	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	8985.4	>	Moment at the top (W-Dir K-Ft):	998.2	0.11	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	12668.8	>	Moment at the top (C-C Dir. K-Ft):	930.6	0.07	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1884.0	k-ft.	Max. factored shear stress v_{u_CD}:		3.8	Psi
Max. factored shear stress v_{u_AB}:	7.9	Psi	Factored shear Strength ϕv_n:		177.5	Psi
Max. factored shear stress v_u:	7.9	Psi	Check Usage of Punching Shear Capacity:		0.04	OK!

EXHIBIT 8

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 195-Ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01916-S-SBA / North Salem

Customer Site Name: North Salem

Carrier Name: T-Mobile (App#: 117038, V1)

Carrier Site ID / Name: CTHA101F / North Salem

Site Location: 160 Witch Meadow Road

Salem, Connecticut

New London County

Latitude: 41.502828

Longitude: -72.297052

Analysis Result:

Max Structural Usage: 49.9% [Pass]

Report Prepared By: Sital Shrestha

7/25/19

Introduction

The purpose of this report is to summarize the analysis results on the Low profile platform at 174.20' 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	Mount mapping done by FUll Metal Tower Services, drawing No. 1216456, dated 4/29/19.
Antenna Loading	Antenna loading by SBA Appliction # 117038,v1, dated 6/3/19.
Existing Modification	N/A
Proposed Modification	TES Project No. 78293

Analysis Criteria

Basic Wind Speed Used in the Analysis: V_{ULT} = 130.0 mph (3-Sec. Gust) / Equivalent to
V_{ASD} = 101 mph (3-Sec. Gust)
Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 0.75" radial ice concurrent
Operational Wind Speed: 60 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-G/ 2015 IBC / 2018 CSBC
Exposure Category: B
Structure Class: II
Topographic Category: 1
Crest Height (Ft): 0

The site is a Risk Category II structure per table 1604.5 of the 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

(1) Low profile platform at 175.0 elevation.

Proposed Modifications

(1) Metrosite Support Rail w/ End connection: MS-HRCP-35

Final Antenna Configuration

3 RFS APXVAARR24_43-U-NA20
3 RFS APX16DWV-16DWVS-E-A20
3 Andrew LNX-6515DS-A1M

3 Ericsson 4449 B5/B12
3 Ericsson RRUS 11
3 Ericsson RRUS-11 B2
3 Ericsson RRUS-11 B4

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 Low profile platform.

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 49.9%, 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.


04.29.2019 09:09


04.29.2019 09:32

Structure: CT01916-S-SBA - North Salem

Sector: **A**

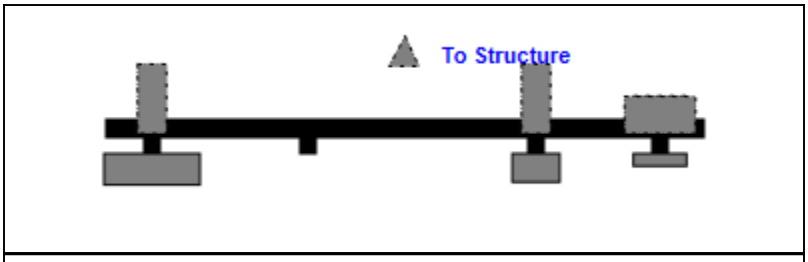
Structure Type: Monopole

Mount Elev: 174.20

6/21/2019

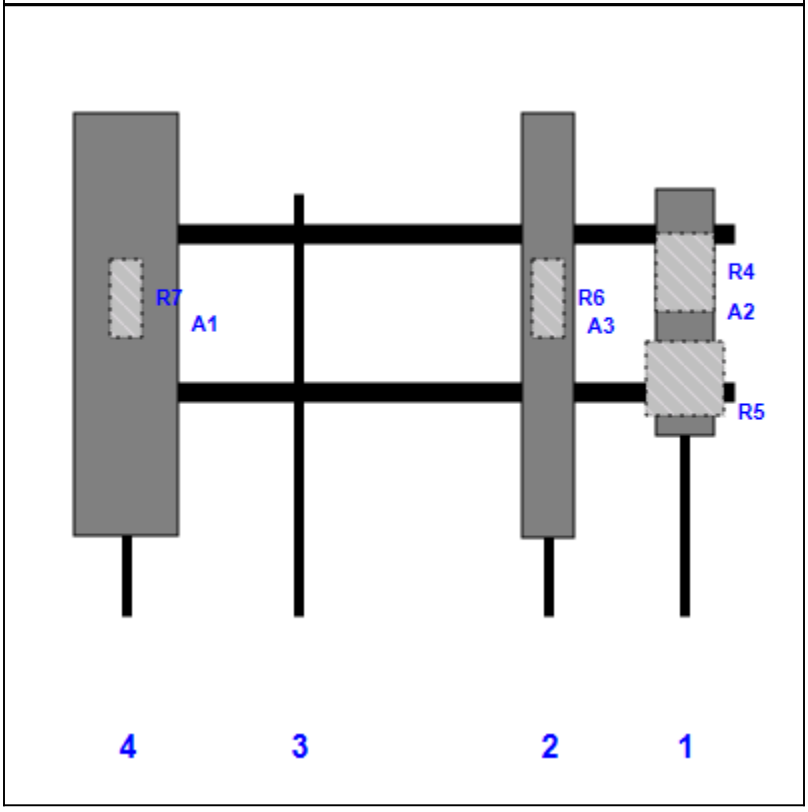
Tower Engineering Solutions

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
A2	APX16DWV-16DWVS-E-A20	55.90	13.30	139.00	1	a	Front	27.00	0.00
R4	4449 B5/B12	17.90	13.20	139.00	1	a	Behind	18.00	0.00
R5	RRUS 11	17.00	17.80	139.00	1	a	Behind	42.00	0.00
A3	LNX-6515DS-A1M	96.40	11.90	108.00	2	a	Front	30.00	0.00
R6	RRUS-11 B2	17.80	7.20	108.00	2	a	Behind	24.00	0.00
A1	APXVAARR24_43-U-NA20	95.90	24.00	12.00	4	a	Front	30.00	0.00
R7	RRUS-11 B4	17.80	7.20	12.00	4	a	Behind	24.00	0.00

Structure: CT01916-S-SBA - North Salem

Sector: B

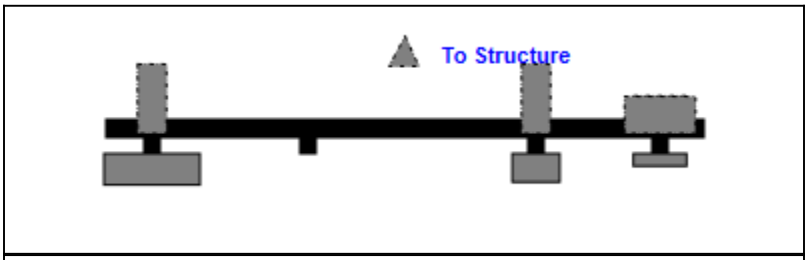
Structure Type: Monopole

Mount Elev: 174.20

6/21/2019

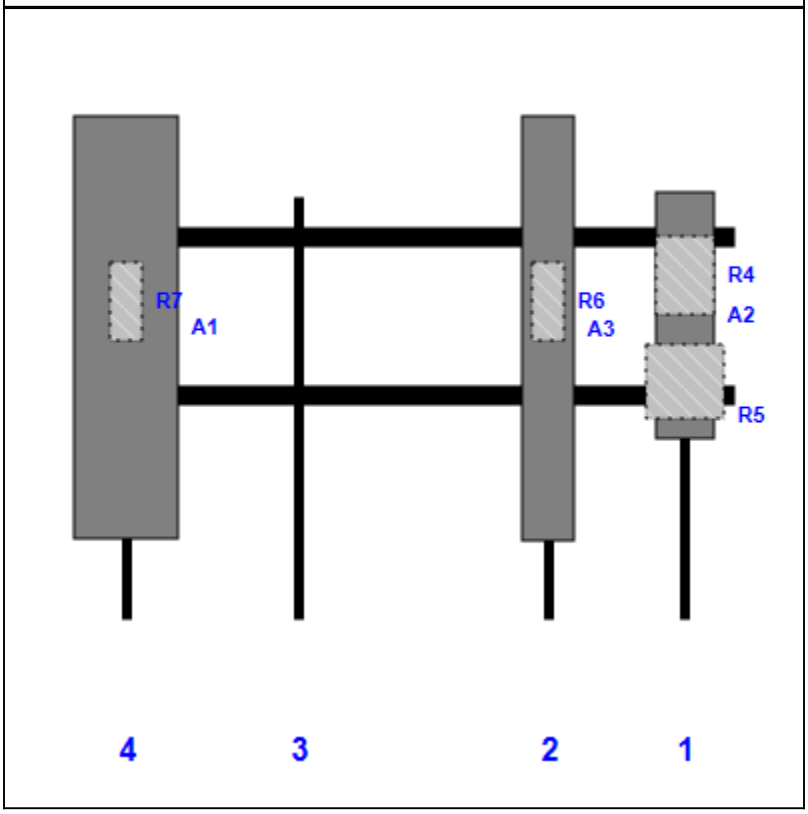
Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure



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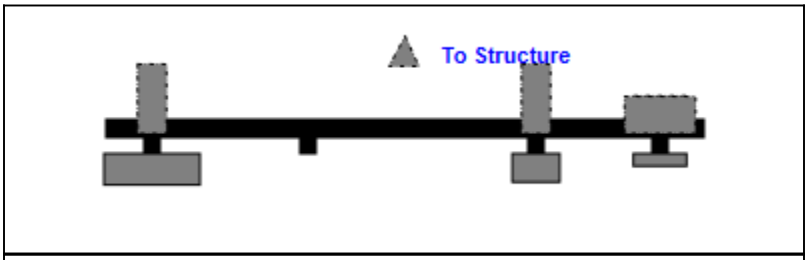
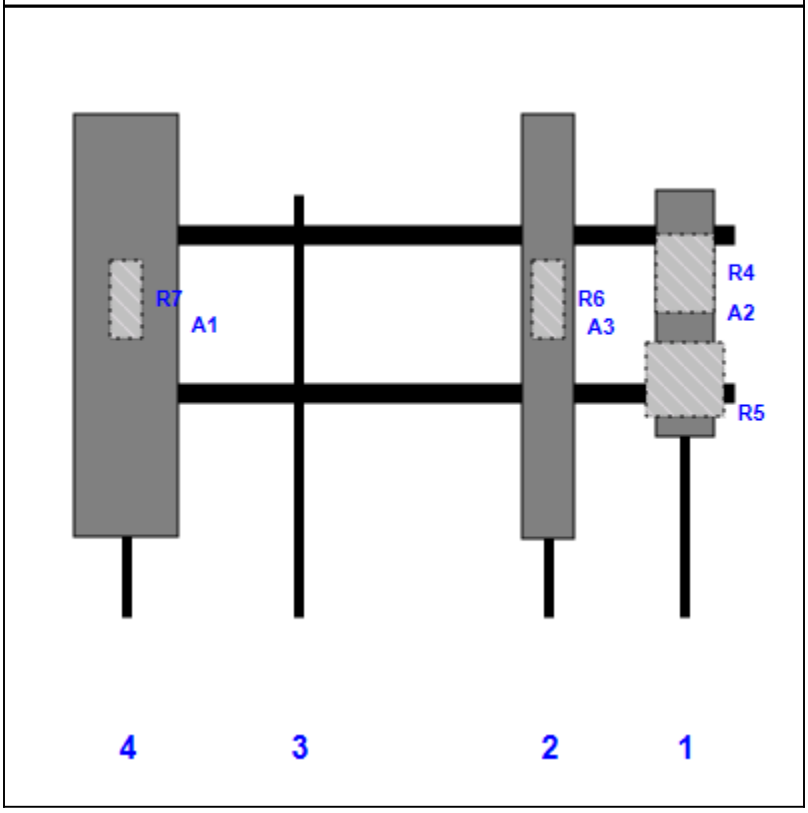
A3	LNX-6515DS-A1M	96.40	11.90	108.00	2	a	Front	30.00	0.00
R6	RRUS-11 B2	17.80	7.20	108.00	2	a	Behind	24.00	0.00
A1	APXVAARR24_43-U-NA20	95.90	24.00	12.00	4	a	Front	30.00	0.00
R7	RRUS-11 B4	17.80	7.20	12.00	4	a	Behind	24.00	0.00

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
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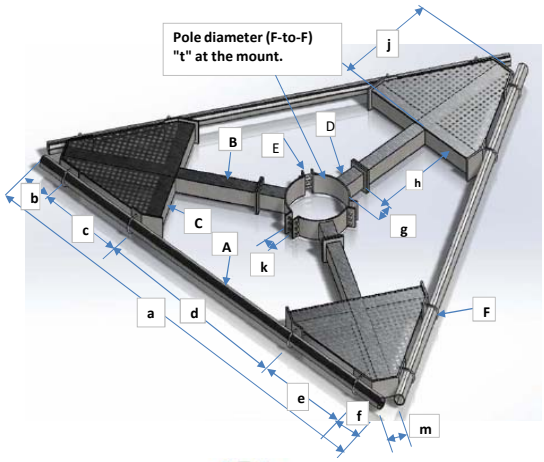
R4	4449 B5/B12	17.90	13.20	139.00	1	a	Behind	18.00	0.00
R5	RRUS 11	17.00	17.80	139.00	1	a	Behind	42.00	0.00
A3	LNX-6515DS-A1M	96.40	11.90	108.00	2	a	Front	30.00	0.00
R6	RRUS-11 B2	17.80	7.20	108.00	2	a	Behind	24.00	0.00
A1	APXVAARR24_43-U-NA20	95.90	24.00	12.00	4	a	Front	30.00	0.00
R7	RRUS-11 B4	17.80	7.20	12.00	4	a	Behind	24.00	0.00

Antenna Mount Type "MT-C" Mapping Form (PATENT PENDING)

FCC # 1216456

Tower Owner:	SBA Communications	**Mapping Date:**	4/29/19
Site Name:	North Salem	**Structure Type:**	Monopole
Site Number or ID:	CT01916-S-SBA	**Structure Height (Ft.):**	199
Mapping Contractor:	Full Metal Tower Services	**Mount Height (Ft.):**	174.2



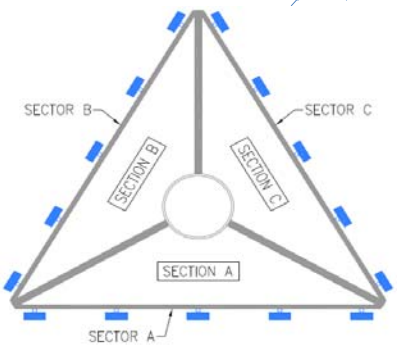
Geometries (Unit: inches)									
a	150	e	45	j	47	o	N/A	s	N/A
b	9	f	6	k	24	p	N/A	t	18.5
c	45	g	7	m	12	q	N/A	u *	45
d	45	h	18	n	N/A	r	N/A	v *	96

Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)

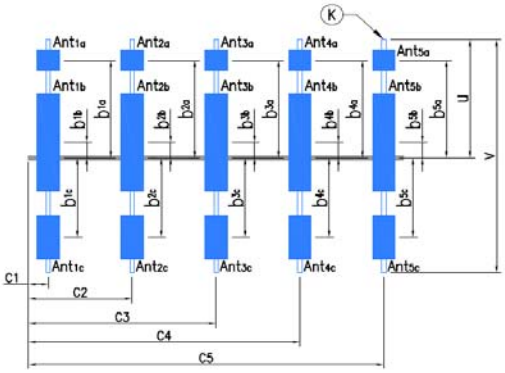
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	F	1/2" U-Bolt		U-Bolt	
B	Tubing 4x4x1/4	4	4	0.25	G				
C	Tubing 4x4x1/4	4	4	0.25	H				
D	1/2" Thick. Plate	0	0	0.5	J				
E	3/4" Bolt	24			K* (pipe)	.375 OD x 0.154 Pip	2.375	2.067	0.154

Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)	7.5'
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 infomation below if members can't be found from the drop down lists



Climbing facility is Located at Section C, at 290° Degree Azimuth



Antenna Layout

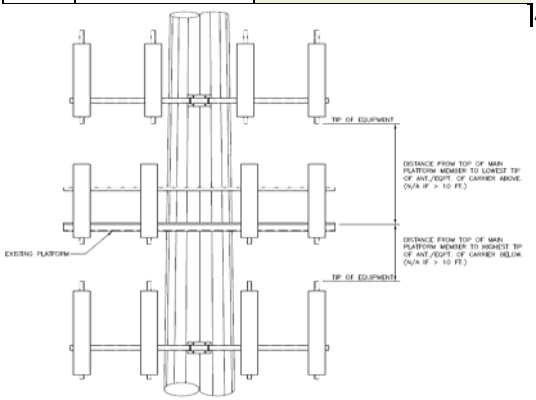
Ants. Items	Enter antenna model. If not labled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.					Mounting Locations (Unit: inches)			Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (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}	Radio 4449 B71+B1	17	7	20	1/2" (2)	+22"	N/A	139	
Ant_{1b}	APX16DWV-16DWV	13	3.5	56	1/2" (4)	+17"	6	139	
Ant_{1c}	RRUS11	17	7	20	1/2" (2)	-28"	N/A	139	
Ant_{2a}	LNX-6515DS-A1M	11.9	7.1	96.4	N/A	N/A	N/A	108	
Ant_{2b}	RRUS11 B2	16.9	7.16	19					
Ant_{2c}									
Ant_{3a}	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	51	
Ant_{3b}									
Ant_{3c}									
Ant_{4a}	APXVAARR24_43-U	12	7.5	96.5	1/2" (2)	+18"	7	12	
Ant_{4b}	RRUS11 B4	17	7	20	1/2" (2)	+26"		12	
Ant_{4c}									
Ant_{5a}									
Ant_{5b}									
Ant_{5c}									

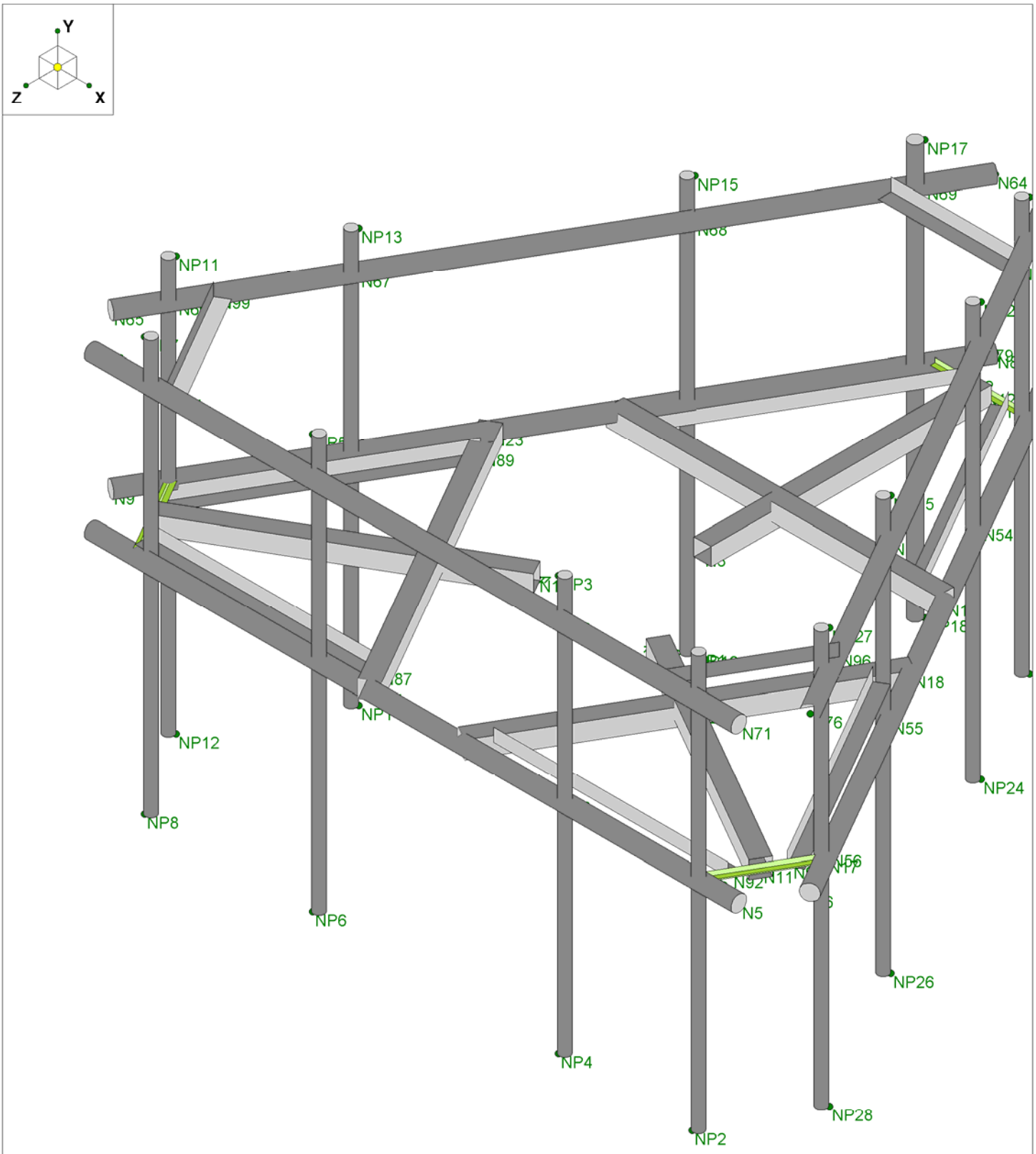
Are Ant same as sector A? Yes — **Antennas on Sector B are the same as Sector A**

Azimuth (Degree) of Each Sector and Climbing Information

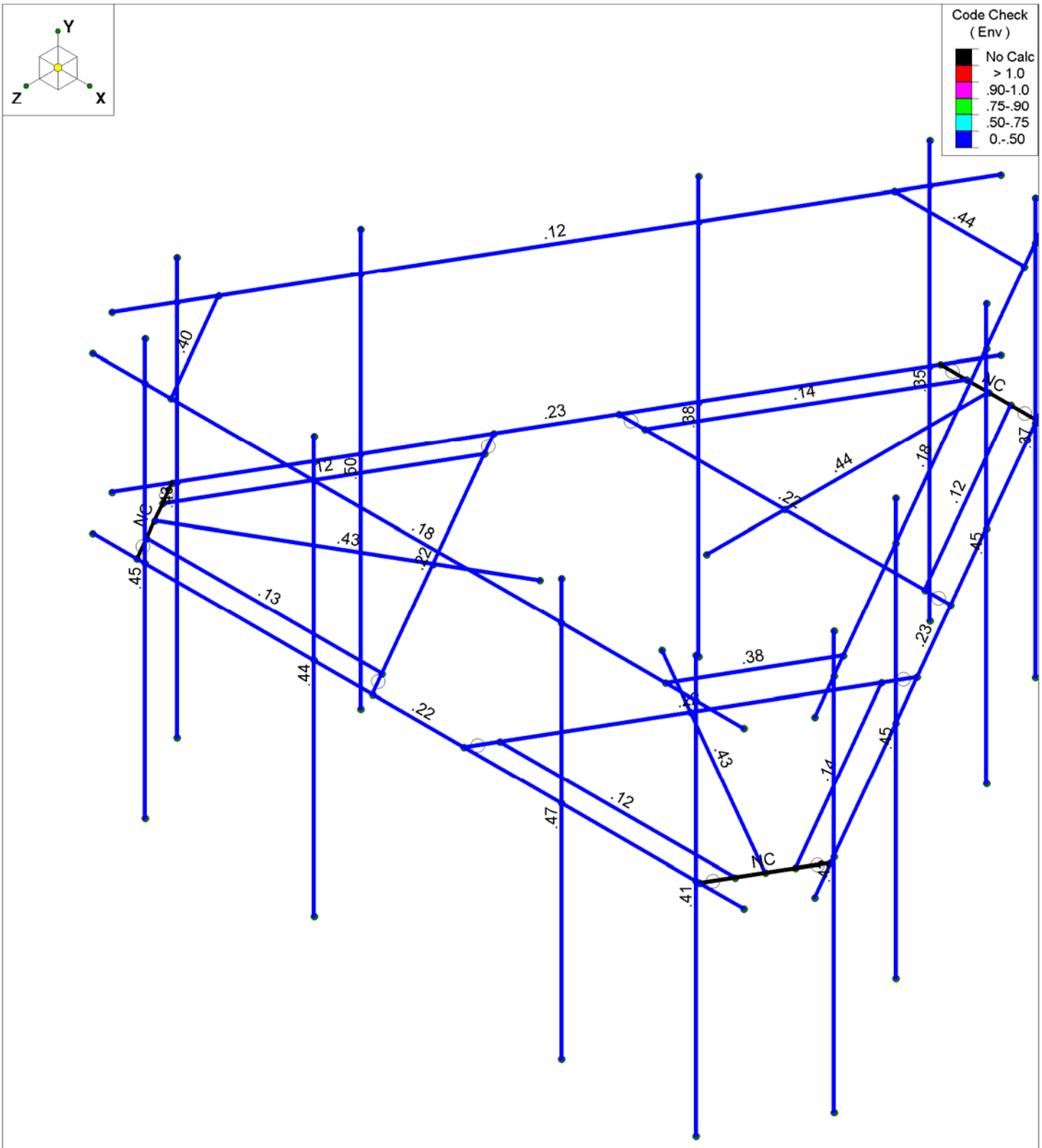
Sector A:	45°	Deg	
Sector B:	180°	Deg	
Sector C:	290°	Deg	
Climbing	290°	Deg	Located at Section C
Climbing Facility	Corrosion Type:		No corrosion observed
	Access:		Climbing path was unobstructed.
	Condition:		N/A

Are Ant same as sector A/B? Same As A — **Antennas on Sector C are the same as Sector A**



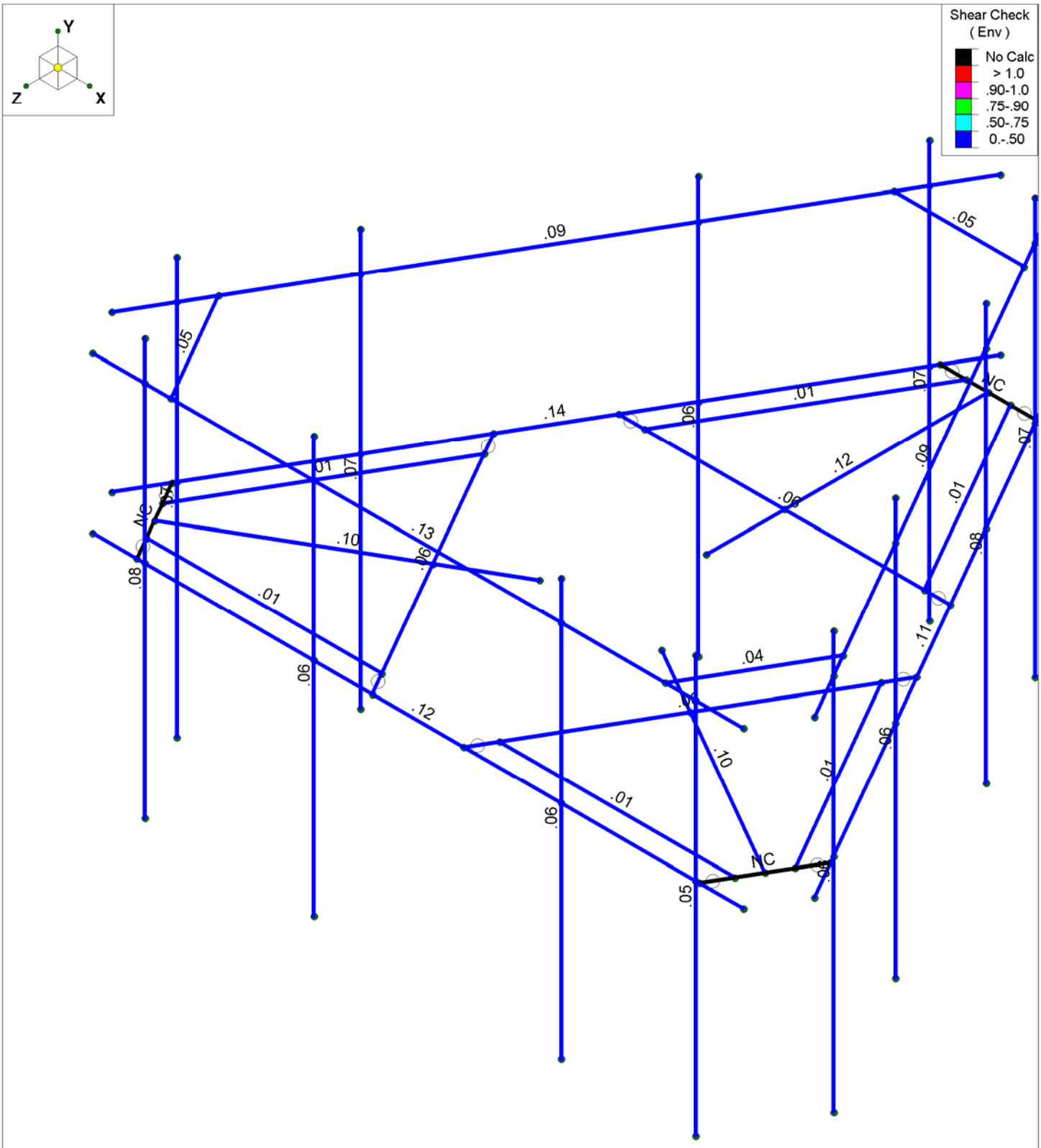


Tower Engineering Solutio...	CT01916-S-SBA_MT-C_G	SK - 1
		June 20, 2019 at 4:38 PM
TES Project No. 77890		MOD.r3d



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...	CT01916-S-SBA_MT-C_G	SK - 2
		June 20, 2019 at 4:39 PM
TES Project No. 77890		MOD.r3d



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...	CT01916-S-SBA_MT-C_G	SK - 3
		June 20, 2019 at 4:39 PM
TES Project No. 77890		MOD.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					30			
2	Antenna Di	None					30			
3	Antenna W Front	None					30			
4	Antenna Wi Front	None					30			
5	Antenna W Side	None					30			
6	Antenna Wi Side	None					30			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1					3	
10	Structure Di	None						24	3	
11	Structure W Front	None						24		
12	Structure Wi Front	None						24		
13	Structure W Side	None						24		
14	Structure Wi Side	None						24		
15	BLC 9 Transient Area...	None						102		
16	BLC 10 Transient Are...	None						102		

