

November 9, 2022

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

Regarding: Notice of Exempt Modification – AT&T Site CT5638 / FA# 10071180
Address: 88 Parsonage Hill Road, North Branford, CT 06472

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (“AT&T”) currently maintains a wireless telecommunications facility on an existing +/- 195’ self-support tower at the above-referenced address, latitude 41.3690919, longitude -72.8104989. Said self-support tower is operated by Ochenkowski Towers, L.L.C.

AT&T desires to modify its existing telecommunications facility by swapping six (6) antennas, adding three (3) antennas, adding three (3) Remote Radio Units (RRUS), and adding one (1) surge arrester and accompanying feedlines as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Group, LLC, last revised September 21, 2022. The centerline height of the existing antennas is and will remain at 173 feet. This modification may include B2, B5, B17, B14, B29, B30, B66, & n77 hardware that is 4G(LTE) and/or 5G NR capable through remote software configuration and either or both services may be turned off at various times.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the following individuals: The Honorable Jeffrey Macmillen, Mayor of the Town of North Branford, as elected official, Eric Knapp, Zoning Enforcement Officer and Town Planner of the Town of North Branford, Ochenkowski Towers, L.L.C., as tower operator and property owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. *Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.*

5. The proposed modifications will not cause an ineligible change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. *Please see the structural analysis dated November 7, 2022, and prepared by Centek Engineering, enclosed herewith.*

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

Sincerely,

Evan Renwick

Evan Renwick
Site Acquisition Specialist
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
erenwick@clinellc.com

Enclosures: Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Mount Analysis
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Original Tower Approval
Exhibit 7 – Notice Delivery Confirmations

cc: The Honorable Jeffrey Macmillen, Mayor, Town of North Branford, elected official
Eric Knapp, Zoning Enforcement Officer and Town Planner, Town of North Branford
Ochenkowski Towers, L.L.C., as tower operator and property owner

EXHIBIT 1



SITE NUMBER: CTL05638
SITE NAME: NORTHFORD - TOTOKET
FA CODE: 10071180

PACE ID: MRCTB054235, MRCTB055621, MRCTB055657, MRCTB055168,
MRCTB056325, MRCTB053739, MRCTB053317, MRCTB062278

PROJECT: ANTENNA MODIFICATIONS, 4TXRX SOFTWARE RETROFIT, BBU RECONFIGURATION, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 5G NR 1SR CBAND, LTE 6C 2022 UPGRADE

PROJECT INFORMATION

ITEMS TO BE MOUNTED ON THE EXISTING SELF SUPPORT:

- NEW AT&T DUAL ANTENNAS: (AIR 6419 B77G & AIR 6449 B77D) STACKED @ POS 3 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- NEW AT&T ANTENNAS: TPA65R-BU6DA-K (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 4415 B30 (WCS) @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T SURGE ARRESTOR: DCG-48-60-18-8F (TOTAL OF 1).
- NEW AT&T (2) B AWG DC POWER CABLES & (1) 18 PAIRS OF FIBER RUNS.
- RELOCATED EXISTING AT&T ANTENNA: DMP65R-BU6DA @ POS. 2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).

ITEMS TO BE MOUNTED IN EQUIPMENT LOCATION:

- INSTALL (1) 6648 IDLe+XCEDE CABLE.
- FINAL=5216+XMI/6630+IDLe/6648+Xcede.
- INSTALL (5) NEW RECTIFIERS IN EXISTING POWER PLANT
- INSTALL (1) NEW BATTERY CABINET WITH (2) STRINGS OF 190AH BATTERIES
- REMOVE & REPLACE (3) STRINGS OF 159AH BATTERIES INSIDE EXISTING POWER PLANT.

ITEMS TO BE REMOVED:

- DECOMMISSION EXISTING AT&T (3) BATTERY STRINGS FROM EXISTING POWER PLANT, TOTAL OF 3).
- DECOMMISSION EXISTING AT&T ANTENNA: 800-10121 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- DECOMMISSION EXISTING AT&T ANTENNA: OP465R-BU6DA (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- DECOMMISSION EXISTING AT&T DIPLEXERS: LQP21901 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- DECOMMISSION EXISTING AT&T TMS: LQP21401 (TYP. OF 2 PER SECTOR, TOTAL OF 6).

ITEMS TO REMAIN:

- (3) ANTENNAS, (9) RRUS, (6) 1-5/8" COAX CABLES, (2) SURGE ARRESTOR, (4) DC POWER & (2) FIBER.

