



September 17, 2018

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

Regarding: Notice of Exempt Modification – Remove and replace (3) Panel Antennas, Addition of 3 Remote Radios.

Property Address: 515 Boston Post Road East, Westport, CT 06880 (also known as 455 Post Road East, State Street East) (the “Property”)

Applicant: AT&T Mobility (“AT&T”, Site # CT2153))

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 100-foot monopole at the above-referenced address, latitude 41.14018056, -73.34723611 longitude. Said monopole and ground space is now owned and operated by the Town of Westport, CT.

AT&T desires to modify its existing telecommunications facility by swapping (3) panel antennas and adding (3) remote radios. The centerline height of said antennas is and will remain at 120 feet.

Please accept this application as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72 (b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Town of Westport’s First Selectman, The town’s Building Official, and the Planning and Zoning Director. The structure is no longer operated by Crown Castle; the Town maintains all oversight at present.

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

1. The planned modifications will not result in an increase in the height of the existing structure. AT&T’s antennas and associated lines will be installed at the existing mount height of 120’; the existing Monopole tower is 148’.
2. The proposed modifications will not involve any changes to ground-space footprint and, therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An RF emissions calculation is attached.



September 17, 2018

AT&T @ 515 Boston Post Road East; Westport, CT

Page 2 of 2

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (Please see attached Structural analysis completed by Destek Engineering, LLC dated August 24, 2018)

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

Sincerely,

Kristen White

Kristen White, Site Acquisition Specialist

Empire Telecom USA, LLC

kwhite@empiretelecomm.com

978-284-3801

Enclosures:

Exhibit 1: GIS Map of 515 Post Road East

Exhibit 2: Property Card Information from GIS System (Town Owned Property)

Exhibit 3: Construction Plans by Centek Engineering, dated 5/15/18

Exhibit 4: Destek Engineering Report dated 8/24/2018

Exhibit 5: Radio Frequency Emissions Analysis Report dated 6/8/2018

CC:

Steve Smith, Building Official
Westport Building Department
515 Post Road East, 2nd Floor,
Westport CT 06880

James Marpe, First Selectman
Westport Town Hall
110 Myrtle Avenue, Room 310
Westport CT 06880

Mary Young, Planning & Zoning Director
Westport Town Hall
110 Myrtle Avenue, Room 203
Westport, CT 06880

Westport CT - CityMap

Tasks

Found 2 assessor records.
Found 1 parcels.

Selected

All

Clear

ParcelId	Owner	Street
E09064000	SPRINT SPECTRUM LP	POST RD E
E09064000	WESTPORT TOWN OF	POST RD E

NAVIGATE

ZOOM IN

FULL EXTENT

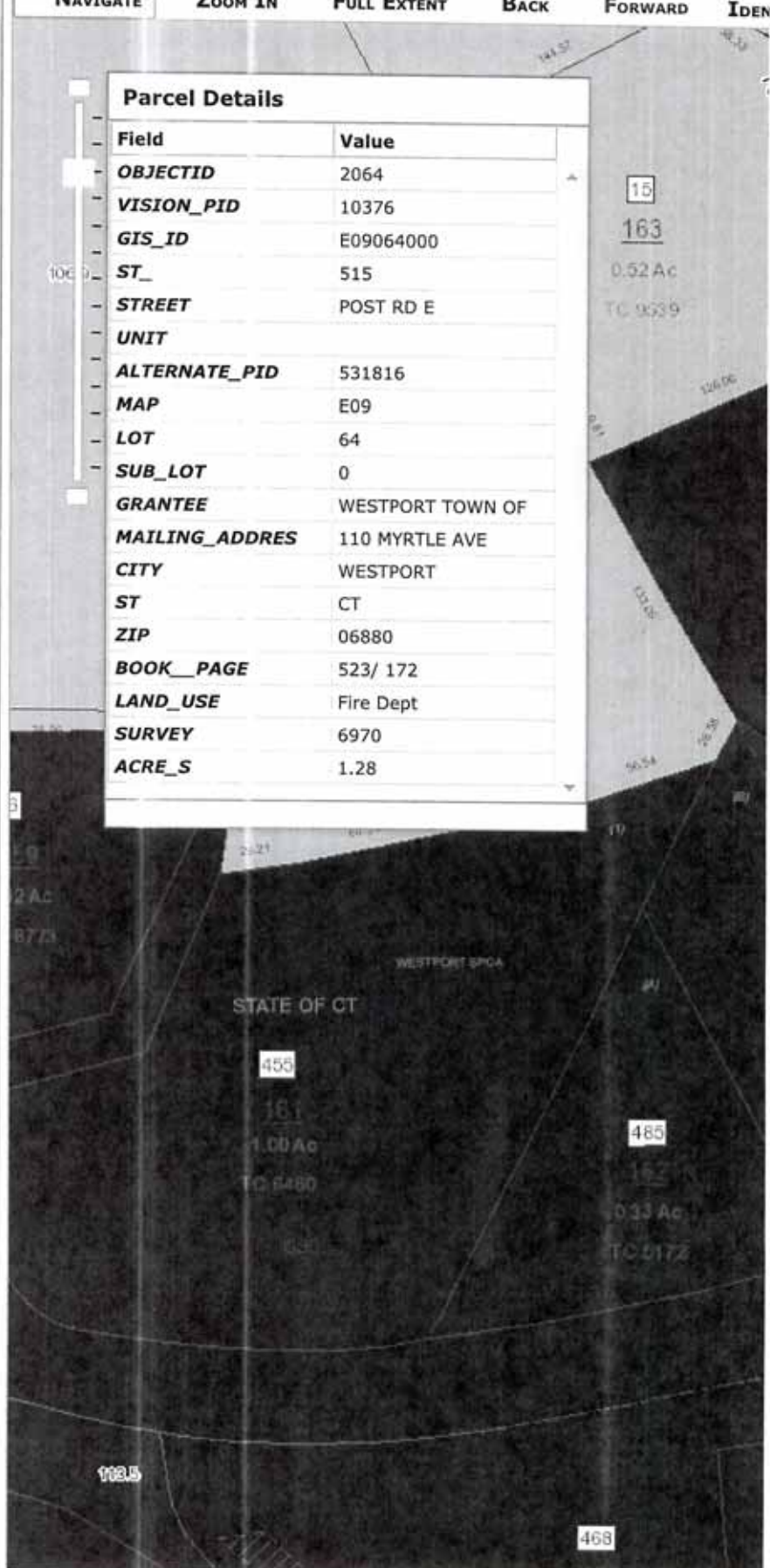
BACK

FORWARD

IDEN

Parcel Details

Field	Value
OBJECTID	2064
VISION_PID	10376
GIS_ID	E09064000
ST_	515
STREET	POST RD E
UNIT	
ALTERNATE_PID	531816
MAP	E09
LOT	64
SUB_LOT	0
GRANTEE	WESTPORT TOWN OF
MAILING_ADDRES	110 MYRTLE AVE
CITY	WESTPORT
ST	CT
ZIP	06880
BOOK_PAGE	523/ 172
LAND_USE	Fire Dept
SURVEY	6970
ACRE_S	1.28



REV.	DATE	BY	CHK'D	DESCRIPTION
0	05/15/18	DWG	QAG	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION



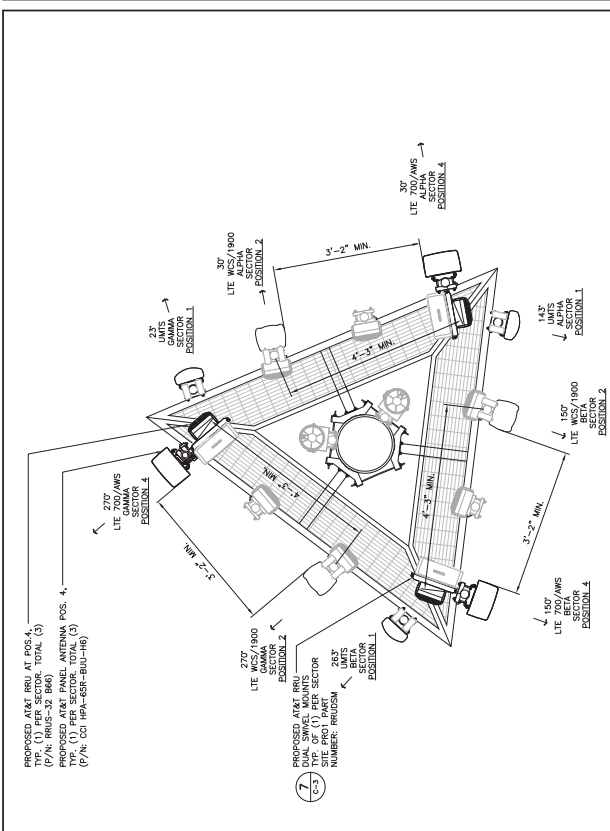
Center for Software
 2200
 430 North Broadway
 Westport, CT 06880
 www.CenterforSoftware.com

AT&T MOBILITY
 WESTPORT FD
 WESTLESS COMMUNICATIONS FACILITY
 CT2153 - LTE 4C-850/5C-AWS
 516 POST ROAD EAST
 WESTPORT, CT 06880

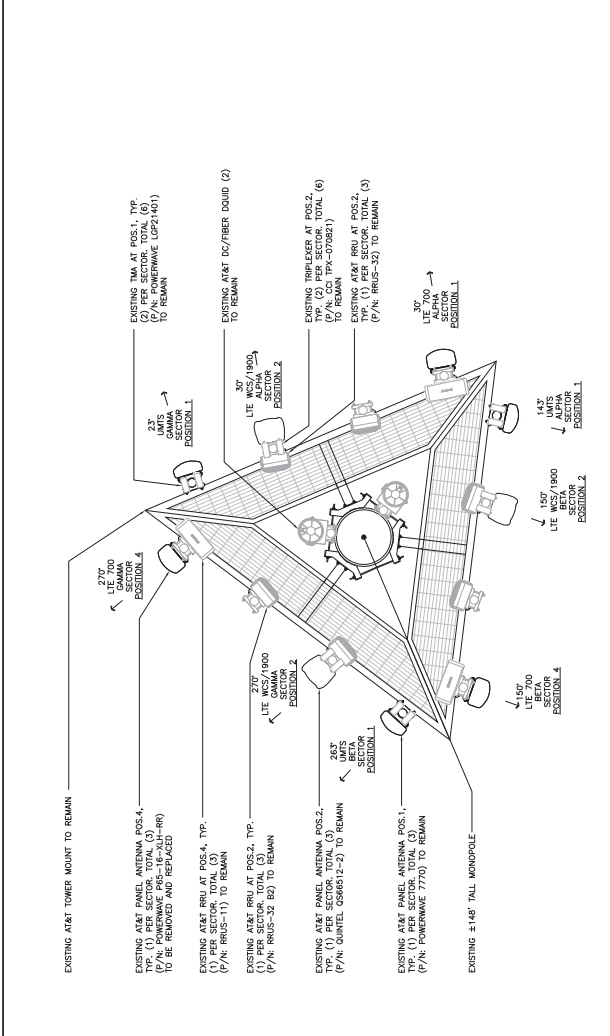
DATE: 01/10/18
 SCALE: AS NOTED
 JOB NO. 17004.63

LTE 4C-850/5C-AWS
 ANTENNA
 LAYOUTS

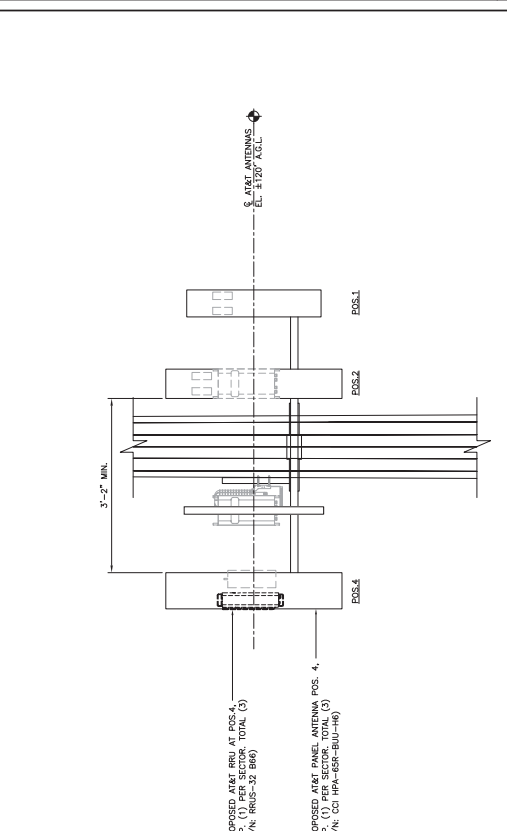
C-2
 Sheet No. 5 of 6



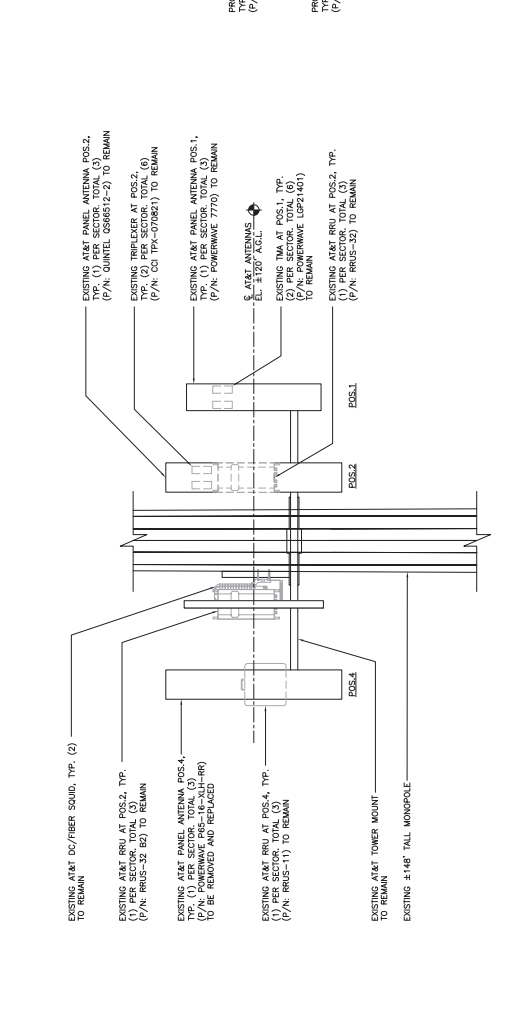
1 EXISTING ANTENNA PLAN NORTH
 SCALE: 1/2" = 1'-0"
 C-2



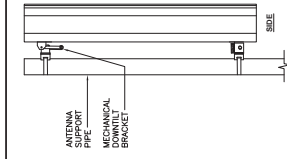
2 PROPOSED ANTENNA PLAN NORTH
 SCALE: 1/2" = 1'-0"
 C-2



3 EXISTING ANTENNA ELEVATION
 SCALE: 1/2" = 1'-0"
 C-2

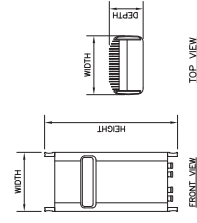


4 PROPOSED ANTENNA ELEVATION
 SCALE: 1/2" = 1'-0"
 C-2



EQUIPMENT	ALPHABETAGAMA ANTENNA	WEIGHT
MAKE:	CC	51 LBS.
MODEL:	HPA-6R-BUU-16	
DIMENSIONS		
72" L. x 14.8" W. x 9" D.		

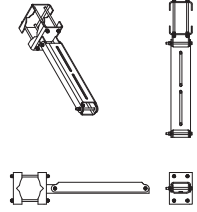
1 PROPOSED ANTENNA DETAIL
NOT TO SCALE



EQUIPMENT	RRU (REMOTE RADIO UNIT)	WEIGHT	CLEARANCES
MAKE:	ERICSSON	52.91 LBS.	ABOVE: 18" MIN.
MODEL:	RRUS-32 B86		BELOW: 12" MIN.
DIMENSIONS			FRONT: 35" MIN.
77.17" H. x 12.05" W. x 7.01" D.			

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

4 ERICSSON RRU32 DETAIL
NOT TO SCALE



EQUIPMENT	RRU DUAL SWIVEL MOUNT	WEIGHT
MAKE:	RRUS2N	39.4 LBS.
MODEL:	RRUS2N	
DIMENSIONS		
27.75" L. x 6.5" W. x 4.7" D.		

7 RRU DUAL SWIVEL MOUNT DETAIL
NOT TO SCALE



EQUIPMENT	SURGE ARRESTOR	WEIGHT
MAKE:	ANDREW	1.32 LBS.
MODEL:	APTDC-BDFM-DB	
DIMENSIONS		
3.46" H. x 3.46" W. x 1.66" D.		

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

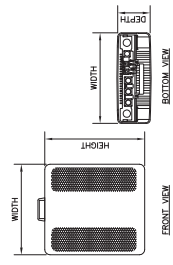
2 ANDREW APTDC-BDFM-DB DETAIL
NOT TO SCALE



EQUIPMENT	LOW BAND COMBINER	WEIGHT
MAKE:	KAELUS	18.3 LBS.
MODEL:	DBCO061FN51-2	
DIMENSIONS		
8" H. x 6.45" W. x 6.2" D.		

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

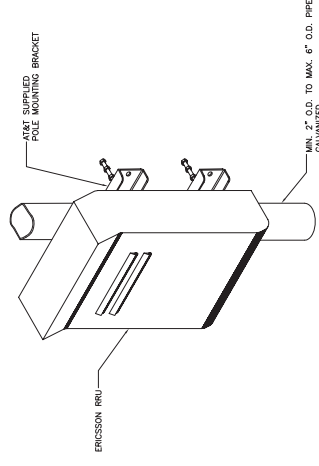
5 KAELUS DBCO061FN51-2 DETAIL
NOT TO SCALE



EQUIPMENT	RRU (REMOTE RADIO UNIT)	WEIGHT	CLEARANCES
MAKE:	ERICSSON	50 LBS.	ABOVE: 15" MIN.
MODEL:	RRUS 12		FRONT: 38" MIN.
DIMENSIONS			
20.4" L. x 18.5" W. x 7.5" D.			

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

3 ERICSSON RRU12 DETAIL
NOT TO SCALE



NOTES:
1. POLE SHALL SUPPLY RRU AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SAFELY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL INSTALL RRU AND MAKE CABLE TERMINATIONS.
2. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

6 TYPICAL RRU12 MOUNTING DETAILS
NOT TO SCALE

REV.	DATE	BY	DESCRIPTION
0	05/15/18	DWG	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

at&t
EMPIRE telecom

Center on Station
CENTEX engineering
430 North Broadway Road
Westport, CT 06880
www.CentexEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
WESTPORT FD
CT2153 - LTE 4C-850/5C-AWS
516 POST ROAD EAST
WESTPORT, CT 06880

DATE: 01/09/18
SCALE: AS NOTED
JOB NO.: 1702463

DETAILS

REV	DATE	BY	DESCRIPTION
0	05/15/18	DWG	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
1		CHD/B	



WESTPORT PD
WESTPORT COMMUNICATIONS FACILITY
516 WEST ROAD EAST
WESTPORT, CT 06890

CT1263 - LTE 4C-850/5C-AWS

A&T MOBILITY

DATE: 01/07/18
SCALE: AS NOTED
JOB NO.: 1702463

SCHEMATIC
DIAGRAM
AND NOTES

E-1

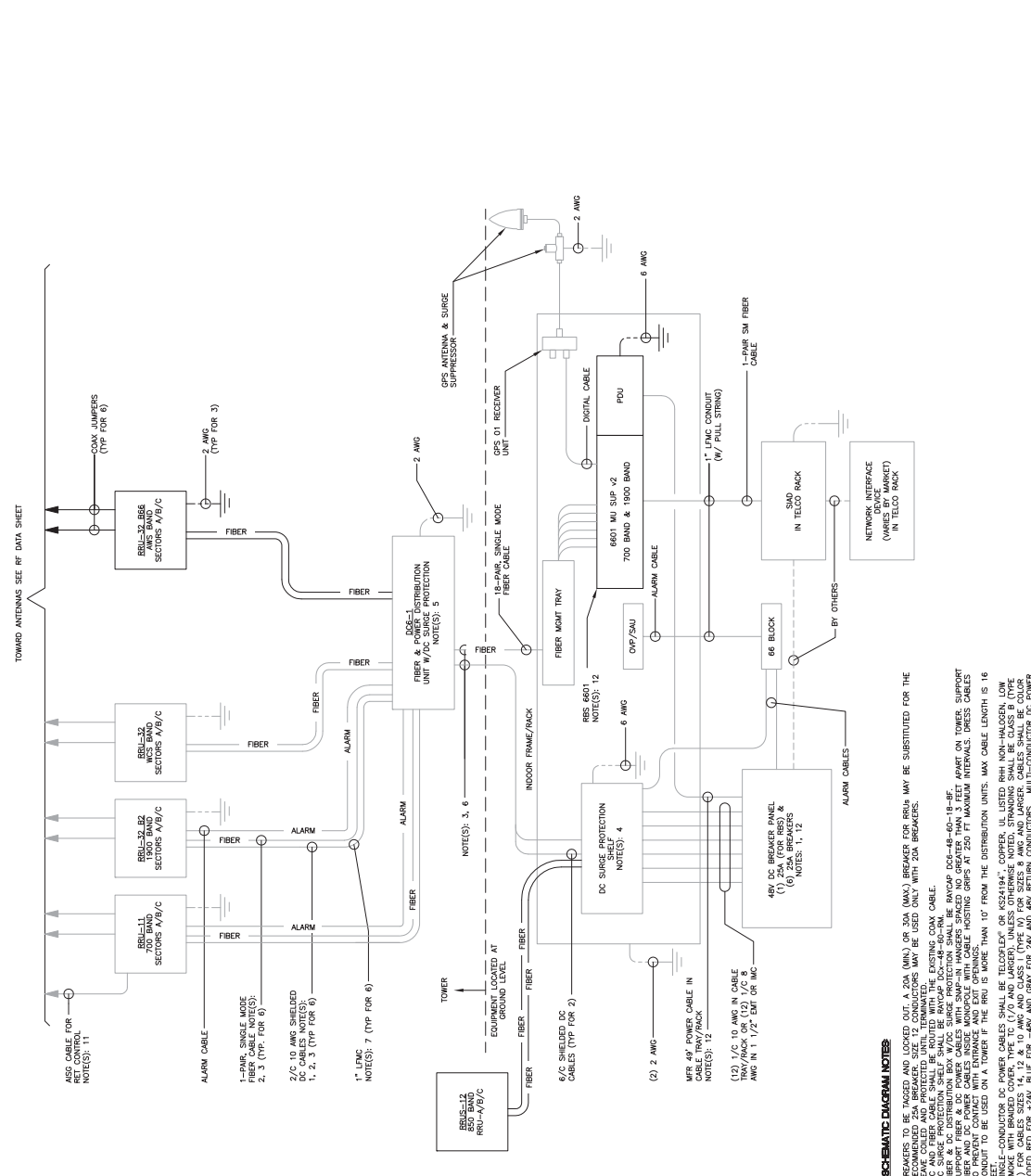
Sheet No. 5 of 5

ELECTRICAL NOTES

- PRIOR TO CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL ELECTRICAL AND TELECOMMUNICATIONS WORK. ALL MANUFACTURER DOCUMENTATION FOR ALL EQUIPMENT TO BE INSTALLED.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
- CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
- MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
- PRIOR TO INSTALLATION CONTRACTOR SHALL ASSESS EXISTING ELECTRICAL LOAD AND VERIFY EXISTING AVAILABLE CAPACITY FOR PROPOSED INSTALLATION. IF EXISTING ELECTRICAL SYSTEM IS NOT CAPABLE OF SUPPORTING THE PROPOSED ELECTRICAL UTILITY COMPANY TO UPGRADE EXISTING ELECTRICAL SERVICE.
- CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS IN COMPLIANCE WITH NEC AND SITE OWNER'S REPRESENTATIVE, AND ANY DEFICIENCIES SHALL BE CORRECTED.
- ALL TRANSMISSION TOWER SITES CONTAIN AN EXTENSIVE BARBED GROUNDING SYSTEM. ALL GROUNDING WORK MUST BE COORDINATED WITH AND APPROVED BY THE TOWER OWNER'S REPRESENTATIVE. ALL OF THE TOWER OWNER'S SPECIFICATIONS MUST BE STRICTLY FOLLOWED.
- PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING GROUNDING SYSTEM PER OWNER'S SPECIFICATIONS AND NEC.
- ALL CONDUCTORS SHALL BE TYPE THHN (NFC APPLICATION) AND XHHW (EXT. APPLICATION) WITH 100% COPPER CONDUCTORS. ALL CONDUCTORS SHALL BE UNINSULATED COPPER W/0 AWG AND SMALLER SHALL BE SPICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS #8 AWG AND LARGER SHALL BE SPICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZES. CONDUCTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- MINIMUM BENDS BASIS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND ANY DEFICIENCIES SHALL BE CORRECTED. ALL WORK SHALL BE INTERPRETED AS AN INTERPRETATION OF SUCH CODES OR REGULATIONS.
- THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL ELECTRICAL WORK. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
- AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
- THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF COMPLETION OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
- DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL VERIFY ALL WORK IS AS SHOWN AND SHALL BE RESPONSIBLE FOR THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROTECTION OF ALL WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
- ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
- GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR.
- 600V EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, ARTICLE 250-122 (MAX. #12 AWG).
- CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 2 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 18960).

TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

- CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:
 - RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.
 - TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
 - GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
- TESTING SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. TESTS SHALL BE INITIATED AND COMPLETED PRIOR TO THE START OF CONSTRUCTION AND INCLUDED WITH THE REPORT/ANALYSIS.
- THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB STARTUP DATE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR ALL TESTS REQUIRING WITNESSING.



- LTE SCHEMATIC DIAGRAM NOTES**
- RECOMMENDED 25A BREAKER SIZE 12 CONDUCTORS MAY BE USED ONLY WITH 20A BREAKERS.
 - LEAVE COILED AND PROTECTED UNTIL TERMINATED.
 - DC SURGE PROTECTION SHELF SHALL BE RAVAP DO-48-80-8M.
 - SUPPORT FIBER & DC POWER CABLES WITH SHAW-IN-ROUNDER HANGERS SPACED NO GREATER THAN 3 FEET APART ON TOWER SUPPORT.
 - SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELEGLEY® OR 4524194*, COPPER, UL LISTED RHM NON-HALOGEN LOW SMOKE WITH BRANDED COVER, TYPE TC (1/0 AND LARGER), UNLESS OTHERWISE NOTED, SPANNING SHALL BE CLASS B (TYPE COLORED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS). MULTI-CONDUCTOR DC POWER CABLES SHALL BE CLASS B STANDING WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/75°C WET INSTALLATION.
 - GROUNDING WIRES SHALL BE COPPER, GREEN THHN/THWN, UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 12 AWG.
 - FIBER OPTIC CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
 - RES 6601 WARRANT 2 REQUIRES A 25A BREAKER AND 10 AWG (MIN.) CONDUCTORS. REPLACE EXISTING 15A OR 20A BREAKERS AND 12 AWG CONDUCTORS WHEN UPGRADEING AN EXISTING RES 6601 WARRANT 1.

