



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

June 4, 2020

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

RE: **Notice of Exempt Modification for T-Mobile:
876385 - T-Mobile Site ID: CT11516A
400 Riley Mountain Road, Coventry, CT 06238
Latitude: 41° 47' 56.21" / Longitude: -72° 19' 55.88"**

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 133-foot mount on the existing 152-foot Monopole Tower, located at 400 Riley Mountain Road, Coventry, CT. The tower is owned by Crown Castle and the property is owned by the James & Concetta Walbeoff Trust. T-Mobile now intends to replace three (3) existing antennas with three (3) new 600/700 MHz antennas. The new antennas will be installed at the 133-ft level of the tower. T-Mobile is also proposing tower mount modifications. As shown on the enclosed mount analysis.

Planned Modifications:

Tower:

Remove and Replace:

(3) LNX 6515DS-A1M Antenna (**REMOVE**) - (3) RFS-APXVAARR24_43-U-NA20 Antenna 600/700 MHz (**REPLACE**)

Install New:

(1) 1 5/8" Hybrid Fiber Line
(3) TMA
(3) Radio 4449 B71/B12

Existing to Remain:

(12) 1 5/8" Coax
(3) EMS RR90-17-02DP (Dormant)
(3) TMA

Ground:

Upgrade to existing ground cabinet. (Internally)
Upgrade breakers.

The facility was approved by the Coventry Planning and Zoning Commission on August 28, 2000. This approval was given with conditions which this exempt modification comply with.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to John Elsesser, Town Manager for the Coventry, Eric Trott, Land Use Director, J&C Walbeoff Family Trust, the property owner, and Crown Castle is the tower owner.

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

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Anne Marie Zsamba.

Sincerely,

Anne Marie Zsamba
Site Acquisition Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
(201) 236-9224
AnneMarie.Zsamba@crowncastle.com

Attachments

cc:

John Elsesser, Town Manager (*via email only to JElsesser@coventryct.org*)
Town of Coventry
1712 Main Street
Coventry, CT 06238

Eric Trott, Land Use Director (*via email only to etrott@coventryct.org*)
Town of Coventry
1712 Main Street
Coventry, CT 06238

Melanie A. Bachman

Page 3

James & Concetta Wallbeoff Family Trust (*via email only to wallbeoff@aol.com*)
400 Riley Mountain Road
Coventry, CT 06238

Crown Castle, Tower Owner

From: [Zsamba, Anne Marie](#)
To: etrott@coventryct.org
Subject: Notice of Exempt Modification - T-Mobile - 400 Riley Mountain Road, Coventry
Date: Thursday, June 4, 2020 1:50:00 PM
Attachments: [EM T-MOBILE 400 RILEY MOUNTAIN ROAD 876385 CT11516A notice.pdf](#)

Dear Mr. Trott:

Attached please find T-Mobile's exempt modification application that is being submitted to the Connecticut Siting Council, today June 4, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

From: [Zsamba, Anne Marie](#)
To: wallbeoff@aol.com
Subject: Notice of Exempt Modification - T-Mobile - 400 Riley Mountain Road, Coventry
Date: Thursday, June 4, 2020 1:49:00 PM
Attachments: [EM T-MOBILE 400 RILEY MOUNTAIN ROAD 876385 CT11516A notice.pdf](#)

Dear Wallbeoff Family Trust:

Attached please find T-Mobile's exempt modification application that is being submitted to the Connecticut Siting Council, today June 4, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

From: [Zsamba, Anne Marie](#)
To: JElsesser@coventryct.org
Subject: Notice of Exempt Modification - T-Mobile - 400 Riley Mountain Road, Coventry
Date: Thursday, June 4, 2020 1:49:00 PM
Attachments: [EM T-MOBILE 400 RILEY MOUNTAIN ROAD 876385 CT11516A notice.pdf](#)

Dear Mr. Elsesser:

Attached please find T-Mobile's exempt modification application that is being submitted to the Connecticut Siting Council, today June 4, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

Exhibit A

Original Facility Approval

By: Pollansky
Motion carried with the following vote:
For: Unanimous

Seconded: Terry
Against: None

Abstain: None

- 3. Town of Andover - P&Z referral re: Planned residential development for older persons - Bear Swamp Road.

Trott briefly reviewed this project for 9 buildings (31 total units) of elderly housing on 18.2 acres off of Bear Swamp Road in Andover. This proposed project has no significant impact to the Town of Coventry.

NEW BUSINESS -

None.

DECISIONS -

- 1. 00-18S - Special permit application of Sprint Spectrum, LP (DBA Sprint PCS); to establish a telecommunications facility, 150' monopole, and associated ground equipment; property located on Riley Mountain Road (Assessor's Map 11, Block 29-A, Lots 2,3); RU-40 Zone.

MOTION: The Planning and Zoning Commission here by approves 00-18S - Special permit application of Sprint Spectrum, LP (DBA Sprint PCS); to establish a telecommunications facility, 150' monopole, and associated ground equipment; property located on Riley Mountain Road (Assessor's Map 11, Block 29-A, Lots 2,3); RU-40 Zone, with the following conditions:

- 1. The pole is to be expandable for possible future use.
- 2. The amount of carriers on the 150' pole is to be 6 rather than 3.
- 3. The Town of Coventry has access to public safety communication.

By: Pollansky
Motion carried with the following vote:
For: Unanimous

Seconded: Terry
Against: None

Abstain: None

- 4. 00-19ZR - Zoning amendment application of William and Karen Mudano to revise Sections 2.6.1.a, 2.6.2.a, 3.4.1, and 16 (River Aquifer Zone) of the zoning regulations.

There was further discussion of Merisotis' concerns that the proposed amendments may be contrary to the goals for the RA Zone. It was his opinion that these proposals would not add to the protection of the zone, but would increase the property value and facilitate the potential of subdivision. Pollansky felt that the RA Zone is sufficiently protected within the regulations, allowing for a large house would not reduce this protection. Pollansky felt it was unlikely that the proposed changes would significantly change the value of property in the zone.



Town of Coventry

1712 Main Street • Coventry, CT 06238 • Fax (860) 742-8911

CT 33X055
JW

CERTIFIED MAIL # 7099 3400 0007 2017 0083
September 6, 2000

Attorney Thomas J. Regan, Esq.
Brown, Rudnik, Freed, and Gesmer
185 Asylum Street
Hartford CT 06107

Dear Attorney Regan:

At its regular meeting on August 28, 2000, the Coventry Planning and Zoning Commission made the following decision:

To approve application 00-18S of Sprint Spectrum, LP (DBA sprint PCS), to establish a telecommunications facility, 150' monopole, and associated ground equipment; property located on Riley Mountain Road (Assessor's Map 11, Block 29-A, Lots 2,3); RU-40 Zone.

The following conditions apply:

1. The pole is to be expandable for possible future use.
2. The amount of carriers on the 150' pole is to be six rather than three.
3. The town of Coventry has access to public safety communication.

I wish to remind you that you must file an 8-3d form with the Town Clerk's office in addition to final mylar(s) of the approved plan. Please see the attached information for further instruction. Also, it is requested that you place this approval letter on the final plans.

Sincerely,

Eric M. Trott
Director of Planning and Development

EMT/lpe

/enclosure

cc: Sprint Spectrum, L.P.
Goodkind & O'Dea, Inc.
James Wallbeoff, Jr.

If you have received approval from the Coventry Zoning Board of Appeals or the Planning and Zoning Commission for a special permit/exception or variance, the following requirements must be completed before the issuance of a zoning permit:

FOR SPECIAL EXCEPTION, PERMIT, OR *VARIANCE:

1. An 8-3d form of approval must be filed with the Town Clerk's office. The form cannot be filed until the fifteen day appeal period has ended (15 days from the date of legal notice publication; not date of Commission/Board approval). The form will be prepared at the Planning office and available for filing after *September 16, 2000* (There is a filing fee which you pay at the Clerk's office at the time you file the 8-3d form).

FOR SPECIAL EXCEPTION/PERMIT:

1. You must file a Mylar of final plans with the Town Clerk's office within 90 days of approval date. However, the Mylar cannot be filed until after the fifteen day appeal period has ended, which will be after *September 16, 2000* (There is a filing fee which you pay at the Clerk's office at the time you file the Mylar.)

Section 4.3.c.5 of the zoning regulations states:

Endorsement and Filing. Within sixty-five days of the Commission/Board approval, the applicant shall submit one (1) set of final plans on Mylar and six (6) sets on paper (please note: in some cases we may accept three (3) copies for special exceptions), reflecting all conditions or modifications required by the Commission/Board, and accompanied by signed, sworn statements of the applicant's land surveyor, engineer, architect, and any other professional who has participated in the preparation of the application materials, to the effect that the plans submitted are the same as those approved by the Commission/Board except for the depiction of modifications and conditions required by the Commission/Board in its approval vote. If, upon considering the statements and reviewing the plans submitted, the Commission/Board shall find them to be in accordance with the final approval, they shall be endorsed by the signature of the Chairman, Vice-Chairman, or Secretary of the Commission/Board, as the case may be. Thereafter, it shall be the responsibility of the applicant to file one (1) set of endorsed Mylar plans in the office of the Town Clerk. In accordance with Section 8-3d of the Connecticut General Statutes, no Special Permit/Exception shall be effective until the final, endorsed plans are filed with the Town Clerk, and **any plans not so filed within ninety (90) days following the Commission's/Board's vote of approval shall become null and void.** Any Special Permit/Exception site plan filed in the Town Clerk's office without the endorsement of the Commission's/Board's Chairman, Vice-Chairman, or Secretary shall likewise be void.

*In the case where a variance has been granted, it is recommended that if you have not already done so, you may want to submit your application for building permit and zoning permit to the Building office prior to the appeal period ending. This may possibly help to speed up your application process/review and avoid a delay in obtaining your permits.

Revised 03/10/98

Exhibit B

Property Card



The Birthplace of Nathan Hale

TOWN OF COVENTRY
CONNECTICUT
GIS & Real Property
Information
1712 Main St.
Coventry, CT 06238
ph 860-742-6324

Property Search

Name: ex. Smith

House No:

400

Street:

RILEY MOUNTAIN RD

Parcel Id: ex. 018 0049 0001

GO

Information Updates

GIS Parcel Maps Updated
TBD

Property Info Data Updated
TBD

Current Parcel Count
6,671 +/-

Detailed Parcel Information

GIS ID
011 0029A 0003T

Parcel ID
011 0029A 0003T

Unique ID
6054

Owner
WALLBEOFF JAMES +
CONCETTA TRUSTEES

Location
400 RILEY MOUNTAIN RD

MAILING ADDRESS
PO BOX 8430
KANSAS CITY MO 64114

Quick Links:



[Quick Map](#) [Summary Card](#) [Assessor Tax Map](#)

Scroll Down For Complete Property Detail

PARCEL VALUATIONS

	Appraised Value	Assessed Value
Buildings	0	0
Land	357500	250300

Property Search

Name: ex. Smith

House No:

400

Street:

RILEY MOUNTAIN RD

Parcel Id: ex. 018 0049 0001

GO

Information Updates

GIS Parcel Maps Updated
TBD

Property Info Data Updated
TBD

Current Parcel Count
6,671 +/-

PARCEL VALUATIONS

	Appraised Value	Assessed Value
Buildings	0	0
Land	357500	250300
TOTAL:	568900	398200

PROPERTY INFORMATION

Total Acres	1
Land Use	Resid Vacant
Land Class Code	R
Zoning	GR80
Census Tract	
Neighborhood	
Lot Utilities	Septic

SALE INFORMATION

Sale Date	2002-09-23
Sale Price	0
Book / Page	0770/0286

Property Search

Name: **ex. Smith**

House No:

Street:

Parcel Id: **ex. 018 0049 0001**

GO

Information Updates

GIS Parcel Maps Updated
TBD

Property Info Data Updated
TBD

Current Parcel Count
6,671 +/-

Sale Price	0
Book / Page	0770/0286

BUILDING AREA

Building Gross - sqft	
Living Area - sqft	0

CONSTRUCTION DETAILS

Building Style	UNKNOWN
Building Condition	
Number of Rooms	0
Number of Bedrooms	0
Number of Bathrooms	0
Stories	
Roof Structure	NA
Primary Exterior Wall Type	NA
Heating/Cooling Type	NA
AC_Type	NA
Heating Fuel	NA

[Back](#)



Exhibit C

Construction Drawings

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANS/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANS/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANS/ITIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH OAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF ANS/ITIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS".
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GROUNDING NOTES:

- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
- BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM. THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 20 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
CARRIER: T-MOBILE
TOWER OWNER: CROWN CASTLE USA INC.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 20,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT IDS).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL THE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE. MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW " CT11516A".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065



120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116



PROJECT NO: ERCC0004

DRAWN BY: FLP

CHECKED BY: AS

SUBMITTALS		
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

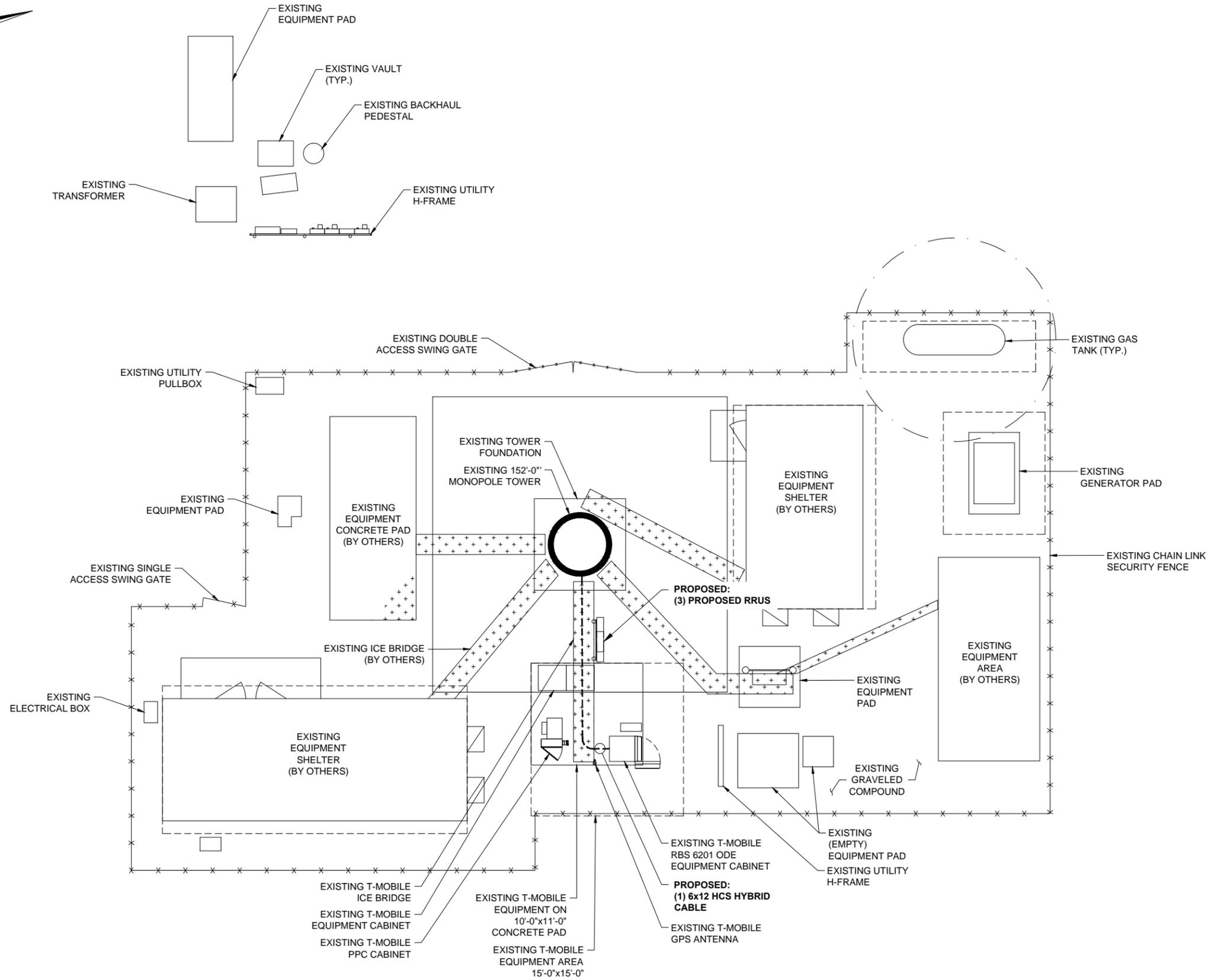
CT516/COVENTRY-SPRINT
CT11516A
N. COVENTRY/WALLBEOFF
876385
400 RILEY MOUNTAIN RD.
COVENTRY, CT 06238

GENERAL NOTES

GN-1

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1 Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3 Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
277/480V, 3 Ø	GROUND	GREEN
	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
DC VOLTAGE	NEUTRAL	GREY
	GROUND	GREEN
	POS (+)	RED**
	NEG (-)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION



NOTES:

1. PLAN BASED ON ASBUILT DRAWINGS ISSUED BY CROWN CASTLE ON 05/13/2019. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING EQUIPMENT.



T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065



120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116



PROJECT NO: ERCC0004

DRAWN BY: FLP

CHECKED BY: AS

SUBMITTALS		
NO.	DATE	DESCRIPTION
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

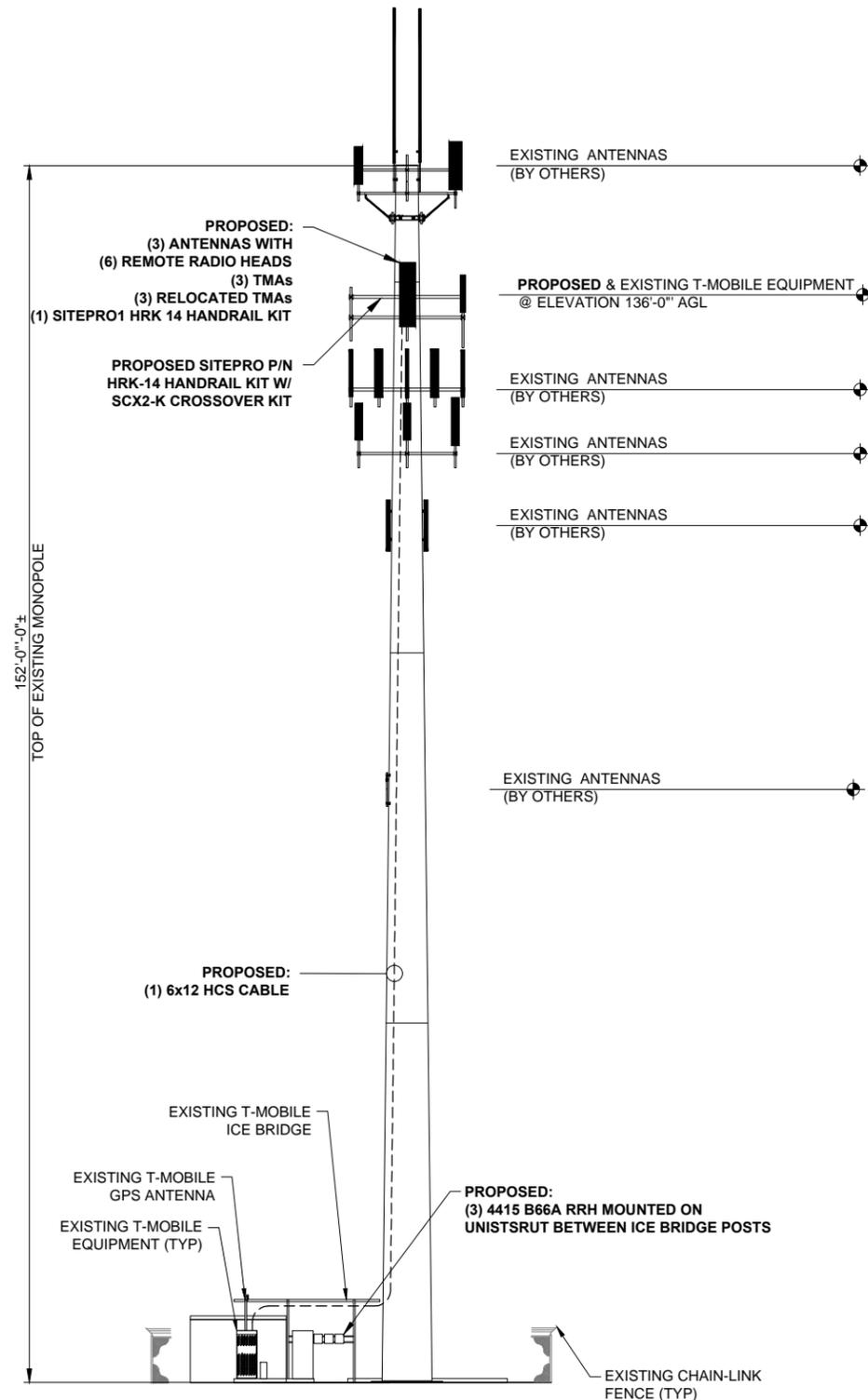
CT516/COVENTRY-SPRINT
CT11516A
N. COVENTRY/WALLBEOFF
876385
400 RILEY MOUNTAIN RD.
COVENTRY, CT 06238

SITE PLAN

C-1

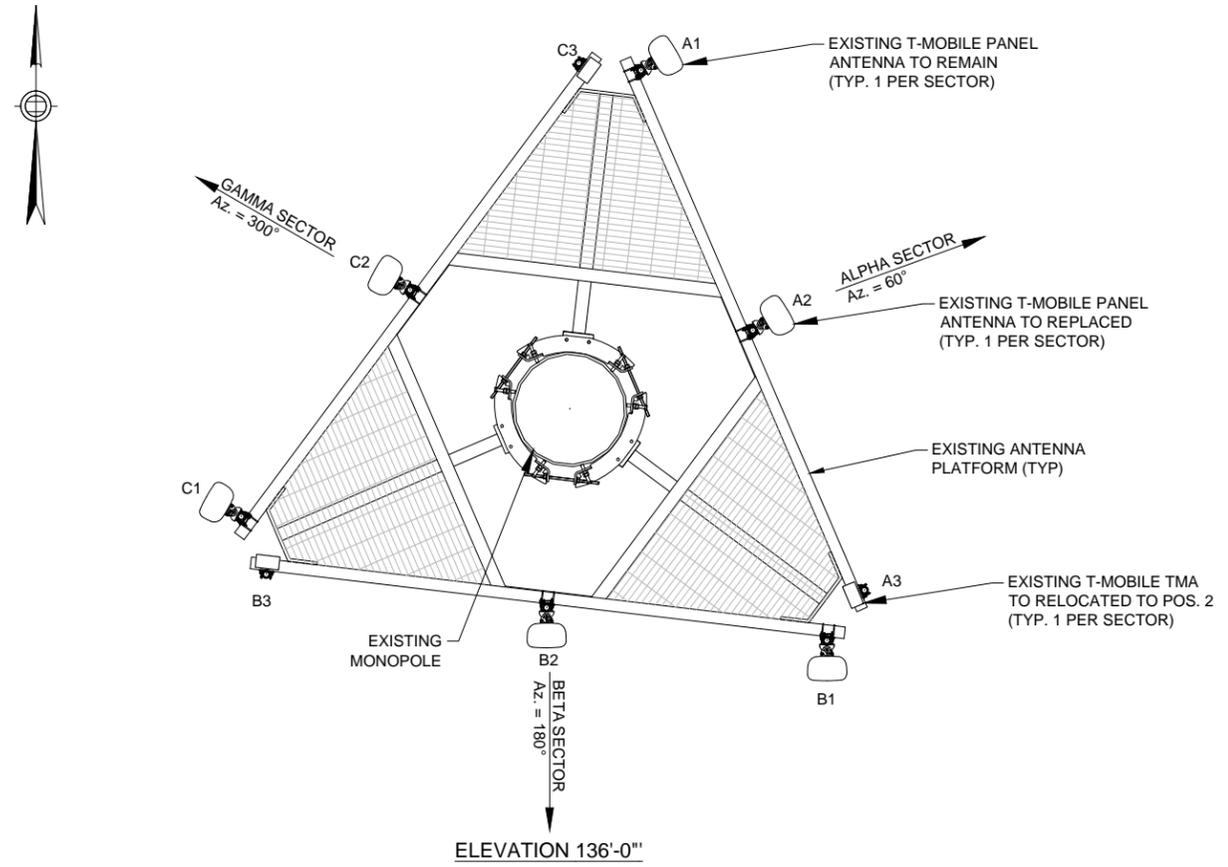
NOTES:

- CONTRACTOR SHALL REFER TO THE STRUCTURAL ANALYSIS REPORT; SITE NUMBER: CT11516A; SITE NAME: CT516/COVENTRY-SPRINT; CROWN BU NUMBER: 876385; CROWN SITE NAME: N. COVENTRY/WALLBEOFF; CROWN ORDER NUMBER: 479838; ISSUED BY FDH INFRASTRUCTURE SERVICES. DATED ON 06/24/19. PER THIS ANALYSIS NO MODIFICATIONS ARE REQUIRED. THE CONTRACTOR SHALL VERIFY ALL EXISTING MEMBERS AND HARDWARE ARE INSTALLED PROPERLY AS DESCRIBED IN THIS REPORT.



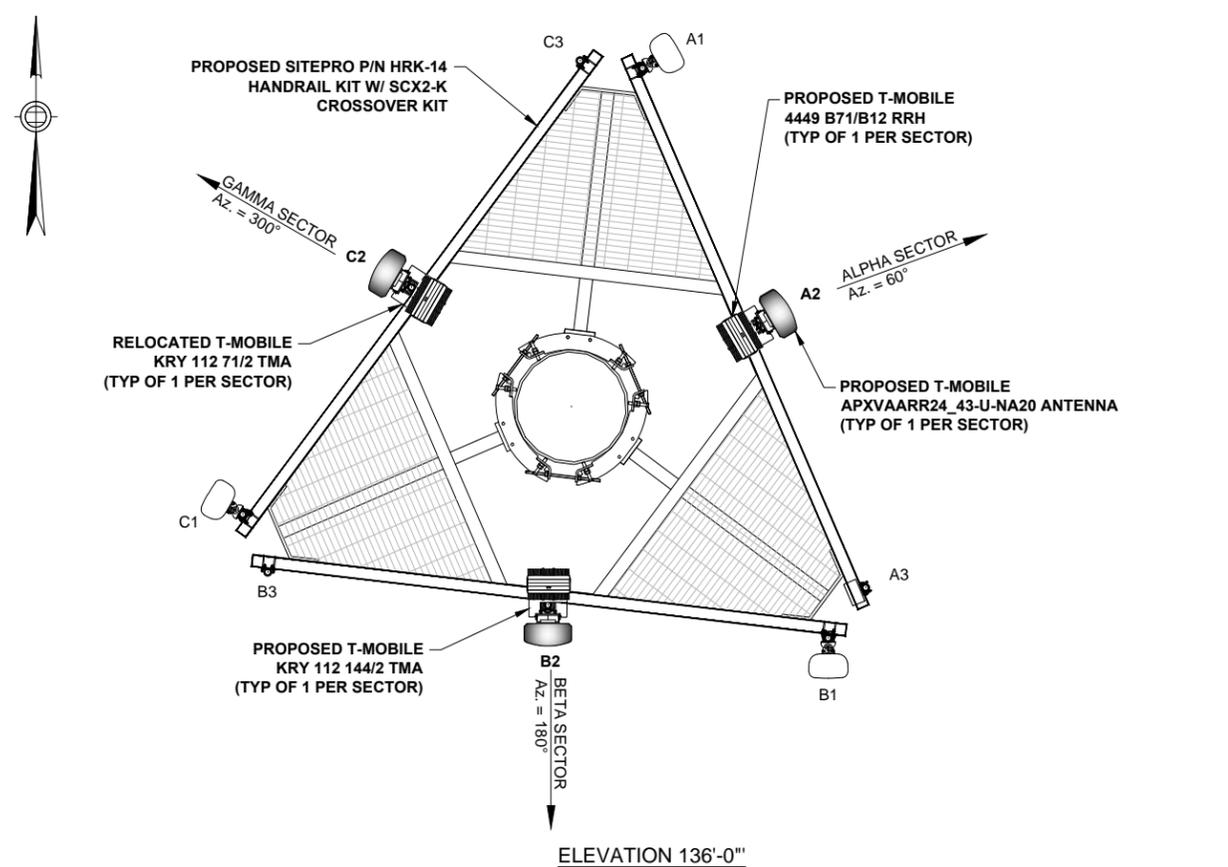
1 TOWER ELEVATION

SCALE: #####



2 EXISTING ANTENNA LAYOUT

SCALE: N.T.S.



3 PROPOSED ANTENNA LAYOUT

SCALE: N.T.S.

T-Mobile
T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

CROWN CASTLE
3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065

JACOBS
JACOBS ENGINEERING GROUP, INC.
120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116

STATE OF CONNECTICUT
DANIEL J. CORNING
34955
LICENSED PROFESSIONAL ENGINEER

PROJECT NO: ERCC0004
DRAWN BY: FLP
CHECKED BY: AS

SUBMITTALS

NO.	DATE	DESCRIPTION
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

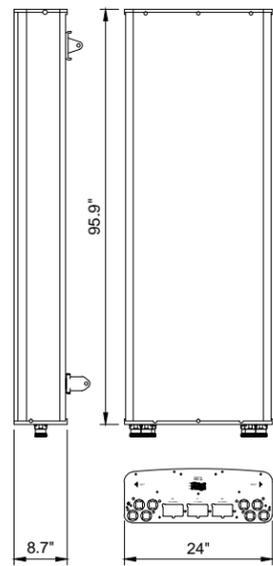
THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

CT516/COVENTRY-SPRINT
CT11516A
N. COVENTRY/WALLBEOFF
876385
400 RILEY MOUNTAIN RD.
COVENTRY, CT 06238

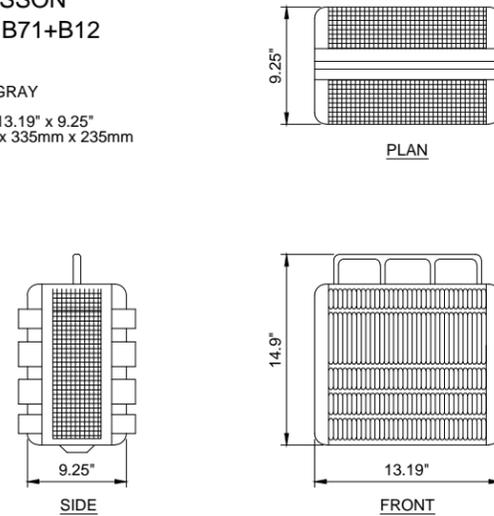
PROPOSED TOWER
ELEVATION &
ANTENNA LAYOUT
PLAN

S-1

MANUFACTURER: RFS
 MODEL NO.: APXVAARR24_43-U-NA20
 COLOR: LIGHT GRAY
 DIMENSIONS (LxWxD): 95.9" x 24" x 8.7"
 2436mm x 609mm x 222mm
 WEIGHT (lbs): 58
 CONNECTOR: 8 x 4.3-10 FEMALE AT BOTTOM +
 6 AISG CONNECTORS (3 MALE/3 FEMALE)
 SURVIVAL/RATED WIND VELOCITY (KM/H): 241 (150)



MANUFACTURER: ERICSSON
 MODEL NO.: 4449 B71+B12
 COLOR: LIGHT GRAY
 DIMENSIONS (LxWxD): 14.9" x 13.19" x 9.25"
 378mm x 335mm x 235mm
 WEIGHT (lbs): 74



MANUFACTURER: ERICSSON
 MODEL NO.: KRY 112 14
 DIMENSIONS (LxWxD): 12.1" x 4.9" x 4.3"
 308mm x 124mm x 109mm
 WEIGHT (lbs): 12.1



1 ANTENNA SPECIFICATIONS

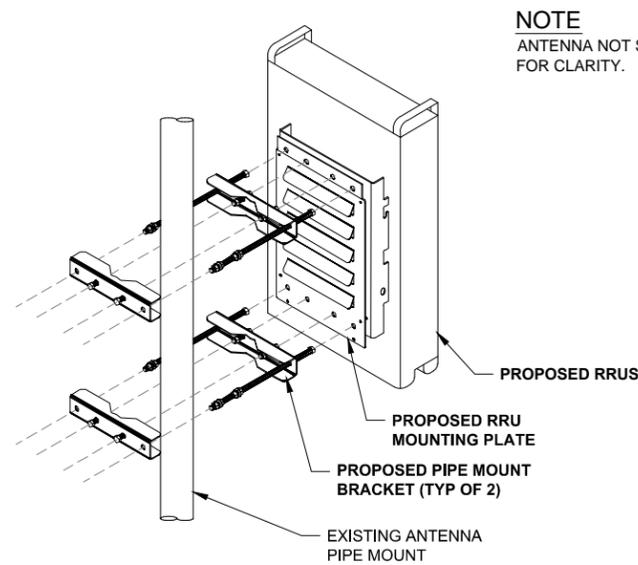
SCALE: N.T.S.

2 RRUS SPECIFICATIONS

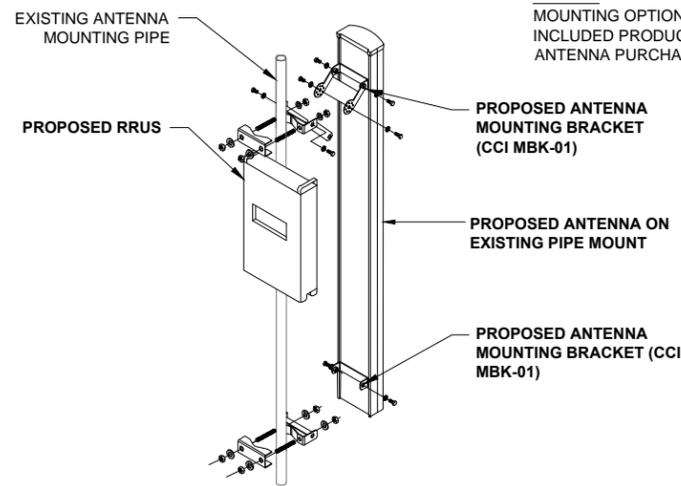
SCALE: N.T.S.

3 TMA SPECIFICATIONS

SCALE: N.T.S.



NOTE
 ANTENNA NOT SHOWN FOR CLARITY.



NOTE
 MOUNTING OPTIONS ARE INCLUDED PRODUCTS WITH ANTENNA PURCHASE

MANUFACTURER: ERICSSON
 MODEL NO.: KRY 112 144
 DIMENSIONS (LxWxD): 6.1" x 6.9" x 2.8"
 155mm x 176mm x 71mm
 WEIGHT (lbs): 11.0



4 RRU MOUNTING DETAIL

SCALE: N.T.S.

5 RRU MOUNTING DETAIL W/ANTENNA

SCALE: N.T.S.

6 TMA SPECIFICATIONS

SCALE: N.T.S.

7 DETAIL NOT USED

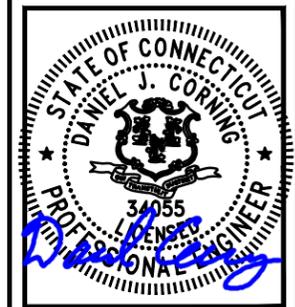
SCALE: N.T.S.

8 DETAIL NOT USED

SCALE: N.T.S.

9 DETAIL NOT USED

SCALE: N.T.S.