SITE ADDRESS: 88 PARSONAGE HILL ROAD NORTHFORD, CT 06472

LATITUDE: 41.3690919° N, 41° 22' 9.00" N

LONGITUDE: -72.8104989° W, 72° 48' 37.60" W

TYPE OF SITE: SELF SUPPORT TOWER / OUTDOOR EQUIPMENT

STRUCTURE HEIGHT: 197'-0"±

RAD CENTER: 173'-0"±

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY

VICINITY MAP

DIRECTIONS TO SITE:

HEAD SOUTHEAST TOWARD CAPITAL BLVD, TURN LEFT ONTO CAPITAL BLVD, USE THE LEFT 2 LANES TO TURN LEFT ONTO STATE HWY 411, TURN LEFT TO MERGE WITH I-91 S, MERGE WITH I-91 S TAKE EXIT 14 FOR E CENTER ST TOWARD CT-150/WALLINGFORD, TURN RIGHT ONTO E CENTER ST TURN LEFT ONTO S AIRLINE RD, TURN LEFT ONTO CT-150 S/WOODHOUSE AVE, CONTINUE STRAIGHT ONTO VILLAGE ST, TURN RIGHT ONTO PARSONAGE HILL RD, DESTINATION WILL BE ON THE LEFT.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T, ANY PARTS THEREOF, AND SHALL BE USED ONLY FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY FOR THE USE OF QUALIFIED AT&T PERSONNEL. ANY VISITORS AND PERSONS WHO DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE TO THE FACILITY IS NOT COVERED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	B
GN-1	GENERAL NOTES	B
A-1	COMPOUND & EQUIPMENT PLANS	B
A-2	ANTENNA LAYOUT PLANS & ELEVATION	B
A-3	DETAILS	B
G-1	GROUNDING DETAILS	B
RF-1	RF PLUMBING DIAGRAM	B

SCOPE OF WORK:

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- (3) ANTENNAS, (9) RRUS, (6) 1-5/8" COAX CABLES, (2) SURGE ARRESTOR, (4) DC POWER & (2) FIBER.

