



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

August 19, 2021

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

RE: **Notice of Exempt Modification for T-Mobile: CT11280A/876326**
440 Hayden Station Road, Windsor, CT 06095
Latitude: 41° 53' 52.20" / Longitude: -72° 38' 38.70"

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 75-foot mount on the existing 96-foot monopole tower located at 440 Hayden Station Road, Windsor, CT. The property is owned by CB Baggs LLP and the tower is owned by Crown Castle. T-Mobile now intends to replace nine (9) antennas and ancillary equipment at the 75ft level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New:

- (3) Ericsson – AIR6449 B41 Antennas
- (3) RFS-APXVAALL24_43-U-NA20 Antennas
- (3) RFS-APX16DWV-S-E-A20 Antennas
- (3) Ericsson- RRU 4424 B25
- (3) Ericsson- Radio 4449 B71+B85
- (6) Ericsson-Radio 4415 B66A
- (3) Commscope-SDX1926Q-43 Diplexers
- (4) RFS/Celwave-HB158-21U6S24-xxM-TMO (1-5/8")
- (3) 2.0 STD. x16'-0" long Support Rail Pipe Mount

Remove:

- (6) Ericsson – AIR21 KRC118023-1_B2A_B4P Antennas
- (3) Andrew – LNX-6515DS-A1M Antennas
- (3) Ericsson-RRUS11 B12
- (3) Generic Twin Style 1B-AWS TMAs
- (12) 7/8" Coax Cables

Ground:

Install New:

- (1) 6160 Cabinet
- (1) B160 Battery Cabinet
- H Frame
- (1) CSR IXRE V2 (Gen2) Router
- (1) PSU 4813 Voltage Booster
- (2) BB 6648 In New RBS 6160 Cabinet
- (2) RBS 6601 In New RBS 6160 Cabinet
- (1) AAV Cabinet

Remove:

- (1) Nortel Cabinet
- (1) 6131 Cabinet
- (6) RU22 Radios
- (1) DUW30

The facility was approved by the Windsor Zoning Board of Appeals on September 18, 1996. This approval included no conditional statements.

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 Mr. Peter Souza, Town Manager for the Town of Windsor, Mr. Eric Barz, Town Planner, CB Baggs LLP as 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.

Melanie A. Bachman

Page 3

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: Jeffrey Barbadora.

Sincerely,



Jeffrey Barbadora
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Attachments

cc:

Peter Souza, Town Manager (via FedEx)
Town Manager's Office
275 Broad Street
Windsor, CT 06095

Eric Barz, AICP, Town Planner (Via FedEx)
Planning Department
275 Broad Street
Windsor, CT 06095

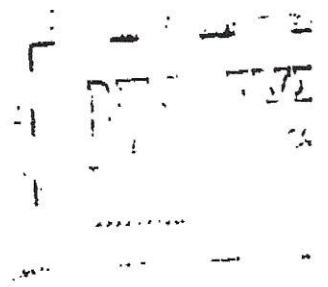
CB Baggs LLP Landowner (via FedEx)
4 Hickory Hill
West Springfield, MA 01089

Crown Castle, Tower Owner

SITE 065 Zoning Hayden Station



TOWN OF WINDSOR • CONNECTICUT
FIRST IN STATE • FIRST IN SERVICE • FIRST IN VALUE



October 3, 1996

Sprint Spectrum L.P.
C/O John Stevens
450 Murdock Road
Meriden, Connecticut 06450

Subject: 440 Hayden Station Road
Variance Request

Dear Mr. Stevens,

The Windsor Zoning Board of Appeals at it's business meeting following the public hearing held at 7:00 P.M. on Wednesday September 18, 1996, approved your request for a variance of Section 3.4.2F(l).

In accordance with Public Act 75-317 of the Connecticut General Statutes, the enclosed form must be filed with the Town Clerk of Windsor before said grant becomes effective. There is a filing fee of \$10.00. The paperwork must be filed by the record owner of the property within six months, according to Section 6.6 of the Zoning Board of Appeals By Laws, or the grant is null and void.

Very truly yours,

Helene H. Shay
Secretary
WINDSOR ZONING BOARD OF APPEALS

Encl.

Certified Mail No. P 433 581 779

WINDSOR ZONING BOARD OF APPEALS

I, Helene H. Shay, Secretary of the Windsor Zoning Board of Appeals, hereby certify that on Wednesday, September 18, 1996, the Zoning Board of Appeals of the Town of Windsor granted to:

Owner of Record: Jeffrey R. Wannamaker
(The Coast Distribution System, Inc.)

Located at: 440 Hayden Station Road

and more particularly bounded and described as follows:

Map No. 49, Block No. 471, Lot No. 109
in Volume 998, Page 108

the following variances to the Windsor Zoning Regulations:

Section 3.4.2F(1) - Parking Reduction
for Erection of Tower Antenna

Dated at Windsor, Connecticut, this 3rd day of October, 1996.



Helene H. Shay, Secretary
Windsor Zoning Board of Appeals

Received for the Record:

TOP SECTION TO BE FILLED IN BY Z.B.A. CLERK:

clerk's name Karen

within 500' of other town? No

date submitted 8, 27, 96

fee amount \$ 110.00

date sign given 8, 27, 96

receipt number # 1874

official date rec'd 8, 27, 96

(APPLICANT, DO NOT WRITE ABOVE THIS LINE)

Z O N I N G V A R I A N C E A P P L I C A T I O N

1.1)) PROPERTY INFORMATION ((

<u>79 Lamberton Road, Windsor</u>			<u>I-1</u>	
Street Address			Zone	
<u>43</u>	<u>108</u>	<u>5</u>	<u>642</u>	<u>151</u>
Map No.	Block No.	Lot No.	Volume No.	Page No.

1.2)) OWNER INFORMATION ((

Jerome M. Scharr

Name(s) as they appear on the deed of record

<u>40 East Newberry Road</u>	<u>Bloomfield</u>	<u>CT</u>	<u>06002</u>
Street Address	City	State	Zip

1.3)) APPLICANT INFORMATION ((

Sprint Spectrum, L.P. c/o John Stevens

Name of applicant

<u>450 Murdock Ave.</u>	<u>Meriden</u>	<u>CT</u>	<u>06450</u>
Street Address	City	State	Zip

1.4 Applicant's interest in the subject parcel? Lessee
(such as owner, agent, lessee, optionee, tenant)

1.5 Phone no. where applicant can be reached in the daytime 203-238-6910

1.6 Were any variances ever requested for this parcel in the past? No

1.7 Does the subject parcel have any existing non-conformities? No
(if so, describe them briefly)

1.8 Is the subject parcel vacant? No
(if not vacant, what is the parcel's existing use? Business Use -
golfing range currently operating on the parcel.

2.1 Complete the following table only for "SIZE VARIANCES", or "DISTANCE VARIANCES", or "LOCATION VARIANCES"...

ZONING REGULATION SECTION NO.	DISTANCE REQUIRED BY REGULATIONS	LOCATION OF VARIANCE (side?, front?, rear?)	DISTANCE REQUESTED BY APPLICANT	NET AMOUNT OF VARIANCE (#2 - #4 = #5)
#1	#2	#3	#4	#5
10.5.10C	240'	side	10'	230'
10.5.10C	240"	rear	5' approx.	235' approx.

2.2 For all other types of variances, state the Section Number of the Zoning Regulations and describe precisely what is being requested...

2.3 (FIRST TEST) How is this request in HARMONY with the intent of the Zoning Regulations?...

The requested set back variances will permit reasonable development of industrially zoned land with a compatible use which recognizes and promotes the public health, safety and welfare purposes of the regulations.

2.4 (SECOND TEST) How are the Zoning Regulations restricting the use of the subject parcel in a manner different than similarly-zoned parcels throughout Town? (In other words: What is the LEGAL HARDSHIP?)

The purpose of the distance requirements is to provide a safety area should the tower fall. Although current construction techniques make such fall zones unnecessary, this parcel's unique characteristics make the imposition of the regulations a hardship.

Wetlands and water courses to the west of the site make development within the fall zone a highly regulated activity while the Terry Steam complex to the north precludes development there.

3.1 List the names and addresses of ALL abutting landowners.

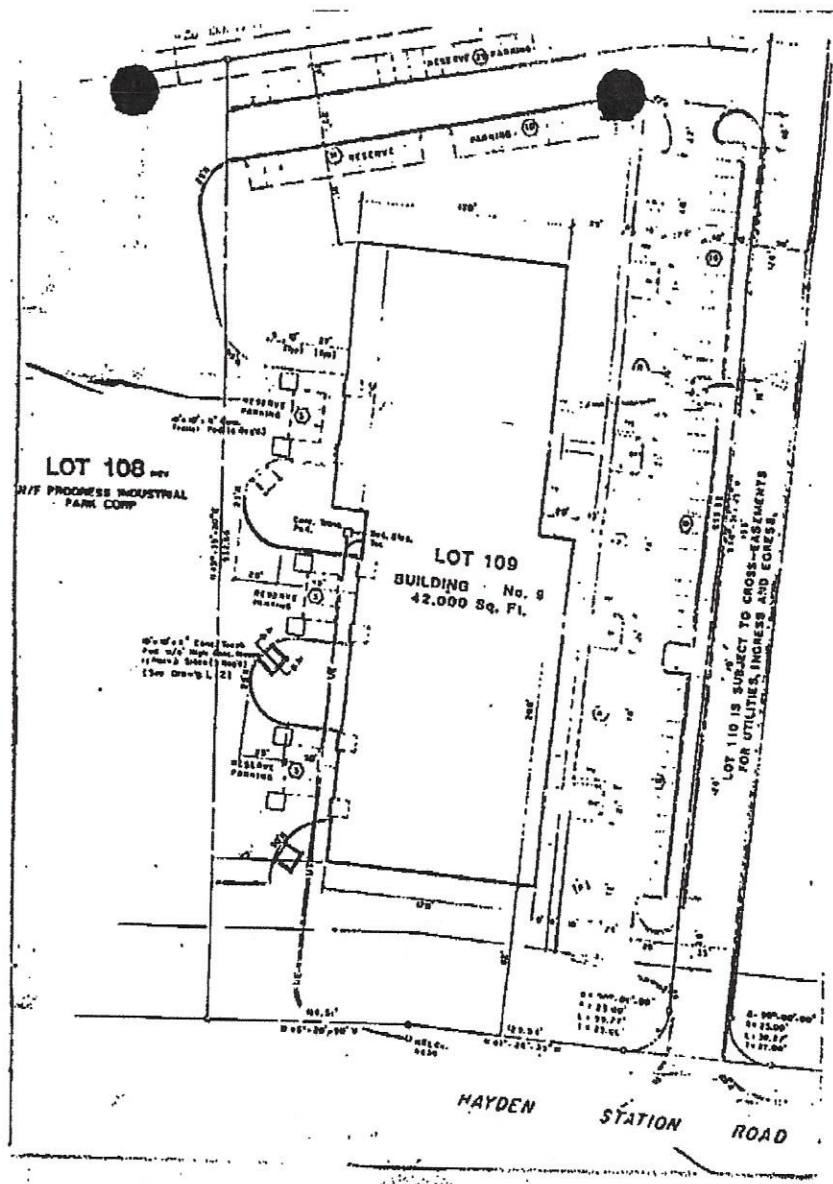
You MUST include ANY parcel which has ANY part of it within 100 feet of the subject parcel.

You MUST include these parcels even if they are separated from the subject parcel by streets, roads, rights-of-way, rivers, streams, buildings, railroad tracks, or anything else.

ALL ON MAP 43	N A M E	A D D R E S S
-----	Wilkos, Walter Block-106 Lot-4	-----
		295 Pigeon Hill Rd.
-----	Wilkos, Theodore Block 106 Lot-4A	-----
		337 Pigeon Hill Rd.
-----	Caesar, Carolyn Block-106 Lot-5	-----
		321 Pigeon Hill Rd.
-----	Dresser-Rand Co. Block-108 Lot 1A	-----
		Baron Stenben Place, Corning, NY 14830
-----	Dudack Ignatz Block-108 Lot 6	-----
		400 Pigeon Hill Rd.
-----	80 and 82 Lamberton Rd. LP	-----
		100 Pearl St. Hartford, CT 06103
-----	c/o Farley Co. Block-109 Lot 43B	-----
-----	Caesar, Carolyn Block-109 Lot 45	-----
		280 Pigeon Hill Rd.
-----		-----

ZBA application - revised 03/12/87 - PAGE 4 OF 5

4.1 USE THIS PAGE TO INCLUDE ANY OTHER INFORMATION WHICH CAN NOT FIT ANYWHERE ELSE ON THIS APPLICATION.



LOT 108
 W/F PROGRESS INDUSTRIAL
 PARK CORP

LOT 109
 BUILDING No. 8
 42,000 Sq. Ft.

LOT 110 IS SUBJECT TO CROSS-SECTION
 FOR UTILITIES, INGRESS AND EGRESS

HAYDEN STATION ROAD

- 5.1 (PLOT PLAN) YOU MUST SUBMIT 10 COPIES OF A SURVEYOR'S PLOT PLAN OF THE SUBJECT PARCEL. THE PLOT PLAN MUST SHOW:
 - ...ALL PROPOSED ADDITIONS OR CHANGES WITH DOTTED LINES
 - ...ALL RELEVANT DIMENSIONS
 - ...A NORTH ARROW
 - ...THE SCALE OF THE DRAWING
 - ...A PROPER LABEL WITH THE STREET ADDRESS

IF YOUR VARIANCE REQUEST IS FOR ANY DIMENSIONAL REQUIREMENT, SUCH AS A SET-BACK FROM A PROPERTY LINE, THE SURVEYOR'S PLOT PLAN MUST BE CERTIFIED TO BE ACCURATE TO AT LEAST AN "A-2" QUALITY STANDARD.

READ THE FOLLOWING STATEMENTS BEFORE SIGNING:

- 5.2 IT IS THE APPLICANT'S RESPONSIBILITY TO BE AWARE OF THE HEARING DATE.
- 5.3 THE APPLICANT MAY WITHDRAW THIS APPLICATION AT ANY TIME. IF EXPENSES HAVE BEEN INCURRED THE FEE WILL NOT BE REFUNDED.
- 5.4 IF A VARIANCE IS GRANTED, IT WILL NOT BECOME EFFECTIVE UNTIL THE APPLICANT FILES A CERTIFIED COPY OF THE VARIANCE WITH THE TOWN CLERK.
- 5.5 THE APPLICANT MUST POST THE SUPPLIED PLACARD SIGN ON THE SUBJECT PARCEL (not on a public utility pole!) AT LEAST 10 DAYS PRIOR TO THE HEARING...AND...MUST REMOVE IT 5 DAYS AFTER THE HEARING (or else the variance may be nullified).
- 5.6 THIS IS THE APPLICANT'S APPLICATION ONLY. THE STAFF IS NOT PERMITTED TO HELP COMPLETE THE APPLICATION. THE APPLICANT ASSUMES SOLE RESPONSIBILITY FOR ITS COMPLETENESS AND ACCURACY.

----- (COMPLETE EVERYTHING BELOW THIS LINE IN THE PRESENCE OF A NOTARY) -----

The undersigned applicant assumes sole responsibility for the completeness and accuracy of this application and, further, acknowledges that he/she has read and understands the above statements numbered 5.2 through 5.6:

(Applicant's Signature) *John Sever*

(To be filled in by Notary) On this date August 22 1996, the above-signed applicant did personally appear before me and proved to my satisfaction to be the person who is herein referred to as the applicant; in witness whereof I hereunto set my hand and seal:

(Notary's Signature) _____
(And Seal)

Thomas F. Flynn III

THOMAS F. FLYNN III
Commissioner of
The Superior Court

My Commission Expires: _____

CURRENT OWNER		TOPO	UTILITIES	STRT / ROAD	LOCATION	CURRENT ASSESSMENT	
CB BAGGS LLP C/O SPRINT SPECTRUM LLP TAX DEPT PO BOX 8430		6739				Code	Assessed
KANSAS CITY MO 64114		6739				3-1	97,580
		6739				3-2	3,990
		6739				3-3	80,150
		6739				Total	181,720

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	Q/U	V/I	SALE PRICE	VC
CB BAGGS LLP		1243	0531	10-06-2000	U	V	0

EXEMPTIONS		Year	Code	Description	Amount	Comm Int
Total					0.00	

OTHER ASSESSMENTS		Year	Code	Description	Number	Amount
Total		2019	3-1		107,338	2018
			3-2		4,389	2017
			3-3		88,165	2017
Total		199892	Total	181720	Total	177730

ASSESSING NEIGHBORHOOD		Nbhd	Sub	A	B	Tracing	Batch
06739.01 0049/0471/0109/T		0001	A				

NOTES	
SPRINT SPECTRUM CELLULAR TOWER 105' MONOPOLE TOWER LAND VALUE=INCAPPR REF: V1501 P139 ESMINT ASSIGN	

BUILDING PERMIT RECORD		Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
Total Appraised Parcel Value		E-183101	12-15-2018	EL	Electric	12,500	0	100	10-01-2017	DIESEL GENERATOR FOR T-
		E-170415	03-01-2017	EL	Electric	7,500	100	100	10-01-2017	REPLACE 3 RRJUS - AT&T
		E-162925	11-08-2016	EL	Electric	20,000	100	100	10-01-2016	REPLACE 3 ANTENNA & 3 R
		E-121307	08-19-2016	EL	Electric	20,000	100	100	10-01-2016	REPLACE 3 ANTENNA & 3 R
		E-160448	03-02-2016	EL	Electric	20,000	100	100	10-01-2016	CELL TOWER CHANGES C/
		B-140692	04-14-2014	RE	Renovation	20,000	100	100	10-01-2014	CELL EQUIPMENT BUILDING
		B-992651	10-01-2000	LCM	Commercial	0	0	0	10-01-2014	

LAND LINE VALUATION SECTION		B Use Code	Description	Zone	Land Type	Land Units	Unit Price	Size Adj	Site Index	Cond.	Nbhd.	Nbhd. Adj	Notes	Location Adjustment	Adj Unit P	Land Value
Total Appraised Parcel Value		1	4340	I	Cell Tower	0.050	AC	82,000	40,0000	0	0.85	1,000	CELL TOWER SITE	1.0000		139,400
Total Appraised Parcel Value		Total Card Land Units 0.050 AC Parcel Total Land Area 0.0500 Total Land Value 139,400														

This signature acknowledges a visit by a Data Collector or Assessor

VISION

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	5,700
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	114,500
Appraised Land Value (Bldg)	139,400
Special Land Value	0
Total Appraised Parcel Value	259,600
Valuation Method	I

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpose/Result
12-04-2019	LL			64	I & E PENALTY
06-17-2015	LL			20	Bldg Permit Insp
11-17-2003	SK			00	Measur+Listed

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd	Description	Element	Cd	Description
Style: 94	00	Outbuildings			
Model: 00		Vacant			
Grade:					
Stories:					
Occupancy					
Exterior Wall 1					
Exterior Wall 2					
Roof Structure:					
Roof Cover					
Interior Wall 1					
Interior Wall 2					
Interior Fir 1					
Interior Fir 2					
Heat Fuel					
Heat Type:					
AC Type:					
Total Bedrooms					
Total Bthrms:					
Total Half Baths					
Total Xtra Fixtrs					
Total Rooms:					
Bath Style:					
Kitchen Style:					
COST / MARKET VALUATION					
Building Value New					
Year Built					
Effective Year Built					
Depreciation Code					
Remodel Rating					
Year Remodeled					
Depreciation %					
Functional Obsol					
External Obsol					
Trend Factor					
Condition					
Condition %					
Percent Good					
Cns Sect Rnld					
Dep % Ovr					
Dep Ovr Comment					
Misc Imp Ovr					
Misc Imp Ovr Comment					
Cost to Cure Ovr					
Cost to Cure Ovr Comment					

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Descript	Sub	Ty	L/B	Units	Unit Pric	Yr Bilt	Cond. C	% Gd	Grade	Grade A	Appr. V
CB3	PerCast		L		425	350.00	2000		77		0.00	114,50

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
		0	0	0		0
Totl Gross Liv / Lease Area		0	0	0		0

No Sketch

CURRENT OWNER	TOPO	UTILITIES	STRT / ROAD	LOCATION	Code	Description	Appraised	Assessed
CB BAGGS LLP	1 Level	1 Paved			3-1	IND LAND	351,500	246,050
4 HICKORY HILL					3-2	IND BLDG	1,121,600	785,120
WEST SPRINGF MA 01089					3-3	IND IMPR	31,500	22,050
SUPPLEMENTAL DATA		Total 1,504,600 1,053,220						
Air Pcd ID 6739	CTRACT 4735.02							
INC: RETURNED	CBLOCK 916							
GH	DIST HEART GL YEAR							
2007 1071490	Assoc Pld#							
GIS ID 6739								

RECORD OF OWNERSHIP				BK-VOL/PAGE	SALE DATE	QU	V/I	SALE PRICE	VC	PREVIOUS ASSESSMENTS (HISTORY)			
Year	Code	Description	Amount	Code	Description	Number	Amount	Year	Code	Assessed	Year	Code	Assessed
		CB BAGGS LLP	1243 0531	Q	I	1	1,500,000	00					
		ADFM ASSOCIATES LLC	1243 0522	U	I	1	666,483	25			2018	3-1	246,050
		COAST DISTRIBUTION SYSTEM INC	0998 0108	U	I	1					2017	3-2	771,820
		COAST DISTRIBUTION SYS	0758 0213	U	I	1						3-3	14,560
	Total		0.00								Total		1032430

EXEMPTIONS				OTHER ASSESSMENTS			
Year	Code	Description	Amount	Code	Description	Number	Amount
		REMOVED FROM PARCEL					
		AND PUT ON 06739.01					
		10/01/03					
		REF:V1501 P127 ESMNT & ASSIGNMENT					
		CELLULAR EQUIP BLDG					

ASSESSING NEIGHBORHOOD			NOTES			
Nbhd	Sub	A	Batch			
200	A					

BUILDING PERMIT RECORD										
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments	Central A/C	Vault
H-022011	10-01-2003	HA	HVAC						CENTRAL A/C	VAULT
B-021026	10-01-2002	CM	Commercial							

LAND LINE VALUATION SECTION											
B	Use Code	Description	Zone	Land Type	Land Units	Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nbhd Adj
1	4010	Ind Whses	I		2,900 AC	82,000	1.00000	1	1.00	200	1,400
1	4010	Ind Whses	AA		0.810 AC	82,000	1.00000	0	0.20	200	1,400
1	4340	Cell Tower			0.000 SF		1.00000	0	1.00		1,000
				Total Card Land Units	3.710 AC					Parcel Total Land Area:	3.7100