PROJECT NO: ERCC0004

DRAWN BY: FLP

CHECKED BY: AS

SUBMITTALS		
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

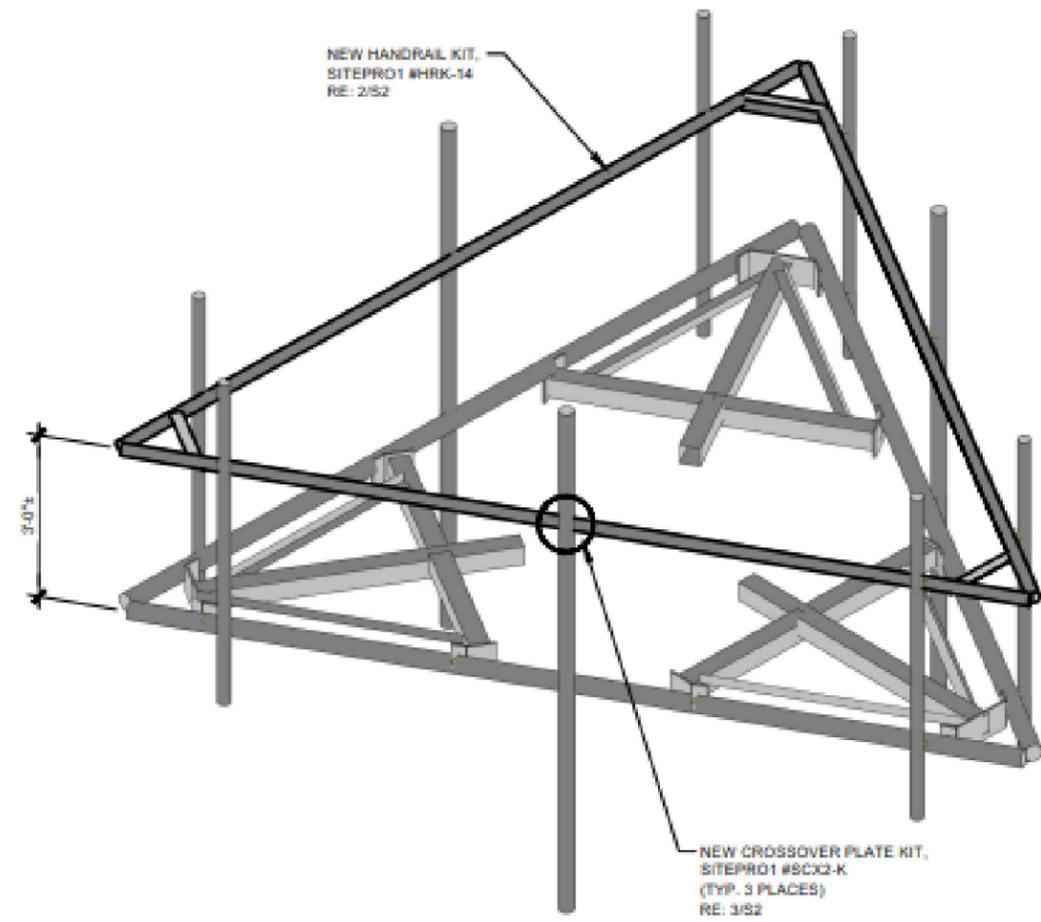
THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

CT516/COVENTRY-SPRINT
 CT11516A
 N. COVENTRY/WALLBEOFF
 876385
 400 RILEY MOUNTAIN RD.
 COVENTRY, CT 06238

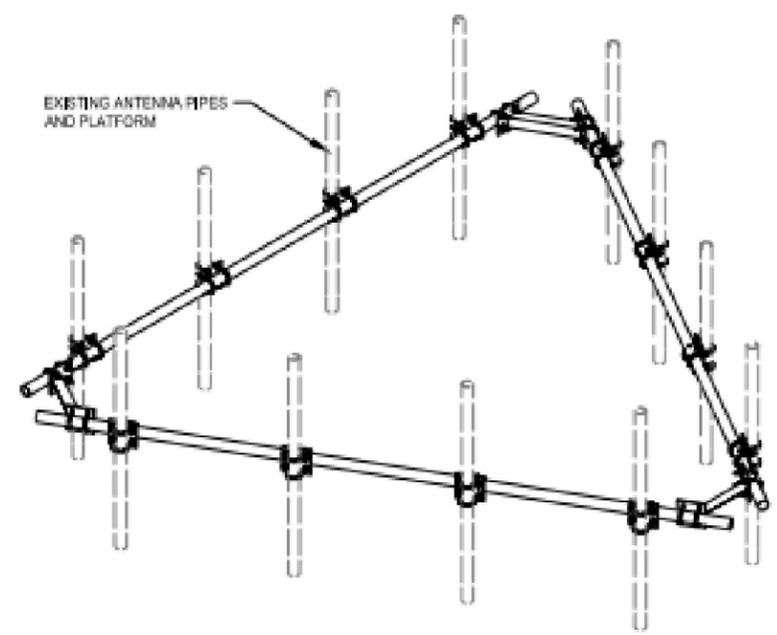
EQUIPMENT
 DETAILS

S-2

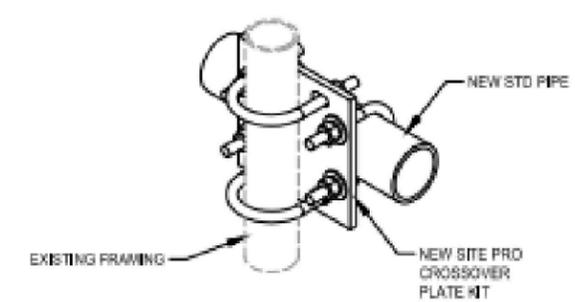
MODIFICATIONS BASED ON THE FAILING STRUCTURAL ANALYSIS FROM B+T GROUP DATED 06/05/19 AND ACCOMPANIED BY ANALYSIS FROM B+T GROUP DATED 05/12/19



1 MODIFIED PLATFORM
SCALE: N.T.S.



3 SITE PRO1 HRK-14 HANDRAIL KIT
SCALE: N.T.S.



3 SITE PRO1 SCX2-K CROSSOVER PLATE KIT
SCALE: N.T.S.

GENERAL NOTES

- 1.1 CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE MOBILIZING ON THE SITE FOR INSTALLATION OF THE MOUNT MODIFICATION AND SHALL NOTIFY THE ENGINEER OF RECORD IF THE FIELD CONDITIONS VARY FROM WHAT IS SHOWN ON THE DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD PRIOR TO MOBILIZING AT THE SITE IF THE MOUNT REINFORCEMENT SHOWN WILL NEED TO BE REVISED TO SATISFY FIELD CONDITIONS.
- 1.2 CONTRACTOR SHALL RELOCATE NON-ANTENNA EQUIPMENT ALONG THE EXISTING PIPE MOUNT THAT IT IS MOUNTED TO, TO ALLOW FOR INSTALLATION OF MOUNT REINFORCEMENT. ENGINEER OF RECORD WILL BE NOTIFIED IF NON-ANTENNA EQUIPMENT NEEDS TO BE RELOCATED TO ANY OTHER EXISTING MEMBERS TO ALLOW FOR INSTALLATION OF MOUNT MODIFICATION.
- 1.3 MODIFICATION SHALL BE COMPLETED PRIOR TO ADDING THE PROPOSED APPURTENANCES.
- 1.4 ALL WORK SHALL COMPLY WITH THE TIA-222-H STANDARD, TIA-1019-A STANDARD, AS WELL AS ANY OTHER GOVERNING BUILDING CODES.
- 1.5 FIELD WORK WILL BE DONE AROUND EXISTING COAXIAL CABLE AND EQUIPMENT. ALL WORK SHALL BE DONE IN A MANNER SUCH THAT NO DAMAGE OCCURS TO THE EXISTING EQUIPMENT OR THE STRUCTURE.
- 1.6 A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND (OR APPROVED EQUIVALENT) SHALL BE APPLIED TO ANY FIELD CUTS OR FIELD DRILLED HOLES.
- 1.7 THE USE OF A GAS TORCH OR WELDER WILL NOT BE PERMITTED ON THE TOWER WITHOUT THE CONSENT OF THE OWNER.
- 1.8 ALL FIELD CONNECTIONS SHALL BE MADE WITH A325N BOLTS, U.N.O.
- 1.9 IN LIEU OF TEMPORARY BRACING, CONTRACTOR MAY HAVE A STABILITY ANALYSIS PERFORMED BY AN ENGINEER LICENSED IN THE STATE THE TOWER IS LOCATED. THE ANALYSIS SHALL USE A MINIMUM WIND SPEED OF 45 mph (3-SEC) PER TIA-1019.
- 1.10 ALL CUTTING AND WELDING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH CCUSA POLICY "CUTTING AND WELDING PLAN" (DOC WENG-PLN-10015) ON AN ONGOING BASIS THROUGHOUT THE ENTIRE LIFE OF THE PROJECT.
- 1.11 DIMENSIONS WITH "±" MUST BE WITHIN 3" OF THE INDICATED DIMENSION.

FABRICATION

- 2.1 ALL WORK SHALL BE DONE IN ACCORDANCE WITH A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
- 2.2 STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:

	YIELD	ASTM SPECS
STEEL PIPE, U.N.O.	35ksi	A53 GR.B
- 2.3 ALL NEW MATERIAL INCLUDING STRUCTURAL STEEL AND FASTENERS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND A153.
- 2.4 WELDING SHALL MEET ANSIAWS D1.1 STRUCTURAL WELDING CODE (LATEST REVISION). ELECTRODES SHALL BE E80 SERIES.
- 2.5 CONTRACTOR SHALL PROVIDE SHOP FABRICATION DRAWINGS TO B+T GROUP 5 DAYS PRIOR TO FABRICATION.



T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065



120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116



PROJECT NO: ERCC0004

DRAWN BY: FLP

CHECKED BY: AS

SUBMITTALS		
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

CT516/COVENTRY-SPRINT
CT11516A
N. COVENTRY/WALLBEOFF
876385
400 RILEY MOUNTAIN RD.
COVENTRY, CT 06238

MOUNT MODIFICATION
DETAIL

S-3

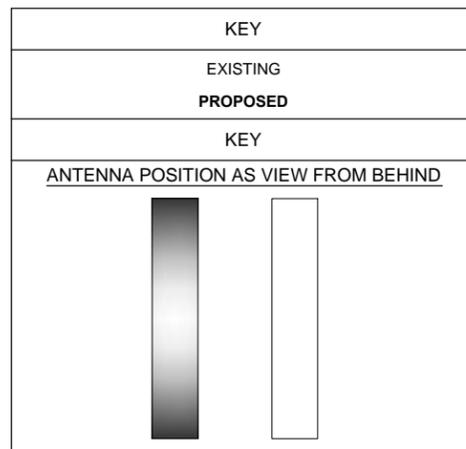
CUSTOM - TOWER TOP EQUIPMENT SCHEDULE (RE: CT516/COVENTRY-SPRINT)													
ANTENNA NUMBER (FROM L TO R)	ANTENNA MODEL	ANTENNA AZIMUTH	MECH. TILT	ELEC. TILT	ANTENNA CENTERLINE FROM GROUND	TMA/RRUS MODEL	TMA/RRUS QUANTITY	COAX/HYBRID CABLE			JUMPERS		
								SIZE/TYPE	QUANTITY	LENGTH	TYPE	QTY	LENGTH
A1	RR90-17-XXDP	60°	0°	2°	136'-0"	-	-	1-1/4" COAX	4	186'	-	-	-
A2	APXVAARR24_43-U-NA20	60°	0°	2°	136'-0"	RADIO 4449 B71+B12 TWIN STYLE 1B-AWS TMA TWIN STYLE 1A-PCS TMA	1	6x12 HCS	1	186'	FIBER COAX	1	10'
B1	RR90-17-XXDP	180°	0°	2°	136'-0"	-	-	1-1/4" COAX	4	186'	-	-	-
B2	APXVAARR24_43-U-NA20	180°	0°	2°	136'-0"	RADIO 4449 B71+B12 TWIN STYLE 1B-AWS TMA TWIN STYLE 1A-PCS TMA	1	-	-	186'	FIBER COAX	1	10'
C1	RR90-17-XXDP	300°	0°	2°	136'-0"	-	-	1-1/4" COAX	4	186'	-	-	-
C2	APXVAARR24_43-U-NA20	300°	0°	2°	136'-0"	RADIO 4449 B71+B12 TWIN STYLE 1B-AWS TMA TWIN STYLE 1A-PCS TMA	1	-	-	186'	FIBER COAX	1	10'

NOTES:

- EQUIPMENT LISTED IN **BOLD**, DELINEATES THAT THE EQUIPMENT IS PROPOSED
- * DENOTES THAT EQUIPMENT IS TO BE GROUND MOUNTED

1 EQUIPMENT INFORMATION CHART

SCALE: NONE



EQUIPMENT NOTES:

- THE HYBRID CABLE LENGTH SHOW IS ONLY AN ESTIMATE AND SHOULD NOT BE USED FOR ORDERING MATERIALS. CONFIRM THE REQUIRED HYBRID CABLE LENGTH WITH T-MOBILE PRIOR TO ORDERING OR INSTALLATION.
- THE CONTRACTOR SHALL TEST THE OPTICAL FIBER AFTER INSTALLATION IN ACCORDANCE WITH T-MOBILE STANDARDS AND SUPPLY THE RESULTS TO T-MOBILE.
- THE CONTRACTOR SHALL CONFIRM THE TOWER TOP EQUIPMENT LIST ABOVE WITH THE FINAL T-MOBILE RFDS PRIOR TO INSTALLATION.
- ALL EXISTING AND PROPOSED ANTENNA CABLES SHALL BE COLOR CODED PER T-MOBILE STANDARDS.
- REFER TO EQUIPMENT INSTALLATION STANDARDS FOR ADDITIONAL INFORMATION.
- REFER TO EQUIPMENT MANUFACTURER'S SPECIFICATION SHEETS FOR ADDITIONAL INFORMATION NOT LISTED ABOVE.

2 ANTENNA KEY

SCALE: NONE

3 ANTENNA & CABLE SCHEDULE

SCALE: NONE

CUSTOM - TOWER LOADING SUMMARY				
EQUIPMENT TYPE	EXISTING QUANTITY	QUANTITY REMOVED	QUANTITY ADDED	TOTAL QUANTITY
PANEL ANTENNA	6	3	3	6
COAX CABLE	12	0	0	12
HYBRID CABLE	0	0	1	1
FIBER JUMPER	0	0	1	1
COAX JUMPER	0	0	12	12
TMA	3	0	3	6
RADIO	0	0	3	3

NOTE:

- (3) RADIOS BEING INSTALLED BY EXISTING ODE CABINET.



T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065



120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116



PROJECT NO: ERCC0004

DRAWN BY: FLP

CHECKED BY: AS

SUBMITTALS		
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

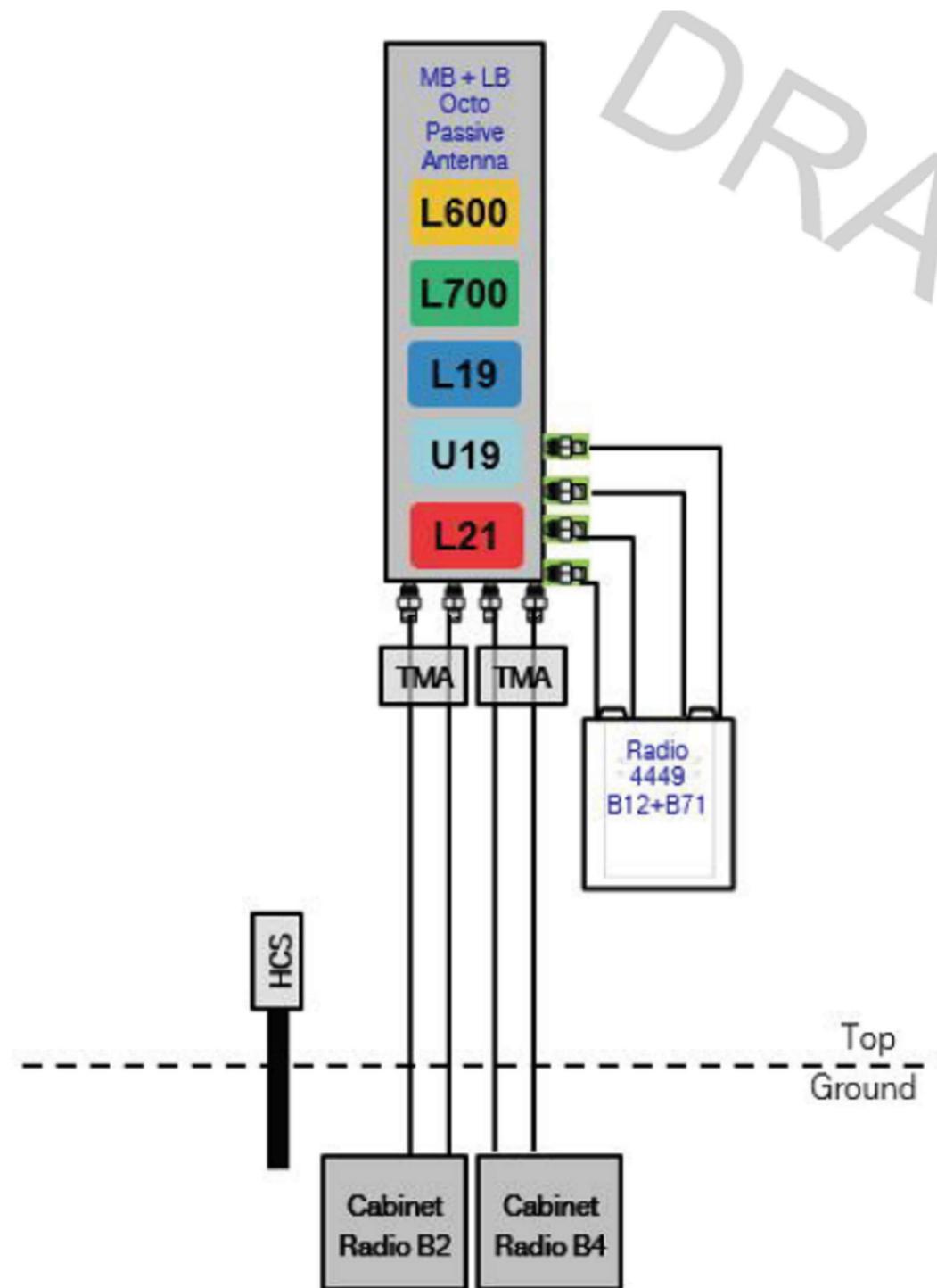
THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

CT516/COVENTRY-SPRINT
CT11516A
N. COVENTRY/WALLBEOFF
876385
400 RILEY MOUNTAIN RD.
COVENTRY, CT 06238

ANTENNA
INFORMATION CHART

RF-1

SITE CONFIGURATION: CUSTOM



T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065



120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116



PROJECT NO: ERCC0004

DRAWN BY: FLP

CHECKED BY: AS

SUBMITTALS		
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

CT516/COVENTRY-SPRINT
CT11516A
N. COVENTRY/WALLBEOFF
876385
400 RILEY MOUNTAIN RD.
COVENTRY, CT 06238

RF EQUIPMENT
SCHEMATIC

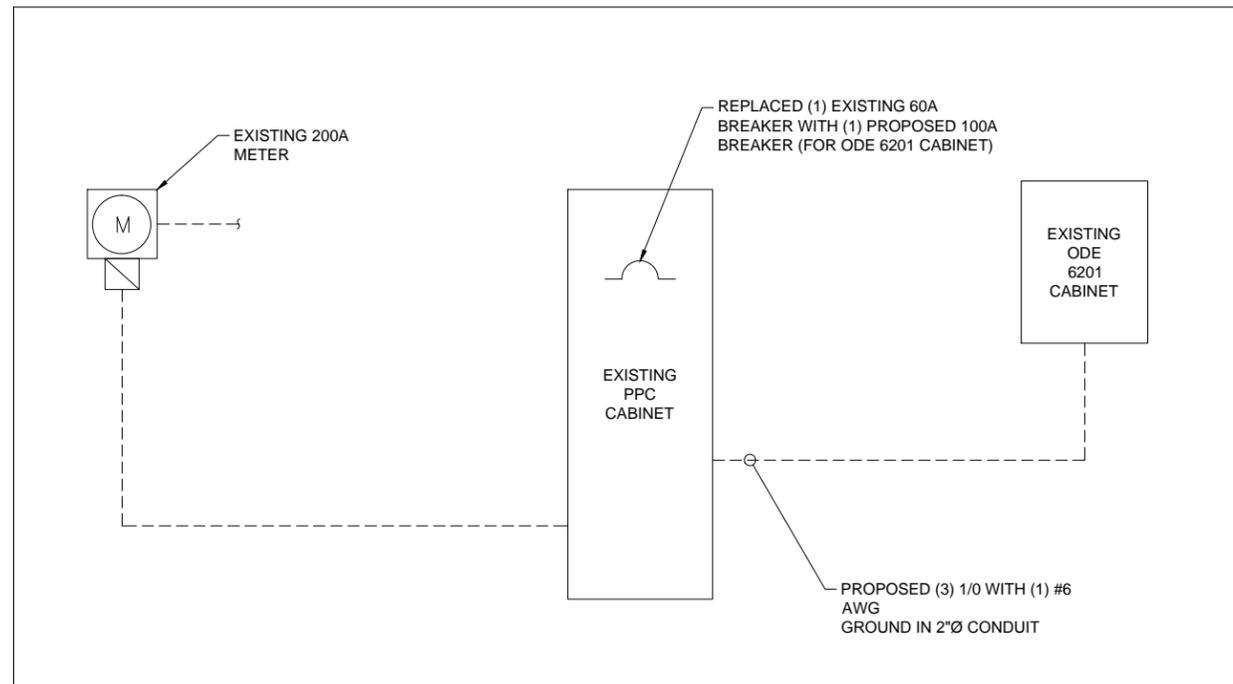
RF-2

ONE LINE DIAGRAM NOTES:

1. ELECTRICAL SERVICE SHALL BE 200A, 240/120V, 1Ø, 3W
2. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT, REFER TO VENDOR PRINTS PROVIDED BY EQUIPMENT MANUFACTURER.

NOTES:

1. CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY AND ENSURE ALL ELECTRICAL EQUIPMENT IS SUITABLE FOR AVAILABLE FAULT CURRENT.
2. CONTRACTOR SHALL COORDINATE UTILITY SERVICES WITH LOCAL UTILITY COMPANIES. VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY STANDARDS.
3. ONE-LINE DIAGRAM IS SCHEMATIC ONLY AND NOT INDICATIVE OF ACTUAL EQUIPMENT LAYOUT.
4. CONTRACTOR SHALL LABEL METER SOCKET WITH SERVICE OWNER NAMEPLATE W/ 1/2" MINIMUM LETTERS.



T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065



JACOBS ENGINEERING GROUP, INC.
120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116



PROJECT NO: ERCC0004

DRAWN BY: FLP

CHECKED BY: AS

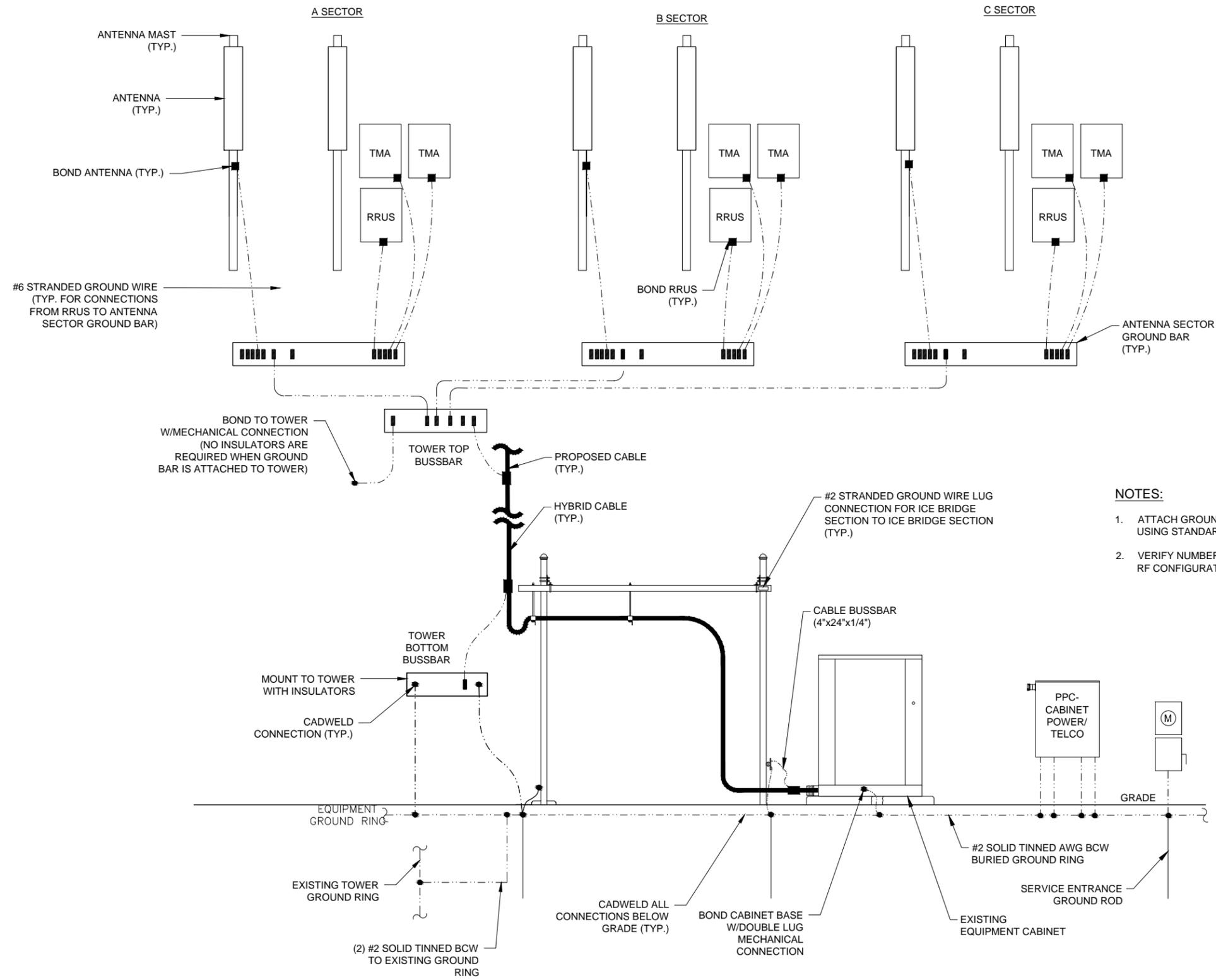
SUBMITTALS		
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

CT516/COVENTRY-SPRINT
CT11516A
N. COVENTRY/WALLBEOFF
876385
400 RILEY MOUNTAIN RD.
COVENTRY, CT 06238

ONE LINE
DIAGRAM

E-1



NOTES:

1. ATTACH GROUND BAR DIRECTLY TO THE TOWER USING STANDARD ADAPTER.
2. VERIFY NUMBER OF CABLES/TMAS PER T-MOBILE RF CONFIGURATION.

GROUNDING NOTES:

1. BELOW GROUND ALL GROUNDING CONDUCTORS TO BE #2 AWG SOLID TINNED BARE COPPER WIRE (BCW) U.O.N.
2. ABOVE GROUND ALL GROUNDING CONDUCTORS TO BE #2 AWG STRANDED INSULATED COPPER WIRE U.O.N.
3. PROVIDE BONDING AND GROUNDING CONDUCTORS WITH GREEN TYPE THWN INSULATION, U.O.N.
4. LEAVE 4' EXCESS GROUND WIRE COILED UP ABOVE GRADE. SEAL/WEATHERPROOF CONDUIT.



T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065



120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116



PROJECT NO: ERCC0004

DRAWN BY: FLP

CHECKED BY: AS

SUBMITTALS		
NO.	DATE	DESCRIPTION
1	08/21/19	ISSUED FOR CONSTRUCTION
0	07/17/19	ISSUED FOR PERMITTING

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

CT516/COVENTRY-SPRINT
CT11516A
N. COVENTRY/WALLBEOFF
876385
400 RILEY MOUNTAIN RD.
COVENTRY, CT 06238

GROUNDING RISER
DIAGRAM

G-1

Exhibit D

Structural Analysis Report



ENGINEERING INNOVATION

FDH Infrastructure Services, LLC
6521 Meridien Drive, Suite 107
Raleigh, North Carolina 27616
919.755.1012

Date: **June 24, 2019**

Denice Nicholson
Crown Castle
3 Corporate Dr. Suite 101
Clifton Park, NY 12065

Subject: **Structural Analysis Report**

Carrier Designation: **T-Mobile Co-Locate**
Carrier Site Number: CT11516A
Carrier Site Name: CT516/Coventry - Sprint

Crown Castle Designation: **Crown Castle BU Number:** 876385
Crown Castle Site Name: N. COVENTRY / WALLBEOFF
Crown Castle JDE Job Number: 559337
Crown Castle Work Order Number: 1749514
Crown Castle Order Number: 479838 Rev. 0

Engineering Firm Designation: **FDH-IS Project Number:** 19BMVD1400

Site Data: **Reilly Mtn. Rd., COVENTRY, Tolland County, CT**
Latitude 41° 47' 56.21", Longitude -72° 19' 55.88"
152 Foot - Monopole Tower

Dear Denice Nicholson,

FDH Infrastructure Services, LLC is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 42.2%**

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

Ricardo Goncalves, EI
Project Engineer I

Reviewed by:

Krystyn M. Perez, PE
Vice President, Structural Engineering
CT PE License No. 32975



06/24/2019

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 – Tower Component Stresses vs. Capacity – LC7

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 152 ft Monopole tower designed by Engineered Endeavors, Inc.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	130 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
133.0	136.0	3	ems wireless	RR90-17-02DP	13	1-5/8
		3	ericsson	KRY 112 144/2		
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APXVAARR24_43-U-NA20		
	133.0	3	ericsson	KRY 112 71/2		
		1	sitepro1	Handrail Kit [P/N: F3P- HRK14]		
		1	-	Platform Mount [LP 304-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
152.0	162.0	1	db spectra	DS4C06F36D-D	2 1 2	7/8 1/2 1-5/8
		1	db spectra	DS9A09F36D-N		
	152.0	1	bird technologies group	430-94C-09168-M-110/48		
		2	-	Pipe Mount [PM 601-1]		
150.0	152.0	3	alcatel lucent	PCS 1900MHZ 4X45W-65MHZ	4	1-1/4
		6	alcatel lucent	RRH2X50-800		
		3	alcatel lucent	TD-RRH8X20-25		
		3	commscope	NNVV-65B-R4		
		3	rfs celwave	APXVTM14-ALU-I20		
	150.0	1	sitepro1	Platform Reinforcement Kit [P/N: PRK-1245]		
1		-	Platform Mount [LP 601-1]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
124.0	126.0	3	alcatel lucent	RRH2X60-PCS	20	1-5/8
		3	alcatel lucent	RRH2x60-700		
		3	alcatel lucent	RRH4X45-AWS4 B66		
		6	andrew	SBNHH-1D65B		
		3	antel	LPA-171080-12CF-EDIN-2		
		6	antel	LPA-80080/6CF		
	2	rfs celwave	DB-T1-6Z-8AB-0Z			
	124.0	1	-	Platform Mount [LP 304-1]		
116.0	120.0	2	cci antennas	HPA-65R-BUU-H6	12 4 2 2	1-1/4 3/4 3/8 Conduit
		1	cci antennas	HPA-65R-BUU-H8		
		3	ericsson	RRUS 32		
		3	ericsson	RRUS 32 B2		
		3	ericsson	RRUS 4478 B14		
		3	ericsson	RRUS-11		
		2	kathrein	80010965		
		1	kathrein	80010966		
		6	powerwave technologies	7020.00		
		3	powerwave technologies	7770.00		
	2	raycap	DC6-48-60-18-8F			
		116.0	6	powerwave technologies		
	1		-	Platform Mount [LP 714-1]		
	1		-	Handrail Kit [NA 510-1]		
107.0	107.0	3	kathrein	742 213	6	1-5/8
		1	-	Pipe Mount [PM 601-3]		
74.0	75.0	1	lucent	KS24019-L112A	1	1/2
	74.0	1	-	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Engineered Endeavors, Inc.	1441268	CCISITES
4-GEOTECHNICAL REPORTS	Goodkind & O'Dea, Inc.	1531969	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Engineered Endeavors, Inc.	1614566	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity ²	Pass / Fail
L1	152 - 137.42	Pole	TP37.31x33.03x0.313	1	-5.149	2161.645	3.4	Pass
L2	137.42 - 91.09	Pole	TP50.15x35.167x0.375	2	-27.664	3493.833	22.4	Pass
L3	91.09 - 44.79	Pole	TP62.86x47.413x0.438	3	-46.074	5115.600	31.3	Pass
L4	44.79 - 0	Pole	TP75x59.537x0.5	4	-76.058	7262.367	34.2	Pass
							Summary	
						Pole (L4)	34.2	Pass
						RATING =	34.2	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1, 2	Anchor Rods	0	33.0	Pass
1, 2	Base Plate	0	42.2	Pass
1, 2	Base Foundation	0	38.8	Pass
1, 2	Base Foundation Soil Interaction	0	33.3	Pass

Structure Rating (max from all components) =	42.2%²
---	--------------------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Ratings per TIA-H-222 Section 15.5.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

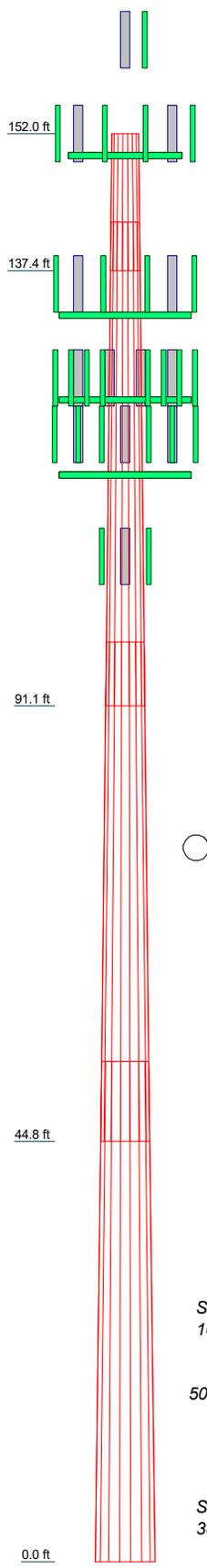
MATERIAL STRENGTH

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

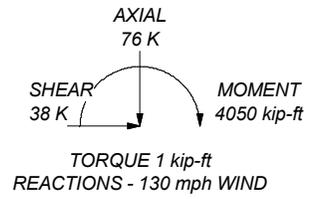
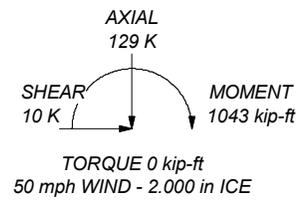
TOWER DESIGN NOTES

1. Tower is located in Tolland County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 130 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S.
9. TOWER RATING: 34.2%

Section	1	2	3	4
Length (ft)	14.580	51.500	53.130	53.210
Number of Sides	18	18	18	18
Thickness (in)	0.313	0.375	0.438	0.500
Socket Length (ft)	5.170	6.830	8.420	59.537
Top Dia (in)	33.030	35.167	47.413	75.000
Bot Dia (in)	37.310	50.150	62.860	19.2
Grade		A572-65		
Weight (K)	1.7	8.8	13.7	43.5



ALL REACTIONS ARE FACTORED



FDH Infrastructure Services, LLC
 6521 Meridien Drive, Suite 107
 Raleigh, North Carolina 27616
 Phone: 919.755.1012
 FAX: 919.755.1031

Job: 19BMVD1400		
Project: 876385 - N. Coventry / Wallveoff		
Client: Crown Castle	Drawn by: Ricardo.Goncalves	App'd:
Code: TIA-222-H	Date: 06/24/19	Scale: NTS
Path:		Dwg No. E-1

<p>tnxTower</p> <p>FDH Infrastructure Services, LLC</p> <p>6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031</p>	<p>Job</p> <p>19BMVD1400</p>	<p>Page</p> <p>1 of 35</p>
	<p>Project</p> <p>876385 - N. Coventry / Wallveoff</p>	<p>Date</p> <p>16:45:00 06/24/19</p>
	<p>Client</p> <p>Crown Castle</p>	<p>Designed by</p> <p>Ricardo.Goncalves</p>

Tower Input Data

The tower is a monopole.