Load Combinations

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	1.2D+1.6...	Yes	Y		1	1.2	9	1.2	3	1.6	11	1.6												
2	1.2D+1.6...	Yes	Y		1	1.2	9	1.2	3	-1.6	11	-1.6												
3	1.2D+1.6...	Yes	Y		1	1.2	9	1.2	5	1.6	13	1.6												
4	1.2D+1.6...	Yes	Y		1	1.2	9	1.2	5	-1.6	13	-1.6												
5	1.2D+1.0...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	1	12	1								
6	1.2D+1.0...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-1	12	-1								
7	1.2D+1.0...	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	1	14	1								
8	1.2D+1.0...	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	-1	14	-1								
9	1.2D+1.5L...	Yes	Y		1	1.2	9	1.2	7	1.5	3	.16	11	.16										
10	1.2D+1.5L...	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	-1.172743	0	0.677083	0	
2	N2	1.172743	0	0.677083	0	
3	N3	0	0	-1.354167	0	
4	N4	-6.25	0	4.185789	0	
5	N5	6.25	0	4.185789	0	
6	N6	6.75	0	3.319764	0	
7	N7	.5	0	-7.505553	0	
8	N8	-.5	0	-7.505553	0	
9	N9	-6.75	0	3.319764	0	
10	N10	-5.863714	0	3.385417	0	
11	N11	5.863714	0	3.385417	0	
12	N12	0	0	-6.770833	0	
13	N13	-5.401618	0	4.185789	0	
14	N14	-0.879041	0	4.185789	0	
15	N15	0.879041	0	4.185789	0	
16	N16	5.401618	0	4.185789	0	
17	N17	6.325809	0	2.585044	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
18	N18	4.064521	0	-1.331623	0	
19	N19	3.185479	0	-2.854167	0	
20	N20	0.924191	0	-6.770833	0	
21	N21	-0.924191	0	-6.770833	0	
22	N22	-3.185479	0	-2.854167	0	
23	N23	-4.064521	0	-1.331623	0	
24	N24	-6.325809	0	2.585044	0	
25	NP1	5.333333	3.75	4.185789	0	
26	NP2	5.333333	-4.25	4.185789	0	
27	NP3	2.75	3.75	4.185789	0	
28	NP4	2.75	-4.25	4.185789	0	
29	NP5	-2	3.75	4.185789	0	
30	NP6	-2	-4.25	4.185789	0	
31	NP7	-5.25	3.75	4.185789	0	
32	NP8	-5.25	-4.25	4.185789	0	
33	NP11	-6.291667	3.75	2.525907	0	
34	NP12	-6.291667	-4.25	2.525907	0	
35	NP13	-5	3.75	0.288675	0	
36	NP14	-5	-4.25	0.288675	0	
37	NP15	-2.625	3.75	-3.824946	0	
38	NP16	-2.625	-4.25	-3.824946	0	
39	NP17	-1	3.75	-6.639528	0	
40	NP18	-1	-4.25	-6.639528	0	
41	NP21	0.958333	3.75	-6.711697	0	
42	NP22	0.958333	-4.25	-6.711697	0	
43	NP23	2.25	3.75	-4.474465	0	
44	NP24	2.25	-4.25	-4.474465	0	
45	NP25	4.625	3.75	-0.360844	0	
46	NP26	4.625	-4.25	-0.360844	0	
47	NP27	6.25	3.75	2.453739	0	
48	NP28	6.25	-4.25	2.453739	0	
49	N49	5.333333	0	4.185789	0	
50	N50	2.75	0	4.185789	0	
51	N51	-2	0	4.185789	0	
52	N52	-5.25	0	4.185789	0	
53	N53	0.958333	0	-6.711697	0	
54	N54	2.25	0	-4.474465	0	
55	N55	4.625	0	-0.360844	0	
56	N56	6.25	0	2.453739	0	
57	N57	-6.291667	0	2.525907	0	
58	N58	-5	0	0.288675	0	
59	N59	-2.625	0	-3.824946	0	
60	N60	-1.	0	-6.639528	0	
61	N61	-2.471781	0	1.427083	0	
62	N62	2.471781	0	1.427083	0	
63	N63	0	0	-2.854167	0	
64	N64	-.5	3	-7.505553	0	
65	N65	-6.75	3	3.319764	0	
66	N66	-6.291667	3	2.525907	0	
67	N67	-5	3	0.288675	0	
68	N68	-2.625	3	-3.824946	0	
69	N69	-1.	3	-6.639528	0	
70	N70	-6.25	3	4.185789	0	
71	N71	6.25	3	4.185789	0	
72	N72	5.333333	3	4.185789	0	
73	N73	2.75	3	4.185789	0	
74	N74	-2	3	4.185789	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
75	N75	-5.25	3	4.185789	0	
76	N76	6.75	3	3.319764	0	
77	N77	0.5	3	-7.505553	0	
78	N78	0.958333	3	-6.711697	0	
79	N79	2.25	3	-4.474465	0	
80	N80	4.625	3	-0.360844	0	
81	N81	6.25	3	2.453739	0	
82	N82	-0.424191	0	-6.770833	0	
83	N83	-2.685479	0	-2.854167	0	
84	N84	0.424191	0	-6.770833	0	
85	N85	2.685479	0	-2.854167	0	
86	N86	-5.651618	0	3.752777	0	
87	N87	-1.129041	0	3.752777	0	
88	N88	-6.075809	0	3.018057	0	
89	N89	-3.814521	0	-0.89861	0	
90	N90	6.075809	0	3.018057	0	
91	N91	3.814521	0	-0.89861	0	
92	N92	5.651618	0	3.752777	0	
93	N93	1.129041	0	3.752777	0	
94	N94	-4.75	3	4.185789	0	
95	N95	4.75	3	4.185789	0	
96	N96	6	3	2.020726	0	
97	N97	1.25	3	-6.206515	0	
98	N98	-1.25	3	-6.206515	0	
99	N99	-6	3	2.020726	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	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	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B....	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B....	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B....	1	30	25	25	19	141
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B....	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B....	1	24	15	15	15	141

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N4	N5			PIPE_3.0	Beam	Pipe	A53 Gr.B	DR1
2	M2	N6	N7			PIPE_3.0	Beam	Pipe	A53 Gr.B	DR1
3	M3	N8	N9			PIPE_3.0	Beam	Pipe	A53 Gr.B	DR1
4	M4	N1	N10			HSS4x4x4	Beam	None	A500 Gr.B...	DR1
5	M5	N2	N11			HSS4x4x4	Beam	None	A500 Gr.B...	DR1
6	M6	N3	N12			HSS4x4x4	Beam	None	A500 Gr.B...	DR1
7	M7	N23	N14			HSS4x4x4	Beam	None	A500 Gr.B...	DR1
8	M8	N15	N18			HSS4x4x4	Beam	None	A500 Gr.B...	DR1
9	M9	N19	N22			HSS4x4x4	Beam	None	A500 Gr.B...	DR1
10	M10	N24	N13			RIGID	Beam	None	RIGID	DR1
11	M11	N16	N17			RIGID	Beam	None	RIGID	DR1
12	M12	N20	N21			RIGID	Beam	None	RIGID	DR1
13	MP1A	NP1	NP2			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
14	MP2A	NP3	NP4			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
15	MP3A	NP5	NP6			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
16	MP4A	NP7	NP8			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
17	MP1B	NP11	NP12		300	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
18	MP2B	NP13	NP14		300	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
19	MP3B	NP15	NP16		300	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
20	MP4B	NP17	NP18		300	PIPE_2.5	Beam	Pipe	A53 Gr.B	DR1
21	MP1C	NP21	NP22		60	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
22	MP2C	NP23	NP24		60	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
23	MP3C	NP25	NP26		60	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
24	MP4C	NP27	NP28		60	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
25	M25	N64	N65			PIPE_3.0	Beam	None	A992	DR1_1
26	M26	N70	N71			PIPE_3.0	Beam	Pipe	A53 Gr.B	DR1
27	M27	N76	N77			PIPE_3.0	Beam	Pipe	A53 Gr.B	DR1
28	M28	N82	N83			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
29	M29	N84	N85			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
30	M30	N86	N87			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
31	M31	N88	N89			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
32	M32	N90	N91			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
33	M33	N92	N93			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
34	M34	N99	N94		270	L3x3x4	Beam	None	A36 Gr.36	DR1
35	M35	N98	N97			L3x3x4	Beam	None	A36 Gr.36	DR1
36	M36	N95	N96		270	L3x3x4	Beam	None	A36 Gr.36	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	M3						Yes			None
4	M4						Yes			None
5	M5						Yes			None
6	M6						Yes			None
7	M7	BenPIN	BenPIN				Yes			None
8	M8	BenPIN	BenPIN				Yes			None
9	M9	BenPIN	BenPIN				Yes			None
10	M10	BenPIN	BenPIN				Yes			None
11	M11	BenPIN	BenPIN				Yes			None
12	M12	BenPIN	BenPIN				Yes			None
13	MP1A						Yes	-z		None
14	MP2A						Yes	-z		None
15	MP3A						Yes	-z		None
16	MP4A						Yes	-z		None
17	MP1B						Yes	+z		None
18	MP2B						Yes	+z		None
19	MP3B						Yes	+z		None
20	MP4B						Yes	+z		None
21	MP1C						Yes	+z		None
22	MP2C						Yes	+z		None
23	MP3C						Yes	+z		None
24	MP4C						Yes	+z		None
25	M25						Yes			None
26	M26						Yes			None
27	M27						Yes			None
28	M28						Yes			None
29	M29						Yes			None
30	M30						Yes			None
31	M31						Yes			None
32	M32						Yes			None
33	M33						Yes			None
34	M34						Yes			None
35	M35						Yes			None
36	M36						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	12.5			Lbyy						Gravity
2	M2	PIPE_3.0	12.5			Lbyy						Gravity
3	M3	PIPE_3.0	12.5			Lbyy						Gravity
4	M4	HSS4x4x4	5.417			Lbyy						Gravity
5	M5	HSS4x4x4	5.417			Lbyy						Gravity
6	M6	HSS4x4x4	5.417			Lbyy						Gravity
7	M7	HSS4x4x4	6.371			Lbyy						Gravity
8	M8	HSS4x4x4	6.371			Lbyy						Gravity
9	M9	HSS4x4x4	6.371			Lbyy						Gravity
10	MP1A	PIPE_2.0	8			Lbyy						Gravity
11	MP2A	PIPE_2.0	8			Lbyy						Gravity
12	MP3A	PIPE_2.0	8			Lbyy						Gravity
13	MP4A	PIPE_2.0	8			Lbyy						Gravity
14	MP1B	PIPE_2.0	8			Lbyy						Gravity
15	MP2B	PIPE_2.0	8			Lbyy						Gravity

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
16	MP3B	PIPE_2.0	8			Lbyy						Gravity
17	MP4B	PIPE_2.5	8			Lbyy						Gravity
18	MP1C	PIPE_2.0	8			Lbyy						Gravity
19	MP2C	PIPE_2.0	8			Lbyy						Gravity
20	MP3C	PIPE_2.0	8			Lbyy						Gravity
21	MP4C	PIPE_2.0	8			Lbyy						Gravity
22	M25	PIPE_3.0	12.5			Lbyy						Lateral
23	M26	PIPE_3.0	12.5			Lbyy						Gravity
24	M27	PIPE_3.0	12.5			Lbyy						Gravity
25	M28	L3x3x4	4.523			Lbyy						Lateral
26	M29	L3x3x4	4.523			Lbyy						Lateral
27	M30	L3x3x4	4.523			Lbyy						Lateral
28	M31	L3x3x4	4.523			Lbyy						Lateral
29	M32	L3x3x4	4.523			Lbyy						Lateral
30	M33	L3x3x4	4.523			Lbyy						Lateral
31	M34	L3x3x4	2.5			Lbyy						Lateral
32	M35	L3x3x4	2.5			Lbyy						Lateral
33	M36	L3x3x4	2.5			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	MP4A	Y	-64	0
2	MP4A	Y	-64	5
3	MP4B	Y	-64	0
4	MP4B	Y	-64	5
5	MP4C	Y	-64	0
6	MP4C	Y	-64	5
7	MP1A	Y	-20.35	0
8	MP1A	Y	-20.35	4.5
9	MP1B	Y	-20.35	0
10	MP1B	Y	-20.35	4.5
11	MP1C	Y	-20.35	0
12	MP1C	Y	-20.35	4.5
13	MP2A	Y	-24.9	0
14	MP2A	Y	-24.9	5
15	MP2B	Y	-24.9	0
16	MP2B	Y	-24.9	5
17	MP2C	Y	-24.9	0
18	MP2C	Y	-24.9	5

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP1A	Y	-71	1.5
20	MP1B	Y	-71	1.5
21	MP1C	Y	-71	1.5
22	MP1A	Y	-50.7	3.5
23	MP1B	Y	-50.7	3.5
24	MP1C	Y	-50.7	3.5
25	MP2A	Y	-44	2
26	MP2B	Y	-44	2
27	MP2C	Y	-44	2
28	MP4A	Y	-44	2
29	MP4B	Y	-44	2
30	MP4C	Y	-44	2

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-212.522	0
2	MP4A	Y	-212.522	5
3	MP4B	Y	-212.522	0
4	MP4B	Y	-212.522	5
5	MP4C	Y	-212.522	0
6	MP4C	Y	-212.522	5
7	MP1A	Y	-70.425	0
8	MP1A	Y	-70.425	4.5
9	MP1B	Y	-70.425	0
10	MP1B	Y	-70.425	4.5
11	MP1C	Y	-70.425	0
12	MP1C	Y	-70.425	4.5
13	MP2A	Y	-134.197	0
14	MP2A	Y	-134.197	5
15	MP2B	Y	-134.197	0
16	MP2B	Y	-134.197	5
17	MP2C	Y	-134.197	0
18	MP2C	Y	-134.197	5
19	MP1A	Y	-78.614	1.5
20	MP1B	Y	-78.614	1.5
21	MP1C	Y	-78.614	1.5
22	MP1A	Y	-90.847	3.5
23	MP1B	Y	-90.847	3.5
24	MP1C	Y	-90.847	3.5
25	MP2A	Y	-83.025	2
26	MP2B	Y	-83.025	2
27	MP2C	Y	-83.025	2
28	MP4A	Y	-83.025	2
29	MP4B	Y	-83.025	2
30	MP4C	Y	-83.025	2

Member Point Loads (BLC 3 : Antenna W Front)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Z	-319.822	0
2	MP4A	Z	-319.822	5
3	MP4B	Z	-177.007	0
4	MP4B	Z	-177.007	5
5	MP4C	Z	-177.007	0
6	MP4C	Z	-177.007	5
7	MP1A	Z	-104.448	0
8	MP1A	Z	-104.448	4.5

Member Point Loads (BLC 3 : Antenna W Front) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP1B	Z	-51.323	0
10	MP1B	Z	-51.323	4.5
11	MP1C	Z	-51.323	0
12	MP1C	Z	-51.323	4.5
13	MP2A	Z	-181.243	0
14	MP2A	Z	-181.243	5
15	MP2B	Z	-136.522	0
16	MP2B	Z	-136.522	5
17	MP2C	Z	-136.522	0
18	MP2C	Z	-136.522	5
19	MP1A	Z	-46.693	1.5
20	MP1B	Z	-36.599	1.5
21	MP1C	Z	-36.599	1.5
22	MP1A	Z	-59.73	3.5
23	MP1B	Z	-38.101	3.5
24	MP1C	Z	-38.101	3.5
25	MP2A	Z	-60.915	2
26	MP2B	Z	-60.847	2
27	MP2C	Z	-60.847	2
28	MP4A	Z	-60.915	2
29	MP4B	Z	-60.847	2
30	MP4C	Z	-60.847	2

Member Point Loads (BLC 4 : Antenna Wi Front)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Z	-85.854	0
2	MP4A	Z	-85.854	5
3	MP4B	Z	-49.906	0
4	MP4B	Z	-49.906	5
5	MP4C	Z	-49.906	0
6	MP4C	Z	-49.906	5
7	MP1A	Z	-29.917	0
8	MP1A	Z	-29.917	4.5
9	MP1B	Z	-16.369	0
10	MP1B	Z	-16.369	4.5
11	MP1C	Z	-16.369	0
12	MP1C	Z	-16.369	4.5
13	MP2A	Z	-50.866	0
14	MP2A	Z	-50.866	5
15	MP2B	Z	-39.669	0
16	MP2B	Z	-39.669	5
17	MP2C	Z	-39.669	0
18	MP2C	Z	-39.669	5
19	MP1A	Z	-14.903	1.5
20	MP1B	Z	-12.149	1.5
21	MP1C	Z	-12.149	1.5
22	MP1A	Z	-18.484	3.5
23	MP1B	Z	-12.531	3.5
24	MP1C	Z	-12.531	3.5
25	MP2A	Z	-9.059	2
26	MP2B	Z	-16.344	2
27	MP2C	Z	-16.344	2
28	MP4A	Z	-9.059	2
29	MP4B	Z	-16.344	2
30	MP4C	Z	-16.344	2