VISIT / CHANGE HISTORY					
Permit Id	Date	Id	Type	Is	Cd
H-022011	01-03-2019	LL			40
B-021026	11-06-2003	SK			00
	10-01-2002	SK			00
	09-28-2000	SK			00
	12-20-1989	JM		43	Change - Reinspection Rer
	04-19-1988	GH		00	
Total Appraised Parcel Value 1,504,600					

APPRAISED VALUE SUMMARY		
Code	Description	Value
3-1	Appraised Bldg. Value (Card)	991,800
3-2	Appraised Xf (B) Value (Bldg)	129,800
3-3	Appraised Ob (B) Value (Bldg)	31,500
	Appraised Land Value (Bldg)	351,500
	Special Land Value	0
	Total Appraised Parcel Value	1,504,600
	Valuation Method	

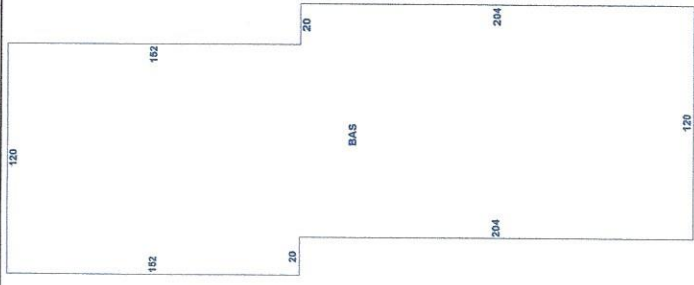
VISION									
Total 1,504,600 1,053,220									
Total Appraised Parcel Value 1,504,600									
This signature acknowledges a visit by a Data Collector or Assessor									
Location Adjustment Adj Unit Pric Land Value 0 0 0 0 0 0 0 0 0									

CONSTRUCTION DETAIL		Element	Cd	Description
Style:	48	Warehouse		
Model	96	Ind/Comm		
Grade	03	Average		
Stories:	1			
Occupancy	27	Pre-finish Metl		
Exterior Wall 1	01	Flat		
Exterior Wall 2	09	Enam Mtl Shing		
Roof Structure	01	Minim/Masonry		
Roof Cover	03	Concrete		
Interior Wall 1	03	Gas		
Interior Wall 2	03	Hot Air-no Duc		
Interior Floor 1	03	Central		
Interior Floor 2	03	Ind Whses		
Heating Fuel	4010			
Heating Type	00			
AC Type	2			
Bldg Use	01	Heat/AC Pkgs		
Total Rooms	05	Steel		
Total Bedrms	02	Average		
Total Baths	03	Sus-Ceil/Mn WI		
Heat/AC	02	Average		
Frame Type	16.00			
Baths/Plumbing	0.00			
Ceiling/Wall	4010			
Rooms/Prtns				
Wall Height				
% Comm Wall				
1st Floor Use:				

CONSTRUCTION DETAIL (CONTINUED)		Element	Cd	Description
MIXED USE				
Code	Description	Percentage		
4010	Ind Whses	100		
COST / MARKET VALUATION				
RCN		1,546,037		
Year Built		1982		
Effective Year Built		A		
Depreciation Code		21		
Remodel Rating		0		
Year Remodeled		15		
Functional Obsol		1		
External Obsol		64		
Trend Factor		989,500		
Condition				
Condition %				
Percent Good				
Cns Sect Rcndd				
Dep % Ovr				
Dep Ovr Comment				
Misc Imp Ovr				
Misc Imp Ovr Comment				
Cost to Cure Ovr				
Cost to Cure Ovr Comment				

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)													
Code	Descripti	Sub	Sub Ty	L/B	Units	Unit Price	Yr Bld	Cond.	Cd	% Gd	Grade	Ad	Appr. V
PAV1	PAVING-	L			21,00	2.50	2003			60			0.00
LDL1	LOAD L	B			7	3000.00	1997			64			13,400
SPR1	SPRINK	B			42.72	2.50	1997			64			68,400
VL2	VAULT-	B			600	125.00	1997			64			48,000

BUILDING SUB-AREA SUMMARY SECTION						
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	42,720	42,720	42,720	36.19	1,546,037
Totl Gross Liv / Lease Area		42,720	42,720	42,720		1,546,037





440 HAYDEN STATION RD

PARCEL ID: 6739
 OWNER NAME: CB BAGGS LP
 PROPERTY LOCATION: 440 HAYDEN STATION RD
 CO-OWNER: C/O SPRINT SPECTRUM LP
 OWNER ADDRESS: TAX DEPT PO BOX 8430
 CSZ: KANSAS CITY, MO 64114
 ACCOUNT NUMBER: 06738.01

OWNER	ASSESSMENT	SALES	LINKS
--------------	------------	-------	-------

[ADD TO SELECTION](#) [GET ABUTTERS](#)

Basemaps

- Base Map
- Imagery
- ESRI

12204 High Path Road
 0 150 300ft
 -72.857482, 41.800286

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, August 20, 2021 10:39 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 774579580271: Your package has been delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was
delivered Fri, 08/20/2021 at
10:38am.



Delivered to 4 HICKORY HL, WEST SPRINGFIELD, MA 01089

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [774579580271](#)
FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO CB Baggs LLP
CB Baggs LLP
4 Hickory Hill
WEST SPRINGFIELD, MA, US, 01089

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Thu 8/19/2021 03:09 PM

DELIVERED TO Residence

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

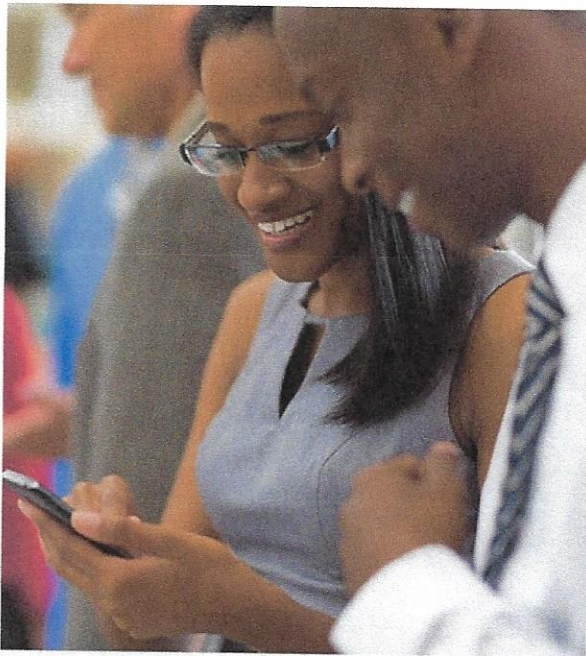
DESTINATION WEST SPRINGFIELD, MA, US, 01089

SPECIAL HANDLING Deliver Weekday
Residential Delivery

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Download the FedEx[®] Mobile app

Get the flexibility you need to create shipments and request to customize your deliveries through the app.

[LEARN MORE](#)

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, August 20, 2021 9:50 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 774579440161: Your package has been delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was
delivered Fri, 08/20/2021 at
9:47am.



Delivered to 275 BROAD ST, WINDSOR, CT 06095
Received by E.BARZ

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [774579440161](#)

FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO Town of Windsor
Mr. Eric Barz Planning Department
275 Broad Street
WINDSOR, CT, US, 06095

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Thu 8/19/2021 03:09 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

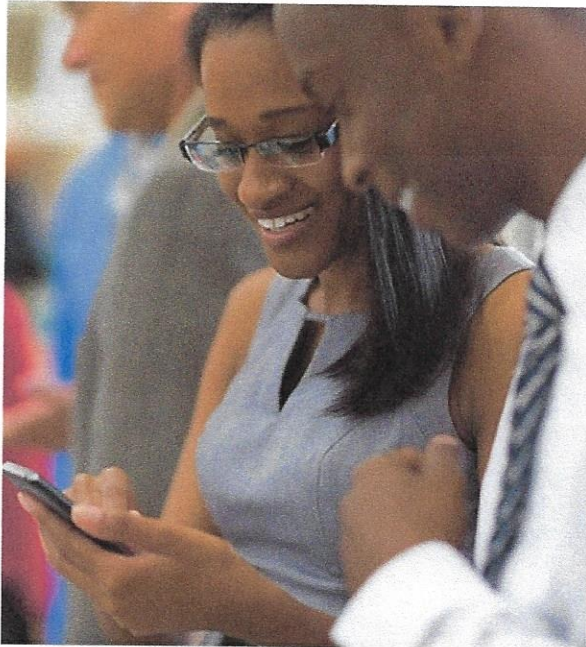
DESTINATION WINDSOR, CT, US, 06095

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Download the FedEx[®] Mobile app

Get the flexibility you need to create shipments and request to customize your deliveries through the app.

[LEARN MORE](#)

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, August 20, 2021 9:50 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 774579399469: Your package has been delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was
delivered Fri, 08/20/2021 at
9:47am.



Delivered to 275 BROAD ST, WINDSOR, CT 06095
Received by E.BARZ

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [774579399469](#)

FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO Town of Windsor
Mr. Peter Souza Town Manager
275 Broad Street
WINDSOR, CT, US, 06095

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Thu 8/19/2021 03:09 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

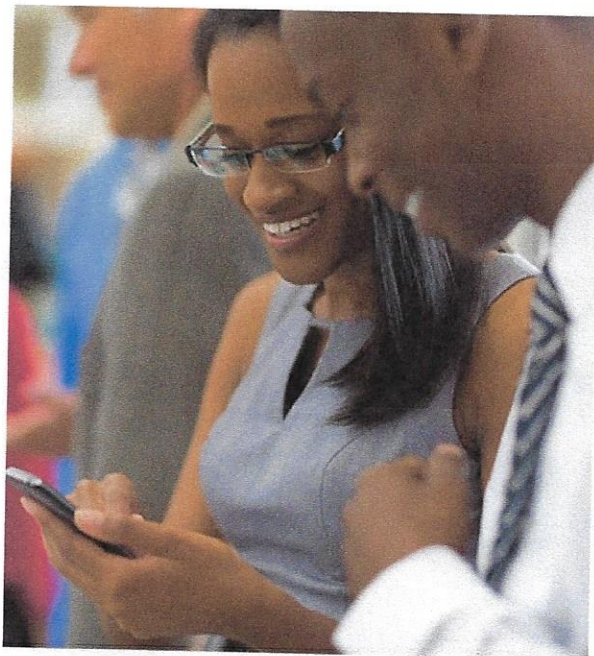
DESTINATION WINDSOR, CT, US, 06095

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Download the FedEx[®] Mobile app

Get the flexibility you need to create shipments and request to customize your deliveries through the app.

[LEARN MORE](#)

Date: **June 17, 2021**



B+T Group
1717 S, Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Subject: **Structural Analysis Report**

Designation: **T-Mobile Co-Locate**
Site Number: CT11280A
Site Name: Windsor Locks/Airport

Crown Castle Designation: **BU Number:** 876326
Site Name: Hayden Station
JDE Job Number: 652116
Work Order Number: 1984934
Order Number: 559450 Rev. 0

Engineering Firm Designation: **B+T Group Project Number:** 136354.005.01

Site Data: **440 Hayden Station Road, Windsor, Hartford County, CT**
Latitude 41° 53' 52.2", Longitude -72° 38' 38.7"
96 Foot - Monopole Tower

B+T Group 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-69.2%

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code (2015 IBC). Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Angela Ashwood

Respectfully submitted by: B+T Engineering, Inc.
COA: PEC.0001564; Expires: 02/10/2022

A circular professional engineer seal for Chad E. Tuttle, No. 23924, State of Connecticut. The seal is stamped over a handwritten signature and the date "06/17/2021".

06/17/2021

Chad E. Tuttle, P.E.

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

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This is a 96 ft Monopole tower designed by Rohn in January of 1997.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Seismic Ss:	0.178
Seismic S1:	0.064
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)
75.0	75.0	3	Commscope	SDX1926Q-43	4	1-5/8
		3	Ericsson	AIR6449 B41_T-MOBILE		
		6	Ericsson	RADIO 4415 B66A		
		3	Ericsson	RADIO 4424 B25_TMOV1		
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	RFS Celwave	APX16DWV-16DWV-S-E-A20		
		3	RFS Celwave	APXVAALL24_43-U-NA20_TMO		
		3	Mount Mods	Pipe 2.0 Std. x 16'-0" long Support Rail Pipes		
		1	--	Platform Mount [LP 304-1](16')		

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)
92.0	94.0	3	CCI Antennas	DMP65R-BU8D	6 2 4 2	1-5/8 7/8 3/4 3/8
		3	CCI Antennas	OPA65R-BU8D		
		3	CCI Antennas	TPA-65R-LCUUUU-H8		
		3	Ericsson	RRUS 32 B30		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 4478 B14		
		3	Ericsson	RRUS 8843 B2/B66A		
		3	Ericsson	RRUS E2 B29		
		3	Kathrein	800 10121		
		1	Raycap	DC6-48-60-0-8F		
		2	Raycap	DC6-48-60-18-8F		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
	92.0	6	Kathrein	860 10025		
		6	Powerwave Tech.	LGP21401		
		1	--	Sector Mount [SM 503-3]		
		1	--	Pipe Mount [PM 601-3]		
83.0	87.0	3	Alcatel Lucent	TD-RRH8X20-25	3 1 4 6	1-1/4 5/8 1/2 5/16
		2	Dragonwave	A-ANT-11G-4-C		
	86.0	1	Andrew	VHLP2-180		
		3	Dragonwave	HORIZON DUO		
	83.0	3	RFS Celwave	APXVSP18-C-A20		
		3	RFS Celwave	APXVTM14-C-120		
		3	Samsung Telecom.	WIMAX DAP HEAD		
	82.0	1	--	Platform Mount [LP 502-1]		
79.0	80.0	3	Alcatel Lucent	800MHZ 2X50W RRH W/FILTER	--	--
		1	--	Side Arm Mount [SO 104-3]		
	77.0	3	Alcatel Lucent	PCS 1900MHZ 4x45W-65MHZ		
65.0	65.0	3	Fujitsu	TA08025-B604	1	1-3/8
		3	Fujitsu	TA08025-B605		
		3	JMA Wireless	MX08FRO665-21		
		1	Raycap	RDIDC-9181-PF-48		
		1	Commscope	MC-PK8-DSH Platform		
57.0	57.0	1	GPS	GPS_A	1	1/2

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawing	1639483 / 1619530	CCI Sites
Mount Analysis Report	9826577	CCI Sites
Foundation Drawing	1640630	CCI Sites
Geotech Report	1530918	CCI Sites
Crown CAD Package	Date: 06/10/2021	CCI Sites

3.1) Analysis Method

tnxTower (version 8.0.9.0), 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. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

- 1) The tower and structures were maintained in accordance with the - TIA-222 standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 3) Base and flange plate design methodology of the manufacturer has been reviewed and found to be an acceptable means of designing to resist the full capacity of the bolts and shaft.

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 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	Pass / Fail
L1	96 - 85	Pole	P12x3/8	1	-6.259	482.199	49.9	Pass
L2	85 - 65	Pole	P42x3/8	2	-18.914	1752.313	23.3	Pass
L3	65 - 32.5	Pole	P48x3/8	3	-31.258	1939.864	53.3	Pass
L4	32.5 - 0	Pole	P48x1/2	4	-43.096	2781.513	67.4	Pass
							Summary	
						Pole (L4)	67.4	Pass
						Rating =	67.4	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2,3	Flange Connection	85.0	49.9	Pass
1,2,3	Flange Connection	65.0	23.3	Pass
1,2,3	Flange Connection	32.5	53.3	Pass
1,2	Anchor Rods	Base	69.2	Pass
1,2,4	Base Plate	Base	69.2	Pass
1,2	Base Foundation (Structure)	Base	47.6	Pass
1,2	Base Foundation (Soil Interaction)	Base	25.4	Pass

Structure Rating (max from all components) =	69.2%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Rating per TIA-222-H Section 15.5.
- 3) Flange plates have the same capacity as their respective shaft.
- 4) Base plates have the same capacity as their respective bolts.

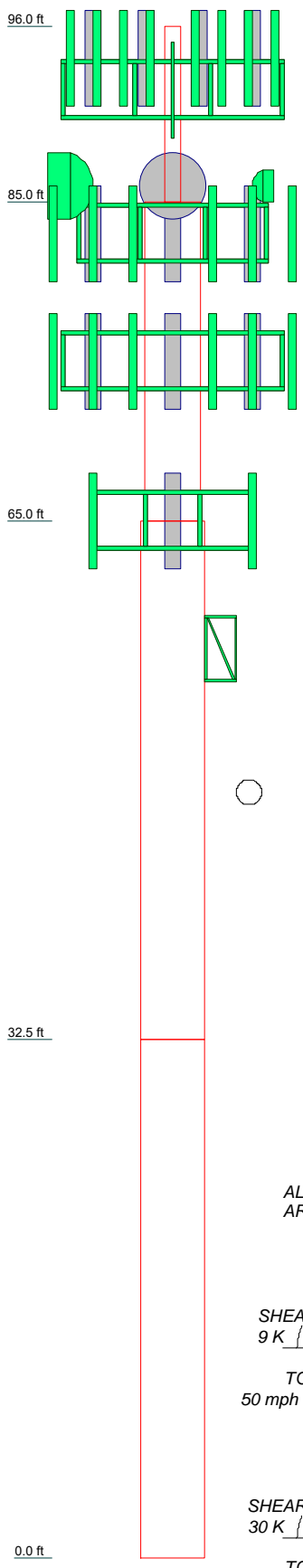
4.1) Recommendations

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

Section	1	P12x3/8	11,000	A53-B-35	0.5
Section	2	P42x3/8	20,000	A53-B-42	3.3
Section	3	P48x3/8	32,500		6.2
Section	4	P48x1/2	32,500		8.3
Length (ft)					
Grade					
Weight (K)					18.3

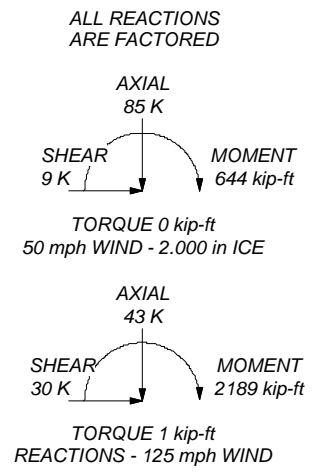


MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi	A53-B-42	42 ksi	63 ksi

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 125 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: 67.4%



B+T Group
 1717 S, Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: **136354.005.01- HAYDEN STATION, CT (BU# 87632)**

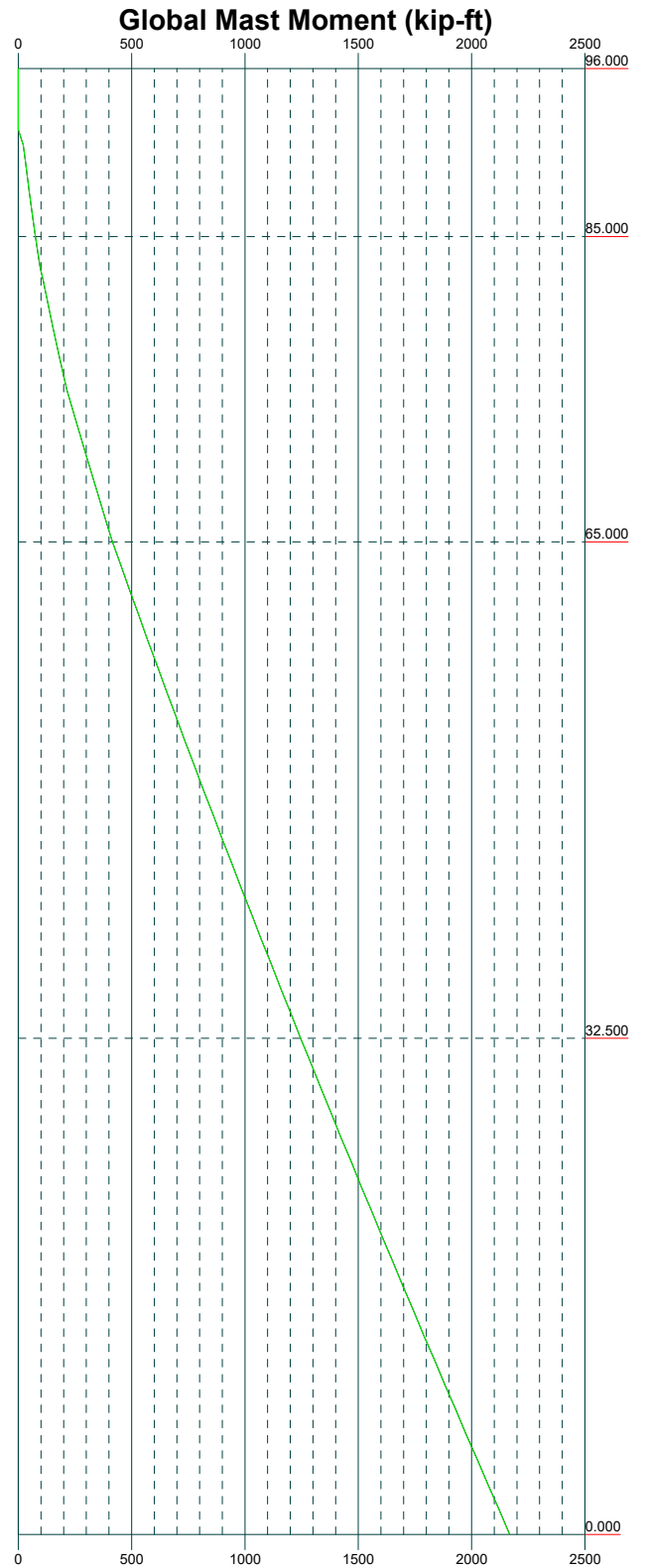
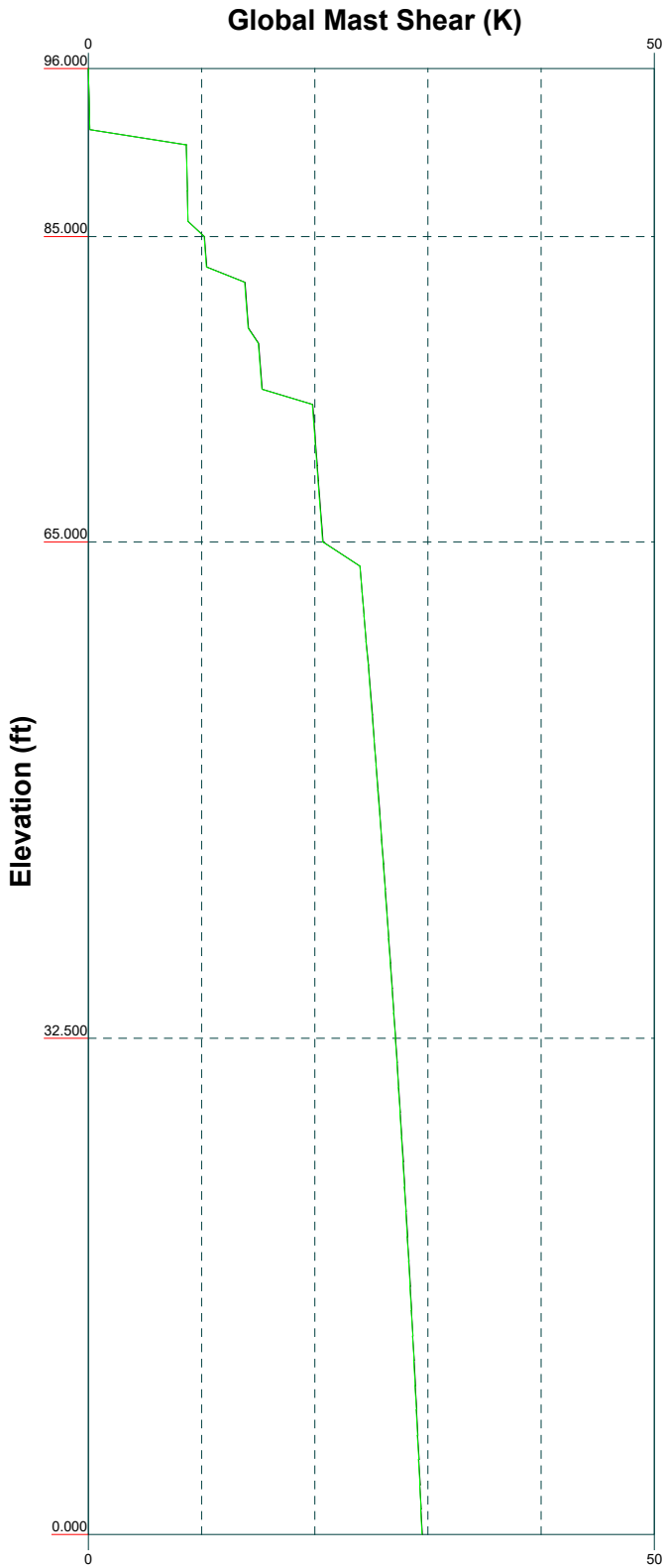
Project:	Client: Crown Castle	Drawn by: Suhas Poojary	App'd:
Code: TIA-222-H	Date: 06/17/21	Scale: NTS	Dwg No. E-1