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

The following design criteria apply:

- Tower is located in Tolland County, Connecticut.
- Tower base elevation above sea level: 707.000 ft.
- Basic wind speed of 130 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- Nominal ice thickness of 2.000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.000 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50.000 °F.
- Deflections calculated using a wind speed of 60 mph.
- TIA-222-H Annex S..
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.05.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{cs}(F_w) = 0.95$, $K_{cs}(t_i) = 0.85$.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification Use Code Stress Ratios Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/r For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--|--|---|

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 2 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	152.000-137.420	14.580	5.170	18	33.030	37.310	0.313	1.250	A572-65 (65 ksi)
L2	137.420-91.090	51.500	6.830	18	35.167	50.150	0.375	1.500	A572-65 (65 ksi)
L3	91.090-44.790	53.130	8.420	18	47.413	62.860	0.438	1.750	A572-65 (65 ksi)
L4	44.790-0.000	53.210		18	59.537	75.000	0.500	2.000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I _t /Q in ²	w in	w/t
L1	33.491	32.452	4388.688	11.615	16.779	261.555	8783.151	16.229	5.263	16.842
	37.837	36.697	6346.168	13.134	18.953	334.829	12700.685	18.352	6.017	19.253
L2	37.179	41.412	6333.245	12.351	17.865	354.506	12674.823	20.710	5.529	14.745
	50.866	59.245	18544.257	17.670	25.476	727.905	37112.916	29.628	8.166	21.777
L3	50.093	65.231	18185.953	16.676	24.086	755.049	36395.835	32.622	7.575	17.314
	63.762	86.681	42672.286	22.160	31.933	1336.312	85400.720	43.349	10.293	23.528
L4	62.863	93.692	41255.942	20.958	30.245	1364.068	82566.170	46.855	9.599	19.197
	76.080	118.232	82905.472	26.448	38.100	2175.997	165920.033	59.127	12.320	24.64

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
152.000-137.420				1	1	1			
137.420-91.090				1	1	1			
91.090-44.790				1	1	1			
44.790-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	C	No	Surface Ar (CaAa)	152.000 - 0.000	1	1	0.000 - 0.000	0.375		0.220

*
 * 152 * EVERSOURCE
 * [P] *

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 4 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
* 124 * VERIZON *									
[P] *									
1-5/8"	A	No	No	Inside Pole	124.000 - 0.000	18	No Ice	0.000	0.820
							1/2" Ice	0.000	0.820
							1" Ice	0.000	0.820
							2" Ice	0.000	0.820
*									
* 116 * AT&T * [I]									
[P] *									
LCF114-50J(1-1/4)	A	No	No	Inside Pole	116.000 - 0.000	12	No Ice	0.000	0.700
							1/2" Ice	0.000	0.700
							1" Ice	0.000	0.700
							2" Ice	0.000	0.700
WR-VG86ST-BRD(3/4)	A	No	No	Inside Pole	116.000 - 0.000	4	No Ice	0.000	0.584
							1/2" Ice	0.000	0.584
							1" Ice	0.000	0.584
							2" Ice	0.000	0.584
FB-L98B-034-XXX(3/8)	A	No	No	Inside Pole	116.000 - 0.000	2	No Ice	0.000	0.057
							1/2" Ice	0.000	0.057
							1" Ice	0.000	0.057
							2" Ice	0.000	0.057
2" Rigid Conduit	A	No	No	Inside Pole	116.000 - 0.000	2	No Ice	0.000	2.800
							1/2" Ice	0.000	2.800
							1" Ice	0.000	2.800
							2" Ice	0.000	2.800
*									
* 107 * METRO * [I]									
1-5/8"	B	No	No	Inside Pole	107.000 - 0.000	6	No Ice	0.000	0.820
							1/2" Ice	0.000	0.820
							1" Ice	0.000	0.820
							2" Ice	0.000	0.820
*									
* 74 * SPRINT * [I]									
1/2"	A	No	No	Inside Pole	74.000 - 0.000	1	No Ice	0.000	0.150
							1/2" Ice	0.000	0.150
							1" Ice	0.000	0.150
							2" Ice	0.000	0.150

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	152.000-137.420	A	0.000	0.000	10.075	0.000	0.099
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.547	0.000	0.003
L2	137.420-91.090	A	0.000	0.000	45.046	0.000	1.292
		B	0.000	0.000	0.000	0.000	0.078
		C	0.000	0.000	1.737	0.000	0.528
L3	91.090-44.790	A	0.000	0.000	50.328	0.000	1.868

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	5 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

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
L4	44.790-0.000	B	0.000	0.000	0.000	0.000	0.228
		C	0.000	0.000	1.736	0.000	0.544
		A	0.000	0.000	48.687	0.000	1.810
		B	0.000	0.000	0.000	0.000	0.220
		C	0.000	0.000	1.680	0.000	0.526

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	152.000-137.420	A	1.971	0.000	0.000	32.472	0.000	0.515
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	6.293	0.000	0.086
L2	137.420-91.090	A	1.923	0.000	0.000	135.689	0.000	3.040
		B		0.000	0.000	0.000	0.000	0.078
		C		0.000	0.000	19.997	0.000	0.789
L3	91.090-44.790	A	1.826	0.000	0.000	146.767	0.000	3.721
		B		0.000	0.000	0.000	0.000	0.228
		C		0.000	0.000	19.546	0.000	0.794
L4	44.790-0.000	A	1.631	0.000	0.000	137.853	0.000	3.475
		B		0.000	0.000	0.000	0.000	0.220
		C		0.000	0.000	18.040	0.000	0.746

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	152.000-137.420	-4.099	-1.301	-4.759	-0.834
L2	137.420-91.090	-5.748	-1.204	-6.286	-0.764
L3	91.090-44.790	-6.572	-1.223	-7.430	-0.813
L4	44.790-0.000	-6.838	-1.273	-8.041	-0.892

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	Safety Line 3/8	137.42 - 152.00	1.0000	1.0000
L1	4	FLC78-50J(7/8")	137.42 - 152.00	1.0000	1.0000
L1	5	FLC 12-50J(1/2")	137.42 - 152.00	1.0000	1.0000
L1	6	FLC 158-50J(1-5/8")	137.42 -	1.0000	1.0000

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 6 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			152.00		
L1	26	1-5/8"	137.42 - 124.00	1.0000	1.0000
L2	1	Safety Line 3/8	91.09 - 137.42	1.0000	1.0000
L2	4	FLC78-50J(7/8")	91.09 - 137.42	1.0000	1.0000
L2	5	FLC 12-50J(1/2")	91.09 - 137.42	1.0000	1.0000
L2	6	FLC 158-50J(1-5/8")	91.09 - 137.42	1.0000	1.0000
L2	26	1-5/8"	91.09 - 124.00	1.0000	1.0000
L3	1	Safety Line 3/8	44.79 - 91.09	1.0000	1.0000
L3	4	FLC78-50J(7/8")	44.79 - 91.09	1.0000	1.0000
L3	5	FLC 12-50J(1/2")	44.79 - 91.09	1.0000	1.0000
L3	6	FLC 158-50J(1-5/8")	44.79 - 91.09	1.0000	1.0000
L3	26	1-5/8"	44.79 - 91.09	1.0000	1.0000

Discrete Tower Loads

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	
* 152 * EVERSOURCE * [P]									
DS9A09F36D-N	A	From Leg	1.000 0.000 10.000	0.000	152.000	No Ice 5.760 1/2" Ice 7.713 1" Ice 9.683 2" Ice 13.673	5.760 7.713 9.683 13.673	0.047 0.088 0.142 0.287	
DS4C06F36D-D	B	From Leg	1.000 0.000 10.000	0.000	152.000	No Ice 5.820 1/2" Ice 7.793 1" Ice 9.783 2" Ice 13.813	5.820 7.793 9.783 13.813	0.050 0.092 0.146 0.292	
430-94C-09168-M-110/48	B	From Leg	1.000 0.000 0.000	0.000	152.000	No Ice 1.031 1/2" Ice 1.174 1" Ice 1.323 2" Ice 1.644	1.031 1.174 1.323 1.644	0.020 0.030 0.042 0.074	
Pipe Mount [PM 601-1]	A	From Leg	0.000 0.000 0.000	0.000	152.000	No Ice 3.000 1/2" Ice 3.740 1" Ice 4.480 2" Ice 5.960	0.900 1.120 1.340 1.780	0.065 0.079 0.093 0.122	
Pipe Mount [PM 601-1]	B	From Leg	0.000 0.000 0.000	0.000	152.000	No Ice 3.000 1/2" Ice 3.740 1" Ice 4.480 2" Ice 5.960	0.900 1.120 1.340 1.780	0.065 0.079 0.093 0.122	
* * 150 * SPRINT * [I] * * 150 * SPRINT * [P] *									
NNVV-65B-R4 w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.000	150.000	No Ice 12.559 1/2" Ice 13.136 1" Ice 13.699 2" Ice 14.850	7.762 8.796 9.689 11.525	0.118 0.212 0.315 0.548	
NNVV-65B-R4 w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.000	150.000	No Ice 12.559 1/2" Ice 13.136 1" Ice 13.699	7.762 8.796 9.689	0.118 0.212 0.315	

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	7 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						ft
			Lateral		°	ft	ft ²	ft ²	K	
			ft	ft						
NNVV-65B-R4 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	150.000	2" Ice	14.850	11.525	0.548
			0.000				No Ice	12.559	7.762	0.118
			2.000				1/2" Ice	13.136	8.796	0.212
							1" Ice	13.699	9.689	0.315
							2" Ice	14.850	11.525	0.548
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	150.000	No Ice	4.090	2.860	0.077
			0.000				1/2" Ice	4.480	3.230	0.127
			2.000				1" Ice	4.880	3.610	0.185
							2" Ice	5.710	4.400	0.331
							No Ice	4.090	2.860	0.077
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	150.000	1/2" Ice	4.480	3.230	0.127
			0.000				1" Ice	4.880	3.610	0.185
			2.000				2" Ice	5.710	4.400	0.331
							No Ice	4.090	2.860	0.077
							1/2" Ice	4.480	3.230	0.127
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	150.000	1" Ice	4.880	3.610	0.185
			0.000				2" Ice	5.710	4.400	0.331
			2.000				No Ice	4.090	2.860	0.077
							1/2" Ice	4.480	3.230	0.127
							1" Ice	4.880	3.610	0.185
TD-RRH8X20-25	A	From Leg	4.000	0.000	0.000	150.000	2" Ice	5.710	4.400	0.331
			0.000				No Ice	3.704	1.294	0.066
			2.000				1/2" Ice	3.946	1.465	0.090
							1" Ice	4.196	1.642	0.117
							2" Ice	4.717	2.019	0.183
TD-RRH8X20-25	B	From Leg	4.000	0.000	0.000	150.000	No Ice	3.704	1.294	0.066
			0.000				1/2" Ice	3.946	1.465	0.090
			2.000				1" Ice	4.196	1.642	0.117
							2" Ice	4.717	2.019	0.183
							No Ice	3.704	1.294	0.066
TD-RRH8X20-25	C	From Leg	4.000	0.000	0.000	150.000	1/2" Ice	3.946	1.465	0.090
			0.000				1" Ice	4.196	1.642	0.117
			2.000				2" Ice	4.717	2.019	0.183
							No Ice	3.704	1.294	0.066
							1/2" Ice	3.946	1.465	0.090
PCS 1900MHZ 4X45W-65MHZ	A	From Leg	4.000	0.000	0.000	150.000	1" Ice	4.196	1.642	0.117
			0.000				2" Ice	4.717	2.019	0.183
			2.000				No Ice	2.322	2.238	0.060
							1/2" Ice	2.527	2.441	0.083
							1" Ice	2.739	2.651	0.110
PCS 1900MHZ 4X45W-65MHZ	B	From Leg	4.000	0.000	0.000	150.000	2" Ice	3.185	3.093	0.173
			0.000				No Ice	2.322	2.238	0.060
			2.000				1/2" Ice	2.527	2.441	0.083
							1" Ice	2.739	2.651	0.110
							2" Ice	3.185	3.093	0.173
PCS 1900MHZ 4X45W-65MHZ	C	From Leg	4.000	0.000	0.000	150.000	No Ice	2.322	2.238	0.060
			0.000				1/2" Ice	2.527	2.441	0.083
			2.000				1" Ice	2.739	2.651	0.110
							2" Ice	3.185	3.093	0.173
							No Ice	2.322	2.238	0.060
(2) RRH2X50-800	A	From Leg	4.000	0.000	0.000	150.000	1/2" Ice	2.527	2.441	0.083
			0.000				1" Ice	2.739	2.651	0.110
			2.000				2" Ice	3.185	3.093	0.173
							No Ice	2.134	1.789	0.050
							1/2" Ice	2.320	1.963	0.071
(2) RRH2X50-800	B	From Leg	4.000	0.000	0.000	150.000	1" Ice	2.512	2.144	0.096
			0.000				2" Ice	2.920	2.529	0.154
			2.000				No Ice	2.134	1.789	0.050
							1/2" Ice	2.320	1.963	0.071
							1" Ice	2.512	2.144	0.096
(2) RRH2X50-800	C	From Leg	4.000	0.000	0.000	150.000	2" Ice	2.920	2.529	0.154
			0.000				No Ice	2.134	1.789	0.050
			2.000				1/2" Ice	2.320	1.963	0.071
							1" Ice	2.512	2.144	0.096
							2" Ice	2.920	2.529	0.154
* Pipe Mount	A	From Leg	4.000	0.000	0.000	150.000	No Ice	1.200	1.200	0.020
			0.000				1/2" Ice	1.502	1.502	0.029
			0.000				1" Ice	1.814	1.814	0.042

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	9 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.000			1/2" Ice 0.568	0.299	0.014
			3.000			1" Ice 0.664	0.376	0.019
						2" Ice 0.879	0.552	0.035
KRY 112 144/2	B	From Leg	4.000	0.000	133.000	No Ice 0.479	0.232	0.010
			0.000			1/2" Ice 0.568	0.299	0.014
			3.000			1" Ice 0.664	0.376	0.019
						2" Ice 0.879	0.552	0.035
RADIO 4449 B12/B71	A	From Leg	4.000	0.000	133.000	No Ice 1.650	1.300	0.075
			0.000			1/2" Ice 1.810	1.445	0.092
			3.000			1" Ice 1.978	1.597	0.112
						2" Ice 2.336	1.924	0.161
RADIO 4449 B12/B71	B	From Leg	4.000	0.000	133.000	No Ice 1.650	1.300	0.075
			0.000			1/2" Ice 1.810	1.445	0.092
			3.000			1" Ice 1.978	1.597	0.112
						2" Ice 2.336	1.924	0.161
RADIO 4449 B12/B71	C	From Leg	4.000	0.000	133.000	No Ice 1.650	1.300	0.075
			0.000			1/2" Ice 1.810	1.445	0.092
			3.000			1" Ice 1.978	1.597	0.112
						2" Ice 2.336	1.924	0.161
KRY 112 71/2	A	From Leg	4.000	0.000	133.000	No Ice 0.583	0.445	0.013
			0.000			1/2" Ice 0.688	0.538	0.019
			0.000			1" Ice 0.799	0.638	0.026
						2" Ice 1.045	0.868	0.046
KRY 112 71/2	B	From Leg	4.000	0.000	133.000	No Ice 0.583	0.445	0.013
			0.000			1/2" Ice 0.688	0.538	0.019
			0.000			1" Ice 0.799	0.638	0.026
						2" Ice 1.045	0.868	0.046
KRY 112 71/2	C	From Leg	4.000	0.000	133.000	No Ice 0.583	0.445	0.013
			0.000			1/2" Ice 0.688	0.538	0.019
			0.000			1" Ice 0.799	0.638	0.026
						2" Ice 1.045	0.868	0.046
*								
Pipe Mount	A	From Leg	4.000	0.000	133.000	No Ice 1.200	1.200	0.020
			0.000			1/2" Ice 1.502	1.502	0.029
			2.000			1" Ice 1.814	1.814	0.042
						2" Ice 2.465	2.465	0.078
Pipe Mount	B	From Leg	4.000	0.000	133.000	No Ice 1.200	1.200	0.020
			0.000			1/2" Ice 1.502	1.502	0.029
			2.000			1" Ice 1.814	1.814	0.042
						2" Ice 2.465	2.465	0.078
Pipe Mount	C	From Leg	4.000	0.000	133.000	No Ice 1.200	1.200	0.020
			0.000			1/2" Ice 1.502	1.502	0.029
			2.000			1" Ice 1.814	1.814	0.042
						2" Ice 2.465	2.465	0.078
Platform Mount [LP 304-1]	C	None		0.000	133.000	No Ice 17.460	17.460	1.349
						1/2" Ice 22.440	22.440	1.625
						1" Ice 27.420	27.420	1.900
						2" Ice 37.380	37.380	2.451
Handrail Kit [P/N: F3P-HRK14]	C	None		0.000	133.000	No Ice 6.010	6.010	0.436
						1/2" Ice 8.270	8.270	0.539
						1" Ice 10.200	10.200	0.681
						2" Ice 14.060	14.060	0.965

*
 * 124 * VERIZON * [1]
 *
 *
 *

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	10 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						ft
			ft	ft	°	ft	ft ²	ft ²	K	
* 124 * VERIZON * [P]										
(2) LPA-80080/6CF w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	124.000	No Ice	4.564	10.259	0.046
			0.000				1/2" Ice	5.105	11.427	0.113
			2.000				1" Ice	5.612	12.312	0.187
							2" Ice	6.651	14.129	0.363
(2) LPA-80080/6CF w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	124.000	No Ice	4.564	10.259	0.046
			0.000				1/2" Ice	5.105	11.427	0.113
			2.000				1" Ice	5.612	12.312	0.187
							2" Ice	6.651	14.129	0.363
(2) LPA-80080/6CF w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	124.000	No Ice	4.564	10.259	0.046
			0.000				1/2" Ice	5.105	11.427	0.113
			2.000				1" Ice	5.612	12.312	0.187
							2" Ice	6.651	14.129	0.363
LPA-171080-12CF-EDIN-2 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	124.000	No Ice	3.956	7.095	0.037
			0.000				1/2" Ice	4.508	8.302	0.086
			2.000				1" Ice	5.029	9.242	0.143
							2" Ice	6.087	11.104	0.282
LPA-171080-12CF-EDIN-2 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	124.000	No Ice	3.956	7.095	0.037
			0.000				1/2" Ice	4.508	8.302	0.086
			2.000				1" Ice	5.029	9.242	0.143
							2" Ice	6.087	11.104	0.282
LPA-171080-12CF-EDIN-2 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	124.000	No Ice	3.956	7.095	0.037
			0.000				1/2" Ice	4.508	8.302	0.086
			2.000				1" Ice	5.029	9.242	0.143
							2" Ice	6.087	11.104	0.282
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	124.000	No Ice	4.090	3.300	0.066
			0.000				1/2" Ice	4.490	3.680	0.130
			2.000				1" Ice	4.890	4.070	0.204
							2" Ice	5.720	4.870	0.386
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	124.000	No Ice	4.090	3.300	0.066
			0.000				1/2" Ice	4.490	3.680	0.130
			2.000				1" Ice	4.890	4.070	0.204
							2" Ice	5.720	4.870	0.386
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	124.000	No Ice	4.090	3.300	0.066
			0.000				1/2" Ice	4.490	3.680	0.130
			2.000				1" Ice	4.890	4.070	0.204
							2" Ice	5.720	4.870	0.386
*										
RRH2x60-700	A	From Leg	4.000	0.000	0.000	124.000	No Ice	3.500	1.816	0.060
			0.000				1/2" Ice	3.761	2.052	0.083
			2.000				1" Ice	4.029	2.289	0.109
							2" Ice	4.585	2.785	0.173
RRH2x60-700	B	From Leg	4.000	0.000	0.000	124.000	No Ice	3.500	1.816	0.060
			0.000				1/2" Ice	3.761	2.052	0.083
			2.000				1" Ice	4.029	2.289	0.109
							2" Ice	4.585	2.785	0.173
RRH2x60-700	C	From Leg	4.000	0.000	0.000	124.000	No Ice	3.500	1.816	0.060
			0.000				1/2" Ice	3.761	2.052	0.083
			2.000				1" Ice	4.029	2.289	0.109
							2" Ice	4.585	2.785	0.173
RRH4X45-AWS4 B66	A	From Leg	4.000	0.000	0.000	124.000	No Ice	2.660	1.586	0.064
			0.000				1/2" Ice	2.878	1.769	0.084
			2.000				1" Ice	3.104	1.959	0.108
							2" Ice	3.577	2.359	0.165
RRH4X45-AWS4 B66	B	From Leg	4.000	0.000	0.000	124.000	No Ice	2.660	1.586	0.064
			0.000				1/2" Ice	2.878	1.769	0.084
			2.000				1" Ice	3.104	1.959	0.108
							2" Ice	3.577	2.359	0.165

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	11 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
RRH4X45-AWS4 B66	C	From Leg	4.000	0.000	0.000	124.000	2" Ice	3.577	2.359	0.165
			0.000				No Ice	2.660	1.586	0.064
			2.000				1/2" Ice	2.878	1.769	0.084
							1" Ice	3.104	1.959	0.108
							2" Ice	3.577	2.359	0.165
RRH2X60-PCS	A	From Leg	4.000	0.000	0.000	124.000	No Ice	2.200	1.650	0.046
			0.000				1/2" Ice	2.393	1.826	0.066
			2.000				1" Ice	2.593	2.009	0.089
							2" Ice	3.015	2.398	0.144
							No Ice	2.200	1.650	0.046
RRH2X60-PCS	B	From Leg	4.000	0.000	0.000	124.000	1/2" Ice	2.393	1.826	0.066
			0.000				1" Ice	2.593	2.009	0.089
			2.000				2" Ice	3.015	2.398	0.144
							No Ice	2.200	1.650	0.046
							1/2" Ice	2.393	1.826	0.066
RRH2X60-PCS	C	From Leg	4.000	0.000	0.000	124.000	1" Ice	2.593	2.009	0.089
			0.000				2" Ice	3.015	2.398	0.144
			2.000				No Ice	2.200	1.650	0.046
							1/2" Ice	2.393	1.826	0.066
							1" Ice	2.593	2.009	0.089
(2) DB-T1-6Z-8AB-0Z	A	From Leg	4.000	0.000	0.000	124.000	2" Ice	3.015	2.398	0.144
			0.000				No Ice	4.800	2.000	0.044
			2.000				1/2" Ice	5.070	2.193	0.080
							1" Ice	5.348	2.393	0.120
							2" Ice	5.926	2.815	0.213
* Pipe Mount	A	From Leg	4.000	0.000	0.000	124.000	No Ice	1.200	1.200	0.020
			0.000				1/2" Ice	1.502	1.502	0.029
			0.000				1" Ice	1.814	1.814	0.042
							2" Ice	2.465	2.465	0.078
							No Ice	1.200	1.200	0.020
Pipe Mount	B	From Leg	4.000	0.000	0.000	124.000	1/2" Ice	1.502	1.502	0.029
			0.000				1" Ice	1.814	1.814	0.042
			0.000				2" Ice	2.465	2.465	0.078
							No Ice	1.200	1.200	0.020
							1/2" Ice	1.502	1.502	0.029
Pipe Mount	C	From Leg	4.000	0.000	0.000	124.000	1" Ice	1.814	1.814	0.042
			0.000				2" Ice	2.465	2.465	0.078
			0.000				No Ice	1.200	1.200	0.020
							1/2" Ice	1.502	1.502	0.029
							1" Ice	1.814	1.814	0.042
Platform Mount [LP 304-1]	C	None		0.000	0.000	124.000	2" Ice	2.465	2.465	0.078
							No Ice	17.460	17.460	1.349
							1/2" Ice	22.440	22.440	1.625
							1" Ice	27.420	27.420	1.900
							2" Ice	37.380	37.380	2.451
* * 116 * AT&T * [I] * * * * * * 116 * AT&T * [P] * 7770.00 w/ Mount Pipe										
7770.00 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	116.000	No Ice	5.746	4.254	0.055
			0.000				1/2" Ice	6.179	5.014	0.103
			4.000				1" Ice	6.607	5.711	0.157
							2" Ice	7.488	7.155	0.287
							No Ice	5.746	4.254	0.055
7770.00 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	116.000	1/2" Ice	6.179	5.014	0.103
			0.000				1" Ice	6.607	5.711	0.157
			4.000				2" Ice	7.488	7.155	0.287
							No Ice	5.746	4.254	0.055
							1/2" Ice	6.179	5.014	0.103
7770.00 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	116.000	1" Ice	6.607	5.711	0.157
			0.000				2" Ice	7.488	7.155	0.287
			4.000				No Ice	5.746	4.254	0.055
							1/2" Ice	6.179	5.014	0.103
							1" Ice	6.607	5.711	0.157
80010965 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	116.000	2" Ice	7.488	7.155	0.287
							No Ice	13.814	7.161	0.127

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	12 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
				0.000		1/2" Ice	14.347	7.956	0.219
				4.000		1" Ice	14.888	8.767	0.320
						2" Ice	15.990	10.440	0.549
80010965 w/ Mount Pipe	B	From Leg	4.000	0.000	116.000	No Ice	13.814	7.161	0.127
			0.000			1/2" Ice	14.347	7.956	0.219
			4.000			1" Ice	14.888	8.767	0.320
						2" Ice	15.990	10.440	0.549
80010966 w/ Mount Pipe	C	From Leg	4.000	0.000	116.000	No Ice	17.363	9.225	0.149
			0.000			1/2" Ice	17.991	10.177	0.260
			4.000			1" Ice	18.626	11.145	0.382
						2" Ice	19.916	13.131	0.655
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.000	0.000	116.000	No Ice	9.220	6.250	0.074
			0.000			1/2" Ice	9.980	6.960	0.143
			4.000			1" Ice	10.760	7.700	0.224
						2" Ice	12.360	9.220	0.420
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Leg	4.000	0.000	116.000	No Ice	9.220	6.250	0.074
			0.000			1/2" Ice	9.980	6.960	0.143
			4.000			1" Ice	10.760	7.700	0.224
						2" Ice	12.360	9.220	0.420
HPA-65R-BUU-H8 w/ Mount Pipe	C	From Leg	4.000	0.000	116.000	No Ice	12.250	8.330	0.105
			0.000			1/2" Ice	13.190	9.230	0.194
			4.000			1" Ice	14.160	10.150	0.297
						2" Ice	16.140	12.050	0.543
*									
(2) LGP21401	A	From Leg	4.000	0.000	116.000	No Ice	1.104	0.347	0.014
			0.000			1/2" Ice	1.239	0.442	0.021
			0.000			1" Ice	1.381	0.544	0.030
						2" Ice	1.688	0.770	0.055
(2) LGP21401	B	From Leg	4.000	0.000	116.000	No Ice	1.104	0.347	0.014
			0.000			1/2" Ice	1.239	0.442	0.021
			0.000			1" Ice	1.381	0.544	0.030
						2" Ice	1.688	0.770	0.055
(2) LGP21401	C	From Leg	4.000	0.000	116.000	No Ice	1.104	0.347	0.014
			0.000			1/2" Ice	1.239	0.442	0.021
			0.000			1" Ice	1.381	0.544	0.030
						2" Ice	1.688	0.770	0.055
(2) 7020.00	A	From Leg	4.000	0.000	116.000	No Ice	0.102	0.175	0.002
			0.000			1/2" Ice	0.147	0.239	0.005
			4.000			1" Ice	0.199	0.311	0.009
						2" Ice	0.326	0.476	0.022
(2) 7020.00	B	From Leg	4.000	0.000	116.000	No Ice	0.102	0.175	0.002
			0.000			1/2" Ice	0.147	0.239	0.005
			4.000			1" Ice	0.199	0.311	0.009
						2" Ice	0.326	0.476	0.022
(2) 7020.00	C	From Leg	4.000	0.000	116.000	No Ice	0.102	0.175	0.002
			0.000			1/2" Ice	0.147	0.239	0.005
			4.000			1" Ice	0.199	0.311	0.009
						2" Ice	0.326	0.476	0.022
RRUS 4478 B14	A	From Leg	4.000	0.000	116.000	No Ice	1.843	1.059	0.060
			0.000			1/2" Ice	2.012	1.197	0.076
			4.000			1" Ice	2.190	1.342	0.094
						2" Ice	2.566	1.656	0.140
RRUS 4478 B14	B	From Leg	4.000	0.000	116.000	No Ice	1.843	1.059	0.060
			0.000			1/2" Ice	2.012	1.197	0.076
			4.000			1" Ice	2.190	1.342	0.094
						2" Ice	2.566	1.656	0.140
RRUS 4478 B14	C	From Leg	4.000	0.000	116.000	No Ice	1.843	1.059	0.060

tnxTower FDH Infrastructure Services, LLC 6521 Meridian Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	13 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
			ft	ft	°	ft	ft ²	ft ²	K
			0.000			1/2" Ice	2.012	1.197	0.076
			4.000			1" Ice	2.190	1.342	0.094
						2" Ice	2.566	1.656	0.140
RRUS 32	A	From Leg	4.000	0.000	116.000	No Ice	2.743	1.668	0.053
			0.000			1/2" Ice	2.965	1.855	0.074
			4.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 32	B	From Leg	4.000	0.000	116.000	No Ice	2.743	1.668	0.053
			0.000			1/2" Ice	2.965	1.855	0.074
			4.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 32	C	From Leg	4.000	0.000	116.000	No Ice	2.743	1.668	0.053
			0.000			1/2" Ice	2.965	1.855	0.074
			4.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 32 B2	A	From Leg	4.000	0.000	116.000	No Ice	2.761	1.689	0.053
			0.000			1/2" Ice	2.985	1.878	0.074
			4.000			1" Ice	3.216	2.074	0.099
						2" Ice	3.700	2.486	0.158
RRUS 32 B2	B	From Leg	4.000	0.000	116.000	No Ice	2.761	1.689	0.053
			0.000			1/2" Ice	2.985	1.878	0.074
			4.000			1" Ice	3.216	2.074	0.099
						2" Ice	3.700	2.486	0.158
RRUS 32 B2	C	From Leg	4.000	0.000	116.000	No Ice	2.761	1.689	0.053
			0.000			1/2" Ice	2.985	1.878	0.074
			4.000			1" Ice	3.216	2.074	0.099
						2" Ice	3.700	2.486	0.158
RRUS-11	A	From Leg	4.000	0.000	116.000	No Ice	2.522	1.068	0.055
			0.000			1/2" Ice	2.719	1.211	0.074
			4.000			1" Ice	2.923	1.361	0.097
						2" Ice	3.354	1.683	0.151
RRUS-11	B	From Leg	4.000	0.000	116.000	No Ice	2.522	1.068	0.055
			0.000			1/2" Ice	2.719	1.211	0.074
			4.000			1" Ice	2.923	1.361	0.097
						2" Ice	3.354	1.683	0.151
RRUS-11	C	From Leg	4.000	0.000	116.000	No Ice	2.522	1.068	0.055
			0.000			1/2" Ice	2.719	1.211	0.074
			4.000			1" Ice	2.923	1.361	0.097
						2" Ice	3.354	1.683	0.151
(2) DC6-48-60-18-8F	A	From Leg	4.000	0.000	116.000	No Ice	1.212	1.212	0.033
			0.000			1/2" Ice	1.892	1.892	0.055
			4.000			1" Ice	2.105	2.105	0.080
						2" Ice	2.570	2.570	0.138
*									
Platform Mount [LP 714-1]	C	None		0.000	116.000	No Ice	37.470	37.470	1.600
						1/2" Ice	44.230	44.230	2.040
						1" Ice	50.990	50.990	2.480
						2" Ice	64.510	64.510	3.360
Miscellaneous [NA 510-1]	C	None		0.000	116.000	No Ice	6.000	6.000	0.256
						1/2" Ice	8.500	8.500	0.340
						1" Ice	11.000	11.000	0.423
						2" Ice	16.000	16.000	0.591
*									
* 107 * METRO * [1]	A	From Leg	1.000	0.000	107.000	No Ice	3.570	1.600	0.022
742 213			0.000			1/2" Ice	4.210	2.210	0.047
			0.000			1" Ice	4.860	2.830	0.078

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	14 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
742 213	B	From Leg	1.000	0.000	0.000	107.000	2" Ice	6.210	4.130	0.158
			0.000	0.000			No Ice	3.570	1.600	0.022
			0.000	0.000			1/2" Ice	4.210	2.210	0.047
			0.000	0.000			1" Ice	4.860	2.830	0.078
742 213	C	From Leg	1.000	0.000	0.000	107.000	2" Ice	6.210	4.130	0.158
			0.000	0.000			No Ice	3.570	1.600	0.022
			0.000	0.000			1/2" Ice	4.210	2.210	0.047
			0.000	0.000			1" Ice	4.860	2.830	0.078
Pipe Mount [PM 601-3]	C	None			0.000	107.000	2" Ice	6.210	4.130	0.158
							No Ice	4.390	4.390	0.195
							1/2" Ice	5.480	5.480	0.237
							1" Ice	6.570	6.570	0.280
* * 74 * SPRINT * [I] KS24019-L112A	C	From Leg	3.000	0.000	0.000	74.000	2" Ice	8.750	8.750	0.365
			0.000	0.000			No Ice	0.141	0.141	0.005
			1.000	0.000			1/2" Ice	0.198	0.198	0.007
			0.000	0.000			1" Ice	0.262	0.262	0.009
Side Arm Mount [SO 701-1]	C	From Leg	1.500	0.000	0.000	74.000	2" Ice	0.415	0.415	0.018
			0.000	0.000			No Ice	0.850	1.670	0.065
			0.000	0.000			1/2" Ice	1.140	2.340	0.079
			0.000	0.000			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121	

Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation	z	K _Z	q _z	A _G	F _a	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face	C _{AA} Out Face
ft	ft		psf	ft ²	e	ft ²	ft ²	ft ²		ft ²	ft ²
152.000-137.420	144.562	1.098	41.78	43.332	A	0.000	43.332	43.332	100.00	10.075	0.000
					B	0.000	43.332	100.00	0.000	0.000	
					C	0.000	43.332	100.00	0.547	0.000	
137.420-91.090	113.389	1.024	38.91	169.964	A	0.000	169.964	169.964	100.00	45.046	0.000
					B	0.000	169.964	100.00	0.000	0.000	
					C	0.000	169.964	100.00	1.737	0.000	
91.090-44.790	67.582	0.884	33.44	219.646	A	0.000	219.646	219.646	100.00	50.328	0.000
					B	0.000	219.646	100.00	0.000	0.000	
					C	0.000	219.646	100.00	1.736	0.000	
44.790-0.000	21.861	0.7	27.04	259.302	A	0.000	259.302	259.302	100.00	48.687	0.000
					B	0.000	259.302	100.00	0.000	0.000	
					C	0.000	259.302	100.00	1.680	0.000	

Tower Pressure - With Ice

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 15 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

$$G_H = 1.100$$

Section Elevation ft	z ft	K _Z	q _z psf	t _Z in	A _G ft ²	F a c e ft ²	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg % ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 152.000-137.420	144.562	1.098	6.182	1.971	48.121	A	0.000	48.121	48.121	100.00	32.472	0.000
						B	0.000	48.121	100.00	0.000	0.000	
						C	0.000	48.121	100.00	6.293	0.000	
L2 137.420-91.090	113.389	1.024	5.756	1.923	185.180	A	0.000	185.180	185.180	100.00	135.689	0.000
						B	0.000	185.180	100.00	0.000	0.000	
						C	0.000	185.180	100.00	19.997	0.000	
L3 91.090-44.790	67.582	0.884	4.948	1.826	234.488	A	0.000	234.488	234.488	100.00	146.767	0.000
						B	0.000	234.488	100.00	0.000	0.000	
						C	0.000	234.488	100.00	19.546	0.000	
L4 44.790-0.000	21.861	0.7	4.001	1.631	272.936	A	0.000	272.936	272.936	100.00	137.853	0.000
						B	0.000	272.936	100.00	0.000	0.000	
						C	0.000	272.936	100.00	18.040	0.000	

Tower Pressure - Service

$$G_H = 1.100$$

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e ft ²	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg % ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 152.000-137.420	144.562	1.098	8.384	43.332	A	0.000	43.332	43.332	100.00	10.075	0.000
					B	0.000	43.332	100.00	0.000	0.000	
					C	0.000	43.332	100.00	0.547	0.000	
L2 137.420-91.090	113.389	1.024	7.807	169.964	A	0.000	169.964	169.964	100.00	45.046	0.000
					B	0.000	169.964	100.00	0.000	0.000	
					C	0.000	169.964	100.00	1.737	0.000	
L3 91.090-44.790	67.582	0.884	6.710	219.646	A	0.000	219.646	219.646	100.00	50.328	0.000
					B	0.000	219.646	100.00	0.000	0.000	
					C	0.000	219.646	100.00	1.736	0.000	
L4 44.790-0.000	21.861	0.7	5.427	259.302	A	0.000	259.302	259.302	100.00	48.687	0.000
					B	0.000	259.302	100.00	0.000	0.000	
					C	0.000	259.302	100.00	1.680	0.000	

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	F a c e ft ²	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1 152.000-137.420	0.102	1.715	A	1	0.73	41.78	1	1	43.332	1.454	99.728	C
			B	1	0.73	8	1	1	43.332			
			C	1	0.73		1	1	43.332			
L2 137.420-91.090	1.898	8.820	A	1	0.73	38.91	1	1	169.964	5.311	114.629	C
			B	1	0.73	2	1	1	169.964			
			C	1	0.73		1	1	169.964			
L3 91.090-44.790	2.639	13.732	A	1	0.73	33.44	1	1	219.646	5.899	127.407	C
			B	1	0.73	5	1	1	219.646			
			C	1	0.73		1	1	219.646			
L4	2.556	19.186	A	1	0.73	27.04	1	1	259.302	5.632	125.742	C

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 16 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
44.790-0.000			B	1	0.73	8	1	1	259.302			
			C	1	0.73		1	1	259.302			
Sum Weight:	7.195	43.453						OTM	1334.167 kip-ft	18.296		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1 152.000-137.4	0.102	1.715	A	1	0.73	41.78	1	1	43.332	1.454	99.728	C
			B	1	0.73	8	1	1	43.332			
			C	1	0.73		1	1	43.332			
L2 137.420-91.09	1.898	8.820	A	1	0.73	38.91	1	1	169.964	5.311	114.629	C
			B	1	0.73	2	1	1	169.964			
			C	1	0.73		1	1	169.964			
L3 91.090-44.790	2.639	13.732	A	1	0.73	33.44	1	1	219.646	5.899	127.407	C
			B	1	0.73	5	1	1	219.646			
			C	1	0.73		1	1	219.646			
L4 44.790-0.000	2.556	19.186	A	1	0.73	27.04	1	1	259.302	5.632	125.742	C
			B	1	0.73	8	1	1	259.302			
			C	1	0.73		1	1	259.302			
Sum Weight:	7.195	43.453						OTM	1334.167 kip-ft	18.296		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1 152.000-137.4	0.102	1.715	A	1	0.73	41.78	1	1	43.332	1.454	99.728	C
			B	1	0.73	8	1	1	43.332			
			C	1	0.73		1	1	43.332			
L2 137.420-91.09	1.898	8.820	A	1	0.73	38.91	1	1	169.964	5.311	114.629	C
			B	1	0.73	2	1	1	169.964			
			C	1	0.73		1	1	169.964			
L3 91.090-44.790	2.639	13.732	A	1	0.73	33.44	1	1	219.646	5.899	127.407	C
			B	1	0.73	5	1	1	219.646			
			C	1	0.73		1	1	219.646			
L4 44.790-0.000	2.556	19.186	A	1	0.73	27.04	1	1	259.302	5.632	125.742	C
			B	1	0.73	8	1	1	259.302			
			C	1	0.73		1	1	259.302			
Sum Weight:	7.195	43.453						OTM	1334.167 kip-ft	18.296		

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 17 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1 152.000-137.4	0.601	3.032	A	1	1.2	6.182	1	1	48.121	0.393	26.931	C
20			B	1	1.2		1	1	48.121			
L2 137.420-91.09	3.907	13.806	C	1	1.2	5.756	1	1	48.121	1.407	30.370	C
0			A	1	1.2		1	1	185.180			
L3 91.090-44.790	4.743	19.781	B	1	1.2	4.948	1	1	185.180	1.531	33.075	C
			C	1	1.2		1	1	234.488			
L4 44.790-0.000	4.441	25.510	A	1	1.2	4.001	1	1	234.488	1.442	32.184	C
			B	1	1.2		1	1	272.936			
			C	1	1.2		1	1	272.936			
Sum Weight:	13.692	62.130						OTM	351.314 kip-ft	4.773		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1 152.000-137.4	0.601	3.032	A	1	1.2	6.182	1	1	48.121	0.393	26.931	C
20			B	1	1.2		1	1	48.121			
L2 137.420-91.09	3.907	13.806	C	1	1.2	5.756	1	1	48.121	1.407	30.370	C
0			A	1	1.2		1	1	185.180			
L3 91.090-44.790	4.743	19.781	B	1	1.2	4.948	1	1	185.180	1.531	33.075	C
			C	1	1.2		1	1	234.488			
L4 44.790-0.000	4.441	25.510	A	1	1.2	4.001	1	1	234.488	1.442	32.184	C
			B	1	1.2		1	1	272.936			
			C	1	1.2		1	1	272.936			
Sum Weight:	13.692	62.130						OTM	351.314 kip-ft	4.773		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1	0.601	3.032	A	1	1.2	6.182	1	1	48.121	0.393	26.931	C

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 18 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
152.000-137.4			B	1	1.2		1	1	48.121			
20			C	1	1.2		1	1	48.121			
L2	3.907	13.806	A	1	1.2	5.756	1	1	185.180	1.407	30.370	C
137.420-91.09			B	1	1.2		1	1	185.180			
0			C	1	1.2		1	1	185.180			
L3	4.743	19.781	A	1	1.2	4.948	1	1	234.488	1.531	33.075	C
91.090-44.790			B	1	1.2		1	1	234.488			
			C	1	1.2		1	1	234.488			
L4	4.441	25.510	A	1	1.2	4.001	1	1	272.936	1.442	32.184	C
44.790-0.000			B	1	1.2		1	1	272.936			
			C	1	1.2		1	1	272.936			
Sum Weight:	13.692	62.130						OTM	351.314 kip-ft	4.773		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1	0.102	1.715	A	1	0.73	8.384	1	1	43.332	0.292	20.008	C
152.000-137.4			B	1	0.73		1	1	43.332			
20			C	1	0.73		1	1	43.332			
L2	1.898	8.820	A	1	0.73	7.807	1	1	169.964	1.065	22.998	C
137.420-91.09			B	1	0.73		1	1	169.964			
0			C	1	0.73		1	1	169.964			
L3	2.639	13.732	A	1	0.73	6.710	1	1	219.646	1.183	25.561	C
91.090-44.790			B	1	0.73		1	1	219.646			
			C	1	0.73		1	1	219.646			
L4	2.556	19.186	A	1	0.73	5.427	1	1	259.302	1.130	25.227	C
44.790-0.000			B	1	0.73		1	1	259.302			
			C	1	0.73		1	1	259.302			
Sum Weight:	7.195	43.453						OTM	267.669 kip-ft	3.671		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1	0.102	1.715	A	1	0.73	8.384	1	1	43.332	0.292	20.008	C
152.000-137.4			B	1	0.73		1	1	43.332			
20			C	1	0.73		1	1	43.332			
L2	1.898	8.820	A	1	0.73	7.807	1	1	169.964	1.065	22.998	C
137.420-91.09			B	1	0.73		1	1	169.964			
0			C	1	0.73		1	1	169.964			
L3	2.639	13.732	A	1	0.73	6.710	1	1	219.646	1.183	25.561	C
91.090-44.790			B	1	0.73		1	1	219.646			
			A	1	0.73		1	1	219.646			