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RAD CENTER: 173'-0"±

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PROPOSED USE: TELECOMMUNICATIONS FACILITY

BEFORE YOU DIG

CALL TOLL FREE 1-800-922-4455
OR CALL 811

72 HOURS

UNDERGROUND SERVICE ALERT

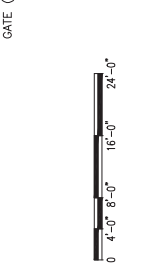
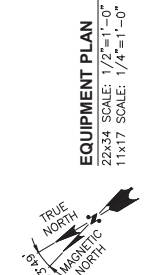
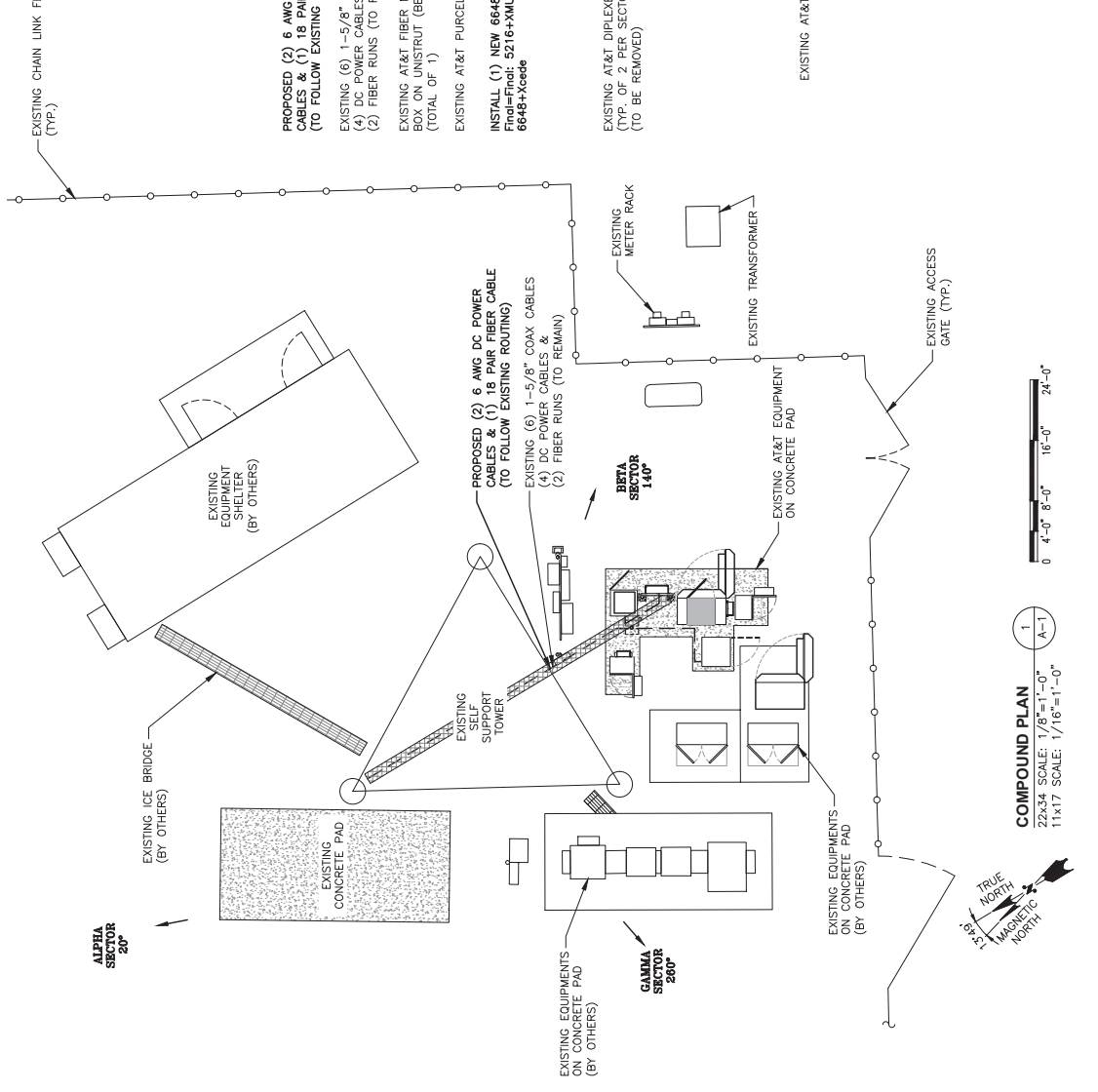
STATE OF CONNECTICUT
DEPARTMENT OF CONSTRUCTION

HDC	HUDSON Design Group LLC	TEL: (781) 455-6555 FAX: (781) 334-5394	CENTERLINE CONSTRUCTION SERVICES	750 WEST CENTER STREET, SUITE #301 WEST BRIDGEWATER, MA 02379
SITE NUMBER: CTL05638 SITE NAME: NORTHFORD - TOTOKET 88 PARSONAGE HILL ROAD NORTHFORD, CT 06472 NEW HAVEN COUNTY		at&t 500 ENTERPRISE DRIVE SUITE 3A ROCKY HILL, CT 06067		
NO. DATE A 02/23/22 B 09/21/22		REVISIONS GO AT BY CHK JAF		
SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: GD		SITE NUMBER: CTL05638 DRAWING NUMBER: T-1		

ISSUED FOR PERMITTING

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY HUDSON DESIGN GROUP, LLC.
DATED: MAY 6, 2022