Vx

Vz

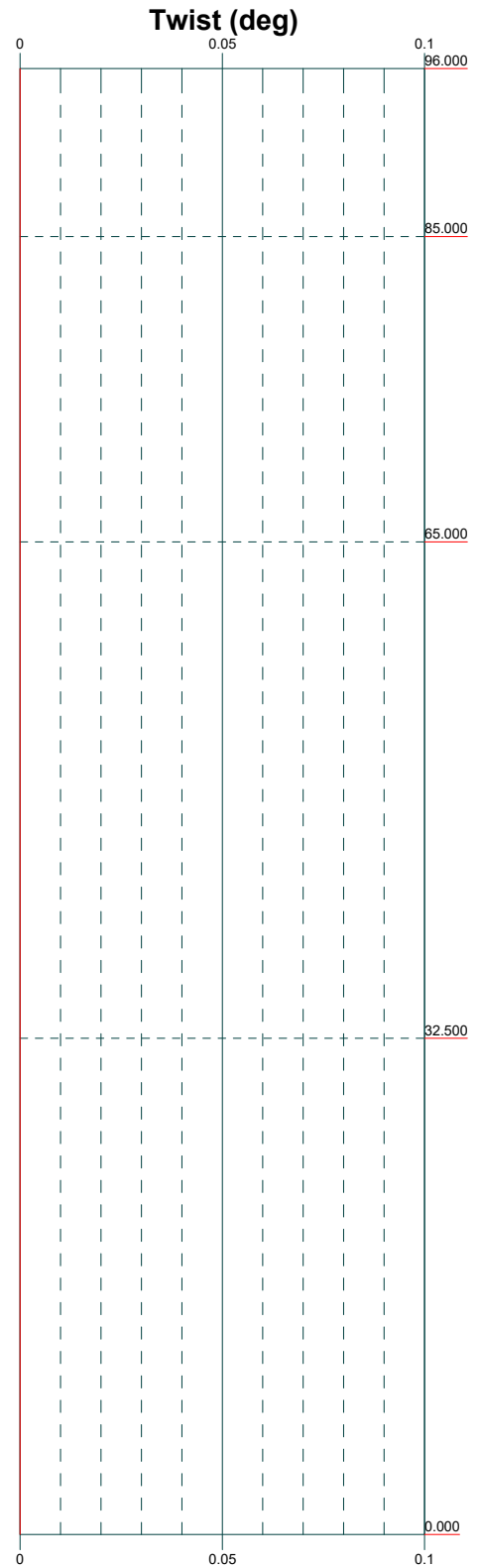
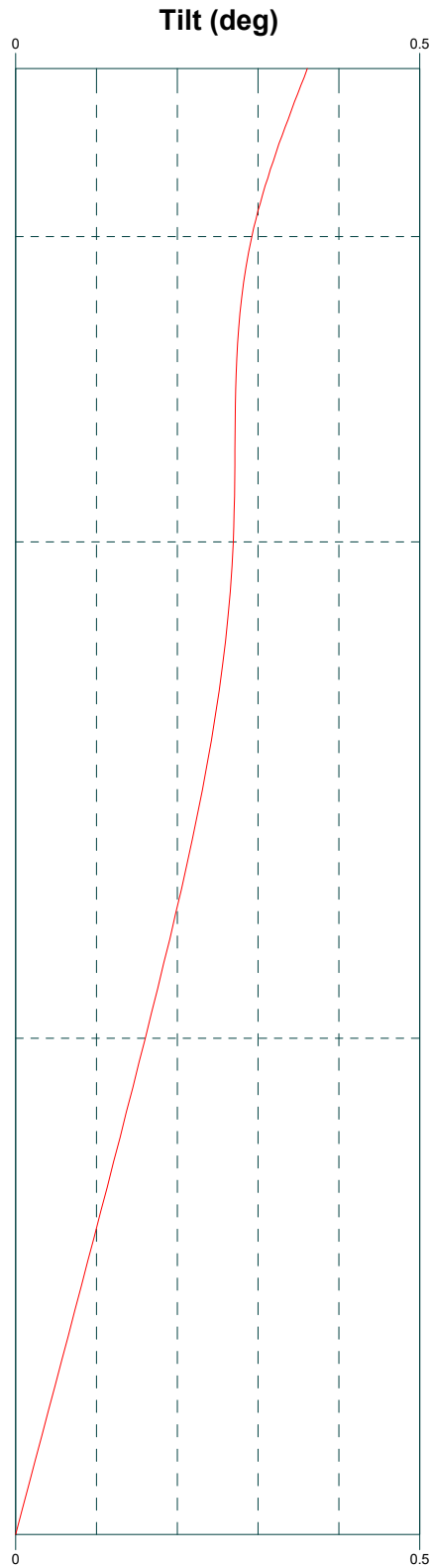
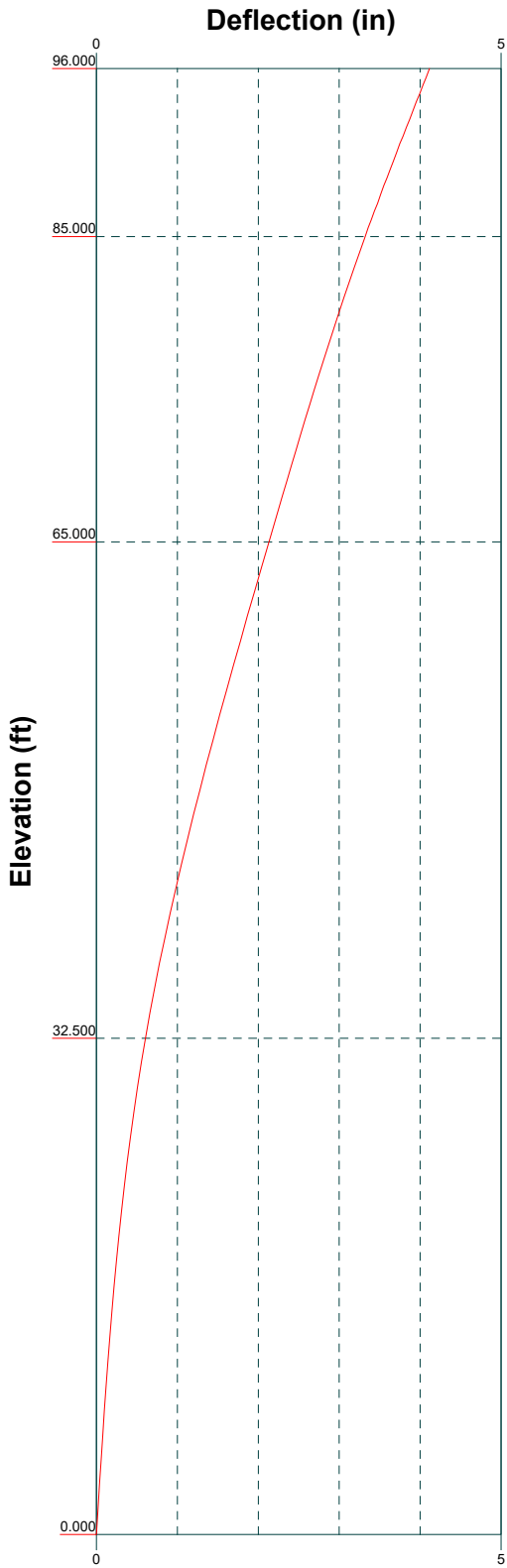
Mx

Mz



B+T Group
 1717 S, Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 136354.005.01- HAYDEN STATION, CT (BU# 87632)		
Project:		
Client: Crown Castle	Drawn by: Suhas Poojary	App'd:
Code: TIA-222-H	Date: 06/17/21	Scale: NTS
Path:	Dwg No. E-4	



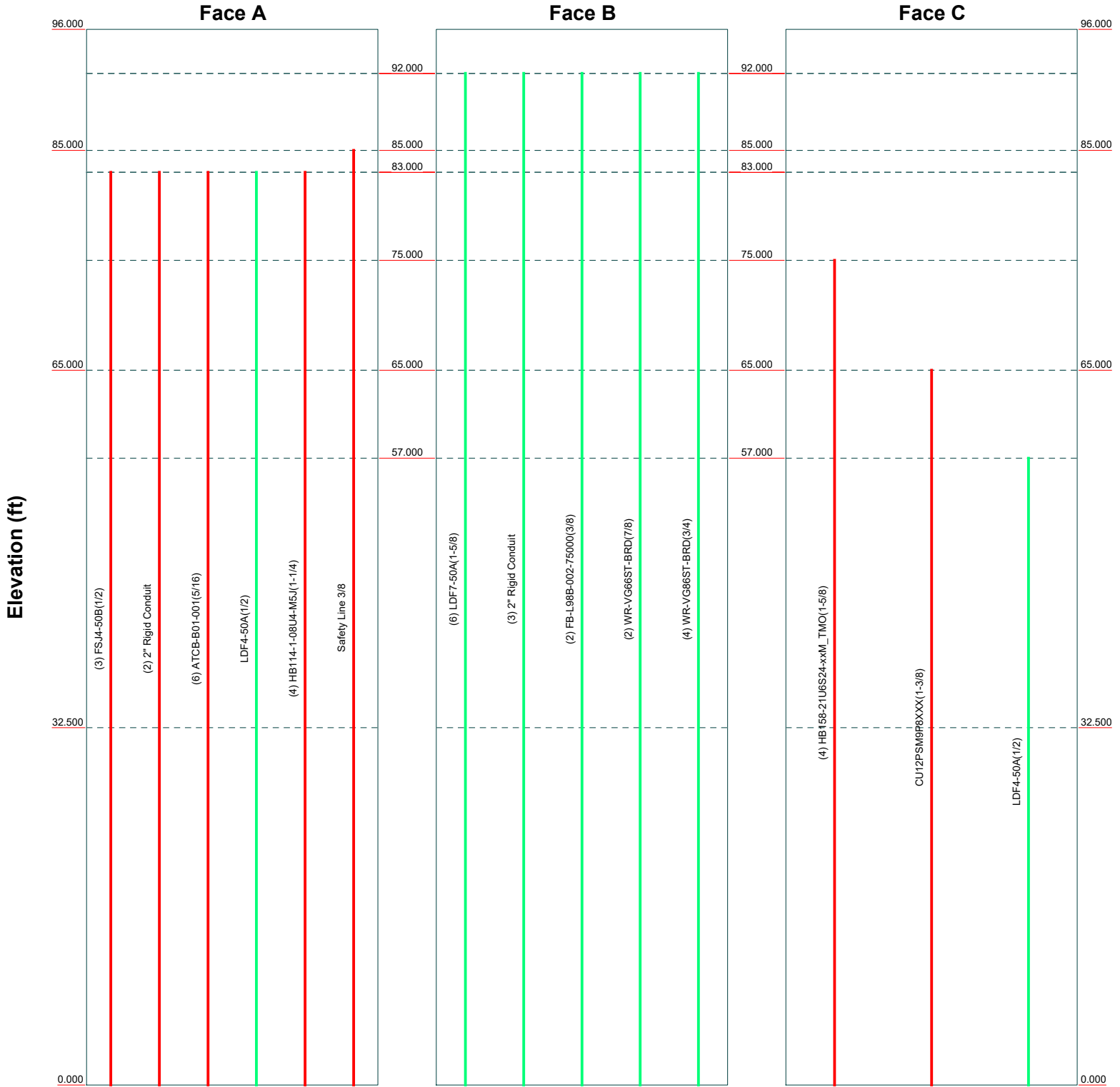
B+T Group
 1717 S, Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 136354.005.01- HAYDEN STATION, CT (BU# 87632)		
Project:		
Client: Crown Castle	Drawn by: Suhas Poojary	App'd:
Code: TIA-222-H	Date: 06/17/21	Scale: NTS
Path:	Dwg No. E-5	

Feed Line Distribution Chart

0' - 96'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



B+T Group
 1717 S, Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 136354.005.01- HAYDEN STATION, CT (BU# 87632)		
Project:		
Client: Crown Castle	Drawn by: Suhas Poojary	App'd:
Code: TIA-222-H	Date: 06/17/21	Scale: NTS
Path:	Dwg No. E-7	

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 1 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

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 Hartford County, Connecticut.
- Tower base elevation above sea level: 141.000 ft.
- Basic wind speed of 125 mph.
- Risk Category II.
- Exposure Category C.
- 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.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- 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/ry 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 B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 2 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	96.000-85.000	11.000	P12x3/8	A53-B-35 (35 ksi)	
L2	85.000-65.000	20.000	P42x3/8	A53-B-42 (42 ksi)	
L3	65.000-32.500	32.500	P48x3/8	A53-B-42 (42 ksi)	
L4	32.500-0.000	32.500	P48x1/2	A53-B-42 (42 ksi)	

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 Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 96.000-85.000				1	1	1			
L2 85.000-65.000				1	1	1			
L3 65.000-32.500				1	1	1			
L4 32.500-0.000				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 klf
* FSJ4-50B(1/2)	A	No	Surface Ar (CaAa)	83.000 - 0.000	3	3	0.150 0.200	0.530		0.000
2" Rigid Conduit	A	No	Surface Ar (CaAa)	83.000 - 0.000	2	2	0.200 0.300	2.000		0.003
ATCB-B01-001(5/16)	A	No	Surface Ar (CaAa)	83.000 - 0.000	6	3	0.200 0.300	0.000		0.000
HB114-1-08U4-M5J(1-1/4)	A	No	Surface Ar (CaAa)	83.000 - 0.000	4	3	0.000 0.100	1.540		0.001
HB158-21U6S24-xxM_TMO(1-5/8)	C	No	Surface Ar (CaAa)	75.000 - 0.000	4	4	-0.480 -0.300	1.996		0.003
* CU12PSM9P8XXX(1-3/8)	C	No	Surface Ar (CaAa)	65.000 - 0.000	1	1	0.250 0.300	1.411		0.002
* Safety Line 3/8	A	No	Surface Ar (CaAa)	85.000 - 0.000	1	1	-0.200 -0.200	0.375		0.000
* *										

Feed Line/Linear Appurtenances - Entered As Area

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 3 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight klf
LDF7-50A(1-5/8)	B	No	No	Inside Pole	92.000 - 0.000	6	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
2" Rigid Conduit	B	No	No	Inside Pole	92.000 - 0.000	3	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.003 0.003 0.003 0.003
FB-L98B-002-75000 (3/8)	B	No	No	Inside Pole	92.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000
WR-VG66ST-BRD(7/8)	B	No	No	Inside Pole	92.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
WR-VG86ST-BRD(3/4)	B	No	No	Inside Pole	92.000 - 0.000	4	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
* LDF4-50A(1/2)	A	No	No	Inside Pole	83.000 - 0.000	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000
* * LDF4-50A(1/2)	C	No	No	Inside Pole	57.000 - 0.000	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000
* *									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	96.000-85.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.123
		C	0.000	0.000	0.000	0.000	0.000
L2	85.000-65.000	A	0.000	0.000	19.128	0.000	0.201
		B	0.000	0.000	0.000	0.000	0.352
		C	0.000	0.000	7.984	0.000	0.100
L3	65.000-32.500	A	0.000	0.000	34.401	0.000	0.363
		B	0.000	0.000	0.000	0.000	0.572
		C	0.000	0.000	30.534	0.000	0.383
L4	32.500-0.000	A	0.000	0.000	34.401	0.000	0.363
		B	0.000	0.000	0.000	0.000	0.572
		C	0.000	0.000	30.534	0.000	0.384

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 4 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

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	96.000-85.000	A	1.880	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.123
		C		0.000	0.000	0.000	0.000	0.000
L2	85.000-65.000	A	1.845	0.000	0.000	64.323	0.000	0.972
		B		0.000	0.000	0.000	0.000	0.352
		C		0.000	0.000	14.594	0.000	0.283
L3	65.000-32.500	A	1.769	0.000	0.000	111.676	0.000	1.654
		B		0.000	0.000	0.000	0.000	0.572
		C		0.000	0.000	62.888	0.000	1.170
L4	32.500-0.000	A	1.588	0.000	0.000	104.617	0.000	1.469
		B		0.000	0.000	0.000	0.000	0.572
		C		0.000	0.000	60.241	0.000	1.072

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	96.000-85.000	0.000	0.000	0.000	0.000
L2	85.000-65.000	-2.270	-2.548	-3.253	-3.290
L3	65.000-32.500	-1.188	-0.478	-2.799	-1.710
L4	32.500-0.000	-1.188	-0.478	-2.667	-1.628

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
L2	7	FSJ4-50B(1/2)	65.00 - 83.00	1.0000	1.0000
L2	8	2" Rigid Conduit	65.00 - 83.00	1.0000	1.0000
L2	9	ATCB-B01-001(5/16)	65.00 - 83.00	1.0000	1.0000
L2	12	HB114-1-08U4-M5J(1-1/4)	65.00 - 83.00	1.0000	1.0000
L2	18	HB158-21U6S24-xxM_TMO (1-5/8)	65.00 - 75.00	1.0000	1.0000
L2	24	Safety Line 3/8	65.00 - 85.00	1.0000	1.0000
L3	7	FSJ4-50B(1/2)	32.50 - 65.00	1.0000	1.0000
L3	8	2" Rigid Conduit	32.50 - 65.00	1.0000	1.0000
L3	9	ATCB-B01-001(5/16)	32.50 - 65.00	1.0000	1.0000
L3	12	HB114-1-08U4-M5J(1-1/4)	32.50 - 65.00	1.0000	1.0000
L3	18	HB158-21U6S24-xxM_TMO (1-5/8)	32.50 - 65.00	1.0000	1.0000
L3	20	CU12PSM9P8XXX(1-3/8)	32.50 - 65.00	1.0000	1.0000
L3	24	Safety Line 3/8	32.50 - 65.00	1.0000	1.0000
L4	7	FSJ4-50B(1/2)	0.00 - 32.50	1.0000	1.0000
L4	8	2" Rigid Conduit	0.00 - 32.50	1.0000	1.0000

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 5 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L4	9	ATCB-B01-001(5/16)	0.00 - 32.50	1.0000	1.0000
L4	12	HB114-1-08U4-M5J(1-1/4)	0.00 - 32.50	1.0000	1.0000
L4	18	HB158-21U6S24-xxM_TMO (1-5/8)	0.00 - 32.50	1.0000	1.0000
L4	20	CU12PSM9P8XXX(1-3/8)	0.00 - 32.50	1.0000	1.0000
L4	24	Safety Line 3/8	0.00 - 32.50	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz Lateral	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	92.000	No Ice	15.890	7.890	0.139
			0.000	0.000			1/2" Ice	16.810	8.740	0.252
			2.000	0.000			1" Ice	17.760	9.600	0.380
				0.000			2" Ice	19.700	11.370	0.679
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	92.000	No Ice	15.890	7.890	0.139
			0.000	0.000			1/2" Ice	16.810	8.740	0.252
			2.000	0.000			1" Ice	17.760	9.600	0.380
				0.000			2" Ice	19.700	11.370	0.679
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	92.000	No Ice	15.890	7.890	0.139
			0.000	0.000			1/2" Ice	16.810	8.740	0.252
			2.000	0.000			1" Ice	17.760	9.600	0.380
				0.000			2" Ice	19.700	11.370	0.679
OPA65R-BU8D w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	92.000	No Ice	17.460	8.580	0.109
			0.000	0.000			1/2" Ice	18.460	9.490	0.224
			2.000	0.000			1" Ice	19.480	10.420	0.353
				0.000			2" Ice	21.580	12.330	0.656
OPA65R-BU8D w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	92.000	No Ice	17.460	8.580	0.109
			0.000	0.000			1/2" Ice	18.460	9.490	0.224
			2.000	0.000			1" Ice	19.480	10.420	0.353
				0.000			2" Ice	21.580	12.330	0.656
OPA65R-BU8D w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	92.000	No Ice	17.460	8.580	0.109
			0.000	0.000			1/2" Ice	18.460	9.490	0.224
			2.000	0.000			1" Ice	19.480	10.420	0.353
				0.000			2" Ice	21.580	12.330	0.656
TPA-65R-LCUUUU-H8 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	92.000	No Ice	11.850	8.990	0.115
			0.000	0.000			1/2" Ice	12.770	9.880	0.210
			2.000	0.000			1" Ice	13.710	10.790	0.319
				0.000			2" Ice	15.640	12.660	0.580
TPA-65R-LCUUUU-H8 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	92.000	No Ice	11.850	8.990	0.115
			0.000	0.000			1/2" Ice	12.770	9.880	0.210
			2.000	0.000			1" Ice	13.710	10.790	0.319
				0.000			2" Ice	15.640	12.660	0.580
TPA-65R-LCUUUU-H8 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	92.000	No Ice	11.850	8.990	0.115
			0.000	0.000			1/2" Ice	12.770	9.880	0.210
			2.000	0.000			1" Ice	13.710	10.790	0.319
				0.000			2" Ice	15.640	12.660	0.580
800 10121 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	92.000	No Ice	3.600	2.950	0.072
			0.000	0.000			1/2" Ice	4.000	3.340	0.115
			2.000	0.000			1" Ice	4.420	3.740	0.166