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 19 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Section Elevation ft	Add Weight K	Self Weight K	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L4 44.790-0.000	2.556	19.186	C	1	0.73	5.427	1	1	219.646	1.130	25.227	C
			A	1	0.73		1	1	259.302			
			B	1	0.73		1	1	259.302			
			C	1	0.73		1	1	259.302			
Sum Weight:	7.195	43.453						OTM	267.669 kip-ft	3.671		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
L1 152.000-137.4	0.102	1.715	A	1	0.73	8.384	1	1	43.332	0.292	20.008	C
			B	1	0.73		1	1	43.332			
			C	1	0.73		1	1	43.332			
L2 137.420-91.090	1.898	8.820	A	1	0.73	7.807	1	1	169.964	1.065	22.998	C
			B	1	0.73		1	1	169.964			
			C	1	0.73		1	1	169.964			
L3 91.090-44.790	2.639	13.732	A	1	0.73	6.710	1	1	219.646	1.183	25.561	C
			B	1	0.73		1	1	219.646			
			C	1	0.73		1	1	219.646			
L4 44.790-0.000	2.556	19.186	A	1	0.73	5.427	1	1	259.302	1.130	25.227	C
			B	1	0.73		1	1	259.302			
			C	1	0.73		1	1	259.302			
Sum Weight:	7.195	43.453						OTM	267.669 kip-ft			

Discrete Appurtenance Pressures - No Ice G_H = 1.100

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²
DS9A09F36D-N	0.000	0.047	0.000	-2.376	162.000	1.134	43.170	5.760	5.760
DS4C06F36D-D	120.000	0.050	2.058	1.188	162.000	1.134	43.170	5.820	5.820
430-94C-09168-M-110/48	120.000	0.020	2.058	1.188	152.000	1.114	42.391	1.031	1.031
Pipe Mount [PM 601-1]	0.000	0.065	0.000	-1.376	152.000	1.114	42.391	3.000	0.900
Pipe Mount [PM 601-1]	120.000	0.065	1.192	0.688	152.000	1.114	42.391	3.000	0.900
NNVV-65B-R4 w/ Mount Pipe	0.000	0.118	0.000	-5.401	152.000	1.114	42.391	12.559	7.762
NNVV-65B-R4 w/ Mount Pipe	120.000	0.118	4.677	2.700	152.000	1.114	42.391	12.559	7.762
NNVV-65B-R4 w/ Mount Pipe	240.000	0.118	-4.677	2.700	152.000	1.114	42.391	12.559	7.762
APXVTM14-ALU-I20 w/ Mount Pipe	0.000	0.077	0.000	-5.401	152.000	1.114	42.391	4.090	2.860
APXVTM14-ALU-I20 w/ Mount Pipe	120.000	0.077	4.677	2.700	152.000	1.114	42.391	4.090	2.860

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 20 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²
APXVTM14-ALU-I20 w/ Mount Pipe	240.000	0.077	-4.677	2.700	152.000	1.114	42.391	4.090	2.860
TD-RRH8X20-25	0.000	0.066	0.000	-5.401	152.000	1.114	42.391	3.704	1.294
TD-RRH8X20-25	120.000	0.066	4.677	2.700	152.000	1.114	42.391	3.704	1.294
TD-RRH8X20-25	240.000	0.066	-4.677	2.700	152.000	1.114	42.391	3.704	1.294
PCS 1900MHZ 4X45W-65MHZ	0.000	0.060	0.000	-5.401	152.000	1.114	42.391	2.322	2.238
PCS 1900MHZ 4X45W-65MHZ	120.000	0.060	4.677	2.700	152.000	1.114	42.391	2.322	2.238
PCS 1900MHZ 4X45W-65MHZ	240.000	0.060	-4.677	2.700	152.000	1.114	42.391	2.322	2.238
RRH2X50-800	0.000	0.100	0.000	-5.401	152.000	1.114	42.391	4.268	3.579
RRH2X50-800	120.000	0.100	4.677	2.700	152.000	1.114	42.391	4.268	3.579
RRH2X50-800	240.000	0.100	-4.677	2.700	152.000	1.114	42.391	4.268	3.579
Pipe Mount	0.000	0.020	0.000	-5.401	150.000	1.110	42.231	1.200	1.200
Pipe Mount	120.000	0.020	4.677	2.700	150.000	1.110	42.231	1.200	1.200
Pipe Mount	240.000	0.020	-4.677	2.700	150.000	1.110	42.231	1.200	1.200
Transition Ladder	240.000	0.160	-2.945	1.700	145.000	1.099	41.824	6.000	6.000
Platform Mount [LP 601-1]	0.000	1.122	0.000	0.000	150.000	1.110	42.231	28.470	28.470
Platform Reinforcement Kit [P/N: PRK-1245]	0.000	0.466	0.000	0.000	150.000	1.110	42.231	11.840	11.840
RR90-17-02DP w/ Mount Pipe	0.000	0.034	0.000	-5.582	136.000	1.079	41.065	4.593	3.319
RR90-17-02DP w/ Mount Pipe	120.000	0.034	4.834	2.791	136.000	1.079	41.065	4.593	3.319
RR90-17-02DP w/ Mount Pipe	240.000	0.034	-4.834	2.791	136.000	1.079	41.065	4.593	3.319
APXVAARR24_43-U-N A20 w/ Mount Pipe	0.000	0.186	0.000	-5.582	136.000	1.079	41.065	14.690	6.870
APXVAARR24_43-U-N A20 w/ Mount Pipe	120.000	0.186	4.834	2.791	136.000	1.079	41.065	14.690	6.870
APXVAARR24_43-U-N A20 w/ Mount Pipe	240.000	0.186	-4.834	2.791	136.000	1.079	41.065	14.690	6.870
KRY 112 144/2	0.000	0.010	0.000	-5.582	136.000	1.079	41.065	0.479	0.232
KRY 112 144/2	120.000	0.010	4.834	2.791	136.000	1.079	41.065	0.479	0.232
KRY 112 144/2	120.000	0.010	4.834	2.791	136.000	1.079	41.065	0.479	0.232
RADIO 4449 B12/B71	0.000	0.075	0.000	-5.582	136.000	1.079	41.065	1.650	1.300
RADIO 4449 B12/B71	120.000	0.075	4.834	2.791	136.000	1.079	41.065	1.650	1.300
RADIO 4449 B12/B71	240.000	0.075	-4.834	2.791	136.000	1.079	41.065	1.650	1.300
KRY 112 71/2	0.000	0.013	0.000	-5.582	133.000	1.072	40.804	0.583	0.445
KRY 112 71/2	120.000	0.013	4.834	2.791	133.000	1.072	40.804	0.583	0.445
KRY 112 71/2	240.000	0.013	-4.834	2.791	133.000	1.072	40.804	0.583	0.445
Pipe Mount	0.000	0.020	0.000	-5.582	135.000	1.077	40.978	1.200	1.200
Pipe Mount	120.000	0.020	4.834	2.791	135.000	1.077	40.978	1.200	1.200
Pipe Mount	240.000	0.020	-4.834	2.791	135.000	1.077	40.978	1.200	1.200
Platform Mount [LP 304-1]	0.000	1.349	0.000	0.000	133.000	1.072	40.804	17.460	17.460
Handrail Kit [P/N: F3P-HRK14]	0.000	0.436	0.000	0.000	133.000	1.072	40.804	6.010	6.010
LPA-80080/6CF w/ Mount Pipe	0.000	0.092	0.000	-5.691	126.000	1.056	40.179	9.128	20.518
LPA-80080/6CF w/ Mount Pipe	120.000	0.092	4.928	2.845	126.000	1.056	40.179	9.128	20.518
LPA-80080/6CF w/ Mount Pipe	240.000	0.092	-4.928	2.845	126.000	1.056	40.179	9.128	20.518
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	0.000	0.037	0.000	-5.691	126.000	1.056	40.179	3.956	7.095
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	120.000	0.037	4.928	2.845	126.000	1.056	40.179	3.956	7.095
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	240.000	0.037	-4.928	2.845	126.000	1.056	40.179	3.956	7.095

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	21 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²
N-2 w/ Mount Pipe									
SBNHH-1D65B w/	0.000	0.133	0.000	-5.691	126.000	1.056	40.179	8.180	6.600
Mount Pipe									
SBNHH-1D65B w/	120.000	0.133	4.928	2.845	126.000	1.056	40.179	8.180	6.600
Mount Pipe									
SBNHH-1D65B w/	240.000	0.133	-4.928	2.845	126.000	1.056	40.179	8.180	6.600
Mount Pipe									
RRH2x60-700	0.000	0.060	0.000	-5.691	126.000	1.056	40.179	3.500	1.816
RRH2x60-700	120.000	0.060	4.928	2.845	126.000	1.056	40.179	3.500	1.816
RRH2x60-700	240.000	0.060	-4.928	2.845	126.000	1.056	40.179	3.500	1.816
RRH4X45-AWS4 B66	0.000	0.064	0.000	-5.691	126.000	1.056	40.179	2.660	1.586
RRH4X45-AWS4 B66	120.000	0.064	4.928	2.845	126.000	1.056	40.179	2.660	1.586
RRH4X45-AWS4 B66	240.000	0.064	-4.928	2.845	126.000	1.056	40.179	2.660	1.586
RRH2X60-PCS	0.000	0.046	0.000	-5.691	126.000	1.056	40.179	2.200	1.650
RRH2X60-PCS	120.000	0.046	4.928	2.845	126.000	1.056	40.179	2.200	1.650
RRH2X60-PCS	240.000	0.046	-4.928	2.845	126.000	1.056	40.179	2.200	1.650
DB-T1-6Z-8AB-OZ	0.000	0.088	0.000	-5.691	126.000	1.056	40.179	9.600	4.000
Pipe Mount	0.000	0.020	0.000	-5.691	124.000	1.051	39.995	1.200	1.200
Pipe Mount	120.000	0.020	4.928	2.845	124.000	1.051	39.995	1.200	1.200
Pipe Mount	240.000	0.020	-4.928	2.845	124.000	1.051	39.995	1.200	1.200
Platform Mount [LP	0.000	1.349	0.000	0.000	124.000	1.051	39.995	17.460	17.460
304-1]									
7770.00 w/ Mount Pipe	0.000	0.055	0.000	-5.788	120.000	1.041	39.622	5.746	4.254
7770.00 w/ Mount Pipe	120.000	0.055	5.012	2.894	120.000	1.041	39.622	5.746	4.254
7770.00 w/ Mount Pipe	240.000	0.055	-5.012	2.894	120.000	1.041	39.622	5.746	4.254
80010965 w/ Mount Pipe	0.000	0.127	0.000	-5.788	120.000	1.041	39.622	13.814	7.161
80010965 w/ Mount Pipe	120.000	0.127	5.012	2.894	120.000	1.041	39.622	13.814	7.161
80010966 w/ Mount Pipe	240.000	0.149	-5.012	2.894	120.000	1.041	39.622	17.363	9.225
HPA-65R-BUU-H6 w/	0.000	0.074	0.000	-5.788	120.000	1.041	39.622	9.220	6.250
Mount Pipe									
HPA-65R-BUU-H6 w/	120.000	0.074	5.012	2.894	120.000	1.041	39.622	9.220	6.250
Mount Pipe									
HPA-65R-BUU-H8 w/	240.000	0.105	-5.012	2.894	120.000	1.041	39.622	12.250	8.330
Mount Pipe									
LGP21401	0.000	0.028	0.000	-5.788	116.000	1.031	39.240	2.208	0.694
LGP21401	120.000	0.028	5.012	2.894	116.000	1.031	39.240	2.208	0.694
LGP21401	240.000	0.028	-5.012	2.894	116.000	1.031	39.240	2.208	0.694
7020.00	0.000	0.004	0.000	-5.788	120.000	1.041	39.622	0.204	0.350
7020.00	120.000	0.004	5.012	2.894	120.000	1.041	39.622	0.204	0.350
7020.00	240.000	0.004	-5.012	2.894	120.000	1.041	39.622	0.204	0.350
RRUS 4478 B14	0.000	0.060	0.000	-5.788	120.000	1.041	39.622	1.843	1.059
RRUS 4478 B14	120.000	0.060	5.012	2.894	120.000	1.041	39.622	1.843	1.059
RRUS 4478 B14	240.000	0.060	-5.012	2.894	120.000	1.041	39.622	1.843	1.059
RRUS 32	0.000	0.053	0.000	-5.788	120.000	1.041	39.622	2.743	1.668
RRUS 32	120.000	0.053	5.012	2.894	120.000	1.041	39.622	2.743	1.668
RRUS 32	240.000	0.053	-5.012	2.894	120.000	1.041	39.622	2.743	1.668
RRUS 32 B2	0.000	0.053	0.000	-5.788	120.000	1.041	39.622	2.761	1.689
RRUS 32 B2	120.000	0.053	5.012	2.894	120.000	1.041	39.622	2.761	1.689
RRUS 32 B2	240.000	0.053	-5.012	2.894	120.000	1.041	39.622	2.761	1.689
RRUS-11	0.000	0.055	0.000	-5.788	120.000	1.041	39.622	2.522	1.068
RRUS-11	120.000	0.055	5.012	2.894	120.000	1.041	39.622	2.522	1.068
RRUS-11	240.000	0.055	-5.012	2.894	120.000	1.041	39.622	2.522	1.068
DC6-48-60-18-8F	0.000	0.066	0.000	-5.788	120.000	1.041	39.622	2.423	2.423
Platform Mount [LP	0.000	1.600	0.000	0.000	116.000	1.031	39.240	37.470	37.470
714-1]									
Miscellaneous [NA	0.000	0.256	0.000	0.000	116.000	1.031	39.240	6.000	6.000
510-1]									
742 213	0.000	0.022	0.000	-2.897	107.000	1.008	38.345	3.570	1.600
742 213	120.000	0.022	2.509	1.448	107.000	1.008	38.345	3.570	1.600
742 213	240.000	0.022	-2.509	1.448	107.000	1.008	38.345	3.570	1.600
Pipe Mount [PM 601-3]	0.000	0.195	0.000	0.000	107.000	1.008	38.345	4.390	4.390

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 22 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²
KS24019-L112A	240.000	0.005	-4.560	2.633	75.000	0.910	34.643	0.141	0.141
Side Arm Mount [SO 701-1]	240.000	0.065	-3.261	1.883	74.000	0.907	34.511	0.850	1.670
	Sum	12.742							
	Weight:								

Discrete Appurtenance Pressures - With Ice

G_H = 1.100

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²	t _z in
DS9A09F36D-N	0.000	0.286	0.000	-2.376	162.000	1.134	6.386	13.646	13.646	1.993
DS4C06F36D-D	120.000	0.291	2.058	1.188	162.000	1.134	6.386	13.786	13.786	1.993
430-94C-09168-M-110/48	120.000	0.074	2.058	1.188	152.000	1.114	6.271	1.638	1.638	1.981
Pipe Mount [PM 601-1]	0.000	0.121	0.000	-1.376	152.000	1.114	6.271	5.931	1.771	1.981
Pipe Mount [PM 601-1]	120.000	0.121	1.192	0.688	152.000	1.114	6.271	5.931	1.771	1.981
NNVV-65B-R4 w/ Mount Pipe	0.000	0.544	0.000	-5.401	152.000	1.114	6.271	14.828	11.489	1.981
NNVV-65B-R4 w/ Mount Pipe	120.000	0.544	4.677	2.700	152.000	1.114	6.271	14.828	11.489	1.981
NNVV-65B-R4 w/ Mount Pipe	240.000	0.544	-4.677	2.700	152.000	1.114	6.271	14.828	11.489	1.981
APXVTM14-ALU-I20 w/ Mount Pipe	0.000	0.328	0.000	-5.401	152.000	1.114	6.271	5.694	4.385	1.981
APXVTM14-ALU-I20 w/ Mount Pipe	120.000	0.328	4.677	2.700	152.000	1.114	6.271	5.694	4.385	1.981
APXVTM14-ALU-I20 w/ Mount Pipe	240.000	0.328	-4.677	2.700	152.000	1.114	6.271	5.694	4.385	1.981
TD-RRH8X20-25	0.000	0.181	0.000	-5.401	152.000	1.114	6.271	4.707	2.011	1.981
TD-RRH8X20-25	120.000	0.181	4.677	2.700	152.000	1.114	6.271	4.707	2.011	1.981
TD-RRH8X20-25	240.000	0.181	-4.677	2.700	152.000	1.114	6.271	4.707	2.011	1.981
PCS 1900MHZ 4X45W-65MHZ	0.000	0.171	0.000	-5.401	152.000	1.114	6.271	3.177	3.084	1.981
PCS 1900MHZ 4X45W-65MHZ	120.000	0.171	4.677	2.700	152.000	1.114	6.271	3.177	3.084	1.981
PCS 1900MHZ 4X45W-65MHZ	240.000	0.171	-4.677	2.700	152.000	1.114	6.271	3.177	3.084	1.981
RRH2X50-800	0.000	0.306	0.000	-5.401	152.000	1.114	6.271	5.824	5.042	1.981
RRH2X50-800	120.000	0.306	4.677	2.700	152.000	1.114	6.271	5.824	5.042	1.981
RRH2X50-800	240.000	0.306	-4.677	2.700	152.000	1.114	6.271	5.824	5.042	1.981
Pipe Mount	0.000	0.077	0.000	-5.401	150.000	1.110	6.247	2.451	2.451	1.978
Pipe Mount	120.000	0.077	4.677	2.700	150.000	1.110	6.247	2.451	2.451	1.978
Pipe Mount	240.000	0.077	-4.677	2.700	150.000	1.110	6.247	2.451	2.451	1.978
Transition Ladder	240.000	0.475	-2.945	1.700	145.000	1.099	6.187	13.885	13.885	1.971
Platform Mount [LP 601-1]	0.000	2.671	0.000	0.000	150.000	1.110	6.247	48.724	48.724	1.978
Platform Reinforcement Kit [P/N: PRK-1245]	0.000	1.263	0.000	0.000	150.000	1.110	6.247	32.094	32.094	1.978
RR90-17-02DP w/ Mount Pipe	0.000	0.219	0.000	-5.582	136.000	1.079	6.075	6.262	6.166	1.959
RR90-17-02DP w/ Mount Pipe	120.000	0.219	4.834	2.791	136.000	1.079	6.075	6.262	6.166	1.959
RR90-17-02DP w/ Mount Pipe	240.000	0.219	-4.834	2.791	136.000	1.079	6.075	6.262	6.166	1.959
APXVAARR24_43-U-N A20 w/ Mount Pipe	0.000	0.775	0.000	-5.582	136.000	1.079	6.075	17.754	9.611	1.959
APXVAARR24_43-U-N	120.000	0.775	4.834	2.791	136.000	1.079	6.075	17.754	9.611	1.959

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 23 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _A C Front ft ²	C _A C Side ft ²	t _z in
A20 w/ Mount Pipe										
APXVAARR24 43-U-N	240.000	0.775	-4.834	2.791	136.000	1.079	6.075	17.754	9.611	1.959
A20 w/ Mount Pipe										
KRY 112 144/2	0.000	0.034	0.000	-5.582	136.000	1.079	6.075	0.870	0.545	1.959
KRY 112 144/2	120.000	0.034	4.834	2.791	136.000	1.079	6.075	0.870	0.545	1.959
KRY 112 144/2	120.000	0.034	4.834	2.791	136.000	1.079	6.075	0.870	0.545	1.959
RADIO 4449 B12/B71	0.000	0.159	0.000	-5.582	136.000	1.079	6.075	2.321	1.910	1.959
RADIO 4449 B12/B71	120.000	0.159	4.834	2.791	136.000	1.079	6.075	2.321	1.910	1.959
RADIO 4449 B12/B71	240.000	0.159	-4.834	2.791	136.000	1.079	6.075	2.321	1.910	1.959
KRY 112 71/2	0.000	0.045	0.000	-5.582	133.000	1.072	6.036	1.034	0.857	1.954
KRY 112 71/2	120.000	0.045	4.834	2.791	133.000	1.072	6.036	1.034	0.857	1.954
KRY 112 71/2	240.000	0.045	-4.834	2.791	133.000	1.072	6.036	1.034	0.857	1.954
Pipe Mount	0.000	0.076	0.000	-5.582	135.000	1.077	6.062	2.437	2.437	1.957
Pipe Mount	120.000	0.076	4.834	2.791	135.000	1.077	6.062	2.437	2.437	1.957
Pipe Mount	240.000	0.076	-4.834	2.791	135.000	1.077	6.062	2.437	2.437	1.957
Platform Mount [LP 304-1]	0.000	2.426	0.000	0.000	133.000	1.072	6.036	36.924	36.924	1.954
Handrail Kit [P/N: F3P-HRK14]	0.000	0.952	0.000	0.000	133.000	1.072	6.036	13.883	13.883	1.954
LPA-80080/6CF w/ Mount Pipe	0.000	0.706	0.000	-5.691	126.000	1.056	5.944	13.185	28.054	1.944
LPA-80080/6CF w/ Mount Pipe	120.000	0.706	4.928	2.845	126.000	1.056	5.944	13.185	28.054	1.944
LPA-80080/6CF w/ Mount Pipe	240.000	0.706	-4.928	2.845	126.000	1.056	5.944	13.185	28.054	1.944
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	0.000	0.274	0.000	-5.691	126.000	1.056	5.944	6.028	10.999	1.944
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	120.000	0.274	4.928	2.845	126.000	1.056	5.944	6.028	10.999	1.944
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	240.000	0.274	-4.928	2.845	126.000	1.056	5.944	6.028	10.999	1.944
SBNHH-1D65B w/ Mount Pipe	0.000	0.751	0.000	-5.691	126.000	1.056	5.944	11.347	9.650	1.944
SBNHH-1D65B w/ Mount Pipe	120.000	0.751	4.928	2.845	126.000	1.056	5.944	11.347	9.650	1.944
SBNHH-1D65B w/ Mount Pipe	240.000	0.751	-4.928	2.845	126.000	1.056	5.944	11.347	9.650	1.944
RRH2x60-700	0.000	0.170	0.000	-5.691	126.000	1.056	5.944	4.554	2.757	1.944
RRH2x60-700	120.000	0.170	4.928	2.845	126.000	1.056	5.944	4.554	2.757	1.944
RRH2x60-700	240.000	0.170	-4.928	2.845	126.000	1.056	5.944	4.554	2.757	1.944
RRH4X45-AWS4 B66	0.000	0.162	0.000	-5.691	126.000	1.056	5.944	3.550	2.337	1.944
RRH4X45-AWS4 B66	120.000	0.162	4.928	2.845	126.000	1.056	5.944	3.550	2.337	1.944
RRH4X45-AWS4 B66	240.000	0.162	-4.928	2.845	126.000	1.056	5.944	3.550	2.337	1.944
RRH2X60-PCS	0.000	0.141	0.000	-5.691	126.000	1.056	5.944	2.991	2.376	1.944
RRH2X60-PCS	120.000	0.141	4.928	2.845	126.000	1.056	5.944	2.991	2.376	1.944
RRH2X60-PCS	240.000	0.141	-4.928	2.845	126.000	1.056	5.944	2.991	2.376	1.944
DB-T1-6Z-8AB-OZ	0.000	0.416	0.000	-5.691	126.000	1.056	5.944	11.787	5.582	1.944
Pipe Mount	0.000	0.076	0.000	-5.691	124.000	1.051	5.916	2.427	2.427	1.941
Pipe Mount	120.000	0.076	4.928	2.845	124.000	1.051	5.916	2.427	2.427	1.941
Pipe Mount	240.000	0.076	-4.928	2.845	124.000	1.051	5.916	2.427	2.427	1.941
Platform Mount [LP 304-1]	0.000	2.419	0.000	0.000	124.000	1.051	5.916	36.789	36.789	1.941
7770.00 w/ Mount Pipe	0.000	0.278	0.000	-5.788	120.000	1.041	5.861	7.430	7.060	1.934
7770.00 w/ Mount Pipe	120.000	0.278	5.012	2.894	120.000	1.041	5.861	7.430	7.060	1.934
7770.00 w/ Mount Pipe	240.000	0.278	-5.012	2.894	120.000	1.041	5.861	7.430	7.060	1.934
80010965 w/ Mount Pipe	0.000	0.534	0.000	-5.788	120.000	1.041	5.861	15.917	10.330	1.934
80010965 w/ Mount Pipe	120.000	0.534	5.012	2.894	120.000	1.041	5.861	15.917	10.330	1.934
80010966 w/ Mount Pipe	240.000	0.637	-5.012	2.894	120.000	1.041	5.861	19.831	13.000	1.934
HPA-65R-BUU-H6 w/ Mount Pipe	0.000	0.407	0.000	-5.788	120.000	1.041	5.861	12.255	9.120	1.934
HPA-65R-BUU-H6 w/ Mount Pipe	120.000	0.407	5.012	2.894	120.000	1.041	5.861	12.255	9.120	1.934

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	24 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AC} Front ft ²	C _{AC} Side ft ²	t _z in
Mount Pipe										
HPA-65R-BUU-H8 w/	240.000	0.527	-5.012	2.894	120.000	1.041	5.861	16.010	11.925	1.934
Mount Pipe										
LGP21401	0.000	0.106	0.000	-5.788	116.000	1.031	5.805	3.331	1.507	1.928
LGP21401	120.000	0.106	5.012	2.894	116.000	1.031	5.805	3.331	1.507	1.928
LGP21401	240.000	0.106	-5.012	2.894	116.000	1.031	5.805	3.331	1.507	1.928
7020.00	0.000	0.043	0.000	-5.788	120.000	1.041	5.861	0.635	0.931	1.934
7020.00	120.000	0.043	5.012	2.894	120.000	1.041	5.861	0.635	0.931	1.934
7020.00	240.000	0.043	-5.012	2.894	120.000	1.041	5.861	0.635	0.931	1.934
RRUS 4478 B14	0.000	0.137	0.000	-5.788	120.000	1.041	5.861	2.541	1.635	1.934
RRUS 4478 B14	120.000	0.137	5.012	2.894	120.000	1.041	5.861	2.541	1.635	1.934
RRUS 4478 B14	240.000	0.137	-5.012	2.894	120.000	1.041	5.861	2.541	1.635	1.934
RRUS 32	0.000	0.154	0.000	-5.788	120.000	1.041	5.861	3.644	2.432	1.934
RRUS 32	120.000	0.154	5.012	2.894	120.000	1.041	5.861	3.644	2.432	1.934
RRUS 32	240.000	0.154	-5.012	2.894	120.000	1.041	5.861	3.644	2.432	1.934
RRUS 32 B2	0.000	0.154	0.000	-5.788	120.000	1.041	5.861	3.668	2.459	1.934
RRUS 32 B2	120.000	0.154	5.012	2.894	120.000	1.041	5.861	3.668	2.459	1.934
RRUS 32 B2	240.000	0.154	-5.012	2.894	120.000	1.041	5.861	3.668	2.459	1.934
RRUS-11	0.000	0.147	0.000	-5.788	120.000	1.041	5.861	3.326	1.662	1.934
RRUS-11	120.000	0.147	5.012	2.894	120.000	1.041	5.861	3.326	1.662	1.934
RRUS-11	240.000	0.147	-5.012	2.894	120.000	1.041	5.861	3.326	1.662	1.934
DC6-48-60-18-8F	0.000	0.269	0.000	-5.788	120.000	1.041	5.861	5.079	5.079	1.934
Platform Mount [LP 714-1]	0.000	3.296	0.000	0.000	116.000	1.031	5.805	63.533	63.533	1.928
Miscellaneous [NA 510-1]	0.000	0.579	0.000	0.000	116.000	1.031	5.805	15.639	15.639	1.928
742 213	0.000	0.151	0.000	-2.897	107.000	1.008	5.672	6.091	4.016	1.912
742 213	120.000	0.151	2.509	1.448	107.000	1.008	5.672	6.091	4.016	1.912
742 213	240.000	0.151	-2.509	1.448	107.000	1.008	5.672	6.091	4.016	1.912
Pipe Mount [PM 601-3]	0.000	0.357	0.000	0.000	107.000	1.008	5.672	8.559	8.559	1.912
KS24019-L112A	240.000	0.017	-4.560	2.633	75.000	0.910	5.125	0.391	0.391	1.845
Side Arm Mount [SO 701-1]	240.000	0.117	-3.261	1.883	74.000	0.907	5.105	1.919	4.140	1.843
Sum Weight:		38.291								

Discrete Appurtenance Pressures - Service G_H = 1.100

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AC} Front ft ²	C _{AC} Side ft ²
DS9A09F36D-N	0.000	0.047	0.000	-2.376	162.000	1.134	8.661	5.760	5.760
DS4C06F36D-D	120.000	0.050	2.058	1.188	162.000	1.134	8.661	5.820	5.820
430-94C-09168-M-110/4 8	120.000	0.020	2.058	1.188	152.000	1.114	8.505	1.031	1.031
Pipe Mount [PM 601-1]	0.000	0.065	0.000	-1.376	152.000	1.114	8.505	3.000	0.900
Pipe Mount [PM 601-1]	120.000	0.065	1.192	0.688	152.000	1.114	8.505	3.000	0.900
NNVV-65B-R4 w/ Mount Pipe	0.000	0.118	0.000	-5.401	152.000	1.114	8.505	12.559	7.762
NNVV-65B-R4 w/ Mount Pipe	120.000	0.118	4.677	2.700	152.000	1.114	8.505	12.559	7.762
NNVV-65B-R4 w/ Mount Pipe	240.000	0.118	-4.677	2.700	152.000	1.114	8.505	12.559	7.762
APXVTM14-ALU-I20 w/ Mount Pipe	0.000	0.077	0.000	-5.401	152.000	1.114	8.505	4.090	2.860
APXVTM14-ALU-I20 w/ Mount Pipe	120.000	0.077	4.677	2.700	152.000	1.114	8.505	4.090	2.860
APXVTM14-ALU-I20 w/ Mount Pipe	240.000	0.077	-4.677	2.700	152.000	1.114	8.505	4.090	2.860

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 25 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AC} Front ft ²	C _{AC} Side ft ²
w/ Mount Pipe									
TD-RRH8X20-25	0.000	0.066	0.000	-5.401	152.000	1.114	8.505	3.704	1.294
TD-RRH8X20-25	120.000	0.066	4.677	2.700	152.000	1.114	8.505	3.704	1.294
TD-RRH8X20-25	240.000	0.066	-4.677	2.700	152.000	1.114	8.505	3.704	1.294
PCS 1900MHZ 4X45W-65MHZ	0.000	0.060	0.000	-5.401	152.000	1.114	8.505	2.322	2.238
PCS 1900MHZ 4X45W-65MHZ	120.000	0.060	4.677	2.700	152.000	1.114	8.505	2.322	2.238
PCS 1900MHZ 4X45W-65MHZ	240.000	0.060	-4.677	2.700	152.000	1.114	8.505	2.322	2.238
RRH2X50-800	0.000	0.100	0.000	-5.401	152.000	1.114	8.505	4.268	3.579
RRH2X50-800	120.000	0.100	4.677	2.700	152.000	1.114	8.505	4.268	3.579
RRH2X50-800	240.000	0.100	-4.677	2.700	152.000	1.114	8.505	4.268	3.579
Pipe Mount	0.000	0.020	0.000	-5.401	150.000	1.110	8.473	1.200	1.200
Pipe Mount	120.000	0.020	4.677	2.700	150.000	1.110	8.473	1.200	1.200
Pipe Mount	240.000	0.020	-4.677	2.700	150.000	1.110	8.473	1.200	1.200
Transition Ladder	240.000	0.160	-2.945	1.700	145.000	1.099	8.391	6.000	6.000
Platform Mount [LP 601-1]	0.000	1.122	0.000	0.000	150.000	1.110	8.473	28.470	28.470
Platform Reinforcement Kit [P/N: PRK-1245]	0.000	0.466	0.000	0.000	150.000	1.110	8.473	11.840	11.840
RR90-17-02DP w/ Mount Pipe	0.000	0.034	0.000	-5.582	136.000	1.079	8.239	4.593	3.319
RR90-17-02DP w/ Mount Pipe	120.000	0.034	4.834	2.791	136.000	1.079	8.239	4.593	3.319
RR90-17-02DP w/ Mount Pipe	240.000	0.034	-4.834	2.791	136.000	1.079	8.239	4.593	3.319
APXVAARR24_43-U-N A20 w/ Mount Pipe	0.000	0.186	0.000	-5.582	136.000	1.079	8.239	14.690	6.870
APXVAARR24_43-U-N A20 w/ Mount Pipe	120.000	0.186	4.834	2.791	136.000	1.079	8.239	14.690	6.870
APXVAARR24_43-U-N A20 w/ Mount Pipe	240.000	0.186	-4.834	2.791	136.000	1.079	8.239	14.690	6.870
KRY 112 144/2	0.000	0.010	0.000	-5.582	136.000	1.079	8.239	0.479	0.232
KRY 112 144/2	120.000	0.010	4.834	2.791	136.000	1.079	8.239	0.479	0.232
KRY 112 144/2	240.000	0.010	4.834	2.791	136.000	1.079	8.239	0.479	0.232
RADIO 4449 B12/B71	0.000	0.075	0.000	-5.582	136.000	1.079	8.239	1.650	1.300
RADIO 4449 B12/B71	120.000	0.075	4.834	2.791	136.000	1.079	8.239	1.650	1.300
RADIO 4449 B12/B71	240.000	0.075	-4.834	2.791	136.000	1.079	8.239	1.650	1.300
KRY 112 71/2	0.000	0.013	0.000	-5.582	133.000	1.072	8.186	0.583	0.445
KRY 112 71/2	120.000	0.013	4.834	2.791	133.000	1.072	8.186	0.583	0.445
KRY 112 71/2	240.000	0.013	-4.834	2.791	133.000	1.072	8.186	0.583	0.445
Pipe Mount	0.000	0.020	0.000	-5.582	135.000	1.077	8.221	1.200	1.200
Pipe Mount	120.000	0.020	4.834	2.791	135.000	1.077	8.221	1.200	1.200
Pipe Mount	240.000	0.020	-4.834	2.791	135.000	1.077	8.221	1.200	1.200
Platform Mount [LP 304-1]	0.000	1.349	0.000	0.000	133.000	1.072	8.186	17.460	17.460
Handrail Kit [P/N: F3P-HRK14]	0.000	0.436	0.000	0.000	133.000	1.072	8.186	6.010	6.010
LPA-80080/6CF w/ Mount Pipe	0.000	0.092	0.000	-5.691	126.000	1.056	8.061	9.128	20.518
LPA-80080/6CF w/ Mount Pipe	120.000	0.092	4.928	2.845	126.000	1.056	8.061	9.128	20.518
LPA-80080/6CF w/ Mount Pipe	240.000	0.092	-4.928	2.845	126.000	1.056	8.061	9.128	20.518
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	0.000	0.037	0.000	-5.691	126.000	1.056	8.061	3.956	7.095
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	120.000	0.037	4.928	2.845	126.000	1.056	8.061	3.956	7.095
LPA-171080-12CF-EDI N-2 w/ Mount Pipe	240.000	0.037	-4.928	2.845	126.000	1.056	8.061	3.956	7.095