Member Point Loads (BLC 5 : Antenna W Side)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	129.402	0
2	MP4A	X	129.402	5
3	MP4B	X	272.217	0
4	MP4B	X	272.217	5
5	MP4C	X	272.217	0
6	MP4C	X	272.217	5
7	MP1A	X	33.615	0
8	MP1A	X	33.615	4.5
9	MP1B	X	86.74	0
10	MP1B	X	86.74	4.5
11	MP1C	X	86.74	0
12	MP1C	X	86.74	4.5
13	MP2A	X	121.614	0
14	MP2A	X	121.614	5
15	MP2B	X	166.336	0
16	MP2B	X	166.336	5
17	MP2C	X	166.336	0
18	MP2C	X	166.336	5
19	MP1A	X	44.313	1.5
20	MP1B	X	57.772	1.5
21	MP1C	X	57.772	1.5
22	MP1A	X	41.189	3.5
23	MP1B	X	70.027	3.5
24	MP1C	X	70.027	3.5
25	MP2A	X	81.099	2
26	MP2B	X	81.189	2
27	MP2C	X	81.189	2
28	MP4A	X	81.099	2
29	MP4B	X	81.189	2
30	MP4C	X	81.189	2

Member Point Loads (BLC 6 : Antenna Wi Side)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	37.923	0
2	MP4A	X	37.923	5
3	MP4B	X	73.871	0
4	MP4B	X	73.871	5
5	MP4C	X	73.871	0
6	MP4C	X	73.871	5
7	MP1A	X	11.852	0
8	MP1A	X	11.852	4.5
9	MP1B	X	25.401	0
10	MP1B	X	25.401	4.5
11	MP1C	X	25.401	0
12	MP1C	X	25.401	4.5
13	MP2A	X	35.937	0
14	MP2A	X	35.937	5
15	MP2B	X	47.134	0
16	MP2B	X	47.134	5
17	MP2C	X	47.134	0
18	MP2C	X	47.134	5
19	MP1A	X	14.974	1.5
20	MP1B	X	18.647	1.5
21	MP1C	X	18.647	1.5
22	MP1A	X	14.062	3.5
23	MP1B	X	21.999	3.5

Member Point Loads (BLC 6 : Antenna Wi Side) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
24	MP1C	X	21.999	3.5
25	MP2A	X	25.03	2
26	MP2B	X	15.317	2
27	MP2C	X	15.317	2
28	MP4A	X	25.03	2
29	MP4B	X	15.317	2
30	MP4C	X	15.317	2

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	-11.409	-11.409	0	%100
2	M2	Y	-11.409	-11.409	0	%100
3	M3	Y	-11.409	-11.409	0	%100
4	M4	Y	-15.904	-15.904	0	%100
5	M5	Y	-15.904	-15.904	0	%100
6	M6	Y	-15.904	-15.904	0	%100
7	M7	Y	-15.904	-15.904	0	%100
8	M8	Y	-15.904	-15.904	0	%100
9	M9	Y	-15.904	-15.904	0	%100
10	MP1A	Y	-8.974	-8.974	0	%100
11	MP2A	Y	-8.974	-8.974	0	%100
12	MP3A	Y	-8.974	-8.974	0	%100
13	MP4A	Y	-8.974	-8.974	0	%100
14	MP1B	Y	-8.974	-8.974	0	%100
15	MP2B	Y	-8.974	-8.974	0	%100
16	MP3B	Y	-8.974	-8.974	0	%100
17	MP4B	Y	-8.974	-8.974	0	%100
18	MP1C	Y	-8.974	-8.974	0	%100
19	MP2C	Y	-8.974	-8.974	0	%100
20	MP3C	Y	-8.974	-8.974	0	%100
21	MP4C	Y	-8.974	-8.974	0	%100
22	M25	Y	-11.409	-11.409	0	%100
23	M26	Y	-11.409	-11.409	0	%100
24	M27	Y	-11.409	-11.409	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	-11.061	-11.061	0	%100
2	M2	PZ	-11.061	-11.061	0	%100
3	M3	PZ	-11.061	-11.061	0	%100
4	M4	PZ	-21.069	-21.069	0	%100
5	M5	PZ	-21.069	-21.069	0	%100
6	M6	PZ	-21.069	-21.069	0	%100
7	M7	PZ	-21.069	-21.069	0	%100
8	M8	PZ	-21.069	-21.069	0	%100
9	M9	PZ	-21.069	-21.069	0	%100

Member Distributed Loads (BLC 11 : Structure W Front) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
10	MP1A	PZ	-7.506	-7.506	0	%100
11	MP2A	PZ	-7.506	-7.506	0	%100
12	MP3A	PZ	-7.506	-7.506	0	%100
13	MP4A	PZ	-7.506	-7.506	0	%100
14	MP1B	PZ	-7.506	-7.506	0	%100
15	MP2B	PZ	-7.506	-7.506	0	%100
16	MP3B	PZ	-7.506	-7.506	0	%100
17	MP4B	PZ	-7.506	-7.506	0	%100
18	MP1C	PZ	-7.506	-7.506	0	%100
19	MP2C	PZ	-7.506	-7.506	0	%100
20	MP3C	PZ	-7.506	-7.506	0	%100
21	MP4C	PZ	-7.506	-7.506	0	%100
22	M25	PZ	-11.061	-11.061	0	%100
23	M26	PZ	-11.061	-11.061	0	%100
24	M27	PZ	-11.061	-11.061	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	-5.455	-5.455	0	%100
2	M2	PZ	-5.455	-5.455	0	%100
3	M3	PZ	-5.455	-5.455	0	%100
4	M4	PZ	-7.907	-7.907	0	%100
5	M5	PZ	-7.907	-7.907	0	%100
6	M6	PZ	-7.907	-7.907	0	%100
7	M7	PZ	-7.907	-7.907	0	%100
8	M8	PZ	-7.907	-7.907	0	%100
9	M9	PZ	-7.907	-7.907	0	%100
10	MP1A	PZ	-4.584	-4.584	0	%100
11	MP2A	PZ	-4.584	-4.584	0	%100
12	MP3A	PZ	-4.584	-4.584	0	%100
13	MP4A	PZ	-4.584	-4.584	0	%100
14	MP1B	PZ	-4.584	-4.584	0	%100
15	MP2B	PZ	-4.584	-4.584	0	%100
16	MP3B	PZ	-4.584	-4.584	0	%100
17	MP4B	PZ	-4.584	-4.584	0	%100
18	MP1C	PZ	-4.584	-4.584	0	%100
19	MP2C	PZ	-4.584	-4.584	0	%100
20	MP3C	PZ	-4.584	-4.584	0	%100
21	MP4C	PZ	-4.584	-4.584	0	%100
22	M25	PZ	-5.455	-5.455	0	%100
23	M26	PZ	-5.455	-5.455	0	%100
24	M27	PZ	-5.455	-5.455	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	11.061	11.061	0	%100
2	M2	PX	11.061	11.061	0	%100
3	M3	PX	11.061	11.061	0	%100
4	M4	PX	21.069	21.069	0	%100
5	M5	PX	21.069	21.069	0	%100
6	M6	PX	21.069	21.069	0	%100
7	M7	PX	21.069	21.069	0	%100
8	M8	PX	21.069	21.069	0	%100
9	M9	PX	21.069	21.069	0	%100
10	MP1A	PX	7.506	7.506	0	%100
11	MP2A	PX	7.506	7.506	0	%100

Member Distributed Loads (BLC 13 : Structure W Side) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
12	MP3A	PX	7.506	7.506	0	%100
13	MP4A	PX	7.506	7.506	0	%100
14	MP1B	PX	7.506	7.506	0	%100
15	MP2B	PX	7.506	7.506	0	%100
16	MP3B	PX	7.506	7.506	0	%100
17	MP4B	PX	7.506	7.506	0	%100
18	MP1C	PX	7.506	7.506	0	%100
19	MP2C	PX	7.506	7.506	0	%100
20	MP3C	PX	7.506	7.506	0	%100
21	MP4C	PX	7.506	7.506	0	%100
22	M25	PX	11.061	11.061	0	%100
23	M26	PX	11.061	11.061	0	%100
24	M27	PX	11.061	11.061	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	5.455	5.455	0	%100
2	M2	PX	5.455	5.455	0	%100
3	M3	PX	5.455	5.455	0	%100
4	M4	PX	7.907	7.907	0	%100
5	M5	PX	7.907	7.907	0	%100
6	M6	PX	7.907	7.907	0	%100
7	M7	PX	7.907	7.907	0	%100
8	M8	PX	7.907	7.907	0	%100
9	M9	PX	7.907	7.907	0	%100
10	MP1A	PX	4.584	4.584	0	%100
11	MP2A	PX	4.584	4.584	0	%100
12	MP3A	PX	4.584	4.584	0	%100
13	MP4A	PX	4.584	4.584	0	%100
14	MP1B	PX	4.584	4.584	0	%100
15	MP2B	PX	4.584	4.584	0	%100
16	MP3B	PX	4.584	4.584	0	%100
17	MP4B	PX	4.584	4.584	0	%100
18	MP1C	PX	4.584	4.584	0	%100
19	MP2C	PX	4.584	4.584	0	%100
20	MP3C	PX	4.584	4.584	0	%100
21	MP4C	PX	4.584	4.584	0	%100
22	M25	PX	5.455	5.455	0	%100
23	M26	PX	5.455	5.455	0	%100
24	M27	PX	5.455	5.455	0	%100

Member Distributed Loads (BLC 15 : BLC 9 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M2	Y	-.042	-.599	6.25	7.5
2	M2	Y	-.599	-1.146	7.5	8.75
3	M2	Y	-1.146	-1.159	8.75	10
4	M2	Y	-1.159	-.762	10	11.25
5	M2	Y	-.762	-.17	11.25	12.5
6	M3	Y	-.171	-.763	0	1.25
7	M3	Y	-.763	-1.062	1.25	2.5
8	M3	Y	-1.062	-1.148	2.5	3.75
9	M3	Y	-1.148	-.7	3.75	5
10	M3	Y	-.7	-.042	5	6.25
11	M6	Y	-2.703	-7.088	1.625	2.383
12	M6	Y	-7.088	-8.842	2.383	3.142
13	M6	Y	-8.842	-6.84	3.142	3.9

Member Distributed Loads (BLC 15 : BLC 9 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
14	M6	Y	-6.84	-3.96	3.9	4.658
15	M6	Y	-3.96	-1.327	4.658	5.417
16	M9	Y	-.158	-2.377	0	1.274
17	M9	Y	-2.377	-3.69	1.274	2.548
18	M9	Y	-3.69	-3.682	2.548	3.823
19	M9	Y	-3.682	-2.364	3.823	5.097
20	M9	Y	-2.364	-.158	5.097	6.371
21	M12	Y	-.645	-1.023	0	.462
22	M12	Y	-1.023	-1.213	.462	.924
23	M12	Y	-1.213	-1.024	.924	1.386
24	M12	Y	-1.024	-.645	1.386	1.848
25	M28	Y	-1.83	-3.352	0	.905
26	M28	Y	-3.352	-4.97	.905	1.809
27	M28	Y	-4.97	-5.684	1.809	2.714
28	M28	Y	-5.684	-3.991	2.714	3.618
29	M28	Y	-3.991	-.892	3.618	4.523
30	M29	Y	-1.84	-3.366	0	.905
31	M29	Y	-3.366	-4.833	.905	1.809
32	M29	Y	-4.833	-5.698	1.809	2.714
33	M29	Y	-5.698	-4.161	2.714	3.618
34	M29	Y	-4.161	-.765	3.618	4.523
35	M1	Y	-.05	-.658	6.25	7.5
36	M1	Y	-.658	-1.171	7.5	8.75
37	M1	Y	-1.171	-1.169	8.75	10
38	M1	Y	-1.169	-.759	10	11.25
39	M1	Y	-.759	-.14	11.25	12.5
40	M2	Y	-.171	-.763	0	1.25
41	M2	Y	-.763	-1.062	1.25	2.5
42	M2	Y	-1.062	-1.148	2.5	3.75
43	M2	Y	-1.148	-.7	3.75	5
44	M2	Y	-.7	-.042	5	6.25
45	M5	Y	-2.703	-7.088	1.625	2.383
46	M5	Y	-7.088	-8.842	2.383	3.142
47	M5	Y	-8.842	-6.84	3.142	3.9
48	M5	Y	-6.84	-3.96	3.9	4.658
49	M5	Y	-3.96	-1.327	4.658	5.417
50	M8	Y	-.15	-2.33	0	1.274
51	M8	Y	-2.33	-3.682	1.274	2.548
52	M8	Y	-3.682	-3.674	2.548	3.823
53	M8	Y	-3.674	-2.356	3.823	5.097
54	M8	Y	-2.356	-.15	5.097	6.371
55	M11	Y	-1.08	-1.156	0	.462
56	M11	Y	-1.156	-1.194	.462	.924
57	M11	Y	-1.194	-1.005	.924	1.386
58	M11	Y	-1.005	-.627	1.386	1.848
59	M32	Y	-1.83	-3.352	0	.905
60	M32	Y	-3.352	-4.97	.905	1.809
61	M32	Y	-4.97	-5.684	1.809	2.714
62	M32	Y	-5.684	-3.991	2.714	3.618
63	M32	Y	-3.991	-.892	3.618	4.523
64	M33	Y	-1.669	-3.311	0	.905
65	M33	Y	-3.311	-4.839	.905	1.809
66	M33	Y	-4.839	-5.705	1.809	2.714
67	M33	Y	-5.705	-4.154	2.714	3.618
68	M33	Y	-4.154	-.729	3.618	4.523
69	M1	Y	-.152	-.772	0	1.25
70	M1	Y	-.772	-1.083	1.25	2.5

Member Distributed Loads (BLC 15 : BLC 9 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
71	M1	Y	-1.083	-1.125	2.5	3.75
72	M1	Y	-1.125	-.767	3.75	5
73	M1	Y	-.767	-.062	5	6.25
74	M3	Y	-.042	-.599	6.25	7.5
75	M3	Y	-.599	-1.146	7.5	8.75
76	M3	Y	-1.146	-1.159	8.75	10
77	M3	Y	-1.159	-.762	10	11.25
78	M3	Y	-.762	-.17	11.25	12.5
79	M4	Y	-5.267	-5.631	1.083	1.95
80	M4	Y	-5.631	-7.192	1.95	2.817
81	M4	Y	-7.192	-7.589	2.817	3.683
82	M4	Y	-7.589	-4.436	3.683	4.55
83	M4	Y	-4.436	-.222	4.55	5.417
84	M7	Y	-.192	-2.938	0	1.274
85	M7	Y	-2.938	-2.437	1.274	2.548
86	M7	Y	-2.437	-2.435	2.548	3.823
87	M7	Y	-2.435	-2.895	3.823	5.097
88	M7	Y	-2.895	-.192	5.097	6.371
89	M10	Y	-.631	-.997	0	.462
90	M10	Y	-.997	-1.18	.462	.924
91	M10	Y	-1.18	-1.149	.924	1.386
92	M10	Y	-1.149	-1.086	1.386	1.848
93	M30	Y	-1.467	-3.416	0	.905
94	M30	Y	-3.416	-5.105	.905	1.809
95	M30	Y	-5.105	-5.224	1.809	2.714
96	M30	Y	-5.224	-3.655	2.714	3.618
97	M30	Y	-3.655	-1.709	3.618	4.523
98	M31	Y	-1.656	-3.475	0	.905
99	M31	Y	-3.475	-4.939	.905	1.809
100	M31	Y	-4.939	-5.209	1.809	2.714
101	M31	Y	-5.209	-3.823	2.714	3.618
102	M31	Y	-3.823	-1.621	3.618	4.523