REV.	DATE	BY	DESCRIPTION
0	05/15/18	DWG	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

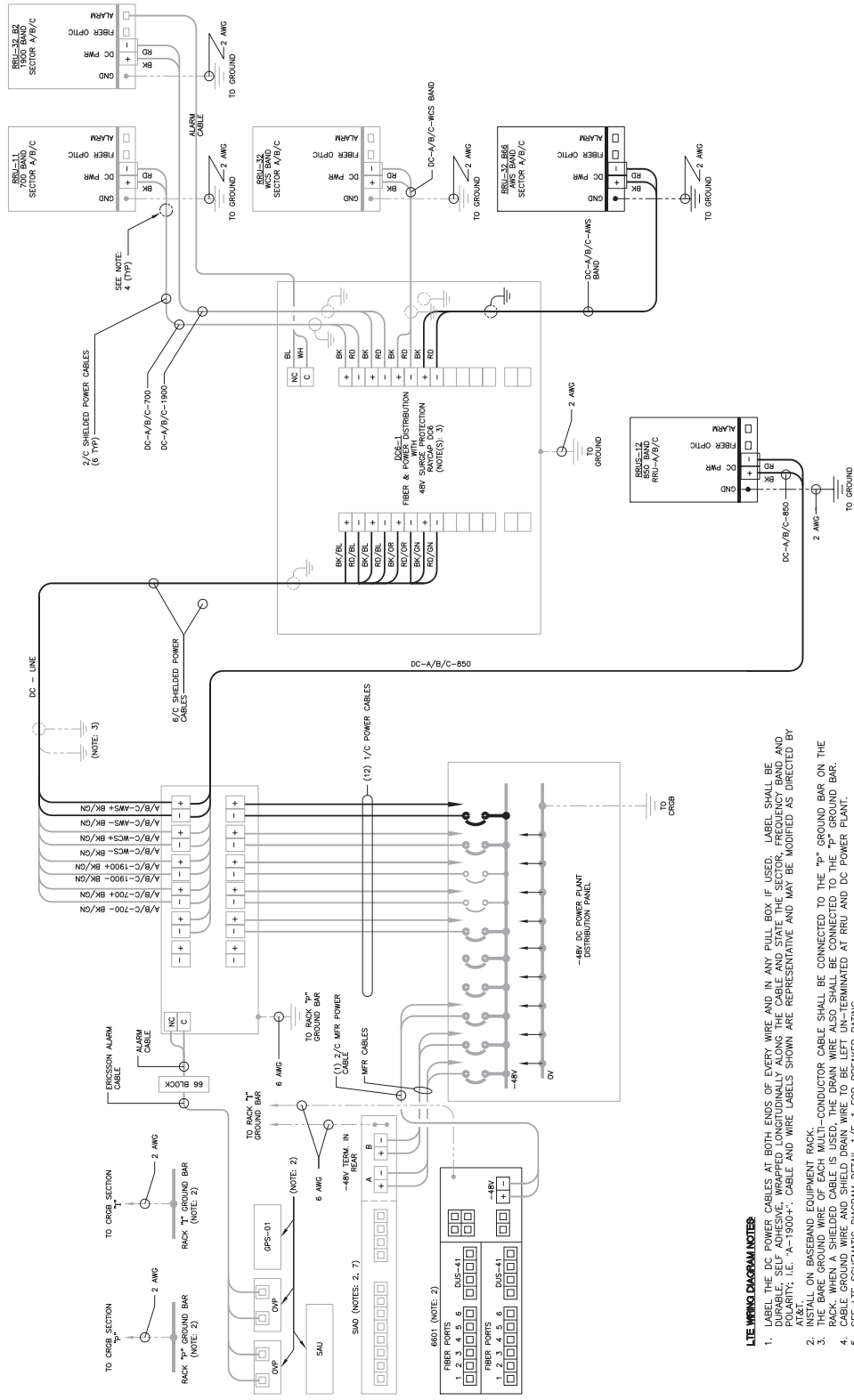


AT&T MOBILITY
WESTPORT FACILITY
WESTPORT EAST
516 PORT ROAD EAST
WESTPORT, CT 06890
CT2163 - LTE 4C-850/5C-AWS

DATE: 01/10/18
SCALE: AS NOTED
JOB NO. 17024643

WIRING
DIAGRAM

E-2
Sheet No. 1 of 2



- LTE WIRING DIAGRAM NOTES**
1. LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY FULL BOX, IF USED. LABEL SHALL BE DURABLE, SELF-ADHESIVE, WRAPPED LONGITUINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND, AND POLARITY; I.E. "A-1900H+", CABLE AND WIRE LABELS SHOWN ARE REPRESENTATIVE AND MAY BE MODIFIED AS DIRECTED BY AT&T.
 2. ALL ON BASEBAND EQUIPMENT RACK.
 3. THE BARE GROUND WIRE OF EACH MULTI-CONDUCTOR CABLE SHALL BE CONNECTED TO THE "P" GROUND BAR ON THE RACK. WHEN A SHIELDED CABLE IS USED, THE DRAIN WIRE ALSO SHALL BE CONNECTED TO THE "P" GROUND BAR.
 4. CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN-TERMINATED AT RRU AND DC POWER PLANT.
 5. SEE LTE SCHEMATIC DIAGRAM DETAIL 1/E-1 FOR BREAKER RATING.

1
E-2
NOT TO SCALE

**STRUCTURAL ANALYSIS REPORT
MONOPOLE**



Prepared For:
Com-Ex Consultants, LLC
115 Route 46 - Suite E39
Mountain Lakes, NJ 07046



Structure Rating:

Monopole:	Pass
Foundation:	Pass

Sincerely,
Destek Engineering, LLC
Firm License No: PEC0001429

8-24-2018



Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

AT&T Site ID: CT2153
AT&T Site Name: Westport FD
FA Location Code: 10035241
515 Boston Post Road East
Westport, CT 06880

CONTENTS

1.0 - SUBJECT AND REFERENCES

1.1 - STRUCTURE

2.0 - EXISTING AND PROPOSED APPURTENANCES

3.0 - CODES AND LOADING

4.0 - STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING
STRUCTURES

5.0 - ANALYSIS AND ASSUMPTIONS

6.0 - RESULTS AND CONCLUSION

APPENDICES

A - SOFTWARE OUTPUT

1.0 SUBJECT AND REFERENCES

The purpose of this analysis is to evaluate the structural capacity of the 148 feet tall monopole tower located at 515 Boston Post Road East, Westport, CT 06880 for the additions and alterations proposed by AT&T.

The structural analysis is based on the following documentation provided to Destek Engineering, LLC (Destek):

- RFDS provided by AT&T, dated 10/16/2017.
- Construction Drawings prepared by Centek, dated 5/15/2018.
- Tower Drawings prepared by Summit Manufacturing, Inc., dated 2/24/1997.
- Foundation Drawings prepared by Summit Manufacturing, Inc., dated 2/24/1997.
- Subsurface Exploration Report prepared by Tower Engineering Professionals, Inc., dated 11/2/2012.
- Post-Construction Observation Report prepared by Paul J. Ford and Company, dated 3/4/2009.
- Modification Inspection Report prepared by Tower Engineering Professionals, Inc., dated 9/14/2011
- Structural Analysis Report prepared by Paul J. Ford and Company, dated 4/16/2015.

1.1 STRUCTURE

The subject structure is a 148' tall monopole tower consisting of (4) 12-sided bent plate tubes. Flat-to-flat dimensions range from 1'-10" at the top to 4'-1.92" at the base. The monopole tower is attached to the foundation with a base plate and anchor bolts. It is formed by the following sections:

Section Length (Feet)	Lap Splice (Inches)	Shaft Thickness (Inches)	Top Diameter (Inches)	Bottom Diameter (Inches)	Yield Strength (ksi)
47.50	48	0.2500	22.000	31.643	60
46.25	60	0.3750	30.331	39.720	60
34.50	69	0.4375	37.955	44.959	60
34.50	--	0.5000	42.916	49.920	60

2.0 EXISTING AND PROPOSED APPURTENANCES

Existing Configuration of AT&T Appurtenances:

Rad Center (ft.)	Antennas & Equipment	Coax	Mounts
120	(3) Powerwave 7770 (3) Quintel QS66512-2 (3) Powerwave P65-16-XLH-RR (6) Powerwave LGP21401 (3) RRUS-11 (3) RRUS-32 (3) RRUS-32 B2 (2) Raycap DC6-48-60-18-8F	(1) 3/8" (2) 5/8" (12) 1-5/8"	(1) Platform Mount

Proposed and Final Configuration of AT&T Appurtenances:

Rad Center (ft.)	Antennas & Equipment	Coax	Mounts
120	(3) Powerwave 7770 (3) Quintel QS66512-2 (3) CCI HPA-65R-BUU-H6 (6) Powerwave LGP21401 (3) RRUS-11 (3) RRUS-32 (3) RRUS-32 B2 (3) RRUS-32 B66 (2) Raycap DC6-48-60-18-8F	(1) 3/8" (2) 5/8" (12) 1-5/8"	(1) Platform Mount

Appurtenances by Others:

Rad Center (ft.)	Antennas & Equipment	Coax	Mounts
160	(1) Decibel DB420	(6) 5/16" (2) 1/2" (4) 1-1/4" (2) 2" Conduit	(1) Platform Mount
152	(2) Andrew VHLP800-11		
151	(3) Argus LLPX310R		
	(3) Samsung FDD_R6_RRH		
148	(3) 800 External Notch Filter		
	(3) 800Mhz RRH		
	(3) PCS 1900MHz 4x45W-65MHz		
	(9) RFS ACU-A20-N		
	(3) RFS APXVSP18-C-A20		
144	(3) TD-RRH8x20-25	(1) EW90	(1) Pipe Mount
	(3) RFS APXVTM14-C-120		

Appurtenances by Others (Continued):

Rad Center (ft.)	Antennas & Equipment	Coax	Mounts
110	(1) Celwave PD220	(5) 1/2" (8) 7/8"	(1) Platform Mount
108	(1) Decibel DB205-A		
107	(1) Decibel DB224		
	(1) Decibel DB420-B		
105	(1) Andrew DB806E-XT		
	(2) Celwave PD1110		
	(2) Celwave PD201-1		
90	(3) Celwave PD83-1	(18) 7/8" (6) 1-1/4"	(1) Platform Mount
82	(6) Andrew ETW190VS12UB		
	(9) EMS RR90-17-00DPL2		
	(3) RFS APXV18-206516S-C-A20		
72	(3) Kathrein 800 10504	(6) 1-5/8"	(3) Pipe Mounts
56	(1) Radiall Larsen BSA150B	(3) 1/2"	(1) Side Arm Mount
50	(1) Radiall Larsen BSA150B		
	(1) Trimble BULLET III		

3.0 CODES AND LOADING

The tower was analyzed per ANSI/TIA-222-G and 2016 Connecticut State Building Code. The following wind loading was used in compliance with the standard for Westport, CT:

- Basic wind speed 101 mph without ice (V)
- Basic wind speed 50 mph with 0.75" escalating ice (V_i)
- Exposure Category: B
- Topographic Category: 1
- Structure Class: III

The following load combinations were used with wind blowing at 0°, 30°, 60°, and 90°, measured from a line normal to the face of the tower:

- $1.2 D + 1.6 W_0$
- $0.9 D + 1.6 W_0$
- $1.2 D + 1.0 D_i + 1.0 W_i + 1.0 T_i$

D: Dead load of structures and appurtenances

D_i : Weight of ice due to factored ice thickness (based upon t_i)

T_i : Load effects due to temperature

W_0 : Wind load without ice (based upon V)

W_i : Wind load with ice (based upon V_i)

4.0 **STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES**

The analysis is based on the information provided to Destek and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Destek will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance.

The analysis does not include a qualification of the mounts attached on the structure or their connections. The analysis is performed to verify the capacity of the main structural members, which is the current practice in the tower industry.

The analysis results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require Destek to generate an additional structural analysis.

5.0 **ANALYSIS AND ASSUMPTIONS**

The tower was analyzed by utilizing tnxTower, a non-linear, three-dimensional, finite element-analysis software package, a product of Tower Numerics, Inc. Software output for this analysis is provided in Appendix A of this report.

The tower and foundation were constructed in accordance with their original design and maintained per the manufacturer's specifications. Tower is plumb and free of twist.

6.0 RESULTS AND CONCLUSION

Based on a structural analysis per ANSI/TIA-222-G, the existing monopole tower has **adequate** structural capacity for the proposed changes by AT&T. For the code specified load combinations and as a maximum, the tower shaft from 35.13' to 37.98' is stressed to **74.5%** of its structural capacity. The anchor bolts and base plate are stressed to **66.1%** and **39.3%** of capacity, respectively.

The tower foundation has **adequate** structural capacity for the proposed changes by AT&T. For the code specified load combinations and as a maximum, the base foundation is stressed to **59.4%** of its structural capacity.

Therefore, the proposed additions and alterations by AT&T **can** be implemented as intended and with the conditions outlined in this report.

Should you need any clarifications or have any questions about this report, please contact Ahmet Colakoglu at (770) 693-0835 or acolakoglu@destekengineering.com.

**APPENDIX A
SOFTWARE OUTPUT**

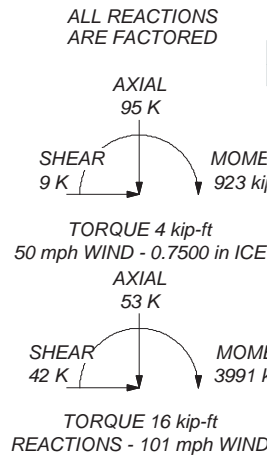
DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
DB420	148	RRUS 32 B2	120
LLPX310R w/ Mount Pipe	148	RRUS 32 B2	120
LLPX310R w/ Mount Pipe	148	RRUS 32 B2	120
LLPX310R w/ Mount Pipe	148	RRUS 32 B66	120
FDD_R6_RRH	148	RRUS 32 B66	120
FDD_R6_RRH	148	(2) DC6-48-60-18-8F	120
APXVTM14-C-120 w/ Mount Pipe	148	6' x 2" Mount Pipe	120
APXVTM14-C-120 w/ Mount Pipe	148	6' x 2" Mount Pipe	120
APXVTM14-C-120 w/ Mount Pipe	148	6' x 2" Mount Pipe	120
APXVSP18-C-A20 w/ Mount Pipe	148	Platform Mount [LP 712-1]	120
APXVSP18-C-A20 w/ Mount Pipe	148	7770.00 w/ Mount Pipe	120
APXVSP18-C-A20 w/ Mount Pipe	148	7770.00 w/ Mount Pipe	120
TD-RRH8x20-25	148	7770.00 w/ Mount Pipe	120
TD-RRH8x20-25	148	DB224	96
TD-RRH8x20-25	148	(2) PD1110	96
PCS 1900MHz 4x45W-65MHz	148	PD201-1	96
PCS 1900MHz 4x45W-65MHz	148	PD201-1	96
PCS 1900MHz 4x45W-65MHz	148	DB806E-XT	96
800MHZ RRH	148	(2) PD83-1	96
800MHZ RRH	148	PD83-1	96
800MHZ RRH	148	(4) 6' x 2" Mount Pipe	96
800 EXTERNAL NOTCH FILTER	148	(3) 6' x 2" Mount Pipe	96
800 EXTERNAL NOTCH FILTER	148	(3) 6' x 2" Mount Pipe	96
800 EXTERNAL NOTCH FILTER	148	Platform Mount [LP 712-1]	96
(3) ACU-A20-N	148	PD220	96
(3) ACU-A20-N	148	DB205-A	96
(3) ACU-A20-N	148	DB420-B	96
6' x 2" Mount Pipe	148	(2) ETW190VS12UB	82
6' x 2" Mount Pipe	148	(2) ETW190VS12UB	82
6' x 2" Mount Pipe	148	(2) ETW190VS12UB	82
Platform Mount [LP 712-1]	148	APXV18-206516S-C-A20 w/ Mount Pipe	82
Miscellaneous [NA 507-1]	148	APXV18-206516S-C-A20 w/ Mount Pipe	82
VHLP800-11	148	APXV18-206516S-C-A20 w/ Mount Pipe	82
VHLP800-11	148	APXV18-206516S-C-A20 w/ Mount Pipe	82
Pipe Mount [PM 601-1]	144	APXV18-206516S-C-A20 w/ Mount Pipe	82
VHLP2.5-10W	144	ATMAA1412D-1A20	82
QS66512-2 w/ Mount Pipe	120	ATMAA1412D-1A20	82
QS66512-2 w/ Mount Pipe	120	ATMAA1412D-1A20	82
QS66512-2 w/ Mount Pipe	120	Platform Mount [LP 712-1]	82
HPA-65R-BUU-H6 w/ Mount Pipe	120	(3) RR90-17-00DPL2 w/ Mount Pipe	82
HPA-65R-BUU-H6 w/ Mount Pipe	120	(3) RR90-17-00DPL2 w/ Mount Pipe	82
HPA-65R-BUU-H6 w/ Mount Pipe	120	(3) RR90-17-00DPL2 w/ Mount Pipe	82
(2) LGP21401	120	Pipe Mount [PM 601-3]	72
(2) LGP21401	120	800 10504 w/ Mount Pipe	72
(2) LGP21401	120	800 10504 w/ Mount Pipe	72
RRUS-11	120	800 10504 w/ Mount Pipe	72
RRUS-11	120	Side Arm Mount [SO 702-1]	53
RRUS-11	120	BSA150B	53
RRUS 32	120	BSA150B	53
RRUS 32	120	BULLET III	50
RRUS 32	120		

MATERIAL STRENGTH					
GRADE	Fy	Fu	GRADE	Fy	Fu
A607-60	60 ksi	75 ksi			

TOWER DESIGN NOTES

- Tower is located in Fairfield County, Connecticut.
- Tower designed for Exposure B to the TIA-222-G Standard.
- Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
- Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
- Deflections are based upon a 60 mph wind.
- Tower Structure Class III.
- Topographic Category 1 with Crest Height of 0.000 ft
- TOWER RATING: 74.5%



Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.000	12	0.2500	4.000	29.1054	29.1054	1.8	0.3
2	5.000	12	0.2500	4.000	24.1054	24.1054	1.8	0.3
3	5.000	12	0.2500	4.000	19.1054	19.1054	1.8	0.3
4	5.000	12	0.2500	4.000	14.1054	14.1054	1.8	0.3
5	5.000	12	0.2500	4.000	9.1054	9.1054	1.8	0.3
6	5.000	12	0.2500	4.000	4.1054	4.1054	1.8	0.3
7	5.000	12	0.2500	4.000	0.1054	0.1054	1.8	0.3
8	5.000	12	0.2500	4.000			1.8	0.3
9	5.000	12	0.2500	4.000			1.8	0.3
10	5.000	12	0.2500	4.000			1.8	0.3
11	5.000	12	0.2500	4.000			1.8	0.3
12	5.000	12	0.2500	4.000			1.8	0.3
13	5.000	12	0.2500	4.000			1.8	0.3
14	5.000	12	0.2500	4.000			1.8	0.3
15	5.000	12	0.2500	4.000			1.8	0.3
16	5.000	12	0.2500	4.000			1.8	0.3
17	5.000	12	0.2500	4.000			1.8	0.3
18	5.000	12	0.2500	4.000			1.8	0.3
19	5.000	12	0.2500	4.000			1.8	0.3
20	5.000	12	0.2500	4.000			1.8	0.3
21	5.000	12	0.2500	4.000			1.8	0.3
22	5.000	12	0.2500	4.000			1.8	0.3
23	5.000	12	0.2500	4.000			1.8	0.3
24	5.000	12	0.2500	4.000			1.8	0.3
25	5.000	12	0.2500	4.000			1.8	0.3
26	5.000	12	0.2500	4.000			1.8	0.3
27	5.000	12	0.2500	4.000			1.8	0.3
28	5.000	12	0.2500	4.000			1.8	0.3
29	5.000	12	0.2500	4.000			1.8	0.3
30	5.000	12	0.2500	4.000			1.8	0.3
31	5.000	12	0.2500	4.000			1.8	0.3
32	5.000	12	0.2500	4.000			1.8	0.3
33	5.000	12	0.2500	4.000			1.8	0.3
34	5.000	12	0.2500	4.000			1.8	0.3
35	5.000	12	0.2500	4.000			1.8	0.3
36	5.000	12	0.2500	4.000			1.8	0.3
37	5.000	12	0.2500	4.000			1.8	0.3
38	5.000	12	0.2500	4.000			1.8	0.3
39	5.000	12	0.2500	4.000			1.8	0.3
40	5.000	12	0.2500	4.000			1.8	0.3
41	5.000	12	0.2500	4.000			1.8	0.3

Destek Engineering, LLC
1281 Kennestone Circle, Ste. 100
Marietta, GA 30066
Phone: (770) 693-0835
FAX:

Job: **CT2153 - 10035241**
Project: **1829074**
Client: Com-Ex
Code: TIA-222-G
Path:

Drawn by: Ahmet Colakoglu
Date: 08/24/18

App'd:
Scale: NTS
Dwg No. E-1

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job CT2153 - 10035241	Page 1 of 38
	Project 1829074	Date 09:36:56 08/24/18
	Client Com-Ex	Designed by Ahmet Colakoglu

Tower Input Data

There is a pole section.

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

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Basic wind speed of 101 mph.

Structure Class III.

Exposure Category B.

Topographic Category 1.

Crest Height 0.000 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retention Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric		

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	148.000-143.000	5.000	0.00	12	22.0000	23.0151	0.2500	1.0000	A607-60 (60 ksi)
L2	143.000-138.000	5.000	0.00	12	23.0151	24.0301	0.2500	1.0000	A607-60 (60 ksi)

tnxTower

Destek Engineering, LLC
1281 Kennestone Circle, Ste. 100
Marietta, GA 30066
Phone: (770) 693-0835
FAX:

Job	CT2153 - 10035241	Page	2 of 38
Project	1829074	Date	09:36:56 08/24/18
Client	Com-Ex	Designed by	Ahmet Colakoglu

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	138.000-133.000	5.000	0.00	12	24.0301	25.0452	0.2500	1.0000	A607-60 (60 ksi)
L4	133.000-128.000	5.000	0.00	12	25.0452	26.0602	0.2500	1.0000	A607-60 (60 ksi)
L5	128.000-123.000	5.000	0.00	12	26.0602	27.0753	0.2500	1.0000	A607-60 (60 ksi)
L6	123.000-118.000	5.000	0.00	12	27.0753	28.0903	0.2500	1.0000	A607-60 (60 ksi)
L7	118.000-113.000	5.000	0.00	12	28.0903	29.1054	0.2500	1.0000	A607-60 (60 ksi)
L8	113.000-108.000	5.000	0.00	12	29.1054	30.1204	0.2500	1.0000	A607-60 (60 ksi)
L9	108.000-100.500	7.500	4.00	12	30.1204	31.6430	0.2500	1.0000	A607-60 (60 ksi)
L10	100.500-99.500	5.000	0.00	12	30.3310	31.3460	0.3750	1.5000	A607-60 (60 ksi)
L11	99.500-94.500	5.000	0.00	12	31.3460	32.3610	0.3750	1.5000	A607-60 (60 ksi)
L12	94.500-89.500	5.000	0.00	12	32.3610	33.3761	0.3750	1.5000	A607-60 (60 ksi)
L13	89.500-84.500	5.000	0.00	12	33.3761	34.3911	0.3750	1.5000	A607-60 (60 ksi)
L14	84.500-79.500	5.000	0.00	12	34.3911	35.4061	0.3750	1.5000	A607-60 (60 ksi)
L15	79.500-74.500	5.000	0.00	12	35.4061	36.4211	0.3750	1.5000	A607-60 (60 ksi)
L16	74.500-70.667	3.833	0.00	12	36.4211	37.1993	0.3750	1.5000	A607-60 (60 ksi)
L17	70.667-70.417	0.250	0.00	12	37.1993	37.2500	0.3750	1.5000	A607-60 (60 ksi)
L18	70.417-65.417	5.000	0.00	12	37.2500	38.2651	0.3750	1.5000	A607-60 (60 ksi)
L19	65.417-63.667	1.750	0.00	12	38.2651	38.6203	0.3750	1.5000	A607-60 (60 ksi)
L20	63.667-63.417	0.250	0.00	12	38.6203	38.6711	0.3750	1.5000	A607-60 (60 ksi)
L21	63.417-58.250	5.167	5.00	12	38.6711	39.7200	0.3750	1.5000	A607-60 (60 ksi)
L22	58.250-57.250	6.000	0.00	12	37.9550	39.1731	0.4375	1.7500	A607-60 (60 ksi)
L23	57.250-53.229	4.021	0.00	12	39.1731	39.9894	0.4375	1.7500	A607-60 (60 ksi)
L24	53.229-52.979	0.250	0.00	12	39.9894	40.0401	0.4375	1.7500	A607-60 (60 ksi)
L25	52.979-47.979	5.000	0.00	12	40.0401	41.0552	0.4375	1.7500	A607-60 (60 ksi)
L26	47.979-42.979	5.000	0.00	12	41.0552	42.0703	0.4375	1.7500	A607-60 (60 ksi)
L27	42.979-37.979	5.000	0.00	12	42.0703	43.0854	0.4375	1.7500	A607-60 (60 ksi)
L28	37.979-35.125	2.854	0.00	12	43.0854	43.6648	0.4375	1.7500	A607-60 (60 ksi)
L29	35.125-34.875	0.250	0.00	12	43.6648	43.7155	0.6375	2.5500	A607-60 (60 ksi)
L30	34.875-28.750	6.125	5.75	12	43.7155	44.9590	0.6375	2.5500	A607-60 (60 ksi)
L31	28.750-27.750	6.750	0.00	12	42.9167	44.2869	0.7000	2.8000	A607-60 (60 ksi)
L32	27.750-25.875	1.875	0.00	12	44.2869	44.6675	0.6875	2.7500	A607-60 (60 ksi)
L33	25.875-25.750	0.125	0.00	12	44.6675	44.6929	0.5000	2.0000	A607-60