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 26 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AC} Front ft ²	C _{AC} Side ft ²
SBNHH-1D65B w/ Mount Pipe	0.000	0.133	0.000	-5.691	126.000	1.056	8.061	8.180	6.600
SBNHH-1D65B w/ Mount Pipe	120.000	0.133	4.928	2.845	126.000	1.056	8.061	8.180	6.600
SBNHH-1D65B w/ Mount Pipe	240.000	0.133	-4.928	2.845	126.000	1.056	8.061	8.180	6.600
RRH2x60-700	0.000	0.060	0.000	-5.691	126.000	1.056	8.061	3.500	1.816
RRH2x60-700	120.000	0.060	4.928	2.845	126.000	1.056	8.061	3.500	1.816
RRH2x60-700	240.000	0.060	-4.928	2.845	126.000	1.056	8.061	3.500	1.816
RRH4X45-AWS4 B66	0.000	0.064	0.000	-5.691	126.000	1.056	8.061	2.660	1.586
RRH4X45-AWS4 B66	120.000	0.064	4.928	2.845	126.000	1.056	8.061	2.660	1.586
RRH4X45-AWS4 B66	240.000	0.064	-4.928	2.845	126.000	1.056	8.061	2.660	1.586
RRH2X60-PCS	0.000	0.046	0.000	-5.691	126.000	1.056	8.061	2.200	1.650
RRH2X60-PCS	120.000	0.046	4.928	2.845	126.000	1.056	8.061	2.200	1.650
RRH2X60-PCS	240.000	0.046	-4.928	2.845	126.000	1.056	8.061	2.200	1.650
DB-T1-6Z-8AB-OZ	0.000	0.088	0.000	-5.691	126.000	1.056	8.061	9.600	4.000
Pipe Mount	0.000	0.020	0.000	-5.691	124.000	1.051	8.024	1.200	1.200
Pipe Mount	120.000	0.020	4.928	2.845	124.000	1.051	8.024	1.200	1.200
Pipe Mount	240.000	0.020	-4.928	2.845	124.000	1.051	8.024	1.200	1.200
Platform Mount [LP 304-1]	0.000	1.349	0.000	0.000	124.000	1.051	8.024	17.460	17.460
7770.00 w/ Mount Pipe	0.000	0.055	0.000	-5.788	120.000	1.041	7.949	5.746	4.254
7770.00 w/ Mount Pipe	120.000	0.055	5.012	2.894	120.000	1.041	7.949	5.746	4.254
7770.00 w/ Mount Pipe	240.000	0.055	-5.012	2.894	120.000	1.041	7.949	5.746	4.254
80010965 w/ Mount Pipe	0.000	0.127	0.000	-5.788	120.000	1.041	7.949	13.814	7.161
80010965 w/ Mount Pipe	120.000	0.127	5.012	2.894	120.000	1.041	7.949	13.814	7.161
80010966 w/ Mount Pipe	240.000	0.149	-5.012	2.894	120.000	1.041	7.949	17.363	9.225
HPA-65R-BUU-H6 w/ Mount Pipe	0.000	0.074	0.000	-5.788	120.000	1.041	7.949	9.220	6.250
HPA-65R-BUU-H6 w/ Mount Pipe	120.000	0.074	5.012	2.894	120.000	1.041	7.949	9.220	6.250
HPA-65R-BUU-H8 w/ Mount Pipe	240.000	0.105	-5.012	2.894	120.000	1.041	7.949	12.250	8.330
LGP21401	0.000	0.028	0.000	-5.788	116.000	1.031	7.873	2.208	0.694
LGP21401	120.000	0.028	5.012	2.894	116.000	1.031	7.873	2.208	0.694
LGP21401	240.000	0.028	-5.012	2.894	116.000	1.031	7.873	2.208	0.694
7020.00	0.000	0.004	0.000	-5.788	120.000	1.041	7.949	0.204	0.350
7020.00	120.000	0.004	5.012	2.894	120.000	1.041	7.949	0.204	0.350
7020.00	240.000	0.004	-5.012	2.894	120.000	1.041	7.949	0.204	0.350
RRUS 4478 B14	0.000	0.060	0.000	-5.788	120.000	1.041	7.949	1.843	1.059
RRUS 4478 B14	120.000	0.060	5.012	2.894	120.000	1.041	7.949	1.843	1.059
RRUS 4478 B14	240.000	0.060	-5.012	2.894	120.000	1.041	7.949	1.843	1.059
RRUS 32	0.000	0.053	0.000	-5.788	120.000	1.041	7.949	2.743	1.668
RRUS 32	120.000	0.053	5.012	2.894	120.000	1.041	7.949	2.743	1.668
RRUS 32	240.000	0.053	-5.012	2.894	120.000	1.041	7.949	2.743	1.668
RRUS 32 B2	0.000	0.053	0.000	-5.788	120.000	1.041	7.949	2.761	1.689
RRUS 32 B2	120.000	0.053	5.012	2.894	120.000	1.041	7.949	2.761	1.689
RRUS 32 B2	240.000	0.053	-5.012	2.894	120.000	1.041	7.949	2.761	1.689
RRUS-11	0.000	0.055	0.000	-5.788	120.000	1.041	7.949	2.522	1.068
RRUS-11	120.000	0.055	5.012	2.894	120.000	1.041	7.949	2.522	1.068
RRUS-11	240.000	0.055	-5.012	2.894	120.000	1.041	7.949	2.522	1.068
DC6-48-60-18-8F	0.000	0.066	0.000	-5.788	120.000	1.041	7.949	2.423	2.423
Platform Mount [LP 714-1]	0.000	1.600	0.000	0.000	116.000	1.031	7.873	37.470	37.470
Miscellaneous [NA 510-1]	0.000	0.256	0.000	0.000	116.000	1.031	7.873	6.000	6.000
742 213	0.000	0.022	0.000	-2.897	107.000	1.008	7.693	3.570	1.600
742 213	120.000	0.022	2.509	1.448	107.000	1.008	7.693	3.570	1.600
742 213	240.000	0.022	-2.509	1.448	107.000	1.008	7.693	3.570	1.600
Pipe Mount [PM 601-3]	0.000	0.195	0.000	0.000	107.000	1.008	7.693	4.390	4.390
KS24019-L112A	240.000	0.005	-4.560	2.633	75.000	0.910	6.950	0.141	0.141

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 27 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Description	Aiming Azimuth °	Weight K	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AC} Front ft ²	C _{AC} Side ft ²
Side Arm Mount [SO 701-1]	240.000	0.065	-3.261	1.883	74.000	0.907	6.924	0.850	1.670
Sum Weight:		12.742							

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M _x kip-ft	Sum of Overturning Moments, M _z kip-ft	Sum of Torques kip-ft
Leg Weight	43.453					
Bracing Weight	0.000					
Total Member Self-Weight	43.453			-1.066	1.949	
Total Weight	63.390			-1.066	1.949	
Wind 0 deg - No Ice		-0.027	-38.265	-3976.771	6.034	-0.970
Wind 30 deg - No Ice		18.974	-33.125	-3442.086	-1965.024	-1.224
Wind 60 deg - No Ice		32.891	-19.109	-1985.381	-3409.032	-1.149
Wind 90 deg - No Ice		37.995	0.027	3.019	-3939.071	-0.767
Wind 120 deg - No Ice		32.918	19.156	1990.324	-3413.117	-0.180
Wind 150 deg - No Ice		19.021	33.152	3444.038	-1972.099	0.456
Wind 180 deg - No Ice		0.027	38.265	3974.639	-2.136	0.970
Wind 210 deg - No Ice		-18.974	33.125	3439.953	1968.922	1.224
Wind 240 deg - No Ice		-32.891	19.109	1983.249	3412.931	1.149
Wind 270 deg - No Ice		-37.995	-0.027	-5.151	3942.970	0.767
Wind 300 deg - No Ice		-32.918	-19.156	-1992.456	3417.015	0.180
Wind 330 deg - No Ice		-19.021	-33.152	-3446.170	1975.997	-0.456
Member Ice	18.677					
Total Weight Ice	114.113			-8.020	14.525	
Wind 0 deg - Ice		-0.014	-9.580	-997.264	16.429	-0.240
Wind 30 deg - Ice		4.750	-8.289	-863.779	-474.911	-0.296
Wind 60 deg - Ice		8.241	-4.778	-500.993	-835.107	-0.272
Wind 90 deg - Ice		9.525	0.014	-6.116	-967.645	-0.175
Wind 120 deg - Ice		8.256	4.803	488.251	-837.012	-0.031
Wind 150 deg - Ice		4.775	8.304	849.643	-478.210	0.121
Wind 180 deg - Ice		0.014	9.580	981.224	12.620	0.240
Wind 210 deg - Ice		-4.750	8.289	847.738	503.960	0.296
Wind 240 deg - Ice		-8.241	4.778	484.953	864.156	0.272
Wind 270 deg - Ice		-9.525	-0.014	-9.925	996.694	0.175
Wind 300 deg - Ice		-8.256	-4.803	-504.292	866.061	0.031
Wind 330 deg - Ice		-4.775	-8.304	-865.683	507.259	-0.121
Total Weight	63.390			-1.066	1.949	
Wind 0 deg - Service		-0.005	-7.677	-798.025	1.474	-0.195
Wind 30 deg - Service		3.807	-6.646	-690.753	-393.972	-0.245
Wind 60 deg - Service		6.599	-3.834	-398.500	-683.678	-0.231
Wind 90 deg - Service		7.623	0.005	0.425	-790.017	-0.154
Wind 120 deg - Service		6.604	3.843	399.131	-684.497	-0.036
Wind 150 deg - Service		3.816	6.651	690.784	-395.391	0.092
Wind 180 deg - Service		0.005	7.677	797.236	-0.165	0.195
Wind 210 deg - Service		-3.807	6.646	689.964	395.281	0.245
Wind 240 deg - Service		-6.599	3.834	397.711	684.987	0.231
Wind 270 deg - Service		-7.623	-0.005	-1.214	791.326	0.154
Wind 300 deg - Service		-6.604	-3.843	-399.919	685.806	0.036
Wind 330 deg - Service		-3.816	-6.651	-691.572	396.700	-0.092

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">FDH Infrastructure Services, LLC</p> <p style="text-align: center;">6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031</p>	<p>Job</p> <p style="text-align: center;">19BMVD1400</p>	<p>Page</p> <p style="text-align: center;">28 of 35</p>
	<p>Project</p> <p style="text-align: center;">876385 - N. Coventry / Wallveoff</p>	<p>Date</p> <p style="text-align: center;">16:45:00 06/24/19</p>
	<p>Client</p> <p style="text-align: center;">Crown Castle</p>	<p>Designed by</p> <p style="text-align: center;">Ricardo.Goncalves</p>

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 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
-------------	--------------	----------------	-----------	-----------------	---------	--------------------------	--------------------------

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	29 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	152 - 137.42	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-13.339	0.967	-0.363
			Max. Mx	20	-5.153	60.412	0.192
			Max. My	14	-5.150	-0.058	-60.758
			Max. Vy	20	-6.944	60.412	0.192
			Max. Vx	2	-6.994	0.744	60.323
			Max. Torque	12			0.777
L2	137.42 - 91.09	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-62.116	4.983	4.468
			Max. Mx	20	-27.676	854.694	2.641
			Max. My	2	-27.664	2.703	863.502
			Max. Vy	20	-26.228	854.694	2.641
			Max. Vx	2	-26.488	2.703	863.502
			Max. Torque	6			1.150
L3	91.09 - 44.79	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-88.960	9.670	6.023
			Max. Mx	20	-46.081	2154.253	3.663
			Max. My	2	-46.074	4.402	2174.339
			Max. Vy	20	-31.836	2154.253	3.663
			Max. Vx	2	-32.111	4.402	2174.339
			Max. Torque	5			1.222
L4	44.79 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-129.429	15.282	8.485
			Max. Mx	20	-76.058	4015.281	5.487
			Max. My	2	-76.057	6.567	4049.550
			Max. Vy	20	-38.015	4015.281	5.487
			Max. Vx	2	-38.285	6.567	4049.550
			Max. Torque	5			1.222

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	129.429	-0.000	-0.000
	Max. H _x	21	57.051	37.994	0.027
	Max. H _z	3	57.051	0.027	38.264
	Max. M _x	2	4049.550	0.027	38.263
	Max. M _z	8	4010.500	-37.994	-0.027
	Max. Torsion	5	1.222	-18.974	33.125
	Min. Vert	3	57.051	0.027	38.264
	Min. H _x	9	57.051	-37.994	-0.027
	Min. H _z	15	57.051	-0.027	-38.264
	Min. M _x	14	-4046.928	-0.027	-38.263
	Min. M _z	20	-4015.281	37.994	0.027
	Min. Torsion	17	-1.222	18.974	-33.125

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	63.390	0.000	0.000	-1.066	1.949	0.000

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">FDH Infrastructure Services, LLC</p> <p style="text-align: center;">6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031</p>	<p style="text-align: center;">Job</p> <p style="text-align: center;">19BMVD1400</p>	<p style="text-align: center;">Page</p> <p style="text-align: center;">30 of 35</p>
	<p style="text-align: center;">Project</p> <p style="text-align: center;">876385 - N. Coventry / Wallveoff</p>	<p style="text-align: center;">Date</p> <p style="text-align: center;">16:45:00 06/24/19</p>
	<p style="text-align: center;">Client</p> <p style="text-align: center;">Crown Castle</p>	<p style="text-align: center;">Designed by</p> <p style="text-align: center;">Ricardo.Goncalves</p>

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 - No Ice	76.068	-0.027	-38.263	-4049.550	6.567	-0.967
0.9 Dead+1.0 Wind 0 deg - No Ice	57.051	-0.027	-38.264	-4030.645	5.936	-0.968
1.2 Dead+1.0 Wind 30 deg - No Ice	76.069	18.974	-33.125	-3505.273	-2000.530	-1.222
0.9 Dead+1.0 Wind 30 deg - No Ice	57.051	18.974	-33.125	-3488.813	-1991.928	-1.222
1.2 Dead+1.0 Wind 60 deg - No Ice	76.069	32.891	-19.109	-2021.915	-3470.952	-1.149
0.9 Dead+1.0 Wind 60 deg - No Ice	57.051	32.891	-19.109	-2012.285	-3455.584	-1.149
1.2 Dead+1.0 Wind 90 deg - No Ice	76.068	37.994	0.027	2.866	-4010.500	-0.769
0.9 Dead+1.0 Wind 90 deg - No Ice	57.051	37.994	0.027	3.176	-3992.709	-0.768
1.2 Dead+1.0 Wind 120 deg - No Ice	76.069	32.918	19.156	2026.527	-3475.126	-0.182
0.9 Dead+1.0 Wind 120 deg - No Ice	57.051	32.918	19.156	2017.523	-3459.734	-0.181
1.2 Dead+1.0 Wind 150 deg - No Ice	76.069	19.021	33.151	3506.825	-2007.763	0.453
0.9 Dead+1.0 Wind 150 deg - No Ice	57.051	19.021	33.152	3491.010	-1999.120	0.454
1.2 Dead+1.0 Wind 180 deg - No Ice	76.068	0.027	38.263	4046.928	-1.786	0.967
0.9 Dead+1.0 Wind 180 deg - No Ice	57.051	0.027	38.264	4028.691	-2.370	0.968
1.2 Dead+1.0 Wind 210 deg - No Ice	76.069	-18.974	33.125	3502.651	2005.311	1.222
0.9 Dead+1.0 Wind 210 deg - No Ice	57.051	-18.974	33.125	3486.859	1995.494	1.222
1.2 Dead+1.0 Wind 240 deg - No Ice	76.069	-32.891	19.109	2019.294	3475.733	1.149
0.9 Dead+1.0 Wind 240 deg - No Ice	57.051	-32.891	19.109	2010.331	3459.149	1.149
1.2 Dead+1.0 Wind 270 deg - No Ice	76.068	-37.994	-0.027	-5.487	4015.281	0.769
0.9 Dead+1.0 Wind 270 deg - No Ice	57.051	-37.994	-0.027	-5.130	3996.275	0.768
1.2 Dead+1.0 Wind 300 deg - No Ice	76.069	-32.918	-19.156	-2029.149	3479.907	0.182
0.9 Dead+1.0 Wind 300 deg - No Ice	57.051	-32.918	-19.156	-2019.477	3463.300	0.181
1.2 Dead+1.0 Wind 330 deg - No Ice	76.069	-19.021	-33.151	-3509.447	2012.545	-0.453
0.9 Dead+1.0 Wind 330 deg - No Ice	57.051	-19.021	-33.152	-3492.964	2002.686	-0.454
1.2 Dead+1.0 Ice+1.0 Temp	129.429	0.000	0.000	-8.485	15.282	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	129.429	-0.014	-9.580	-1036.131	17.565	-0.236
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	129.429	4.750	-8.289	-897.482	-492.755	-0.294
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	129.429	8.241	-4.778	-520.673	-866.868	-0.274
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	129.429	9.525	0.014	-6.669	-1004.530	-0.180
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	129.429	8.256	4.803	506.801	-868.856	-0.037
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	129.429	4.775	8.304	882.155	-496.199	0.115

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	31 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

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 180 deg+1.0 Ice+1.0 Temp	129.429	0.014	9.580	1018.817	13.588	0.236
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	129.429	-4.750	8.289	880.167	523.908	0.295
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	129.429	-8.241	4.778	503.358	898.021	0.274
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	129.429	-9.525	-0.014	-10.645	1035.683	0.180
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	129.429	-8.256	-4.803	-524.116	900.008	0.038
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	129.429	-4.775	-8.304	-899.470	527.351	-0.114
Dead+Wind 0 deg - Service	63.390	-0.005	-7.677	-810.890	2.821	-0.194
Dead+Wind 30 deg - Service	63.390	3.807	-6.645	-701.980	-398.656	-0.245
Dead+Wind 60 deg - Service	63.390	6.599	-3.834	-405.266	-692.781	-0.231
Dead+Wind 90 deg - Service	63.390	7.623	0.005	-0.254	-800.744	-0.154
Dead+Wind 120 deg - Service	63.390	6.604	3.843	404.535	-693.616	-0.037
Dead+Wind 150 deg - Service	63.390	3.816	6.651	700.637	-400.102	0.091
Dead+Wind 180 deg - Service	63.390	0.005	7.677	808.713	1.151	0.194
Dead+Wind 210 deg - Service	63.390	-3.807	6.645	699.803	402.627	0.245
Dead+Wind 240 deg - Service	63.390	-6.599	3.834	403.089	696.752	0.231
Dead+Wind 270 deg - Service	63.390	-7.623	-0.005	-1.924	804.715	0.154
Dead+Wind 300 deg - Service	63.390	-6.604	-3.843	-406.712	697.587	0.037
Dead+Wind 330 deg - Service	63.390	-3.816	-6.651	-702.815	404.074	-0.091

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	0.000	-63.390	0.000	0.000	63.390	0.000	0.000%
2	-0.027	-76.069	-38.265	0.027	76.068	38.263	0.002%
3	-0.027	-57.051	-38.265	0.027	57.051	38.264	0.002%
4	18.974	-76.069	-33.125	-18.974	76.069	33.125	0.000%
5	18.974	-57.051	-33.125	-18.974	57.051	33.125	0.000%
6	32.891	-76.069	-19.109	-32.891	76.069	19.109	0.000%
7	32.891	-57.051	-19.109	-32.891	57.051	19.109	0.000%
8	37.995	-76.069	0.027	-37.994	76.068	-0.027	0.002%
9	37.995	-57.051	0.027	-37.994	57.051	-0.027	0.002%
10	32.918	-76.069	19.156	-32.918	76.069	-19.156	0.000%
11	32.918	-57.051	19.156	-32.918	57.051	-19.156	0.000%
12	19.021	-76.069	33.152	-19.021	76.069	-33.151	0.000%
13	19.021	-57.051	33.152	-19.021	57.051	-33.152	0.000%
14	0.027	-76.069	38.265	-0.027	76.068	-38.263	0.002%
15	0.027	-57.051	38.265	-0.027	57.051	-38.264	0.002%
16	-18.974	-76.069	33.125	18.974	76.069	-33.125	0.000%
17	-18.974	-57.051	33.125	18.974	57.051	-33.125	0.000%
18	-32.891	-76.069	19.109	32.891	76.069	-19.109	0.000%
19	-32.891	-57.051	19.109	32.891	57.051	-19.109	0.000%
20	-37.995	-76.069	-0.027	37.994	76.068	0.027	0.002%
21	-37.995	-57.051	-0.027	37.994	57.051	0.027	0.002%
22	-32.918	-76.069	-19.156	32.918	76.069	19.156	0.000%
23	-32.918	-57.051	-19.156	32.918	57.051	19.156	0.000%
24	-19.021	-76.069	-33.152	19.021	76.069	33.151	0.000%
25	-19.021	-57.051	-33.152	19.021	57.051	33.152	0.000%
26	0.000	-129.429	0.000	-0.000	129.429	-0.000	0.000%
27	-0.014	-129.429	-9.580	0.014	129.429	9.580	0.000%
28	4.750	-129.429	-8.289	-4.750	129.429	8.289	0.000%

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job	19BMVD1400	Page	32 of 35
	Project	876385 - N. Coventry / Wallveoff	Date	16:45:00 06/24/19
	Client	Crown Castle	Designed by	Ricardo.Goncalves

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
29	8.241	-129.429	-4.778	-8.241	129.429	4.778	0.000%
30	9.525	-129.429	0.014	-9.525	129.429	-0.014	0.000%
31	8.256	-129.429	4.803	-8.256	129.429	-4.803	0.000%
32	4.775	-129.429	8.304	-4.775	129.429	-8.304	0.000%
33	0.014	-129.429	9.580	-0.014	129.429	-9.580	0.000%
34	-4.750	-129.429	8.289	4.750	129.429	-8.289	0.000%
35	-8.241	-129.429	4.778	8.241	129.429	-4.778	0.000%
36	-9.525	-129.429	-0.014	9.525	129.429	0.014	0.000%
37	-8.256	-129.429	-4.803	8.256	129.429	4.803	0.000%
38	-4.775	-129.429	-8.304	4.775	129.429	8.304	0.000%
39	-0.005	-63.390	-7.677	0.005	63.390	7.677	0.000%
40	3.807	-63.390	-6.646	-3.807	63.390	6.645	0.000%
41	6.599	-63.390	-3.834	-6.599	63.390	3.834	0.000%
42	7.623	-63.390	0.005	-7.623	63.390	-0.005	0.000%
43	6.604	-63.390	3.843	-6.604	63.390	-3.843	0.000%
44	3.816	-63.390	6.651	-3.816	63.390	-6.651	0.000%
45	0.005	-63.390	7.677	-0.005	63.390	-7.677	0.000%
46	-3.807	-63.390	6.646	3.807	63.390	-6.645	0.000%
47	-6.599	-63.390	3.834	6.599	63.390	-3.834	0.000%
48	-7.623	-63.390	-0.005	7.623	63.390	0.005	0.000%
49	-6.604	-63.390	-3.843	6.604	63.390	3.843	0.000%
50	-3.816	-63.390	-6.651	3.816	63.390	6.651	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.0000001
2	Yes	4	0.0000001	0.00018754
3	Yes	4	0.0000001	0.00016614
4	Yes	5	0.0000001	0.00038034
5	Yes	5	0.0000001	0.00031448
6	Yes	5	0.0000001	0.00040838
7	Yes	5	0.0000001	0.00033841
8	Yes	4	0.0000001	0.00016999
9	Yes	4	0.0000001	0.00015169
10	Yes	5	0.0000001	0.00039204
11	Yes	5	0.0000001	0.00032462
12	Yes	5	0.0000001	0.00039341
13	Yes	5	0.0000001	0.00032558
14	Yes	4	0.0000001	0.00017215
15	Yes	4	0.0000001	0.00015318
16	Yes	5	0.0000001	0.00041087
17	Yes	5	0.0000001	0.00034018
18	Yes	5	0.0000001	0.00037999
19	Yes	5	0.0000001	0.00031423
20	Yes	4	0.0000001	0.00018525
21	Yes	4	0.0000001	0.00016455
22	Yes	5	0.0000001	0.00040220
23	Yes	5	0.0000001	0.00033269
24	Yes	5	0.0000001	0.00040370
25	Yes	5	0.0000001	0.00033378
26	Yes	4	0.0000001	0.00001838
27	Yes	5	0.0000001	0.00021710
28	Yes	5	0.0000001	0.00022227
29	Yes	5	0.0000001	0.00021981

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 33 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

30	Yes	5	0.00000001	0.00020904
31	Yes	5	0.00000001	0.00021739
32	Yes	5	0.00000001	0.00021856
33	Yes	5	0.00000001	0.00021201
34	Yes	5	0.00000001	0.00022265
35	Yes	5	0.00000001	0.00022348
36	Yes	5	0.00000001	0.00021670
37	Yes	5	0.00000001	0.00022785
38	Yes	5	0.00000001	0.00022829
39	Yes	4	0.00000001	0.00001967
40	Yes	4	0.00000001	0.00002597
41	Yes	4	0.00000001	0.00003440
42	Yes	4	0.00000001	0.00001932
43	Yes	4	0.00000001	0.00002784
44	Yes	4	0.00000001	0.00002799
45	Yes	4	0.00000001	0.00001954
46	Yes	4	0.00000001	0.00003485
47	Yes	4	0.00000001	0.00002610
48	Yes	4	0.00000001	0.00001950
49	Yes	4	0.00000001	0.00003082
50	Yes	4	0.00000001	0.00003099

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	152 - 137.42	6.551	50	0.353	0.000
L2	142.59 - 91.09	5.857	50	0.350	0.000
L3	97.92 - 44.79	2.846	39	0.273	0.000
L4	53.21 - 0	0.844	39	0.143	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.000	DS9A09F36D-N	50	6.551	0.353	0.000	177289
150.000	NNVV-65B-R4 w/ Mount Pipe	50	6.403	0.352	0.000	177289
133.000	RR90-17-02DP w/ Mount Pipe	50	5.162	0.342	0.000	55911
124.000	(2) LPA-80080/6CF w/ Mount Pipe	50	4.526	0.329	0.000	40388
116.000	7770.00 w/ Mount Pipe	39	3.982	0.315	0.000	32379
107.000	742 213	39	3.398	0.295	0.000	26473
74.000	KS24019-L112A	39	1.613	0.205	0.000	18229

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	152 - 137.42	32.710	2	1.761	0.002

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 34 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L2	142.59 - 91.09	29.250	2	1.746	0.002
L3	97.92 - 44.79	14.219	2	1.363	0.001
L4	53.21 - 0	4.214	2	0.715	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.000	DS9A09F36D-N	2	32.710	1.761	0.002	35821
150.000	NNVV-65B-R4 w/ Mount Pipe	2	31.973	1.759	0.002	35821
133.000	RR90-17-02DP w/ Mount Pipe	2	25.779	1.706	0.002	11237
124.000	(2) LPA-80080/6CF w/ Mount Pipe	2	22.609	1.644	0.002	8116
116.000	7770.00 w/ Mount Pipe	2	19.891	1.572	0.001	6509
107.000	742 213	2	16.975	1.475	0.001	5323
74.000	KS24019-L112A	2	8.056	1.025	0.001	3654

Compression Checks

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 P _u / φP _n
L1	152 - 137.42 (1)	TP37.31x33.03x0.313	14.580	0.000	0.0	35.192	-5.149	2058.710	0.003
L2	137.42 - 91.09 (2)	TP50.15x35.167x0.375	51.500	0.000	0.0	56.880	-27.664	3327.460	0.008
L3	91.09 - 44.79 (3)	TP62.86x47.413x0.438	53.130	0.000	0.0	83.282	-46.074	4872.000	0.009
L4	44.79 - 0 (4)	TP75x59.537x0.5	53.210	0.000	0.0	118.231	-76.058	6916.540	0.011

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio M _{ux} / φM _{ux}	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio M _{uy} / φM _{uy}
L1	152 - 137.42 (1)	TP37.31x33.03x0.313	60.794	1817.458	0.033	0.000	1817.458	0.000
L2	137.42 - 91.09 (2)	TP50.15x35.167x0.375	863.508	3815.617	0.226	0.000	3815.617	0.000
L3	91.09 - 44.79 (3)	TP62.86x47.413x0.438	2174.342	6830.525	0.318	0.000	6830.525	0.000
L4	44.79 - 0 (4)	TP75x59.537x0.5	4049.558	11650.000	0.348	0.000	11650.000	0.000

tnxTower FDH Infrastructure Services, LLC 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 919.755.1012 FAX: 919.755.1031	Job 19BMVD1400	Page 35 of 35
	Project 876385 - N. Coventry / Wallveoff	Date 16:45:00 06/24/19
	Client Crown Castle	Designed by Ricardo.Goncalves

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	152 - 137.42 (1)	TP37.31x33.03x0.313	7.025	617.612	0.011	0.172	1919.008	0.000
L2	137.42 - 91.09 (2)	TP50.15x35.167x0.375	26.488	998.238	0.027	0.735	4177.658	0.000
L3	91.09 - 44.79 (3)	TP62.86x47.413x0.438	32.111	1461.600	0.022	0.967	7676.708	0.000
L4	44.79 - 0 (4)	TP75x59.537x0.5	38.285	2074.960	0.018	0.967	13537.749	0.000

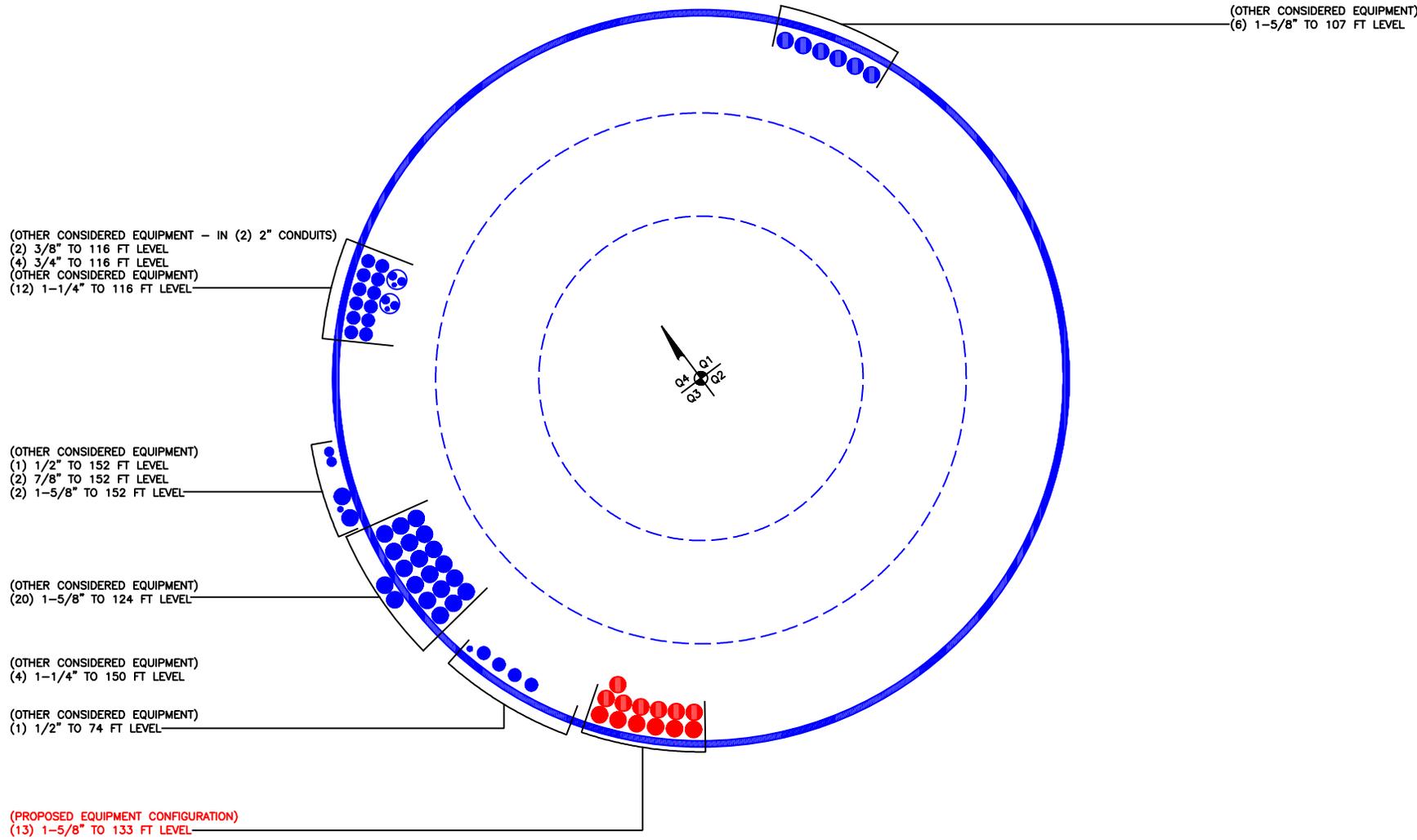
Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		ϕP_n	ϕM_{ux}	ϕM_{uy}	ϕV_n	ϕT_n			
L1	152 - 137.42 (1)	0.003	0.033	0.000	0.011	0.000	0.036	1.050	4.8.2
L2	137.42 - 91.09 (2)	0.008	0.226	0.000	0.027	0.000	0.235	1.050	4.8.2
L3	91.09 - 44.79 (3)	0.009	0.318	0.000	0.022	0.000	0.328	1.050	4.8.2
L4	44.79 - 0 (4)	0.011	0.348	0.000	0.018	0.000	0.359	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	152 - 137.42	Pole	TP37.31x33.03x0.313	1	-5.149	2161.645	3.4	Pass
L2	137.42 - 91.09	Pole	TP50.15x35.167x0.375	2	-27.664	3493.833	22.4	Pass
L3	91.09 - 44.79	Pole	TP62.86x47.413x0.438	3	-46.074	5115.600	31.3	Pass
L4	44.79 - 0	Pole	TP75x59.537x0.5	4	-76.058	7262.367	34.2	Pass
Summary								
Pole (L4)							34.2	Pass
RATING =							34.2	Pass

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

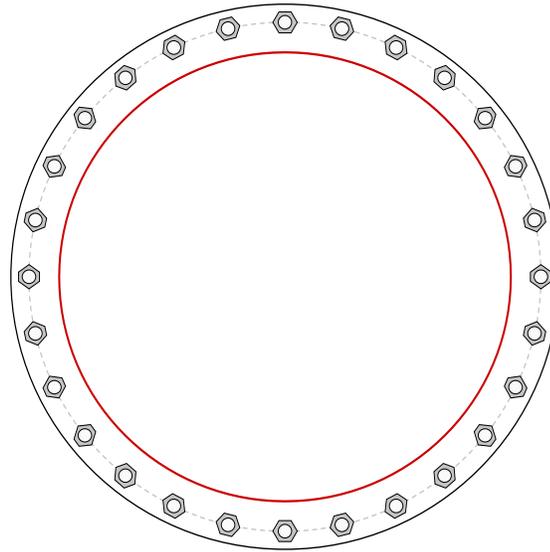


Site Info	
BU #	876385
Site Name	N. Coventry Wallbeoff
Order #	479838

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0.75

Applied Loads	
Moment (kip-ft)	4049.56
Axial Force (kips)	76.06
Shear Force (kips)	38.29

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
(28) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 85" BC
Base Plate Data
91" OD x 2.25" Plate (A871-60; $F_y=60$ ksi, $F_u=75$ ksi)
Stiffener Data
N/A
Pole Data
75" x 0.5" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary	(units of kips, kip-in)	
$Pu_c = 84.36$	$\phi Pn_c = 243.75$	Stress Rating
$Vu = 1.37$	$\phi Vn = 73.13$	33.0%
$Mu = n/a$	$\phi Mn = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	23.92	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	42.2%	Pass

Pier and Pad Foundation



BU # :	876385
Site Name:	N. Coventry
App. Number:	479838

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	<input checked="" type="checkbox"/>
Block Foundation?:	<input type="checkbox"/>

Superstructure Analysis Reactions		
Compression, P_{comp} :	76.06	kips
Base Shear, V_u comp:	38.29	kips
Moment, M_u :	4049.56	ft-kips
Tower Height, H :	152	ft
BP Dist. Above Fdn, bp_{dist} :	3	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	627.34	38.29	5.8%	Pass
<i>Bearing Pressure (ksf)</i>	12.76	2.91	21.7%	Pass
<i>Overtuning (kip*ft)</i>	13207.21	4403.74	33.3%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	10511.00	4279.30	38.8%	Pass
<i>Pier Compression (kip)</i>	51554.88	163.54	0.3%	Pass
<i>Pad Flexure (kip*ft)</i>	7275.14	1385.32	18.1%	Pass
<i>Pad Shear - 1-way (kips)</i>	1033.61	198.98	18.3%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.190	0.034	16.8%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	6624.33	2567.58	36.9%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$:	9	ft
Ext. Above Grade, E :	1	ft
Pier Rebar Size, Sc :	8	
Pier Rebar Quantity, mc :	62	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	10	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Soil Rating*:	33.3%
Structural Rating*:	38.8%

Pad Properties		
Depth, D :	8	ft
Pad Width, W :	29	ft
Pad Thickness, T :	3	ft
Pad Rebar Size (Top), Sp_{top} :	9	
Pad Top Rebar Quantity (Top), mp_{top} :	25	
Pad Rebar Size (Bottom), Sp :	9	
Pad Rebar Quantity (Bottom), mp :	54	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy :	60	ksi
Concrete Compressive Strength, $F'c$:	4	ksi
Dry Concrete Density, δc :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	127	pcf
Ultimate Net Bearing, Q_{net} :	16.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	40	degrees
SPT Blow Count, N_{blows} :	50	
Base Friction, μ :	0.55	
Neglected Depth, N :	4.50	ft
Foundation Bearing on Rock?	Yes	
Groundwater Depth, gw :	N/A	ft

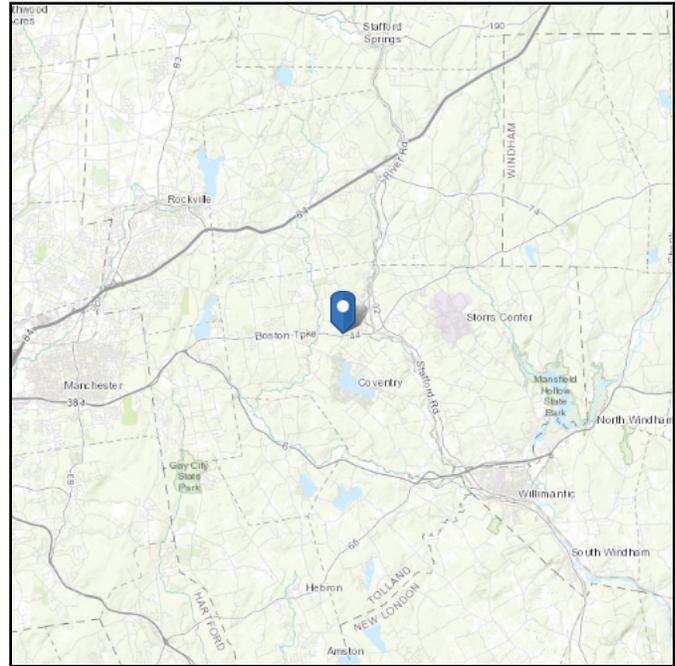
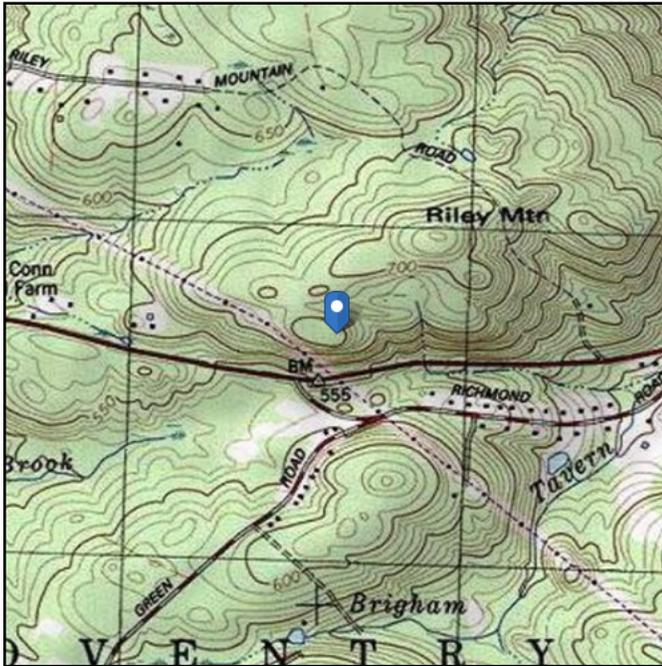
--Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 706.92 ft (NAVD 88)
Latitude: 41.7989
Longitude: -72.3321



Wind

Results:

Wind Speed:	126 Vmph	130 mph per JDX
10-year MRI	77 Vmph	
25-year MRI	87 Vmph	
50-year MRI	95 Vmph	
100-year MRI	102 Vmph	

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Tue Jun 18 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

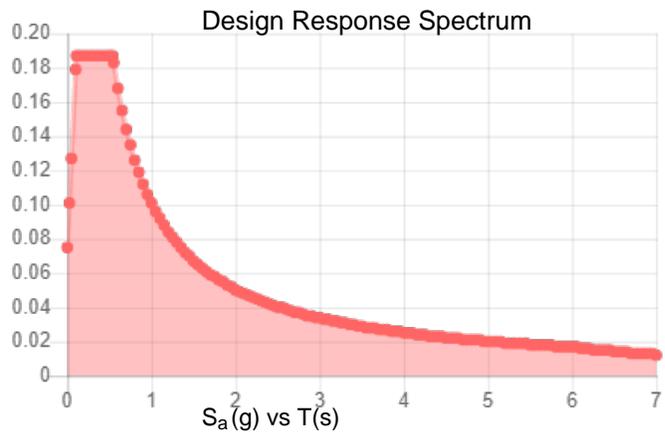
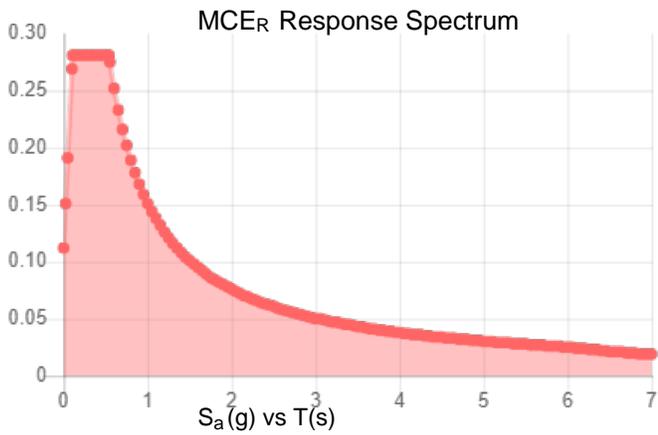
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.176	S_{DS} :	0.187
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.088
S_{MS} :	0.281	PGA _M :	0.14
S_{M1} :	0.151	F _{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Tue Jun 18 2019

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 5 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Tue Jun 18 2019

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

Exhibit E

Mount Analysis



Date: June 12, 2019

Charles McGuirt
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
(704) 405-6607

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject: Mount Modification Report

Carrier Designation: T-Mobile Equipment Change-Out
Carrier Site Number: CT11516A
Carrier Site Name: CT516/Coventry - Sprint

Crown Castle Designation: Crown Castle BU Number: 876385
Crown Castle Site Name: N. Coventry / Wallbeoff,
Crown Castle JDE Job Number: 559337
Crown Castle Order Number: 479838, Rev.0

Engineering Firm Designation: B+T Group Report Designation: 100172.006.01

Site Data: Reilly Mtn. Rd., Coventry, CT, Tolland, 6238
Latitude 41° 47' 56.21" Longitude -72° 19' 55.88"

Structure Information: Tower Height & Type: 152 ft. Monopole
Mount Elevation: 133 ft.
Mount Type: 14.25 ft. Platform Mount

Dear Mr. McGuirt,

B+T Group is pleased to submit this "Mount Modification Report" to determine the structural integrity T-Mobile's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level to be:

Platform Mount

Sufficient

*Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Joseph Variamparampil

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2020



Scott S. Vance, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

Table 4 - Tieback End Reactions

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations and Software Analysis Output

7) APPENDIX C

Mount Modification Design Drawings (MDD)

1) INTRODUCTION

This is a 14.25 ft. Platform Mount, Mapped by RKS.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	130 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.176
Seismic S_1:	0.063
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb.
Man Live Load at Mount Pipes:	500 lb.