Member Distributed Loads (BLC 16 : BLC 10 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M2	Y	-.105	-1.49	6.25	7.5
2	M2	Y	-1.49	-2.85	7.5	8.75
3	M2	Y	-2.85	-2.883	8.75	10
4	M2	Y	-2.883	-1.895	10	11.25
5	M2	Y	-1.895	-.424	11.25	12.5
6	M3	Y	-.425	-1.899	0	1.25
7	M3	Y	-1.899	-2.641	1.25	2.5
8	M3	Y	-2.641	-2.856	2.5	3.75
9	M3	Y	-2.856	-1.74	3.75	5
10	M3	Y	-1.74	-.105	5	6.25
11	M6	Y	-6.722	-17.63	1.625	2.383
12	M6	Y	-17.63	-21.994	2.383	3.142
13	M6	Y	-21.994	-17.014	3.142	3.9
14	M6	Y	-17.014	-9.85	3.9	4.658
15	M6	Y	-9.85	-3.302	4.658	5.417
16	M9	Y	-.393	-5.913	0	1.274
17	M9	Y	-5.913	-9.178	1.274	2.548
18	M9	Y	-9.178	-9.157	2.548	3.823
19	M9	Y	-9.157	-5.881	3.823	5.097
20	M9	Y	-5.881	-.393	5.097	6.371
21	M12	Y	-1.605	-2.546	0	.462

Member Distributed Loads (BLC 16 : BLC 10 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
22	M12	Y	-2.546	-3.016	.462	.924
23	M12	Y	-3.016	-2.546	.924	1.386
24	M12	Y	-2.546	-1.605	1.386	1.848
25	M28	Y	-4.551	-8.337	0	.905
26	M28	Y	-8.337	-12.363	.905	1.809
27	M28	Y	-12.363	-14.137	1.809	2.714
28	M28	Y	-14.137	-9.926	2.714	3.618
29	M28	Y	-9.926	-2.219	3.618	4.523
30	M29	Y	-4.576	-8.373	0	.905
31	M29	Y	-8.373	-12.022	.905	1.809
32	M29	Y	-12.022	-14.172	1.809	2.714
33	M29	Y	-14.172	-10.349	2.714	3.618
34	M29	Y	-10.349	-1.903	3.618	4.523
35	M1	Y	-.125	-1.637	6.25	7.5
36	M1	Y	-1.637	-2.912	7.5	8.75
37	M1	Y	-2.912	-2.907	8.75	10
38	M1	Y	-2.907	-1.888	10	11.25
39	M1	Y	-1.888	-.349	11.25	12.5
40	M2	Y	-.425	-1.899	0	1.25
41	M2	Y	-1.899	-2.641	1.25	2.5
42	M2	Y	-2.641	-2.856	2.5	3.75
43	M2	Y	-2.856	-1.74	3.75	5
44	M2	Y	-1.74	-.105	5	6.25
45	M5	Y	-6.722	-17.63	1.625	2.383
46	M5	Y	-17.63	-21.994	2.383	3.142
47	M5	Y	-21.994	-17.014	3.142	3.9
48	M5	Y	-17.014	-9.85	3.9	4.658
49	M5	Y	-9.85	-3.302	4.658	5.417
50	M8	Y	-.374	-5.795	0	1.274
51	M8	Y	-5.795	-9.158	1.274	2.548
52	M8	Y	-9.158	-9.137	2.548	3.823
53	M8	Y	-9.137	-5.861	3.823	5.097
54	M8	Y	-5.861	-.374	5.097	6.371
55	M11	Y	-2.686	-2.875	0	.462
56	M11	Y	-2.875	-2.969	.462	.924
57	M11	Y	-2.969	-2.499	.924	1.386
58	M11	Y	-2.499	-1.558	1.386	1.848
59	M32	Y	-4.551	-8.337	0	.905
60	M32	Y	-8.337	-12.363	.905	1.809
61	M32	Y	-12.363	-14.137	1.809	2.714
62	M32	Y	-14.137	-9.926	2.714	3.618
63	M32	Y	-9.926	-2.219	3.618	4.523
64	M33	Y	-4.151	-8.236	0	.905
65	M33	Y	-8.236	-12.035	.905	1.809
66	M33	Y	-12.035	-14.191	1.809	2.714
67	M33	Y	-14.191	-10.331	2.714	3.618
68	M33	Y	-10.331	-1.813	3.618	4.523
69	M1	Y	-.377	-1.92	0	1.25
70	M1	Y	-1.92	-2.693	1.25	2.5
71	M1	Y	-2.693	-2.798	2.5	3.75
72	M1	Y	-2.798	-1.907	3.75	5
73	M1	Y	-1.907	-.153	5	6.25
74	M3	Y	-.105	-1.49	6.25	7.5
75	M3	Y	-1.49	-2.85	7.5	8.75
76	M3	Y	-2.85	-2.883	8.75	10
77	M3	Y	-2.883	-1.895	10	11.25
78	M3	Y	-1.895	-.424	11.25	12.5

Member Distributed Loads (BLC 16 : BLC 10 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
79	M4	Y	-13.101	-14.005	1.083	1.95
80	M4	Y	-14.005	-17.889	1.95	2.817
81	M4	Y	-17.889	-18.877	2.817	3.683
82	M4	Y	-18.877	-11.035	3.683	4.55
83	M4	Y	-11.035	-.553	4.55	5.417
84	M7	Y	-.477	-7.307	0	1.274
85	M7	Y	-7.307	-6.063	1.274	2.548
86	M7	Y	-6.063	-6.058	2.548	3.823
87	M7	Y	-6.058	-7.2	3.823	5.097
88	M7	Y	-7.2	-.477	5.097	6.371
89	M10	Y	-1.569	-2.479	0	.462
90	M10	Y	-2.479	-2.935	.462	.924
91	M10	Y	-2.935	-2.857	.924	1.386
92	M10	Y	-2.857	-2.702	1.386	1.848
93	M30	Y	-3.65	-8.495	0	.905
94	M30	Y	-8.495	-12.698	.905	1.809
95	M30	Y	-12.698	-12.993	1.809	2.714
96	M30	Y	-12.993	-9.09	2.714	3.618
97	M30	Y	-9.09	-4.252	3.618	4.523
98	M31	Y	-4.118	-8.642	0	.905
99	M31	Y	-8.642	-12.286	.905	1.809
100	M31	Y	-12.286	-12.956	1.809	2.714
101	M31	Y	-12.956	-9.508	2.714	3.618
102	M31	Y	-9.508	-4.032	3.618	4.523

Member Area Loads (BLC 9 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N19	N20	N21	N22	Y	Two Way	-.005
2	N15	N16	N17	N18	Y	Two Way	-.005
3	N13	N14	N23	N24	Y	Two Way	-.005

Member Area Loads (BLC 10 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N19	N20	N21	N22	Y	Two Way	-.013
2	N15	N16	N17	N18	Y	Two Way	-.013
3	N13	N14	N23	N24	Y	Two Way	-.013

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	N2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N3	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	3110.555	4	3519.321	8	2095.421	1	.252	1	1.299	1	.596	3
2		min	-3433.235	3	208.299	3	-1916.14	2	-3.402	6	-1.29	2	-6.029	8
3	N2	max	3137.627	4	3507.967	7	2217.735	1	.23	1	1.145	2	6.022	7
4		min	-2818.487	3	188.926	4	-2022.778	2	-3.502	6	-1.143	1	-.604	4
5	N3	max	2005.781	4	3588.358	5	3736.755	1	7.038	5	2.294	3	.899	3
6		min	-2002.24	3	139.459	2	-4110.994	2	-.753	2	-2.277	4	-.901	4
7	Totals:	max	8253.962	4	10036.532	6	8049.911	1						

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
8		min	-8253.962	3	3622.915	1	-8049.912	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	1053.982	4	149.905	4	73.311	4	.196	1	.148	1	.2	9
4			min	-989.319	3	-189.718	3	-74.397	3	-.204	2	-.112	2	-.03	3
5		3	max	1803.063	2	401.865	4	233.922	3	.092	4	.294	2	1.189	6
6			min	-1451.051	1	-414	3	-241.579	4	-.105	3	-.342	1	.018	10
7		4	max	1195.578	3	124.216	2	144.312	2	.006	9	.461	1	.079	3
8			min	-1118.659	4	-200.041	1	-151.389	1	-.071	7	-.415	2	-.157	8
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	0	1	.011	2	.003	4	0	1	0	1	0	1
12			min	0	1	-.002	8	0	2	0	1	0	1	0	1
13		2	max	1186.901	3	187.224	2	34.274	2	.12	4	.211	4	.109	7
14			min	-1116.709	4	-236.6	1	-36.846	1	-.118	3	-.175	3	-.011	4
15		3	max	1738.724	3	336.329	2	316.251	3	.083	3	.25	3	1.19	7
16			min	-1365.116	4	-366.351	1	-326.189	4	-.091	4	-.297	4	.24	4
17		4	max	1526.291	1	209.773	3	104.791	3	.005	2	.335	4	.091	1
18			min	-1461.112	2	-272.248	4	-112.401	4	-.055	5	-.286	3	-.177	6
19		5	max	0	1	.002	7	0	4	0	1	0	1	0	1
20			min	0	1	-.013	1	-.001	2	0	1	0	1	0	1
21	M3	1	max	0	1	.013	1	.001	2	0	1	0	1	0	1
22			min	0	1	-.002	8	0	7	0	1	0	1	0	1
23		2	max	1250.851	1	227.84	3	41.925	4	.059	3	.07	7	.126	1
24			min	-1073.084	2	-263.31	4	-51.626	3	-.096	4	-.033	4	-.091	2
25		3	max	1658.721	4	363.31	1	129.083	3	.095	1	.251	4	1.18	5
26			min	-1246.864	3	-373.871	2	-138.012	4	-.105	2	-.297	3	.255	2
27		4	max	1456.079	4	179.993	1	128.471	4	-.003	4	.432	3	.097	2
28			min	-1360.53	3	-240.379	2	-134.325	3	-.117	9	-.386	4	-.152	5
29		5	max	0	1	.002	7	0	2	0	1	0	1	0	1
30			min	0	1	-.012	2	-.005	3	0	1	0	1	0	1
31	M4	1	max	3806.095	3	3518.608	8	1232.019	2	.704	2	1.299	1	6.881	8
32			min	-3437.106	4	207.351	3	-1226.57	1	-.754	1	-1.29	2	-.445	3
33		2	max	3786.328	3	3471.712	8	1197.782	2	.704	2	.369	3	2.146	8
34			min	-3417.34	4	185.579	3	-1192.333	1	-.754	1	-.353	4	-.712	3
35		3	max	3643.818	3	1004.205	8	283.497	2	.306	9	.105	2	.982	9
36			min	-3295.249	4	-64.147	3	-294.53	1	-.287	1	-.111	1	-.549	3
37		4	max	3624.052	3	926.53	8	249.26	2	.306	9	.466	2	.005	4
38			min	-3275.482	4	-95.936	3	-260.294	1	-.287	1	-.487	1	-.641	7
39		5	max	3604.285	3	867.936	8	215.024	2	.306	9	.78	2	-.293	3
40			min	-3255.716	4	-121.515	3	-226.057	1	-.287	1	-.816	1	-1.784	8
41	M5	1	max	3660.344	4	3507.337	7	1202.357	1	.706	1	1.145	2	6.923	7
42			min	-3285.469	3	188.048	4	-1191.938	2	-.727	2	-1.143	1	-.433	4
43		2	max	3640.578	4	3465.758	7	1168.121	1	.706	1	.462	1	2.202	7
44			min	-3265.702	3	168.007	4	-1157.702	2	-.727	2	-.446	2	-.674	4
45		3	max	3507.679	4	1011.991	7	264.92	1	.166	1	.131	1	.916	3
46			min	-3154.904	3	-59.18	4	-271.888	2	-.224	2	-.138	2	-.5	4
47		4	max	3487.912	4	931.247	7	230.683	1	.166	1	.467	1	-.021	3
48			min	-3135.137	3	-91.967	4	-237.652	2	-.224	2	-.483	2	-.613	8
49		5	max	3468.146	4	871.087	7	196.447	1	.166	1	.756	1	-.254	4
50			min	-3115.371	3	-118.055	4	-203.415	2	-.224	2	-.781	2	-1.769	7
51	M6	1	max	4110.994	2	3587.4	5	2006.07	4	.901	4	2.294	3	7.038	5

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
52			min	-3736.755	1	137.88	2	-2002.223	3	-.899	3	-2.277	4	-.753	2
53		2	max	4110.994	2	3545.821	5	1960.421	4	.901	4	.409	4	2.274	1
54			min	-3736.755	1	117.839	2	-1956.574	3	-.899	3	-.386	3	-.926	2
55		3	max	3960.849	2	1065.404	5	324.284	4	.203	4	.145	4	1.095	1
56			min	-3609.232	1	-69.604	2	-354.347	3	-.229	3	-.151	3	-.716	2
57		4	max	3960.849	2	984.661	5	278.635	4	.203	4	.553	4	.081	1
58			min	-3609.232	1	-102.391	2	-308.698	3	-.229	3	-.6	3	-.79	6
59		5	max	3960.849	2	924.501	5	232.986	4	.203	4	.899	4	-.442	2
60			min	-3609.232	1	-128.48	2	-263.049	3	-.229	3	-.987	3	-1.957	5
61	M7	1	max	152.183	7	37.439	3	663.93	1	.295	1	0	1	0	1
62			min	36.365	4	-994.615	8	-645.28	2	-.521	2	0	1	0	1
63		2	max	455.558	2	-33.821	3	51.461	1	.229	1	.278	4	1.617	8
64			min	-365.121	1	-1142.649	8	-86.512	2	-.315	2	-.239	3	-.014	3
65		3	max	478.807	2	1188.457	6	71.767	4	.339	1	.43	2	3.488	8
66			min	-338.355	4	-1206.528	8	-90.547	2	-.315	2	-.436	1	.383	3
67		4	max	451.577	1	1125.424	8	62.442	1	.339	1	.297	2	1.567	8
68			min	-378.294	2	125.816	3	-77.124	2	-.173	2	-.326	1	.16	3
69		5	max	514.094	3	971.229	8	712.257	1	.476	8	0	1	0	1
70			min	-399.607	4	59.462	3	-768.729	2	-.035	3	0	1	0	1
71	M8	1	max	561.583	4	-67.694	4	743.895	2	.156	4	0	1	0	1
72			min	-472.574	3	-959.669	7	-740.054	1	-.39	3	0	1	0	1
73		2	max	769.203	1	-108.047	4	60.313	2	.162	2	.365	2	1.561	6
74			min	-682.591	2	-1115.414	7	-95.751	1	-.247	1	-.329	1	.143	1
75		3	max	792.451	1	1205.157	7	73.736	2	.309	2	.471	2	3.441	7
76			min	-705.84	2	-1173.373	6	-94.691	3	-.247	1	-.492	1	.368	4
77		4	max	128.026	6	1136.414	7	40.892	4	.309	2	.272	1	1.577	7
78			min	-52.655	1	28.834	4	-54.423	3	-.156	1	-.298	2	.048	4
79		5	max	459.307	3	975.554	7	515.116	4	.471	6	0	1	0	1
80			min	-346.579	4	9.005	4	-577.378	3	-.126	1	0	1	0	1
81	M9	1	max	509.555	4	13.374	2	888.004	3	.278	3	0	1	0	1
82			min	-394.16	3	-982.734	5	-846.712	4	-.525	4	0	1	0	1
83		2	max	1025.554	4	-42.188	2	71.045	3	.237	3	.388	3	1.596	5
84			min	-934	3	-1135.376	5	-106.673	4	-.34	4	-.339	4	.041	2
85		3	max	1025.554	4	1211.346	5	71.045	3	.437	3	.501	3	3.46	5
86			min	-934	3	-1150.54	7	-81.778	1	-.34	4	-.509	4	.18	2
87		4	max	622.594	3	1142.556	5	50.232	3	.437	3	.356	4	1.586	5
88			min	-564.847	4	52.676	2	-63.265	4	-.285	4	-.392	3	.072	2
89		5	max	165.054	3	980.541	5	756.168	3	.531	3	0	1	0	1
90			min	-70.967	4	8.535	2	-800.084	4	-.228	4	0	1	0	1
91	M10	1	max	756.109	2	124.877	3	1661.252	4	.075	1	0	1	0	1
92			min	-716.047	1	-468.191	8	-1873.98	3	-1.028	6	0	1	0	1
93		2	max	756.109	2	124.426	3	1661.252	4	.075	1	.768	4	.217	8
94			min	-716.047	1	-469.577	8	-1873.98	3	-1.028	6	-.866	3	-.058	3
95		3	max	879.38	4	566.124	9	2189.732	4	.745	4	1.674	4	.495	9
96			min	-820.966	3	-472.926	8	-2349.883	3	-1.031	6	-1.834	3	-.138	3
97		4	max	971.212	4	627.098	9	1433.726	3	.817	8	.555	4	.29	9
98			min	-956.18	3	-219.973	1	-1201.628	4	-.131	3	-.663	3	-.102	1
99		5	max	971.212	4	626.479	9	1433.726	3	.817	8	0	3	0	6
100			min	-956.18	3	-220.592	1	-1201.628	4	-.131	3	0	1	0	8
101	M11	1	max	963.596	3	81.796	1	1223.23	3	.02	2	0	1	0	1
102			min	-925.429	4	-470.881	6	-1434.625	4	-1.01	5	0	1	0	1
103		2	max	963.596	3	81.176	1	1223.23	3	.02	2	.565	3	.218	6
104			min	-925.429	4	-472.785	6	-1434.625	4	-1.01	5	-.663	4	-.038	1
105		3	max	778.306	3	435.832	7	2308.177	4	.82	2	1.584	3	.445	6
106			min	-739.181	4	-476.766	6	-2125.592	3	-1.006	5	-1.773	4	-.159	4
107		4	max	859.758	2	463.059	3	1793.68	4	.813	6	.722	3	.214	3
108			min	-856.976	1	-247.541	4	-1562.385	3	-.205	1	-.829	4	-.115	4