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 6 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

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	
800 10121 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	92.000	2" Ice	5.290	4.590	0.297
			0.000				No Ice	3.600	2.950	0.072
			2.000				1/2" Ice	4.000	3.340	0.115
							1" Ice	4.420	3.740	0.166
800 10121 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	92.000	2" Ice	5.290	4.590	0.297
			0.000				No Ice	3.600	2.950	0.072
			2.000				1/2" Ice	4.000	3.340	0.115
							1" Ice	4.420	3.740	0.166
(2) 860 10025	A	From Leg	4.000	0.000	0.000	92.000	2" Ice	5.290	4.590	0.297
			0.000				No Ice	0.142	0.121	0.001
			0.000				1/2" Ice	0.196	0.173	0.003
							1" Ice	0.259	0.231	0.005
(2) 860 10025	B	From Leg	4.000	0.000	0.000	92.000	2" Ice	0.408	0.376	0.014
			0.000				No Ice	0.142	0.121	0.001
			0.000				1/2" Ice	0.196	0.173	0.003
							1" Ice	0.259	0.231	0.005
(2) 860 10025	C	From Leg	4.000	0.000	0.000	92.000	2" Ice	0.408	0.376	0.014
			0.000				No Ice	0.142	0.121	0.001
			0.000				1/2" Ice	0.196	0.173	0.003
							1" Ice	0.259	0.231	0.005
(2) LGP21401	A	From Leg	4.000	0.000	0.000	92.000	2" Ice	0.408	0.376	0.014
			0.000				No Ice	1.104	0.207	0.014
			0.000				1/2" Ice	1.239	0.274	0.021
							1" Ice	1.381	0.348	0.030
(2) LGP21401	B	From Leg	4.000	0.000	0.000	92.000	2" Ice	1.688	0.521	0.055
			0.000				No Ice	1.104	0.207	0.014
			0.000				1/2" Ice	1.239	0.274	0.021
							1" Ice	1.381	0.348	0.030
(2) LGP21401	C	From Leg	4.000	0.000	0.000	92.000	2" Ice	1.688	0.521	0.055
			0.000				No Ice	1.104	0.207	0.014
			0.000				1/2" Ice	1.239	0.274	0.021
							1" Ice	1.381	0.348	0.030
RRUS 32 B30	A	From Leg	4.000	0.000	0.000	92.000	2" Ice	1.688	0.521	0.055
			0.000				No Ice	2.692	1.573	0.060
			2.000				1/2" Ice	2.912	1.756	0.080
							1" Ice	3.138	1.945	0.104
RRUS 32 B30	B	From Leg	4.000	0.000	0.000	92.000	2" Ice	3.614	2.346	0.161
			0.000				No Ice	2.692	1.573	0.060
			2.000				1/2" Ice	2.912	1.756	0.080
							1" Ice	3.138	1.945	0.104
RRUS 32 B30	C	From Leg	4.000	0.000	0.000	92.000	2" Ice	3.614	2.346	0.161
			0.000				No Ice	2.692	1.573	0.060
			2.000				1/2" Ice	2.912	1.756	0.080
							1" Ice	3.138	1.945	0.104
RRUS 4449 B5/B12	A	From Leg	4.000	0.000	0.000	92.000	2" Ice	3.614	2.346	0.161
			0.000				No Ice	1.968	1.408	0.071
			2.000				1/2" Ice	2.144	1.564	0.090
							1" Ice	2.328	1.727	0.111
RRUS 4449 B5/B12	B	From Leg	4.000	0.000	0.000	92.000	2" Ice	2.718	2.075	0.163
			0.000				No Ice	1.968	1.408	0.071
			2.000				1/2" Ice	2.144	1.564	0.090
							1" Ice	2.328	1.727	0.111
RRUS 4449 B5/B12	C	From Leg	4.000	0.000	0.000	92.000	2" Ice	2.718	2.075	0.163
			0.000				No Ice	1.968	1.408	0.071
			2.000				1/2" Ice	2.144	1.564	0.090
							1" Ice	2.328	1.727	0.111
						2" Ice	2.718	2.075	0.163	

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		136354.005.01- HAYDEN STATION, CT (BU# 876326)		Page		7 of 22	
	Project				Date		17:47:34 06/17/21	
	Client		Crown Castle		Designed by		Suhas Poojary	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
RRUS 4478 B14	A	From Leg	4.000	0.000	92.000	No Ice	1.843	1.059	0.060
			0.000	0.000		1/2" Ice	2.012	1.197	0.076
			2.000	0.000		1" Ice	2.190	1.342	0.094
				0.000		2" Ice	2.566	1.656	0.140
RRUS 4478 B14	B	From Leg	4.000	0.000	92.000	No Ice	1.843	1.059	0.060
			0.000	0.000		1/2" Ice	2.012	1.197	0.076
			2.000	0.000		1" Ice	2.190	1.342	0.094
				0.000		2" Ice	2.566	1.656	0.140
RRUS 4478 B14	C	From Leg	4.000	0.000	92.000	No Ice	1.843	1.059	0.060
			0.000	0.000		1/2" Ice	2.012	1.197	0.076
			2.000	0.000		1" Ice	2.190	1.342	0.094
				0.000		2" Ice	2.566	1.656	0.140
RRUS 8843 B2/B66A	A	From Leg	4.000	0.000	92.000	No Ice	1.639	1.353	0.072
			0.000	0.000		1/2" Ice	1.799	1.500	0.090
			2.000	0.000		1" Ice	1.966	1.655	0.110
				0.000		2" Ice	2.323	1.986	0.159
RRUS 8843 B2/B66A	B	From Leg	4.000	0.000	92.000	No Ice	1.639	1.353	0.072
			0.000	0.000		1/2" Ice	1.799	1.500	0.090
			2.000	0.000		1" Ice	1.966	1.655	0.110
				0.000		2" Ice	2.323	1.986	0.159
RRUS 8843 B2/B66A	C	From Leg	4.000	0.000	92.000	No Ice	1.639	1.353	0.072
			0.000	0.000		1/2" Ice	1.799	1.500	0.090
			2.000	0.000		1" Ice	1.966	1.655	0.110
				0.000		2" Ice	2.323	1.986	0.159
RRUS E2 B29	A	From Leg	4.000	0.000	92.000	No Ice	3.145	1.285	0.060
			0.000	0.000		1/2" Ice	3.365	1.438	0.083
			2.000	0.000		1" Ice	3.592	1.600	0.110
				0.000		2" Ice	4.069	1.954	0.173
RRUS E2 B29	B	From Leg	4.000	0.000	92.000	No Ice	3.145	1.285	0.060
			0.000	0.000		1/2" Ice	3.365	1.438	0.083
			2.000	0.000		1" Ice	3.592	1.600	0.110
				0.000		2" Ice	4.069	1.954	0.173
RRUS E2 B29	C	From Leg	4.000	0.000	92.000	No Ice	3.145	1.285	0.060
			0.000	0.000		1/2" Ice	3.365	1.438	0.083
			2.000	0.000		1" Ice	3.592	1.600	0.110
				0.000		2" Ice	4.069	1.954	0.173
DC6-48-60-18-8F	A	From Leg	2.000	0.000	92.000	No Ice	1.212	1.212	0.033
			0.000	0.000		1/2" Ice	1.892	1.892	0.055
			2.000	0.000		1" Ice	2.105	2.105	0.080
				0.000		2" Ice	2.570	2.570	0.138
DC6-48-60-18-8F	B	From Leg	2.000	0.000	92.000	No Ice	1.212	1.212	0.033
			0.000	0.000		1/2" Ice	1.892	1.892	0.055
			2.000	0.000		1" Ice	2.105	2.105	0.080
				0.000		2" Ice	2.570	2.570	0.138
DC6-48-60-0-8F	C	From Leg	2.000	0.000	92.000	No Ice	0.917	0.917	0.033
			0.000	0.000		1/2" Ice	1.458	1.458	0.051
			2.000	0.000		1" Ice	1.643	1.643	0.071
				0.000		2" Ice	2.042	2.042	0.119
4' x 2" Pipe Mount	A	From Leg	2.000	0.000	92.000	No Ice	0.785	0.785	0.029
			0.000	0.000		1/2" Ice	1.028	1.028	0.035
			1.000	0.000		1" Ice	1.281	1.281	0.044
				0.000		2" Ice	1.814	1.814	0.072
4' x 2" Pipe Mount	B	From Leg	2.000	0.000	92.000	No Ice	0.785	0.785	0.029
			0.000	0.000		1/2" Ice	1.028	1.028	0.035
			1.000	0.000		1" Ice	1.281	1.281	0.044
				0.000		2" Ice	1.814	1.814	0.072
4' x 2" Pipe Mount	C	From Leg	2.000	0.000	92.000	No Ice	0.785	0.785	0.029
				0.000					

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)		Page 8 of 22	
	Project		Date 17:47:34 06/17/21	
	Client Crown Castle		Designed by Suhas Poojary	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
			0.000			1/2" Ice	1.028	1.028	0.035
			1.000			1" Ice	1.281	1.281	0.044
						2" Ice	1.814	1.814	0.072
6' x 2" Horizontal Mount Pipe	A	From Leg	4.000	0.000	92.000	No Ice	1.140	0.010	0.016
			0.000			1/2" Ice	1.760	0.040	0.025
			2.000			1" Ice	2.140	0.090	0.038
						2" Ice	2.900	0.210	0.077
6' x 2" Horizontal Mount Pipe	B	From Leg	4.000	0.000	92.000	No Ice	1.140	0.010	0.016
			0.000			1/2" Ice	1.760	0.040	0.025
			2.000			1" Ice	2.140	0.090	0.038
						2" Ice	2.900	0.210	0.077
6' x 2" Horizontal Mount Pipe	C	From Leg	4.000	0.000	92.000	No Ice	1.140	0.010	0.016
			0.000			1/2" Ice	1.760	0.040	0.025
			2.000			1" Ice	2.140	0.090	0.038
						2" Ice	2.900	0.210	0.077
Sector Mount [SM 503-3]	C	None		0.000	92.000	No Ice	30.430	30.430	1.690
						1/2" Ice	43.020	43.020	2.296
						1" Ice	55.430	55.430	3.097
						2" Ice	79.890	79.890	5.269
Pipe Mount [PM 601-3]	C	None		0.000	92.000	No Ice	3.170	3.170	0.195
						1/2" Ice	3.790	3.790	0.232
						1" Ice	4.420	4.420	0.279
						2" Ice	5.760	5.760	0.401
* *CLEARWIRE* *									
840 10045	A	From Leg	4.000	0.000	83.000	No Ice	4.578	1.361	0.035
			0.000			1/2" Ice	4.874	1.620	0.059
			-1.000			1" Ice	5.178	1.886	0.087
						2" Ice	5.806	2.440	0.156
840 10045	B	From Leg	4.000	0.000	83.000	No Ice	4.578	1.361	0.035
			0.000			1/2" Ice	4.874	1.620	0.059
			-1.000			1" Ice	5.178	1.886	0.087
						2" Ice	5.806	2.440	0.156
840 10045	C	From Leg	4.000	0.000	83.000	No Ice	4.578	1.361	0.035
			0.000			1/2" Ice	4.874	1.620	0.059
			-1.000			1" Ice	5.178	1.886	0.087
						2" Ice	5.806	2.440	0.156
WIMAX DAP HEAD	A	From Leg	4.000	0.000	83.000	No Ice	1.547	0.684	0.033
			0.000			1/2" Ice	1.704	0.800	0.045
			0.000			1" Ice	1.868	0.923	0.058
						2" Ice	2.219	1.193	0.094
WIMAX DAP HEAD	B	From Leg	4.000	0.000	83.000	No Ice	1.547	0.684	0.033
			0.000			1/2" Ice	1.704	0.800	0.045
			0.000			1" Ice	1.868	0.923	0.058
						2" Ice	2.219	1.193	0.094
WIMAX DAP HEAD	C	From Leg	4.000	0.000	83.000	No Ice	1.547	0.684	0.033
			0.000			1/2" Ice	1.704	0.800	0.045
			0.000			1" Ice	1.868	0.923	0.058
						2" Ice	2.219	1.193	0.094
HORIZON DUO	A	From Leg	4.000	0.000	83.000	No Ice	0.469	0.294	0.007
			0.000			1/2" Ice	0.556	0.365	0.012
			3.000			1" Ice	0.650	0.444	0.018
						2" Ice	0.861	0.624	0.036
HORIZON DUO	B	From Leg	4.000	0.000	83.000	No Ice	0.469	0.294	0.007
			0.000			1/2" Ice	0.556	0.365	0.012
			3.000			1" Ice	0.650	0.444	0.018

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		136354.005.01- HAYDEN STATION, CT (BU# 876326)		Page		9 of 22	
	Project				Date		17:47:34 06/17/21	
	Client		Crown Castle		Designed by		Suhas Poojary	

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	
HORIZON DUO	C	From Leg	4.000	0.000	0.000	83.000	2" Ice	0.861	0.624	0.036
			0.000				No Ice	0.469	0.294	0.007
			3.000				1/2" Ice	0.556	0.365	0.012
							1" Ice	0.650	0.444	0.018
10' x 3" Pipe Mount	A	From Leg	4.000	0.000	0.000	83.000	2" Ice	0.861	0.624	0.036
			0.000				No Ice	3.000	3.000	0.080
			2.000				1/2" Ice	4.033	4.033	0.102
							1" Ice	5.027	5.027	0.130
10' x 3" Pipe Mount	B	From Leg	4.000	0.000	0.000	83.000	2" Ice	6.257	6.257	0.207
			0.000				No Ice	3.000	3.000	0.080
			2.000				1/2" Ice	4.033	4.033	0.102
							1" Ice	5.027	5.027	0.130
10' x 3" Pipe Mount	C	From Leg	4.000	0.000	0.000	83.000	2" Ice	6.257	6.257	0.207
			0.000				No Ice	3.000	3.000	0.080
			2.000				1/2" Ice	4.033	4.033	0.102
							1" Ice	5.027	5.027	0.130
						2" Ice	6.257	6.257	0.207	
* *SPRINT* *										
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	83.000	No Ice	4.600	4.010	0.095
			0.000				1/2" Ice	5.050	4.450	0.160
			0.000				1" Ice	5.500	4.890	0.235
							2" Ice	6.440	5.820	0.419
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	83.000	No Ice	4.600	4.010	0.095
			0.000				1/2" Ice	5.050	4.450	0.160
			0.000				1" Ice	5.500	4.890	0.235
							2" Ice	6.440	5.820	0.419
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	83.000	No Ice	4.600	4.010	0.095
			0.000				1/2" Ice	5.050	4.450	0.160
			0.000				1" Ice	5.500	4.890	0.235
							2" Ice	6.440	5.820	0.419
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	83.000	No Ice	4.090	2.860	0.077
			0.000				1/2" Ice	4.480	3.230	0.127
			0.000				1" Ice	4.880	3.610	0.185
							2" Ice	5.710	4.400	0.331
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	83.000	No Ice	4.090	2.860	0.077
			0.000				1/2" Ice	4.480	3.230	0.127
			0.000				1" Ice	4.880	3.610	0.185
							2" Ice	5.710	4.400	0.331
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	83.000	No Ice	4.090	2.860	0.077
			0.000				1/2" Ice	4.480	3.230	0.127
			0.000				1" Ice	4.880	3.610	0.185
							2" Ice	5.710	4.400	0.331
TD-RRH8X20-25	A	From Leg	4.000	0.000	0.000	83.000	No Ice	3.704	1.294	0.066
			0.000				1/2" Ice	3.946	1.465	0.090
			4.000				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	83.000	No Ice	3.704	1.294	0.066
			0.000				1/2" Ice	3.946	1.465	0.090
			4.000				1" Ice	4.196	1.642	0.117
							2" Ice	4.717	2.019	0.183
TD-RRH8X20-25	C	From Leg	4.000	0.000	0.000	83.000	No Ice	3.704	1.294	0.066
			0.000				1/2" Ice	3.946	1.465	0.090
			4.000				1" Ice	4.196	1.642	0.117
							2" Ice	4.717	2.019	0.183
(2) 5' x 2" Pipe Mount	A	From Leg	4.000	0.000	0.000	83.000	No Ice	1.188	1.188	0.018

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)		Page 10 of 22	
	Project		Date 17:47:34 06/17/21	
	Client Crown Castle		Designed by Suhas Poojary	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			Horz Lateral ft	Vert ft						
			0.000				1/2" Ice	1.496	1.496	0.027
			0.000				1" Ice	1.807	1.807	0.040
							2" Ice	2.458	2.458	0.076
(2) 5' x 2" Pipe Mount	B	From Leg	4.000	0.000	83.000		No Ice	1.188	1.188	0.018
			0.000				1/2" Ice	1.496	1.496	0.027
			0.000				1" Ice	1.807	1.807	0.040
							2" Ice	2.458	2.458	0.076
(2) 5' x 2" Pipe Mount	C	From Leg	4.000	0.000	83.000		No Ice	1.188	1.188	0.018
			0.000				1/2" Ice	1.496	1.496	0.027
			0.000				1" Ice	1.807	1.807	0.040
							2" Ice	2.458	2.458	0.076
Platform Mount [LP 502-1]	C	None		0.000	83.000		No Ice	18.280	18.280	0.925
							1/2" Ice	23.540	23.540	1.435
							1" Ice	28.530	28.530	2.070
							2" Ice	38.850	38.850	3.714
*										
800MHZ 2X50W RRH W/FILTER	A	From Leg	1.000	0.000	79.000		No Ice	2.058	1.932	0.064
			0.000				1/2" Ice	2.240	2.109	0.086
			1.000				1" Ice	2.429	2.293	0.111
							2" Ice	2.829	2.684	0.172
800MHZ 2X50W RRH W/FILTER	B	From Leg	1.000	0.000	79.000		No Ice	2.058	1.932	0.064
			0.000				1/2" Ice	2.240	2.109	0.086
			1.000				1" Ice	2.429	2.293	0.111
							2" Ice	2.829	2.684	0.172
800MHZ 2X50W RRH W/FILTER	C	From Leg	1.000	0.000	79.000		No Ice	2.058	1.932	0.064
			0.000				1/2" Ice	2.240	2.109	0.086
			1.000				1" Ice	2.429	2.293	0.111
							2" Ice	2.829	2.684	0.172
PCS 1900MHZ 4x45W-65MHZ	A	From Leg	1.000	0.000	79.000		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
PCS 1900MHZ 4x45W-65MHZ	B	From Leg	1.000	0.000	79.000		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
PCS 1900MHZ 4x45W-65MHZ	C	From Leg	1.000	0.000	79.000		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
6' x 2" Mount Pipe	A	From Leg	1.000	0.000	79.000		No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			0.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
6' x 2" Mount Pipe	B	From Leg	1.000	0.000	79.000		No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			0.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
6' x 2" Mount Pipe	C	From Leg	1.000	0.000	79.000		No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			0.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
Side Arm Mount [SO 104-3]	C	None		0.000	79.000		No Ice	2.620	2.620	0.288
							1/2" Ice	3.300	3.300	0.408
							1" Ice	3.980	3.980	0.528
							2" Ice	5.350	5.350	0.768

*

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page	11 of 22
	Project		Date	17:47:34 06/17/21
	Client	Crown Castle		Designed by

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	
AIR6449 B41_T-MOBILE	A	From Leg	4.000	0.000	0.000	75.000	No Ice	5.270	2.030	0.115
			0.000				1/2" Ice	5.700	2.360	0.154
			0.000				1" Ice	6.140	2.700	0.197
							2" Ice	7.060	3.430	0.296
AIR6449 B41_T-MOBILE	B	From Leg	4.000	0.000	0.000	75.000	No Ice	5.270	2.030	0.115
			0.000				1/2" Ice	5.700	2.360	0.154
			0.000				1" Ice	6.140	2.700	0.197
							2" Ice	7.060	3.430	0.296
AIR6449 B41_T-MOBILE	C	From Leg	4.000	0.000	0.000	75.000	No Ice	5.270	2.030	0.115
			0.000				1/2" Ice	5.700	2.360	0.154
			0.000				1" Ice	6.140	2.700	0.197
							2" Ice	7.060	3.430	0.296
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	75.000	No Ice	14.690	6.870	0.183
			0.000				1/2" Ice	15.460	7.550	0.311
			0.000				1" Ice	16.230	8.250	0.453
							2" Ice	17.820	9.670	0.782
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	75.000	No Ice	14.690	6.870	0.183
			0.000				1/2" Ice	15.460	7.550	0.311
			0.000				1" Ice	16.230	8.250	0.453
							2" Ice	17.820	9.670	0.782
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	75.000	No Ice	14.690	6.870	0.183
			0.000				1/2" Ice	15.460	7.550	0.311
			0.000				1" Ice	16.230	8.250	0.453
							2" Ice	17.820	9.670	0.782
APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	75.000	No Ice	6.290	2.760	0.061
			0.000				1/2" Ice	6.860	3.270	0.105
			0.000				1" Ice	7.450	3.790	0.157
							2" Ice	8.680	4.900	0.290
APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	75.000	No Ice	6.290	2.760	0.061
			0.000				1/2" Ice	6.860	3.270	0.105
			0.000				1" Ice	7.450	3.790	0.157
							2" Ice	8.680	4.900	0.290
APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	75.000	No Ice	6.290	2.760	0.061
			0.000				1/2" Ice	6.860	3.270	0.105
			0.000				1" Ice	7.450	3.790	0.157
							2" Ice	8.680	4.900	0.290
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.000	0.000	0.000	75.000	No Ice	1.970	1.587	0.073
			0.000				1/2" Ice	2.147	1.749	0.093
			0.000				1" Ice	2.331	1.918	0.116
							2" Ice	2.721	2.280	0.170
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.000	0.000	0.000	75.000	No Ice	1.970	1.587	0.073
			0.000				1/2" Ice	2.147	1.749	0.093
			0.000				1" Ice	2.331	1.918	0.116
							2" Ice	2.721	2.280	0.170
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.000	0.000	0.000	75.000	No Ice	1.970	1.587	0.073
			0.000				1/2" Ice	2.147	1.749	0.093
			0.000				1" Ice	2.331	1.918	0.116
							2" Ice	2.721	2.280	0.170
(2) RADIO 4415 B66A	A	From Leg	4.000	0.000	0.000	75.000	No Ice	1.856	0.870	0.050
			0.000				1/2" Ice	2.027	0.997	0.064
			0.000				1" Ice	2.204	1.134	0.081
							2" Ice	2.582	1.432	0.124
(2) RADIO 4415 B66A	B	From Leg	4.000	0.000	0.000	75.000	No Ice	1.856	0.870	0.050
			0.000				1/2" Ice	2.027	0.997	0.064
			0.000				1" Ice	2.204	1.134	0.081
							2" Ice	2.582	1.432	0.124
(2) RADIO 4415 B66A	C	From Leg	4.000	0.000	0.000	75.000	No Ice	1.856	0.870	0.050