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



REVISIONS

NO.	DATE	BY	CHK	APP
B	09/21/22	ISSUED FOR PERMITTING	GO	AT
A	02/23/22	ISSUED FOR REVIEW	GO	AT

45 BRIDGEWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 455-6555
FAX: (978) 334-5394

750 WEST CENTER STREET, SUITE #301
NORTHFORD, CT 06472
WEST BRIDGEWATER, MA 02379

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

SITE NUMBER: CTL05638
SITE NAME: NORTHFORD - TOTOKET

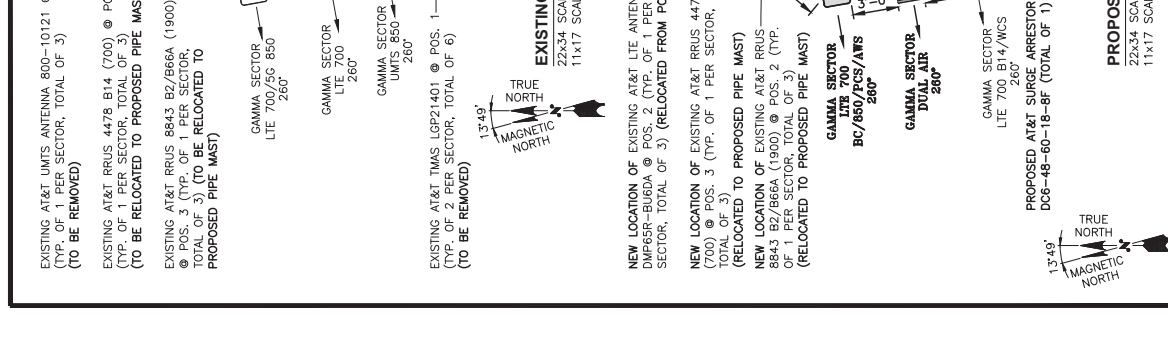
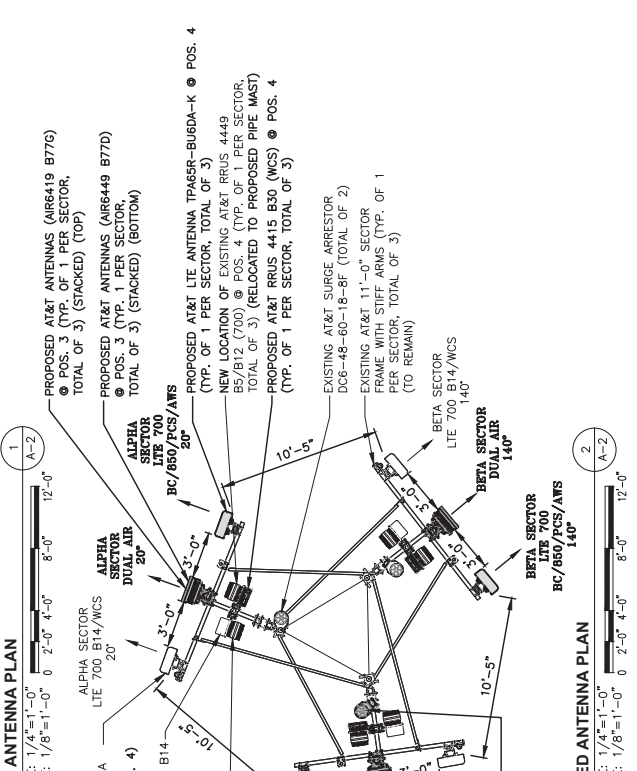
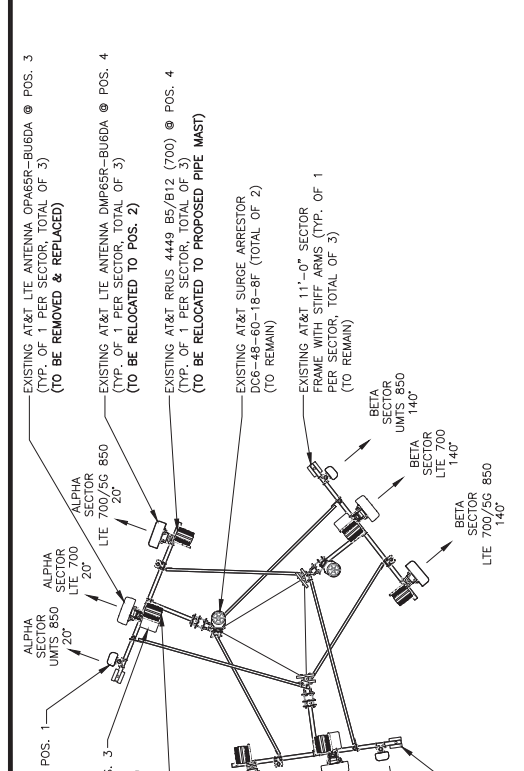
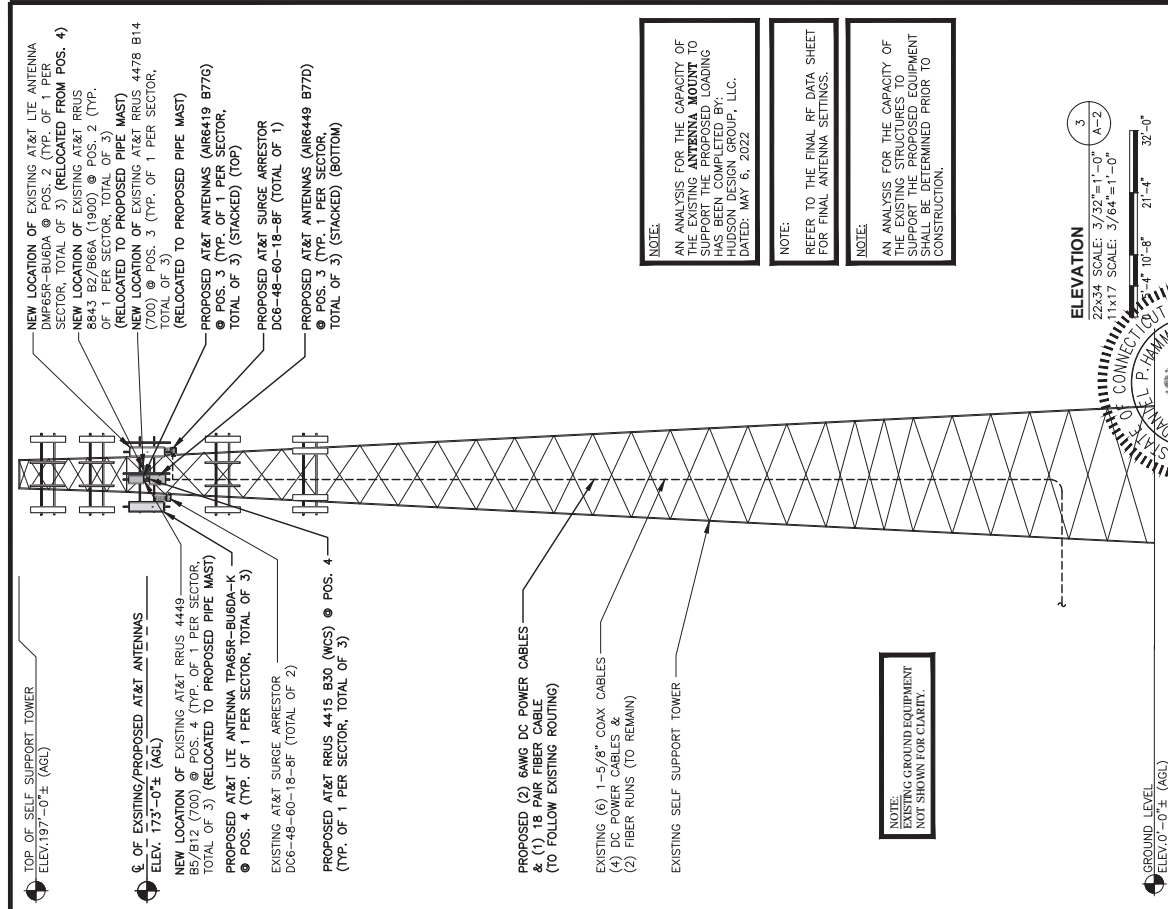
AT&T