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
109		5	max	859.758	2	462.607	3	1793.68	4	.813	6	0	3	0	8
110			min	-856.976	1	-247.993	4	-1562.385	3	-.205	1	0	2	0	5
111	M12	1	max	845.245	1	55.496	2	1630.802	1	.19	3	0	1	0	1
112			min	-818.014	2	-468.609	5	-1832.316	2	-.905	8	0	1	0	1
113		2	max	845.245	1	55.034	2	1630.802	1	.19	3	.754	1	.217	5
114			min	-818.014	2	-470.03	5	-1832.316	2	-.905	8	-.847	2	-.026	2
115		3	max	936.443	1	391.704	7	2025.065	2	1.183	7	1.555	1	.437	5
116			min	-884.346	2	-468.058	5	-1227.399	4	-.692	4	-1.776	2	-.101	2
117		4	max	781.445	3	469.682	5	1816.444	2	1.171	7	.72	1	.217	5
118			min	-733.324	4	-116.482	2	-1557.749	1	-.08	4	-.839	2	-.054	2
119		5	max	781.445	3	468.26	5	1816.444	2	1.171	7	0	1	0	1
120			min	-733.324	4	-116.945	2	-1557.749	1	-.08	4	0	2	0	8
121	MP1A	1	max	94.845	7	53.851	4	167.263	1	.005	3	.009	8	0	1
122			min	24.42	9	-53.884	3	-167.256	2	-.005	4	.002	2	0	1
123		2	max	360.098	2	398.401	8	227.621	1	.03	1	.106	5	.106	4
124			min	-421.109	1	-153.924	3	-96.83	2	-.034	2	-.002	2	-.065	3
125		3	max	-41.079	3	101.885	3	215.214	2	0	4	.18	1	.123	3
126			min	-147.402	8	-101.849	4	-215.172	1	0	7	-.18	2	-.123	4
127		4	max	-8.329	3	24.084	3	24.079	2	0	4	.024	1	.024	3
128			min	-26.278	8	-24.047	4	-24.037	1	0	7	-.024	2	-.024	4
129		5	max	0	7	.199	7	.235	6	0	4	0	7	0	3
130			min	0	4	-.029	4	-.019	1	0	7	0	4	0	4
131	MP2A	1	max	164.077	6	194.65	4	290.219	1	.019	3	.016	7	0	1
132			min	29.88	2	-194.688	3	-290.202	2	-.019	4	.003	3	0	1
133		2	max	760.361	6	577.077	4	290.681	1	.046	1	.129	5	.162	4
134			min	193.1	1	-351.129	3	-217.299	2	-.049	2	-.011	2	-.124	3
135		3	max	-46.54	2	242.642	3	338.061	2	0	9	.386	1	.291	3
136			min	-216.634	5	-242.603	4	-338.02	1	0	8	-.386	2	-.291	4
137		4	max	-8.33	2	24.041	3	24.054	2	0	9	.024	1	.024	3
138			min	-26.278	5	-24.002	4	-24.012	1	0	8	-.024	2	-.024	4
139		5	max	0	6	.274	8	.291	5	0	9	0	6	0	3
140			min	0	1	-.008	9	.006	1	0	8	0	1	0	4
141	MP3A	1	max	0	1	.008	8	.011	5	0	3	0	1	0	1
142			min	0	1	-.003	3	-.01	2	0	8	0	1	0	1
143		2	max	734.65	6	338.025	4	258.37	1	.041	2	.132	5	.105	4
144			min	159.107	1	-517.707	3	-183.247	2	-.033	1	-.019	2	-.123	3
145		3	max	-16.66	2	48.042	3	48.069	2	0	6	.096	1	.096	3
146			min	-52.557	5	-48.054	4	-48.054	1	0	3	-.096	2	-.096	4
147		4	max	-8.33	2	24.024	3	24.05	2	0	6	.024	1	.024	3
148			min	-26.278	5	-24.036	4	-24.035	1	0	3	-.024	2	-.024	4
149		5	max	0	6	.005	3	.077	6	0	6	0	6	0	3
150			min	0	1	-.06	6	-.017	1	0	3	0	1	0	4
151	MP4A	1	max	289.322	8	207.38	4	512.266	1	.021	3	.029	8	0	1
152			min	76.8	9	-207.271	3	-512.217	2	-.021	4	.008	9	0	1
153		2	max	436.86	2	193.359	4	313.525	1	.031	2	.101	5	.087	4
154			min	-441.689	1	-450.882	3	-183.623	2	-.025	1	-.03	2	-.136	3
155		3	max	-93.459	9	255.086	3	559.717	2	0	6	.607	1	.303	3
156			min	-341.879	7	-255.168	4	-559.64	1	0	3	-.608	2	-.303	4
157		4	max	-8.329	9	24.024	3	23.983	2	0	6	.024	1	.024	3
158			min	-26.278	7	-24.106	4	-23.906	1	0	3	-.024	2	-.024	4
159		5	max	0	8	.005	3	.484	5	0	6	0	8	0	3
160			min	0	3	-.452	6	-.035	2	0	3	0	3	0	4
161	MP1B	1	max	94.845	5	71.197	2	120.31	4	.007	2	-.002	4	0	1
162			min	24.42	10	-71.17	1	-120.315	3	-.007	1	-.009	5	0	1
163		2	max	321.937	4	127.607	2	80.808	1	.028	2	.001	2	.063	2
164			min	-375.5	3	-416.298	5	-220.789	6	-.031	1	-.105	9	-.105	1
165		3	max	-41.08	4	112.738	1	161.808	3	0	1	.144	4	.119	1

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
166			min	-147.403	7	-112.771	2	-161.852	4	0	6	-.143	3	-.119	2
167		4	max	-8.33	4	20.822	1	20.818	3	0	1	.021	4	.021	1
168			min	-26.279	7	-20.855	2	-20.862	4	0	6	-.021	3	-.021	2
169		5	max	0	8	.021	1	.018	3	0	1	0	1	0	4
170			min	0	1	-.182	6	-.241	8	0	6	0	2	0	3
171	MP2B	1	max	164.077	8	189.256	2	230.664	4	.019	2	-.003	1	0	1
172			min	29.88	2	-189.222	1	-230.676	3	-.019	1	-.016	5	0	1
173		2	max	771.999	5	324.143	2	160.226	4	.042	3	-.011	4	.094	2
174			min	158.024	2	-577.554	1	-233.306	3	-.049	4	-.121	7	-.138	1
175		3	max	-46.54	4	230.74	1	272.083	3	0	3	.314	4	.272	1
176			min	-216.634	7	-230.776	2	-272.127	4	0	5	-.314	3	-.272	2
177		4	max	-8.33	4	20.77	1	20.801	3	0	3	.021	4	.021	1
178			min	-26.279	7	-20.806	2	-20.845	4	0	5	-.021	3	-.021	2
179		5	max	0	8	-.006	3	0	2	0	3	0	4	0	4
180			min	0	1	-.267	5	-.297	5	0	5	0	3	0	3
181	MP3B	1	max	0	1	.002	2	.009	4	0	2	0	1	0	1
182			min	0	1	-.008	5	-.009	3	0	5	0	1	0	1
183		2	max	747.77	8	415.121	2	180.742	4	.03	4	-.019	4	.105	2
184			min	128.154	3	-264.334	1	-236.759	3	-.025	3	-.122	7	-.092	1
185		3	max	-16.66	1	41.621	1	41.62	3	0	5	.083	4	.083	1
186			min	-52.557	6	-41.607	2	-41.636	4	0	2	-.083	3	-.083	2
187		4	max	-8.33	1	20.82	1	20.82	3	0	5	.021	4	.021	1
188			min	-26.279	6	-20.807	2	-20.836	4	0	2	-.021	3	-.021	2
189		5	max	0	5	.063	5	.019	3	0	5	0	4	0	4
190			min	0	2	-.006	2	-.082	8	0	2	0	3	0	3
191	MP4B	1	max	289.322	5	245.546	2	377.603	4	.029	2	-.009	3	0	1
192			min	76.8	3	-245.623	1	-377.632	3	-.029	1	-.035	5	0	1
193		2	max	363.007	4	609.244	6	264.74	4	.086	4	-.02	1	.105	4
194			min	-355.604	3	-147.862	1	-442.765	3	-.072	3	-.211	7	-.079	3
195		3	max	-103.096	1	287.022	1	418.864	3	0	5	.461	4	.329	1
196			min	-351.516	6	-286.934	2	-418.946	4	0	2	-.461	3	-.329	2
197		4	max	-13.148	1	20.953	1	20.868	3	0	5	.021	4	.021	1
198			min	-31.096	6	-20.865	2	-20.95	4	0	2	-.021	3	-.021	2
199		5	max	0	5	.477	5	.067	3	0	5	0	3	0	4
200			min	0	2	-.065	2	-.438	8	0	2	0	8	0	3
201	MP1C	1	max	94.845	7	71.217	1	120.306	3	.007	1	-.002	2	0	1
202			min	24.42	2	-71.184	2	-120.312	4	-.007	2	-.009	5	0	1
203		2	max	335.868	3	98.963	1	133.354	3	.038	4	-.008	1	.057	4
204			min	-380.796	4	-357.806	6	-249.693	4	-.037	3	-.097	6	-.099	3
205		3	max	-41.08	1	112.744	2	161.815	4	0	2	.144	3	.119	2
206			min	-147.403	6	-112.778	1	-161.855	3	0	5	-.143	4	-.119	1
207		4	max	-8.33	1	20.828	2	20.824	4	0	2	.021	3	.021	2
208			min	-26.279	6	-20.863	1	-20.865	3	0	5	-.021	4	-.021	1
209		5	max	0	5	.028	2	.024	4	0	2	0	3	0	4
210			min	0	2	-.184	5	-.225	7	0	5	0	4	0	3
211	MP2C	1	max	164.077	7	189.276	1	230.665	3	.019	1	-.003	4	0	1
212			min	29.88	10	-189.239	2	-230.68	4	-.019	2	-.016	8	0	1
213		2	max	736.911	7	250.875	4	241.7	3	.038	4	-.021	1	.09	1
214			min	158.188	4	-467.758	3	-317.035	4	-.04	3	-.113	8	-.125	2
215		3	max	-46.54	1	230.762	2	272.089	4	0	4	.314	3	.272	2
216			min	-216.634	6	-230.801	1	-272.131	3	0	7	-.314	4	-.272	1
217		4	max	-8.33	1	20.792	2	20.807	4	0	4	.021	3	.021	2
218			min	-26.279	6	-20.831	1	-20.849	3	0	7	-.021	4	-.021	1
219		5	max	0	5	-.001	4	.007	4	0	4	0	3	0	4
220			min	0	2	-.273	7	-.279	5	0	7	0	4	0	3
221	MP3C	1	max	0	1	.002	1	.008	3	0	1	0	1	0	1
222			min	0	1	-.007	6	-.01	8	0	6	0	1	0	1

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
223		2	max	736.097	5	522.97	1	113.475	3	.041	3	.005	3	.119	1
224			min	185.514	2	-329.831	2	-188.129	4	-.037	4	-.128	8	-.098	2
225		3	max	-16.66	3	41.615	2	41.616	4	0	7	.083	3	.083	2
226			min	-52.557	8	-41.602	1	-41.632	3	0	4	-.083	4	-.083	1
227		4	max	-8.33	3	20.815	2	20.816	4	0	7	.021	3	.021	2
228			min	-26.279	8	-20.802	1	-20.832	3	0	4	-.021	4	-.021	1
229		5	max	0	7	.063	7	.015	4	0	7	0	1	0	4
230			min	0	4	-.004	4	-.079	7	0	4	0	2	0	3
231	MP4C	1	max	289.322	8	245.45	1	377.612	3	.024	1	-.008	4	0	1
232			min	76.8	2	-245.56	2	-377.647	4	-.024	2	-.029	6	0	1
233		2	max	377.295	3	456.74	1	146.614	1	.019	1	-.005	3	.126	1
234			min	-378.523	4	-189.584	2	-265.002	2	-.017	2	-.099	8	-.074	2
235		3	max	-93.46	3	286.924	2	418.735	4	0	5	.461	3	.329	2
236			min	-341.879	8	-286.841	1	-418.822	3	0	1	-.46	4	-.328	1
237		4	max	-8.33	3	20.855	2	20.739	4	0	5	.021	3	.021	2
238			min	-26.279	8	-20.772	1	-20.826	3	0	1	-.021	4	-.021	1
239		5	max	0	7	.458	5	.027	9	0	5	0	1	0	4
240			min	0	4	.028	1	-.485	8	0	1	0	2	0	3
241	M25	1	max	0	1	.016	1	.001	1	0	1	0	1	0	1
242			min	0	1	-.001	8	-.003	4	0	1	0	1	0	1
243		2	max	-41.615	4	54.654	3	57.592	4	.221	3	.106	3	.282	5
244			min	-710.082	7	-563.088	8	-109.989	3	-.192	4	-.093	4	-.075	2
245		3	max	-155.889	1	224.995	1	64.505	2	.013	10	.125	3	.31	5
246			min	-916.935	6	-150.347	2	-59.439	1	-.019	3	-.172	4	.016	2
247		4	max	102.021	1	535.307	5	187.411	4	.229	4	.278	3	.422	5
248			min	-580.453	6	-110.251	2	-108.926	3	-.292	3	-.262	4	-.029	2
249		5	max	0	1	.001	7	.004	2	0	1	0	1	0	1
250			min	0	1	-.011	2	-.008	3	0	1	0	1	0	1
251	M26	1	max	0	1	0	1	0	1	0	1	0	1	0	1
252			min	0	1	0	1	0	1	0	1	0	1	0	1
253		2	max	105.152	3	26.073	4	40.142	3	.218	1	.161	4	.421	6
254			min	-610.815	8	-553.953	7	-119.496	8	-.18	2	-.128	3	-.005	1
255		3	max	-176.997	4	255.924	4	82.585	1	.036	9	.172	1	.385	6
256			min	-829.452	7	-183.346	3	-80.323	2	-.043	3	-.228	2	.027	1
257		4	max	50.537	4	524.581	8	170.715	2	.317	2	.347	1	.435	6
258			min	-524.507	7	-63.234	3	-94.229	1	-.39	1	-.349	2	.018	1
259		5	max	0	1	0	1	0	1	0	1	0	1	0	1
260			min	0	1	0	1	0	1	0	1	0	1	0	1
261	M27	1	max	0	1	.013	2	.006	4	0	1	0	1	0	1
262			min	0	1	-.002	8	-.003	2	0	1	0	1	0	1
263		2	max	136.596	1	73.041	2	63.813	1	.188	2	.156	2	.429	7
264			min	-630.071	6	-569.275	5	-133.294	2	-.144	1	-.116	1	-.039	4
265		3	max	-205.742	9	222.838	2	73.572	4	.011	2	.146	4	.379	7
266			min	-847.721	5	-152.332	1	-67.109	3	-.026	10	-.186	3	.014	4
267		4	max	-32.445	3	489.729	7	140.757	1	.318	3	.314	4	.424	7
268			min	-558.888	8	-71.404	4	-59.065	2	-.39	4	-.286	3	-.022	4
269		5	max	0	1	.002	7	.005	4	0	1	0	1	0	1
270			min	0	1	-.013	1	-.002	2	0	1	0	1	0	1
271	M28	1	max	885.239	4	29.566	2	59.673	4	0	10	.044	3	.173	3
272			min	-839.912	3	-17.136	1	-42.932	3	-.001	7	-.057	4	-.165	4
273		2	max	885.239	4	19.142	2	59.673	4	0	10	.021	3	.127	3
274			min	-839.912	3	-32.02	5	-42.932	3	-.001	7	-.019	4	-.107	4
275		3	max	885.239	4	6.147	2	59.673	4	0	10	.018	2	.109	1
276			min	-839.912	3	-58.168	5	-42.932	3	-.001	7	-.02	1	-.059	2
277		4	max	885.239	4	-7.599	2	59.673	4	0	10	.026	4	.173	5
278			min	-839.912	3	-86.627	5	-42.932	3	-.001	7	-.053	3	-.066	2
279		5	max	885.239	4	-18.037	2	59.673	4	0	10	.034	4	.274	5