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		136354.005.01- HAYDEN STATION, CT (BU# 876326)		Page		12 of 22	
	Project				Date		17:47:34 06/17/21	
	Client		Crown Castle		Designed by		Suhas Poojary	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			0.000						
			0.000			1/2" Ice	2.027	0.997	0.064
						1" Ice	2.204	1.134	0.081
						2" Ice	2.582	1.432	0.124
RADIO 4424 B25_TMOV1	A	From Leg	4.000	0.000	75.000	No Ice	2.052	1.610	0.097
			0.000			1/2" Ice	2.231	1.772	0.118
			0.000			1" Ice	2.417	1.941	0.142
						2" Ice	2.811	2.301	0.199
RADIO 4424 B25_TMOV1	B	From Leg	4.000	0.000	75.000	No Ice	2.052	1.610	0.097
			0.000			1/2" Ice	2.231	1.772	0.118
			0.000			1" Ice	2.417	1.941	0.142
						2" Ice	2.811	2.301	0.199
RADIO 4424 B25_TMOV1	C	From Leg	4.000	0.000	75.000	No Ice	2.052	1.610	0.097
			0.000			1/2" Ice	2.231	1.772	0.118
			0.000			1" Ice	2.417	1.941	0.142
						2" Ice	2.811	2.301	0.199
SDX1926Q-43	A	From Leg	4.000	0.000	75.000	No Ice	0.241	0.101	0.006
			0.000			1/2" Ice	0.306	0.144	0.009
			0.000			1" Ice	0.379	0.195	0.012
						2" Ice	0.547	0.318	0.023
SDX1926Q-43	B	From Leg	4.000	0.000	75.000	No Ice	0.241	0.101	0.006
			0.000			1/2" Ice	0.306	0.144	0.009
			0.000			1" Ice	0.379	0.195	0.012
						2" Ice	0.547	0.318	0.023
SDX1926Q-43	C	From Leg	4.000	0.000	75.000	No Ice	0.241	0.101	0.006
			0.000			1/2" Ice	0.306	0.144	0.009
			0.000			1" Ice	0.379	0.195	0.012
						2" Ice	0.547	0.318	0.023
10' x 2" Mount Pipe	A	From Leg	4.000	0.000	75.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
10' x 2" Mount Pipe	B	From Leg	4.000	0.000	75.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
10' x 2" Mount Pipe	C	From Leg	4.000	0.000	75.000	No Ice	2.375	2.375	0.037
			0.000			1/2" Ice	3.403	3.403	0.054
			0.000			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
Platform Mount [LP 304-1_HR-1] (16')	C	None		0.000	75.000	No Ice	23.625	23.625	1.771
						1/2" Ice	29.374	29.374	2.268
						1" Ice	34.935	34.935	2.866
						2" Ice	45.661	45.661	4.368
*									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000	0.000	65.000	No Ice	8.010	4.230	0.108
			0.000			1/2" Ice	8.520	4.690	0.194
			0.000			1" Ice	9.040	5.160	0.292
						2" Ice	10.110	6.120	0.522
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000	0.000	65.000	No Ice	8.010	4.230	0.108
			0.000			1/2" Ice	8.520	4.690	0.194
			0.000			1" Ice	9.040	5.160	0.292
						2" Ice	10.110	6.120	0.522
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000	0.000	65.000	No Ice	8.010	4.230	0.108
			0.000			1/2" Ice	8.520	4.690	0.194
			0.000			1" Ice	9.040	5.160	0.292
						2" Ice	10.110	6.120	0.522
TA08025-B604	A	From Leg	4.000	0.000	65.000	No Ice	1.964	0.981	0.064

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 14 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight
				Horz Lateral ft	Vert ft						
Dragonwave A-ANT-11G-4-C	A	Paraboloid w/Shroud (HP)	From Leg	4.000	-10.000	83.000	4.222	No Ice	14.000	0.121	
				0.000					1/2" Ice	14.558	0.150
				3.000					1" Ice	15.116	0.179
									2" Ice	16.232	0.237
Andrew VHL2-180	B	Paraboloid w/Shroud (HP)	From Leg	4.000	-40.000	83.000	2.000	No Ice	3.142	0.025	
				0.000					1/2" Ice	3.409	0.042
				3.000					1" Ice	3.676	0.060
									2" Ice	4.211	0.095
Dragonwave A-ANT-11G-4-C	C	Paraboloid w/Shroud (HP)	From Leg	4.000	20.000	83.000	4.222	No Ice	14.000	0.121	
				0.000					1/2" Ice	14.558	0.150
				3.000					1" Ice	15.116	0.179
									2" Ice	16.232	0.237

*

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

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 15 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

Comb. No.	Description
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	96 - 85	Pole	Max Tension	36	0.000	-0.000	-0.000
			Max. Compression	26	-17.863	0.594	0.384
			Max. Mx	20	-6.258	76.036	0.345
			Max. My	2	-6.262	0.334	75.726
			Max. Vy	8	10.262	-75.250	0.237
			Max. Vx	14	10.226	0.543	-75.405
			Max. Torque	24			1.347
			Max Tension	1	0.000	0.000	0.000
L2	85 - 65	Pole	Max. Compression	26	-47.060	2.191	0.751
			Max. Mx	8	-18.919	-415.544	-0.147
			Max. My	14	-18.919	2.984	-415.359
			Max. Vy	8	20.731	-415.544	-0.147
			Max. Vx	14	20.695	2.984	-415.359
			Max. Torque	24			1.347
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-68.378	5.028	0.413
L3	65 - 32.5	Pole	Max. Mx	8	-31.265	-1245.241	-1.559
			Max. My	14	-31.266	6.683	-1245.529
			Max. Vy	8	27.149	-1245.241	-1.559
			Max. Vx	14	27.125	6.683	-1245.529
			Max. Torque	24			1.224
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-84.782	7.794	-0.364
			Max. Mx	8	-43.097	-2167.317	-3.217
L4	32.5 - 0	Pole	Max. My	14	-43.097	10.253	-2168.098
			Max. Vy	8	29.505	-2167.317	-3.217
			Max. Vx	14	29.481	10.253	-2168.098
			Max. Torque	24			1.192

Maximum Reactions

<p>tnxTower</p> <p>B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)</p>	<p>Page 16 of 22</p>
	<p>Project</p>	<p>Date 17:47:34 06/17/21</p>
	<p>Client Crown Castle</p>	<p>Designed by Suhas Poojary</p>

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	36	84.782	8.823	0.021
	Max. H _x	20	43.109	29.371	0.104
	Max. H _z	2	43.109	-0.081	29.270
	Max. M _x	2	2149.945	-0.081	29.270
	Max. M _z	8	2167.317	-29.488	-0.035
	Max. Torsion	24	1.192	14.794	25.297
	Min. Vert	25	32.332	14.794	25.297
	Min. H _x	8	43.109	-29.488	-0.035
	Min. H _z	14	43.109	0.085	-29.464
	Min. M _x	14	-2168.098	0.085	-29.464
	Min. M _z	20	-2161.926	29.371	0.104
	Min. Torsion	12	-0.826	-14.909	-25.439

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	35.924	0.000	0.000	0.507	1.951	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	43.109	0.081	-29.270	-2149.945	-5.202	-0.853
0.9 Dead+1.0 Wind 0 deg - No Ice	32.332	0.081	-29.270	-2142.235	-5.774	-0.850
1.2 Dead+1.0 Wind 30 deg - No Ice	43.109	14.918	-25.439	-1865.567	-1095.591	0.440
0.9 Dead+1.0 Wind 30 deg - No Ice	32.332	14.918	-25.439	-1858.900	-1092.176	0.444
1.2 Dead+1.0 Wind 60 deg - No Ice	43.109	25.995	-15.020	-1096.235	-1895.276	-0.363
0.9 Dead+1.0 Wind 60 deg - No Ice	32.332	25.995	-15.020	-1092.386	-1888.953	-0.359
1.2 Dead+1.0 Wind 90 deg - No Ice	43.109	29.488	0.035	3.217	-2167.317	-0.436
0.9 Dead+1.0 Wind 90 deg - No Ice	32.332	29.488	0.035	3.054	-2159.982	-0.434
1.2 Dead+1.0 Wind 120 deg - No Ice	43.109	25.592	14.801	1090.015	-1881.203	0.506
0.9 Dead+1.0 Wind 120 deg - No Ice	32.332	25.592	14.801	1085.876	-1874.914	0.506
1.2 Dead+1.0 Wind 150 deg - No Ice	43.109	14.909	25.439	1870.684	-1096.453	0.826
0.9 Dead+1.0 Wind 150 deg - No Ice	32.332	14.909	25.439	1863.692	-1093.033	0.825
1.2 Dead+1.0 Wind 180 deg - No Ice	43.109	-0.085	29.464	2168.098	10.253	0.722
0.9 Dead+1.0 Wind 180 deg - No Ice	32.332	-0.085	29.464	2160.016	9.619	0.719
1.2 Dead+1.0 Wind 210 deg - No Ice	43.109	-14.808	25.577	1878.841	1090.712	-0.211
0.9 Dead+1.0 Wind 210 deg - No Ice	32.332	-14.808	25.577	1871.821	1086.130	-0.215
1.2 Dead+1.0 Wind 240 deg - No Ice	43.109	-25.801	15.062	1101.195	1883.157	0.224
0.9 Dead+1.0 Wind 240 deg - No Ice	32.332	-25.801	15.062	1097.023	1875.695	0.221
1.2 Dead+1.0 Wind 270 deg - No Ice	43.109	-29.371	-0.104	-8.009	2161.926	0.653

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)</p>	<p>Page 17 of 22</p>
	<p>Project</p>	<p>Date 17:47:34 06/17/21</p>
	<p>Client Crown Castle</p>	<p>Designed by Suhas Poojary</p>

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
0.9 Dead+1.0 Wind 270 deg - No Ice	32.332	-29.371	-0.104	-8.131	2153.426	0.651
1.2 Dead+1.0 Wind 300 deg - No Ice	43.109	-25.451	-14.643	-1074.981	1873.616	-0.337
0.9 Dead+1.0 Wind 300 deg - No Ice	32.332	-25.451	-14.643	-1071.202	1866.170	-0.337
1.2 Dead+1.0 Wind 330 deg - No Ice	43.109	-14.794	-25.297	-1857.105	1091.196	-1.192
0.9 Dead+1.0 Wind 330 deg - No Ice	32.332	-14.794	-25.297	-1850.468	1086.611	-1.191
1.2 Dead+1.0 Ice+1.0 Temp	84.782	0.000	0.000	0.364	7.794	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	84.782	0.014	-8.799	-633.315	6.700	-0.131
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	84.782	4.444	-7.620	-548.469	-312.837	0.102
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	84.782	7.658	-4.420	-318.446	-544.115	-0.057
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	84.782	8.843	0.009	0.947	-629.473	-0.082
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	84.782	7.670	4.431	319.855	-545.020	0.084
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	84.782	4.454	7.637	550.571	-313.490	0.133
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	84.782	-0.014	8.834	637.179	9.473	0.108
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	84.782	-4.425	7.645	551.442	327.254	-0.061
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	84.782	-7.624	4.428	319.873	557.189	0.028
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	84.782	-8.823	-0.021	-1.361	643.806	0.119
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	84.782	-7.645	-4.402	-316.570	558.929	-0.055
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	84.782	-4.434	-7.611	-547.526	327.797	-0.204
Dead+Wind 0 deg - Service	35.924	0.018	-6.363	-466.102	0.337	-0.184
Dead+Wind 30 deg - Service	35.924	3.243	-5.530	-404.399	-236.241	0.097
Dead+Wind 60 deg - Service	35.924	5.650	-3.265	-237.468	-409.748	-0.078
Dead+Wind 90 deg - Service	35.924	6.410	0.008	1.073	-468.778	-0.095
Dead+Wind 120 deg - Service	35.924	5.563	3.217	236.874	-406.698	0.109
Dead+Wind 150 deg - Service	35.924	3.241	5.530	406.261	-236.427	0.178
Dead+Wind 180 deg - Service	35.924	-0.018	6.405	470.786	3.682	0.156
Dead+Wind 210 deg - Service	35.924	-3.219	5.560	408.027	238.110	-0.047
Dead+Wind 240 deg - Service	35.924	-5.608	3.274	239.295	410.049	0.048
Dead+Wind 270 deg - Service	35.924	-6.385	-0.023	-1.357	470.536	0.142
Dead+Wind 300 deg - Service	35.924	-5.532	-3.183	-232.864	407.980	-0.073
Dead+Wind 330 deg - Service	35.924	-3.216	-5.499	-402.566	238.214	-0.258

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	-35.924	0.000	0.000	35.924	0.000	0.000%
2	0.081	-43.109	-29.270	-0.081	43.109	29.270	0.000%
3	0.081	-32.332	-29.270	-0.081	32.332	29.270	0.000%
4	14.918	-43.109	-25.439	-14.918	43.109	25.439	0.000%
5	14.918	-32.332	-25.439	-14.918	32.332	25.439	0.000%

<p>tnxTower</p> <p>B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)</p>	<p>Page 18 of 22</p>
	<p>Project</p>	<p>Date 17:47:34 06/17/21</p>
	<p>Client Crown Castle</p>	<p>Designed by Suhas Poojary</p>

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
6	25.995	-43.109	-15.020	-25.995	43.109	15.020	0.000%
7	25.995	-32.332	-15.020	-25.995	32.332	15.020	0.000%
8	29.488	-43.109	0.035	-29.488	43.109	-0.035	0.000%
9	29.488	-32.332	0.035	-29.488	32.332	-0.035	0.000%
10	25.592	-43.109	14.801	-25.592	43.109	-14.801	0.000%
11	25.592	-32.332	14.801	-25.592	32.332	-14.801	0.000%
12	14.909	-43.109	25.439	-14.909	43.109	-25.439	0.000%
13	14.909	-32.332	25.439	-14.909	32.332	-25.439	0.000%
14	-0.085	-43.109	29.464	0.085	43.109	-29.464	0.000%
15	-0.085	-32.332	29.464	0.085	32.332	-29.464	0.000%
16	-14.808	-43.109	25.577	14.808	43.109	-25.577	0.000%
17	-14.808	-32.332	25.577	14.808	32.332	-25.577	0.000%
18	-25.801	-43.109	15.062	25.801	43.109	-15.062	0.000%
19	-25.801	-32.332	15.062	25.801	32.332	-15.062	0.000%
20	-29.371	-43.109	-0.104	29.371	43.109	0.104	0.000%
21	-29.371	-32.332	-0.104	29.371	32.332	0.104	0.000%
22	-25.451	-43.109	-14.643	25.451	43.109	14.643	0.000%
23	-25.451	-32.332	-14.643	25.451	32.332	14.643	0.000%
24	-14.794	-43.109	-25.297	14.794	43.109	25.297	0.000%
25	-14.794	-32.332	-25.297	14.794	32.332	25.297	0.000%
26	0.000	-84.782	0.000	0.000	84.782	0.000	0.000%
27	0.014	-84.782	-8.799	-0.014	84.782	8.799	0.000%
28	4.444	-84.782	-7.620	-4.444	84.782	7.620	0.000%
29	7.658	-84.782	-4.420	-7.658	84.782	4.420	0.000%
30	8.843	-84.782	0.009	-8.843	84.782	-0.009	0.000%
31	7.670	-84.782	4.431	-7.670	84.782	-4.431	0.000%
32	4.454	-84.782	7.637	-4.454	84.782	-7.637	0.000%
33	-0.014	-84.782	8.834	0.014	84.782	-8.834	0.000%
34	-4.425	-84.782	7.645	4.425	84.782	-7.645	0.000%
35	-7.624	-84.782	4.428	7.624	84.782	-4.428	0.000%
36	-8.823	-84.782	-0.021	8.823	84.782	0.021	0.000%
37	-7.645	-84.782	-4.402	7.645	84.782	4.402	0.000%
38	-4.434	-84.782	-7.611	4.434	84.782	7.611	0.000%
39	0.018	-35.924	-6.363	-0.018	35.924	6.363	0.000%
40	3.243	-35.924	-5.530	-3.243	35.924	5.530	0.000%
41	5.650	-35.924	-3.265	-5.650	35.924	3.265	0.000%
42	6.410	-35.924	0.008	-6.410	35.924	-0.008	0.000%
43	5.563	-35.924	3.217	-5.563	35.924	-3.217	0.000%
44	3.241	-35.924	5.530	-3.241	35.924	-5.530	0.000%
45	-0.018	-35.924	6.405	0.018	35.924	-6.405	0.000%
46	-3.219	-35.924	5.560	3.219	35.924	-5.560	0.000%
47	-5.608	-35.924	3.274	5.608	35.924	-3.274	0.000%
48	-6.385	-35.924	-0.023	6.385	35.924	0.023	0.000%
49	-5.532	-35.924	-3.183	5.532	35.924	3.183	0.000%
50	-3.216	-35.924	-5.499	3.216	35.924	5.499	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00007192
3	Yes	4	0.00000001	0.00004444
4	Yes	4	0.00000001	0.00064205
5	Yes	4	0.00000001	0.00040792
6	Yes	4	0.00000001	0.00064689

<p>tnxTower</p> <p>B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 19 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

7	Yes	4	0.00000001	0.00040996
8	Yes	4	0.00000001	0.00004253
9	Yes	4	0.00000001	0.00002415
10	Yes	4	0.00000001	0.00065094
11	Yes	4	0.00000001	0.00041327
12	Yes	4	0.00000001	0.00059878
13	Yes	4	0.00000001	0.00037925
14	Yes	4	0.00000001	0.00007253
15	Yes	4	0.00000001	0.00004471
16	Yes	4	0.00000001	0.00061965
17	Yes	4	0.00000001	0.00039218
18	Yes	4	0.00000001	0.00062402
19	Yes	4	0.00000001	0.00039492
20	Yes	4	0.00000001	0.00006207
21	Yes	4	0.00000001	0.00003793
22	Yes	4	0.00000001	0.00060216
23	Yes	4	0.00000001	0.00038146
24	Yes	4	0.00000001	0.00067041
25	Yes	4	0.00000001	0.00042643
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00095714
28	Yes	4	0.00000001	0.00099221
29	Yes	4	0.00000001	0.00099077
30	Yes	4	0.00000001	0.00094852
31	Yes	4	0.00000001	0.00099116
32	Yes	4	0.00000001	0.00099221
33	Yes	4	0.00000001	0.00096012
34	Yes	5	0.00000001	0.00004069
35	Yes	5	0.00000001	0.00004075
36	Yes	4	0.00000001	0.00097279
37	Yes	5	0.00000001	0.00004079
38	Yes	5	0.00000001	0.00004062
39	Yes	4	0.00000001	0.00000711
40	Yes	4	0.00000001	0.00001281
41	Yes	4	0.00000001	0.00001281
42	Yes	4	0.00000001	0.00000640
43	Yes	4	0.00000001	0.00001307
44	Yes	4	0.00000001	0.00001178
45	Yes	4	0.00000001	0.00000698
46	Yes	4	0.00000001	0.00001218
47	Yes	4	0.00000001	0.00001225
48	Yes	4	0.00000001	0.00000675
49	Yes	4	0.00000001	0.00001184
50	Yes	4	0.00000001	0.00001441

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	96 - 85	4.116	47	0.362	0.001
L2	85 - 65	3.321	47	0.294	0.000
L3	65 - 32.5	2.132	47	0.267	0.000
L4	32.5 - 0	0.606	47	0.163	0.000

Critical Deflections and Radius of Curvature - Service Wind

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 20 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
92.000	DMP65R-BU8D w/ Mount Pipe	47	3.819	0.334	0.001	21608
86.000	Dragonwave A-ANT-11G-4-C	47	3.389	0.298	0.001	11548
83.000	840 10045	47	3.187	0.286	0.001	11129
79.000	800MHZ 2X50W RRH W/FILTER	47	2.933	0.277	0.000	13611
75.000	AIR6449 B41 T-MOBILE	47	2.694	0.272	0.000	18323
65.000	MX08FRO665-21 w/ Mount Pipe	47	2.132	0.267	0.000	72252
57.000	GPS_A	47	1.699	0.254	0.000	31423

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	96 - 85	18.981	6	1.667	0.003
L2	85 - 65	15.317	6	1.355	0.002
L3	65 - 32.5	9.833	6	1.233	0.001
L4	32.5 - 0	2.797	6	0.753	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
92.000	DMP65R-BU8D w/ Mount Pipe	6	17.614	1.538	0.003	4739
86.000	Dragonwave A-ANT-11G-4-C	6	15.633	1.376	0.003	2532
83.000	840 10045	6	14.703	1.321	0.002	2440
79.000	800MHZ 2X50W RRH W/FILTER	6	13.532	1.277	0.002	2983
75.000	AIR6449 B41 T-MOBILE	6	12.426	1.256	0.002	4015
65.000	MX08FRO665-21 w/ Mount Pipe	6	9.833	1.233	0.002	15615
57.000	GPS_A	6	7.836	1.174	0.001	6803

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 $\frac{P_u}{\phi P_n}$
L1	96 - 85 (1)	P12x3/8	11.000	0.000	0.0	14.579	-6.259	459.237	0.014
L2	85 - 65 (2)	P42x3/8	20.000	0.000	0.0	49.038	-18.914	1668.870	0.011
L3	65 - 32.5 (3)	P48x3/8	32.500	0.000	0.0	56.107	-31.258	1847.490	0.017
L4	32.5 - 0 (4)	P48x1/2	32.500	0.000	0.0	74.613	-43.096	2649.060	0.016