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	3 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L34	25.750-25.625	0.125	0.00	12	44.6929	44.7182	0.7500	3.0000	(60 ksi) A607-60
L35	25.625-25.500	0.125	0.00	12	44.7182	44.7436	0.7500	3.0000	(60 ksi) A607-60
L36	25.500-20.500	5.000	0.00	12	44.7436	45.7586	0.7500	3.0000	(60 ksi) A607-60
L37	20.500-15.500	5.000	0.00	12	45.7586	46.7736	0.7375	2.9500	(60 ksi) A607-60
L38	15.500-10.500	5.000	0.00	12	46.7736	47.7885	0.7375	2.9500	(60 ksi) A607-60
L39	10.500-5.500	5.000	0.00	12	47.7885	48.8035	0.7250	2.9000	(60 ksi) A607-60
L40	5.500-0.500	5.000	0.00	12	48.8035	49.8185	0.7250	2.9000	(60 ksi) A607-60
L41	0.500-0.000	0.500		12	49.8185	49.9200	0.7250	2.9000	(60 ksi) A607-60

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	22.7761	17.5087	1057.2060	7.7865	11.3960	92.7699	2142.1860	8.6173	5.2260	20.904
L2	23.8269	18.3259	1212.2378	8.1499	11.9218	101.6825	2456.3223	9.0194	5.4980	21.992
	24.8778	19.1430	1381.7299	8.5133	12.4476	111.0038	2799.7593	9.4216	5.7701	23.08
L3	24.8778	19.1430	1381.7299	8.5133	12.4476	111.0038	2799.7593	9.4216	5.7701	23.08
	25.9287	19.9601	1566.3271	8.8767	12.9734	120.7338	3173.8034	9.8238	6.0421	24.168
L4	25.9287	19.9601	1566.3271	8.8767	12.9734	120.7338	3173.8034	9.8238	6.0421	24.168
	26.9795	20.7772	1766.6742	9.2401	13.4992	130.8726	3579.7609	10.2259	6.3141	25.257
L5	26.9795	20.7772	1766.6742	9.2401	13.4992	130.8726	3579.7609	10.2259	6.3141	25.257
	28.0304	21.5943	1983.4160	9.6034	14.0250	141.4202	4018.9385	10.6281	6.5862	26.345
L6	28.0304	21.5943	1983.4160	9.6034	14.0250	141.4202	4018.9385	10.6281	6.5862	26.345
	29.0812	22.4115	2217.1971	9.9668	14.5508	152.3765	4492.6424	11.0302	6.8582	27.433
L7	29.0812	22.4115	2217.1971	9.9668	14.5508	152.3765	4492.6424	11.0302	6.8582	27.433
	30.1321	23.2286	2468.6624	10.3302	15.0766	163.7415	5002.1793	11.4324	7.1302	28.521
L8	30.1321	23.2286	2468.6624	10.3302	15.0766	163.7415	5002.1793	11.4324	7.1302	28.521
	31.1830	24.0457	2738.4566	10.6936	15.6024	175.5153	5548.8555	11.8346	7.4023	29.609
L9	31.1830	24.0457	2738.4566	10.6936	15.6024	175.5153	5548.8555	11.8346	7.4023	29.609
	32.7592	25.2714	3178.9251	11.2387	16.3911	193.9425	6441.3640	12.4378	7.8103	31.241
L10	32.7592	25.2714	3178.9251	11.2387	16.3911	193.9425	6441.3640	12.4378	7.8103	31.241
	32.4518	37.3975	4578.6593	11.0876	16.2372	281.9854	9277.6051	18.4059	7.3957	19.722
L11	32.4518	37.3975	4578.6593	11.0876	16.2372	281.9854	9277.6051	18.4059	7.3957	19.722
	33.5026	38.6231	5043.7523	11.4510	16.7630	300.8859	10220.0095	19.0091	7.6678	20.447
L12	33.5026	38.6231	5043.7523	11.4510	16.7630	300.8859	10220.0095	19.0091	7.6678	20.447
	34.5534	39.8488	5539.3202	11.8144	17.2888	320.3994	11224.1644	19.6124	7.9398	21.173
L13	34.5534	39.8488	5539.3202	11.8144	17.2888	320.3994	11224.1644	19.6124	7.9398	21.173
	35.6043	41.0744	6066.3302	12.1778	17.8146	340.5261	12292.0296	20.2156	8.2118	21.898
L14	35.6043	41.0744	6066.3302	12.1778	17.8146	340.5261	12292.0296	20.2156	8.2118	21.898
	36.6551	42.3001	6625.7493	12.5411	18.3404	361.2659	13425.5645	20.8188	8.4838	22.624
L15	36.6551	42.3001	6625.7493	12.5411	18.3404	361.2659	13425.5645	20.8188	8.4838	22.624
	37.7059	43.5257	7218.5447	12.9045	18.8662	382.6188	14626.7286	21.4220	8.7559	23.349
L16	37.7059	43.5257	7218.5447	12.9045	18.8662	382.6188	14626.7286	21.4220	8.7559	23.349
	38.5115	44.4653	7696.1859	13.1831	19.2692	399.4030	15594.5591	21.8845	8.9644	23.905
L17	38.5115	44.4653	7696.1859	13.1831	19.2692	399.4030	15594.5591	21.8845	8.9644	23.905
	38.5641	44.5266	7728.0506	13.2013	19.2955	400.5103	15659.1258	21.9146	8.9780	23.941

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:</p>	Job	CT2153 - 10035241	Page	4 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L18	38.5641	44.5266	7728.0506	13.2013	19.2955	400.5103	15659.1258	21.9146	8.9780	23.941
	39.6149	45.7522	8383.9514	13.5646	19.8213	422.9769	16988.1586	22.5179	9.2500	24.667
L19	39.6149	45.7522	8383.9514	13.5646	19.8213	422.9769	16988.1586	22.5179	9.2500	24.667
	39.9827	46.1812	8621.9958	13.6918	20.0053	430.9851	17470.5011	22.7290	9.3452	24.921
L20	39.9827	46.1812	8621.9958	13.6918	20.0053	430.9851	17470.5011	22.7290	9.3452	24.921
	40.0352	46.2425	8656.3656	13.7100	20.0316	432.1352	17540.1436	22.7592	9.3588	24.957
L21	40.0352	46.2425	8656.3656	13.7100	20.0316	432.1352	17540.1436	22.7592	9.3588	24.957
	41.1212	47.5091	9387.3225	14.0855	20.5750	456.2499	19021.2604	23.3825	9.6400	25.707
L22	40.3448	52.8527	9495.5572	13.4313	19.6607	482.9721	19240.5733	26.0125	8.9994	20.57
	40.5549	54.5687	10450.7973	13.8673	20.2916	515.0296	21176.1487	26.8571	9.3259	21.316
L23	40.5549	54.5687	10450.7973	13.8673	20.2916	515.0296	21176.1487	26.8571	9.3259	21.316
	41.4001	55.7187	11125.5494	14.1596	20.7145	537.0899	22543.3793	27.4231	9.5447	21.816
L24	41.4001	55.7187	11125.5494	14.1596	20.7145	537.0899	22543.3793	27.4231	9.5447	21.816
	41.4526	55.7902	11168.4340	14.1777	20.7408	538.4767	22630.2752	27.4582	9.5583	21.847
L25	41.4526	55.7902	11168.4340	14.1777	20.7408	538.4767	22630.2752	27.4582	9.5583	21.847
	42.5035	57.2202	12049.4271	14.5411	21.2666	566.5892	24415.4061	28.1620	9.8303	22.469
L26	42.5035	57.2202	12049.4271	14.5411	21.2666	566.5892	24415.4061	28.1620	9.8303	22.469
	43.5544	58.6502	12975.5730	14.9045	21.7924	595.4170	26292.0287	28.8658	10.1023	23.091
L27	43.5544	58.6502	12975.5730	14.9045	21.7924	595.4170	26292.0287	28.8658	10.1023	23.091
	44.6053	60.0802	13948.0001	15.2679	22.3182	624.9602	28262.4296	29.5696	10.3744	23.713
L28	44.6053	60.0802	13948.0001	15.2679	22.3182	624.9602	28262.4296	29.5696	10.3744	23.713
	45.2051	60.8964	14524.2431	15.4754	22.6184	642.1441	29430.0543	29.9714	10.5297	24.068
L29	45.2051	60.8964	14524.2431	15.4754	22.6184	642.1441	29430.0543	29.9714	10.5297	24.068
	45.2576	88.3242	20871.4966	15.4038	22.6184	922.7681	42291.3107	43.4705	9.9937	15.676
L30	45.2576	88.3242	20871.4966	15.4038	22.6184	922.7681	42291.3107	43.4705	9.9937	15.676
	45.2576	88.4284	20945.4422	15.4219	22.6446	924.9623	42441.1444	43.5218	10.0073	15.698
L31	45.2576	88.4284	20945.4422	15.4219	22.6446	924.9623	42441.1444	43.5218	10.0073	15.698
	46.5450	90.9810	22812.1050	15.8671	23.2888	979.5327	46223.5093	44.7781	10.3405	16.22
L32	46.5450	90.9810	22812.1050	15.8671	23.2888	979.5327	46223.5093	44.7781	10.3405	16.22
	45.6390	95.1564	21646.6910	15.1136	22.2308	973.7239	43862.0647	46.8331	9.6257	13.751
L33	45.6390	95.1564	21646.6910	15.1136	22.2308	973.7239	43862.0647	46.8331	9.6257	13.751
	45.8492	98.2448	23823.5899	15.6041	22.9406	1038.4901	48273.0521	48.3531	9.9929	14.276
L34	45.8492	98.2448	23823.5899	15.6041	22.9406	1038.4901	48273.0521	48.3531	9.9929	14.276
	46.2432	96.5181	23418.3051	15.6086	22.9406	1020.8234	47451.8351	47.5033	10.0264	14.584
L35	46.2432	96.5181	23418.3051	15.6086	22.9406	1020.8234	47451.8351	47.5033	10.0264	14.584
	46.2432	97.3607	24036.9900	15.7448	23.1378	1038.8640	48705.4585	47.9180	10.1284	14.732
L36	46.2432	97.3607	24036.9900	15.7448	23.1378	1038.8640	48705.4585	47.9180	10.1284	14.732
	46.2695	71.1097	17705.9879	15.8120	23.1378	765.2420	35877.1318	34.9980	10.6309	21.262
L37	46.2695	71.1097	17705.9879	15.8120	23.1378	765.2420	35877.1318	34.9980	10.6309	21.262
	46.2695	71.1505	17736.5219	15.8210	23.1509	766.1264	35939.0020	35.0181	10.6377	21.275
L38	46.2695	71.1505	17736.5219	15.8210	23.1509	766.1264	35939.0020	35.0181	10.6377	21.275
	46.2695	106.1220	26155.8208	15.7315	23.1509	1129.7968	52998.7842	52.2300	9.9677	13.29
L39	46.2695	106.1220	26155.8208	15.7315	23.1509	1129.7968	52998.7842	52.2300	9.9677	13.29
	46.2957	106.1833	26201.1573	15.7406	23.1641	1131.1129	53090.6482	52.2602	9.9745	13.299
L40	46.2957	106.1833	26201.1573	15.7406	23.1641	1131.1129	53090.6482	52.2602	9.9745	13.299
	46.3220	106.2446	26246.5462	15.7497	23.1772	1132.4298	53182.6184	52.2904	9.9813	13.308
L41	46.3220	106.2446	26246.5462	15.7497	23.1772	1132.4298	53182.6184	52.2904	9.9813	13.308
	47.3728	108.6958	28105.3812	16.1131	23.7030	1185.7333	56949.1220	53.4967	10.2533	13.671
L42	47.3728	108.6958	28105.3812	16.1131	23.7030	1185.7333	56949.1220	53.4967	10.2533	13.671
	47.3728	106.9138	27659.9910	16.1176	23.7030	1166.9428	56046.6407	52.6197	10.2868	13.948
L43	47.3728	106.9138	27659.9910	16.1176	23.7030	1166.9428	56046.6407	52.6197	10.2868	13.948
	48.4236	109.3242	29573.2220	16.4809	24.2287	1220.5859	59923.3654	53.8060	10.5588	14.317
L44	48.4236	109.3242	29573.2220	16.4809	24.2287	1220.5859	59923.3654	53.8060	10.5588	14.317
	49.4743	111.7345	31572.7042	16.8443	24.7545	1275.4345	63974.8586	54.9923	10.8308	14.686
L45	49.4743	111.7345	31572.7042	16.8443	24.7545	1275.4345	63974.8586	54.9923	10.8308	14.686
	49.4743	109.8699	31062.3174	16.8488	24.7545	1254.8166	62940.6764	54.0746	10.8643	14.985
L46	49.4743	109.8699	31062.3174	16.8488	24.7545	1254.8166	62940.6764	54.0746	10.8643	14.985
	50.5251	112.2393	33115.6478	17.2121	25.2802	1309.9427	67101.2805	55.2408	11.1363	15.36
L47	50.5251	112.2393	33115.6478	17.2121	25.2802	1309.9427	67101.2805	55.2408	11.1363	15.36
	51.5759	114.6088	35257.5293	17.5755	25.8060	1366.2540	71441.3132	56.4070	11.4084	15.736
L48	51.5759	114.6088	35257.5293	17.5755	25.8060	1366.2540	71441.3132	56.4070	11.4084	15.736
	51.6810	114.8457	35476.6598	17.6118	25.8586	1371.9503	71885.3309	56.5236	11.4356	15.773
L49	51.6810	114.8457	35476.6598	17.6118	25.8586	1371.9503	71885.3309	56.5236	11.4356	15.773

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1				1	1	1			
148.000-143.000									
L2				1	1	1			
143.000-138.000									
L3				1	1	1			

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	6 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
L29				1	1	0.965503			
35.125-34.875									
L30				1	1	0.96501			
34.875-28.750									
L31				1	1	0.966024			
28.750-27.750									
L32				1	1	0.98109			
27.750-25.875									
L33				1	1	1			
25.875-25.750									
L34				1	1	0.976971			
25.750-25.625									
L35				1	1	0.976792			
25.625-25.500									
L36				1	1	0.969798			
25.500-20.500									
L37				1	1	0.979171			
20.500-15.500									
L38				1	1	0.972673			
15.500-10.500									
L39				1	1	0.982858			
10.500-5.500									
L40				1	1	0.976796			
5.500-0.500									
L41				1	1	0.976203			
0.500-0.000									

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf

1.25" x 6.5" Flat Plate Reinf.	A	Surface Ar (CaAa)	35.125 - 0.000	1	1	0.000 0.000	6.5000		0.00
1.25" x 6.5" Flat Plate Reinf.	B	Surface Ar (CaAa)	35.125 - 0.000	1	1	0.000 0.000	6.5000		0.00
1.25" x 6.5" Flat Plate Reinf.	C	Surface Ar (CaAa)	28.500 - 0.000	1	1	-0.250 -0.250	6.5000		0.00
1.25" x 6.5" Flat Plate Reinf.	C	Surface Ar (CaAa)	28.500 - 0.000	1	1	0.250 0.250	6.5000		0.00
1.25" x 6.5" Flat Plate Reinf.	C	Surface Ar (CaAa)	35.125 - 23.125	1	1	0.000 0.000	6.5000		0.00
1" x 6" Flat Plate Reinf.	A	Surface Ar (CaAa)	55.229 - 35.125	1	1	0.000 0.000	6.0000		0.00
1" x 6" Flat Plate Reinf.	B	Surface Ar (CaAa)	55.229 - 35.125	1	1	0.000 0.000	6.0000		0.00
1" x 6" Flat Plate Reinf.	C	Surface Ar (CaAa)	55.229 - 35.125	1	1	0.000 0.000	6.0000		0.00
1" x 4.5" Flat Plate Reinf.	A	Surface Ar (CaAa)	72.167 - 62.167	1	1	0.500 0.500	4.5000		0.00
1" x 4.5" Flat Plate Reinf.	B	Surface Ar (CaAa)	72.167 - 62.167	1	1	0.500 0.500	4.5000		0.00
1" x 4.5" Flat Plate Reinf.	C	Surface Ar (CaAa)	72.167 - 62.167	1	1	0.500 0.500	4.5000		0.00

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	7 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
		(CaAa)					0.500		

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
MLE Hybrid	C	No	Inside Pole	148.000 - 0.000	3	No Ice	0.000	0.68
3Power/6Fiber RL						1/2" Ice	0.000	0.68
2(1-1/4")						1" Ice	0.000	0.68
HB114-21U3M12-XXX	C	No	Inside Pole	148.000 - 0.000	1	No Ice	0.000	1.22
F(1-1/4")						1/2" Ice	0.000	1.22
						1" Ice	0.000	1.22
7983A(1/2")	C	No	Inside Pole	148.000 - 0.000	2	No Ice	0.000	0.08
						1/2" Ice	0.000	0.08
						1" Ice	0.000	0.08
9207(5/16")	C	No	Inside Pole	148.000 - 0.000	6	No Ice	0.000	0.60
						1/2" Ice	0.000	0.60
						1" Ice	0.000	0.60
2" Rigid Conduit	C	No	Inside Pole	148.000 - 0.000	2	No Ice	0.000	2.80
						1/2" Ice	0.000	2.80
						1" Ice	0.000	2.80

EW90(ELLIPTICAL)	C	No	Inside Pole	144.000 - 0.000	1	No Ice	0.000	0.32
						1/2" Ice	0.000	0.32
						1" Ice	0.000	0.32

LDF7-50A(1-5/8")	C	No	Inside Pole	120.000 - 0.000	12	No Ice	0.000	0.82
						1/2" Ice	0.000	0.82
						1" Ice	0.000	0.82
FB-L98-002-XXX(3/8")	C	No	Inside Pole	120.000 - 0.000	2	No Ice	0.000	0.06
						1/2" Ice	0.000	0.06
						1" Ice	0.000	0.06
WR-VG82ST-BRDA(5/8")	C	No	Inside Pole	120.000 - 0.000	1	No Ice	0.000	0.31
						1/2" Ice	0.000	0.31
						1" Ice	0.000	0.31

LDF4-50A(1/2")	C	No	Inside Pole	96.000 - 0.000	5	No Ice	0.000	0.15
						1/2" Ice	0.000	0.15
						1" Ice	0.000	0.15
LDF5-50A(7/8")	C	No	Inside Pole	96.000 - 0.000	7	No Ice	0.000	0.33
						1/2" Ice	0.000	0.33
						1" Ice	0.000	0.33

LDF5-50A(7/8")	C	No	Inside Pole	82.000 - 0.000	12	No Ice	0.000	0.33
						1/2" Ice	0.000	0.33
						1" Ice	0.000	0.33

HJ7-50A(1-5/8")	C	No	Inside Pole	72.000 - 0.000	6	No Ice	0.000	1.04
						1/2" Ice	0.000	1.04
						1" Ice	0.000	1.04

LDF4-50A(1/2")	C	No	Inside Pole	53.000 - 0.000	2	No Ice	0.000	0.15
						1/2" Ice	0.000	0.15
						1" Ice	0.000	0.15
LDF4-50A(1/2")	C	No	Inside Pole	53.000 - 0.000	1	No Ice	0.000	0.15
						1/2" Ice	0.000	0.15
						1" Ice	0.000	0.15

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job CT2153 - 10035241	Page 8 of 38
	Project 1829074	Date 09:36:56 08/24/18
	Client Com-Ex	Designed by Ahmet Colakoglu

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C _{AA} ft ² /ft	Weight plf

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	148.000-143.000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L2	143.000-138.000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L3	138.000-133.000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L4	133.000-128.000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L5	128.000-123.000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L6	123.000-118.000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.09
L7	118.000-113.000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.12
L8	113.000-108.000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.12
L9	108.000-100.500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.17
L10	100.500-99.500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L11	99.500-94.500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.12
L12	94.500-89.500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.13
L13	89.500-84.500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.13
L14	84.500-79.500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.14
L15	79.500-74.500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.15
L16	74.500-70.667	A	0.000	0.000	0.561	0.000	0.00
		B	0.000	0.000	0.561	0.000	0.00
		C	0.000	0.000	0.561	0.000	0.12
L17	70.667-70.417	A	0.000	0.000	0.094	0.000	0.00
		B	0.000	0.000	0.094	0.000	0.00
		C	0.000	0.000	0.094	0.000	0.01

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	9 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L18	70.417-65.417	A	0.000	0.000	1.885	0.000	0.00
		B	0.000	0.000	1.885	0.000	0.00
		C	0.000	0.000	1.885	0.000	0.18
L19	65.417-63.667	A	0.000	0.000	0.664	0.000	0.00
		B	0.000	0.000	0.664	0.000	0.00
		C	0.000	0.000	0.664	0.000	0.06
L20	63.667-63.417	A	0.000	0.000	0.095	0.000	0.00
		B	0.000	0.000	0.095	0.000	0.00
		C	0.000	0.000	0.095	0.000	0.01
L21	63.417-58.250	A	0.000	0.000	0.476	0.000	0.00
		B	0.000	0.000	0.476	0.000	0.00
		C	0.000	0.000	0.476	0.000	0.19
L22	58.250-57.250	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.04
L23	57.250-53.229	A	0.000	0.000	0.778	0.000	0.00
		B	0.000	0.000	0.778	0.000	0.00
		C	0.000	0.000	0.778	0.000	0.15
L24	53.229-52.979	A	0.000	0.000	0.098	0.000	0.00
		B	0.000	0.000	0.098	0.000	0.00
		C	0.000	0.000	0.098	0.000	0.01
L25	52.979-47.979	A	0.000	0.000	1.966	0.000	0.00
		B	0.000	0.000	1.966	0.000	0.00
		C	0.000	0.000	1.966	0.000	0.18
L26	47.979-42.979	A	0.000	0.000	1.996	0.000	0.00
		B	0.000	0.000	1.996	0.000	0.00
		C	0.000	0.000	1.996	0.000	0.18
L27	42.979-37.979	A	0.000	0.000	2.029	0.000	0.00
		B	0.000	0.000	2.029	0.000	0.00
		C	0.000	0.000	2.029	0.000	0.18
L28	37.979-35.125	A	0.000	0.000	1.175	0.000	0.00
		B	0.000	0.000	1.175	0.000	0.00
		C	0.000	0.000	1.175	0.000	0.11
L29	35.125-34.875	A	0.000	0.000	0.104	0.000	0.00
		B	0.000	0.000	0.104	0.000	0.00
		C	0.000	0.000	0.101	0.000	0.01
L30	34.875-28.750	A	0.000	0.000	2.573	0.000	0.00
		B	0.000	0.000	2.573	0.000	0.00
		C	0.000	0.000	2.516	0.000	0.23
L31	28.750-27.750	A	0.000	0.000	0.424	0.000	0.00
		B	0.000	0.000	0.424	0.000	0.00
		C	0.000	0.000	1.050	0.000	0.04
L32	27.750-25.875	A	0.000	0.000	0.795	0.000	0.00
		B	0.000	0.000	0.795	0.000	0.00
		C	0.000	0.000	2.366	0.000	0.07
L33	25.875-25.750	A	0.000	0.000	0.053	0.000	0.00
		B	0.000	0.000	0.053	0.000	0.00
		C	0.000	0.000	0.158	0.000	0.00
L34	25.750-25.625	A	0.000	0.000	0.053	0.000	0.00
		B	0.000	0.000	0.053	0.000	0.00
		C	0.000	0.000	0.158	0.000	0.00
L35	25.625-25.500	A	0.000	0.000	0.053	0.000	0.00
		B	0.000	0.000	0.053	0.000	0.00
		C	0.000	0.000	0.158	0.000	0.00
L36	25.500-20.500	A	0.000	0.000	2.119	0.000	0.00
		B	0.000	0.000	2.119	0.000	0.00
		C	0.000	0.000	5.221	0.000	0.18
L37	20.500-15.500	A	0.000	0.000	2.119	0.000	0.00
		B	0.000	0.000	2.119	0.000	0.00
		C	0.000	0.000	4.238	0.000	0.18
L38	15.500-10.500	A	0.000	0.000	2.119	0.000	0.00

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	10 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L39	10.500-5.500	B	0.000	0.000	2.119	0.000	0.00
		C	0.000	0.000	4.238	0.000	0.18
		A	0.000	0.000	2.119	0.000	0.00
L40	5.500-0.500	B	0.000	0.000	2.119	0.000	0.00
		C	0.000	0.000	4.238	0.000	0.18
		A	0.000	0.000	2.119	0.000	0.00
L41	0.500-0.000	B	0.000	0.000	2.119	0.000	0.00
		C	0.000	0.000	4.238	0.000	0.18
		A	0.000	0.000	0.212	0.000	0.00
		B	0.000	0.000	0.212	0.000	0.00
		C	0.000	0.000	0.424	0.000	0.02

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	148.000-143.000	A	2.175	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L2	143.000-138.000	A	2.167	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L3	138.000-133.000	A	2.159	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L4	133.000-128.000	A	2.151	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L5	128.000-123.000	A	2.143	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L6	123.000-118.000	A	2.134	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.09
L7	118.000-113.000	A	2.125	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.12
L8	113.000-108.000	A	2.116	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.12
L9	108.000-100.500	A	2.104	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.17
L10	100.500-99.500	A	2.095	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02
L11	99.500-94.500	A	2.088	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.12
L12	94.500-89.500	A	2.077	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.13
L13	89.500-84.500	A	2.066	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.13
L14	84.500-79.500	A	2.054	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	11 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L15	79.500-74.500	C		0.000	0.000	0.000	0.000	0.14
		A	2.041	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.15
L16	74.500-70.667	A	2.029	0.000	0.000	1.034	0.000	0.02
		B		0.000	0.000	1.034	0.000	0.02
		C		0.000	0.000	1.034	0.000	0.15
L17	70.667-70.417	A	2.023	0.000	0.000	0.172	0.000	0.00
		B		0.000	0.000	0.172	0.000	0.00
		C		0.000	0.000	0.172	0.000	0.01
L18	70.417-65.417	A	2.015	0.000	0.000	3.439	0.000	0.08
		B		0.000	0.000	3.439	0.000	0.08
		C		0.000	0.000	3.439	0.000	0.26
L19	65.417-63.667	A	2.005	0.000	0.000	1.202	0.000	0.03
		B		0.000	0.000	1.202	0.000	0.03
		C		0.000	0.000	1.202	0.000	0.09
L20	63.667-63.417	A	2.002	0.000	0.000	0.172	0.000	0.00
		B		0.000	0.000	0.172	0.000	0.00
		C		0.000	0.000	0.172	0.000	0.01
L21	63.417-58.250	A	1.993	0.000	0.000	0.857	0.000	0.02
		B		0.000	0.000	0.857	0.000	0.02
		C		0.000	0.000	0.857	0.000	0.21
L22	58.250-57.250	A	1.983	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.04
L23	57.250-53.229	A	1.974	0.000	0.000	1.977	0.000	0.04
		B		0.000	0.000	1.977	0.000	0.04
		C		0.000	0.000	1.977	0.000	0.19
L24	53.229-52.979	A	1.966	0.000	0.000	0.247	0.000	0.00
		B		0.000	0.000	0.247	0.000	0.00
		C		0.000	0.000	0.247	0.000	0.01
L25	52.979-47.979	A	1.956	0.000	0.000	4.932	0.000	0.10
		B		0.000	0.000	4.932	0.000	0.10
		C		0.000	0.000	4.932	0.000	0.28
L26	47.979-42.979	A	1.936	0.000	0.000	4.920	0.000	0.09
		B		0.000	0.000	4.920	0.000	0.09
		C		0.000	0.000	4.920	0.000	0.28
L27	42.979-37.979	A	1.914	0.000	0.000	4.908	0.000	0.09
		B		0.000	0.000	4.908	0.000	0.09
		C		0.000	0.000	4.908	0.000	0.28
L28	37.979-35.125	A	1.894	0.000	0.000	2.794	0.000	0.05
		B		0.000	0.000	2.794	0.000	0.05
		C		0.000	0.000	2.794	0.000	0.16
L29	35.125-34.875	A	1.886	0.000	0.000	0.257	0.000	0.00
		B		0.000	0.000	0.257	0.000	0.00
		C		0.000	0.000	0.206	0.000	0.01
L30	34.875-28.750	A	1.868	0.000	0.000	6.270	0.000	0.12
		B		0.000	0.000	6.270	0.000	0.12
		C		0.000	0.000	5.043	0.000	0.34
L31	28.750-27.750	A	1.846	0.000	0.000	1.024	0.000	0.02
		B		0.000	0.000	1.024	0.000	0.02
		C		0.000	0.000	2.360	0.000	0.08
L32	27.750-25.875	A	1.836	0.000	0.000	1.907	0.000	0.04
		B		0.000	0.000	1.907	0.000	0.04
		C		0.000	0.000	5.352	0.000	0.17
L33	25.875-25.750	A	1.830	0.000	0.000	0.127	0.000	0.00
		B		0.000	0.000	0.127	0.000	0.00
		C		0.000	0.000	0.356	0.000	0.01
L34	25.750-25.625	A	1.829	0.000	0.000	0.127	0.000	0.00
		B		0.000	0.000	0.127	0.000	0.00
		C		0.000	0.000	0.356	0.000	0.01