DANIEL P. HAMM
REGISTERED PROFESSIONAL ENGINEER
STATE OF CONNECTICUT
LICENSE NO. 26520

DATE	BY	CHK	APP
09/21/22	ISSUED FOR PERMITTING	GO	AT
02/23/22	ISSUED FOR REVIEW	GO	AT

SCALE: AS SHOWN
DESIGNED BY: AT
DRAWN BY: GD

SHEET	NO.	DATE	BY	CHK	APP
B	1	09/21/22	ISSUED FOR PERMITTING	GO	AT



NOTE:
 AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING OF THE ANTENNAS (AS LISTED BY HUDSON DESIGN GROUP, LLC. DATED: MAY 6, 2022)

NOTE:
 REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
 AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT LOADING HAS BEEN DETERMINED PRIOR TO CONSTRUCTION.

NOTE:
 EXISTING GROUND EQUIPMENT NOT SHOWN FOR CLARITY.

SCALE: 1/8" = 1'-0"
 11x17 SCALE: 3/64" = 1'-0"

ELEVATION

AT&T

REVISIONS

NO.	DATE	REVISIONS	BY	CHK	APP
B	09/21/22	ISSUED FOR PERMITTING	GO	AT	AT
A	03/23/22	ISSUED FOR REVIEW	GO	AT	AT

SITE NUMBER: CT105638
SITE NAME: NORTHFORD - TOTOKET
 88 PARSONAGE HILL ROAD
 NORTHFORD, CT 06472
 NEW HAVEN COUNTY

at&t
 500 ENTERPRISE DRIVE, SUITE 3A
 ROCKY HILL, CT 06067

HUDSON Design Group LLC
 46 BECOMWOOD DRIVE
 NORTH ANDOVER, MA 01845
 TEL: (978) 455 6552
 FAX: (978) 334-5954

CENTERLINE ENGINEERING
 750 WEST CENTER STREET, SUITE #301
 WEST BRIDGEWATER, MA 02379

CT105638

REVISIONS

NO.	DATE	REVISIONS	BY	CHK	APP
B	09/21/22	ISSUED FOR PERMITTING	GO	AT	AT
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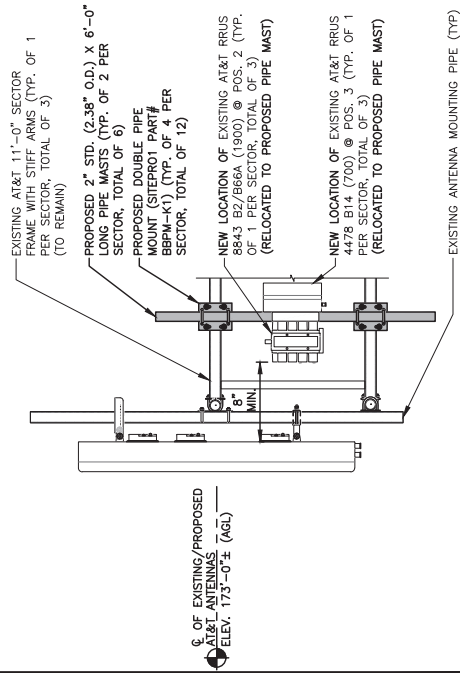
CT105638

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA HEIGHT	AZIMUTH	TW/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	-	-	-	-	-	-	-	-	-	(2) 1-5/8" COAX	(C) (1) RAYCAP
A2	EXISTING	LTE 700 B14/WCS	DMP65R-BU6DA	71.2"x20.7"x7.7"	173'-0"±	20°	-	(E1)RRUS-4478 B14 (700) (P1)RRUS-4415 B30 (WCS)	16.5"x13.4"x5.9"	(E1)2 DC POWER (1) FIBER	(C) (1) RAYCAP
A3	PROPOSED	DUAL AIR	AIR8419 B77G AIR8449 B77D	31.1"x16.1"x7.9" 30.4"x15.9"x6.1"	173'-0"±	20°	-	(E1)RRUS-4449 B5/B12 (700) (E1)RRUS-8843 B2/B66A (1900)	-	(E1)(Y-CABLE) (E1)(Y-CABLE)	(C) (1) RAYCAP
A4	PROPOSED	LTE 700 BC/850/PCS/MS	TPA65R-BUGDA-K	71.2"x20.7"x7.7"	173'-0"±	20°	-	(E1)RRUS-4449 B5/B12 (700) (E1)RRUS-8843 B2/B66A (1900)	-	(2) 1-5/8" COAX	(C) (1) RAYCAP
B1	-	-	-	-	-	-	-	-	-	-	(C) (1) RAYCAP
B2	EXISTING	LTE 700 B14/WCS	DMP65R-BU6DA	71.2"x20.7"x7.7"	173'-0"±	140°	-	(E1)RRUS-4478 B14 (700) (P1)RRUS-4415 B30 (WCS)	16.5"x13.4"x5.9"	(E1)2 DC POWER (1) FIBER	(C) (1) RAYCAP
B3	PROPOSED	DUAL AIR	AIR8419 B77G AIR8449 B77D	31.1"x16.1"x7.9" 30.4"x15.9"x6.1"	173'-0"±	140°	-	(E1)RRUS-4449 B5/B12 (700) (E1)RRUS-8843 B2/B66A (1900)	-	(E1)(Y-CABLE) (E1)(Y-CABLE)	(C) (1) RAYCAP
B4	PROPOSED	LTE 700 BC/850/PCS/MS	TPA65R-BUGDA-K	71.2"x20.7"x7.7"	173'-0"±	140°	-	(E1)RRUS-4449 B5/B12 (700) (E1)RRUS-8843 B2/B66A (1900)	-	(2) 1-5/8" COAX	(P) (1) RAYCAP
C1	-	-	-	-	-	-	-	-	-	-	(P) (1) RAYCAP
C2	EXISTING	LTE 700 B14/WCS	DMP65R-BU6DA	71.2"x20.7"x7.7"	173'-0"±	260°	-	(E1)RRUS-4478 B14 (700) (P1)RRUS-4415 B30 (WCS)	16.5"x13.4"x5.9"	(P) (2) 6 AWG DC POWER (P) (1) 18 PAIR FIBER	(P) (1) RAYCAP
C3	PROPOSED	DUAL AIR	AIR8419 B77G AIR8449 B77D	31.1"x16.1"x7.9" 30.4"x15.9"x6.1"	173'-0"±	260°	-	(E1)RRUS-4449 B5/B12 (700) (E1)RRUS-8843 B2/B66A (1900)	-	(E1)(Y-CABLE) (E1)(Y-CABLE)	(P) (1) RAYCAP
C4	PROPOSED	LTE 700 BC/850/PCS/MS	TPA65R-BUGDA-K	71.2"x20.7"x7.7"	173'-0"±	260°	-	(E1)RRUS-4449 B5/B12 (700) (E1)RRUS-8843 B2/B66A (1900)	-	(E1)(Y-CABLE) (E1)(Y-CABLE)	(P) (1) RAYCAP