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
280			min	-839.912	3	-104.922	5	-42.932	3	-.001	7	-.107	7	-.062	2
281	M29	1	max	977.751	3	47.996	3	76.553	4	.001	8	.051	3	.139	3
282			min	-898.56	4	-37.064	4	-59.388	3	0	9	-.06	4	-.146	4
283		2	max	977.751	3	37.559	3	76.553	4	.001	8	.038	3	.073	1
284			min	-898.56	4	-47.501	4	-59.388	3	0	9	-.033	4	-.066	2
285		3	max	977.751	3	24.684	3	76.553	4	.001	8	.025	2	.101	1
286			min	-898.56	4	-60.376	4	-59.388	3	0	9	-.024	1	-.063	2
287		4	max	977.751	3	10.891	3	76.553	4	.001	8	.02	2	.168	4
288			min	-898.56	4	-81.477	8	-59.388	3	0	9	-.045	1	-.077	3
289		5	max	977.751	3	.389	3	76.553	4	.001	8	.005	2	.294	4
290			min	-898.56	4	-99.969	8	-59.388	3	0	9	-.095	5	-.128	3
291	M30	1	max	856.582	2	56.777	1	73.797	2	0	9	.037	9	.223	1
292			min	-799.358	1	-61.724	9	-57.92	1	-.001	8	-.035	2	-.199	2
293		2	max	856.582	2	46.494	1	73.797	2	0	9	.018	9	.136	4
294			min	-799.358	1	-72.007	9	-57.92	1	-.001	8	-.013	2	-.105	3
295		3	max	856.582	2	33.419	1	73.797	2	0	9	.018	3	.134	4
296			min	-799.358	1	-85.082	9	-57.92	1	-.001	8	-.022	4	-.076	3
297		4	max	856.582	2	20.179	1	73.797	2	0	9	.022	3	.174	8
298			min	-799.358	1	-98.322	9	-57.92	1	-.001	8	-.049	4	-.036	3
299		5	max	856.582	2	9.574	1	73.797	2	0	9	.017	3	.285	6
300			min	-799.358	1	-108.927	9	-57.92	1	-.001	8	-.1	8	-.069	1
301	M31	1	max	719.362	1	46.957	1	65.781	2	.001	6	.044	1	.189	9
302			min	-667.704	2	-34.417	2	-47.967	1	0	1	-.057	2	-.106	3
303		2	max	719.362	1	36.532	1	65.781	2	.001	6	.039	1	.152	9
304			min	-667.704	2	-44.842	2	-47.967	1	0	1	-.036	2	-.073	3
305		3	max	719.362	1	23.593	1	65.781	2	.001	6	.025	1	.124	9
306			min	-667.704	2	-57.782	2	-47.967	1	0	1	-.025	9	-.048	1
307		4	max	719.362	1	10.337	1	65.781	2	.001	6	.021	3	.191	2
308			min	-667.704	2	-77.771	6	-47.967	1	0	1	-.044	4	-.1	1
309		5	max	719.362	1	-.35	1	65.781	2	.001	6	.019	3	.305	2
310			min	-667.704	2	-96.829	6	-47.967	1	0	1	-.093	8	-.142	1
311	M32	1	max	683.489	3	53.535	4	57.73	3	0	9	.019	2	.187	2
312			min	-618.911	4	-34.895	3	-42.709	4	-.001	6	-.043	1	-.157	1
313		2	max	683.489	3	43.111	4	57.73	3	0	9	.011	4	.148	2
314			min	-618.911	4	-45.32	3	-42.709	4	-.001	6	-.016	3	-.113	1
315		3	max	683.489	3	30.116	4	57.73	3	0	9	.013	1	.119	2
316			min	-618.911	4	-58.314	3	-42.709	4	-.001	6	-.018	2	-.06	1
317		4	max	683.489	3	16.37	4	57.73	3	0	9	.026	1	.179	7
318			min	-618.911	4	-86.124	7	-42.709	4	-.001	6	-.052	2	-.051	4
319		5	max	683.489	3	5.932	4	57.73	3	0	9	.029	1	.285	7
320			min	-618.911	4	-104.419	7	-42.709	4	-.001	6	-.102	6	-.094	4
321	M33	1	max	827.76	2	33.707	4	59.794	1	.001	7	.043	2	.113	2
322			min	-793.963	1	-23.789	3	-39.693	2	0	4	-.055	1	-.126	1
323		2	max	827.76	2	23.405	4	59.794	1	.001	7	.034	4	.066	2
324			min	-793.963	1	-34.09	3	-39.693	2	0	4	-.03	3	-.062	1
325		3	max	827.76	2	10.541	4	59.794	1	.001	7	.028	4	.102	3
326			min	-793.963	1	-50.997	7	-39.693	2	0	4	-.028	3	-.063	4
327		4	max	827.76	2	-3.257	4	59.794	1	.001	7	.012	4	.18	3
328			min	-793.963	1	-79.614	7	-39.693	2	0	4	-.041	6	-.085	4
329		5	max	827.76	2	-13.734	4	59.794	1	.001	7	.011	1	.268	3
330			min	-793.963	1	-98.029	7	-39.693	2	0	4	-.095	6	-.098	4
331	M34	1	max	164.147	3	272.869	2	515.855	1	.003	1	.212	3	.651	2
332			min	-404.644	4	-278.022	1	-508.058	2	-.003	2	-.16	4	-.47	1
333		2	max	164.147	3	272.869	2	512.18	1	.003	1	.157	3	.305	2
334			min	-404.644	4	-278.022	1	-511.733	2	-.003	2	-.107	4	-.12	1
335		3	max	164.147	3	272.869	2	508.505	1	.003	1	.102	3	.286	5
336			min	-404.644	4	-278.022	1	-515.408	2	-.003	2	-.055	4	-.042	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
337		4	max	164.147	3	272.869	2	504.83	1	.003	1	.163	1	.575	1
338			min	-404.644	4	-278.022	1	-519.083	2	-.003	2	-.123	2	-.392	2
339		5	max	164.147	3	272.869	2	501.155	1	.003	1	.263	1	.92	1
340			min	-404.644	4	-278.022	1	-522.758	2	-.003	2	-.233	2	-.742	2
341	M35	1	max	99.537	2	611.03	4	226.322	3	.003	3	.341	3	.771	4
342			min	-397.74	5	-579.063	3	-257.476	4	-.002	4	-.29	4	-.876	3
343		2	max	99.537	2	607.355	4	226.322	3	.003	3	.184	3	.388	4
344			min	-397.74	5	-582.738	3	-257.476	4	-.002	4	-.134	4	-.519	3
345		3	max	99.537	2	603.68	4	226.322	3	.003	3	.082	2	.006	4
346			min	-397.74	5	-586.413	3	-257.476	4	-.002	4	-.036	1	-.231	7
347		4	max	99.537	2	600.005	4	226.322	3	.003	3	.172	4	.199	3
348			min	-397.74	5	-590.088	3	-257.476	4	-.002	4	-.134	3	-.374	4
349		5	max	99.537	2	596.33	4	226.322	3	.003	3	.322	4	.561	3
350			min	-397.74	5	-593.763	3	-257.476	4	-.002	4	-.296	3	-.752	4
351	M36	1	max	194.528	4	210.844	3	468.443	2	.002	2	.331	1	.683	1
352			min	-423.489	3	-229.804	4	-469.818	1	-.002	1	-.254	2	-.516	2
353		2	max	194.528	4	210.844	3	464.768	2	.002	2	.207	1	.39	1
354			min	-423.489	3	-229.804	4	-473.493	1	-.002	1	-.142	2	-.215	2
355		3	max	194.528	4	210.844	3	461.093	2	.002	2	.088	4	.273	8
356			min	-423.489	3	-229.804	4	-477.168	1	-.002	1	-.038	3	-.02	3
357		4	max	194.528	4	210.844	3	457.418	2	.002	2	.108	4	.422	4
358			min	-423.489	3	-229.804	4	-480.843	1	-.002	1	-.075	3	-.244	3
359		5	max	194.528	4	210.844	3	453.743	2	.002	2	.183	2	.677	2
360			min	-423.489	3	-229.804	4	-484.518	1	-.002	1	-.173	1	-.5	1

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	MP2B	PIPE_2.0	.499	3.75	1	.075	3.75		1	14916.0...	32130	1.872	1.872	2...	H1-1b
2	MP2A	PIPE_2.0	.473	3.75	4	.065	3.75		2	14916.0...	32130	1.872	1.872	2...	H1-1b
3	MP2C	PIPE_2.0	.452	3.75	3	.080	3.75		3	14916.0...	32130	1.872	1.872	3...	H1-1b
4	MP4A	PIPE_2.0	.451	3.75	2	.077	3.75		2	14916.0...	32130	1.872	1.872	4...	H1-1b
5	MP3C	PIPE_2.0	.451	3.75	1	.064	3.75		1	14916.0...	32130	1.872	1.872	3...	H1-1b
6	M6	HSS4x4x4	.440	0	5	.118	0	z	4	123396....	139518	16.181	16.181	3...	H1-1b
7	MP3A	PIPE_2.0	.438	3.75	3	.058	3.75		3	14916.0...	32130	1.872	1.872	3...	H1-1b
8	M35	L3x3x4	.438	0	3	.052	0	y	4	40623.8...	46656	1.688	3.756	2...	H2-1
9	M5	HSS4x4x4	.432	0	6	.102	0	y	6	123396....	139518	16.181	16.181	3...	H1-1b
10	M4	HSS4x4x4	.429	0	6	.102	0	y	8	123396....	139518	16.181	16.181	3...	H1-1b
11	MP1B	PIPE_2.0	.425	3.75	7	.068	3.75		1	14916.0...	32130	1.872	1.872	4...	H1-1b
12	MP4C	PIPE_2.0	.425	3.75	8	.063	3.75		1	14916.0...	32130	1.872	1.872	3...	H1-1b
13	MP1A	PIPE_2.0	.405	3.75	8	.055	3.75		4	14916.0...	32130	1.872	1.872	3...	H1-1b
14	M34	L3x3x4	.404	2.5	1	.047	2.5	z	2	40623.8...	46656	1.688	3.756	2...	H2-1
15	MP3B	PIPE_2.0	.382	3.75	4	.064	3.75		4	14916.0...	32130	1.872	1.872	3...	H1-1b
16	M36	L3x3x4	.381	0	1	.042	2.5	z	1	40623.8...	46656	1.688	3.756	2...	H2-1
17	MP1C	PIPE_2.0	.373	3.75	6	.069	3.75		3	14916.0...	32130	1.872	1.872	3...	H1-1b
18	MP4B	PIPE_2.5	.346	3.75	6	.067	3.75		4	30038.4...	50715	3.596	3.596	4...	H1-1b
19	M3	PIPE_3.0	.229	5.469	5	.142	.911		7	28250.5...	65205	5.749	5.749	1...	H1-1b
20	M2	PIPE_3.0	.229	7.031	5	.114	11.5...		8	28250.5...	65205	5.749	5.749	1...	H1-1b
21	M1	PIPE_3.0	.225	7.031	6	.124	11.5...		5	28250.5...	65205	5.749	5.749	1...	H1-1b
22	M7	HSS4x4x4	.219	3.185	8	.061	5.906	y	8	117721.8	139518	16.181	16.181	1...	H1-1b
23	M8	HSS4x4x4	.217	3.185	7	.059	5.906	y	6	117721.8	139518	16.181	16.181	1...	H1-1b
24	M9	HSS4x4x4	.216	3.185	8	.061	0	z	4	117721.8	139518	16.181	16.181	1...	H1-1b
25	M27	PIPE_3.0	.178	4.167	5	.091	1.432		4	28250.5...	65205	5.749	5.749	1...	H1-1b
26	M26	PIPE_3.0	.175	4.167	6	.134	1.432		1	28250.5...	65205	5.749	5.749	1...	H1-1b
27	M32	L3x3x4	.137	4.523	7	.013	4.523	y	7	29657.6...	46656	1.688	3.756	2...	H2-1
28	M28	L3x3x4	.136	4.523	5	.013	4.523	y	5	29657.6...	46656	1.688	3.756	2...	H2-1

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear ..	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
29	M30	L3x3x4	.134	4.523	6	.013	4.523	y	6	29657.6...	46656	1.688	3.756	2...	H2-1
30	M29	L3x3x4	.123	4.523	5	.013	4.523	y	8	29657.6...	46656	1.688	3.756	2...	H2-1
31	M33	L3x3x4	.120	4.523	7	.012	4.523	y	7	29657.6...	46656	1.688	3.756	2...	H2-1
32	M31	L3x3x4	.118	4.523	8	.012	4.523	y	6	29657.6...	46656	1.688	3.756	1...	H2-1
33	M25	PIPE_3.0	.116	1.432	4	.090	1.432		3	28615.5...	93150	8.213	8.213	3...	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 9

MODIFICATION AND DESIGN DRAWINGS FOR EXISTING ANTENNA MOUNTS

1 195' MONOPOLE TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT01916-S

CARRIER SITE #/NAME: CTHA101F / NORTH SALEM

COORDINATES (LATITUDE: 41.502828°, LONGITUDE: -72.297052°)

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	1
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	ANTENNA MOUNT MODIFICATION DETAILS	1
A-2	ANTENNA MOUNT PHOTOS	0
MS-HRECP-35	METROSITE SUPPORT RAIL WITH END CONNECTION KIT	

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE **TES** PROJECT NO. 77890, DATED 06/04/2019.