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job CT2153 - 10035241	Page 12 of 38
	Project 1829074	Date 09:36:56 08/24/18
	Client Com-Ex	Designed by Ahmet Colakoglu

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L35	25.625-25.500	A	1.828	0.000	0.000	0.127	0.000	0.00
		B		0.000	0.000	0.127	0.000	0.00
		C		0.000	0.000	0.356	0.000	0.01
L36	25.500-20.500	A	1.808	0.000	0.000	5.058	0.000	0.09
		B		0.000	0.000	5.058	0.000	0.09
		C		0.000	0.000	12.057	0.000	0.41
L37	20.500-15.500	A	1.765	0.000	0.000	5.015	0.000	0.09
		B		0.000	0.000	5.015	0.000	0.09
		C		0.000	0.000	10.029	0.000	0.36
L38	15.500-10.500	A	1.708	0.000	0.000	4.958	0.000	0.09
		B		0.000	0.000	4.958	0.000	0.09
		C		0.000	0.000	9.916	0.000	0.36
L39	10.500-5.500	A	1.627	0.000	0.000	4.877	0.000	0.08
		B		0.000	0.000	4.877	0.000	0.08
		C		0.000	0.000	9.754	0.000	0.35
L40	5.500-0.500	A	1.475	0.000	0.000	4.725	0.000	0.07
		B		0.000	0.000	4.725	0.000	0.07
		C		0.000	0.000	9.450	0.000	0.33
L41	0.500-0.000	A	1.151	0.000	0.000	0.440	0.000	0.01
		B		0.000	0.000	0.440	0.000	0.01
		C		0.000	0.000	0.880	0.000	0.03

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	148.000-143.000	0.0000	0.0000	0.0000	0.0000
L2	143.000-138.000	0.0000	0.0000	0.0000	0.0000
L3	138.000-133.000	0.0000	0.0000	0.0000	0.0000
L4	133.000-128.000	0.0000	0.0000	0.0000	0.0000
L5	128.000-123.000	0.0000	0.0000	0.0000	0.0000
L6	123.000-118.000	0.0000	0.0000	0.0000	0.0000
L7	118.000-113.000	0.0000	0.0000	0.0000	0.0000
L8	113.000-108.000	0.0000	0.0000	0.0000	0.0000
L9	108.000-100.500	0.0000	0.0000	0.0000	0.0000
L10	100.500-99.500	0.0000	0.0000	0.0000	0.0000
L11	99.500-94.500	0.0000	0.0000	0.0000	0.0000
L12	94.500-89.500	0.0000	0.0000	0.0000	0.0000
L13	89.500-84.500	0.0000	0.0000	0.0000	0.0000
L14	84.500-79.500	0.0000	0.0000	0.0000	0.0000
L15	79.500-74.500	0.0000	0.0000	0.0000	0.0000
L16	74.500-70.667	0.0000	0.0000	0.0000	0.0000
L17	70.667-70.417	0.0000	0.0000	0.0000	0.0000
L18	70.417-65.417	0.0000	0.0000	0.0000	0.0000
L19	65.417-63.667	0.0000	0.0000	0.0000	0.0000
L20	63.667-63.417	0.0000	0.0000	0.0000	0.0000
L21	63.417-58.250	0.0000	0.0000	0.0000	0.0000
L22	58.250-57.250	0.0000	0.0000	0.0000	0.0000
L23	57.250-53.229	0.0000	0.0000	0.0000	0.0000
L24	53.229-52.979	0.0000	0.0000	0.0000	0.0000
L25	52.979-47.979	0.0000	0.0000	0.0000	0.0000
L26	47.979-42.979	0.0000	0.0000	0.0000	0.0000
L27	42.979-37.979	0.0000	0.0000	0.0000	0.0000
L28	37.979-35.125	0.0000	0.0000	0.0000	0.0000
L29	35.125-34.875	0.0000	-0.0109	0.0000	-0.1819
L30	34.875-28.750	0.0000	-0.0116	0.0000	-0.1817

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	13 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section	Elevation	CP _x	CP _z	CP _x	CP _z
	ft	in	in	Ice in	Ice in
L31	28.750-27.750	0.0000	0.6005	0.0000	0.8401
L32	27.750-25.875	0.0000	0.7762	0.0000	1.1037
L33	25.875-25.750	0.0000	0.7770	0.0000	1.1056
L34	25.750-25.625	0.0000	0.7771	0.0000	1.1059
L35	25.625-25.500	0.0000	0.7772	0.0000	1.1061
L36	25.500-20.500	0.0000	0.5647	0.0000	0.8434
L37	20.500-15.500	0.0000	0.3598	0.0000	0.5836
L38	15.500-10.500	0.0000	0.3612	0.0000	0.5858
L39	10.500-5.500	0.0000	0.3625	0.0000	0.5865
L40	5.500-0.500	0.0000	0.3638	0.0000	0.5829
L41	0.500-0.000	0.0000	0.3645	0.0000	0.5664

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L16	32	1" x 4.5" Flat Plate Reinf.	70.67 - 72.17	1.0000	1.0000
L16	33	1" x 4.5" Flat Plate Reinf.	70.67 - 72.17	1.0000	1.0000
L16	34	1" x 4.5" Flat Plate Reinf.	70.67 - 72.17	1.0000	1.0000
L17	32	1" x 4.5" Flat Plate Reinf.	70.42 - 70.67	1.0000	1.0000
L17	33	1" x 4.5" Flat Plate Reinf.	70.42 - 70.67	1.0000	1.0000
L17	34	1" x 4.5" Flat Plate Reinf.	70.42 - 70.67	1.0000	1.0000
L18	32	1" x 4.5" Flat Plate Reinf.	65.42 - 70.42	1.0000	1.0000
L18	33	1" x 4.5" Flat Plate Reinf.	65.42 - 70.42	1.0000	1.0000
L18	34	1" x 4.5" Flat Plate Reinf.	65.42 - 70.42	1.0000	1.0000
L19	32	1" x 4.5" Flat Plate Reinf.	63.67 - 65.42	1.0000	1.0000
L19	33	1" x 4.5" Flat Plate Reinf.	63.67 - 65.42	1.0000	1.0000
L19	34	1" x 4.5" Flat Plate Reinf.	63.67 - 65.42	1.0000	1.0000
L20	32	1" x 4.5" Flat Plate Reinf.	63.42 - 63.67	1.0000	1.0000
L20	33	1" x 4.5" Flat Plate Reinf.	63.42 - 63.67	1.0000	1.0000
L20	34	1" x 4.5" Flat Plate Reinf.	63.42 - 63.67	1.0000	1.0000
L21	32	1" x 4.5" Flat Plate Reinf.	62.17 - 63.42	1.0000	1.0000
L21	33	1" x 4.5" Flat Plate Reinf.	62.17 - 63.42	1.0000	1.0000
L21	34	1" x 4.5" Flat Plate Reinf.	62.17 - 63.42	1.0000	1.0000
L23	29	1" x 6" Flat Plate Reinf.	53.23 - 55.23	1.0000	1.0000
L23	30	1" x 6" Flat Plate Reinf.	53.23 - 55.23	1.0000	1.0000
L23	31	1" x 6" Flat Plate Reinf.	53.23 - 55.23	1.0000	1.0000
L24	29	1" x 6" Flat Plate Reinf.	52.98 - 53.23	1.0000	1.0000
L24	30	1" x 6" Flat Plate Reinf.	52.98 - 53.23	1.0000	1.0000
L24	31	1" x 6" Flat Plate Reinf.	52.98 - 53.23	1.0000	1.0000
L25	29	1" x 6" Flat Plate Reinf.	47.98 - 52.98	1.0000	1.0000
L25	30	1" x 6" Flat Plate Reinf.	47.98 - 52.98	1.0000	1.0000
L25	31	1" x 6" Flat Plate Reinf.	47.98 - 52.98	1.0000	1.0000
L26	29	1" x 6" Flat Plate Reinf.	42.98 - 47.98	1.0000	1.0000
L26	30	1" x 6" Flat Plate Reinf.	42.98 - 47.98	1.0000	1.0000
L26	31	1" x 6" Flat Plate Reinf.	42.98 - 47.98	1.0000	1.0000
L27	29	1" x 6" Flat Plate Reinf.	37.98 - 42.98	1.0000	1.0000
L27	30	1" x 6" Flat Plate Reinf.	37.98 - 42.98	1.0000	1.0000
L27	31	1" x 6" Flat Plate Reinf.	37.98 - 42.98	1.0000	1.0000
L28	29	1" x 6" Flat Plate Reinf.	35.13 - 37.98	1.0000	1.0000
L28	30	1" x 6" Flat Plate Reinf.	35.13 - 37.98	1.0000	1.0000
L28	31	1" x 6" Flat Plate Reinf.	35.13 - 37.98	1.0000	1.0000
L29	24	1.25" x 6.5" Flat Plate Reinf.	34.88 - 35.13	1.0000	1.0000
L29	25	1.25" x 6.5" Flat Plate Reinf.	34.88 - 35.13	1.0000	1.0000
L29	28	1.25" x 6.5" Flat Plate Reinf.	34.88 - 35.13	1.0000	1.0000

<p style="text-align: center;">tnxTower</p> <p>Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:</p>	Job	CT2153 - 10035241	Page	14 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L30	24	1.25" x 6.5" Flat Plate Reinf.	28.75 - 34.88	1.0000	1.0000
L30	25	1.25" x 6.5" Flat Plate Reinf.	28.75 - 34.88	1.0000	1.0000
L30	28	1.25" x 6.5" Flat Plate Reinf.	28.75 - 34.88	1.0000	1.0000
L30	26	1.25" x 6.5" Flat Plate Reinf.	28.75 - 28.50	1.0000	1.0000
L30	27	1.25" x 6.5" Flat Plate Reinf.	28.75 - 28.50	1.0000	1.0000
L32	24	1.25" x 6.5" Flat Plate Reinf.	25.88 - 27.75	1.0000	1.0000
L32	25	1.25" x 6.5" Flat Plate Reinf.	25.88 - 27.75	1.0000	1.0000
L32	26	1.25" x 6.5" Flat Plate Reinf.	25.88 - 27.75	1.0000	1.0000
L32	27	1.25" x 6.5" Flat Plate Reinf.	25.88 - 27.75	1.0000	1.0000
L32	28	1.25" x 6.5" Flat Plate Reinf.	25.88 - 27.75	1.0000	1.0000
L33	24	1.25" x 6.5" Flat Plate Reinf.	25.75 - 25.88	1.0000	1.0000
L33	25	1.25" x 6.5" Flat Plate Reinf.	25.75 - 25.88	1.0000	1.0000
L33	26	1.25" x 6.5" Flat Plate Reinf.	25.75 - 25.88	1.0000	1.0000
L33	27	1.25" x 6.5" Flat Plate Reinf.	25.75 - 25.88	1.0000	1.0000
L33	28	1.25" x 6.5" Flat Plate Reinf.	25.75 - 25.88	1.0000	1.0000
L34	24	1.25" x 6.5" Flat Plate Reinf.	25.63 - 25.75	1.0000	1.0000
L34	25	1.25" x 6.5" Flat Plate Reinf.	25.63 - 25.75	1.0000	1.0000
L34	26	1.25" x 6.5" Flat Plate Reinf.	25.63 - 25.75	1.0000	1.0000
L34	27	1.25" x 6.5" Flat Plate Reinf.	25.63 - 25.75	1.0000	1.0000
L34	28	1.25" x 6.5" Flat Plate Reinf.	25.63 - 25.75	1.0000	1.0000
L35	24	1.25" x 6.5" Flat Plate Reinf.	25.50 - 25.63	1.0000	1.0000
L35	25	1.25" x 6.5" Flat Plate Reinf.	25.50 - 25.63	1.0000	1.0000
L35	26	1.25" x 6.5" Flat Plate Reinf.	25.50 - 25.63	1.0000	1.0000
L35	27	1.25" x 6.5" Flat Plate Reinf.	25.50 - 25.63	1.0000	1.0000
L35	28	1.25" x 6.5" Flat Plate Reinf.	25.50 - 25.63	1.0000	1.0000
L36	24	1.25" x 6.5" Flat Plate Reinf.	20.50 - 25.50	1.0000	1.0000
L36	25	1.25" x 6.5" Flat Plate Reinf.	20.50 - 25.50	1.0000	1.0000
L36	26	1.25" x 6.5" Flat Plate Reinf.	20.50 - 25.50	1.0000	1.0000
L36	27	1.25" x 6.5" Flat Plate Reinf.	20.50 - 25.50	1.0000	1.0000
L36	28	1.25" x 6.5" Flat Plate Reinf.	23.13 - 25.50	1.0000	1.0000
L37	24	1.25" x 6.5" Flat Plate Reinf.	15.50 - 20.50	1.0000	1.0000
L37	25	1.25" x 6.5" Flat Plate Reinf.	15.50 - 20.50	1.0000	1.0000
L37	26	1.25" x 6.5" Flat Plate Reinf.	15.50 - 20.50	1.0000	1.0000
L37	27	1.25" x 6.5" Flat Plate Reinf.	15.50 - 20.50	1.0000	1.0000
L38	24	1.25" x 6.5" Flat Plate Reinf.	10.50 - 15.50	1.0000	1.0000
L38	25	1.25" x 6.5" Flat Plate Reinf.	10.50 - 15.50	1.0000	1.0000
L38	26	1.25" x 6.5" Flat Plate Reinf.	10.50 - 15.50	1.0000	1.0000
L38	27	1.25" x 6.5" Flat Plate Reinf.	10.50 - 15.50	1.0000	1.0000
L39	24	1.25" x 6.5" Flat Plate Reinf.	5.50 - 10.50	1.0000	1.0000
L39	25	1.25" x 6.5" Flat Plate Reinf.	5.50 - 10.50	1.0000	1.0000
L39	26	1.25" x 6.5" Flat Plate Reinf.	5.50 - 10.50	1.0000	1.0000
L39	27	1.25" x 6.5" Flat Plate Reinf.	5.50 - 10.50	1.0000	1.0000
L40	24	1.25" x 6.5" Flat Plate Reinf.	0.50 - 5.50	1.0000	1.0000
L40	25	1.25" x 6.5" Flat Plate Reinf.	0.50 - 5.50	1.0000	1.0000
L40	26	1.25" x 6.5" Flat Plate Reinf.	0.50 - 5.50	1.0000	1.0000
L40	27	1.25" x 6.5" Flat Plate Reinf.	0.50 - 5.50	1.0000	1.0000
L41	24	1.25" x 6.5" Flat Plate Reinf.	0.00 - 0.50	1.0000	1.0000
L41	25	1.25" x 6.5" Flat Plate Reinf.	0.00 - 0.50	1.0000	1.0000
L41	26	1.25" x 6.5" Flat Plate Reinf.	0.00 - 0.50	1.0000	1.0000
L41	27	1.25" x 6.5" Flat Plate Reinf.	0.00 - 0.50	1.0000	1.0000

Discrete Tower Loads

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	15 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
DB420	A	From Leg	4.000	0.0000	148.000	No Ice	3.330	3.330	0.03
			0.00			1/2" Ice	5.994	5.994	0.04
			12.00			1" Ice	8.658	8.658	0.05
LLPX310R w/ Mount Pipe	A	From Leg	4.000	0.0000	148.000	No Ice	4.538	2.985	0.05
			0.00			1/2" Ice	4.892	3.528	0.08
			3.00			1" Ice	5.254	4.087	0.13
LLPX310R w/ Mount Pipe	B	From Leg	4.000	0.0000	148.000	No Ice	4.538	2.985	0.05
			0.00			1/2" Ice	4.892	3.528	0.08
			3.00			1" Ice	5.254	4.087	0.13
LLPX310R w/ Mount Pipe	C	From Leg	4.000	0.0000	148.000	No Ice	4.538	2.985	0.05
			0.00			1/2" Ice	4.892	3.528	0.08
			3.00			1" Ice	5.254	4.087	0.13
FDD_R6_RRH	A	From Leg	4.000	0.0000	148.000	No Ice	1.533	0.684	0.03
			0.00			1/2" Ice	1.690	0.800	0.04
			3.00			1" Ice	1.854	0.923	0.06
FDD_R6_RRH	B	From Leg	4.000	0.0000	148.000	No Ice	1.533	0.684	0.03
			0.00			1/2" Ice	1.690	0.800	0.04
			3.00			1" Ice	1.854	0.923	0.06
FDD_R6_RRH	C	From Leg	4.000	0.0000	148.000	No Ice	1.533	0.684	0.03
			0.00			1/2" Ice	1.690	0.800	0.04
			3.00			1" Ice	1.854	0.923	0.06
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.000	0.0000	148.000	No Ice	6.580	4.959	0.08
			0.00			1/2" Ice	7.031	5.754	0.13
			0.00			1" Ice	7.473	6.472	0.19
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.000	0.0000	148.000	No Ice	6.580	4.959	0.08
			0.00			1/2" Ice	7.031	5.754	0.13
			0.00			1" Ice	7.473	6.472	0.19
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.000	0.0000	148.000	No Ice	6.580	4.959	0.08
			0.00			1/2" Ice	7.031	5.754	0.13
			0.00			1" Ice	7.473	6.472	0.19
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.000	0.0000	148.000	No Ice	8.262	6.946	0.08
			0.00			1/2" Ice	8.822	8.127	0.15
			0.00			1" Ice	9.346	9.021	0.23
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.000	0.0000	148.000	No Ice	8.262	6.946	0.08
			0.00			1/2" Ice	8.822	8.127	0.15
			0.00			1" Ice	9.346	9.021	0.23
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.000	0.0000	148.000	No Ice	8.262	6.946	0.08
			0.00			1/2" Ice	8.822	8.127	0.15
			0.00			1" Ice	9.346	9.021	0.23
TD-RRH8x20-25	A	From Leg	4.000	0.0000	148.000	No Ice	4.045	1.535	0.07
			0.00			1/2" Ice	4.298	1.714	0.10
			0.00			1" Ice	4.557	1.901	0.13
TD-RRH8x20-25	B	From Leg	4.000	0.0000	148.000	No Ice	4.045	1.535	0.07
			0.00			1/2" Ice	4.298	1.714	0.10
			0.00			1" Ice	4.557	1.901	0.13
TD-RRH8x20-25	C	From Leg	4.000	0.0000	148.000	No Ice	4.045	1.535	0.07
			0.00			1/2" Ice	4.298	1.714	0.10
			0.00			1" Ice	4.557	1.901	0.13
PCS 1900MHz 4x45W-65MHz	A	From Leg	4.000	0.0000	148.000	No Ice	2.322	2.238	0.06
			0.00			1/2" Ice	2.527	2.441	0.08
			0.00			1" Ice	2.739	2.651	0.11
PCS 1900MHz 4x45W-65MHz	B	From Leg	4.000	0.0000	148.000	No Ice	2.322	2.238	0.06
			0.00			1/2" Ice	2.527	2.441	0.08
			0.00			1" Ice	2.739	2.651	0.11
PCS 1900MHz 4x45W-65MHz	C	From Leg	4.000	0.0000	148.000	No Ice	2.322	2.238	0.06
			0.00			1/2" Ice	2.527	2.441	0.08
			0.00			1" Ice	2.739	2.651	0.11

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	16 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
800MHZ RRH	A	From Leg	4.000	0.0000	148.000	No Ice	2.134	1.773	0.05
			0.00			1/2" Ice	2.320	1.946	0.07
			0.00			1" Ice	2.512	2.127	0.10
800MHZ RRH	B	From Leg	4.000	0.0000	148.000	No Ice	2.134	1.773	0.05
			0.00			1/2" Ice	2.320	1.946	0.07
			0.00			1" Ice	2.512	2.127	0.10
800MHZ RRH	C	From Leg	4.000	0.0000	148.000	No Ice	2.134	1.773	0.05
			0.00			1/2" Ice	2.320	1.946	0.07
			0.00			1" Ice	2.512	2.127	0.10
800 EXTERNAL NOTCH FILTER	A	From Leg	4.000	0.0000	148.000	No Ice	0.660	0.321	0.01
			0.00			1/2" Ice	0.763	0.398	0.02
			0.00			1" Ice	0.873	0.483	0.02
800 EXTERNAL NOTCH FILTER	B	From Leg	4.000	0.0000	148.000	No Ice	0.660	0.321	0.01
			0.00			1/2" Ice	0.763	0.398	0.02
			0.00			1" Ice	0.873	0.483	0.02
800 EXTERNAL NOTCH FILTER	C	From Leg	4.000	0.0000	148.000	No Ice	0.660	0.321	0.01
			0.00			1/2" Ice	0.763	0.398	0.02
			0.00			1" Ice	0.873	0.483	0.02
(3) ACU-A20-N	A	From Leg	4.000	0.0000	148.000	No Ice	0.067	0.117	0.00
			0.00			1/2" Ice	0.104	0.162	0.00
			0.00			1" Ice	0.148	0.215	0.00
(3) ACU-A20-N	B	From Leg	4.000	0.0000	148.000	No Ice	0.067	0.117	0.00
			0.00			1/2" Ice	0.104	0.162	0.00
			0.00			1" Ice	0.148	0.215	0.00
(3) ACU-A20-N	C	From Leg	4.000	0.0000	148.000	No Ice	0.067	0.117	0.00
			0.00			1/2" Ice	0.104	0.162	0.00
			0.00			1" Ice	0.148	0.215	0.00
6' x 2" Mount Pipe	A	From Leg	4.000	0.0000	148.000	No Ice	1.425	1.425	0.02
			0.00			1/2" Ice	1.925	1.925	0.03
			0.00			1" Ice	2.294	2.294	0.05
6' x 2" Mount Pipe	B	From Leg	4.000	0.0000	148.000	No Ice	1.425	1.425	0.02
			0.00			1/2" Ice	1.925	1.925	0.03
			0.00			1" Ice	2.294	2.294	0.05
6' x 2" Mount Pipe	C	From Leg	4.000	0.0000	148.000	No Ice	1.425	1.425	0.02
			0.00			1/2" Ice	1.925	1.925	0.03
			0.00			1" Ice	2.294	2.294	0.05
Platform Mount [LP 712-1]	C	None		0.0000	148.000	No Ice	24.530	24.530	1.34
						1/2" Ice	29.940	29.940	1.65
						1" Ice	35.350	35.350	1.96
Miscellaneous [NA 507-1]	C	None		0.0000	148.000	No Ice	4.800	4.800	0.25
						1/2" Ice	6.700	6.700	0.29
						1" Ice	8.600	8.600	0.34

Pipe Mount [PM 601-1]	C	None		0.0000	144.000	No Ice	3.000	0.900	0.07
						1/2" Ice	3.740	1.120	0.08
						1" Ice	4.480	1.340	0.09

7770.00 w/ Mount Pipe	A	From Leg	4.000	0.0000	120.000	No Ice	5.746	4.254	0.06
			0.00			1/2" Ice	6.179	5.014	0.10
			0.00			1" Ice	6.607	5.711	0.16
7770.00 w/ Mount Pipe	B	From Leg	4.000	0.0000	120.000	No Ice	5.746	4.254	0.06
			0.00			1/2" Ice	6.179	5.014	0.10
			0.00			1" Ice	6.607	5.711	0.16
7770.00 w/ Mount Pipe	C	From Leg	4.000	0.0000	120.000	No Ice	5.746	4.254	0.06
			0.00			1/2" Ice	6.179	5.014	0.10
			0.00			1" Ice	6.607	5.711	0.16
QS66512-2 w/ Mount Pipe	A	From Leg	4.000	0.0000	120.000	No Ice	8.371	8.463	0.14