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 21 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	96 - 85 (1)	P12x3/8	76.080	150.794	0.505	0.000	150.794	0.000
L2	85 - 65 (2)	P42x3/8	416.927	1796.558	0.232	0.000	1796.558	0.000
L3	65 - 32.5 (3)	P48x3/8	1253.400	2321.108	0.540	0.000	2321.108	0.000
L4	32.5 - 0 (4)	P48x1/2	2189.475	3173.467	0.690	0.000	3173.467	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	96 - 85 (1)	P12x3/8	10.119	137.771	0.073	0.552	149.893	0.004
L2	85 - 65 (2)	P42x3/8	20.820	536.589	0.039	0.198	1509.600	0.000
L3	65 - 32.5 (3)	P48x3/8	27.479	555.429	0.049	0.363	1787.842	0.000
L4	32.5 - 0 (4)	P48x1/2	30.040	846.109	0.036	0.363	3397.483	0.000

Pole Interaction Design Data

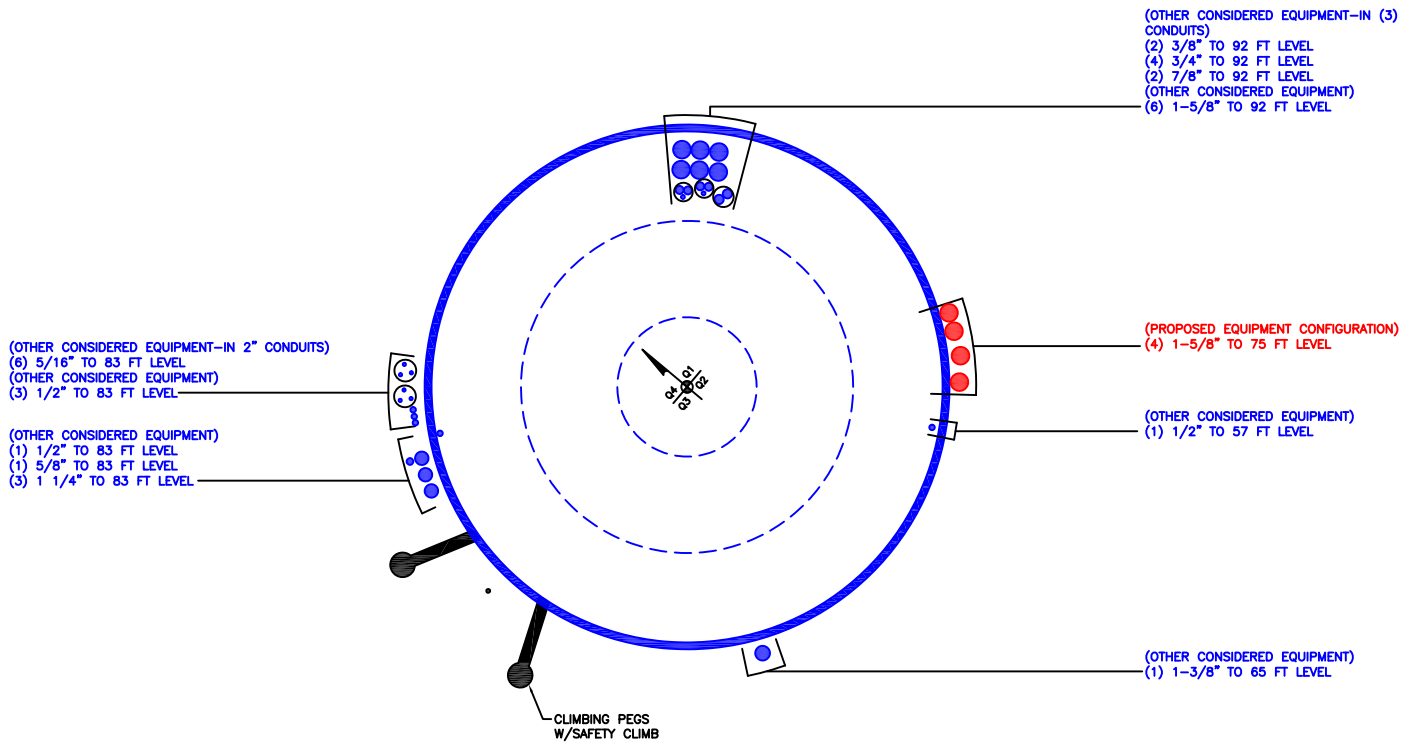
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	96 - 85 (1)	0.014	0.505	0.000	0.073	0.004	0.524	1.050	4.8.2 ✓
L2	85 - 65 (2)	0.011	0.232	0.000	0.039	0.000	0.245	1.050	4.8.2 ✓
L3	65 - 32.5 (3)	0.017	0.540	0.000	0.049	0.000	0.559	1.050	4.8.2 ✓
L4	32.5 - 0 (4)	0.016	0.690	0.000	0.036	0.000	0.707	1.050	4.8.2 ✓

tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136354.005.01- HAYDEN STATION, CT (BU# 876326)	Page 22 of 22
	Project	Date 17:47:34 06/17/21
	Client Crown Castle	Designed by Suhas Poojary

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L1	96 - 85	Pole	P12x3/8	1	-6.259	482.199	49.9	Pass	
L2	85 - 65	Pole	P42x3/8	2	-18.914	1752.313	23.3	Pass	
L3	65 - 32.5	Pole	P48x3/8	3	-31.258	1939.864	53.3	Pass	
L4	32.5 - 0	Pole	P48x1/2	4	-43.096	2781.513	67.4	Pass	
							Summary		
							Pole (L4)	67.4	Pass
							RATING =	67.4	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 876326

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Flange Plate Connection

Elevation = 85 ft.



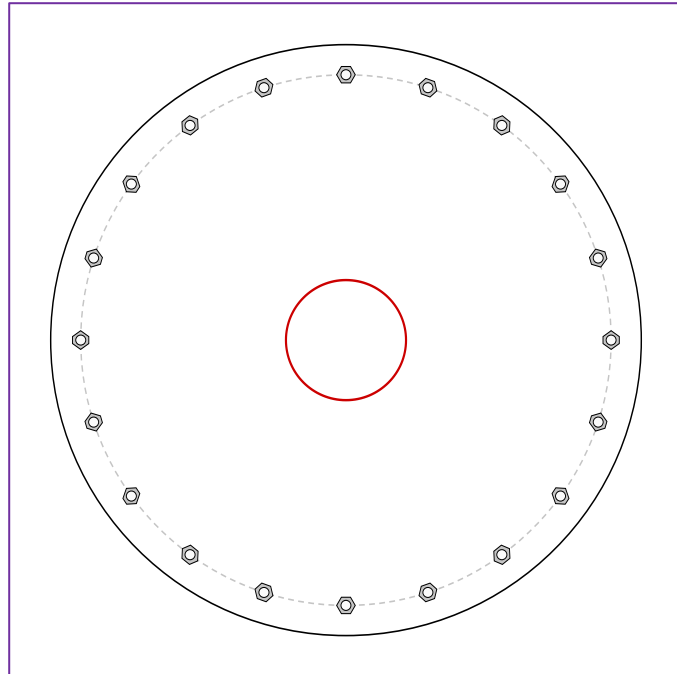
BU #	876326
Site Name	Hayden Station, CT
Order #	559450 Rev# 0

Applied Loads	
Moment (kip-ft)	76.08
Axial Force (kips)	6.26
Shear Force (kips)	10.12

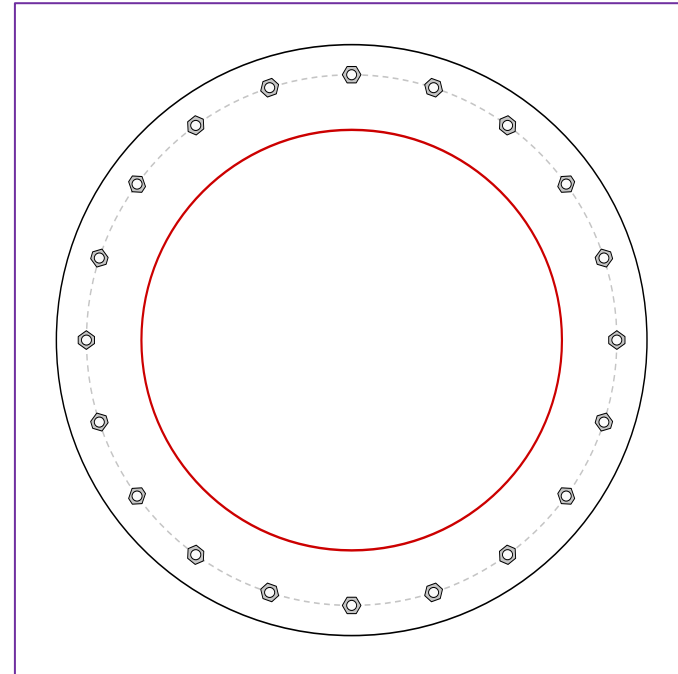
TIA-222 Revision	H
------------------	---

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 53" BC

Top Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

12" x 0.375" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Bottom Plate Data

59" OD x 1" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	3.13
Allowable (kips)	54.53
Stress Rating:	5.5% Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Monopole Flange Plate Connection

Elevation = 65 ft.



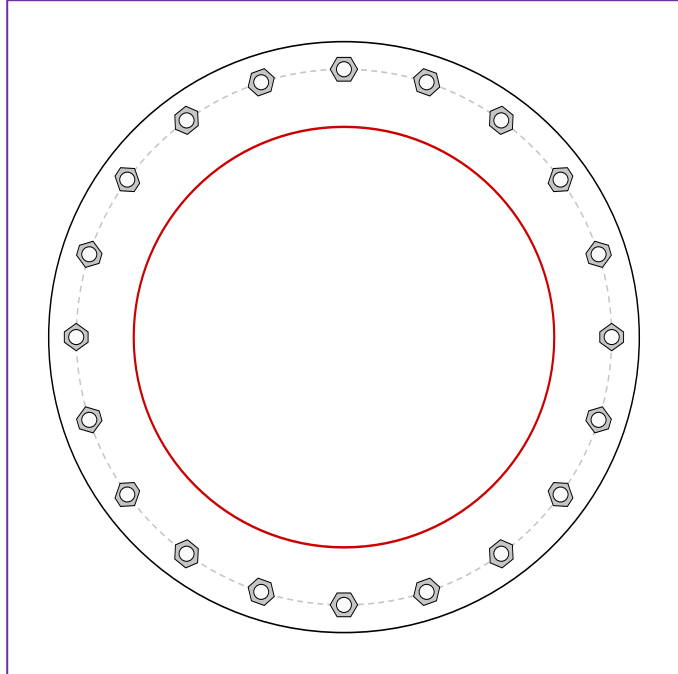
BU #	876326
Site Name	Hayden Station, CT
Order #	559450 Rev# 0

Applied Loads	
Moment (kip-ft)	417.78
Axial Force (kips)	22.15
Shear Force (kips)	23.95

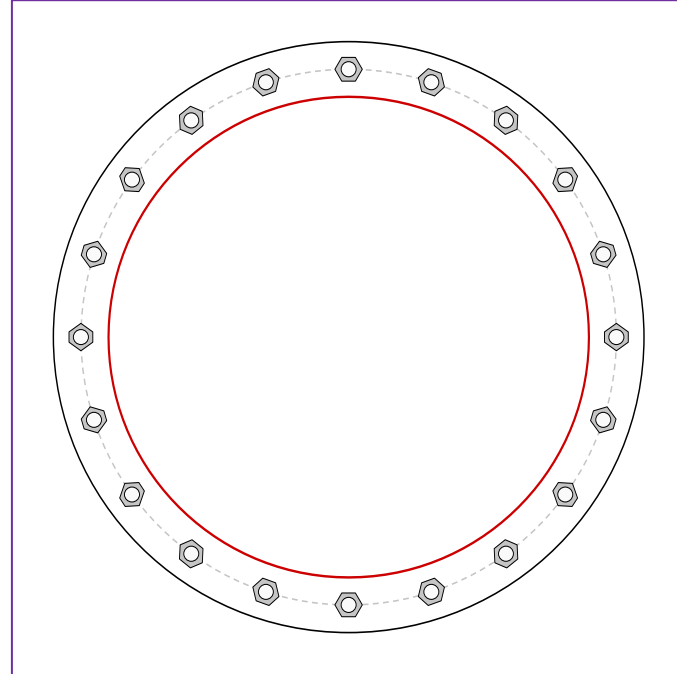
TIA-222 Revision	H
------------------	---

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1-1/2" ϕ bolts (A325 N; Fy=81 ksi, Fu=120 ksi) on 53.5" BC

Top Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	17.63
Allowable (kips)	126.89
Stress Rating:	13.2% Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Monopole Flange Plate Connection

Elevation = 32.5 ft.



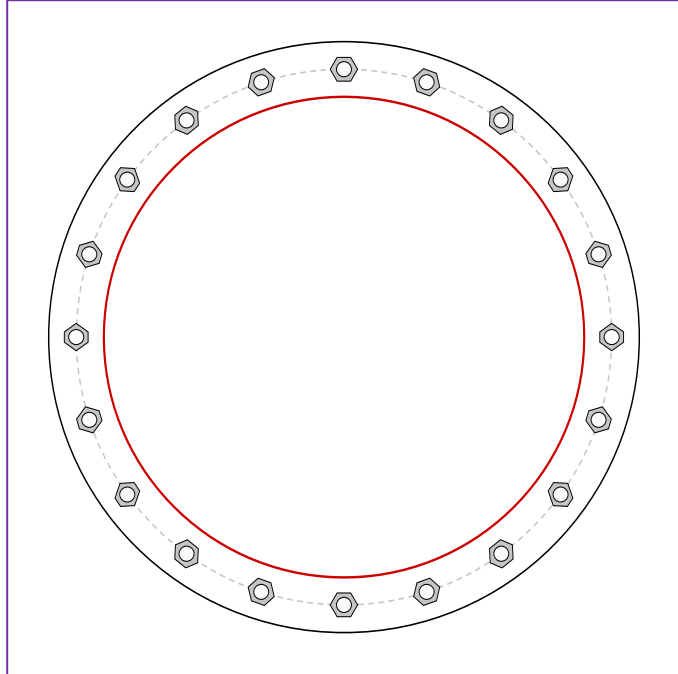
BU #	876326
Site Name	Hayden Station, CT
Order #	559450 Rev# 0

Applied Loads	
Moment (kip-ft)	1257.40
Axial Force (kips)	31.27
Shear Force (kips)	27.58

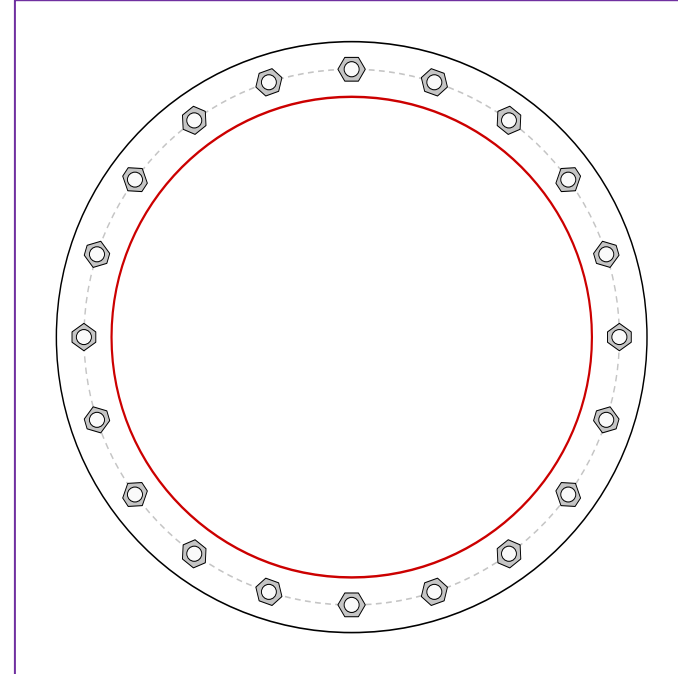
TIA-222 Revision	H
------------------	---

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1-1/2" ϕ bolts (A325 N; Fy=81 ksi, Fu=120 ksi) on 53.5" BC

Top Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Plate Data

59" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

48" x 0.5" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	54.83
Allowable (kips)	126.88
Stress Rating:	41.2% Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	Rohn OK
Tension Side Stress Rating:	Rohn OK

Monopole Base Plate Connection

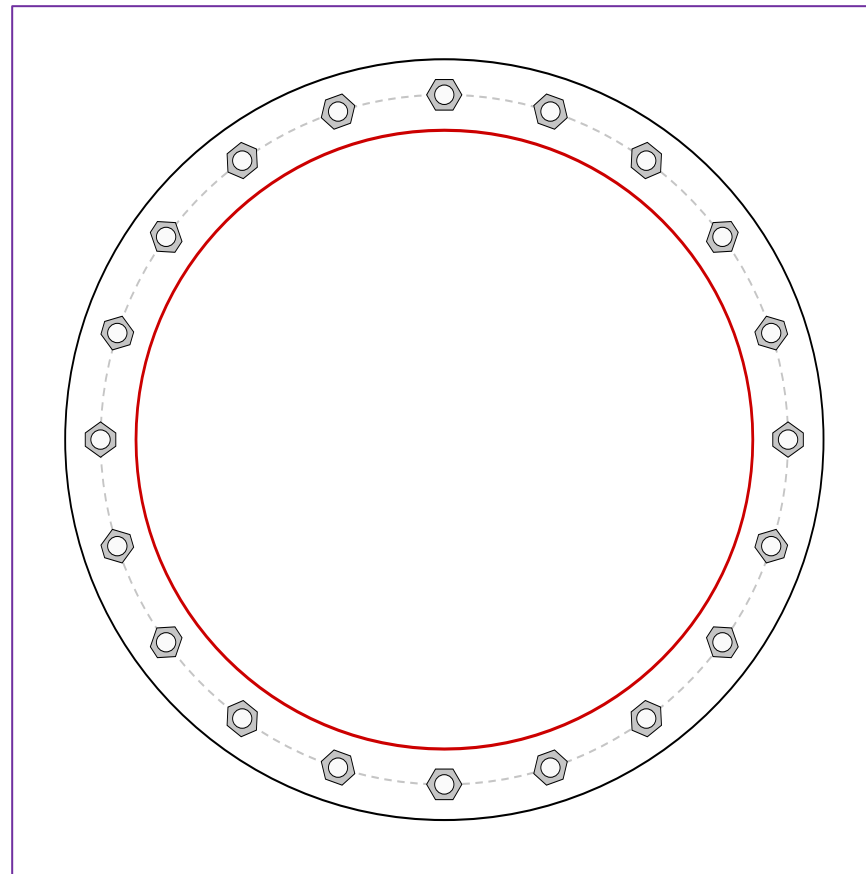


Site Info	
BU #	876326
Site Name	Hayden Station, CT
Order #	559450 Rev# 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
l_{ar} (in)	0

Applied Loads	
Moment (kip-ft)	2189.48
Axial Force (kips)	43.10
Shear Force (kips)	30.04

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
(20) 1-1/2" ϕ bolts (A354-BC N; $F_y=109$ ksi, $F_u=125$ ksi) on 53.5" BC
Base Plate Data
59" OD x 2" Plate (A36; $F_y=36$ ksi, $F_u=58$ ksi)
Stiffener Data
N/A
Pole Data
48" x 0.5" round pole (A53-B-42; $F_y=42$ ksi, $F_u=63$ ksi)

Anchor Rod Summary		<i>(units of kips, kip-in)</i>
$P_{u,t} = 96.03$	$\phi P_{n,t} = 132.19$	Stress Rating
$V_u = 1.5$	$\phi V_n = 82.83$	69.2%
$M_u = n/a$	$\phi M_n = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	-	
Allowable Stress (ksi):	-	
Stress Rating:	Rohn OK	

Drilled Pier Foundation

BU # :	876326
Site Name:	Hayden Station, CT
Order Number:	559450 Rev# 0
TIA-222 Revision:	H
Tower Type:	Monopole



Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	2189.48	
Axial Force (kips)	43.1	
Shear Force (kips)	30.04	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	60	ksi

Pier Design Data		
Depth	30	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
<i>From 0.5' above grade to 30' below grade</i>		
Pier Diameter	7	ft
Rebar Quantity	24	
Rebar Size	10	
Rebar Cage Diameter	72	in
Tie Size	5	
Tie Spacing	12	in

[Rebar & Pier Options](#)

[Embedded Pole Inputs](#)

[Belled Pier Inputs](#)

Analysis Results

Soil Lateral Check	Compression	Uplift
D _{v=0} (ft from TOC)	8.56	-
Soil Safety Factor	7.19	-
Max Moment (kip-ft)	2409.08	-
Rating*	17.6%	-

Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	779.69	-
End Bearing (kips)	173.18	-
Weight of Concrete (kips)	211.28	-
Total Capacity (kips)	952.87	-
Axial (kips)	254.38	-
Rating*	25.4%	-

Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	8.65	-
Critical Moment (kip-ft)	2409.03	-
Critical Moment Capacity	4822.52	-
Rating*	47.6%	-

Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	22.46	-
Critical Shear (kip)	238.35	-
Critical Shear Capacity	612.24	-
Rating*	37.1%	-

Structural Foundation Rating*	47.6%
Soil Interaction Rating*	25.4%

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	<input checked="" type="checkbox"/>
N/A	<input type="checkbox"/>
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	<input type="checkbox"/>
Shear Design Options	
Check Shear along Depth of Pier:	<input checked="" type="checkbox"/>
Utilize Shear-Friction Methodology:	<input type="checkbox"/>
Override Critical Depth:	<input type="checkbox"/>

[Go to Soil Calculations](#)