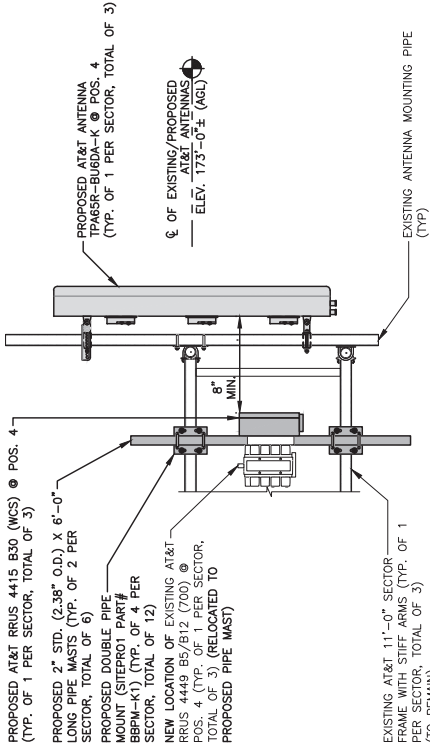
FINAL ANTENNA SCHEDULE

SCALE: N.T.S.



EXISTING ANTENNA @ POS. 2

22x34 SCALE: 1/2"=1'-0" 0 0'-6" 1'-0" 2'-0" 3'-0"



PROPOSED ANTENNA @ POS. 4

22x34 SCALE: 3/8"=1'-0" 0 0'-8" 1'-4" 2'-8" 4'-0"

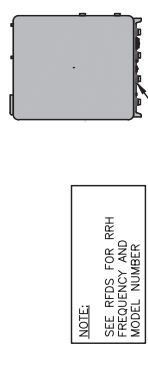
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NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
E(3)	4478 B14 (700)	18.1"x13.4"x5.3"
E(3)	8843 B2/B66A (1900)	14.9"x13.2"x10.9"
E(3)	4449 B5/B12 (700)	17.9"x13.2"x10.4"
F(3)	4415 B30 (WCS)	16.5"x13.4"x5.9"

NOTE: MOUNT PER MANUFACTURER'S SPECIFICATIONS

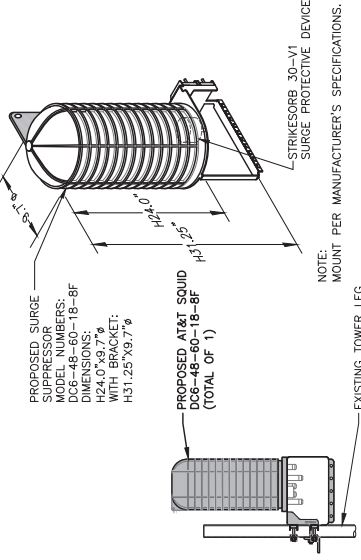


PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE: MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRU DETAIL

SCALE: N.T.S.



PROPOSED SURGE PROTECTOR MOUNTING DETAIL

SCALE: N.T.S.

HUDSON Design Group LLC
46 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 455-1555
FAX: (978) 334-5394

CENTERLINE
CONSTRUCTION, INC.

750 WEST CENTER STREET, SUITE #301
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SITE NUMBER: CT105638
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88 PARSONAGE HILL ROAD
NORTHFORD, CT 06472
NEW HAVEN COUNTY

AT&T

DATE: 09/21/22 ISSUED FOR PERMITTING
BY: AT
NO. 102/23/22 ISSUED FOR REVIEW
BY: AT
NO. DATE
SCALE: AS SHOWN
DESIGNED BY: AT
DRAWN BY: GD
CHECKED BY: CHK JAP
REVISIONS

STATE OF CONNECTICUT
REGISTERED PROFESSIONAL ENGINEER
STATE OF CONNECTICUT
REGISTERED PROFESSIONAL ENGINEER
STATE OF CONNECTICUT
REGISTERED PROFESSIONAL ENGINEER

AT&T

REVISIONS

DATE

BY

CHK

JAP

NO.