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft.)	Antenna Centerline (ft.)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
133	136	3	Ems Wireless	RR90-17-02DP	14.25 ft. Platform Mount
		3	RFS	APXVAARR24 43UNA20	
		3	Ericsson	KRY 112 144/2	
		3	Ericsson	KRY 112 71/2	
		3	Ericsson	RADIO 4449 B12/B71	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 05/28/2019	Crown Castle
Mount Mapping	RKS	Date: 04/10/2019	Crown Castle

3.1) Analysis Method

RISA-3D (Version 17.0.2), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed by B+T Group, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision C).

3.2) Assumptions

1. The mount was properly fabricated and installed in accordance with its original design and manufacturer's specifications.
2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.
5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
10. The following material grades were assumed (Unless Noted Otherwise):
 - (a) Connection Bolts : ASTM A325
 - (b) Steel Pipe : ASTM A53 (GR. 35)
 - (c) HSS (Round) : ASTM 500 (GR. B-42)
 - (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - (e) Channel : ASTM A36 (GR. 36)
 - (f) Steel Solid Rod : ASTM A36 (GR. 36)
 - (g) Steel Plate : ASTM A36 (GR. 36)
 - (h) Steel Angle : ASTM A36 (GR. 36)
 - (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform Mount)

Notes	Component	Critical Member	Centerline (ft.)	% Capacity	Pass / Fail
1,2	Mount Pipes	M63	133	45.2	Pass
	Main Horizontals	M20	133	22.8	Pass
	Support Tubes	M13	133	45.8	Pass
	Support Angles	M31	133	23.3	Pass
	Connection Plates	M34	133	42.4	Pass
1,2,3	Handrail Pipes	M81A	133	35.9	Pass
	Handrail Connection Angles	M83	133	33.6	Pass

Structure Rating (max from all components) =	45.8%
---	--------------

Notes:

- 1) See additional documentation in "Appendix B" for calculations supporting the % capacity consumed.
- 2) All sectors are typical
- 3) Proposed modification members

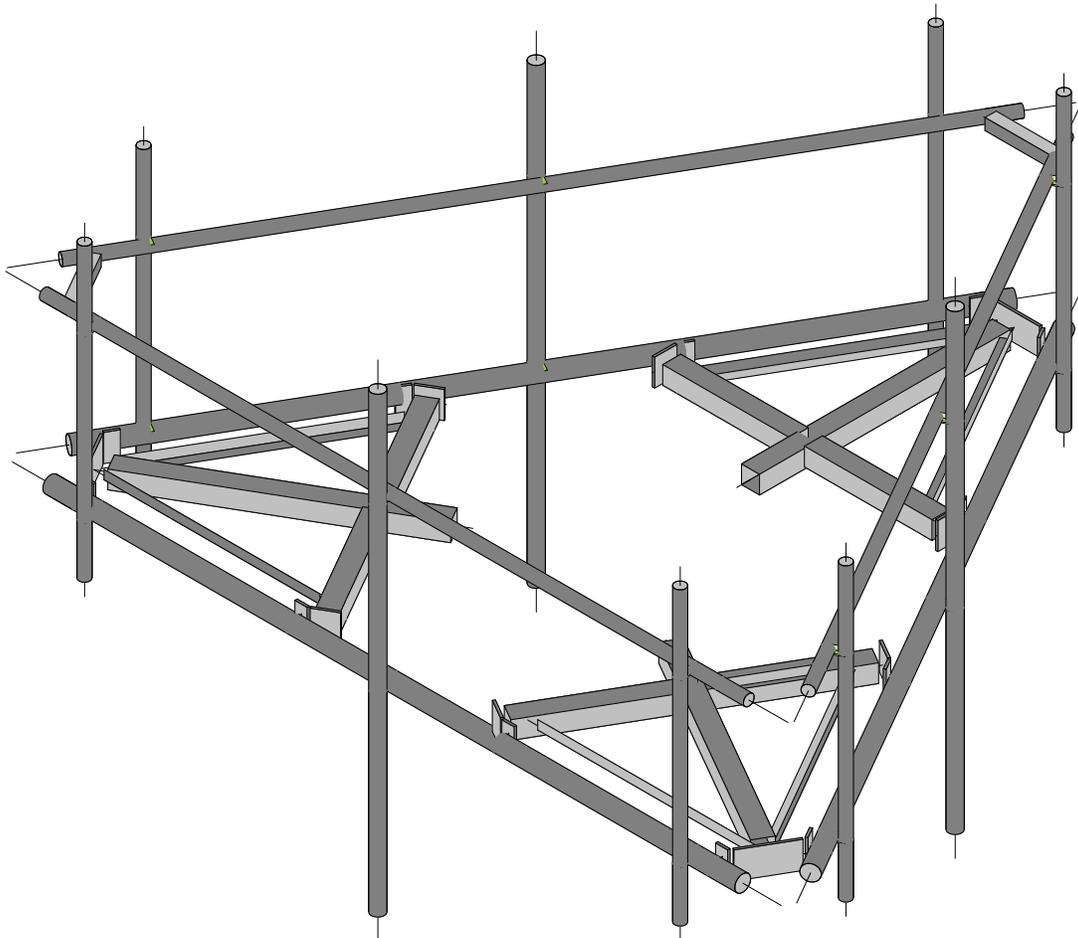
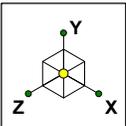
4.1) RECOMMENDATIONS

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. New Handrail Kit, SitePro1 Part # HRK-14, installed 3' above main horizontal

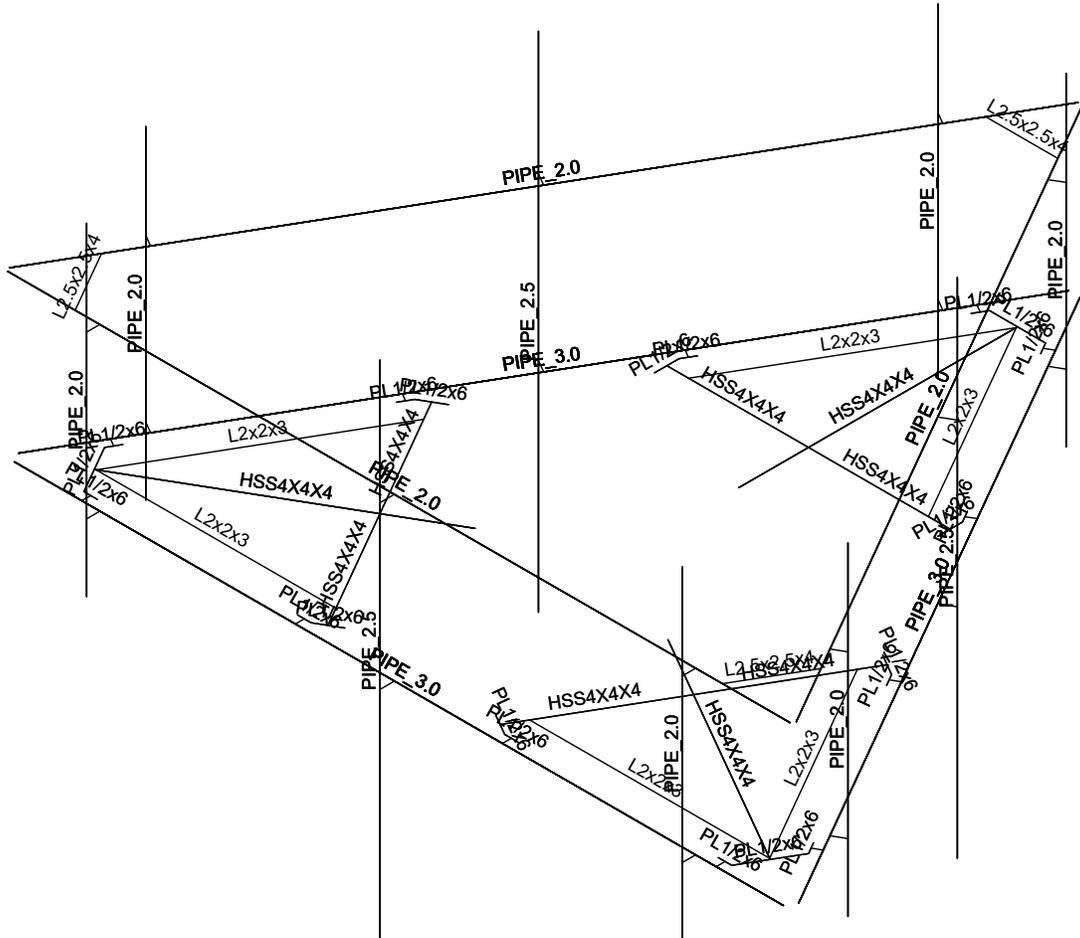
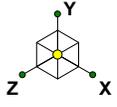
Engineering detail drawings have been provided in Appendix C – Mount Modification Design Drawings.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T Group	876385 - N. Coventry/Wallbeoff	SK - 1
JV		June 11, 2019 at 4:12 PM
100172.006.01		100172_006_01_N. Coventry Wall...



Envelope Only Solution

B+T Group

JV

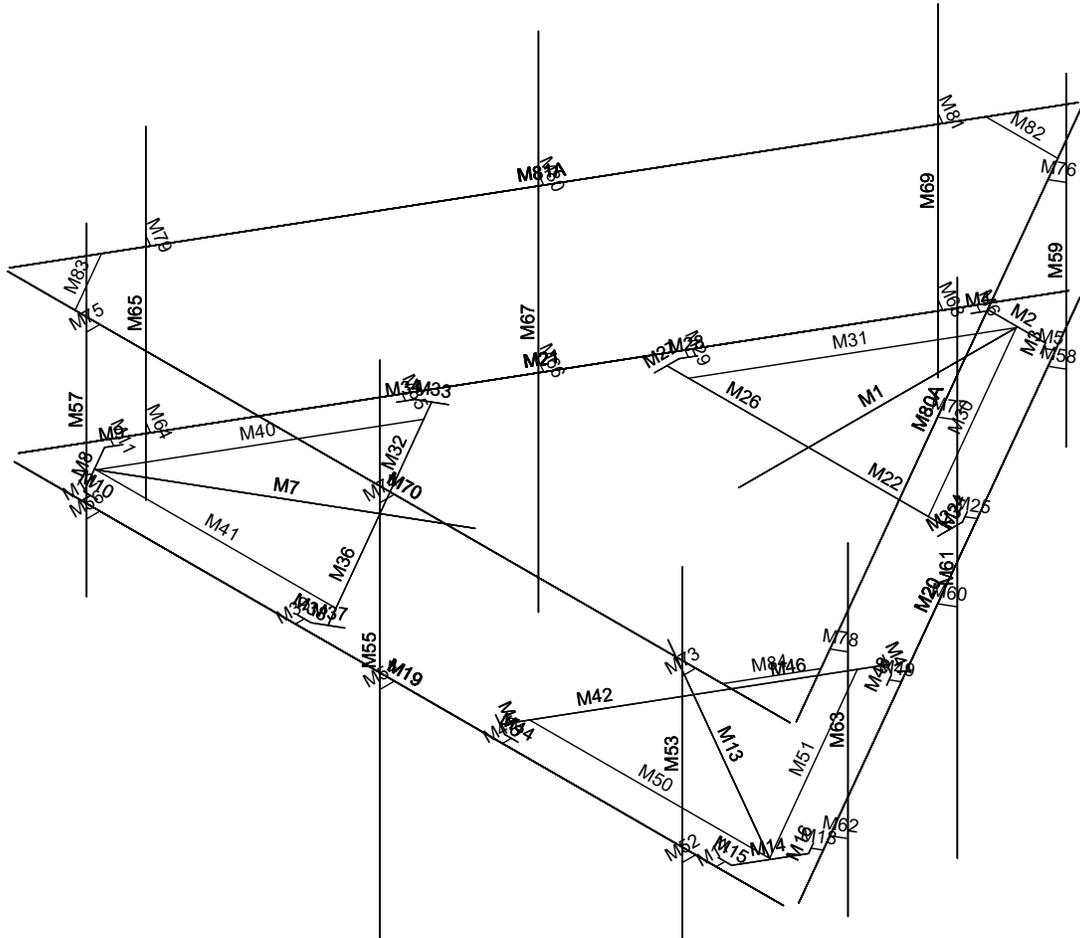
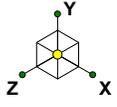
100172.006.01

876385 - N. Coventry/Wallbeoff

SK - 2

June 11, 2019 at 4:13 PM

100172_006_01_N. Coventry Wall...



Envelope Only Solution

B+T Group

JV

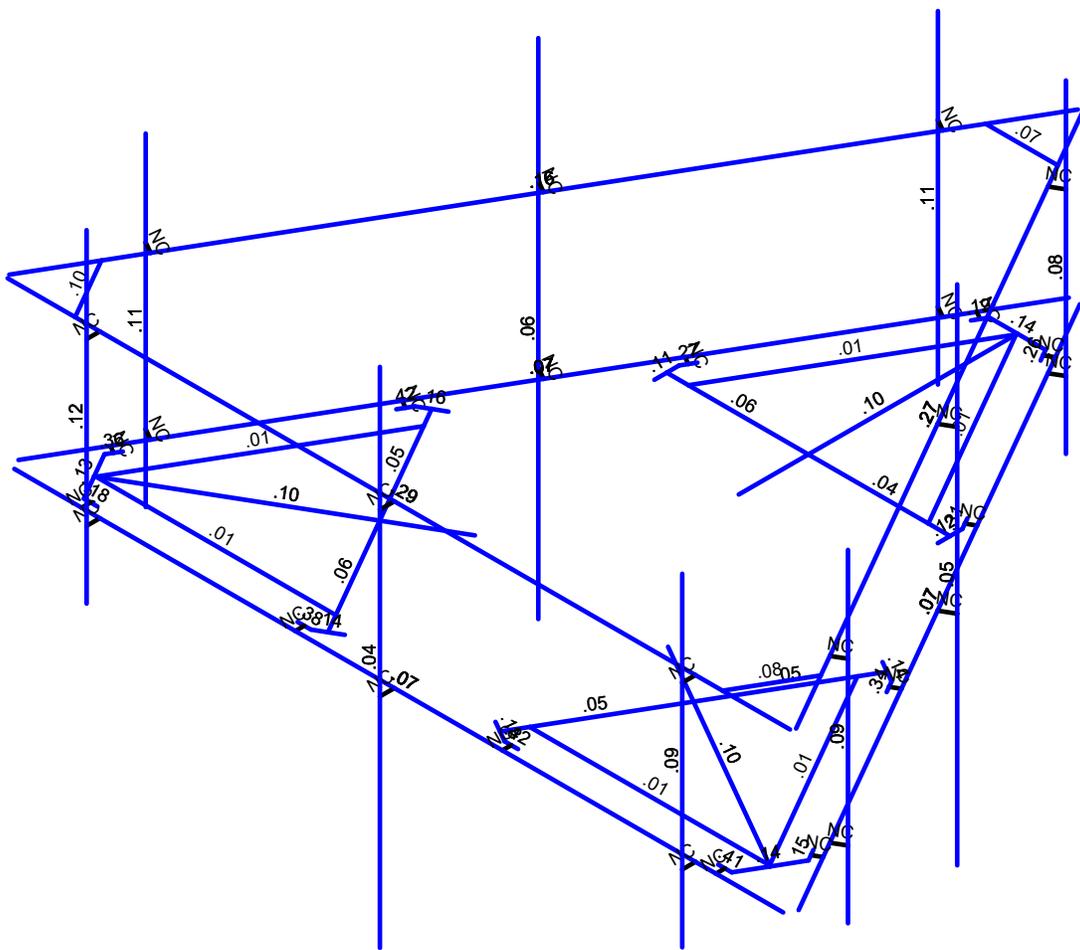
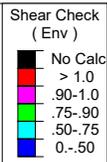
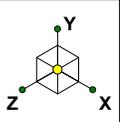
100172.006.01

876385 - N. Coventry/Wallbeoff

SK - 3

June 11, 2019 at 4:13 PM

100172_006_01_N. Coventry Wall...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	876385 - N. Coventry/Wallbeoff	SK - 5
JV		June 11, 2019 at 4:13 PM
100172.006.01		100172_006_01_N. Coventry Wall...

APPENDIX B

SOFTWARE INPUT CALCULATIONS AND SOFTWARE ANALYSIS OUTPUT

PROJECT	100172.005.01 - N. Coventry/	KSC
SUBJECT	Platform Mount Mount Analysis	
DATE	06/11/19	PAGE OF



Manufacturer	Model	Qty	Aspect Ratio	C _a flat/round	EPA _N *K _a (ft ²)	EPA _T *K _a (ft ²)	EPA _{N-ice} *K _a (ft ²)	EPA _{T-ice} *K _a (ft ²)	F _A No Ice (N)	F _A No Ice (T)	F _A Ice (N)	F _A Ice (T)
EMS Wirelss	RR90-17-02DP	0.5	7.00	1.40	1.40	0.48	2.39	1.39	0.08	0.04	0.01	0.01
EMS Wirelss	RR90-17-02DP	0.5	7.00	1.40	1.40	0.48	2.39	1.39	0.08	0.04	0.01	0.01
Ericsson	KRY 112 144/2	1	1.30	1.20	0.36	0.17	0.93	0.64	0.02	0.01	0.00	0.00
Ericsson	RADIO 4449 B12/B71	1	1.13	1.20	1.23	0.86	2.17	1.69	0.06	0.04	0.01	0.01
RFS	APXVAARR24_43-UNA20	0.5	4.00	1.27	7.19	2.61	8.98	4.18	0.39	0.17	0.06	0.03
RFS	APXVAARR24_43-UNA20	0.5	4.00	1.27	7.19	2.61	8.98	4.18	0.39	0.17	0.06	0.03
EMS Wirelss	RR90-17-02DP	0.5	7.00	1.40	1.40	0.48	2.39	1.39	0.08	0.04	0.01	0.01
EMS Wirelss	RR90-17-02DP	0.5	7.00	1.40	1.40	0.48	2.39	1.39	0.08	0.04	0.01	0.01
Ericsson	KRY 112 144/2	1	1.30	1.20	0.36	0.17	0.93	0.64	0.02	0.01	0.00	0.00
Ericsson	RADIO 4449 B12/B71	1	1.13	1.20	1.23	0.86	2.17	1.69	0.06	0.04	0.01	0.01
Ericsson	KRY 112 71/2	1	2.23	1.20	0.44	0.33	1.09	0.94	0.02	0.02	0.00	0.00
RFS	APXVAARR24_43-UNA20	0.5	4.00	1.27	7.19	2.61	8.98	4.18	0.39	0.17	0.06	0.03
RFS	APXVAARR24_43-UNA20	0.5	4.00	1.27	7.19	2.61	8.98	4.18	0.39	0.17	0.06	0.03
Ericsson	KRY 112 144/2	1	1.30	1.20	0.36	0.17	0.93	0.64	0.02	0.01	0.00	0.00
Ericsson	RADIO 4449 B12/B71	1	1.13	1.20	1.23	0.86	2.17	1.69	0.06	0.04	0.01	0.01
EMS Wirelss	RR90-17-02DP	0.5	7.00	1.40	1.40	0.48	2.39	1.39	0.08	0.04	0.01	0.01
EMS Wirelss	RR90-17-02DP	0.5	7.00	1.40	1.40	0.48	2.39	1.39	0.08	0.04	0.01	0.01
RFS	APXVAARR24_43-UNA20	0.5	4.00	1.27	7.19	2.61	8.98	4.18	0.39	0.17	0.06	0.03
RFS	APXVAARR24_43-UNA20	0.5	4.00	1.27	7.19	2.61	8.98	4.18	0.39	0.17	0.06	0.03
Ericsson	KRY 112 71/2	2	2.23	1.20	0.88	0.66	2.18	1.88	0.05	0.03	0.01	0.01



Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	MF-P1	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	MF-P2	PIPE 2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	MF-H1	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
4	HR	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	F1-S1	HSS4X4X4	Beam	Tube	A500 Gr.B ...	Typical	3.37	7.8	7.8	12.8
6	F1-SA1	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
7	CP-1	PL1/2x6	Beam	RECT	A36 Gr.36	Typical	3	.063	9	.237
8	CA-1	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
9	Handrail Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
10	Handrail Connection An...	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N3			F1-S1	Beam	Tube	A500 Gr.B...	Typical
2	M2	N6	N4			CP-1	Beam	RECT	A36 Gr.36	Typical
3	M3	N4	N5			CP-1	Beam	RECT	A36 Gr.36	Typical
4	M4	N6	N7			CP-1	Beam	RECT	A36 Gr.36	Typical
5	M5	N8	N9			RIGID	None	None	RIGID	Typical
6	M6	N10	N11			RIGID	None	None	RIGID	Typical
7	M7	N12	N13			F1-S1	Beam	Tube	A500 Gr.B...	Typical
8	M8	N16	N14			CP-1	Beam	RECT	A36 Gr.36	Typical
9	M9	N14	N15			CP-1	Beam	RECT	A36 Gr.36	Typical
10	M10	N16	N17			CP-1	Beam	RECT	A36 Gr.36	Typical
11	M11	N18	N19			RIGID	None	None	RIGID	Typical
12	M12	N20	N21			RIGID	None	None	RIGID	Typical
13	M13	N22	N23			F1-S1	Beam	Tube	A500 Gr.B...	Typical
14	M14	N26	N24			CP-1	Beam	RECT	A36 Gr.36	Typical
15	M15	N24	N25			CP-1	Beam	RECT	A36 Gr.36	Typical
16	M16	N26	N27			CP-1	Beam	RECT	A36 Gr.36	Typical
17	M17	N28	N29			RIGID	None	None	RIGID	Typical
18	M18	N30	N31			RIGID	None	None	RIGID	Typical
19	M19	N32	N33			MF-H1	Beam	Pipe	A53 Gr.B	Typical
20	M20	N34	N35			MF-H1	Beam	Pipe	A53 Gr.B	Typical
21	M21	N36	N37			MF-H1	Beam	Pipe	A53 Gr.B	Typical
22	M22	N44	N38			F1-S1	Beam	Tube	A500 Gr.B...	Typical
23	M23	N40	N39			CP-1	Beam	RECT	A36 Gr.36	Typical
24	M24	N40	N41			CP-1	Beam	RECT	A36 Gr.36	Typical
25	M25	N42	N43			RIGID	None	None	RIGID	Typical
26	M26	N44	N45			F1-S1	Beam	Tube	A500 Gr.B...	Typical
27	M27	N47	N46			CP-1	Beam	RECT	A36 Gr.36	Typical
28	M28	N47	N48			CP-1	Beam	RECT	A36 Gr.36	Typical
29	M29	N49	N50			RIGID	None	None	RIGID	Typical
30	M30	N52	N51			F1-SA1	Beam	Single Angle	A36 Gr.36	Typical



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
31	M31	N52	N53		270	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
32	M32	N60	N54			F1-S1	Beam	Tube	A500 Gr.B...	Typical
33	M33	N56	N55			CP-1	Beam	RECT	A36 Gr.36	Typical
34	M34	N56	N57			CP-1	Beam	RECT	A36 Gr.36	Typical
35	M35	N58	N59			RIGID	None	None	RIGID	Typical
36	M36	N60	N61			F1-S1	Beam	Tube	A500 Gr.B...	Typical
37	M37	N63	N62			CP-1	Beam	RECT	A36 Gr.36	Typical
38	M38	N63	N64			CP-1	Beam	RECT	A36 Gr.36	Typical
39	M39	N65	N66			RIGID	None	None	RIGID	Typical
40	M40	N68	N67			F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
41	M41	N68	N69		270	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
42	M42	N76	N70			F1-S1	Beam	Tube	A500 Gr.B...	Typical
43	M43	N72	N71			CP-1	Beam	RECT	A36 Gr.36	Typical
44	M44	N72	N73			CP-1	Beam	RECT	A36 Gr.36	Typical
45	M45	N74	N75			RIGID	None	None	RIGID	Typical
46	M46	N76	N77			F1-S1	Beam	Tube	A500 Gr.B...	Typical
47	M47	N79	N78			CP-1	Beam	RECT	A36 Gr.36	Typical
48	M48	N79	N80			CP-1	Beam	RECT	A36 Gr.36	Typical
49	M49	N81	N82			RIGID	None	None	RIGID	Typical
50	M50	N84	N83			F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
51	M51	N84	N85		270	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
52	M52	N86	N87			RIGID	None	None	RIGID	Typical
53	M53	N88	N89			MF-P1	Column	Pipe	A53 Gr.B	Typical
54	M54	N90	N91			RIGID	None	None	RIGID	Typical
55	M55	N92	N93			MF-P2	Column	Pipe	A53 Gr.B	Typical
56	M56	N94	N95			RIGID	None	None	RIGID	Typical
57	M57	N96	N97			MF-P1	Column	Pipe	A53 Gr.B	Typical
58	M58	N98	N99			RIGID	None	None	RIGID	Typical
59	M59	N100	N101			MF-P1	Column	Pipe	A53 Gr.B	Typical
60	M60	N102	N103			RIGID	None	None	RIGID	Typical
61	M61	N104	N105			MF-P2	Column	Pipe	A53 Gr.B	Typical
62	M62	N106	N107			RIGID	None	None	RIGID	Typical
63	M63	N108	N109			MF-P1	Column	Pipe	A53 Gr.B	Typical
64	M64	N110	N111			RIGID	None	None	RIGID	Typical
65	M65	N112	N113			MF-P1	Column	Pipe	A53 Gr.B	Typical
66	M66	N114	N115			RIGID	None	None	RIGID	Typical
67	M67	N116	N117			MF-P2	Column	Pipe	A53 Gr.B	Typical
68	M68	N118	N119			RIGID	None	None	RIGID	Typical
69	M69	N120	N121			MF-P1	Column	Pipe	A53 Gr.B	Typical
70	M70	N122	N123			Handrail Pipe	Column	Pipe	A53 Gr.B	Typical
71	M73	N128	N129			RIGID	None	None	RIGID	Typical
72	M74	N130	N131			RIGID	None	None	RIGID	Typical
73	M75	N132	N133			RIGID	None	None	RIGID	Typical
74	M76	N134	N135			RIGID	None	None	RIGID	Typical
75	M77	N136	N137			RIGID	None	None	RIGID	Typical
76	M78	N138	N139			RIGID	None	None	RIGID	Typical
77	M79	N140	N141			RIGID	None	None	RIGID	Typical
78	M80	N142	N143			RIGID	None	None	RIGID	Typical
79	M81	N144	N145			RIGID	None	None	RIGID	Typical
80	M80A	N142A	N143A			Handrail Pipe	Column	Pipe	A53 Gr.B	Typical
81	M81A	N144A	N145A			Handrail Pipe	Column	Pipe	A53 Gr.B	Typical
82	M82	N146	N147		90	Handrail Conn...	Beam	Single Angle	A36 Gr.36	Typical
83	M83	N148	N149		90	Handrail Conn...	Beam	Single Angle	A36 Gr.36	Typical
84	M84	N150	N151		90	Handrail Conn...	Beam	Single Angle	A36 Gr.36	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Functi...
1	M1	F1-S1	5.167			Lbyy						Lateral
2	M2	CP-1	1.042			Lbyy						Lateral
3	M3	CP-1	.25			Lbyy						Lateral
4	M4	CP-1	.25			Lbyy						Lateral
5	M7	F1-S1	5.167			Lbyy						Lateral
6	M8	CP-1	1.042			Lbyy						Lateral
7	M9	CP-1	.25			Lbyy						Lateral
8	M10	CP-1	.25			Lbyy						Lateral
9	M13	F1-S1	5.167			Lbyy						Lateral
10	M14	CP-1	1.042			Lbyy						Lateral
11	M15	CP-1	.25			Lbyy						Lateral
12	M16	CP-1	.25			Lbyy						Lateral
13	M19	MF-H1	14.25			Lbyy						Lateral
14	M20	MF-H1	14.25			Lbyy						Lateral
15	M21	MF-H1	14.25			Lbyy						Lateral
16	M22	F1-S1	2.626			Lbyy						Lateral
17	M23	CP-1	.458			Lbyy						Lateral
18	M24	CP-1	.25			Lbyy						Lateral
19	M26	F1-S1	2.626			Lbyy						Lateral
20	M27	CP-1	.458			Lbyy						Lateral
21	M28	CP-1	.25			Lbyy						Lateral
22	M30	F1-SA1	4.446			Lbyy						Lateral
23	M31	F1-SA1	4.446			Lbyy						Lateral
24	M32	F1-S1	2.626			Lbyy						Lateral
25	M33	CP-1	.458			Lbyy						Lateral
26	M34	CP-1	.25			Lbyy						Lateral
27	M36	F1-S1	2.626			Lbyy						Lateral
28	M37	CP-1	.458			Lbyy						Lateral
29	M38	CP-1	.25			Lbyy						Lateral
30	M40	F1-SA1	4.446			Lbyy						Lateral
31	M41	F1-SA1	4.446			Lbyy						Lateral
32	M42	F1-S1	2.626			Lbyy						Lateral
33	M43	CP-1	.458			Lbyy						Lateral
34	M44	CP-1	.25			Lbyy						Lateral
35	M46	F1-S1	2.626			Lbyy						Lateral
36	M47	CP-1	.458			Lbyy						Lateral
37	M48	CP-1	.25			Lbyy						Lateral
38	M50	F1-SA1	4.446			Lbyy						Lateral
39	M51	F1-SA1	4.446			Lbyy						Lateral
40	M53	MF-P1	6			Lbyy						Lateral
41	M55	MF-P2	9.333			Lbyy						Lateral
42	M57	MF-P1	6			Lbyy						Lateral
43	M59	MF-P1	6			Lbyy						Lateral
44	M61	MF-P2	9.333			Lbyy						Lateral
45	M63	MF-P1	6			Lbyy						Lateral
46	M65	MF-P1	6			Lbyy						Lateral
47	M67	MF-P2	9.333			Lbyy						Lateral
48	M69	MF-P1	6			Lbyy						Lateral
49	M70	Handrail Pi...	14.5			Lbyy						Lateral
50	M80A	Handrail Pi...	14.5			Lbyy						Lateral
51	M81A	Handrail Pi...	14.5			Lbyy						Lateral
52	M82	Handrail C...	1.335			Lbyy						Lateral
53	M83	Handrail C...	1.335			Lbyy						Lateral
54	M84	Handrail C...	1.335			Lbyy						Lateral



Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	-0.	0	-2.066267	0	
3	N3	-0.	0	-7.232867	0	
4	N4	0.520835	0	-7.232867	0	
5	N5	0.645835	0	-7.01636	0	
6	N6	-0.520835	0	-7.232867	0	
7	N7	-0.645835	0	-7.01636	0	
8	N8	0.583335	0	-7.124614	0	
9	N9	0.727673	0	-7.207947	0	
10	N10	-0.583335	0	-7.124614	0	
11	N11	-0.727673	0	-7.207947	0	
12	N12	-1.78944	0	1.033133	0	
13	N13	-6.263846	0	3.616433	0	
14	N14	-6.524264	0	3.165377	0	
15	N15	-6.399264	0	2.948871	0	
16	N16	-6.003429	0	4.06749	0	
17	N17	-5.753429	0	4.06749	0	
18	N18	-6.461764	0	3.057124	0	
19	N19	-6.606101	0	2.973791	0	
20	N20	-5.878429	0	4.06749	0	
21	N21	-5.878429	0	4.234156	0	
22	N22	1.78944	0	1.033133	0	
23	N23	6.263846	0	3.616433	0	
24	N24	6.003429	0	4.06749	0	
25	N25	5.753429	0	4.06749	0	
26	N26	6.524264	0	3.165377	0	
27	N27	6.399264	0	2.948871	0	
28	N28	5.878429	0	4.06749	0	
29	N29	5.878429	0	4.234156	0	
30	N30	6.461764	0	3.057124	0	
31	N31	6.606101	0	2.973791	0	
32	N32	-7.125	0	4.234156	0	
33	N33	7.125	0	4.234156	0	
34	N34	7.229387	0	4.053353	0	
35	N35	0.104387	0	-8.287509	0	
36	N36	-0.104387	0	-8.287509	0	
37	N37	-7.229387	0	4.053353	0	
38	N38	2.625719	0	-3.357934	0	
39	N39	2.625719	0	-3.128767	0	
40	N40	2.625719	0	-3.5871	0	
41	N41	2.500719	0	-3.803606	0	
42	N42	2.563219	0	-3.695353	0	
43	N43	2.707557	0	-3.778687	0	
44	N44	-0.	0	-3.357934	0	
45	N45	-2.625719	0	-3.357934	0	
46	N46	-2.625719	0	-3.128767	0	
47	N47	-2.625719	0	-3.5871	0	
48	N48	-2.500719	0	-3.803606	0	
49	N49	-2.563219	0	-3.695353	0	
50	N50	-2.707557	0	-3.778687	0	
51	N51	2.222806	0	-3.357934	0	
52	N52	-0.	0	-7.207947	0	
53	N53	-2.222806	0	-3.357934	0	
54	N54	-4.220915	0	-0.594973	0	
55	N55	-4.022451	0	-0.709556	0	
56	N56	-4.419379	0	-0.48039	0	