Soil Profile			
Groundwater Depth	31	# of Layers	3

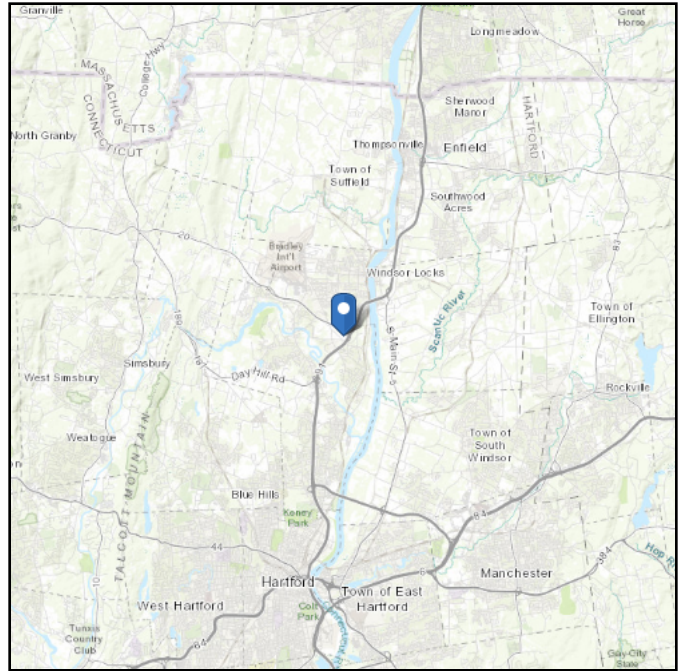
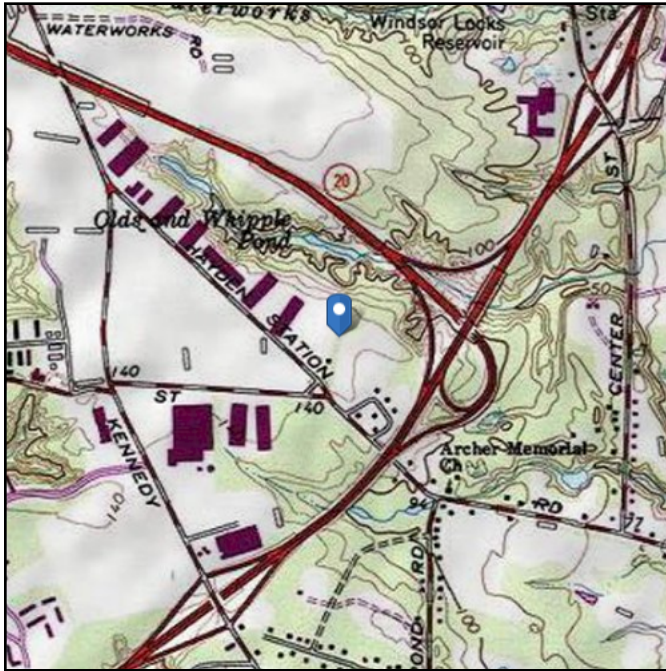
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	120	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	20	16.5	120	150	0	32	1.365	1.365				14	Cohesionless
3	20	30	10	120	150	0	32	2.475	2.475			6	25	Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 141.24 ft (NAVD 88)
Latitude: 41.897833
Longitude: -72.644083

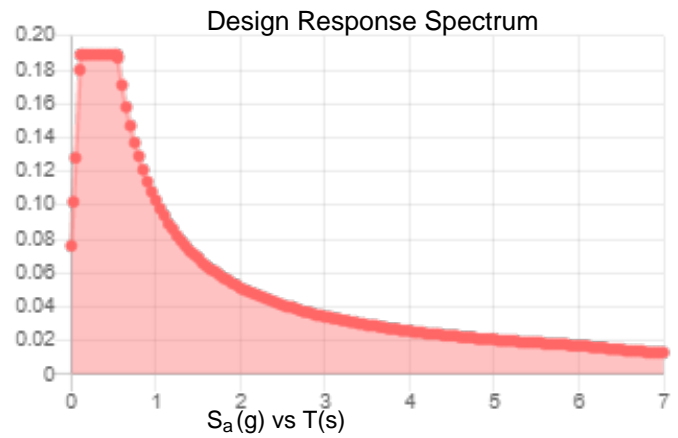
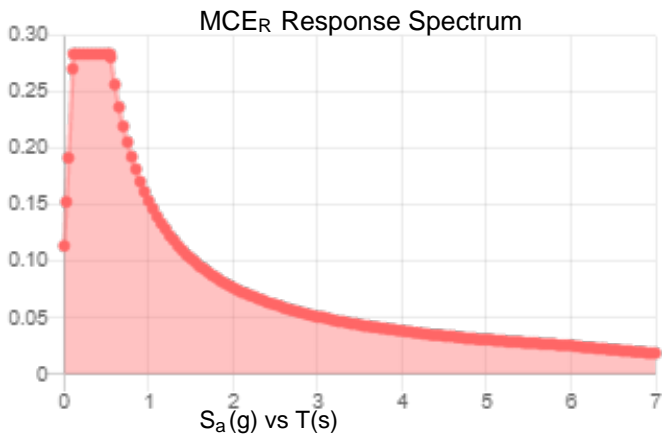


Site Soil Class: D - Stiff Soil

Results:

S_s :	0.178	S_{DS} :	0.189
S_1 :	0.064	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.088
S_{MS} :	0.284	PGA _M :	0.141
S_{M1} :	0.154	F _{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Wed Jun 16 2021

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: Wed Jun 16 2021

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.



BU: 876326
 WO: 1984934
 Order: 559450

Structure: A
 Rev: 0

Location

	Decimal Degrees	Deg	Min	Sec
Lat:	41.897833	+	41	53
Long:	-72.644083	-	72	38

Code and Site Parameters

Seismic Design Code:	TIA-222-H-1	*
Site Soil:	D	Stiff Soil (Default)
Risk Category:	II	
<u>USGS Seismic Reference</u>		
S _s :	0.1780	g
S ₁ :	0.0640	g
T _L :	6	s

Seismic Design Category Determination

Importance Factor, I _e :	1
Acceleration-based site coefficient, F _a :	1.6000
Velocity-based site coefficient, F _v :	2.4000
Design spectral response acceleration short period, S _{DS} :	0.1899 g
Design spectral response acceleration 1 s period, S _{D1} :	0.1024 g
T _s :	0.5393
Seismic Design Category Based on S _{DS} :	B
Seismic Design Category Based on S _{D1} :	B
Seismic Design Category Based on S ₁ :	N/A
Controlling Seismic Design Category:	B



BU: 876326
 WO: 1984934
 Order: 559450

Structure: A
 Rev: 0

Tower Details

Tower Type:	Stepped Monopole	
Height, h:	96	ft
Effective Seismic Weight, W:	35.92	kips
Amplification Factor, A _s :	1.0	2.7.8.1

Seismic Base Shear

Response Modification Factor, R:	1.5	
Discrete Appurtenance Weight in Top 1/3 of Structure, W _u :	14.15946	kips
W _L :	21.76461162	kips
E:	29000.0	ksi
g:	386.088	in/s ²
Average Moment of Inertia, I _{avg} :	14755.22167	in ⁴
F _a :	0.652355678	hz
Approximate Fundamental Period Monopole, T _a :	1.5329	s
		2.7.7.1.3.3
Seismic Response Coefficient, C _s :	0.1266	2.7.7.1.1
Seismic Response Coefficient Max 1, C _{smax} :	0.0445	2.7.7.1.1
Seismic Response Coefficient Max 2, C _{smax} :	N/A	2.7.7.1.1
Seismic Response Coefficient Min 1, C _{smin} :	0.0300	2.7.7.1.1
Seismic Response Coefficient Min 2, C _{smin} :	N/A	2.7.7.1.1
Controlling Seismic Response Coefficient, C _{sc} :	0.0445	
Seismic Base Shear, V:	1.600	kips
		2.7.7.1.1

Vertical Distribution Factors

Period Related Exponent, k:	1.516
Sum of w _i h _i ^k :	17874.89

Tower Section Loads								
Section Number	Length	Top Height	Mid Height, h_x	Section Weight, w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
1 - 1	1.00	96.00	95.50	0.0496	49.90	0.0028	0.0045	0.0019
1 - 2	10.00	95.00	90.00	0.4961	456.12	0.0255	0.0408	0.0188
2 - 1	10.00	85.00	80.00	1.6687	1283.26	0.0718	0.1149	0.0634
2 - 2	10.00	75.00	70.00	1.6687	1048.03	0.0586	0.0938	0.0634
3 - 1	2.50	65.00	63.75	0.4773	260.14	0.0146	0.0233	0.0181
3 - 2	10.00	62.50	57.50	1.9092	889.82	0.0498	0.0796	0.0725
3 - 3	10.00	52.50	47.50	1.9092	666.00	0.0373	0.0596	0.0725
3 - 4	10.00	42.50	37.50	1.9092	465.37	0.0260	0.0417	0.0725
4 - 1	2.50	32.50	31.25	0.6347	117.34	0.0066	0.0105	0.0241
4 - 2	10.00	30.00	25.00	2.5389	334.62	0.0187	0.0299	0.0964
4 - 3	10.00	20.00	15.00	2.5389	154.22	0.0086	0.0138	0.0964
4 - 4	10.00	10.00	5.00	2.5389	29.15	0.0016	0.0026	0.0964
Sum				18.3394	5753.97			

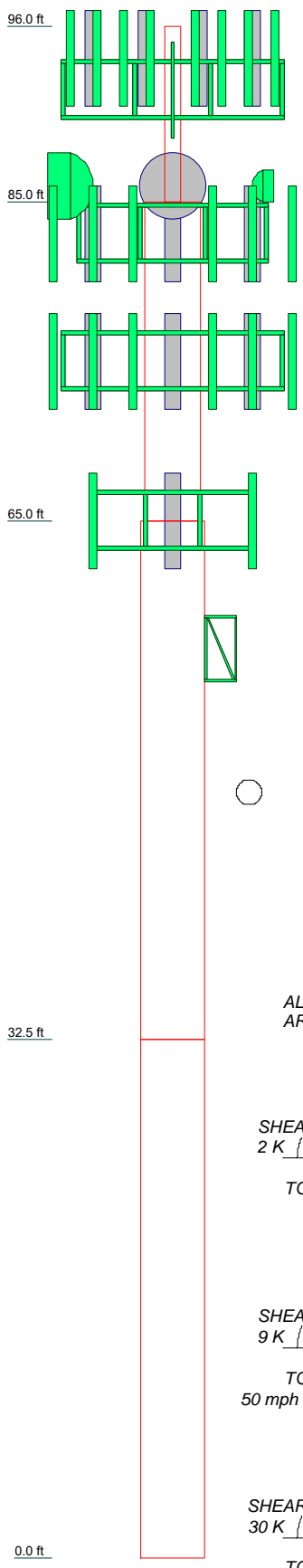
Discrete Loads						
Name	h_x	w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
cci antennas DMP65R-BU8D w/ Mount Pipe	92.00	0.1385	131.67	0.0074	0.0118	0.0053
cci antennas DMP65R-BU8D w/ Mount Pipe	92.00	0.1385	131.67	0.0074	0.0118	0.0053
cci antennas DMP65R-BU8D w/ Mount Pipe	92.00	0.1385	131.67	0.0074	0.0118	0.0053
cci antennas OPA65R-BU8D w/ Mount Pipe	92.00	0.1094	104.00	0.0058	0.0093	0.0042
cci antennas OPA65R-BU8D w/ Mount Pipe	92.00	0.1094	104.00	0.0058	0.0093	0.0042
cci antennas OPA65R-BU8D w/ Mount Pipe	92.00	0.1094	104.00	0.0058	0.0093	0.0042
cci antennas TPA-65R-LCUUUU-H8 w/ Mount Pipe	92.00	0.1145	108.85	0.0061	0.0097	0.0043
cci antennas TPA-65R-LCUUUU-H8 w/ Mount Pipe	92.00	0.1145	108.85	0.0061	0.0097	0.0043
cci antennas TPA-65R-LCUUUU-H8 w/ Mount Pipe	92.00	0.1145	108.85	0.0061	0.0097	0.0043
kathrein 800 10121 w/ Mount Pipe	92.00	0.0716	68.04	0.0038	0.0061	0.0027
kathrein 800 10121 w/ Mount Pipe	92.00	0.0716	68.04	0.0038	0.0061	0.0027
kathrein 800 10121 w/ Mount Pipe	92.00	0.0716	68.04	0.0038	0.0061	0.0027
(2) kathrein 860 10025	92.00	0.0020	1.90	0.0001	0.0002	0.0001
(2) kathrein 860 10025	92.00	0.0020	1.90	0.0001	0.0002	0.0001
(2) kathrein 860 10025	92.00	0.0020	1.90	0.0001	0.0002	0.0001
(2) powerwave technologies LGP21401	92.00	0.0280	26.62	0.0015	0.0024	0.0011
(2) powerwave technologies LGP21401	92.00	0.0280	26.62	0.0015	0.0024	0.0011
(2) powerwave technologies LGP21401	92.00	0.0280	26.62	0.0015	0.0024	0.0011
ericsson RRUS 32 B30	92.00	0.0600	57.04	0.0032	0.0051	0.0023
ericsson RRUS 32 B30	92.00	0.0600	57.04	0.0032	0.0051	0.0023
ericsson RRUS 32 B30	92.00	0.0600	57.04	0.0032	0.0051	0.0023
ericsson RRUS 4449 B5/B12	92.00	0.0710	67.49	0.0038	0.0060	0.0027
ericsson RRUS 4449 B5/B12	92.00	0.0710	67.49	0.0038	0.0060	0.0027
ericsson RRUS 4449 B5/B12	92.00	0.0710	67.49	0.0038	0.0060	0.0027
ericsson RRUS 4478 B14	92.00	0.0600	57.04	0.0032	0.0051	0.0023
ericsson RRUS 4478 B14	92.00	0.0600	57.04	0.0032	0.0051	0.0023
ericsson RRUS 4478 B14	92.00	0.0600	57.04	0.0032	0.0051	0.0023
ericsson RRUS 8843 B2/B66A	92.00	0.0720	68.44	0.0038	0.0061	0.0027
ericsson RRUS 8843 B2/B66A	92.00	0.0720	68.44	0.0038	0.0061	0.0027
ericsson RRUS 8843 B2/B66A	92.00	0.0720	68.44	0.0038	0.0061	0.0027
ericsson RRUS E2 B29	92.00	0.0600	57.04	0.0032	0.0051	0.0023
ericsson RRUS E2 B29	92.00	0.0600	57.04	0.0032	0.0051	0.0023
ericsson RRUS E2 B29	92.00	0.0600	57.04	0.0032	0.0051	0.0023
raycap DC6-48-60-18-8F	92.00	0.0330	31.37	0.0018	0.0028	0.0013
raycap DC6-48-60-18-8F	92.00	0.0330	31.37	0.0018	0.0028	0.0013
raycap DC6-48-60-18-8F	92.00	0.0330	31.37	0.0018	0.0028	0.0013
tower mounts 4' x 2" Pipe Mount	92.00	0.0290	27.57	0.0015	0.0025	0.0011
tower mounts 4' x 2" Pipe Mount	92.00	0.0290	27.57	0.0015	0.0025	0.0011
tower mounts 4' x 2" Pipe Mount	92.00	0.0290	27.57	0.0015	0.0025	0.0011
tower mounts 6' x 2" Horizontal Mount Pipe	92.00	0.0163	15.49	0.0009	0.0014	0.0006
tower mounts 6' x 2" Horizontal Mount Pipe	92.00	0.0163	15.49	0.0009	0.0014	0.0006
tower mounts 6' x 2" Horizontal Mount Pipe	92.00	0.0163	15.49	0.0009	0.0014	0.0006
tower mounts Sector Mount [SM 503-3]	92.00	1.6905	1606.97	0.0899	0.1438	0.0642
tower mounts Pipe Mount [PM 601-3]	92.00	0.1950	185.36	0.0104	0.0166	0.0074
kathrein 840 10045	83.00	0.0350	28.46	0.0016	0.0025	0.0013
kathrein 840 10045	83.00	0.0350	28.46	0.0016	0.0025	0.0013
kathrein 840 10045	83.00	0.0350	28.46	0.0016	0.0025	0.0013
samsung telecommunications WIMAX DAP HEAD	83.00	0.0330	26.84	0.0015	0.0024	0.0013
samsung telecommunications WIMAX DAP HEAD	83.00	0.0330	26.84	0.0015	0.0024	0.0013
samsung telecommunications WIMAX DAP HEAD	83.00	0.0330	26.84	0.0015	0.0024	0.0013
dragonwave HORIZON DUO	83.00	0.0070	5.69	0.0003	0.0005	0.0003
dragonwave HORIZON DUO	83.00	0.0070	5.69	0.0003	0.0005	0.0003
dragonwave HORIZON DUO	83.00	0.0070	5.69	0.0003	0.0005	0.0003
tower mounts 10' x 3" Pipe Mount	83.00	0.0800	65.06	0.0036	0.0058	0.0030
tower mounts 10' x 3" Pipe Mount	83.00	0.0800	65.06	0.0036	0.0058	0.0030
tower mounts 10' x 3" Pipe Mount	83.00	0.0800	65.06	0.0036	0.0058	0.0030
rfs celwave APXVSP18-C-A20 w/ Mount Pipe	83.00	0.0951	77.33	0.0043	0.0069	0.0036
rfs celwave APXVSP18-C-A20 w/ Mount Pipe	83.00	0.0951	77.33	0.0043	0.0069	0.0036
rfs celwave APXVSP18-C-A20 w/ Mount Pipe	83.00	0.0951	77.33	0.0043	0.0069	0.0036
rfs celwave APXVTM14-C-120 w/ Mount Pipe	83.00	0.0770	62.64	0.0035	0.0056	0.0029
rfs celwave APXVTM14-C-120 w/ Mount Pipe	83.00	0.0770	62.64	0.0035	0.0056	0.0029
rfs celwave APXVTM14-C-120 w/ Mount Pipe	83.00	0.0770	62.64	0.0035	0.0056	0.0029
alcatel lucent TD-RRH8X20-25	83.00	0.0660	53.67	0.0030	0.0048	0.0025
alcatel lucent TD-RRH8X20-25	83.00	0.0660	53.67	0.0030	0.0048	0.0025
alcatel lucent TD-RRH8X20-25	83.00	0.0660	53.67	0.0030	0.0048	0.0025
(2) tower mounts 5' x 2" Pipe Mount	83.00	0.0360	29.27	0.0016	0.0026	0.0014
(2) tower mounts 5' x 2" Pipe Mount	83.00	0.0360	29.27	0.0016	0.0026	0.0014
(2) tower mounts 5' x 2" Pipe Mount	83.00	0.0360	29.27	0.0016	0.0026	0.0014
tower mounts Platform Mount [LP 502-1]	83.00	0.9250	752.20	0.0421	0.0673	0.0351
alcatel lucent 800MHZ 2X50W RRH W/FILTER	79.00	0.0640	48.29	0.0027	0.0043	0.0024
alcatel lucent 800MHZ 2X50W RRH W/FILTER	79.00	0.0640	48.29	0.0027	0.0043	0.0024
alcatel lucent 800MHZ 2X50W RRH W/FILTER	79.00	0.0640	48.29	0.0027	0.0043	0.0024
alcatel lucent PCS 1900MHZ 4x45W-65MHZ	79.00	0.0600	45.27	0.0025	0.0041	0.0023
alcatel lucent PCS 1900MHZ 4x45W-65MHZ	79.00	0.0600	45.27	0.0025	0.0041	0.0023
alcatel lucent PCS 1900MHZ 4x45W-65MHZ	79.00	0.0600	45.27	0.0025	0.0041	0.0023
tower mounts 6' x 2" Mount Pipe	79.00	0.0220	16.60	0.0009	0.0015	0.0008
tower mounts 6' x 2" Mount Pipe	79.00	0.0220	16.60	0.0009	0.0015	0.0008
tower mounts 6' x 2" Mount Pipe	79.00	0.0220	16.60	0.0009	0.0015	0.0008
tower mounts Side Arm Mount [SO 104-3]	79.00	0.2880	217.30	0.0122	0.0194	0.0109
ericsson AIR6449 B41_T-MOBILE	75.00	0.1146	79.94	0.0045	0.0072	0.0044
ericsson AIR6449 B41_T-MOBILE	75.00	0.1146	79.94	0.0045	0.0072	0.0044

ericsson AIR6449 B41_T-MOBILE	75.00	0.1146	79.94	0.0045	0.0072	0.0044
rfs celwave APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	75.00	0.1828	127.46	0.0071	0.0114	0.0069
rfs celwave APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	75.00	0.1828	127.46	0.0071	0.0114	0.0069
rfs celwave APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	75.00	0.1828	127.46	0.0071	0.0114	0.0069
rfs celwave APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	75.00	0.0614	42.81	0.0024	0.0038	0.0023
rfs celwave APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	75.00	0.0614	42.81	0.0024	0.0038	0.0023
rfs celwave APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	75.00	0.0614	42.81	0.0024	0.0038	0.0023
ericsson RADIO 4449 B71 B85A_T-MOBILE	75.00	0.0730	50.91	0.0028	0.0046	0.0028
ericsson RADIO 4449 B71 B85A_T-MOBILE	75.00	0.0730	50.91	0.0028	0.0046	0.0028
ericsson RADIO 4449 B71 B85A_T-MOBILE	75.00	0.0730	50.91	0.0028	0.0046	0.0028
(2) ericsson RADIO 4415 B66A	75.00	0.1000	69.73	0.0039	0.0062	0.0038
(2) ericsson RADIO 4415 B66A	75.00	0.1000	69.73	0.0039	0.0062	0.0038
(2) ericsson RADIO 4415 B66A	75.00	0.1000	69.73	0.0039	0.0062	0.0038
ericsson RADIO 4424 B25_TMOV1	75.00	0.0970	67.64	0.0038	0.0061	0.0037
ericsson RADIO 4424 B25_TMOV1	75.00	0.0970	67.64	0.0038	0.0061	0.0037
ericsson RADIO 4424 B25_TMOV1	75.00	0.0970	67.64	0.0038	0.0061	0.0037
commscope SDX1926Q-43	75.00	0.0060	4.18	0.0002	0.0004	0.0002
commscope SDX1926Q-43	75.00	0.0060	4.18	0.0002	0.0004	0.0002
commscope SDX1926Q-43	75.00	0.0060	4.18	0.0002	0.0004	0.0002
tower mounts 10' x 2" Mount Pipe	75.00	0.0370	25.80	0.0014	0.0023	0.0014
tower mounts 10' x 2" Mount Pipe	75.00	0.0370	25.80	0.0014	0.0023	0.0014
tower mounts 10' x 2" Mount Pipe	75.00	0.0370	25.80	0.0014	0.0023	0.0014
Platform Mount [LP 304-1_HR-1] (16')	75.00	1.7710	1234.98	0.0691	0.1105	0.0673
jma wireless MX08FRO665-21 w/ Mount Pipe	65.00	0.1081	60.67	0.0034	0.0054	0.0041
jma wireless MX08FRO665-21 w/ Mount Pipe	65.00	0.1081	60.67	0.0034	0.0054	0.0041
jma wireless MX08FRO665-21 w/ Mount Pipe	65.00	0.1081	60.67	0.0034	0.0054	0.0041
fujitsu TA08025-B604	65.00	0.0640	35.92	0.0020	0.0032	0.0024
fujitsu TA08025-B604	65.00	0.0640	35.92	0.0020	0.0032	0.0024
fujitsu TA08025-B604	65.00	0.0640	35.92	0.0020	0.0032	0.0024
fujitsu TA08025-B605	65.00	0.0750	42.10	0.0024	0.0038	0.0028
fujitsu TA08025-B605	65.00	0.0750	42.10	0.0024	0.0038	0.0028
fujitsu TA08025-B605	65.00	0.0750	42.10	0.0024	0.0038	0.0028
raycap RDIDC-9181-PF-48	65.00	0.0220	12.35	0.0007	0.0011	0.0008
(2) tower mounts 8' x 2" Mount Pipe	65.00	0.0580	32.56	0.0018	0.0029	0.0022
(2) tower mounts 8' x 2" Mount Pipe	65.00	0.0580	32.56	0.0018	0.0029	0.0022
(2) tower mounts 8' x 2" Mount Pipe	65.00	0.0580	32.56	0.0018	0.0029	0.0022
Commscope MC-PK8-DSH	65.00	1.7490	981.72	0.0549	0.0879	0.0664
gps GPS_A	57.00	0.0009	0.40	0.0000	0.0000	0.0000
tower mounts 4.5' x 2" horizontal mount pipe	57.00	0.0122	5.61	0.0003	0.0005	0.0005
Dragonwave A-ANT-11G-4-C	83.00	0.1210	98.40	0.0055	0.0088	0.0046
Andrew VHLP2-180	83.00	0.0250	20.33	0.0011	0.0018	0.0009
Dragonwave A-ANT-11G-4-C	83.00	0.1210	98.40	0.0055	0.0088	0.0046
Sum		14.1725	10978.17			