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job		CT2153 - 10035241		Page		17 of 38	
	Project		1829074		Date		09:36:56 08/24/18	
	Client		Com-Ex		Designed by		Ahmet Colakoglu	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			0.00						
			0.00			1/2" Ice	8.931	9.657	0.21
			0.00			1" Ice	9.457	10.548	0.30
QS66512-2 w/ Mount Pipe	A	From Leg	4.000	0.0000	120.000	No Ice	8.371	8.463	0.14
			0.00			1/2" Ice	8.931	9.657	0.21
			0.00			1" Ice	9.457	10.548	0.30
QS66512-2 w/ Mount Pipe	A	From Leg	4.000	0.0000	120.000	No Ice	8.371	8.463	0.14
			0.00			1/2" Ice	8.931	9.657	0.21
			0.00			1" Ice	9.457	10.548	0.30
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.000	0.0000	120.000	No Ice	9.895	8.113	0.08
			0.00			1/2" Ice	10.470	9.304	0.16
			0.00			1" Ice	11.010	10.209	0.25
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Leg	4.000	0.0000	120.000	No Ice	9.895	8.113	0.08
			0.00			1/2" Ice	10.470	9.304	0.16
			0.00			1" Ice	11.010	10.209	0.25
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.000	0.0000	120.000	No Ice	9.895	8.113	0.08
			0.00			1/2" Ice	10.470	9.304	0.16
			0.00			1" Ice	11.010	10.209	0.25
(2) LGP21401	A	From Leg	4.000	0.0000	120.000	No Ice	1.104	0.207	0.01
			0.00			1/2" Ice	1.239	0.274	0.02
			0.00			1" Ice	1.381	0.348	0.03
(2) LGP21401	B	From Leg	4.000	0.0000	120.000	No Ice	1.104	0.207	0.01
			0.00			1/2" Ice	1.239	0.274	0.02
			0.00			1" Ice	1.381	0.348	0.03
(2) LGP21401	C	From Leg	4.000	0.0000	120.000	No Ice	1.104	0.207	0.01
			0.00			1/2" Ice	1.239	0.274	0.02
			0.00			1" Ice	1.381	0.348	0.03
RRUS-11	A	From Leg	4.000	0.0000	120.000	No Ice	2.784	1.187	0.05
			0.00			1/2" Ice	2.992	1.334	0.07
			0.00			1" Ice	3.207	1.490	0.09
RRUS-11	B	From Leg	4.000	0.0000	120.000	No Ice	2.784	1.187	0.05
			0.00			1/2" Ice	2.992	1.334	0.07
			0.00			1" Ice	3.207	1.490	0.09
RRUS-11	C	From Leg	4.000	0.0000	120.000	No Ice	2.784	1.187	0.05
			0.00			1/2" Ice	2.992	1.334	0.07
			0.00			1" Ice	3.207	1.490	0.09
RRUS 32	A	From Leg	4.000	0.0000	120.000	No Ice	2.857	1.777	0.06
			0.00			1/2" Ice	3.083	1.968	0.08
			0.00			1" Ice	3.316	2.166	0.10
RRUS 32	B	From Leg	4.000	0.0000	120.000	No Ice	2.857	1.777	0.06
			0.00			1/2" Ice	3.083	1.968	0.08
			0.00			1" Ice	3.316	2.166	0.10
RRUS 32	C	From Leg	4.000	0.0000	120.000	No Ice	2.857	1.777	0.06
			0.00			1/2" Ice	3.083	1.968	0.08
			0.00			1" Ice	3.316	2.166	0.10
RRUS 32 B2	A	From Leg	4.000	0.0000	120.000	No Ice	2.731	1.668	0.05
			0.00			1/2" Ice	2.953	1.855	0.07
			0.00			1" Ice	3.182	2.049	0.10
RRUS 32 B2	B	From Leg	4.000	0.0000	120.000	No Ice	2.731	1.668	0.05
			0.00			1/2" Ice	2.953	1.855	0.07
			0.00			1" Ice	3.182	2.049	0.10
RRUS 32 B2	C	From Leg	4.000	0.0000	120.000	No Ice	2.731	1.668	0.05
			0.00			1/2" Ice	2.953	1.855	0.07
			0.00			1" Ice	3.182	2.049	0.10
RRUS 32 B66	A	From Leg	4.000	0.0000	120.000	No Ice	2.743	1.668	0.05
			0.00			1/2" Ice	2.965	1.855	0.07
			0.00			1" Ice	3.194	2.049	0.10
RRUS 32 B66	B	From Leg	4.000	0.0000	120.000	No Ice	2.743	1.668	0.05

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	18 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
				0.00					0.07
				0.00			1/2" Ice	2.965	1.855
				0.00			1" Ice	3.194	2.049
RRUS 32 B66	C	From Leg	4.000	0.0000	120.000	No Ice	2.743	1.668	0.05
			0.00				1/2" Ice	2.965	1.855
			0.00				1" Ice	3.194	2.049
(2) DC6-48-60-18-8F	A	From Leg	4.000	0.0000	120.000	No Ice	0.791	0.791	0.02
			0.00				1/2" Ice	1.274	1.274
			0.00				1" Ice	1.450	1.450
6' x 2" Mount Pipe	A	From Leg	4.000	0.0000	120.000	No Ice	1.425	1.425	0.02
			0.00				1/2" Ice	1.925	1.925
			0.00				1" Ice	2.294	2.294
6' x 2" Mount Pipe	B	From Leg	4.000	0.0000	120.000	No Ice	1.425	1.425	0.02
			0.00				1/2" Ice	1.925	1.925
			0.00				1" Ice	2.294	2.294
6' x 2" Mount Pipe	C	From Leg	4.000	0.0000	120.000	No Ice	1.425	1.425	0.02
			0.00				1/2" Ice	1.925	1.925
			0.00				1" Ice	2.294	2.294
Platform Mount [LP 712-1]	C	None		0.0000	120.000	No Ice	24.530	24.530	1.34
						1/2" Ice	29.940	29.940	1.65
						1" Ice	35.350	35.350	1.96

PD220	C	From Leg	4.000	0.0000	96.000	No Ice	3.080	3.080	0.02
			0.00				1/2" Ice	5.300	5.300
			14.00				1" Ice	7.537	7.537
DB205-A	B	From Leg	4.000	0.0000	96.000	No Ice	1.200	1.200	0.04
			0.00				1/2" Ice	2.160	2.160
			12.00				1" Ice	3.120	3.120
DB420-B	A	From Leg	4.000	0.0000	96.000	No Ice	3.330	3.330	0.03
			0.00				1/2" Ice	5.994	5.994
			11.00				1" Ice	8.658	8.658
DB224	C	From Leg	4.000	0.0000	96.000	No Ice	3.150	3.150	0.03
			0.00				1/2" Ice	5.670	5.670
			11.00				1" Ice	8.190	8.190
(2) PD1110	A	From Leg	4.000	0.0000	96.000	No Ice	3.060	3.060	0.03
			0.00				1/2" Ice	5.100	5.100
			9.00				1" Ice	7.140	7.140
PD201-1	A	From Leg	4.000	0.0000	96.000	No Ice	0.628	0.628	0.00
			0.00				1/2" Ice	1.539	1.539
			9.00				1" Ice	2.467	2.467
PD201-1	B	From Leg	4.000	0.0000	96.000	No Ice	0.628	0.628	0.00
			0.00				1/2" Ice	1.539	1.539
			9.00				1" Ice	2.467	2.467
DB806E-XT	C	From Leg	4.000	0.0000	96.000	No Ice	2.000	2.000	0.02
			0.00				1/2" Ice	2.829	2.829
			9.00				1" Ice	3.456	3.456
(2) PD83-1	A	From Leg	4.000	0.0000	96.000	No Ice	3.700	3.700	0.02
			0.00				1/2" Ice	5.575	5.575
			-6.00				1" Ice	7.467	7.467
PD83-1	B	From Leg	4.000	0.0000	96.000	No Ice	3.700	3.700	0.02
			0.00				1/2" Ice	5.575	5.575
			-6.00				1" Ice	7.467	7.467
(4) 6' x 2" Mount Pipe	A	From Leg	4.000	0.0000	96.000	No Ice	1.425	1.425	0.02
			0.00				1/2" Ice	1.925	1.925
			0.00				1" Ice	2.294	2.294
(3) 6' x 2" Mount Pipe	B	From Leg	4.000	0.0000	96.000	No Ice	1.425	1.425	0.02
			0.00				1/2" Ice	1.925	1.925
			0.00				1" Ice	2.294	2.294

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	19 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
(3) 6' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.0000	96.000	No Ice	1.425	1.425	0.02
			0.00				1/2" Ice	1.925	1.925	0.03
			0.00				1" Ice	2.294	2.294	0.05
Platform Mount [LP 712-1]	C	None			0.0000	96.000	No Ice	24.530	24.530	1.34
							1/2" Ice	29.940	29.940	1.65
							1" Ice	35.350	35.350	1.96

(3) RR90-17-00DPL2 w/ Mount Pipe	A	From Leg	4.000	0.000	0.0000	82.000	No Ice	4.593	3.319	0.04
			0.00				1/2" Ice	5.018	4.089	0.08
			0.00				1" Ice	5.436	4.784	0.12
(3) RR90-17-00DPL2 w/ Mount Pipe	B	From Leg	4.000	0.000	0.0000	82.000	No Ice	4.593	3.319	0.04
			0.00				1/2" Ice	5.018	4.089	0.08
			0.00				1" Ice	5.436	4.784	0.12
(3) RR90-17-00DPL2 w/ Mount Pipe	C	From Leg	4.000	0.000	0.0000	82.000	No Ice	4.593	3.319	0.04
			0.00				1/2" Ice	5.018	4.089	0.08
			0.00				1" Ice	5.436	4.784	0.12
(2) ETW190VS12UB	A	From Leg	4.000	0.000	0.0000	82.000	No Ice	0.570	0.317	0.01
			0.00				1/2" Ice	0.667	0.395	0.02
			0.00				1" Ice	0.772	0.484	0.03
(2) ETW190VS12UB	B	From Leg	4.000	0.000	0.0000	82.000	No Ice	0.570	0.317	0.01
			0.00				1/2" Ice	0.667	0.395	0.02
			0.00				1" Ice	0.772	0.484	0.03
(2) ETW190VS12UB	C	From Leg	4.000	0.000	0.0000	82.000	No Ice	0.570	0.317	0.01
			0.00				1/2" Ice	0.667	0.395	0.02
			0.00				1" Ice	0.772	0.484	0.03
APXV18-206516S-C-A20 w/ Mount Pipe	A	From Leg	4.000	0.000	0.0000	82.000	No Ice	3.859	3.296	0.04
			0.00				1/2" Ice	4.274	4.004	0.07
			0.00				1" Ice	4.674	4.672	0.11
APXV18-206516S-C-A20 w/ Mount Pipe	B	From Leg	4.000	0.000	0.0000	82.000	No Ice	3.859	3.296	0.04
			0.00				1/2" Ice	4.274	4.004	0.07
			0.00				1" Ice	4.674	4.672	0.11
APXV18-206516S-C-A20 w/ Mount Pipe	C	From Leg	4.000	0.000	0.0000	82.000	No Ice	3.859	3.296	0.04
			0.00				1/2" Ice	4.274	4.004	0.07
			0.00				1" Ice	4.674	4.672	0.11
ATMAA1412D-1A20	A	From Leg	4.000	0.000	0.0000	82.000	No Ice	1.000	0.407	0.01
			0.00				1/2" Ice	1.126	0.497	0.02
			0.00				1" Ice	1.259	0.593	0.03
ATMAA1412D-1A20	B	From Leg	4.000	0.000	0.0000	82.000	No Ice	1.000	0.407	0.01
			0.00				1/2" Ice	1.126	0.497	0.02
			0.00				1" Ice	1.259	0.593	0.03
ATMAA1412D-1A20	C	From Leg	4.000	0.000	0.0000	82.000	No Ice	1.000	0.407	0.01
			0.00				1/2" Ice	1.126	0.497	0.02
			0.00				1" Ice	1.259	0.593	0.03
Platform Mount [LP 712-1]	C	None			0.0000	82.000	No Ice	24.530	24.530	1.34
							1/2" Ice	29.940	29.940	1.65
							1" Ice	35.350	35.350	1.96

800 10504 w/ Mount Pipe	A	From Leg	1.000	0.000	0.0000	72.000	No Ice	3.589	3.178	0.04
			0.00				1/2" Ice	4.007	3.905	0.07
			0.00				1" Ice	4.422	4.581	0.11
800 10504 w/ Mount Pipe	B	From Leg	1.000	0.000	0.0000	72.000	No Ice	3.589	3.178	0.04
			0.00				1/2" Ice	4.007	3.905	0.07
			0.00				1" Ice	4.422	4.581	0.11
800 10504 w/ Mount Pipe	C	From Leg	1.000	0.000	0.0000	72.000	No Ice	3.589	3.178	0.04
			0.00				1/2" Ice	4.007	3.905	0.07
			0.00				1" Ice	4.422	4.581	0.11
Pipe Mount [PM 601-3]	C	None			0.0000	72.000	No Ice	4.390	4.390	0.20

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	20 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			ft ft ft	°	ft	ft ²	ft ²	K
						1/2" Ice	5.480	0.24
						1" Ice	6.570	0.28

BSA150B	A	From Leg	4.000	0.0000	53.000	No Ice	11.778	0.01
			0.00			1/2" Ice	12.300	0.16
			-3.00			1" Ice	12.822	0.30
BSA150B	A	From Leg	4.000	0.0000	53.000	No Ice	11.778	0.01
			0.00			1/2" Ice	12.300	0.16
			3.00			1" Ice	12.822	0.30
BULLET III	C	From Leg	4.000	0.0000	50.000	No Ice	0.066	0.00
			0.00			1/2" Ice	0.101	0.00
			0.00			1" Ice	0.144	0.00
Side Arm Mount [SO 702-1]	A	None		0.0000	53.000	No Ice	1.000	0.03
						1/2" Ice	1.250	0.04
						1" Ice	1.500	0.05

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				ft ft ft	°	°	ft	ft	ft ²	K	
VHLP800-11	B	Paraboloid w/Shroud (HP)	From Leg	1.000	40.0000		148.000	2.800	No Ice	6.158	0.05
				0.00					1/2" Ice	6.530	0.08
				4.00					1" Ice	6.902	0.12
VHLP800-11	C	Paraboloid w/Shroud (HP)	From Leg	1.000	-20.0000		148.000	2.800	No Ice	6.158	0.05
				0.00					1/2" Ice	6.530	0.08
				4.00					1" Ice	6.902	0.12
VHLP2.5-10W	A	Paraboloid w/Shroud (HP)	From Leg	1.000	0.0000		144.000	2.917	No Ice	6.681	0.05
				0.00					1/2" Ice	7.069	0.08
				0.00					1" Ice	7.456	0.11

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:</p>	<p>Job</p> <p style="text-align: center;">CT2153 - 10035241</p>	<p>Page</p> <p style="text-align: center;">21 of 38</p>
	<p>Project</p> <p style="text-align: center;">1829074</p>	<p>Date</p> <p style="text-align: center;">09:36:56 08/24/18</p>
	<p>Client</p> <p style="text-align: center;">Com-Ex</p>	<p>Designed by</p> <p style="text-align: center;">Ahmet Colakoglu</p>

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	148 - 143	Pole	Max Tension	1	0.00	-0.00	-0.00
			Max. Compression	26	-11.15	0.00	0.47
			Max. Mx	8	-3.55	-43.23	1.14
			Max. My	2	-3.49	-0.81	45.74
			Max. Vy	8	7.87	-43.23	1.14
			Max. Vx	2	-8.26	-0.81	45.74
			Max. Torque	8			1.47
L2	143 - 138	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.95	0.00	0.53
			Max. Mx	8	-3.96	-84.05	1.94
			Max. My	2	-3.91	-1.28	88.50
			Max. Vy	8	8.46	-84.05	1.94
			Max. Vx	2	-8.85	-1.28	88.50

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	22 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L3	138 - 133	Pole	Max. Torque	8			1.47
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.79	0.00	0.60
			Max. Mx	8	-4.40	-127.86	2.75
			Max. My	2	-4.34	-1.75	134.26
			Max. Vy	8	9.07	-127.86	2.75
			Max. Vx	2	-9.46	-1.75	134.26
			Max. Torque	8			1.47
L4	133 - 128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-13.66	0.00	0.68
			Max. Mx	8	-4.86	-174.75	3.56
			Max. My	2	-4.80	-2.22	183.09
			Max. Vy	8	9.69	-174.75	3.56
			Max. Vx	2	-10.08	-2.22	183.09
			Max. Torque	8			1.47
			Max Tension	1	0.00	0.00	0.00
L5	128 - 123	Pole	Max. Compression	26	-14.55	0.00	0.76
			Max. Mx	8	-5.34	-224.78	4.38
			Max. My	2	-5.29	-2.69	235.07
			Max. Vy	8	10.33	-224.78	4.38
			Max. Vx	2	-10.72	-2.69	235.07
			Max. Torque	8			1.46
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-25.64	0.00	10.55
L6	123 - 118	Pole	Max. Mx	8	-8.95	-289.79	7.56
			Max. My	2	-8.88	-3.17	304.86
			Max. Vy	8	16.86	-289.79	7.56
			Max. Vx	2	-17.24	-3.17	304.86
			Max. Torque	8			7.49
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.65	0.01	10.68
			Max. Mx	8	-9.56	-375.68	8.41
L7	118 - 113	Pole	Max. My	2	-9.50	-3.65	392.68
			Max. Vy	8	17.51	-375.68	8.41
			Max. Vx	2	-17.89	-3.65	392.68
			Max. Torque	8			7.49
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-27.69	0.01	10.80
			Max. Mx	8	-10.20	-464.84	9.25
			Max. My	2	-10.14	-4.12	483.77
L8	113 - 108	Pole	Max. Vy	8	18.17	-464.84	9.25
			Max. Vx	2	-18.55	-4.12	483.77
			Max. Torque	8			7.49
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.44	0.01	10.88
			Max. Mx	8	-10.67	-529.22	9.84
			Max. My	2	-10.61	-4.46	549.49
			Max. Vy	8	18.63	-529.22	9.84
L9	108 - 100.5	Pole	Max. Vx	2	-19.02	-4.46	549.49
			Max. Torque	8			7.49
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.53	0.01	11.00
			Max. Mx	8	-11.96	-624.23	10.68
			Max. My	2	-11.90	-4.93	646.42
			Max. Vy	8	19.37	-624.23	10.68
			Max. Vx	2	-19.76	-4.93	646.42
L10	100.5 - 99.5	Pole	Max. Torque	8			7.48
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.56	0.20	14.55
			Max. Mx	8	-14.83	-735.46	11.83
			Max. My	2	-14.77	-5.40	760.15

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	23 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L12	94.5 - 89.5	Pole	Max. Vy	8	23.52	-735.46	11.83
			Max. Vx	2	-23.90	-5.40	760.15
			Max. Torque	8			10.53
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.98	0.20	14.68
			Max. Mx	8	-15.83	-854.73	12.68
			Max. My	2	-15.77	-5.88	881.36
			Max. Vy	8	24.21	-854.73	12.68
L13	89.5 - 84.5	Pole	Max. Vx	2	-24.59	-5.88	881.36
			Max. Torque	8			10.53
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.42	0.20	14.79
			Max. Mx	8	-16.86	-977.46	13.52
			Max. My	2	-16.81	-6.37	1006.02
			Max. Vy	8	24.90	-977.46	13.52
			Max. Vx	2	-25.29	-6.37	1006.02
L14	84.5 - 79.5	Pole	Max. Torque	8			10.53
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.17	0.20	14.91
			Max. Mx	8	-20.06	-1111.61	14.35
			Max. My	2	-20.01	-6.85	1142.12
			Max. Vy	8	28.78	-1111.61	14.35
			Max. Vx	2	-29.17	-6.85	1142.12
			Max. Torque	8			10.52
L15	79.5 - 74.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.71	0.21	15.02
			Max. Mx	8	-21.20	-1257.17	15.19
			Max. My	2	-21.15	-7.33	1289.61
			Max. Vy	8	29.46	-1257.17	15.19
			Max. Vx	2	-29.85	-7.33	1289.61
			Max. Torque	8			10.52
			Max Tension	1	0.00	0.00	0.00
L16	74.5 - 70.667	Pole	Max. Compression	26	-52.06	0.21	15.11
			Max. Mx	8	-22.46	-1371.83	15.82
			Max. My	2	-22.41	-7.70	1405.75
			Max. Vy	8	30.57	-1371.83	15.82
			Max. Vx	2	-30.95	-7.70	1405.75
			Max. Torque	8			10.51
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.15	0.21	15.11
L17	70.667 - 70.417	Pole	Max. Mx	8	-22.53	-1379.47	15.86
			Max. My	2	-22.49	-7.72	1413.49
			Max. Vy	8	30.59	-1379.47	15.86
			Max. Vx	2	-30.98	-7.72	1413.49
			Max. Torque	8			10.51
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.04	0.21	15.21
			Max. Mx	8	-23.76	-1534.16	16.69
L18	70.417 - 65.417	Pole	Max. My	2	-23.73	-8.20	1570.02
			Max. Vy	8	31.30	-1534.16	16.69
			Max. Vx	2	-31.65	-8.20	1570.02
			Max. Torque	8			10.51
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.70	0.21	15.24
			Max. Mx	8	-24.20	-1589.13	16.97
			Max. My	2	-24.16	-8.37	1625.60
L19	65.417 - 63.667	Pole	Max. Vy	8	31.55	-1589.13	16.97
			Max. Vx	2	-31.89	-8.37	1625.60

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	24 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L20	63.667 - 63.417	Pole	Max. Torque	8			10.50
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.80	0.21	15.25
			Max. Mx	8	-24.28	-1597.02	17.01
			Max. My	2	-24.25	-8.39	1633.57
			Max. Vy	8	31.57	-1597.02	17.01
			Max. Vx	2	-31.92	-8.39	1633.57
			Max. Torque	8			10.50
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.86	0.21	15.25
L21	63.417 - 58.25	Pole	Max. Mx	8	-24.33	-1602.30	17.04
			Max. My	2	-24.29	-8.41	1638.90
			Max. Vy	8	31.59	-1602.30	17.04
			Max. Vx	2	-31.94	-8.41	1638.90
			Max. Torque	8			10.50
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.57	0.21	15.36
			Max. Mx	8	-26.91	-1794.56	18.02
			Max. My	2	-26.88	-8.98	1833.20
			Max. Vy	8	32.49	-1794.56	18.02
L22	58.25 - 57.25	Pole	Max. Vx	2	-32.83	-8.98	1833.20
			Max. Torque	8			10.50
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.18	0.21	15.43
			Max. Mx	8	-28.09	-1926.21	18.67
			Max. My	2	-28.06	-9.37	1966.21
			Max. Vy	8	33.01	-1926.21	18.67
			Max. Vx	2	-33.35	-9.37	1966.21
			Max. Torque	8			10.50
			Max Tension	1	0.00	0.00	0.00
L23	57.25 - 53.229	Pole	Max. Compression	26	-61.56	0.21	22.19
			Max. Mx	8	-28.18	-1934.54	18.59
			Max. My	2	-28.15	-9.39	1974.68
			Max. Vy	8	34.07	-1934.54	18.59
			Max. Vx	2	-34.41	-9.39	1974.68
			Max. Torque	8			16.02
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.75	0.26	22.24
			Max. Mx	8	-29.67	-2106.70	19.39
			Max. My	2	-29.64	-9.86	2148.36
L24	53.229 - 52.979	Pole	Max. Vy	8	34.81	-2106.70	19.39
			Max. Vx	2	-35.08	-9.86	2148.36
			Max. Torque	8			16.02
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.96	0.26	22.31
			Max. Mx	8	-31.20	-2282.44	20.17
			Max. My	2	-31.18	-10.34	2325.31
			Max. Vy	8	35.51	-2282.44	20.17
			Max. Vx	2	-35.72	-10.34	2325.31
			Max. Torque	8			16.01
L25	52.979 - 47.979	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.21	0.26	22.36
			Max. Mx	8	-32.77	-2461.61	20.94
			Max. My	2	-32.76	-10.81	2505.38
			Max. Vy	8	36.18	-2461.61	20.94
			Max. Vx	2	-36.34	-10.81	2505.38
			Max. Torque	8			16.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.21	0.26	22.36
			Max. Mx	8	-32.77	-2461.61	20.94
L26	47.979 - 42.979	Pole	Max. My	2	-32.76	-10.81	2505.38
			Max. Vy	8	36.18	-2461.61	20.94
			Max. Vx	2	-36.34	-10.81	2505.38
			Max. Torque	8			16.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.21	0.26	22.36
			Max. Mx	8	-32.77	-2461.61	20.94
			Max. My	2	-32.76	-10.81	2505.38
			Max. Vy	8	36.18	-2461.61	20.94
			Max. Vx	2	-36.34	-10.81	2505.38
L27	42.979 - 37.979	Pole	Max. Torque	8			16.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.21	0.26	22.36
			Max. Mx	8	-32.77	-2461.61	20.94
			Max. My	2	-32.76	-10.81	2505.38
			Max. Vy	8	36.18	-2461.61	20.94
			Max. Vx	2	-36.34	-10.81	2505.38
			Max. Torque	8			16.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.21	0.26	22.36

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	25 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L28	37.979 - 35.125	Pole	Max. Torque	8			16.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.50	0.26	22.39
			Max. Mx	8	-33.68	-2565.36	21.38
			Max. My	2	-33.67	-11.08	2609.53
			Max. Vy	8	36.56	-2565.36	21.38
			Max. Vx	2	-36.68	-11.08	2609.53
			Max. Torque	8			16.00
L29	35.125 - 34.875	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.64	0.26	22.39
			Max. Mx	8	-33.80	-2574.50	21.42
			Max. My	2	-33.79	-11.10	2618.70
			Max. Vy	8	36.58	-2574.50	21.42
			Max. Vx	2	-36.70	-11.10	2618.70
			Max. Torque	8			16.00
			Max Tension	1	0.00	0.00	0.00
L30	34.875 - 28.75	Pole	Max. Compression	26	-69.85	0.26	22.40
			Max. Mx	8	-33.96	-2588.23	21.47
			Max. My	2	-33.95	-11.14	2632.47
			Max. Vy	8	36.63	-2588.23	21.47
			Max. Vx	2	-36.75	-11.14	2632.47
			Max. Torque	8			16.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.52	0.26	22.40
L31	28.75 - 27.75	Pole	Max. Mx	8	-38.92	-2839.05	22.52
			Max. My	2	-38.92	-11.77	2883.72
			Max. Vy	8	37.73	-2839.05	22.52
			Max. Vx	2	-37.70	-11.77	2883.72
			Max. Torque	8			16.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.70	0.26	22.27
			Max. Mx	8	-39.76	-2910.11	22.80
L32	27.75 - 25.875	Pole	Max. My	2	-39.76	-11.95	2954.59
			Max. Vy	8	38.11	-2910.11	22.80
			Max. Vx	2	-37.94	-11.95	2954.59
			Max. Torque	8			15.97
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.77	0.26	22.26
			Max. Mx	8	-39.83	-2914.88	22.82
			Max. My	2	-39.82	-11.96	2959.33
L33	25.875 - 25.75	Pole	Max. Vy	8	38.11	-2914.88	22.82
			Max. Vx	2	-37.95	-11.96	2959.33
			Max. Torque	8			15.90
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.85	0.26	22.25
			Max. Mx	8	-39.89	-2919.64	22.84
			Max. My	2	-39.88	-11.97	2964.07
			Max. Vy	8	38.13	-2919.64	22.84
L34	25.75 - 25.625	Pole	Max. Vx	2	-37.96	-11.97	2964.07
			Max. Torque	8			15.90
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.94	0.26	22.25
			Max. Mx	8	-39.95	-2924.41	22.86
			Max. My	2	-39.95	-11.98	2968.82
			Max. Vy	8	38.16	-2924.41	22.86
			Max. Vx	2	-37.98	-11.98	2968.82
L35	25.625 - 25.5	Pole	Max. Torque	8			15.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.94	0.26	22.25
			Max. Mx	8	-39.95	-2924.41	22.86
			Max. My	2	-39.95	-11.98	2968.82
			Max. Vy	8	38.16	-2924.41	22.86
			Max. Vx	2	-37.98	-11.98	2968.82
			Max. Torque	8			15.89
L36	25.5 - 20.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.23	0.26	22.01