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
57	N57	-4.544379	0	-0.263883	0	
58	N58	-4.481879	0	-0.372137	0	
59	N59	-4.626217	0	-0.45547	0	
60	N60	-2.908056	0	1.678967	0	
61	N61	-1.595196	0	3.952907	0	
62	N62	-1.396732	0	3.838323	0	
63	N63	-1.79366	0	4.06749	0	
64	N64	-2.04366	0	4.06749	0	
65	N65	-1.91866	0	4.06749	0	
66	N66	-1.91866	0	4.234156	0	
67	N67	-4.019459	0	-0.24604	0	
68	N68	-6.242265	0	3.603973	0	
69	N69	-1.796653	0	3.603973	0	
70	N70	1.595196	0	3.952907	0	
71	N71	1.396732	0	3.838323	0	
72	N72	1.79366	0	4.06749	0	
73	N73	2.04366	0	4.06749	0	
74	N74	1.91866	0	4.06749	0	
75	N75	1.91866	0	4.234156	0	
76	N76	2.908056	0	1.678967	0	
77	N77	4.220915	0	-0.594973	0	
78	N78	4.022451	0	-0.709556	0	
79	N79	4.419379	0	-0.48039	0	
80	N80	4.544379	0	-0.263883	0	
81	N81	4.481879	0	-0.372137	0	
82	N82	4.626217	0	-0.45547	0	
83	N83	1.796653	0	3.603973	0	
84	N84	6.242265	0	3.603973	0	
85	N85	4.019459	0	-0.24604	0	
86	N86	5.5	0	4.234156	0	
87	N87	5.5	0	4.479156	0	
88	N88	5.5	4.75	4.479156	0	
89	N89	5.5	-1.25	4.479156	0	
90	N90	-0.083333	0	4.234156	0	
91	N91	-0.083333	0	4.49999	0	
92	N92	-0.083333	5.291667	4.49999	0	
93	N93	-0.083333	-4.041667	4.49999	0	
94	N94	-5.541667	0	4.234156	0	
95	N95	-5.541667	0	4.479156	0	
96	N96	-5.541667	4.75	4.479156	0	
97	N97	-5.541667	-1.25	4.479156	0	
98	N98	0.916887	0	-6.880218	0	
99	N99	1.129063	0	-7.002718	0	
100	N100	1.129063	4.75	-7.002718	0	
101	N101	1.129063	-1.25	-7.002718	0	
102	N102	3.708554	0	-2.044909	0	
103	N103	3.938772	0	-2.177826	0	
104	N104	3.938772	5.291667	-2.177826	0	
105	N105	3.938772	-4.041667	-2.177826	0	
106	N106	6.43772	0	2.682146	0	
107	N107	6.649897	0	2.559646	0	
108	N108	6.649897	4.75	2.559646	0	
109	N109	6.649897	-1.25	2.559646	0	
110	N110	-6.333554	0	2.501724	0	
111	N111	-6.54573	0	2.379224	0	
112	N112	-6.54573	4.75	2.379224	0	
113	N113	-6.54573	-1.25	2.379224	0	



Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
114	N114	-3.666887	-0.	-2.117079	0	
115	N115	-3.897105	-0.	-2.249995	0	
116	N116	-3.897105	5.291667	-2.249995	0	
117	N117	-3.897105	-4.041667	-2.249995	0	
118	N118	-0.958554	-1e-16	-6.808049	0	
119	N119	-1.17073	-1e-16	-6.930549	0	
120	N120	-1.17073	4.75	-6.930549	0	
121	N121	-1.17073	-1.25	-6.930549	0	
122	N122	-7.25	3	4.234156	0	
123	N123	7.25	3	4.234156	0	
124	N128	5.5	3	4.234156	0	
125	N129	5.5	3	4.479156	0	
126	N130	-0.083333	3	4.234156	0	
127	N131	-0.083333	3	4.49999	0	
128	N132	-5.541667	3	4.234156	0	
129	N133	-5.541667	3	4.479156	0	
130	N134	0.916887	3	-6.880218	0	
131	N135	1.129063	3	-7.002718	0	
132	N136	3.708554	3	-2.044909	0	
133	N137	3.938772	3	-2.177826	0	
134	N138	6.43772	3	2.682146	0	
135	N139	6.649897	3	2.559646	0	
136	N140	-6.333554	3	2.501724	0	
137	N141	-6.54573	3	2.379224	0	
138	N142	-3.666887	3.	-2.117078	0	
139	N143	-3.897105	3.	-2.249995	0	
140	N144	-0.958554	3	-6.808049	0	
141	N145	-1.17073	3	-6.930549	0	
142	N142A	7.291887	3	4.161606	0	
143	N143A	0.041887	3	-8.395762	0	
144	N144A	-0.041887	3	-8.395762	0	
145	N145A	-7.291887	3	4.161606	0	
146	N146	0.66735	3	-7.312429	0	
147	N147	-0.66735	3	-7.312429	0	
148	N148	-6.666424	3	3.078273	0	
149	N149	-5.999074	3	4.234156	0	
150	N150	5.999074	3	4.234156	0	
151	N151	6.666424	3	3.078273	0	

Joint Loads and Enforced Displacements (BLC 9 : Live Load a)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N94	L	Y	-5
2	N118	L	Y	-5
3	N106	L	Y	-5

Joint Loads and Enforced Displacements (BLC 10 : Live Load b)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N90	L	Y	-5
2	N114	L	Y	-5
3	N102	L	Y	-5

Joint Loads and Enforced Displacements (BLC 11 : Live Load c)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N86	L	Y	-5



Joint Loads and Enforced Displacements (BLC 11 : Live Load c) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[k,k-ft], (in.rad), (k*s^2/f...
2	N110	L	Y	-5
3	N98	L	Y	-5

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M53	Y	-0.07	%5
2	M53	Y	-0.07	%65
3	M53	Y	-0.01	%10
4	M53	Y	-0.75	%50
5	M53	Y	0	0
6	M57	Y	-0.64	%5
7	M57	Y	-0.64	%95
8	M57	Y	0	0
9	M57	Y	0	0
10	M57	Y	0	0
11	M65	Y	-0.07	%5
12	M65	Y	-0.07	%60
13	M65	Y	-0.01	%10
14	M65	Y	-0.75	%50
15	M65	Y	-0.13	%90
16	M69	Y	-0.64	%5
17	M69	Y	-0.64	%95
18	M69	Y	-0.01	%10
19	M69	Y	-0.75	%50
20	M69	Y	0	0
21	M59	Y	-0.07	%5
22	M59	Y	-0.07	%65
23	M59	Y	0	0
24	M59	Y	0	0
25	M59	Y	0	0
26	M63	Y	-0.64	%5
27	M63	Y	-0.64	%95
28	M63	Y	-0.26	%50
29	M63	Y	0	0
30	M63	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M53	Z	-0.85	%5
2	M53	Z	-0.85	%65
3	M53	Z	-0.019	%10
4	M53	Z	-0.64	%50
5	M53	Z	0	0
6	M57	Z	-3.94	%5
7	M57	Z	-3.94	%95
8	M57	Z	0	0
9	M57	Z	0	0
10	M57	Z	0	0
11	M65	Z	-0.85	%5
12	M65	Z	-0.85	%60
13	M65	Z	-0.019	%10
14	M65	Z	-0.64	%50
15	M65	Z	-0.23	%90
16	M69	Z	-3.94	%5
17	M69	Z	-3.94	%95



Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
18	M69	Z	-019	%10
19	M69	Z	-064	%50
20	M69	Z	0	0
21	M59	Z	-085	%5
22	M59	Z	-085	%65
23	M59	Z	0	0
24	M59	Z	0	0
25	M59	Z	0	0
26	M63	Z	-394	%5
27	M63	Z	-394	%95
28	M63	Z	-045	%50
29	M63	Z	0	0
30	M63	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M53	X	-038	%5
2	M53	X	-038	%65
3	M53	X	-009	%10
4	M53	X	-045	%50
5	M53	X	0	0
6	M57	X	-173	%5
7	M57	X	-173	%95
8	M57	X	0	0
9	M57	X	0	0
10	M57	X	0	0
11	M65	X	-038	%5
12	M65	X	-038	%60
13	M65	X	-009	%10
14	M65	X	-045	%50
15	M65	X	-017	%90
16	M69	X	-173	%5
17	M69	X	-173	%95
18	M69	X	-009	%10
19	M69	X	-045	%50
20	M69	X	0	0
21	M59	X	-038	%5
22	M59	X	-038	%65
23	M59	X	0	0
24	M59	X	0	0
25	M59	X	0	0
26	M63	X	-173	%5
27	M63	X	-173	%95
28	M63	X	-035	%50
29	M63	X	0	0
30	M63	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M53	Z	-013	%5
2	M53	Z	-013	%65
3	M53	Z	-003	%10
4	M53	Z	-009	%50
5	M53	Z	0	0
6	M57	Z	-058	%5
7	M57	Z	-058	%95



Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
8	M57	Z	0	0
9	M57	Z	0	0
10	M57	Z	0	0
11	M65	Z	-.013	%5
12	M65	Z	-.013	%60
13	M65	Z	-.003	%10
14	M65	Z	-.009	%50
15	M65	Z	-.003	%90
16	M69	Z	-.058	%5
17	M69	Z	-.058	%95
18	M69	Z	-.003	%10
19	M69	Z	-.009	%50
20	M69	Z	0	0
21	M59	Z	-.013	%5
22	M59	Z	-.013	%65
23	M59	Z	0	0
24	M59	Z	0	0
25	M59	Z	0	0
26	M63	Z	-.058	%5
27	M63	Z	-.058	%95
28	M63	Z	-.007	%50
29	M63	Z	0	0
30	M63	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
1	M53	X	-.006	%5
2	M53	X	-.006	%65
3	M53	X	-.001	%10
4	M53	X	-.007	%50
5	M53	X	0	0
6	M57	X	-.026	%5
7	M57	X	-.026	%95
8	M57	X	0	0
9	M57	X	0	0
10	M57	X	0	0
11	M65	X	-.006	%5
12	M65	X	-.006	%60
13	M65	X	-.001	%10
14	M65	X	-.007	%50
15	M65	X	-.003	%90
16	M69	X	-.026	%5
17	M69	X	-.026	%95
18	M69	X	-.001	%10
19	M69	X	-.007	%50
20	M69	X	0	0
21	M59	X	-.006	%5
22	M59	X	-.006	%65
23	M59	X	0	0
24	M59	X	0	0
25	M59	X	0	0
26	M63	X	-.026	%5
27	M63	X	-.026	%95
28	M63	X	-.005	%50
29	M63	X	0	0
30	M63	X	0	0



Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	M53	Z	-0.04	%5
2	M53	Z	-0.04	%65
3	M53	Z	-0.01	%10
4	M53	Z	-0.03	%50
5	M53	Z	0	0
6	M57	Z	-0.21	%5
7	M57	Z	-0.21	%95
8	M57	Z	0	0
9	M57	Z	0	0
10	M57	Z	0	0
11	M65	Z	-0.04	%5
12	M65	Z	-0.04	%60
13	M65	Z	-0.01	%10
14	M65	Z	-0.03	%50
15	M65	Z	-0.01	%90
16	M69	Z	-0.21	%5
17	M69	Z	-0.21	%95
18	M69	Z	-0.01	%10
19	M69	Z	-0.03	%50
20	M69	Z	0	0
21	M59	Z	-0.04	%5
22	M59	Z	-0.04	%65
23	M59	Z	0	0
24	M59	Z	0	0
25	M59	Z	0	0
26	M63	Z	-0.21	%5
27	M63	Z	-0.21	%95
28	M63	Z	-0.02	%50
29	M63	Z	0	0
30	M63	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	M53	X	-0.02	%5
2	M53	X	-0.02	%65
3	M53	X	-0.0005	%10
4	M53	X	-0.02	%50
5	M53	X	0	0
6	M57	X	-0.009	%5
7	M57	X	-0.009	%95
8	M57	X	0	0
9	M57	X	0	0
10	M57	X	0	0
11	M65	X	-0.02	%5
12	M65	X	-0.02	%60
13	M65	X	-0.0005	%10
14	M65	X	-0.02	%50
15	M65	X	-0.0009	%90
16	M69	X	-0.009	%5
17	M69	X	-0.009	%95
18	M69	X	-0.0005	%10
19	M69	X	-0.02	%50
20	M69	X	0	0
21	M59	X	-0.02	%5
22	M59	X	-0.02	%65
23	M59	X	0	0



Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
24	M59	X	0	0
25	M59	X	0	0
26	M63	X	-0.009	%5
27	M63	X	-0.009	%95
28	M63	X	-0.002	%50
29	M63	X	0	0
30	M63	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M53	Y	-0.071	%5
2	M53	Y	-0.071	%65
3	M53	Y	-0.02	%10
4	M53	Y	-0.065	%50
5	M53	Y	0	0
6	M57	Y	-0.313	%5
7	M57	Y	-0.313	%95
8	M57	Y	0	0
9	M57	Y	0	0
10	M57	Y	0	0
11	M65	Y	-0.071	%5
12	M65	Y	-0.071	%60
13	M65	Y	-0.02	%10
14	M65	Y	-0.065	%50
15	M65	Y	-0.027	%90
16	M69	Y	-0.313	%5
17	M69	Y	-0.313	%95
18	M69	Y	-0.02	%10
19	M69	Y	-0.065	%50
20	M69	Y	0	0
21	M59	Y	-0.071	%5
22	M59	Y	-0.071	%65
23	M59	Y	0	0
24	M59	Y	0	0
25	M59	Y	0	0
26	M63	Y	-0.313	%5
27	M63	Y	-0.313	%95
28	M63	Y	-0.055	%50
29	M63	Y	0	0
30	M63	Y	0	0

Member Point Loads (BLC 14 : Maint LL 2)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M19	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 4)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M19	Y	-0.25	%95

Member Point Loads (BLC 18 : Maint LL 6)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M21	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 8)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M21	Y	-0.25	%95



Member Point Loads (BLC 20 : Maint LL 8) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M21	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 10)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M20	Y	-0.25	%5

Member Point Loads (BLC 24 : Maint LL 12)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M20	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 13)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M7	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 14)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M1	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 15)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M13	Y	-0.25	%95

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	-0.022	-0.022	0	0
2	M2	Z	-0.023	-0.023	0	0
3	M3	Z	-0.023	-0.023	0	0
4	M4	Z	-0.023	-0.023	0	0
5	M7	Z	-0.022	-0.022	0	0
6	M8	Z	-0.023	-0.023	0	0
7	M9	Z	-0.023	-0.023	0	0
8	M10	Z	-0.023	-0.023	0	0
9	M13	Z	-0.022	-0.022	0	0
10	M14	Z	-0.023	-0.023	0	0
11	M15	Z	-0.023	-0.023	0	0
12	M16	Z	-0.023	-0.023	0	0
13	M19	Z	-0.013	-0.013	0	0
14	M20	Z	-0.013	-0.013	0	0
15	M21	Z	-0.013	-0.013	0	0
16	M22	Z	-0.018	-0.018	0	0
17	M23	Z	-0.023	-0.023	0	0
18	M24	Z	-0.023	-0.023	0	0
19	M26	Z	-0.018	-0.018	0	0
20	M27	Z	-0.023	-0.023	0	0
21	M28	Z	-0.023	-0.023	0	0
22	M30	Z	-0.013	-0.013	0	0
23	M31	Z	-0.013	-0.013	0	0
24	M32	Z	-0.018	-0.018	0	0
25	M33	Z	-0.023	-0.023	0	0
26	M34	Z	-0.023	-0.023	0	0
27	M36	Z	-0.018	-0.018	0	0
28	M37	Z	-0.023	-0.023	0	0
29	M38	Z	-0.023	-0.023	0	0



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
30	M40	Z	-0.013	-0.013	0	0
31	M41	Z	-0.013	-0.013	0	0
32	M42	Z	-0.018	-0.018	0	0
33	M43	Z	-0.023	-0.023	0	0
34	M44	Z	-0.023	-0.023	0	0
35	M46	Z	-0.018	-0.018	0	0
36	M47	Z	-0.023	-0.023	0	0
37	M48	Z	-0.023	-0.023	0	0
38	M50	Z	-0.013	-0.013	0	0
39	M51	Z	-0.013	-0.013	0	0
40	M53	Z	-0.009	-0.009	0	0
41	M55	Z	-0.011	-0.011	0	0
42	M57	Z	-0.009	-0.009	0	0
43	M59	Z	-0.009	-0.009	0	0
44	M61	Z	-0.011	-0.011	0	0
45	M63	Z	-0.009	-0.009	0	0
46	M65	Z	-0.009	-0.009	0	0
47	M67	Z	-0.011	-0.011	0	0
48	M69	Z	-0.009	-0.009	0	0
49	M70	Z	-0.009	-0.009	0	0
50	M80A	Z	-0.009	-0.009	0	0
51	M81A	Z	-0.009	-0.009	0	0
52	M82	Z	-0.011	-0.011	0	0
53	M83	Z	-0.011	-0.011	0	0
54	M84	Z	-0.011	-0.011	0	0

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	-0.022	-0.022	0	0
2	M2	X	-0.023	-0.023	0	0
3	M3	X	-0.023	-0.023	0	0
4	M4	X	-0.023	-0.023	0	0
5	M7	X	-0.022	-0.022	0	0
6	M8	X	-0.023	-0.023	0	0
7	M9	X	-0.023	-0.023	0	0
8	M10	X	-0.023	-0.023	0	0
9	M13	X	-0.022	-0.022	0	0
10	M14	X	-0.023	-0.023	0	0
11	M15	X	-0.023	-0.023	0	0
12	M16	X	-0.023	-0.023	0	0
13	M19	X	-0.013	-0.013	0	0
14	M20	X	-0.013	-0.013	0	0
15	M21	X	-0.013	-0.013	0	0
16	M22	X	-0.018	-0.018	0	0
17	M23	X	-0.023	-0.023	0	0
18	M24	X	-0.023	-0.023	0	0
19	M26	X	-0.018	-0.018	0	0
20	M27	X	-0.023	-0.023	0	0
21	M28	X	-0.023	-0.023	0	0
22	M30	X	-0.013	-0.013	0	0
23	M31	X	-0.013	-0.013	0	0
24	M32	X	-0.018	-0.018	0	0
25	M33	X	-0.023	-0.023	0	0
26	M34	X	-0.023	-0.023	0	0
27	M36	X	-0.018	-0.018	0	0
28	M37	X	-0.023	-0.023	0	0



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
29	M38	X	-0.23	-0.23	0	0
30	M40	X	-0.13	-0.13	0	0
31	M41	X	-0.13	-0.13	0	0
32	M42	X	-0.18	-0.18	0	0
33	M43	X	-0.23	-0.23	0	0
34	M44	X	-0.23	-0.23	0	0
35	M46	X	-0.18	-0.18	0	0
36	M47	X	-0.23	-0.23	0	0
37	M48	X	-0.23	-0.23	0	0
38	M50	X	-0.13	-0.13	0	0
39	M51	X	-0.13	-0.13	0	0
40	M53	X	-0.09	-0.09	0	0
41	M55	X	-0.11	-0.11	0	0
42	M57	X	-0.09	-0.09	0	0
43	M59	X	-0.09	-0.09	0	0
44	M61	X	-0.11	-0.11	0	0
45	M63	X	-0.09	-0.09	0	0
46	M65	X	-0.09	-0.09	0	0
47	M67	X	-0.11	-0.11	0	0
48	M69	X	-0.09	-0.09	0	0
49	M70	X	-0.09	-0.09	0	0
50	M80A	X	-0.09	-0.09	0	0
51	M81A	X	-0.09	-0.09	0	0
52	M82	X	-0.11	-0.11	0	0
53	M83	X	-0.11	-0.11	0	0
54	M84	X	-0.11	-0.11	0	0

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	-0.07	-0.07	0	0
2	M2	Z	-0.08	-0.08	0	0
3	M3	Z	-0.15	-0.15	0	0
4	M4	Z	-0.15	-0.15	0	0
5	M7	Z	-0.07	-0.07	0	0
6	M8	Z	-0.08	-0.08	0	0
7	M9	Z	-0.15	-0.15	0	0
8	M10	Z	-0.15	-0.15	0	0
9	M13	Z	-0.07	-0.07	0	0
10	M14	Z	-0.08	-0.08	0	0
11	M15	Z	-0.15	-0.15	0	0
12	M16	Z	-0.15	-0.15	0	0
13	M19	Z	-0.02	-0.02	0	0
14	M20	Z	-0.02	-0.02	0	0
15	M21	Z	-0.02	-0.02	0	0
16	M22	Z	-0.07	-0.07	0	0
17	M23	Z	-0.11	-0.11	0	0
18	M24	Z	-0.15	-0.15	0	0
19	M26	Z	-0.07	-0.07	0	0
20	M27	Z	-0.11	-0.11	0	0
21	M28	Z	-0.15	-0.15	0	0
22	M30	Z	-0.07	-0.07	0	0
23	M31	Z	-0.07	-0.07	0	0
24	M32	Z	-0.07	-0.07	0	0
25	M33	Z	-0.11	-0.11	0	0
26	M34	Z	-0.15	-0.15	0	0
27	M36	Z	-0.07	-0.07	0	0



Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
28	M37	Z	-0.11	-0.11	0	0
29	M38	Z	-0.15	-0.15	0	0
30	M40	Z	-0.07	-0.07	0	0
31	M41	Z	-0.07	-0.07	0	0
32	M42	Z	-0.07	-0.07	0	0
33	M43	Z	-0.11	-0.11	0	0
34	M44	Z	-0.15	-0.15	0	0
35	M46	Z	-0.07	-0.07	0	0
36	M47	Z	-0.11	-0.11	0	0
37	M48	Z	-0.15	-0.15	0	0
38	M50	Z	-0.07	-0.07	0	0
39	M51	Z	-0.07	-0.07	0	0
40	M53	Z	-0.02	-0.02	0	0
41	M55	Z	-0.02	-0.02	0	0
42	M57	Z	-0.02	-0.02	0	0
43	M59	Z	-0.02	-0.02	0	0
44	M61	Z	-0.02	-0.02	0	0
45	M63	Z	-0.02	-0.02	0	0
46	M65	Z	-0.02	-0.02	0	0
47	M67	Z	-0.02	-0.02	0	0
48	M69	Z	-0.02	-0.02	0	0
49	M70	Z	-0.02	-0.02	0	0
50	M80A	Z	-0.02	-0.02	0	0
51	M81A	Z	-0.02	-0.02	0	0
52	M82	Z	-0.06	-0.06	0	0
53	M83	Z	-0.06	-0.06	0	0
54	M84	Z	-0.06	-0.06	0	0

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	-0.07	-0.07	0	0
2	M2	X	-0.08	-0.08	0	0
3	M3	X	-0.15	-0.15	0	0
4	M4	X	-0.15	-0.15	0	0
5	M7	X	-0.07	-0.07	0	0
6	M8	X	-0.08	-0.08	0	0
7	M9	X	-0.15	-0.15	0	0
8	M10	X	-0.15	-0.15	0	0
9	M13	X	-0.07	-0.07	0	0
10	M14	X	-0.08	-0.08	0	0
11	M15	X	-0.15	-0.15	0	0
12	M16	X	-0.15	-0.15	0	0
13	M19	X	-0.02	-0.02	0	0
14	M20	X	-0.02	-0.02	0	0
15	M21	X	-0.02	-0.02	0	0
16	M22	X	-0.07	-0.07	0	0
17	M23	X	-0.11	-0.11	0	0
18	M24	X	-0.15	-0.15	0	0
19	M26	X	-0.07	-0.07	0	0
20	M27	X	-0.11	-0.11	0	0
21	M28	X	-0.15	-0.15	0	0
22	M30	X	-0.07	-0.07	0	0
23	M31	X	-0.07	-0.07	0	0
24	M32	X	-0.07	-0.07	0	0
25	M33	X	-0.11	-0.11	0	0
26	M34	X	-0.15	-0.15	0	0



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft, %]	End Location[ft, %]
27	M36	X	-0.007	-0.007	0	0
28	M37	X	-0.011	-0.011	0	0
29	M38	X	-0.015	-0.015	0	0
30	M40	X	-0.007	-0.007	0	0
31	M41	X	-0.007	-0.007	0	0
32	M42	X	-0.007	-0.007	0	0
33	M43	X	-0.011	-0.011	0	0
34	M44	X	-0.015	-0.015	0	0
35	M46	X	-0.007	-0.007	0	0
36	M47	X	-0.011	-0.011	0	0
37	M48	X	-0.015	-0.015	0	0
38	M50	X	-0.007	-0.007	0	0
39	M51	X	-0.007	-0.007	0	0
40	M53	X	-0.002	-0.002	0	0
41	M55	X	-0.002	-0.002	0	0
42	M57	X	-0.002	-0.002	0	0
43	M59	X	-0.002	-0.002	0	0
44	M61	X	-0.002	-0.002	0	0
45	M63	X	-0.002	-0.002	0	0
46	M65	X	-0.002	-0.002	0	0
47	M67	X	-0.002	-0.002	0	0
48	M69	X	-0.002	-0.002	0	0
49	M70	X	-0.002	-0.002	0	0
50	M80A	X	-0.002	-0.002	0	0
51	M81A	X	-0.002	-0.002	0	0
52	M82	X	-0.006	-0.006	0	0
53	M83	X	-0.006	-0.006	0	0
54	M84	X	-0.006	-0.006	0	0

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	-0.001	-0.001	0	0
2	M2	Z	-0.001	-0.001	0	0
3	M3	Z	-0.001	-0.001	0	0
4	M4	Z	-0.001	-0.001	0	0
5	M7	Z	-0.001	-0.001	0	0
6	M8	Z	-0.001	-0.001	0	0
7	M9	Z	-0.001	-0.001	0	0
8	M10	Z	-0.001	-0.001	0	0
9	M13	Z	-0.001	-0.001	0	0
10	M14	Z	-0.001	-0.001	0	0
11	M15	Z	-0.001	-0.001	0	0
12	M16	Z	-0.001	-0.001	0	0
13	M19	Z	-0.0004	-0.0004	0	0
14	M20	Z	-0.0004	-0.0004	0	0
15	M21	Z	-0.0004	-0.0004	0	0
16	M22	Z	-0.001	-0.001	0	0
17	M23	Z	-0.001	-0.001	0	0
18	M24	Z	-0.001	-0.001	0	0
19	M26	Z	-0.001	-0.001	0	0
20	M27	Z	-0.001	-0.001	0	0
21	M28	Z	-0.001	-0.001	0	0
22	M30	Z	-0.0007	-0.0007	0	0
23	M31	Z	-0.0007	-0.0007	0	0
24	M32	Z	-0.001	-0.001	0	0
25	M33	Z	-0.001	-0.001	0	0



Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
26	M34	Z	-0.001	-0.001	0	0
27	M36	Z	-0.001	-0.001	0	0
28	M37	Z	-0.001	-0.001	0	0
29	M38	Z	-0.001	-0.001	0	0
30	M40	Z	-0.0007	-0.0007	0	0
31	M41	Z	-0.0007	-0.0007	0	0
32	M42	Z	-0.001	-0.001	0	0
33	M43	Z	-0.001	-0.001	0	0
34	M44	Z	-0.001	-0.001	0	0
35	M46	Z	-0.001	-0.001	0	0
36	M47	Z	-0.001	-0.001	0	0
37	M48	Z	-0.001	-0.001	0	0
38	M50	Z	-0.0007	-0.0007	0	0
39	M51	Z	-0.0007	-0.0007	0	0
40	M53	Z	-0.0002	-0.0002	0	0
41	M55	Z	-0.0003	-0.0003	0	0
42	M57	Z	-0.0002	-0.0002	0	0
43	M59	Z	-0.0002	-0.0002	0	0
44	M61	Z	-0.0003	-0.0003	0	0
45	M63	Z	-0.0002	-0.0002	0	0
46	M65	Z	-0.0002	-0.0002	0	0
47	M67	Z	-0.0003	-0.0003	0	0
48	M69	Z	-0.0002	-0.0002	0	0
49	M70	Z	-0.0002	-0.0002	0	0
50	M80A	Z	-0.0002	-0.0002	0	0
51	M81A	Z	-0.0002	-0.0002	0	0
52	M82	Z	-0.0006	-0.0006	0	0
53	M83	Z	-0.0006	-0.0006	0	0
54	M84	Z	-0.0006	-0.0006	0	0

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	-0.001	-0.001	0	0
2	M2	X	-0.001	-0.001	0	0
3	M3	X	-0.001	-0.001	0	0
4	M4	X	-0.001	-0.001	0	0
5	M7	X	-0.001	-0.001	0	0
6	M8	X	-0.001	-0.001	0	0
7	M9	X	-0.001	-0.001	0	0
8	M10	X	-0.001	-0.001	0	0
9	M13	X	-0.001	-0.001	0	0
10	M14	X	-0.001	-0.001	0	0
11	M15	X	-0.001	-0.001	0	0
12	M16	X	-0.001	-0.001	0	0
13	M19	X	-0.0004	-0.0004	0	0
14	M20	X	-0.0004	-0.0004	0	0
15	M21	X	-0.0004	-0.0004	0	0
16	M22	X	-0.001	-0.001	0	0
17	M23	X	-0.001	-0.001	0	0
18	M24	X	-0.001	-0.001	0	0
19	M26	X	-0.001	-0.001	0	0
20	M27	X	-0.001	-0.001	0	0
21	M28	X	-0.001	-0.001	0	0
22	M30	X	-0.0007	-0.0007	0	0
23	M31	X	-0.0007	-0.0007	0	0
24	M32	X	-0.001	-0.001	0	0



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
25	M33	X	-0.001	-0.001	0	0
26	M34	X	-0.001	-0.001	0	0
27	M36	X	-0.001	-0.001	0	0
28	M37	X	-0.001	-0.001	0	0
29	M38	X	-0.001	-0.001	0	0
30	M40	X	-0.0007	-0.0007	0	0
31	M41	X	-0.0007	-0.0007	0	0
32	M42	X	-0.001	-0.001	0	0
33	M43	X	-0.001	-0.001	0	0
34	M44	X	-0.001	-0.001	0	0
35	M46	X	-0.001	-0.001	0	0
36	M47	X	-0.001	-0.001	0	0
37	M48	X	-0.001	-0.001	0	0
38	M50	X	-0.0007	-0.0007	0	0
39	M51	X	-0.0007	-0.0007	0	0
40	M53	X	-0.0002	-0.0002	0	0
41	M55	X	-0.0003	-0.0003	0	0
42	M57	X	-0.0002	-0.0002	0	0
43	M59	X	-0.0002	-0.0002	0	0
44	M61	X	-0.0003	-0.0003	0	0
45	M63	X	-0.0002	-0.0002	0	0
46	M65	X	-0.0002	-0.0002	0	0
47	M67	X	-0.0003	-0.0003	0	0
48	M69	X	-0.0002	-0.0002	0	0
49	M70	X	-0.0002	-0.0002	0	0
50	M80A	X	-0.0002	-0.0002	0	0
51	M81A	X	-0.0002	-0.0002	0	0
52	M82	X	-0.0006	-0.0006	0	0
53	M83	X	-0.0006	-0.0006	0	0
54	M84	X	-0.0006	-0.0006	0	0

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	Y	-0.022	-0.022	0	0
2	M2	Y	-0.023	-0.023	0	0
3	M3	Y	-0.023	-0.023	0	0
4	M4	Y	-0.023	-0.023	0	0
5	M7	Y	-0.022	-0.022	0	0
6	M8	Y	-0.023	-0.023	0	0
7	M9	Y	-0.023	-0.023	0	0
8	M10	Y	-0.023	-0.023	0	0
9	M13	Y	-0.022	-0.022	0	0
10	M14	Y	-0.023	-0.023	0	0
11	M15	Y	-0.023	-0.023	0	0
12	M16	Y	-0.023	-0.023	0	0
13	M19	Y	-0.016	-0.016	0	0
14	M20	Y	-0.016	-0.016	0	0
15	M21	Y	-0.016	-0.016	0	0
16	M22	Y	-0.022	-0.022	0	0
17	M23	Y	-0.023	-0.023	0	0
18	M24	Y	-0.023	-0.023	0	0
19	M26	Y	-0.022	-0.022	0	0
20	M27	Y	-0.023	-0.023	0	0
21	M28	Y	-0.023	-0.023	0	0
22	M30	Y	-0.014	-0.014	0	0
23	M31	Y	-0.014	-0.014	0	0



Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
24	M32	Y	-0.022	-0.022	0	0
25	M33	Y	-0.023	-0.023	0	0
26	M34	Y	-0.023	-0.023	0	0
27	M36	Y	-0.022	-0.022	0	0
28	M37	Y	-0.023	-0.023	0	0
29	M38	Y	-0.023	-0.023	0	0
30	M40	Y	-0.014	-0.014	0	0
31	M41	Y	-0.014	-0.014	0	0
32	M42	Y	-0.022	-0.022	0	0
33	M43	Y	-0.023	-0.023	0	0
34	M44	Y	-0.023	-0.023	0	0
35	M46	Y	-0.022	-0.022	0	0
36	M47	Y	-0.023	-0.023	0	0
37	M48	Y	-0.023	-0.023	0	0
38	M50	Y	-0.014	-0.014	0	0
39	M51	Y	-0.014	-0.014	0	0
40	M53	Y	-0.013	-0.013	0	0
41	M55	Y	-0.015	-0.015	0	0
42	M57	Y	-0.013	-0.013	0	0
43	M59	Y	-0.013	-0.013	0	0
44	M61	Y	-0.015	-0.015	0	0
45	M63	Y	-0.013	-0.013	0	0
46	M65	Y	-0.013	-0.013	0	0
47	M67	Y	-0.015	-0.015	0	0
48	M69	Y	-0.013	-0.013	0	0
49	M70	Y	-0.013	-0.013	0	0
50	M80A	Y	-0.013	-0.013	0	0
51	M81A	Y	-0.013	-0.013	0	0
52	M82	Y	-0.016	-0.016	0	0
53	M83	Y	-0.016	-0.016	0	0
54	M84	Y	-0.016	-0.016	0	0

Member Distributed Loads (BLC 28 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M7	Y	-0.0004137	-0.006	.517	1.447
2	M7	Y	-0.006	-0.012	1.447	2.377
3	M7	Y	-0.012	-0.01	2.377	3.307
4	M7	Y	-0.01	-0.005	3.307	4.237
5	M7	Y	-0.005	-0.0005039	4.237	5.167
6	M32	Y	-0.001	-0.005	0	.525
7	M32	Y	-0.005	-0.006	.525	1.05
8	M32	Y	-0.006	-0.004	1.05	1.575
9	M32	Y	-0.004	-0.001	1.575	2.101
10	M32	Y	-0.001	-0.0001766	2.101	2.626
11	M36	Y	-0.0001396	-0.004	0	.525
12	M36	Y	-0.004	-0.007	.525	1.05
13	M36	Y	-0.007	-0.004	1.05	1.575
14	M36	Y	-0.004	-0.001	1.575	2.101
15	M36	Y	-0.001	-0.0001396	2.101	2.626
16	M40	Y	-0.0004272	-0.003	0	.889
17	M40	Y	-0.003	-0.005	.889	1.778
18	M40	Y	-0.005	-0.007	1.778	2.667
19	M40	Y	-0.007	-0.005	2.667	3.556
20	M40	Y	-0.005	-0.0006156	3.556	4.446
21	M41	Y	-0.0004305	-0.003	0	.889
22	M41	Y	-0.003	-0.005	.889	1.778



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Member Distributed Loads (BLC 28 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft, %]	End Location[ft, %]
23	M41	Y	-0.005	-0.007	1.778	2.667
24	M41	Y	-0.007	-0.005	2.667	3.556
25	M41	Y	-0.005	-0.0003669	3.556	4.446
26	M1	Y	-0.0004137	-0.006	.517	1.447
27	M1	Y	-0.006	-0.012	1.447	2.377
28	M1	Y	-0.012	-0.01	2.377	3.307
29	M1	Y	-0.01	-0.005	3.307	4.237
30	M1	Y	-0.005	-0.0005039	4.237	5.167
31	M22	Y	-0.001	-0.005	0	.525
32	M22	Y	-0.005	-0.006	.525	1.05
33	M22	Y	-0.006	-0.004	1.05	1.575
34	M22	Y	-0.004	-0.001	1.575	2.101
35	M22	Y	-0.001	-0.0001766	2.101	2.626
36	M26	Y	-0.0001396	-0.004	0	.525
37	M26	Y	-0.004	-0.007	.525	1.05
38	M26	Y	-0.007	-0.004	1.05	1.575
39	M26	Y	-0.004	-0.001	1.575	2.101
40	M26	Y	-0.001	-0.0001396	2.101	2.626
41	M30	Y	-0.0004272	-0.003	0	.889
42	M30	Y	-0.003	-0.005	.889	1.778
43	M30	Y	-0.005	-0.007	1.778	2.667
44	M30	Y	-0.007	-0.005	2.667	3.556
45	M30	Y	-0.005	-0.0006156	3.556	4.446
46	M31	Y	-0.0004305	-0.003	0	.889
47	M31	Y	-0.003	-0.005	.889	1.778
48	M31	Y	-0.005	-0.007	1.778	2.667
49	M31	Y	-0.007	-0.005	2.667	3.556
50	M31	Y	-0.005	-0.0003669	3.556	4.446
51	M13	Y	-0.0004137	-0.006	.517	1.447
52	M13	Y	-0.006	-0.012	1.447	2.377
53	M13	Y	-0.012	-0.01	2.377	3.307
54	M13	Y	-0.01	-0.005	3.307	4.237
55	M13	Y	-0.005	-0.0005039	4.237	5.167
56	M42	Y	-0.0001396	-0.004	0	.525
57	M42	Y	-0.004	-0.007	.525	1.05
58	M42	Y	-0.007	-0.004	1.05	1.575
59	M42	Y	-0.004	-0.001	1.575	2.101
60	M42	Y	-0.001	-0.0001396	2.101	2.626
61	M46	Y	-0.001	-0.005	0	.525
62	M46	Y	-0.005	-0.006	.525	1.05
63	M46	Y	-0.006	-0.004	1.05	1.575
64	M46	Y	-0.004	-0.001	1.575	2.101
65	M46	Y	-0.001	-0.0001766	2.101	2.626
66	M50	Y	-0.0004305	-0.003	0	.889
67	M50	Y	-0.003	-0.005	.889	1.778
68	M50	Y	-0.005	-0.007	1.778	2.667
69	M50	Y	-0.007	-0.005	2.667	3.556
70	M50	Y	-0.005	-0.0003669	3.556	4.446
71	M51	Y	-0.0004272	-0.003	0	.889
72	M51	Y	-0.003	-0.005	.889	1.778
73	M51	Y	-0.005	-0.007	1.778	2.667
74	M51	Y	-0.007	-0.005	2.667	3.556
75	M51	Y	-0.005	-0.0006156	3.556	4.446

Member Distributed Loads (BLC 29 : BLC 8 Transient Area Loads)

Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft, %]	End Location[ft, %]
--------------	-----------	--------------------------	-------------------------	-----------------------	---------------------