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
78293

CUSTOMER SITE NO:
CT01916-S-SBA

CUSTOMER SITE NAME:
NORTH SALEM
160 WITCH MEADOW ROAD
SALEM, CT 06420

STATE OF CONNECTICUT
JAIME RAMOS CRUZ
No. 17534
LICENSED
PROFESSIONAL ENGINEER
7/30/19

DRAWN BY: GA | CHECKED BY: SS/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	06/24/19
1	REVISED	GA	07/30/19

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: T-1

REV #: 1

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	SHEET LIST	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE				
1	1	MS-HRECP-35	METROSITE SUPPORT RAIL WITH END CONNECTION KIT	A-1, MS-HRECP-35	514.0	514.0	Galvanized
			FOLLOWING ITEMS ARE "CUSTOM" PARTS				
			ALL METROSITE PARTS ARE AVAILABLE FROM METROSITE, LLC. **180 IND PARK BLVD COMMERCE, GA 30529** **OFFICE: (706) 335-7045** **FAX: (706) 335-7056**				
			NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.				
				TOTAL WEIGHT (LBS) =		**514.0**	

TES

Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
78293

CUSTOMER SITE NO:
CT01916-S-SBA
CUSTOMER SITE NAME:
NORTH SALEM
160 WITCH MEADOW ROAD
SALEM, CT 06420

DRAWN BY: GA | CHECKED BY: SS/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	06/24/19

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER: BOM
REV #: 0

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. 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.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. 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.
7. 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.
8. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-TESCONSTRUCTION@TESTOWER.US

FABRICATION

1. 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.
2. 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

1. 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).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. 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.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. 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

1. 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.
2. 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.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. 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.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 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 [c]	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:

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

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. 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.
5. 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.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
78293

CUSTOMER SITE NO:
CT01916-S-SBA
CUSTOMER SITE NAME:
NORTH SALEM
160 WITCH MEADOW ROAD
SALEM, CT 06420

DRAWN BY: GA | CHECKED BY: SS/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	06/24/19

SHEET TITLE:
GENERAL NOTES

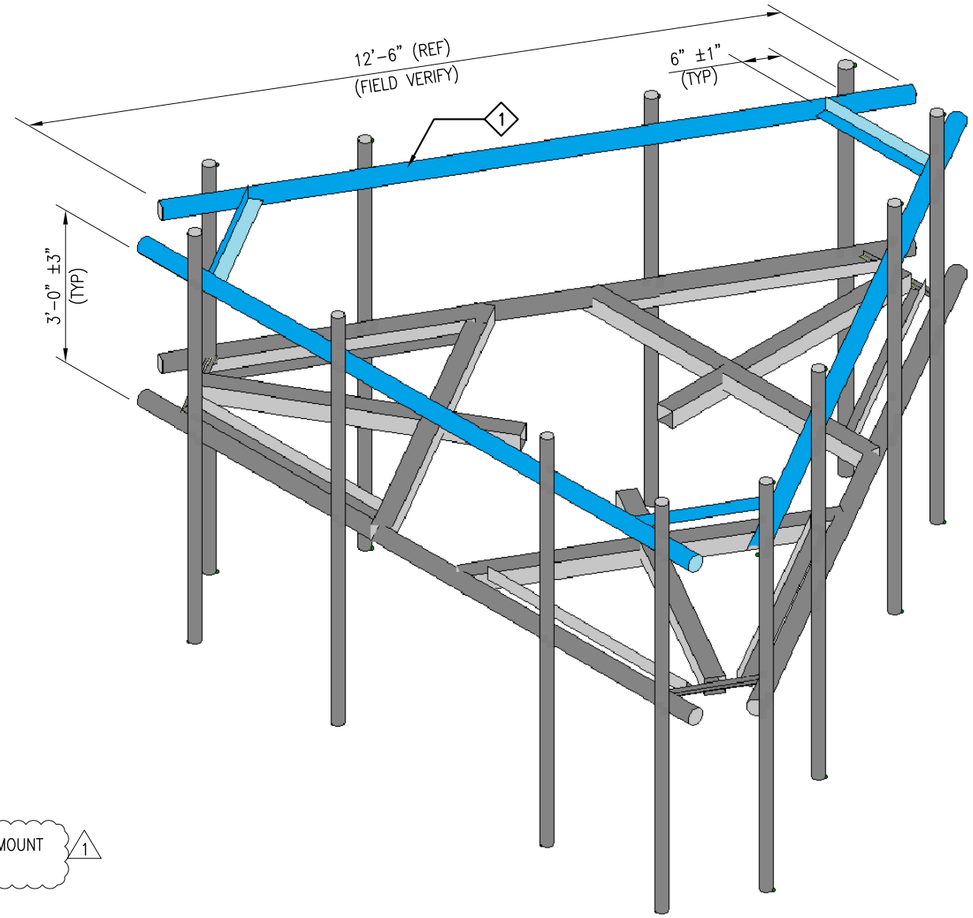
SHEET NUMBER: GN-1
REV #: 0

SCOPE OF WORK

1. INSTALL NEW SUPPORT RAIL WITH END CONNECTION KIT. SEE SHEET MS-HRECP-35 FOR DETAILS

2. 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



ISOMETRIC VIEW
EXISTING ANTENNA MOUNT @ 175' ELEV. 1

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-HRECP-35	METROSITE SUPPORT RAIL WITH END CONNECTION K

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
78293

CUSTOMER SITE NO:
CT01916-S-SBA
CUSTOMER SITE NAME:
NORTH SALEM
160 WITCH MEADOW ROAD
SALEM, CT 06420

DRAWN BY: GA | CHECKED BY: SS/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	06/24/19
1	REVISED	GA	07/30/19

SHEET TITLE:
ANTENNA MOUNT MODIFICATION DETAILS

SHEET NUMBER: A-1
REV #: 1

PHOTO 1

PHOTO 2

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

PHOTO 3

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
78293

CUSTOMER SITE NO:
CT01916-S-SBA

CUSTOMER SITE NAME:
NORTH SALEM

160 WITCH MEADOW ROAD
SALEM, CT 06420

DRAWN BY: GA | CHECKED BY: SS/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	06/24/19

SHEET TITLE:

ANTENNA MOUNT PHOTOS

SHEET NUMBER: A-2

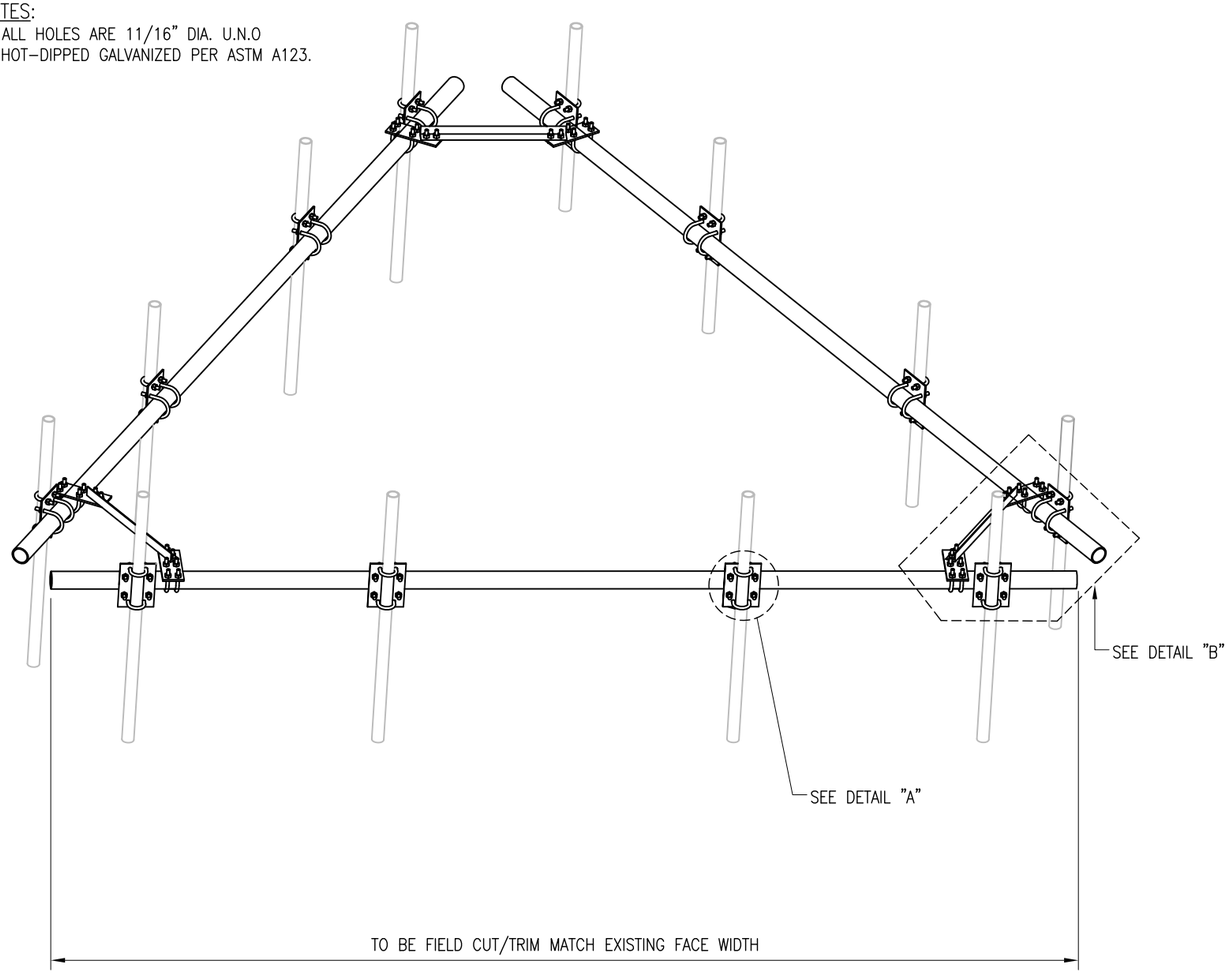
REV #: 0

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

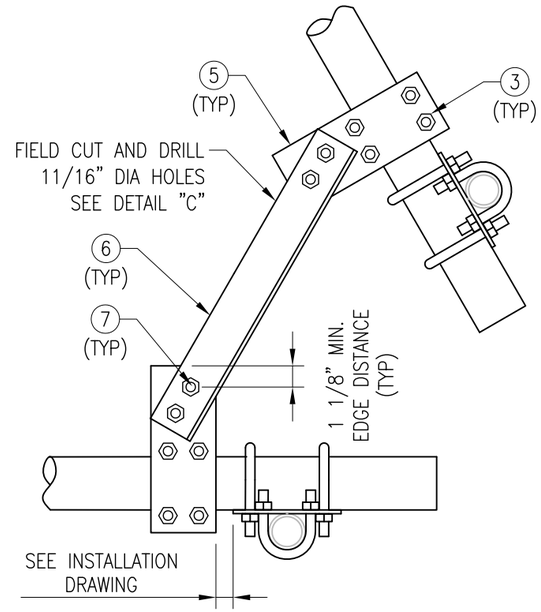
NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.

MS-HRECP-35

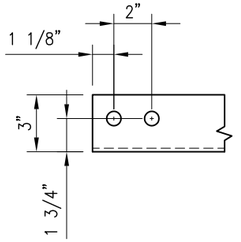
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	3PST-140	3" PST (3.50" O.D X .216" THICK) X 14'-0"	A53 GR-B	TAF-1	337.2
2	12	PL375-10	PL 3/8" X 7 1/8" X 10"	A36	TAF-1	92.4
3	36	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
4	24	MS02-625-250-400	RU-BOLT 5/8" X 2 1/2" I.W. X 4" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
5	6	PL375-11	PL 3/8" X 4 1/4" X 0'-11"	A36	TAF-1	30.2
6	3	AL-33C	L 3" X 3" X 1/4" X 3'-6"	A36	ECP-1	54.0
7	12	--	BOLT 5/8" X 2" A325 W/ HHN & LKW	A325	--	--
				GALVANIZED WT		514



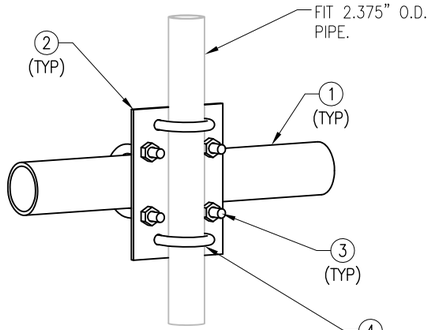
ELEVATION VIEW



DETAIL "B"



DETAIL "C"
11/16"ø HOLES FIELD DRILLED



DETAIL "A"

THIRD ANGLE PROJECTION

METROSITE FABRICATORS LLC
180 INDUSTRIAL PARK BLVD.
COMMERCE GA 30529

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH
STANDARD SHEET TOLERANCES
DECIMALS: .X ± 0.1, .XX ± 0.02, .XXX ± 0.005
ANGLES: ± 1°
FRACTIONS: ± 1/32

APPROVAL / SIGNATURES		DATE
DRAWN BY	XXX	05/12/17
REVIEWED	XXX	-
APPROVED	XXX	-

TITLE
MS-HRECP-35
SUPPORT RAIL WITH END CONNECTION KIT

SIZE	DWG NO	REV
B	MS-HRECP-35	1

SCALE: -
SHEET 1 OF 1

EXHIBIT 10

Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CTHA101F

SBA Salem
160 Witch Meadow Rd
Salem, CT 06420

June 12, 2019

Transcom Engineering Project Number: 737001-0096

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**4.13 %**

June 12, 2019

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

Emissions Analysis for Site: **CTHA101F – SBA Salem**

Transcom Engineering, Inc ("Transcom") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **160 Witch Meadow Rd, Salem, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **160 Witch Meadow Rd, Salem, 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)
LTE	2100 MHz (AWS)	2	60
UMTS	1900 MHz (PCS)	1	40
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20

Table 1: Channel Data Table

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-A20	175
A	2	RFS APXVAARR24_43-U-NA20	175
B	1	RFS APX16DWV-16DWV-S-E-A20	175
B	2	RFS APXVAARR24_43-U-NA20	175
C	1	RFS APX16DWV-16DWV-S-E-A20	175
C	2	RFS APXVAARR24_43-U-NA20	175

Table 2: Antenna Data

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

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-A20	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	3	160	6,224.72	0.79
Antenna A2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
						Sector A Composite MPE%	**1.52**
Antenna B1	RFS APX16DWV-16DWV-S-E-A20	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	3	160	6,224.72	0.79
Antenna B2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
						Sector B Composite MPE%	**1.52**
Antenna C1	RFS APX16DWV-16DWV-S-E-A20	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	3	160	6,224.72	0.79
Antenna C2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
						Sector C Composite MPE%	**1.52**

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum 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	**1.52 %**
AT&T	1.07 %
Sprint	1.54 %
Site Total MPE %:	**4.13 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	1.52 %
T-MOBILE Sector B Total:	1.52 %
T-MOBILE Sector C Total:	1.52 %
Site Total:	4.13 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated 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 ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 1900 MHz (PCS) UMTS	1	1,556.18	175	1.96	1900 MHz (PCS)	1000	0.20%
T-Mobile 2100 MHz (AWS) LTE	2	2,334.27	175	5.88	2100 MHz (AWS)	1000	0.59%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	175	1.99	600 MHz	400	0.50%
T-Mobile 700 MHz LTE	2	432.54	175	1.09	700 MHz	467	0.23%
						Total:	**1.52%**

Table 6: T-MOBILE Maximum Sector MPE Power Values

Summary

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

The anticipated maximum composite contributions from the 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:	1.52 %
Sector B:	1.52 %
Sector C:	1.52 %
T-MOBILE Maximum Total (per sector):	1.52 %
Site Total:	4.13 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **4.13 %** 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.

Scott Heffernan
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Transcom Engineering, Inc
PO Box 1048
Sterling, MA 01564