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	26 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L37	20.5 - 15.5	Pole	Max. Mx	8	-42.38	-3117.03	23.62
			Max. My	2	-42.38	-12.45	3160.15
			Max. Vy	8	38.91	-3117.03	23.62
			Max. Vx	2	-38.59	-12.45	3160.15
			Max. Torque	8			15.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.50	0.26	21.86
			Max. Mx	8	-44.87	-3313.04	24.37
			Max. My	2	-44.87	-12.91	3354.56
			Max. Vy	8	39.52	-3313.04	24.37
L38	15.5 - 10.5	Pole	Max. Vx	2	-39.20	-12.91	3354.56
			Max. Torque	8			15.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.78	0.26	21.72
			Max. Mx	8	-47.39	-3512.09	25.11
			Max. My	2	-47.39	-13.38	3552.04
			Max. Vy	8	40.13	-3512.09	25.11
			Max. Vx	2	-39.81	-13.38	3552.04
			Max. Torque	8			15.88
			Max Tension	1	0.00	0.00	0.00
L39	10.5 - 5.5	Pole	Max. Compression	26	-91.06	0.26	21.59
			Max. Mx	8	-49.95	-3714.18	25.85
			Max. My	2	-49.95	-13.84	3752.56
			Max. Vy	8	40.74	-3714.18	25.85
			Max. Vx	2	-40.42	-13.84	3752.56
			Max. Torque	8			15.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-94.30	0.26	21.46
			Max. Mx	8	-52.55	-3919.32	26.58
			Max. My	2	-52.55	-14.30	3956.12
L40	5.5 - 0.5	Pole	Max. Vy	8	41.35	-3919.32	26.58
			Max. Vx	2	-41.03	-14.30	3956.12
			Max. Torque	8			15.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-94.61	0.26	21.45
			Max. Mx	8	-52.81	-3940.00	26.65
			Max. My	2	-52.81	-14.34	3976.65
			Max. Vy	8	41.40	-3940.00	26.65
			Max. Vx	2	-41.09	-14.34	3976.65
			Max. Torque	8			15.88
L41	0.5 - 0	Pole	Max. Compression	26	-94.61	0.26	21.45
			Max. Mx	8	-52.81	-3940.00	26.65
			Max. My	2	-52.81	-14.34	3976.65
			Max. Vy	8	41.40	-3940.00	26.65
			Max. Vx	2	-41.09	-14.34	3976.65
			Max. Torque	8			15.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-94.61	0.26	21.45
			Max. Mx	8	-52.81	-3940.00	26.65
			Max. My	2	-52.81	-14.34	3976.65

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	94.61	-0.00	-0.00
	Max. H _x	20	52.82	41.34	0.04
	Max. H _z	2	52.82	-0.09	41.08
	Max. M _x	2	3976.65	-0.09	41.08
	Max. M _z	8	3940.00	-41.39	0.15
	Max. Torsion	8	15.88	-41.39	0.15
	Min. Vert	3	39.62	-0.09	41.08
	Min. H _x	8	52.82	-41.39	0.15
	Min. H _z	14	52.82	0.08	-41.01
	Min. M _x	14	-3956.86	0.08	-41.01
	Min. M _z	20	-3932.24	41.34	0.04

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	27 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. Torsion	20	-15.84	41.34	0.04

Tower Mast Reaction Summary

Load Combination	Vertical	Shear _x	Shear _z	Overtuning Moment, M _x	Overtuning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead Only	44.02	0.00	0.00	-3.04	0.05	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	52.82	0.09	-41.08	-3976.65	-14.34	-0.47
0.9 Dead+1.6 Wind 0 deg - No Ice	39.62	0.09	-41.08	-3947.00	-14.22	-0.47
1.2 Dead+1.6 Wind 30 deg - No Ice	52.82	20.81	-36.62	-3479.77	-1954.72	-8.31
0.9 Dead+1.6 Wind 30 deg - No Ice	39.62	20.81	-36.62	-3453.83	-1940.81	-8.28
1.2 Dead+1.6 Wind 60 deg - No Ice	52.82	36.22	-21.25	-2019.71	-3402.62	-13.74
0.9 Dead+1.6 Wind 60 deg - No Ice	39.62	36.22	-21.25	-2004.22	-3378.35	-13.69
1.2 Dead+1.6 Wind 90 deg - No Ice	52.82	41.39	-0.15	-26.65	-3940.00	-15.88
0.9 Dead+1.6 Wind 90 deg - No Ice	39.62	41.39	-0.15	-25.45	-3911.87	-15.82
1.2 Dead+1.6 Wind 120 deg - No Ice	52.82	36.11	21.22	2006.71	-3386.07	-12.91
0.9 Dead+1.6 Wind 120 deg - No Ice	39.62	36.11	21.22	1993.25	-3361.95	-12.86
1.2 Dead+1.6 Wind 150 deg - No Ice	52.82	20.77	36.54	3459.14	-1949.32	-7.00
0.9 Dead+1.6 Wind 150 deg - No Ice	39.62	20.77	36.54	3435.32	-1935.48	-6.97
1.2 Dead+1.6 Wind 180 deg - No Ice	52.82	-0.08	41.01	3956.86	12.56	0.61
0.9 Dead+1.6 Wind 180 deg - No Ice	39.62	-0.08	41.01	3929.33	12.42	0.61
1.2 Dead+1.6 Wind 210 deg - No Ice	52.82	-20.80	36.57	3463.64	1953.35	8.09
0.9 Dead+1.6 Wind 210 deg - No Ice	39.62	-20.80	36.57	3439.78	1939.44	8.06
1.2 Dead+1.6 Wind 240 deg - No Ice	52.82	-36.12	21.29	2018.38	3387.75	13.27
0.9 Dead+1.6 Wind 240 deg - No Ice	39.62	-36.12	21.29	2004.81	3363.59	13.22
1.2 Dead+1.6 Wind 270 deg - No Ice	52.82	-41.34	-0.04	-10.36	3932.24	15.84
0.9 Dead+1.6 Wind 270 deg - No Ice	39.62	-41.34	-0.04	-9.32	3904.16	15.78
1.2 Dead+1.6 Wind 300 deg - No Ice	52.82	-36.20	-21.18	-2009.58	3400.05	13.29
0.9 Dead+1.6 Wind 300 deg - No Ice	39.62	-36.20	-21.18	-1994.19	3375.77	13.24
1.2 Dead+1.6 Wind 330 deg - No Ice	52.82	-20.74	-36.56	-3470.00	1944.30	7.44
0.9 Dead+1.6 Wind 330 deg - No Ice	39.62	-20.74	-36.56	-3444.15	1930.45	7.41
1.2 Dead+1.0 Ice+1.0 Temp	94.61	0.00	0.00	-21.45	0.26	0.00

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job CT2153 - 10035241	Page 28 of 38
	Project 1829074	Date 09:36:56 08/24/18
	Client Com-Ex	Designed by Ahmet Colakoglu

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	94.61	0.01	-8.62	-922.52	-2.18	-0.29
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	94.61	4.38	-7.66	-806.59	-446.12	-2.40
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	94.61	7.62	-4.44	-476.95	-776.85	-3.85
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	94.61	8.66	-0.02	-25.43	-896.57	-4.33
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	94.61	7.61	4.44	432.89	-774.04	-3.51
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	94.61	4.38	7.65	761.23	-445.20	-1.84
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	94.61	-0.01	8.61	877.31	2.39	0.31
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	94.61	-4.38	7.65	762.00	446.39	2.38
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	94.61	-7.61	4.45	434.87	774.84	3.78
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	94.61	-8.65	-0.01	-22.66	895.76	4.33
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	94.61	-7.62	-4.43	-475.23	776.92	3.57
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	94.61	-4.37	-7.65	-804.93	444.86	1.90
Dead+Wind 0 deg - Service	44.02	0.02	-7.05	-682.35	-2.41	-0.09
Dead+Wind 30 deg - Service	44.02	3.57	-6.28	-597.40	-334.13	-1.42
Dead+Wind 60 deg - Service	44.02	6.22	-3.65	-347.81	-581.67	-2.40
Dead+Wind 90 deg - Service	44.02	7.10	-0.03	-7.08	-673.53	-2.75
Dead+Wind 120 deg - Service	44.02	6.20	3.64	340.53	-578.84	-2.26
Dead+Wind 150 deg - Service	44.02	3.56	6.27	588.85	-333.22	-1.21
Dead+Wind 180 deg - Service	44.02	-0.01	7.04	673.86	2.18	0.10
Dead+Wind 210 deg - Service	44.02	-3.57	6.28	589.62	333.99	1.40
Dead+Wind 240 deg - Service	44.02	-6.20	3.65	342.52	579.21	2.33
Dead+Wind 270 deg - Service	44.02	-7.09	-0.01	-4.30	672.28	2.75
Dead+Wind 300 deg - Service	44.02	-6.21	-3.63	-346.07	581.30	2.32
Dead+Wind 330 deg - Service	44.02	-3.56	-6.27	-595.73	332.43	1.27

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-44.02	0.00	-0.00	44.02	-0.00	0.001%
2	0.09	-52.82	-41.08	-0.09	52.82	41.08	0.001%
3	0.09	-39.62	-41.08	-0.09	39.62	41.08	0.001%
4	20.81	-52.82	-36.62	-20.81	52.82	36.62	0.000%
5	20.81	-39.62	-36.62	-20.81	39.62	36.62	0.000%
6	36.22	-52.82	-21.25	-36.22	52.82	21.25	0.000%
7	36.22	-39.62	-21.25	-36.22	39.62	21.25	0.000%
8	41.39	-52.82	-0.15	-41.39	52.82	0.15	0.000%
9	41.39	-39.62	-0.15	-41.39	39.62	0.15	0.000%
10	36.11	-52.82	21.22	-36.11	52.82	-21.22	0.000%
11	36.11	-39.62	21.22	-36.11	39.62	-21.22	0.000%
12	20.77	-52.82	36.54	-20.77	52.82	-36.54	0.000%
13	20.77	-39.62	36.54	-20.77	39.62	-36.54	0.000%
14	-0.08	-52.82	41.01	0.08	52.82	-41.01	0.001%
15	-0.08	-39.62	41.01	0.08	39.62	-41.01	0.001%
16	-20.80	-52.82	36.57	20.80	52.82	-36.57	0.000%

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	29 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
17	-20.80	-39.62	36.57	20.80	39.62	-36.57	0.000%
18	-36.12	-52.82	21.29	36.12	52.82	-21.29	0.000%
19	-36.12	-39.62	21.29	36.12	39.62	-21.29	0.000%
20	-41.34	-52.82	-0.04	41.34	52.82	0.04	0.000%
21	-41.34	-39.62	-0.04	41.34	39.62	0.04	0.000%
22	-36.20	-52.82	-21.18	36.20	52.82	21.18	0.000%
23	-36.20	-39.62	-21.18	36.20	39.62	21.18	0.000%
24	-20.74	-52.82	-36.56	20.74	52.82	36.56	0.000%
25	-20.74	-39.62	-36.56	20.74	39.62	36.56	0.000%
26	0.00	-94.61	0.00	-0.00	94.61	-0.00	0.000%
27	0.01	-94.61	-8.62	-0.01	94.61	8.62	0.000%
28	4.38	-94.61	-7.66	-4.38	94.61	7.66	0.000%
29	7.62	-94.61	-4.44	-7.62	94.61	4.44	0.000%
30	8.66	-94.61	-0.02	-8.66	94.61	0.02	0.000%
31	7.61	-94.61	4.44	-7.61	94.61	-4.44	0.000%
32	4.38	-94.61	7.65	-4.38	94.61	-7.65	0.000%
33	-0.01	-94.61	8.61	0.01	94.61	-8.61	0.000%
34	-4.38	-94.61	7.65	4.38	94.61	-7.65	0.000%
35	-7.61	-94.61	4.45	7.61	94.61	-4.45	0.000%
36	-8.65	-94.61	-0.01	8.65	94.61	0.01	0.000%
37	-7.62	-94.61	-4.43	7.62	94.61	4.43	0.000%
38	-4.37	-94.61	-7.65	4.37	94.61	7.65	0.000%
39	0.02	-44.02	-7.05	-0.02	44.02	7.05	0.001%
40	3.57	-44.02	-6.28	-3.57	44.02	6.28	0.001%
41	6.22	-44.02	-3.65	-6.22	44.02	3.65	0.000%
42	7.10	-44.02	-0.03	-7.10	44.02	0.03	0.000%
43	6.20	-44.02	3.64	-6.20	44.02	-3.64	0.000%
44	3.56	-44.02	6.27	-3.56	44.02	-6.27	0.000%
45	-0.01	-44.02	7.04	0.01	44.02	-7.04	0.002%
46	-3.57	-44.02	6.28	3.57	44.02	-6.28	0.000%
47	-6.20	-44.02	3.65	6.20	44.02	-3.65	0.000%
48	-7.09	-44.02	-0.01	7.09	44.02	0.01	0.000%
49	-6.21	-44.02	-3.63	6.21	44.02	3.63	0.000%
50	-3.56	-44.02	-6.27	3.56	44.02	6.27	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	7	0.00000001	0.00001236
2	Yes	17	0.00000001	0.00008606
3	Yes	16	0.00000001	0.00010856
4	Yes	21	0.00000001	0.00006908
5	Yes	20	0.00000001	0.00011551
6	Yes	21	0.00000001	0.00009496
7	Yes	21	0.00000001	0.00006896
8	Yes	20	0.00000001	0.00008386
9	Yes	19	0.00000001	0.00014397
10	Yes	21	0.00000001	0.00006782
11	Yes	20	0.00000001	0.00011401
12	Yes	21	0.00000001	0.00008387
13	Yes	20	0.00000001	0.00014147
14	Yes	17	0.00000001	0.00009940
15	Yes	16	0.00000001	0.00013752
16	Yes	21	0.00000001	0.00008593
17	Yes	20	0.00000001	0.00014502

<p style="text-align: center;">tnxTower</p> <p>Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:</p>	Job	CT2153 - 10035241	Page	30 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

18	Yes	21	0.00000001	0.00006856
19	Yes	20	0.00000001	0.00011525
20	Yes	20	0.00000001	0.00008174
21	Yes	19	0.00000001	0.00014040
22	Yes	21	0.00000001	0.00009373
23	Yes	21	0.00000001	0.00006806
24	Yes	21	0.00000001	0.00006875
25	Yes	20	0.00000001	0.00011504
26	Yes	16	0.00000001	0.00009909
27	Yes	20	0.00000001	0.00013127
28	Yes	20	0.00000001	0.00013400
29	Yes	20	0.00000001	0.00013280
30	Yes	20	0.00000001	0.00012564
31	Yes	20	0.00000001	0.00012496
32	Yes	20	0.00000001	0.00012374
33	Yes	20	0.00000001	0.00011979
34	Yes	20	0.00000001	0.00012417
35	Yes	20	0.00000001	0.00012540
36	Yes	20	0.00000001	0.00012546
37	Yes	20	0.00000001	0.00013249
38	Yes	20	0.00000001	0.00013353
39	Yes	15	0.00000001	0.00007696
40	Yes	15	0.00000001	0.00012825
41	Yes	16	0.00000001	0.00009965
42	Yes	16	0.00000001	0.00008701
43	Yes	16	0.00000001	0.00007466
44	Yes	16	0.00000001	0.00007268
45	Yes	14	0.00000001	0.00014864
46	Yes	16	0.00000001	0.00007684
47	Yes	16	0.00000001	0.00007637
48	Yes	16	0.00000001	0.00008646
49	Yes	16	0.00000001	0.00009749
50	Yes	15	0.00000001	0.00012349

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	148 - 143	15.473	39	0.9578	0.0114
L2	143 - 138	14.472	39	0.9522	0.0111
L3	138 - 133	13.481	39	0.9395	0.0108
L4	133 - 128	12.506	39	0.9211	0.0105
L5	128 - 123	11.554	39	0.8979	0.0102
L6	123 - 118	10.627	39	0.8707	0.0100
L7	118 - 113	9.731	39	0.8394	0.0094
L8	113 - 108	8.872	39	0.8020	0.0084
L9	108 - 100.5	8.053	39	0.7600	0.0076
L10	104.5 - 99.5	7.508	39	0.7284	0.0070
L11	99.5 - 94.5	6.756	39	0.7056	0.0066
L12	94.5 - 89.5	6.035	39	0.6697	0.0061
L13	89.5 - 84.5	5.354	39	0.6314	0.0055
L14	84.5 - 79.5	4.714	39	0.5913	0.0049
L15	79.5 - 74.5	4.116	39	0.5497	0.0044
L16	74.5 - 70.667	3.563	39	0.5066	0.0040
L17	70.667 - 70.417	3.170	39	0.4726	0.0036
L18	70.417 - 65.417	3.145	39	0.4703	0.0036
L19	65.417 - 63.667	2.676	39	0.4249	0.0032
L20	63.667 - 63.417	2.523	39	0.4090	0.0031
L21	63.417 - 58.25	2.502	39	0.4067	0.0030

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	31 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L22	63.25 - 57.25	2.488	39	0.4052	0.0030
L23	57.25 - 53.229	1.996	39	0.3744	0.0028
L24	53.229 - 52.979	1.695	39	0.3397	0.0025
L25	52.979 - 47.979	1.677	39	0.3376	0.0025
L26	47.979 - 42.979	1.347	40	0.2941	0.0021
L27	42.979 - 37.979	1.062	40	0.2504	0.0017
L28	37.979 - 35.125	0.823	40	0.2066	0.0013
L29	35.125 - 34.875	0.707	40	0.1815	0.0011
L30	34.875 - 28.75	0.697	40	0.1800	0.0011
L31	34.5 - 27.75	0.683	40	0.1777	0.0011
L32	27.75 - 25.875	0.446	40	0.1545	0.0009
L33	25.875 - 25.75	0.388	40	0.1434	0.0009
L34	25.75 - 25.625	0.384	40	0.1424	0.0008
L35	25.625 - 25.5	0.380	40	0.1417	0.0008
L36	25.5 - 20.5	0.377	40	0.1410	0.0008
L37	20.5 - 15.5	0.243	40	0.1135	0.0007
L38	15.5 - 10.5	0.139	40	0.0858	0.0005
L39	10.5 - 5.5	0.064	40	0.0582	0.0003
L40	5.5 - 0.5	0.017	40	0.0303	0.0002
L41	0.5 - 0	0.000	40	0.0000	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.000	VHLP800-11	39	15.473	0.9578	0.0114	31039
148.000	DB420	39	15.473	0.9578	0.0114	31039
144.000	VHLP2.5-10W	39	14.672	0.9538	0.0112	31039
120.000	7770.00 w/ Mount Pipe	39	10.086	0.8526	0.0097	8887
96.000	PD220	39	6.248	0.6817	0.0063	8102
82.000	(3) RR90-17-00DPL2 w/ Mount Pipe	39	4.409	0.5707	0.0047	6884
72.000	800 10504 w/ Mount Pipe	39	3.303	0.4845	0.0037	6440
53.000	BSA150B	39	1.679	0.3377	0.0025	6658
50.000	BULLET III	39	1.475	0.3118	0.0023	6579

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	148 - 143	89.701	2	5.5443	0.0659
L2	143 - 138	83.918	2	5.5117	0.0644
L3	138 - 133	78.189	2	5.4386	0.0624
L4	133 - 128	72.556	2	5.3316	0.0606
L5	128 - 123	67.049	2	5.1965	0.0591
L6	123 - 118	61.695	2	5.0382	0.0577
L7	118 - 113	56.518	2	4.8582	0.0545
L8	113 - 108	51.544	2	4.6467	0.0489
L9	108 - 100.5	46.806	2	4.4075	0.0438
L10	104.5 - 99.5	43.644	2	4.2263	0.0405

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	32 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L11	99.5 - 94.5	39.282	2	4.0957	0.0385
L12	94.5 - 89.5	35.104	2	3.8888	0.0354
L13	89.5 - 84.5	31.149	2	3.6682	0.0318
L14	84.5 - 79.5	27.430	2	3.4369	0.0286
L15	79.5 - 74.5	23.958	2	3.1966	0.0256
L16	74.5 - 70.667	20.742	2	2.9468	0.0229
L17	70.667 - 70.417	18.456	2	2.7497	0.0209
L18	70.417 - 65.417	18.312	2	2.7368	0.0208
L19	65.417 - 63.667	15.585	2	2.4733	0.0185
L20	63.667 - 63.417	14.695	2	2.3811	0.0177
L21	63.417 - 58.25	14.571	2	2.3677	0.0176
L22	63.25 - 57.25	14.488	2	2.3587	0.0175
L23	57.25 - 53.229	11.625	4	2.1796	0.0162
L24	53.229 - 52.979	9.876	4	1.9782	0.0148
L25	52.979 - 47.979	9.773	4	1.9656	0.0147
L26	47.979 - 42.979	7.849	4	1.7130	0.0122
L27	42.979 - 37.979	6.189	4	1.4586	0.0099
L28	37.979 - 35.125	4.796	4	1.2036	0.0077
L29	35.125 - 34.875	4.120	4	1.0581	0.0065
L30	34.875 - 28.75	4.065	4	1.0492	0.0065
L31	34.5 - 27.75	3.983	4	1.0359	0.0064
L32	27.75 - 25.875	2.603	4	0.9010	0.0054
L33	25.875 - 25.75	2.262	4	0.8363	0.0049
L34	25.75 - 25.625	2.240	4	0.8304	0.0049
L35	25.625 - 25.5	2.218	4	0.8263	0.0049
L36	25.5 - 20.5	2.196	4	0.8223	0.0048
L37	20.5 - 15.5	1.419	4	0.6620	0.0038
L38	15.5 - 10.5	0.811	4	0.5000	0.0028
L39	10.5 - 5.5	0.372	4	0.3391	0.0018
L40	5.5 - 0.5	0.102	4	0.1769	0.0009
L41	0.5 - 0	0.001	4	0.0160	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.000	VHLP800-11	2	89.701	5.5443	0.0659	5481
148.000	DB420	2	89.701	5.5443	0.0659	5481
144.000	VHLP2.5-10W	2	85.071	5.5207	0.0647	5481
120.000	7770.00 w/ Mount Pipe	2	58.566	4.9337	0.0561	1576
96.000	PD220	2	36.335	3.9578	0.0364	1421
82.000	(3) RR90-17-00DPL2 w/ Mount Pipe	2	25.662	3.3178	0.0271	1199
72.000	800 10504 w/ Mount Pipe	2	19.233	2.8187	0.0216	1116
53.000	BSA150B	4	9.782	1.9667	0.0147	1148
50.000	BULLET III	4	8.595	1.8158	0.0133	1133

Compression Checks

Job	CT2153 - 10035241	Page	33 of 38
Project	1829074	Date	09:36:56 08/24/18
Client	Com-Ex	Designed by	Ahmet Colakoglu

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	148 - 143 (1)	TP23.0151x22x0.25	5.000	0.000	0.0	18.3259	-3.49	1243.39	0.003
L2	143 - 138 (2)	TP24.0301x23.0151x0.25	5.000	0.000	0.0	19.1430	-3.91	1280.70	0.003
L3	138 - 133 (3)	TP25.0452x24.0301x0.25	5.000	0.000	0.0	19.9601	-4.34	1316.46	0.003
L4	133 - 128 (4)	TP26.0602x25.0452x0.25	5.000	0.000	0.0	20.7772	-4.80	1350.67	0.004
L5	128 - 123 (5)	TP27.0753x26.0602x0.25	5.000	0.000	0.0	21.5943	-5.29	1383.33	0.004
L6	123 - 118 (6)	TP28.0903x27.0753x0.25	5.000	0.000	0.0	22.4115	-8.88	1414.45	0.006
L7	118 - 113 (7)	TP29.1054x28.0903x0.25	5.000	0.000	0.0	23.2286	-9.50	1444.01	0.007
L8	113 - 108 (8)	TP30.1204x29.1054x0.25	5.000	0.000	0.0	24.0457	-10.14	1472.03	0.007
L9	108 - 100.5 (9)	TP31.643x30.1204x0.25	7.500	0.000	0.0	24.6177	-10.61	1490.72	0.007
L10	100.5 - 99.5 (10)	TP31.346x30.331x0.375	5.000	0.000	0.0	37.3975	-11.90	2544.52	0.005
L11	99.5 - 94.5 (11)	TP32.361x31.346x0.375	5.000	0.000	0.0	38.6231	-14.77	2627.92	0.006
L12	94.5 - 89.5 (12)	TP33.3761x32.361x0.375	5.000	0.000	0.0	39.8488	-15.77	2711.31	0.006
L13	89.5 - 84.5 (13)	TP34.3911x33.3761x0.375	5.000	0.000	0.0	41.0744	-16.81	2790.22	0.006
L14	84.5 - 79.5 (14)	TP35.4061x34.3911x0.375	5.000	0.000	0.0	42.3001	-20.01	2846.76	0.007
L15	79.5 - 74.5 (15)	TP36.4211x35.4061x0.375	5.000	0.000	0.0	43.5257	-21.15	2901.76	0.007
L16	74.5 - 70.667 (16)	TP37.1993x36.4211x0.375	3.833	0.000	0.0	44.4653	-22.41	2942.88	0.008
L17	70.667 - 70.417 (17)	TP37.25x37.1993x0.375	0.250	0.000	0.0	44.5266	-22.49	2945.53	0.008
L18	70.417 - 65.417 (18)	TP38.2651x37.25x0.375	5.000	0.000	0.0	45.7522	-23.73	2997.71	0.008
L19	65.417 - 63.667 (19)	TP38.6203x38.2651x0.375	1.750	0.000	0.0	46.1812	-24.16	3015.61	0.008
L20	63.667 - 63.417 (20)	TP38.6711x38.6203x0.375	0.250	0.000	0.0	46.2425	-24.25	3018.16	0.008
L21	63.417 - 58.25 (21)	TP39.72x38.6711x0.375	5.167	0.000	0.0	46.2834	-24.29	3019.85	0.008
L22	58.25 - 57.25 (22)	TP39.1731x37.955x0.4375	6.000	0.000	0.0	54.5687	-26.88	3712.86	0.007
L23	57.25 - 53.229 (23)	TP39.9894x39.1731x0.4375	4.021	0.000	0.0	55.7187	-28.06	3788.98	0.007
L24	53.229 - 52.979 (24)	TP40.0401x39.9894x0.4375	0.250	0.000	0.0	55.7902	-28.15	3792.34	0.007
L25	52.979 - 47.979 (25)	TP41.0552x40.0401x0.4375	5.000	0.000	0.0	57.2202	-29.64	3858.57	0.008
L26	47.979 - 42.979 (26)	TP42.0703x41.0552x0.4375	5.000	0.000	0.0	58.6502	-31.18	3923.25	0.008
L27	42.979 - 37.979 (27)	TP43.0854x42.0703x0.4375	5.000	0.000	0.0	60.0802	-32.76	3986.38	0.008
L28	37.979 - 35.125 (28)	TP43.6648x43.0854x0.4375	2.854	0.000	0.0	60.8964	-33.67	4021.72	0.008
L29	35.125 - 34.875 (29)	TP43.7155x43.6648x0.6375	0.250	0.000	0.0	88.4284	-33.79	6016.67	0.006
L30	34.875 - 28.75 (30)	TP44.959x43.7155x0.6375	6.125	0.000	0.0	88.5847	-33.95	6027.30	0.006
L31	28.75 - 27.75 (31)	TP44.2869x42.9167x0.7	6.750	0.000	0.0	98.2448	-38.92	6684.58	0.006
L32	27.75 - 25.875 (32)	TP44.6675x44.2869x0.6875	1.875	0.000	0.0	97.3607	-39.76	6624.42	0.006
L33	25.875 - 25.75 (33)	TP44.6929x44.6675x0.5	0.125	0.000	0.0	71.1505	-39.82	4841.08	0.008
L34	25.75 - 25.625 (34)	TP44.7182x44.6929x0.75	0.125	0.000	0.0	106.183	-39.88	7224.71	0.006
L35	25.625 - 25.5 (35)	TP44.7436x44.7182x0.75	0.125	0.000	0.0	0	-39.95	7228.88	0.006
L36	25.5 - 20.5 (36)	TP45.7586x44.7436x0.75	5.000	0.000	0.0	108.696	-42.38	7395.66	0.006