Linear Loads								
Name	Start Height	End Height	h_x	w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
(6) andrew LDF7-50A(1-5/8) From 0 to 92	86.00	92.00	89.00	0.0295	26.69	0.0015	0.0024	0.0011
(6) andrew LDF7-50A(1-5/8) From 0 to 92	76.00	86.00	81.00	0.0492	38.56	0.0022	0.0035	0.0019
(6) andrew LDF7-50A(1-5/8) From 0 to 92	66.00	76.00	71.00	0.0492	31.57	0.0018	0.0028	0.0019
(6) andrew LDF7-50A(1-5/8) From 0 to 92	56.00	66.00	61.00	0.0492	25.08	0.0014	0.0022	0.0019
(6) andrew LDF7-50A(1-5/8) From 0 to 92	46.00	56.00	51.00	0.0492	19.12	0.0011	0.0017	0.0019
(6) andrew LDF7-50A(1-5/8) From 0 to 92	36.00	46.00	41.00	0.0492	13.73	0.0008	0.0012	0.0019
(6) andrew LDF7-50A(1-5/8) From 0 to 92	26.00	36.00	31.00	0.0492	8.99	0.0005	0.0008	0.0019
(6) andrew LDF7-50A(1-5/8) From 0 to 92	16.00	26.00	21.00	0.0492	4.98	0.0003	0.0004	0.0019
(6) andrew LDF7-50A(1-5/8) From 0 to 92	6.00	16.00	11.00	0.0492	1.87	0.0001	0.0002	0.0019
(6) andrew LDF7-50A(1-5/8) From 0 to 92	0.00	6.00	3.00	0.0295	0.16	0.0000	0.0000	0.0011
(3) misc 2" Rigid Conduit From 0 to 92	86.00	92.00	89.00	0.0504	45.56	0.0025	0.0041	0.0019
(3) misc 2" Rigid Conduit From 0 to 92	76.00	86.00	81.00	0.0840	65.83	0.0037	0.0059	0.0032
(3) misc 2" Rigid Conduit From 0 to 92	66.00	76.00	71.00	0.0840	53.90	0.0030	0.0048	0.0032
(3) misc 2" Rigid Conduit From 0 to 92	56.00	66.00	61.00	0.0840	42.82	0.0024	0.0038	0.0032
(3) misc 2" Rigid Conduit From 0 to 92	46.00	56.00	51.00	0.0840	32.64	0.0018	0.0029	0.0032
(3) misc 2" Rigid Conduit From 0 to 92	36.00	46.00	41.00	0.0840	23.44	0.0013	0.0021	0.0032
(3) misc 2" Rigid Conduit From 0 to 92	26.00	36.00	31.00	0.0840	15.34	0.0009	0.0014	0.0032
(3) misc 2" Rigid Conduit From 0 to 92	16.00	26.00	21.00	0.0840	8.50	0.0005	0.0008	0.0032
(3) misc 2" Rigid Conduit From 0 to 92	6.00	16.00	11.00	0.0840	3.19	0.0002	0.0003	0.0032
(3) misc 2" Rigid Conduit From 0 to 92	0.00	6.00	3.00	0.0504	0.27	0.0000	0.0000	0.0019
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	86.00	92.00	89.00	0.0007	0.64	0.0000	0.0001	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	76.00	86.00	81.00	0.0012	0.92	0.0001	0.0001	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	66.00	76.00	71.00	0.0012	0.76	0.0000	0.0001	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	56.00	66.00	61.00	0.0012	0.60	0.0000	0.0001	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	46.00	56.00	51.00	0.0012	0.46	0.0000	0.0000	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	36.00	46.00	41.00	0.0012	0.33	0.0000	0.0000	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	26.00	36.00	31.00	0.0012	0.22	0.0000	0.0000	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	16.00	26.00	21.00	0.0012	0.12	0.0000	0.0000	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	6.00	16.00	11.00	0.0012	0.04	0.0000	0.0000	0.0000
(2) rosenberger leoni FB-L98B-002-75000(3/8) From 0 to 92	0.00	6.00	3.00	0.0007	0.00	0.0000	0.0000	0.0000
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	86.00	92.00	89.00	0.0109	9.89	0.0006	0.0009	0.0004
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	76.00	86.00	81.00	0.0182	14.29	0.0008	0.0013	0.0007
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	66.00	76.00	71.00	0.0182	11.70	0.0007	0.0010	0.0007
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	56.00	66.00	61.00	0.0182	9.30	0.0005	0.0008	0.0007
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	46.00	56.00	51.00	0.0182	7.09	0.0004	0.0006	0.0007
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	36.00	46.00	41.00	0.0182	5.09	0.0003	0.0005	0.0007
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	26.00	36.00	31.00	0.0182	3.33	0.0002	0.0003	0.0007
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	16.00	26.00	21.00	0.0182	1.85	0.0001	0.0002	0.0007
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	6.00	16.00	11.00	0.0182	0.69	0.0000	0.0001	0.0007
(2) rosenberger leoni WR-VG66ST-BRD(7/8) From 0 to 92	0.00	6.00	3.00	0.0109	0.06	0.0000	0.0000	0.0004
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	86.00	92.00	89.00	0.0140	12.67	0.0007	0.0011	0.0005
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	76.00	86.00	81.00	0.0234	18.31	0.0010	0.0016	0.0009
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	66.00	76.00	71.00	0.0234	14.99	0.0008	0.0013	0.0009
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	56.00	66.00	61.00	0.0234	11.91	0.0007	0.0011	0.0009
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	46.00	56.00	51.00	0.0234	9.08	0.0005	0.0008	0.0009
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	36.00	46.00	41.00	0.0234	6.52	0.0004	0.0006	0.0009
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	26.00	36.00	31.00	0.0234	4.27	0.0002	0.0004	0.0009
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	16.00	26.00	21.00	0.0234	2.36	0.0001	0.0002	0.0009
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	6.00	16.00	11.00	0.0234	0.89	0.0000	0.0001	0.0009
(4) rosenberger leoni WR-VG86ST-BRD(3/4) From 0 to 92	0.00	6.00	3.00	0.0140	0.07	0.0000	0.0000	0.0005
(3) andrew FSJ4-50B(1/2) From 0 to 83	76.00	83.00	79.50	0.0029	2.24	0.0001	0.0002	0.0001
(3) andrew FSJ4-50B(1/2) From 0 to 83	66.00	76.00	71.00	0.0042	2.70	0.0002	0.0002	0.0002
(3) andrew FSJ4-50B(1/2) From 0 to 83	56.00	66.00	61.00	0.0042	2.14	0.0001	0.0002	0.0002
(3) andrew FSJ4-50B(1/2) From 0 to 83	46.00	56.00	51.00	0.0042	1.63	0.0001	0.0001	0.0002
(3) andrew FSJ4-50B(1/2) From 0 to 83	36.00	46.00	41.00	0.0042	1.17	0.0001	0.0001	0.0002
(3) andrew FSJ4-50B(1/2) From 0 to 83	26.00	36.00	31.00	0.0042	0.77	0.0000	0.0001	0.0002
(3) andrew FSJ4-50B(1/2) From 0 to 83	16.00	26.00	21.00	0.0042	0.42	0.0000	0.0000	0.0002
(3) andrew FSJ4-50B(1/2) From 0 to 83	6.00	16.00	11.00	0.0042	0.16	0.0000	0.0000	0.0002
(3) andrew FSJ4-50B(1/2) From 0 to 83	0.00	6.00	3.00	0.0025	0.01	0.0000	0.0000	0.0001
(2) misc 2" Rigid Conduit From 0 to 83	76.00	83.00	79.50	0.0392	29.86	0.0017	0.0027	0.0015
(2) misc 2" Rigid Conduit From 0 to 83	66.00	76.00	71.00	0.0560	35.94	0.0020	0.0032	0.0021
(2) misc 2" Rigid Conduit From 0 to 83	56.00	66.00	61.00	0.0560	28.55	0.0016	0.0026	0.0021
(2) misc 2" Rigid Conduit From 0 to 83	46.00	56.00	51.00	0.0560	21.76	0.0012	0.0019	0.0021
(2) misc 2" Rigid Conduit From 0 to 83	36.00	46.00	41.00	0.0560	15.63	0.0009	0.0014	0.0021
(2) misc 2" Rigid Conduit From 0 to 83	26.00	36.00	31.00	0.0560	10.23	0.0006	0.0009	0.0021
(2) misc 2" Rigid Conduit From 0 to 83	16.00	26.00	21.00	0.0560	5.67	0.0003	0.0005	0.0021
(2) misc 2" Rigid Conduit From 0 to 83	6.00	16.00	11.00	0.0560	2.13	0.0001	0.0002	0.0021
(2) misc 2" Rigid Conduit From 0 to 83	0.00	6.00	3.00	0.0336	0.18	0.0000	0.0000	0.0013
(6) ATCB-B01-001(5/16) From 0 to 83	76.00	83.00	79.50	0.0032	2.40	0.0001	0.0002	0.0001
(6) ATCB-B01-001(5/16) From 0 to 83	66.00	76.00	71.00	0.0045	2.89	0.0002	0.0003	0.0002
(6) ATCB-B01-001(5/16) From 0 to 83	56.00	66.00	61.00	0.0045	2.29	0.0001	0.0002	0.0002
(6) ATCB-B01-001(5/16) From 0 to 83	46.00	56.00	51.00	0.0045	1.75	0.0001	0.0002	0.0002
(6) ATCB-B01-001(5/16) From 0 to 83	36.00	46.00	41.00	0.0045	1.26	0.0001	0.0001	0.0002
(6) ATCB-B01-001(5/16) From 0 to 83	26.00	36.00	31.00	0.0045	0.82	0.0000	0.0001	0.0002
(6) ATCB-B01-001(5/16) From 0 to 83	16.00	26.00	21.00	0.0045	0.46	0.0000	0.0000	0.0002
(6) ATCB-B01-001(5/16) From 0 to 83	6.00	16.00	11.00	0.0045	0.17	0.0000	0.0000	0.0002
(6) ATCB-B01-001(5/16) From 0 to 83	0.00	6.00	3.00	0.0027	0.01	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 83	76.00	83.00	79.50	0.0011	0.80	0.0000	0.0001	0.0000
andrew LDF4-50A(1/2) From 0 to 83	66.00	76.00	71.00	0.0015	0.96	0.0001	0.0001	0.0001
andrew LDF4-50A(1/2) From 0 to 83	56.00	66.00	61.00	0.0015	0.76	0.0000	0.0001	0.0001
andrew LDF4-50A(1/2) From 0 to 83	46.00	56.00	51.00	0.0015	0.58	0.0000	0.0001	0.0001

andrew LDF4-50A(1/2) From 0 to 83	36.00	46.00	41.00	0.0015	0.42	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 83	26.00	36.00	31.00	0.0015	0.27	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 83	16.00	26.00	21.00	0.0015	0.15	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 83	6.00	16.00	11.00	0.0015	0.06	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 83	0.00	6.00	3.00	0.0009	0.00	0.0000	0.0000	0.0000
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	76.00	83.00	79.50	0.0302	23.04	0.0013	0.0021	0.0011
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	66.00	76.00	71.00	0.0432	27.72	0.0016	0.0025	0.0016
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	56.00	66.00	61.00	0.0432	22.02	0.0012	0.0020	0.0016
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	46.00	56.00	51.00	0.0432	16.79	0.0009	0.0015	0.0016
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	36.00	46.00	41.00	0.0432	12.06	0.0007	0.0011	0.0016
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	26.00	36.00	31.00	0.0432	7.89	0.0004	0.0007	0.0016
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	16.00	26.00	21.00	0.0432	4.37	0.0002	0.0004	0.0016
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	6.00	16.00	11.00	0.0432	1.64	0.0001	0.0001	0.0016
(4) rfs celwave HB114-1-08U4-M5J(1-1/4) From 0 to 83	0.00	6.00	3.00	0.0259	0.14	0.0000	0.0000	0.0010
(4) rfs celwave HB158-21U6S24-xxM_TMO(1-5/8) From 0 to 75	66.00	75.00	70.50	0.0900	57.14	0.0032	0.0051	0.0034
(4) rfs celwave HB158-21U6S24-xxM_TMO(1-5/8) From 0 to 75	56.00	66.00	61.00	0.1000	50.98	0.0029	0.0046	0.0038
(4) rfs celwave HB158-21U6S24-xxM_TMO(1-5/8) From 0 to 75	46.00	56.00	51.00	0.1000	38.86	0.0022	0.0035	0.0038
(4) rfs celwave HB158-21U6S24-xxM_TMO(1-5/8) From 0 to 75	36.00	46.00	41.00	0.1000	27.91	0.0016	0.0025	0.0038
(4) rfs celwave HB158-21U6S24-xxM_TMO(1-5/8) From 0 to 75	26.00	36.00	31.00	0.1000	18.26	0.0010	0.0016	0.0038
(4) rfs celwave HB158-21U6S24-xxM_TMO(1-5/8) From 0 to 75	16.00	26.00	21.00	0.1000	10.12	0.0006	0.0009	0.0038
(4) rfs celwave HB158-21U6S24-xxM_TMO(1-5/8) From 0 to 75	6.00	16.00	11.00	0.1000	3.80	0.0002	0.0003	0.0038
(4) rfs celwave HB158-21U6S24-xxM_TMO(1-5/8) From 0 to 75	0.00	6.00	3.00	0.0600	0.32	0.0000	0.0000	0.0023
cui CU12PSM9P8XXX(1-3/8) From 0 to 65	56.00	65.00	60.50	0.0149	7.52	0.0004	0.0007	0.0006
cui CU12PSM9P8XXX(1-3/8) From 0 to 65	46.00	56.00	51.00	0.0166	6.45	0.0004	0.0006	0.0006
cui CU12PSM9P8XXX(1-3/8) From 0 to 65	36.00	46.00	41.00	0.0166	4.63	0.0003	0.0004	0.0006
cui CU12PSM9P8XXX(1-3/8) From 0 to 65	26.00	36.00	31.00	0.0166	3.03	0.0002	0.0003	0.0006
cui CU12PSM9P8XXX(1-3/8) From 0 to 65	16.00	26.00	21.00	0.0166	1.68	0.0001	0.0002	0.0006
cui CU12PSM9P8XXX(1-3/8) From 0 to 65	6.00	16.00	11.00	0.0166	0.63	0.0000	0.0001	0.0006
cui CU12PSM9P8XXX(1-3/8) From 0 to 65	0.00	6.00	3.00	0.0100	0.05	0.0000	0.0000	0.0004
andrew LDF4-50A(1/2) From 0 to 57	56.00	57.00	56.50	0.0002	0.07	0.0000	0.0000	0.0000
andrew LDF4-50A(1/2) From 0 to 57	46.00	56.00	51.00	0.0015	0.58	0.0000	0.0001	0.0001
andrew LDF4-50A(1/2) From 0 to 57	36.00	46.00	41.00	0.0015	0.42	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 57	26.00	36.00	31.00	0.0015	0.27	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 57	16.00	26.00	21.00	0.0015	0.15	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 57	6.00	16.00	11.00	0.0015	0.06	0.0000	0.0000	0.0001
andrew LDF4-50A(1/2) From 0 to 57	0.00	6.00	3.00	0.0009	0.00	0.0000	0.0000	0.0000
misc Safety Line 3/8 From 0 to 85	76.00	85.00	80.50	0.0020	1.54	0.0001	0.0001	0.0001
misc Safety Line 3/8 From 0 to 85	66.00	76.00	71.00	0.0022	1.41	0.0001	0.0001	0.0001
misc Safety Line 3/8 From 0 to 85	56.00	66.00	61.00	0.0022	1.12	0.0001	0.0001	0.0001
misc Safety Line 3/8 From 0 to 85	46.00	56.00	51.00	0.0022	0.85	0.0000	0.0001	0.0001
misc Safety Line 3/8 From 0 to 85	36.00	46.00	41.00	0.0022	0.61	0.0000	0.0001	0.0001
misc Safety Line 3/8 From 0 to 85	26.00	36.00	31.00	0.0022	0.40	0.0000	0.0000	0.0001
misc Safety Line 3/8 From 0 to 85	16.00	26.00	21.00	0.0022	0.22	0.0000	0.0000	0.0001
misc Safety Line 3/8 From 0 to 85	6.00	16.00	11.00	0.0022	0.08	0.0000	0.0000	0.0001
misc Safety Line 3/8 From 0 to 85	0.00	6.00	3.00	0.0013	0.01	0.0000	0.0000	0.0001
Sum				3.4122	1142.74			

1	P12x3/8	11,000	A53-B-35	0.5
2	P42x3/8	20,000	A53-B-42	3.3
3	P48x3/8	32,500		6.2
4	P48x1/2	32,500		8.3
Section	Size	Length (ft)	Grade	Weight (K)
				18.3



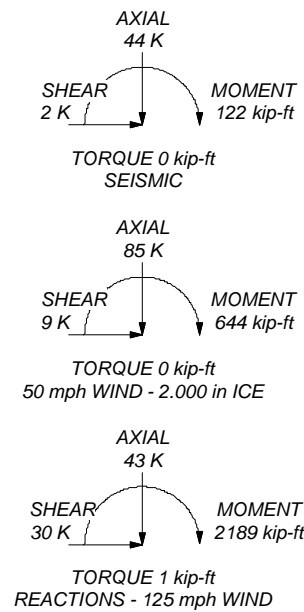
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi	A53-B-42	42 ksi	63 ksi

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 125 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. CCISeismic Note: Seismic loads generated by CCISeismic 3.3.7
10. CCISeismic Note: Seismic calculations are in accordance with TIA-222-H-1
11. TOWER RATING: 67.4%

ALL REACTIONS ARE FACTORED



B+T Group
 1717 S, Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 136354.005.01- HAYDEN STATION, CT (BU# 87632)		
Project:		
Client: Crown Castle	Drawn by: Suhas Poojary	App'd:
Code: TIA-222-H	Date: 06/17/21	Scale: NTS
Path:		Dwg No. E-1

Monopole Base Plate Connection - Seismic



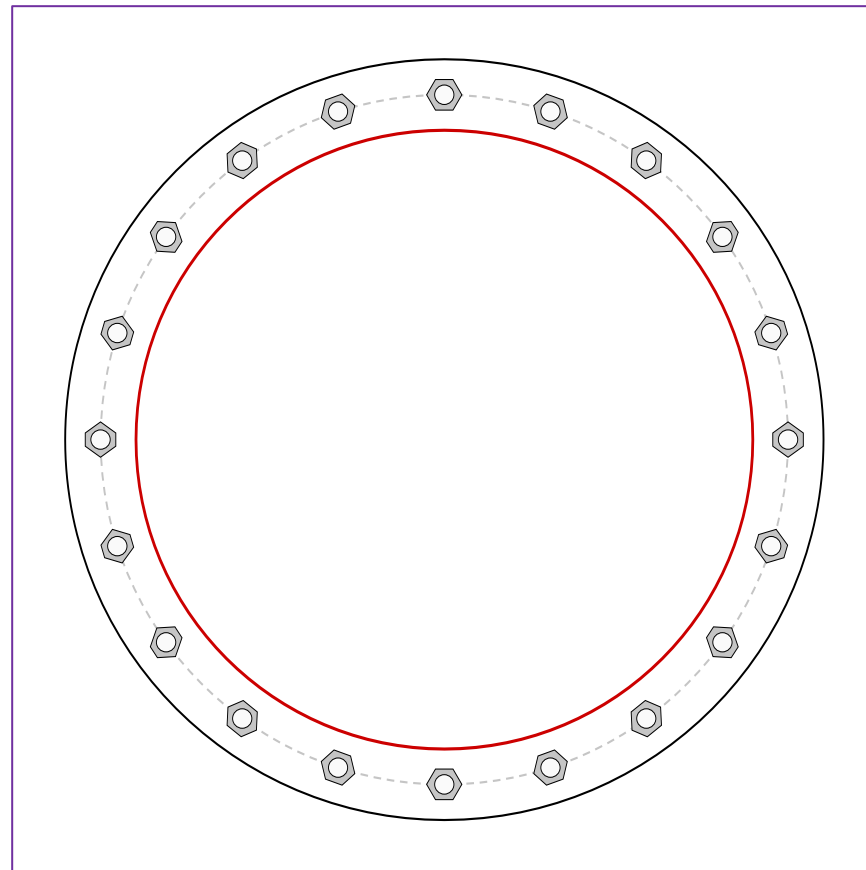
Site Info	
BU #	876326
Site Name	Hayden Station, CT
Order #	559450 Rev# 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
l_{ar} (in)	0

Applied Loads	
Moment (kip-ft)	122.46
Axial Force (kips)	44.47
Shear Force (kips)	1.60

*TIA-222-H Section 15.5 Applied

*1.5 Overstrength Factor Applied



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

Anchor Rod Data
(20) 1-1/2" ϕ bolts (A354-BC N; $F_y=109$ ksi, $F_u=125$ ksi) on 53.5" BC
Base Plate Data
59" OD x 2" Plate (A36; $F_y=36$ ksi, $F_u=58$ ksi)
Stiffener Data
N/A
Pole Data
48" x 0.5" round pole (A53-B-42; $F_y=42$ ksi, $F_u=63$ ksi)

Anchor Rod Summary	(units of kips, kip-in)	
$P_{u_c} = 10.46$	$\phi P_{n_c} = 173.36$	Stress Rating
$V_u = 0.12$	$\phi V_n = 78.01$	5.7%
$M_u = n/a$	$\phi M_n = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	-	
Allowable Stress (ksi):	-	
Stress Rating:	Rohn OK	