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Member Distributed Loads (BLC 29 : BLC 8 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude[k/ft...	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M7	-0.004535	-0.007	.517	1.447
2	M7	-0.007	-0.013	1.447	2.377
3	M7	-0.013	-0.011	2.377	3.307
4	M7	-0.011	-0.006	3.307	4.237
5	M7	-0.006	-0.0005525	4.237	5.167
6	M32	-0.001	-0.005	0	.525
7	M32	-0.005	-0.007	.525	1.05
8	M32	-0.007	-0.005	1.05	1.575
9	M32	-0.005	-0.001	1.575	2.101
10	M32	-0.001	-0.0001936	2.101	2.626
11	M36	-0.0001531	-0.005	0	.525
12	M36	-0.005	-0.007	.525	1.05
13	M36	-0.007	-0.005	1.05	1.575
14	M36	-0.005	-0.001	1.575	2.101
15	M36	-0.001	-0.0001531	2.101	2.626
16	M40	-0.0004683	-0.003	0	.889
17	M40	-0.003	-0.006	.889	1.778
18	M40	-0.006	-0.007	1.778	2.667
19	M40	-0.007	-0.006	2.667	3.556
20	M40	-0.006	-0.0006749	3.556	4.446
21	M41	-0.0004719	-0.003	0	.889
22	M41	-0.003	-0.006	.889	1.778
23	M41	-0.006	-0.008	1.778	2.667
24	M41	-0.008	-0.006	2.667	3.556
25	M41	-0.006	-0.0004023	3.556	4.446
26	M1	-0.000455	-0.007	.517	1.447
27	M1	-0.007	-0.013	1.447	2.377
28	M1	-0.013	-0.011	2.377	3.307
29	M1	-0.011	-0.006	3.307	4.237
30	M1	-0.006	-0.0005543	4.237	5.167
31	M22	-0.001	-0.005	0	.525
32	M22	-0.005	-0.007	.525	1.05
33	M22	-0.007	-0.005	1.05	1.575
34	M22	-0.005	-0.001	1.575	2.101
35	M22	-0.001	-0.0001943	2.101	2.626
36	M26	-0.0001536	-0.005	0	.525
37	M26	-0.005	-0.007	.525	1.05
38	M26	-0.007	-0.005	1.05	1.575
39	M26	-0.005	-0.001	1.575	2.101
40	M26	-0.001	-0.0001536	2.101	2.626
41	M30	-0.0004699	-0.003	0	.889
42	M30	-0.003	-0.006	.889	1.778
43	M30	-0.006	-0.007	1.778	2.667
44	M30	-0.007	-0.006	2.667	3.556
45	M30	-0.006	-0.0006772	3.556	4.446
46	M31	-0.0004735	-0.003	0	.889
47	M31	-0.003	-0.006	.889	1.778
48	M31	-0.006	-0.008	1.778	2.667
49	M31	-0.008	-0.006	2.667	3.556
50	M31	-0.006	-0.0004036	3.556	4.446
51	M13	-0.000455	-0.007	.517	1.447
52	M13	-0.007	-0.013	1.447	2.377
53	M13	-0.013	-0.011	2.377	3.307
54	M13	-0.011	-0.006	3.307	4.237
55	M13	-0.006	-0.0005543	4.237	5.167
56	M42	-0.0001536	-0.005	0	.525
57	M42	-0.005	-0.007	.525	1.05



Member Distributed Loads (BLC 29 : BLC 8 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
58	M42	Y	-0.07	-0.05	1.05	1.575
59	M42	Y	-0.05	-0.01	1.575	2.101
60	M42	Y	-0.01	-0.0001536	2.101	2.626
61	M46	Y	-0.01	-0.05	0	.525
62	M46	Y	-0.05	-0.07	.525	1.05
63	M46	Y	-0.07	-0.05	1.05	1.575
64	M46	Y	-0.05	-0.01	1.575	2.101
65	M46	Y	-0.01	-0.0001943	2.101	2.626
66	M50	Y	-0.0004735	-0.003	0	.889
67	M50	Y	-0.003	-0.006	.889	1.778
68	M50	Y	-0.006	-0.008	1.778	2.667
69	M50	Y	-0.008	-0.006	2.667	3.556
70	M50	Y	-0.006	-0.0004036	3.556	4.446
71	M51	Y	-0.0004699	-0.003	0	.889
72	M51	Y	-0.003	-0.006	.889	1.778
73	M51	Y	-0.006	-0.007	1.778	2.667
74	M51	Y	-0.007	-0.006	2.667	3.556
75	M51	Y	-0.006	-0.0006772	3.556	4.446

Member Area Loads (BLC 1 : Dead)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[k/ft]
1	N13	N67	N69		Y	Two Way	-.01
2	N3	N51	N53		Y	Two Way	-.01
3	N85	N83	N23		Y	Two Way	-.01

Member Area Loads (BLC 8 : Ice)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[k/ft]
1	N13	N67	N69		Y	Two Way	-.011
2	N3	N51	N53		Y	Two Way	-.011
3	N85	N83	N23		Y	Two Way	-.011

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Dead	DL		-1			30	3	
2	0 Wind - No Ice	WLZ					30	54	
3	90 Wind - No Ice	WLX					30	54	
4	0 Wind - Ice	WLZ					30	54	
5	90 Wind - Ice	WLX					30	54	
6	0 Wind - Service	WLZ					30	54	
7	90 Wind - Service	WLX					30	54	
8	Ice	OL1					30	54	3
9	Live Load a	LL				3			
10	Live Load b	LL				3			
11	Live Load c	LL				3			
12	Live Load d	LL							
13	Maint LL 1	LL							
14	Maint LL 2	LL					1		
15	Maint LL 3	LL							
16	Maint LL 4	LL					1		
17	Maint LL 5	LL							
18	Maint LL 6	LL					1		
19	Maint LL 7	LL							
20	Maint LL 8	LL					1		



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
21	Maint LL 9	LL							
22	Maint LL 10	LL					1		
23	Maint LL 11	LL							
24	Maint LL 12	LL					1		
25	Maint LL 13	LL					1		
26	Maint LL 14	LL					1		
27	Maint LL 15	LL					1		
28	BLC 1 Transient Area...	None						75	
29	BLC 8 Transient Area...	None						75	

Load Combinations

	Description	So...P...	S...	BLC Fac...									
1	1.4 Dead	Yes	Y	1	1.4								
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1						
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	.866	3	.5				
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	.866	2	.5				
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1						
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	.866	2	-.5				
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-.866	3	.5				
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1						
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-.866	3	-.5				
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-.866	2	-.5				
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1						
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-.866	2	.5				
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	.866	3	-.5				
14	1.2 D + 1.0 - 0 W/I...	Yes	Y	1	1.2	4	1			8	1		
15	1.2 D + 1.0 - 30 W...	Yes	Y	1	1.2	4	.866	5	.5	8	1		
16	1.2 D + 1.0 - 60 W...	Yes	Y	1	1.2	5	.866	4	.5	8	1		
17	1.2 D + 1.0 - 90 W...	Yes	Y	1	1.2	5	1			8	1		
18	1.2 D + 1.0 - 120 ...	Yes	Y	1	1.2	5	.866	4	-.5	8	1		
19	1.2 D + 1.0 - 150 ...	Yes	Y	1	1.2	4	-.866	5	.5	8	1		
20	1.2 D + 1.0 - 180 ...	Yes	Y	1	1.2	4	-1			8	1		
21	1.2 D + 1.0 - 210 ...	Yes	Y	1	1.2	4	-.866	5	-.5	8	1		
22	1.2 D + 1.0 - 240 ...	Yes	Y	1	1.2	5	-.866	4	-.5	8	1		
23	1.2 D + 1.0 - 270 ...	Yes	Y	1	1.2	5	-1			8	1		
24	1.2 D + 1.0 - 300 ...	Yes	Y	1	1.2	5	-.866	4	.5	8	1		
25	1.2 D + 1.0 - 330 ...	Yes	Y	1	1.2	4	.866	5	-.5	8	1		
26	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	6	1			9	1.5		
27	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	6	.866	7	.5	9	1.5		
28	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	7	.866	6	.5	9	1.5		
29	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	7	1			9	1.5		
30	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	7	.866	6	-.5	9	1.5		
31	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	6	-.866	7	.5	9	1.5		
32	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	6	-1			9	1.5		
33	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	6	-.866	7	-.5	9	1.5		
34	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	7	-.866	6	-.5	9	1.5		
35	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	7	-1			9	1.5		
36	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	7	-.866	6	.5	9	1.5		
37	1.2 D + 1.5 LL a +...	Yes	Y	1	1.2	6	.866	7	-.5	9	1.5		
38	1.2 D + 1.5 LL b +...	Yes	Y	1	1.2	6	1			10	1.5		
39	1.2 D + 1.5 LL b +...	Yes	Y	1	1.2	6	.866	7	.5	10	1.5		
40	1.2 D + 1.5 LL b +...	Yes	Y	1	1.2	7	.866	6	.5	10	1.5		
41	1.2 D + 1.5 LL b +...	Yes	Y	1	1.2	7	1			10	1.5		
42	1.2 D + 1.5 LL b +...	Yes	Y	1	1.2	7	.866	6	-.5	10	1.5		
43	1.2 D + 1.5 LL b +...	Yes	Y	1	1.2	6	-.866	7	.5	10	1.5		



Load Combinations (Continued)

	Description	So...	P...	S...	BLC Fac...									
44	1.2 D + 1.5 LL b +...	Yes	Y		1	1.2	6	-1			10	1.5		
45	1.2 D + 1.5 LL b +...	Yes	Y		1	1.2	6	-866	7	-5	10	1.5		
46	1.2 D + 1.5 LL b +...	Yes	Y		1	1.2	7	-866	6	-5	10	1.5		
47	1.2 D + 1.5 LL b +...	Yes	Y		1	1.2	7	-1			10	1.5		
48	1.2 D + 1.5 LL b +...	Yes	Y		1	1.2	7	-866	6	.5	10	1.5		
49	1.2 D + 1.5 LL b +...	Yes	Y		1	1.2	6	.866	7	-5	10	1.5		
50	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	6	1			11	1.5		
51	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	6	.866	7	.5	11	1.5		
52	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	7	.866	6	.5	11	1.5		
53	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	7	1			11	1.5		
54	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	7	.866	6	-5	11	1.5		
55	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	6	-866	7	.5	11	1.5		
56	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	6	-1			11	1.5		
57	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	6	-866	7	-5	11	1.5		
58	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	7	-866	6	-5	11	1.5		
59	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	7	-1			11	1.5		
60	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	7	-866	6	.5	11	1.5		
61	1.2 D + 1.5 LL c +...	Yes	Y		1	1.2	6	.866	7	-5	11	1.5		
62	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	6	1			12	1.5		
63	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	6	.866	7	.5	12	1.5		
64	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	7	.866	6	.5	12	1.5		
65	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	7	1			12	1.5		
66	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	7	.866	6	-5	12	1.5		
67	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	6	-866	7	.5	12	1.5		
68	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	6	-1			12	1.5		
69	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	6	-866	7	-5	12	1.5		
70	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	7	-866	6	-5	12	1.5		
71	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	7	-1			12	1.5		
72	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	7	-866	6	.5	12	1.5		
73	1.2 D + 1.5 LL d +...	Yes	Y		1	1.2	6	.866	7	-5	12	1.5		
74	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					13	1.5		
75	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					14	1.5		
76	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					15	1.5		
77	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					16	1.5		
78	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					17	1.5		
79	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					18	1.5		
80	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					19	1.5		
81	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					20	1.5		
82	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					21	1.5		
83	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					22	1.5		
84	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					23	1.5		
85	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					24	1.5		
86	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					25	1.5		
87	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					26	1.5		
88	1.2 D + 1.5 LL Mai...	Yes	Y		1	1.2					27	1.5		

Envelope Joint Reactions

Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	N12	max	1.951	6	3.208	18	1.701	13	.397	13	.957	3	-.165	12
2		min	-1.996	12	.184	13	-1.677	7	-3.651	19	-.96	9	-6.229	18
3	N22	max	1.994	4	3.184	22	1.468	3	.176	3	.871	7	6.35	22
4		min	-1.949	10	.176	4	-1.441	9	-3.631	21	-.871	13	.131	4
5	N2	max	.779	5	3.164	14	3	2	7.077	14	.713	11	.335	10
6		min	-.779	11	-.172	8	-3.05	8	-.765	8	-.709	5	-.504	4
7	Totals:	max	4.319	5	9.106	19	6.024	2						



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Envelope Joint Reactions (Continued)

Joint	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
8	min	-4.319	11	2.718	13	-6.024	8					

Envelope AISC 15th(360-16): LRFD Steel Code Checks

Member	Shape	Code Check	Loc...	LC	She...	Loc....	LC	phi*P...	phi*P...	phi*M...	phi*M...	Eqn		
1	M1	HSS4X4X4	.441	0	15	.104	0	y	15	124.7...	139.5...	16.181	16.181	... H1-1b
2	M2	PL1/2x6	.139	.521	2	.141	.521	y	17	65.698	97.2	1.012	12.15	... H1-1b
3	M3	PL1/2x6	.081	0	13	.262	0	y	12	95.032	97.2	1.012	12.15	... H1-1b
4	M4	PL1/2x6	.085	.125	9	.187	0	y	3	95.032	97.2	1.012	12.15	... H1-1b
5	M7	HSS4X4X4	.454	0	19	.097	1.2...	y	20	124.7...	139.5...	16.181	16.181	... H1-1b
6	M8	PL1/2x6	.135	.521	7	.132	.521	y	21	65.698	97.2	1.012	12.15	... H1-1b
7	M9	PL1/2x6	.058	.125	11	.357	0	y	3	95.032	97.2	1.012	12.15	... H1-1b
8	M10	PL1/2x6	.098	.125	2	.185	0	y	8	95.032	97.2	1.012	12.15	... H1-1b
9	M13	HSS4X4X4	.458	0	21	.096	1.2...	y	24	124.7...	139.5...	16.181	16.181	... H1-1b
10	M14	PL1/2x6	.141	.521	9	.141	.521	y	25	65.698	97.2	1.012	12.15	... H1-1b
11	M15	PL1/2x6	.082	.125	8	.412	0	y	8	95.032	97.2	1.012	12.15	... H1-1b
12	M16	PL1/2x6	.069	.125	6	.153	.125	y	6	95.032	97.2	1.012	12.15	... H1-1b
13	M19	PIPE 3.0	.226	8.9...	21	.068	12....		2	22.019	65.205	5.749	5.749	... H1-1b
14	M20	PIPE 3.0	.228	8.9...	14	.071	9.0...		15	22.019	65.205	5.749	5.749	... H1-1b
15	M21	PIPE 3.0	.220	8.9...	18	.069	8.9...		8	22.019	65.205	5.749	5.749	... H1-1b
16	M22	HSS4X4X4	.169	0	14	.039	0	y	24	135.55	139.5...	16.181	16.181	... H1-1b
17	M23	PL1/2x6	.063	.229	2	.120	.229	y	12	90.102	97.2	1.012	12.15	... H1-1b
18	M24	PL1/2x6	.074	.125	3	.307	0	y	5	95.032	97.2	1.012	12.15	... H1-1b
19	M26	HSS4X4X4	.171	0	14	.055	2.2...	z	3	135.55	139.5...	16.181	16.181	... H1-1b
20	M27	PL1/2x6	.076	0	9	.110	.229	y	10	90.102	97.2	1.012	12.15	... H1-1b
21	M28	PL1/2x6	.070	0	9	.271	0	y	10	95.032	97.2	1.012	12.15	... H1-1b
22	M30	L2x2x3	.215	0	2	.012	4.4...	y	17	8.673	23.393	.558	1.103	... H2-1
23	M31	L2x2x3	.233	4.4...	3	.010	4.4...	z	23	8.673	23.393	.558	1.088	... H2-1
24	M32	HSS4X4X4	.174	0	18	.047	0	y	16	135.55	139.5...	16.181	16.181	... H1-1b
25	M33	PL1/2x6	.064	.229	2	.161	.229	y	9	90.102	97.2	1.012	12.15	... H1-1b
26	M34	PL1/2x6	.083	.125	8	.424	0	y	9	95.032	97.2	1.012	12.15	... H1-1b
27	M36	HSS4X4X4	.169	0	19	.059	2.2...	z	8	135.55	139.5...	16.181	16.181	... H1-1b
28	M37	PL1/2x6	.074	0	13	.139	.229	y	2	90.102	97.2	1.012	12.15	... H1-1b
29	M38	PL1/2x6	.067	0	13	.382	0	y	2	95.032	97.2	1.012	12.15	... H1-1b
30	M40	L2x2x3	.187	4.4...	17	.011	4.4...	y	21	8.673	23.393	.558	1.162	... H2-1
31	M41	L2x2x3	.232	4.4...	7	.011	4.4...	z	15	8.673	23.393	.558	1.045	... H2-1
32	M42	HSS4X4X4	.169	0	21	.054	2.2...	z	8	135.55	139.5...	16.181	16.181	... H1-1b
33	M43	PL1/2x6	.066	0	3	.182	.229	y	2	90.102	97.2	1.012	12.15	... H1-1b
34	M44	PL1/2x6	.058	0	3	.416	0	y	2	95.032	97.2	1.012	12.15	... H1-1b
35	M46	HSS4X4X4	.164	0	22	.050	0	y	24	135.55	139.5...	16.181	16.181	... H1-1b
36	M47	PL1/2x6	.050	0	5	.143	.229	y	7	90.102	97.2	1.012	12.15	... H1-1b
37	M48	PL1/2x6	.066	.125	8	.344	0	y	7	95.032	97.2	1.012	12.15	... H1-1b
38	M50	L2x2x3	.207	4.4...	9	.011	4.4...	y	25	8.673	23.393	.558	1.035	... H2-1
39	M51	L2x2x3	.190	4.4...	23	.010	4.4...	z	19	8.673	23.393	.558	1.196	... H2-1
40	M53	PIPE 2.0	.440	4.75	18	.093	4.75		7	20.867	32.13	1.872	1.872	... H1-1b
41	M55	PIPE 2.5	.235	5.25	11	.037	5.25		12	24.862	50.715	3.596	3.596	... H1-1b
42	M57	PIPE 2.0	.436	4.75	23	.119	1.75		8	20.867	32.13	1.872	1.872	... H1-1b
43	M59	PIPE 2.0	.430	4.75	21	.082	4.75		10	20.867	32.13	1.872	1.872	... H1-1b
44	M61	PIPE 2.5	.350	5.25	3	.048	5.25		2	24.862	50.715	3.596	3.596	... H1-1b
45	M63	PIPE 2.0	.452	4.75	15	.088	1.75		13	20.867	32.13	1.872	1.872	... H1-1b
46	M65	PIPE 2.0	.431	4.75	14	.109	4.75		2	20.867	32.13	1.872	1.872	... H1-1b
47	M67	PIPE 2.5	.360	5.25	8	.061	5.25		8	24.862	50.715	3.596	3.596	... H1-1b
48	M69	PIPE 2.0	.441	4.75	19	.112	1.75		3	20.867	32.13	1.872	1.872	... H1-1b
49	M70	PIPE 2.0	.351	1.6...	2	.291	1.3...		2	4.679	32.13	1.872	1.872	... H3-6
50	M80A	PIPE 2.0	.321	7.0...	3	.266	1.3...		7	4.679	32.13	1.872	1.872	... H1-1b
51	M81A	PIPE 2.0	.359	1.9...	8	.164	13....		9	4.679	32.13	1.872	1.872	... H1-1b



Company : B+T Group
 Designer : JV
 Job Number : 100172.006.01
 Model Name : 876385 - N. Coventry/Wallbeoff

June 11, 2019
 4:13 PM
 Checked By: _____

Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc...	LC	She...	Loc.....	LC	phi*P...	phi*P...	phi*M...	phi*M.....	Eqn
52	M82	L2.5x2.5x4	.218	0	2	.067	0 z 10	36.379	38.556	1.114	2.537	... H2-1
53	M83	L2.5x2.5x4	.336	1.3...	2	.104	0 z 2	36.379	38.556	1.114	2.537	... H2-1
54	M84	L2.5x2.5x4	.301	1.3...	7	.077	0 z 7	36.379	38.556	1.114	2.537	... H2-1

APPENDIX C
MOUNT MODIFICATION DESIGN DRAWINGS (MDD)

MI CHECKLIST

REQUIRED	REPORT ITEM	BRIEF DESCRIPTION
PRE-CONSTRUCTION		
X	MI CHECKLIST DRAWING	THIS CHECKLIST SHALL BE INCLUDED IN THE MI REPORT.
N/A	EOR APPROVED SHOP DRAWINGS	FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. THE CONTRACTOR SHALL PROVIDE APPROVED SHOP DRAWINGS TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	ASSEMBLY DRAWINGS	ONCE THE PRE-MODIFICATION MAPPING IS COMPLETE, PRIOR TO FABRICATION, THE CONTRACTOR SHALL PROVIDE DETAILED ASSEMBLY DRAWINGS. THESE ARE TO INCLUDE, BUT ARE NOT LIMITED TO, A VISUAL LAYOUT OF NEW REINFORCEMENT, EXISTING REINFORCEMENT CONFIGURATION, PORTHOLES, MOUNTS, STEP PEGS, SAFETY CLIMBS AND ANY OTHER MISCELLANEOUS ITEMS WHICH MAY AFFECT SUCCESSFUL INSTALLATION OF MODIFICATIONS ON THE TOWER. THESE DRAWINGS SHALL BE SUBMITTED TO THE EOR FOR APPROVAL. APPROVED ASSEMBLY DRAWINGS SHALL BE SUBMITTED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	FABRICATION INSPECTION	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	FABRICATOR CERTIFIED WELD INSPECTION	A VISUAL OBSERVATION BY CWI OF A PORTION OF WELDING ON THE PROPOSED STRUCTURAL MEMBERS IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	MATERIAL TEST REPORT (MTR)	MILL CERTIFICATION SHALL BE PROVIDED FOR ALL STEEL AS SPECIFIED IN THE MODIFICATION DRAWINGS AND THIS DOCUMENTATION SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR NDE INSPECTION	CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED WELD INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	THE MATERIAL SHIPPING LIST SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
CONSTRUCTION (PERFORMED BY CONTRACTOR)		
X	CONSTRUCTION INSPECTIONS	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	CONTRACTOR'S CERTIFIED WELD INSPECTION	A CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST AS NECESSARY ALL FIELD WELDS. A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	ON SITE COLD GALVANIZING VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED AS SPECIFIED IN THE MODIFICATION DRAWINGS.
X	GC AS-BUILT DOCUMENTS	THE GENERAL CONTRACTOR SHALL SUBMIT A COPY OF THE CONTRACT DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD DUE TO FIELD CONDITIONS.
POST-CONSTRUCTION		
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTORS REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
X	PHOTOGRAPHS	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI WHICH DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
ADDITIONAL TESTING AND INSPECTIONS:		
NOTE: X DENOTES A DOCUMENT NEEDED FOR THE MI REPORT AND N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT		

MODIFICATION INSPECTION NOTES:

GENERAL

THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT B+T GROUP.

MI INSPECTOR

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ONSITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT.

GENERAL CONTRACTOR

THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI

IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, CARRIER SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF DEPOSITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LODGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.). IF CARRIER CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING MI'S

IF THE MODIFICATION INSPECTOR FAILS THE MI ("FAILED MI"), THE GC SHALL WORK WITH CARRIER TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
- OR, WITH CARRIER'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION
- THE ADDITIONAL COST INCURRED IN THE SECOND SUPERVISION PROCESS WOULD BE BORNE BY THE GENERAL CONTRACTOR.

MI VERIFICATION INSPECTIONS

CARRIER RESERVES THE RIGHT TO CONDUCT A MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTION(S) ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MI" OR "PASS AS NOTED MI" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - WELD PREPARATION
 - BOLT INSTALLATION AND TORQUE
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
 - PHOTOS OF MODIFIED SECTIONS INDIVIDUALLY INDICATING ELEVATION
 - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.



N. COVENTRY/
 WALLBOEFF
 REILLY MTN. RD.
 COVENTRY, CT 6238
 TOLLAND
 EXISTING PLATFORM
 AT 133'-00"

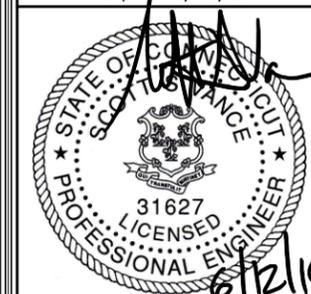
PROJECT NO: 100172.006.01

CHECKED BY: JV

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	06/12/19	KRS	CONSTRUCTION

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/20

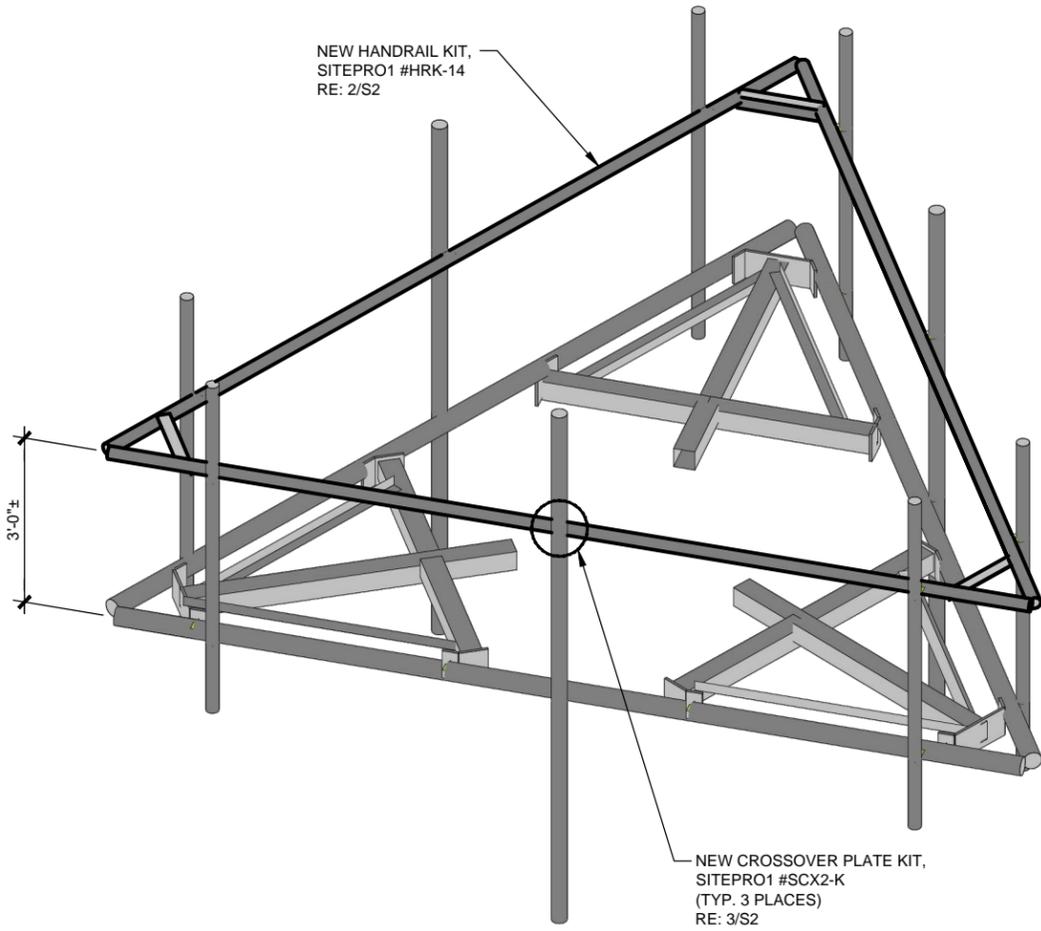


IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

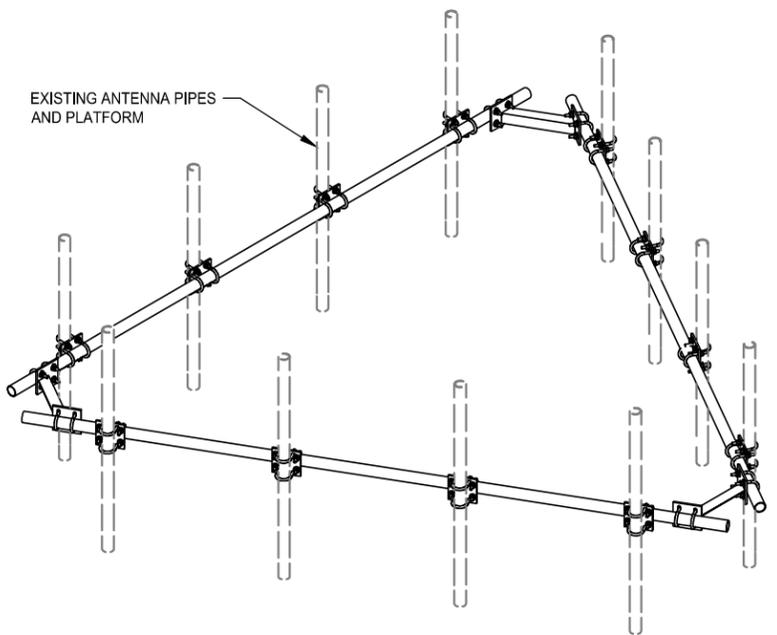
SHEET NUMBER: S1

REVISION: 0

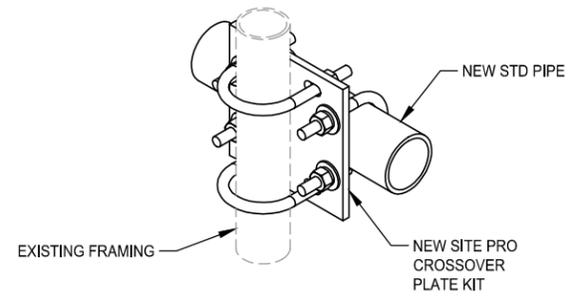
MODIFICATIONS BASED ON THE FAILING STRUCTURAL ANALYSIS FROM B+T GROUP DATED 06/05/19 AND ACCOMPANIED BY ANALYSIS FROM B+T GROUP DATED 06/12/19



1 MODIFIED PLATFORM
SCALE: N.T.S.



3 SITE PRO1 HRK-14 HANDRAIL KIT
SCALE: N.T.S.



3 SITE PRO1 SCX2-K CROSSOVER PLATE KIT
SCALE: N.T.S.

GENERAL NOTES

- 1.1 CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE MOBILIZING ON THE SITE FOR INSTALLATION OF THE MOUNT MODIFICATION AND SHALL NOTIFY THE ENGINEER OF RECORD IF THE FIELD CONDITIONS VARY FROM WHAT IS SHOWN ON THE DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD PRIOR TO MOBILIZING AT THE SITE IF THE MOUNT REINFORCEMENT SHOWN WILL NEED TO BE REVISED TO SATISFY FIELD CONDITIONS
- 1.2 CONTRACTOR SHALL RELOCATE NON-ANTENNA EQUIPMENT ALONG THE EXISTING PIPE MOUNT THAT IT IS MOUNTED TO, TO ALLOW FOR INSTALLATION OF MOUNT REINFORCEMENT. ENGINEER OF RECORD WILL BE NOTIFIED IF NON-ANTENNA EQUIPMENT NEEDS TO BE RELOCATED TO ANY OTHER EXISTING MEMBERS TO ALLOW FOR INSTALLATION OF MOUNT MODIFICATION.
- 1.3 MODIFICATION SHALL BE COMPLETED PRIOR TO ADDING THE PROPOSED APPURTENANCES.
- 1.4 ALL WORK SHALL COMPLY WITH THE TIA-222-H STANDARD, TIA-1019-A STANDARD, AS WELL AS ANY OTHER GOVERNING BUILDING CODES.
- 1.5 FIELD WORK WILL BE DONE AROUND EXISTING COAXIAL CABLE AND EQUIPMENT. ALL WORK SHALL BE DONE IN A MANNER SUCH THAT NO DAMAGE OCCURS TO THE EXISTING EQUIPMENT OR THE STRUCTURE.
- 1.6 A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND (OR APPROVED EQUIVALENT) SHALL BE APPLIED TO ANY FIELD CUTS OR FIELD DRILLED HOLES.
- 1.7 THE USE OF A GAS TORCH OR WELDER WILL NOT BE PERMITTED ON THE TOWER WITHOUT THE CONSENT OF THE OWNER.
- 1.8 ALL FIELD CONNECTIONS SHALL BE MADE WITH A325N BOLTS, U.N.O.
- 1.9 IN LIEU OF TEMPORARY BRACING, CONTRACTOR MAY HAVE A STABILITY ANALYSIS PERFORMED BY AN ENGINEER LICENSED IN THE STATE THE TOWER IS LOCATED. THE ANALYSIS SHALL USE A MINIMUM WIND SPEED OF 45 mph (3-SEC) PER TIA-1019.
- 1.10 ALL CUTTING AND WELDING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH CCUSA POLICY "CUTTING AND WELDING PLAN" (DOC #ENG-PLN-10015) ON AN ONGOING BASIS THROUGHOUT THE ENTIRE LIFE OF THE PROJECT.
- 1.11 DIMENSIONS WITH "±" MUST BE WITHIN 3" OF THE INDICATED DIMENSION.

FABRICATION

- 2.1 ALL WORK SHALL BE DONE IN ACCORDANCE WITH A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
- 2.2 STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:

	YIELD	ASTM SPECS
STEEL PIPE, U.N.O.	35ksi	A53 GR.B
- 2.3 ALL NEW MATERIAL INCLUDING STRUCTURAL STEEL AND FASTENERS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND A153.
- 2.4 WELDING SHALL MEET ANSI/AWS D1.1 STRUCTURAL WELDING CODE (LATEST REVISION). ELECTRODES SHALL BE E80 SERIES.
- 2.5 CONTRACTOR SHALL PROVIDE SHOP FABRICATION DRAWINGS TO B+T GROUP 5 DAYS PRIOR TO FABRICATION.

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.blgrp.com

N. COVENTRY / WALLBOEFF
REILLY MTN. RD.
COVENTRY, CT 6238
TOLLAND
EXISTING PLATFORM
AT 133'-00"

PROJECT NO:	100172.006.01
CHECKED BY:	JV

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	06/12/19	KRS	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
S2	0

Exhibit F

Power Density/RF Emissions Report

Transcom Engineering, Inc.

Wireless Network Design and Deployment

Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CT11516A

CT516/Coventry - Sprint
400 Riley Mountain Road
Coventry, CT 06238

May 31, 2019

Transcom Engineering Project Number: 737001-0111

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	15.27 %

Transcom Engineering, Inc.

Wireless Network Design and Deployment

May 31, 2019

T-MOBILE

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

Emissions Analysis for Site: **CT11516A – CT516/Coventry - Sprint**

Transcom Engineering, Inc (“Transcom”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **400 Riley Mountain Road, Coventry, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE Antenna Installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 & 700 MHz bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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

Additional details can be found in FCC OET 65.

Transcom Engineering, Inc.

Wireless Network Design and Deployment

CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **400 Riley Mountain Road, Coventry, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	1900 MHz (PCS)	4	40
LTE	2100 MHz (AWS)	2	60
GSM	1900 MHz (PCS)	1	15
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20

Table 1: Channel Data Table

Transcom Engineering, Inc.

Wireless Network Design and Deployment

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAARR24_43-U-NA20	137
A	2	EMS RR90-17-02DP (Dormant)	137
B	1	RFS APXVAARR24_43-U-NA20	137
B	2	EMS RR90-17-02DP (Dormant)	137
C	1	RFS APXVAARR24_43-U-NA20	137
C	2	EMS RR90-17-02DP (Dormant)	137

Table 2: Antenna Data

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

Cable losses were factored in the calculations for this site. Since all **1900 MHz (PCS) & 2100 MHz (AWS)** radios are ground mounted the following cable loss values were used. For each ground mounted **1900 MHz (PCS)** radio there was **1.65 dB** of cable loss calculated into the system gains / losses for this site. For each ground mounted **2100 MHz (AWS)** radio there was **1.70 dB** of cable loss calculated into the system gains / losses for this site. These values were calculated based upon the manufacturers specifications for **160 feet of 1-5/8"** coax.

Transcom Engineering, Inc.

Wireless Network Design and Deployment

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAARR24_43-U-NA20	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	15.65 / 16.35 / 12.95 / 13.35	11	415	10,339.74	2.87
Antenna A2	EMS RR90-17-02DP	Dormant	N/A	0	0	0.00	0.00
Sector A Composite MPE%							2.87
Antenna B1	RFS APXVAARR24_43-U-NA20	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	15.65 / 16.35 / 12.95 / 13.35	11	415	10,339.74	2.87
Antenna B2	EMS RR90-17-02DP	Dormant	N/A	0	0	0.00	0.00
Sector B Composite MPE%							2.87
Antenna C1	RFS APXVAARR24_43-U-NA20	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	15.65 / 16.35 / 12.95 / 13.35	11	415	10,339.74	2.87
Antenna C2	EMS RR90-17-02DP	Dormant	N/A	0	0	0.00	0.00
Sector C Composite MPE%							2.87

Table 3: T-MOBILE Emissions Levels

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value	2.87 %
AT&T	5.90 %
MetroPCS	0.67 %
Eversource	0.06 %
Sprint	2.77 %
Verizon Wireless	3.00 %
Site Total MPE %:	15.27 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	2.87 %
T-MOBILE Sector B Total:	2.87 %
T-MOBILE Sector C Total:	2.87 %
Site Total:	15.27 %

Table 5: Site MPE Summary

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 1900 MHz (PCS) LTE	4	1,004.75	137	8.42	1900 MHz (PCS)	1000	0.84%
T-Mobile 2100 MHz (AWS) LTE	2	1,750.46	137	7.33	2100 MHz (AWS)	1000	0.73%
T-Mobile 1900 MHz (PCS) GSM	1	376.78	137	0.79	1900 MHz (PCS)	1000	0.08%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	137	3.31	600 MHz	400	0.83%
T-Mobile 700 MHz LTE	2	432.54	137	1.81	700 MHz	467	0.39%
						Total:	2.87%

Table 6: T-MOBILE Maximum Sector MPE Power Values

Transcom Engineering, Inc.

Wireless Network Design and Deployment

Summary

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

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

T-MOBILE Sector	Power Density Value (%)
Sector A:	2.87 %
Sector B:	2.87 %
Sector C:	2.87 %
T-MOBILE Maximum Total (per sector):	2.87 %
Site Total:	15.27 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **15.27 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



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