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	34 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L37	20.5 - 15.5 (37)	TP46.7736x45.7586x0.7375	5.000	0.000	0.0	109.324	-44.86	7438.42	0.006
L38	15.5 - 10.5 (38)	TP47.7885x46.7736x0.7375	5.000	0.000	0.0	111.734	-47.39	7602.41	0.006
L39	10.5 - 5.5 (39)	TP48.8035x47.7885x0.725	5.000	0.000	0.0	112.239	-49.95	7636.76	0.007
L40	5.5 - 0.5 (40)	TP49.8185x48.8035x0.725	5.000	0.000	0.0	114.609	-52.55	7797.98	0.007
L41	0.5 - 0 (41)	TP49.92x49.8185x0.725	0.500	0.000	0.0	114.846	-52.81	7814.10	0.007

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
L1	148 - 143 (1)	TP23.0151x22x0.25	45.74	574.92	0.080	0.00	574.92	0.000
L2	143 - 138 (2)	TP24.0301x23.0151x0.25	88.51	618.86	0.143	0.00	618.86	0.000
L3	138 - 133 (3)	TP25.0452x24.0301x0.25	134.27	663.58	0.202	0.00	663.58	0.000
L4	133 - 128 (4)	TP26.0602x25.0452x0.25	183.10	708.97	0.258	0.00	708.97	0.000
L5	128 - 123 (5)	TP27.0753x26.0602x0.25	235.09	754.95	0.311	0.00	754.95	0.000
L6	123 - 118 (6)	TP28.0903x27.0753x0.25	304.88	801.41	0.380	0.00	801.41	0.000
L7	118 - 113 (7)	TP29.1054x28.0903x0.25	392.69	848.26	0.463	0.00	848.26	0.000
L8	113 - 108 (8)	TP30.1204x29.1054x0.25	483.78	895.39	0.540	0.00	895.39	0.000
L9	108 - 100.5 (9)	TP31.643x30.1204x0.25	549.51	928.51	0.592	0.00	928.51	0.000
L10	100.5 - 99.5 (10)	TP31.346x30.331x0.375	646.44	1598.86	0.404	0.00	1598.86	0.000
L11	99.5 - 94.5 (11)	TP32.361x31.346x0.375	760.17	1706.03	0.446	0.00	1706.03	0.000
L12	94.5 - 89.5 (12)	TP33.3761x32.361x0.375	881.38	1816.67	0.485	0.00	1816.67	0.000
L13	89.5 - 84.5 (13)	TP34.3911x33.3761x0.375	1006.04	1927.68	0.522	0.00	1927.68	0.000
L14	84.5 - 79.5 (14)	TP35.4061x34.3911x0.375	1142.14	2026.08	0.564	0.00	2026.08	0.000
L15	79.5 - 74.5 (15)	TP36.4211x35.4061x0.375	1289.63	2125.69	0.607	0.00	2125.69	0.000
L16	74.5 - 70.667 (16)	TP37.1993x36.4211x0.375	1405.78	2202.83	0.638	0.00	2202.83	0.000
L17	70.667 - 70.417 (17)	TP37.25x37.1993x0.375	1413.51	2207.88	0.640	0.00	2207.88	0.000
L18	70.417 - 65.417 (18)	TP38.2651x37.25x0.375	1570.04	2309.47	0.680	0.00	2309.47	0.000
L19	65.417 - 63.667 (19)	TP38.6203x38.2651x0.375	1625.62	2345.26	0.693	0.00	2345.26	0.000
L20	63.667 - 63.417 (20)	TP38.6711x38.6203x0.375	1633.59	2350.38	0.695	0.00	2350.38	0.000
L21	63.417 - 58.25 (21)	TP39.72x38.6711x0.375	1638.93	2353.81	0.696	0.00	2353.81	0.000
L22	58.25 - 57.25 (22)	TP39.1731x37.955x0.4375	1833.22	2920.22	0.628	0.00	2920.22	0.000
L23	57.25 - 53.229 (23)	TP39.9894x39.1731x0.4375	1966.22	3043.60	0.646	0.00	3043.60	0.000
L24	53.229 - 52.979 (24)	TP40.0401x39.9894x0.4375	1974.70	3050.24	0.647	0.00	3050.24	0.000
L25	52.979 - 47.979 (25)	TP41.0552x40.0401x0.4375	2148.38	3183.93	0.675	0.00	3183.93	0.000
L26	47.979 - 42.979 (26)	TP42.0703x41.0552x0.4375	2325.32	3319.07	0.701	0.00	3319.07	0.000
L27	42.979 -	TP43.0854x42.0703x0.4375	2505.41	3455.56	0.725	0.00	3455.56	0.000

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	35 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{rx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{rx}}$	M_{uy} kip-ft	ϕM_{ry} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ry}}$
L28	37.979 (27)	TP43.6648x43.0854x0.4375	2609.55	3534.04	0.738	0.00	3534.04	0.000
L29	37.979 - 35.125 (28)	TP43.7155x43.6648x0.6375	2618.72	5244.53	0.499	0.00	5244.53	0.000
L30	35.125 - 34.875 (29)	TP44.959x43.7155x0.6375	2632.49	5263.23	0.500	0.00	5263.23	0.000
L31	34.875 - 28.75 (30)	TP44.2869x42.9167x0.7	2883.74	5888.24	0.490	0.00	5888.24	0.000
L32	28.75 - 27.75 (31)	TP44.6675x44.2869x0.6875	2954.62	5890.36	0.502	0.00	5890.36	0.000
L33	27.75 - 25.875 (32)	TP44.6929x44.6675x0.5	2959.36	4343.93	0.681	0.00	4343.93	0.000
L34	25.875 - 25.75 (33)	TP44.7182x44.6929x0.75	2964.10	6413.41	0.462	0.00	6413.41	0.000
L35	25.75 - 25.625 (34)	TP44.7436x44.7182x0.75	2968.84	6420.87	0.462	0.00	6420.87	0.000
L36	25.625 - 25.5 (35)	TP45.7586x44.7436x0.75	3160.18	6723.11	0.470	0.00	6723.11	0.000
L37	25.5 - 20.5 (36)	TP46.7736x45.7586x0.7375	3356.53	6920.72	0.485	0.00	6920.72	0.000
L38	20.5 - 15.5 (37)	TP47.7885x46.7736x0.7375	3557.32	7231.72	0.492	0.00	7231.72	0.000
L39	15.5 - 10.5 (38)	TP48.8035x47.7885x0.725	3761.85	7427.37	0.506	0.00	7427.37	0.000
L40	10.5 - 5.5 (39)	TP49.8185x48.8035x0.725	3970.16	7746.66	0.512	0.00	7746.66	0.000
L41	5.5 - 0.5 (40)	TP49.92x49.8185x0.725	3991.20	7778.96	0.513	0.00	7778.96	0.000
L41	0.5 - 0 (41)	TP49.92x49.8185x0.725	3991.20	7778.96	0.513	0.00	7778.96	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	148 - 143 (1)	TP23.0151x22x0.25	8.26	621.70	0.013	0.22	1165.76	0.000
L2	143 - 138 (2)	TP24.0301x23.0151x0.25	8.85	640.35	0.014	0.22	1254.86	0.000
L3	138 - 133 (3)	TP25.0452x24.0301x0.25	9.46	658.23	0.014	0.22	1345.53	0.000
L4	133 - 128 (4)	TP26.0602x25.0452x0.25	10.08	675.33	0.015	0.22	1437.58	0.000
L5	128 - 123 (5)	TP27.0753x26.0602x0.25	10.72	691.67	0.015	0.22	1530.80	0.000
L6	123 - 118 (6)	TP28.0903x27.0753x0.25	17.24	707.22	0.024	0.22	1625.00	0.000
L7	118 - 113 (7)	TP29.1054x28.0903x0.25	17.89	722.01	0.025	0.22	1719.99	0.000
L8	113 - 108 (8)	TP30.1204x29.1054x0.25	18.55	736.02	0.025	0.22	1815.58	0.000
L9	108 - 100.5 (9)	TP31.643x30.1204x0.25	19.02	745.36	0.026	0.22	1882.73	0.000
L10	100.5 - 99.5 (10)	TP31.346x30.331x0.375	19.76	1272.26	0.016	0.22	3241.98	0.000
L11	99.5 - 94.5 (11)	TP32.361x31.346x0.375	23.90	1313.96	0.018	0.46	3459.28	0.000
L12	94.5 - 89.5 (12)	TP33.3761x32.361x0.375	24.59	1355.66	0.018	0.46	3683.63	0.000
L13	89.5 - 84.5 (13)	TP34.3911x33.3761x0.375	25.29	1395.11	0.018	0.46	3908.74	0.000
L14	84.5 - 79.5 (14)	TP35.4061x34.3911x0.375	29.17	1423.38	0.020	0.46	4108.25	0.000
L15	79.5 - 74.5 (15)	TP36.4211x35.4061x0.375	29.85	1450.88	0.021	0.46	4310.25	0.000
L16	74.5 - 70.667 (16)	TP37.1993x36.4211x0.375	30.95	1471.44	0.021	0.46	4466.65	0.000
L17	70.667 - 70.417 (17)	TP37.25x37.1993x0.375	30.98	1472.76	0.021	0.46	4476.90	0.000
L18	70.417 - 65.417 (18)	TP38.2651x37.25x0.375	31.65	1498.86	0.021	0.46	4682.89	0.000
L19	65.417 - 63.667 (19)	TP38.6203x38.2651x0.375	31.89	1507.81	0.021	0.46	4755.46	0.000
L20	63.667 - 63.417 (20)	TP38.6711x38.6203x0.375	31.92	1509.08	0.021	0.46	4765.84	0.000
L21	63.417 - 58.25	TP39.72x38.6711x0.375	31.94	1509.93	0.021	0.46	4772.78	0.000

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:	Job	CT2153 - 10035241	Page	36 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L22	(21) 58.25 - 57.25	TP39.1731x37.955x0.4375	32.83	1856.43	0.018	0.45	5921.29	0.000
L23	(22) 57.25 - 53.229	TP39.9894x39.1731x0.4375	33.35	1894.49	0.018	0.45	6171.47	0.000
L24	(23) 53.229 - 52.979 (24)	TP40.0401x39.9894x0.4375	34.41	1896.17	0.018	0.45	6184.94	0.000
L25	52.979 - 47.979 (25)	TP41.0552x40.0401x0.4375	35.08	1929.28	0.018	0.47	6456.02	0.000
L26	47.979 - 42.979 (26)	TP42.0703x41.0552x0.4375	35.72	1961.62	0.018	0.47	6730.03	0.000
L27	42.979 - 37.979 (27)	TP43.0854x42.0703x0.4375	36.34	1993.19	0.018	0.47	7006.80	0.000
L28	37.979 - 35.125 (28)	TP43.6648x43.0854x0.4375	36.68	2010.86	0.018	0.47	7165.93	0.000
L29	35.125 - 34.875 (29)	TP43.7155x43.6648x0.6375	36.70	3008.34	0.012	0.47	10634.25	0.000
L30	34.875 - 28.75 (30)	TP44.959x43.7155x0.6375	36.75	3013.65	0.012	0.47	10672.17	0.000
L31	28.75 - 27.75 (31)	TP44.2869x42.9167x0.7	37.70	3342.29	0.011	0.47	11939.50	0.000
L32	27.75 - 25.875 (32)	TP44.6675x44.2869x0.6875	37.94	3312.21	0.011	0.47	11943.83	0.000
L33	25.875 - 25.75 (33)	TP44.6929x44.6675x0.5	37.95	2420.54	0.016	0.47	8808.17	0.000
L34	25.75 - 25.625 (34)	TP44.7182x44.6929x0.75	37.96	3612.36	0.011	0.47	13004.42	0.000
L35	25.625 - 25.5 (35)	TP44.7436x44.7182x0.75	37.98	3614.44	0.011	0.47	13019.50	0.000
L36	25.5 - 20.5 (36)	TP45.7586x44.7436x0.75	38.59	3697.83	0.010	0.47	13632.33	0.000
L37	20.5 - 15.5 (37)	TP46.7736x45.7586x0.7375	39.80	3719.21	0.011	8.31	14033.08	0.001
L38	15.5 - 10.5 (38)	TP47.7885x46.7736x0.7375	40.55	3801.21	0.011	8.31	14663.67	0.001
L39	10.5 - 5.5 (39)	TP48.8035x47.7885x0.725	41.30	3818.38	0.011	8.31	15060.42	0.001
L40	5.5 - 0.5 (40)	TP49.8185x48.8035x0.725	42.06	3898.99	0.011	8.31	15707.83	0.001
L41	0.5 - 0 (41)	TP49.92x49.8185x0.725	42.13	3907.05	0.011	8.31	15773.33	0.001

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	148 - 143 (1)	0.003	0.080	0.000	0.013	0.000	0.083	1.000	4.8.2
L2	143 - 138 (2)	0.003	0.143	0.000	0.014	0.000	0.146	1.000	4.8.2
L3	138 - 133 (3)	0.003	0.202	0.000	0.014	0.000	0.206	1.000	4.8.2
L4	133 - 128 (4)	0.004	0.258	0.000	0.015	0.000	0.262	1.000	4.8.2
L5	128 - 123 (5)	0.004	0.311	0.000	0.015	0.000	0.315	1.000	4.8.2
L6	123 - 118 (6)	0.006	0.380	0.000	0.024	0.000	0.387	1.000	4.8.2
L7	118 - 113 (7)	0.007	0.463	0.000	0.025	0.000	0.470	1.000	4.8.2
L8	113 - 108 (8)	0.007	0.540	0.000	0.025	0.000	0.548	1.000	4.8.2
L9	108 - 100.5 (9)	0.007	0.592	0.000	0.026	0.000	0.600	1.000	4.8.2
L10	100.5 - 99.5 (10)	0.005	0.404	0.000	0.016	0.000	0.409	1.000	4.8.2
L11	99.5 - 94.5 (11)	0.006	0.446	0.000	0.018	0.000	0.452	1.000	4.8.2
L12	94.5 - 89.5 (12)	0.006	0.485	0.000	0.018	0.000	0.491	1.000	4.8.2
L13	89.5 - 84.5 (13)	0.006	0.522	0.000	0.018	0.000	0.528	1.000	4.8.2

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">Destek Engineering, LLC 1281 Kennestone Circle, Ste. 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:</p>	Job	CT2153 - 10035241	Page	37 of 38
	Project	1829074	Date	09:36:56 08/24/18
	Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L14	84.5 - 79.5 (14)	0.007	0.564	0.000	0.020	0.000	0.571	1.000	4.8.2
L15	79.5 - 74.5 (15)	0.007	0.607	0.000	0.021	0.000	0.614	1.000	4.8.2
L16	74.5 - 70.667 (16)	0.008	0.638	0.000	0.021	0.000	0.646	1.000	4.8.2
L17	70.667 - 70.417 (17)	0.008	0.640	0.000	0.021	0.000	0.648	1.000	4.8.2
L18	70.417 - 65.417 (18)	0.008	0.680	0.000	0.021	0.000	0.688	1.000	4.8.2
L19	65.417 - 63.667 (19)	0.008	0.693	0.000	0.021	0.000	0.702	1.000	4.8.2
L20	63.667 - 63.417 (20)	0.008	0.695	0.000	0.021	0.000	0.704	1.000	4.8.2
L21	63.417 - 58.25 (21)	0.008	0.696	0.000	0.021	0.000	0.705	1.000	4.8.2
L22	58.25 - 57.25 (22)	0.007	0.628	0.000	0.018	0.000	0.635	1.000	4.8.2
L23	57.25 - 53.229 (23)	0.007	0.646	0.000	0.018	0.000	0.654	1.000	4.8.2
L24	53.229 - 52.979 (24)	0.007	0.647	0.000	0.018	0.000	0.655	1.000	4.8.2
L25	52.979 - 47.979 (25)	0.008	0.675	0.000	0.018	0.000	0.683	1.000	4.8.2
L26	47.979 - 42.979 (26)	0.008	0.701	0.000	0.018	0.000	0.709	1.000	4.8.2
L27	42.979 - 37.979 (27)	0.008	0.725	0.000	0.018	0.000	0.734	1.000	4.8.2
L28	37.979 - 35.125 (28)	0.008	0.738	0.000	0.018	0.000	0.747	1.000	4.8.2
L29	35.125 - 34.875 (29)	0.006	0.499	0.000	0.012	0.000	0.505	1.000	4.8.2
L30	34.875 - 28.75 (30)	0.006	0.500	0.000	0.012	0.000	0.506	1.000	4.8.2
L31	28.75 - 27.75 (31)	0.006	0.490	0.000	0.011	0.000	0.496	1.000	4.8.2
L32	27.75 - 25.875 (32)	0.006	0.502	0.000	0.011	0.000	0.508	1.000	4.8.2
L33	25.875 - 25.75 (33)	0.008	0.681	0.000	0.016	0.000	0.690	1.000	4.8.2
L34	25.75 - 25.625 (34)	0.006	0.462	0.000	0.011	0.000	0.468	1.000	4.8.2
L35	25.625 - 25.5 (35)	0.006	0.462	0.000	0.011	0.000	0.468	1.000	4.8.2
L36	25.5 - 20.5 (36)	0.006	0.470	0.000	0.010	0.000	0.476	1.000	4.8.2
L37	20.5 - 15.5 (37)	0.006	0.485	0.000	0.011	0.001	0.491	1.000	4.8.2
L38	15.5 - 10.5 (38)	0.006	0.492	0.000	0.011	0.001	0.498	1.000	4.8.2
L39	10.5 - 5.5 (39)	0.007	0.506	0.000	0.011	0.001	0.513	1.000	4.8.2
L40	5.5 - 0.5 (40)	0.007	0.512	0.000	0.011	0.001	0.519	1.000	4.8.2
L41	0.5 - 0 (41)	0.007	0.513	0.000	0.011	0.001	0.520	1.000	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
-------------	-----------------	----------------	------	------------------	--------	-----------------------	---------------	--------------

Job	CT2153 - 10035241	Page	38 of 38
Project	1829074	Date	09:36:56 08/24/18
Client	Com-Ex	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	148 - 143	Pole	TP23.0151x22x0.25	1	-3.49	1243.39	8.3	Pass
L2	143 - 138	Pole	TP24.0301x23.0151x0.25	2	-3.91	1280.70	14.6	Pass
L3	138 - 133	Pole	TP25.0452x24.0301x0.25	3	-4.34	1316.46	20.6	Pass
L4	133 - 128	Pole	TP26.0602x25.0452x0.25	4	-4.80	1350.67	26.2	Pass
L5	128 - 123	Pole	TP27.0753x26.0602x0.25	5	-5.29	1383.33	31.5	Pass
L6	123 - 118	Pole	TP28.0903x27.0753x0.25	6	-8.88	1414.45	38.7	Pass
L7	118 - 113	Pole	TP29.1054x28.0903x0.25	7	-9.50	1444.01	47.0	Pass
L8	113 - 108	Pole	TP30.1204x29.1054x0.25	8	-10.14	1472.03	54.8	Pass
L9	108 - 100.5	Pole	TP31.643x30.1204x0.25	9	-10.61	1490.72	60.0	Pass
L10	100.5 - 99.5	Pole	TP31.346x30.331x0.375	10	-11.90	2544.52	40.9	Pass
L11	99.5 - 94.5	Pole	TP32.361x31.346x0.375	11	-14.77	2627.92	45.2	Pass
L12	94.5 - 89.5	Pole	TP33.3761x32.361x0.375	12	-15.77	2711.31	49.1	Pass
L13	89.5 - 84.5	Pole	TP34.3911x33.3761x0.375	13	-16.81	2790.22	52.8	Pass
L14	84.5 - 79.5	Pole	TP35.4061x34.3911x0.375	14	-20.01	2846.76	57.1	Pass
L15	79.5 - 74.5	Pole	TP36.4211x35.4061x0.375	15	-21.15	2901.76	61.4	Pass
L16	74.5 - 70.667	Pole	TP37.1993x36.4211x0.375	16	-22.41	2942.88	64.6	Pass
L17	70.667 - 70.417	Pole	TP37.25x37.1993x0.375	17	-22.49	2945.53	64.8	Pass
L18	70.417 - 65.417	Pole	TP38.2651x37.25x0.375	18	-23.73	2997.71	68.8	Pass
L19	65.417 - 63.667	Pole	TP38.6203x38.2651x0.375	19	-24.16	3015.61	70.2	Pass
L20	63.667 - 63.417	Pole	TP38.6711x38.6203x0.375	20	-24.25	3018.16	70.4	Pass
L21	63.417 - 58.25	Pole	TP39.72x38.6711x0.375	21	-24.29	3019.85	70.5	Pass
L22	58.25 - 57.25	Pole	TP39.1731x37.955x0.4375	22	-26.88	3712.86	63.5	Pass
L23	57.25 - 53.229	Pole	TP39.9894x39.1731x0.4375	23	-28.06	3788.98	65.4	Pass
L24	53.229 - 52.979	Pole	TP40.0401x39.9894x0.4375	24	-28.15	3792.34	65.5	Pass
L25	52.979 - 47.979	Pole	TP41.0552x40.0401x0.4375	25	-29.64	3858.57	68.3	Pass
L26	47.979 - 42.979	Pole	TP42.0703x41.0552x0.4375	26	-31.18	3923.25	70.9	Pass
L27	42.979 - 37.979	Pole	TP43.0854x42.0703x0.4375	27	-32.76	3986.38	73.4	Pass
L28	37.979 - 35.125	Pole	TP43.6648x43.0854x0.4375	28	-33.67	4021.72	74.7	Pass
L29	35.125 - 34.875	Pole	TP43.7155x43.6648x0.6375	29	-33.79	6016.67	50.5	Pass
L30	34.875 - 28.75	Pole	TP44.959x43.7155x0.6375	30	-33.95	6027.30	50.6	Pass
L31	28.75 - 27.75	Pole	TP44.2869x42.9167x0.7	31	-38.92	6684.58	49.6	Pass
L32	27.75 - 25.875	Pole	TP44.6675x44.2869x0.6875	32	-39.76	6624.42	50.8	Pass
L33	25.875 - 25.75	Pole	TP44.6929x44.6675x0.5	33	-39.82	4841.08	69.0	Pass
L34	25.75 - 25.625	Pole	TP44.7182x44.6929x0.75	34	-39.88	7224.71	46.8	Pass
L35	25.625 - 25.5	Pole	TP44.7436x44.7182x0.75	35	-39.95	7228.88	46.8	Pass
L36	25.5 - 20.5	Pole	TP45.7586x44.7436x0.75	36	-42.38	7395.66	47.6	Pass
L37	20.5 - 15.5	Pole	TP46.7736x45.7586x0.7375	37	-44.86	7438.42	49.1	Pass
L38	15.5 - 10.5	Pole	TP47.7885x46.7736x0.7375	38	-47.39	7602.41	49.8	Pass
L39	10.5 - 5.5	Pole	TP48.8035x47.7885x0.725	39	-49.95	7636.76	51.3	Pass
L40	5.5 - 0.5	Pole	TP49.8185x48.8035x0.725	40	-52.55	7797.98	51.9	Pass
L41	0.5 - 0	Pole	TP49.92x49.8185x0.725	41	-52.81	7814.10	52.0	Pass
						Summary		
						Pole (L28)	74.7	Pass
						RATING =	74.7	Pass



per IIA-222-G

Site BU: _____
 Work Order: _____

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	148	47.5	4	12	22	31.643	0.25	Auto	A607-60
2	104.5	46.25	5	12	30.33	39.72	0.375	Auto	A607-60
3	63.25	34.5	5.75	12	37.95	44.959	0.4375	Auto	A607-60
4	34.5	34.5	0	12	42.92	49.92	0.5	Auto	A607-60

Copyright © 2018 Crown Castle

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	0	35.125	plate	CCI-WSFP-065125	2		x				x						
2	0	25.75	plate	CCI-WSFP-065125	2							x					
3	25.875	35.125	plate	CCI-SFP-065125	1										x		
4	35.125	53.229	plate	CCI-SFP-060100	3		x				x				x		
5	63.667	70.667	plate	CCI-SFP-045100	3				x			x					x
6																	
7																	
8																	
9																	
10																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L _u (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	6.5	1.25	8.125	0.625	n/a	33.000	19.000	6.563	1.1875	A572-65
2	6.5	1.25	8.125	0.625	n/a	33.000	19.000	6.563	1.1875	A572-65
3	6.5	1.25	8.125	0.625	33.000	33.000	19.000	6.563	1.1875	A572-65
4	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
5	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	148 - 143	5		12	22.000	23.015	0.25	A607-60	1.000
2	143 - 138	5		12	23.015	24.030	0.25	A607-60	1.000
3	138 - 133	5		12	24.030	25.045	0.25	A607-60	1.000
4	133 - 128	5		12	25.045	26.060	0.25	A607-60	1.000
5	128 - 123	5		12	26.060	27.075	0.25	A607-60	1.000
6	123 - 118	5		12	27.075	28.090	0.25	A607-60	1.000
7	118 - 113	5		12	28.090	29.105	0.25	A607-60	1.000
8	113 - 108	5		12	29.105	30.120	0.25	A607-60	1.000
9	108 - 104.5	7.5	4	12	30.120	31.643	0.25	A607-60	1.000
10	104.5 - 99.5	5		12	30.331	31.346	0.375	A607-60	1.000
11	99.5 - 94.5	5		12	31.346	32.361	0.375	A607-60	1.000
12	94.5 - 89.5	5		12	32.361	33.376	0.375	A607-60	1.000
13	89.5 - 84.5	5		12	33.376	34.391	0.375	A607-60	1.000
14	84.5 - 79.5	5		12	34.391	35.406	0.375	A607-60	1.000
15	79.5 - 74.5	5		12	35.406	36.421	0.375	A607-60	1.000
16	74.5 - 70.667	3.833		12	36.421	37.199	0.375	A607-60	1.000
17	70.667 - 70.417	0.25		12	37.199	37.250	0.375	A607-60	1.000
18	70.417 - 65.417	5		12	37.250	38.265	0.375	A607-60	1.000
19	65.417 - 63.667	1.75		12	38.265	38.620	0.375	A607-60	1.000
20	63.667 - 63.417	0.25		12	38.620	38.671	0.375	A607-60	1.000
21	63.417 - 63.25	5.167	5	12	38.671	39.720	0.375	A607-60	1.000
22	63.25 - 57.25	6		12	37.955	39.173	0.4375	A607-60	1.000
23	57.25 - 53.229	4.021		12	39.173	39.989	0.4375	A607-60	1.000
24	53.229 - 52.979	0.25		12	39.989	40.040	0.4375	A607-60	1.000
25	52.979 - 47.979	5		12	40.040	41.055	0.4375	A607-60	1.000
26	47.979 - 42.979	5		12	41.055	42.070	0.4375	A607-60	1.000
27	42.979 - 37.979	5		12	42.070	43.085	0.4375	A607-60	1.000
28	37.979 - 35.125	2.854		12	43.085	43.665	0.4375	A607-60	1.000
29	35.125 - 34.875	0.25		12	43.665	43.716	0.6375	A607-60	0.966
30	34.875 - 34.5	6.125	5.75	12	43.716	44.959	0.6375	A607-60	0.965
31	34.5 - 27.75	6.75		12	42.917	44.287	0.7	A607-60	0.966
32	27.75 - 25.875	1.875		12	44.287	44.667	0.6875	A607-60	0.981
33	25.875 - 25.75	0.125		12	44.667	44.693	0.5	A607-60	1.000
34	25.75 - 25.625	0.125		12	44.693	44.718	0.75	A607-60	0.977
35	25.625 - 25.5	0.125		12	44.718	44.744	0.75	A607-60	0.977
36	25.5 - 20.5	5		12	44.744	45.759	0.75	A607-60	0.970
37	20.5 - 15.5	5		12	45.759	46.774	0.7375	A607-60	0.979
38	15.5 - 10.5	5		12	46.774	47.789	0.7375	A607-60	0.973
39	10.5 - 5.5	5		12	47.789	48.804	0.725	A607-60	0.983
40	5.5 - 0.5	5		12	48.804	49.819	0.725	A607-60	0.977
41	0.5 - 0	0.5		12	49.819	49.920	0.725	A607-60	0.976

TNX Section Forces

Increment (ft):		TNX Output			
	5	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)
1	148 - 143		3.49	45.74	8.26
2	143 - 138		3.91	88.51	8.85
3	138 - 133		4.34	134.27	9.46
4	133 - 128		4.80	183.10	10.08
5	128 - 123		5.29	235.09	10.72
6	123 - 118		8.88	304.88	17.24
7	118 - 113		9.50	392.69	17.89
8	113 - 108		10.14	483.78	18.55
9	108 - 104.5		10.61	549.51	19.02
10	104.5 - 99.5		11.90	646.44	19.76
11	99.5 - 94.5		14.77	760.17	23.90
12	94.5 - 89.5		15.77	881.38	24.59
13	89.5 - 84.5		16.81	1006.04	25.29
14	84.5 - 79.5		20.01	1142.14	29.17
15	79.5 - 74.5		21.15	1289.63	29.85
16	74.5 - 70.667		22.41	1405.77	30.95
17	70.667 - 70.417		22.49	1413.51	30.98
18	70.417 - 65.417		23.73	1570.04	31.65
19	65.417 - 63.667		24.16	1625.62	31.89
20	63.667 - 63.417		24.25	1633.59	31.92
21	63.417 - 63.25		24.29	1638.92	31.94
22	63.25 - 57.25		26.88	1833.22	32.83
23	57.25 - 53.229		28.06	1966.23	33.35
24	53.229 - 52.979		28.15	1974.70	34.41
25	52.979 - 47.979		29.64	2148.38	35.08
26	47.979 - 42.979		31.18	2325.33	35.72
27	42.979 - 37.979		32.76	2505.41	36.34
28	37.979 - 35.125		33.67	2609.55	36.68
29	35.125 - 34.875		33.79	2618.72	36.70
30	34.875 - 34.5		33.95	2632.49	36.75
31	34.5 - 27.75		38.92	2883.74	37.70
32	27.75 - 25.875		39.76	2954.62	37.94
33	25.875 - 25.75		39.82	2959.36	37.95
34	25.75 - 25.625		39.88	2964.10	37.96
35	25.625 - 25.5		39.95	2968.84	37.98
36	25.5 - 20.5		42.38	3160.18	38.59
37	20.5 - 15.5		44.86	3356.53	39.80
38	15.5 - 10.5		47.39	3557.31	40.55
39	10.5 - 5.5		49.95	3761.85	41.30
40	5.5 - 0.5		52.55	3970.16	42.06
41	0.5 - 0		52.81	3991.20	42.13

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
148 - 143	Pole	TP23.015x22x0.25	Pole	8.2%	Pass
143 - 138	Pole	TP24.03x23.015x0.25	Pole	14.6%	Pass
138 - 133	Pole	TP25.045x24.03x0.25	Pole	20.5%	Pass
133 - 128	Pole	TP26.06x25.045x0.25	Pole	26.1%	Pass
128 - 123	Pole	TP27.075x26.06x0.25	Pole	31.5%	Pass
123 - 118	Pole	TP28.09x27.075x0.25	Pole	38.6%	Pass
118 - 113	Pole	TP29.105x28.09x0.25	Pole	46.9%	Pass
113 - 108	Pole	TP30.12x29.105x0.25	Pole	54.6%	Pass
108 - 104.5	Pole	TP31.643x30.12x0.25	Pole	59.8%	Pass
104.5 - 99.5	Pole	TP31.346x30.331x0.375	Pole	40.8%	Pass
99.5 - 94.5	Pole	TP32.361x31.346x0.375	Pole	45.0%	Pass
94.5 - 89.5	Pole	TP33.376x32.361x0.375	Pole	49.0%	Pass
89.5 - 84.5	Pole	TP34.391x33.376x0.375	Pole	52.7%	Pass
84.5 - 79.5	Pole	TP35.406x34.391x0.375	Pole	57.0%	Pass
79.5 - 74.5	Pole	TP36.421x35.406x0.375	Pole	61.3%	Pass
74.5 - 70.67	Pole	TP37.199x36.421x0.375	Pole	64.4%	Pass
70.67 - 70.42	Pole	TP37.25x37.199x0.375	Pole	64.7%	Pass
70.42 - 65.42	Pole	TP38.265x37.25x0.375	Pole	68.6%	Pass
65.42 - 63.67	Pole	TP38.62x38.265x0.375	Pole	70.0%	Pass
63.67 - 63.42	Pole	TP38.671x38.62x0.375	Pole	70.2%	Pass
63.42 - 63.25	Pole	TP39.72x38.671x0.375	Pole	70.3%	Pass
63.25 - 57.25	Pole	TP39.173x37.955x0.4375	Pole	63.4%	Pass
57.25 - 53.23	Pole	TP39.989x39.173x0.4375	Pole	65.2%	Pass
53.23 - 52.98	Pole	TP40.04x39.989x0.4375	Pole	65.3%	Pass
52.98 - 47.98	Pole	TP41.055x40.04x0.4375	Pole	68.1%	Pass
47.98 - 42.98	Pole	TP42.07x41.055x0.4375	Pole	70.7%	Pass
42.98 - 37.98	Pole	TP43.085x42.07x0.4375	Pole	73.2%	Pass
37.98 - 35.13	Pole	TP43.665x43.085x0.4375	Pole	74.5%	Pass
35.13 - 34.88	Pole + Reinf.	TP43.716x43.665x0.6375	Reinf. 3 Tension Rupture	70.8%	Pass
34.88 - 34.5	Pole + Reinf.	TP44.959x43.716x0.6375	Reinf. 3 Tension Rupture	70.9%	Pass
34.5 - 27.75	Pole + Reinf.	TP44.287x42.917x0.7	Reinf. 3 Tension Rupture	69.4%	Pass
27.75 - 25.88	Pole + Reinf.	TP44.667x44.287x0.6875	Reinf. 3 Tension Rupture	70.1%	Pass
25.88 - 25.75	Pole	TP44.693x44.667x0.5	Pole	68.8%	Pass
25.75 - 25.63	Pole + Reinf.	TP44.718x44.693x0.75	Reinf. 1 Tension Rupture	66.5%	Pass
25.63 - 25.5	Pole + Reinf.	TP44.744x44.718x0.75	Reinf. 1 Tension Rupture	66.5%	Pass
25.5 - 20.5	Pole + Reinf.	TP45.759x44.744x0.75	Reinf. 1 Tension Rupture	68.1%	Pass
20.5 - 15.5	Pole + Reinf.	TP46.774x45.759x0.7375	Reinf. 1 Tension Rupture	69.6%	Pass
15.5 - 10.5	Pole + Reinf.	TP47.789x46.774x0.7375	Reinf. 1 Tension Rupture	71.1%	Pass
10.5 - 5.5	Pole + Reinf.	TP48.804x47.789x0.725	Reinf. 1 Tension Rupture	72.5%	Pass
5.5 - 0.5	Pole + Reinf.	TP49.819x48.804x0.725	Reinf. 1 Tension Rupture	73.9%	Pass
0.5 - 0	Pole + Reinf.	TP49.92x49.819x0.725	Reinf. 1 Tension Rupture	74.0%	Pass
				Summary	
			Pole	74.5%	Pass
			Reinforcement	74.0%	Pass
			Overall	74.5%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity					
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5
148 - 143	1214	n/a	1214	18.30	n/a	18.30	8.2%					
143 - 138	1384	n/a	1384	19.12	n/a	19.12	14.6%					
138 - 133	1568	n/a	1568	19.93	n/a	19.93	20.5%					
133 - 128	1769	n/a	1769	20.75	n/a	20.75	26.1%					
128 - 123	1986	n/a	1986	21.56	n/a	21.56	31.5%					
123 - 118	2220	n/a	2220	22.38	n/a	22.38	38.6%					
118 - 113	2472	n/a	2472	23.20	n/a	23.20	46.9%					
113 - 108	2742	n/a	2742	24.01	n/a	24.01	54.6%					
108 - 104.5	2943	n/a	2943	24.58	n/a	24.58	59.8%					
104.5 - 99.5	4585	n/a	4585	37.34	n/a	37.34	40.8%					
99.5 - 94.5	5051	n/a	5051	38.57	n/a	38.57	45.0%					
94.5 - 89.5	5547	n/a	5547	39.79	n/a	39.79	49.0%					
89.5 - 84.5	6075	n/a	6075	41.02	n/a	41.02	52.7%					
84.5 - 79.5	6635	n/a	6635	42.24	n/a	42.24	57.0%					
79.5 - 74.5	7228	n/a	7228	43.46	n/a	43.46	61.3%					
74.5 - 70.67	7707	n/a	7707	44.40	n/a	44.40	64.4%					
70.67 - 70.42	7739	n/a	7739	44.46	n/a	44.46	64.7%					
70.42 - 65.42	8395	n/a	8395	45.69	n/a	45.69	68.6%					
65.42 - 63.67	8634	n/a	8634	46.12	n/a	46.12	70.0%					
63.67 - 63.42	8668	n/a	8668	46.18	n/a	46.18	70.2%					
63.42 - 63.25	8691	n/a	8691	46.22	n/a	46.22	70.3%					
63.25 - 57.25	10465	n/a	10465	54.49	n/a	54.49	63.4%					
57.25 - 53.23	11141	n/a	11141	55.64	n/a	55.64	65.2%					
53.23 - 52.98	11184	n/a	11184	55.71	n/a	55.71	65.3%					
52.98 - 47.98	12066	n/a	12066	57.14	n/a	57.14	68.1%					
47.98 - 42.98	12993	n/a	12993	58.57	n/a	58.57	70.7%					
42.98 - 37.98	13967	n/a	13967	59.99	n/a	59.99	73.2%					
37.98 - 35.13	14544	n/a	14544	60.81	n/a	60.81	74.5%					
35.13 - 34.88	14595	6205	20800	60.88	24.38	85.26	50.7%	70.8%		70.8%		
34.88 - 34.5	14672	6226	20898	60.99	24.38	85.36	50.8%	70.9%		70.9%		
34.5 - 27.75	17276	6363	23638	70.40	24.38	94.77	48.3%	69.4%		69.4%		
27.75 - 25.88	17730	6469	24199	71.01	24.38	95.38	48.8%	70.1%		70.1%		
25.88 - 25.75	17761	n/a	17761	71.05	n/a	71.05	68.8%					
25.75 - 25.63	17832	8544	26376	71.09	32.50	103.59	47.3%	66.5%	61.6%			
25.63 - 25.5	17863	8553	26416	71.13	32.50	103.63	47.3%	66.5%	61.6%			
25.5 - 20.5	19119	8933	28052	72.76	32.50	105.26	48.5%	68.1%	63.2%			
20.5 - 15.5	20433	9322	29755	74.39	32.50	106.89	50.0%	69.6%	64.7%			
15.5 - 10.5	21806	9719	31525	76.03	32.50	108.53	51.5%	71.1%	66.2%			
10.5 - 5.5	23239	10125	33363	77.66	32.50	110.16	52.9%	72.5%	67.5%			
5.5 - 0.5	24733	10538	35271	79.29	32.50	111.79	54.3%	73.9%	68.8%			
0.5 - 0	24886	10580	35466	79.45	32.50	111.95	54.4%	74.0%	69.0%			

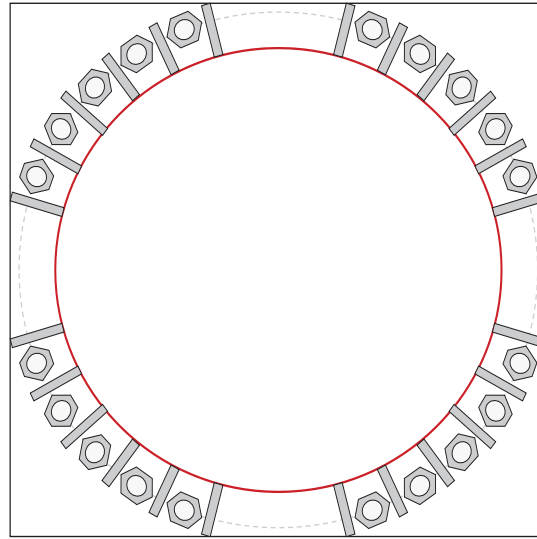
Note: Section capacity checked in 5 degree increments.

Monopole Base Plate Connection

Site Info	
BU # :	
Site Name:	CT2153
Order # :	

Analysis Considerations	
TIA-222 Revision:	G
Grout Considered:	No
I_{ar} (in):	0
Eta Factor, η :	0.5

Applied Loads	
Moment (kip-ft):	3991.20
Axial Force (kips):	52.81
Shear Force (kips):	42.13



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
(20) 2-1/4" ϕ bolts (A615-75; $F_y=75$ ksi, $F_u=100$ ksi) on 58" BC <i>pos. (deg): 21.2, 33.1, 45, 56.9, 68.8, 111.2, 123.1, 135, 146.9, 158.8,</i>
Base Plate Data
60" OD x 2.75" Plate (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)
Stiffener Data
(24) 18"H x 6"W x 1"T, Notch: 0.75" plate: $F_y=50$ ksi ; weld: $F_y=70$ ksi horiz. weld: 0.5" groove, 45° dbl bevel, 0.5" fillet vert. weld: 0.375" fillet
Pole Data
49.92" x 0.725" 12-sided pole (A607-60; $F_y=60$ ksi, $F_u=75$ ksi)

Anchor Rod Summary		
$P_u = 167.69$	$\phi P_n = 260$	Stress Rating
$V_u = 2.11$	$\phi V_n = n/a$	66.1%
$M_u = n/a$	$\phi M_n = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	5.08	
Allowable Stress (ksi):	27	
Stress Ratio:	18.8%	Pass
Stiffener Summary		
Horizontal Weld:	37.5%	Pass
Vertical Weld:	33.0%	Pass
Plate Flexure+Shear:	9.0%	Pass
Plate Tension+Shear:	38.2%	Pass
Plate Compression:	39.3%	Pass
Pole Summary		
Punching Shear:	5.6%	Pass

Drilled Pier Foundation

BU #:
 Site Name: CT2153
 Order Number:

TIA-222 Revision: G
 Tower Type: Monopole

Analysis Results

Soil Lateral Capacity	Compression	Uplift
D _{v-0} (ft from TOC)	9.40	-
Soil Safety Factor	2.24	-
Max Moment (kip-ft)	4369.30	-
Rating	59.4%	-
Soil Vertical Capacity	Compression	Uplift
Skin Friction (kips)	285.67	-
End Bearing (kips)	3108.59	-
Weight of Concrete (kips)	159.33	-
Total Capacity (kips)	3394.25	-
Axial (kips)	212.33	-
Rating	6.3%	-
Reinforced Concrete Capacity	Compression	Uplift
Critical Depth (ft from TOC)	9.32	-
Critical Moment (kip-ft)	4369.13	-
Critical Moment Capacity	9169.16	-
Rating	47.7%	-
Soil Interaction Rating	59.4%	47.7%
Structural Foundation Rating	59.4%	47.7%

Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	3991	-
Axial Force (kips)	53	-
Shear Force (kips)	42	-

Material Properties		
Concrete Strength, f _c :	3 ksi	
Rebar Strength, F _y :	60 ksi	

Pier Design Data		
Depth	22.5 ft	
Ext. Above Grade	0.5 ft	
Pier Section 1		
<i>From 0.5' above grade to 22.5' below grade</i>		
Pier Diameter	7 ft	
Rebar Quantity	40	
Rebar Size	11	
Clear Cover to Ties	4 in	
Tie Size	5	

Soil Profile

Groundwater Depth	N/A	ft
# of Layers	4	

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	8	8	100	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	8	13	5	135	150	0	45	0.000	0.000	0.76	0.00			Cohesionless
3	13	18	5	135	150	0	45	0.000	0.000	1.21	0.00			Cohesionless
4	18	22.5	4.5	135	150	0	45	0.000	0.000	1.66	0.00	107.7		Cohesionless



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2153

FA#: 10035241

Westport FD
515 Boston Post Road
Westport, CT 06880

June 8, 2018

Centerline Communications Project Number: 950006-128

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	16.88 %



June 8, 2018

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

Emissions Analysis for Site: **CT2153 – Westport FD**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **515 Boston Post Road, Westport, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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



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

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **515 Boston Post Road, Westport, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
LTE	850 MHz	2	40
LTE	2300 MHz (WCS)	4	30
LTE	1900 MHz (PCS)	4	40
LTE	700 MHz	2	40
LTE	2100 MHz (AWS)	4	30

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	120
A	2	Quintel QS66512-2	120
A	3	CCI HPA-65R-BUU-H6	120
B	1	Powerwave 7770	120
B	2	Quintel QS66512-2	120
B	3	CCI HPA-65R-BUU-H6	120
C	1	Powerwave 7770	120
C	2	Quintel QS66512-2	120
C	3	CCI HPA-65R-BUU-H6	120

Table 2: Antenna Data

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



RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.40
Antenna A2	Quintel QS66512-2	850 MHz / 2300 MHz (WCS) / 1900 MHz (PCS)	11.35 / 14.85 / 13.85	10	320	7,669.50	2.35
Antenna A3	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.80
Sector A Composite MPE%							4.56
Antenna B1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.40
Antenna B2	Quintel QS66512-2	850 MHz / 2300 MHz (WCS) / 1900 MHz (PCS)	11.35 / 14.85 / 13.85	10	320	7,669.50	2.35
Antenna B3	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.80
Sector B Composite MPE%							4.56
Antenna C1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.40
Antenna C2	Quintel QS66512-2	850 MHz / 2300 MHz (WCS) / 1900 MHz (PCS)	11.35 / 14.85 / 13.85	10	320	7,669.50	2.35
Antenna C3	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.80
Sector C Composite MPE%							4.56

Table 3: AT&T Emissions Levels



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

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	4.56 %
Nextel	0.34 %
Westport	1.23 %
Sprint	0.74 %
Westport Fire Dept	0.01 %
Clearwire	0.08 %
MetroPCS	5.10 %
T-Mobile	4.82 %
Site Total MPE %:	16.88 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	4.56 %
AT&T Sector B Total:	4.56 %
AT&T Sector C Total:	4.56 %
Site Total:	
	16.88 %

Table 5: Site MPE Summary



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

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS – Antenna 1	2	414.12	120	2.29	850 MHz	567	0.40%
AT&T 850 MHz LTE – Antenna 2	2	545.83	120	3.02	850 MHz	567	0.53%
AT&T 2300 MHz (WCS) LTE – Antenna 2	4	916.48	120	10.14	2300 MHz (WCS)	1000	1.01%
AT&T 1900 MHz (PCS) LTE – Antenna 2	4	727.98	120	8.06	1900 MHz (PCS)	1000	0.81%
AT&T 700 MHz LTE – Antenna 3	2	626.70	120	3.47	700 MHz	467	0.74%
AT&T 2100 MHz (AWS) LTE – Antenna 3	4	959.67	120	10.62	2100 MHz (AWS)	1000	1.06%
						Total:	4.56%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	4.56 %
Sector B:	4.56 %
Sector C:	4.56 %
AT&T Maximum Total (per sector):	4.56 %
Site Total:	16.88 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **16.88 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

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

Scott Heffernan

RF Engineering Director

Centerline Communications, LLC

95 Ryan Drive, Suite 1

Raynham, MA 02767

7016 3010 0000 7828 3709

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

CT2153

For delivery information, visit our website at www.usps.com®.
WESTPORT, CT 06880

Certified Mail Fee	\$3.45	0862
Extra Services & Fees (check box, add fee as appropriate)	\$2.75	04
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$2.89	
Total Postage and Fees	\$9.09	



Sent To: Steve Smith, Building Official
Westport Building Department
515 Post Road East, 2nd Floor,
Westport CT 06880

PS Form 3800, April 2015 PSN 7530-02-000-8047 See Reverse for Instructions

7016 3010 0000 7828 3716

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

CT2153

For delivery information, visit our website at www.usps.com®.
WESTPORT, CT 06880

Certified Mail Fee	\$3.45	0862
Extra Services & Fees (check box, add fee as appropriate)	\$2.75	04
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$2.89	
Total Postage and Fees	\$9.09	



Sent To: James Marpe, First Selectman
Westport Town Hall
110 Myrtle Avenue, Room 310
Westport CT 06880

PS Form 3800, April 2015 PSN 7530-02-000-8047 See Reverse for Instructions

7016 3010 0000 7828 3723

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

CT2153

For delivery information, visit our website at www.usps.com®.
WESTPORT, CT 06880

Certified Mail Fee	\$3.45	0862
Extra Services & Fees (check box, add fee as appropriate)	\$2.75	04
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$2.89	
Total Postage and Fees	\$9.09	



Sent To: Mary Young, Planning & Zoning
Westport Town Hall
110 Myrtle Avenue, Room 203
Westport, CT 06880

PS Form 3800, April 2015 PSN 7530-02-000-8047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

**Mary Young, Planning & Zoning
Westport Town Hall
110 Myrtle Avenue, Room 203
Westport, CT 06880**



9590 9402 4078 8092 4698 49

2. Article Number (Transfer from service label)

7016 3010 0000 7828 3723

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) C. Date of Delivery

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

3. Service Type
- Adult Signature
 - Adult Signature Restricted Delivery
 - Certified Mail®
 - Certified Mail Restricted Delivery
 - Collect on Delivery
 - Collect on Delivery Restricted Delivery
 - Insured Mail
 - Insured Mail Restricted Delivery (over \$500)
 - Priority Mail Express®
 - Registered Mail™
 - Registered Mail Restricted Delivery
 - Return Receipt for Merchandise
 - Signature Confirmation™
 - Signature Confirmation Restricted Delivery

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

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

**Steve Smith, Building Official
Westport Building Department
515 Post Road East, 2nd Floor,
Westport CT 06880**



9590 9402 4078 8092 4698 01

2. Article Number (Transfer from service label)

7016 3010 0000 7828 3709

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) C. Date of Delivery

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

3. Service Type
- Adult Signature
 - Adult Signature Restricted Delivery
 - Certified Mail®
 - Certified Mail Restricted Delivery
 - Collect on Delivery
 - Collect on Delivery Restricted Delivery
 - Insured Mail
 - Insured Mail Restricted Delivery (over \$500)
 - Priority Mail Express®
 - Registered Mail™
 - Registered Mail Restricted Delivery
 - Return Receipt for Merchandise
 - Signature Confirmation™
 - Signature Confirmation Restricted Delivery

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

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

**James Marpe, First Selectman
Westport Town Hall
110 Myrtle Avenue, Room 310
Westport CT 06880**



9590 9402 4078 8092 4698 56

2. Article Number (Transfer from service label)

7016 3010 0000 7828 3716

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) C. Date of Delivery

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

3. Service Type
- Adult Signature
 - Adult Signature Restricted Delivery
 - Certified Mail®
 - Certified Mail Restricted Delivery
 - Collect on Delivery
 - Collect on Delivery Restricted Delivery
 - Insured Mail
 - Insured Mail Restricted Delivery (over \$500)
 - Priority Mail Express®
 - Registered Mail™
 - Registered Mail Restricted Delivery
 - Return Receipt for Merchandise
 - Signature Confirmation™
 - Signature Confirmation Restricted Delivery

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