102/23/22

ISSUED FOR REVIEW

BY

AT

09/21/22

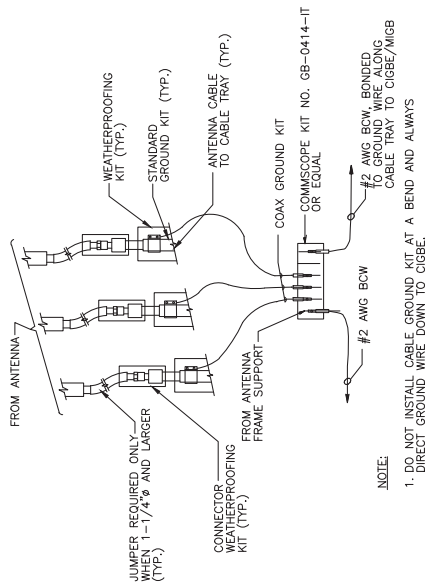
ISSUED FOR PERMITTING

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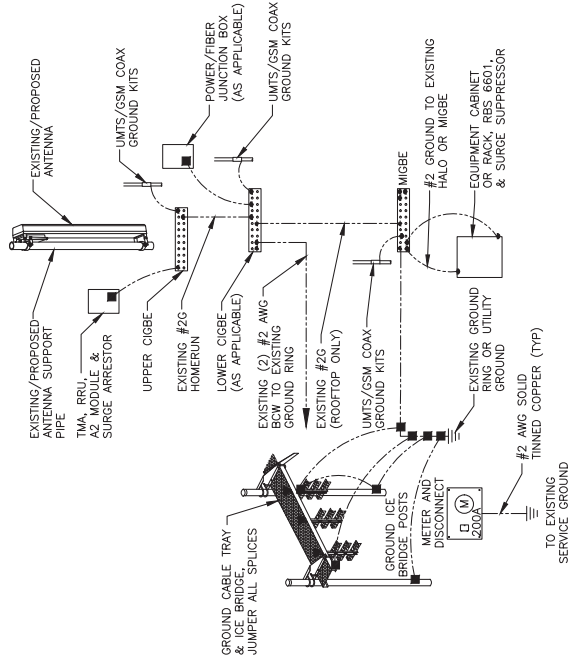
CT105638

A-3

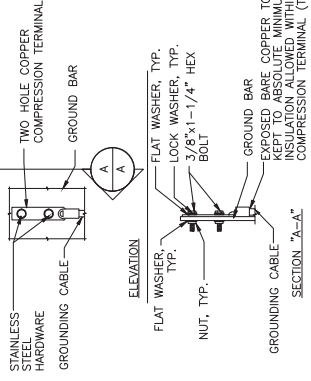


NOTE:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM 2
SCALE: N.T.S. G-1



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

TYPICAL GROUND BAR CONNECTION DETAIL 3
SCALE: N.T.S. G-1

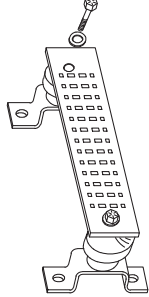
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
- TELECO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
- +4V POWER SUPPLY RETURN BAR (#2 AWG)
- +48V POWER SUPPLY RETURN BAR (#2 AWG)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING (#2 AWG)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
- INTERNAL EARTH GROUND FIELD (IF AVAILABLE) (#2 AWG)
- BUILDING STEEL (IF AVAILABLE) (#2 AWG)



GROUND BAR - DETAIL (AS REQUIRED)
SCALE: N.T.S.

NO.	DATE	REVISIONS	BY	CHK	APP
B	09/21/22	ISSUED FOR PERMITTING	GO	AT	
A	03/23/22	ISSUED FOR REVIEW	GO	AT	

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: GD

at&t
500 ENTERPRISE DRIVE SUITE 3A
ROCKY HILL, CT 06067

SITE NUMBER: CTL05638
SITE NAME: NORTHFORD - TOTOKET
88 PARSONAGE HILL ROAD
NORTHFORD, CT 06472
NEW HAVEN COUNTY

CENTERLINE
CONSTRUCTION CONSULTANTS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

HDP HUDSON Design Group LLC
TEL: (978) 455-6555
FAX: (978) 334-5394
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845

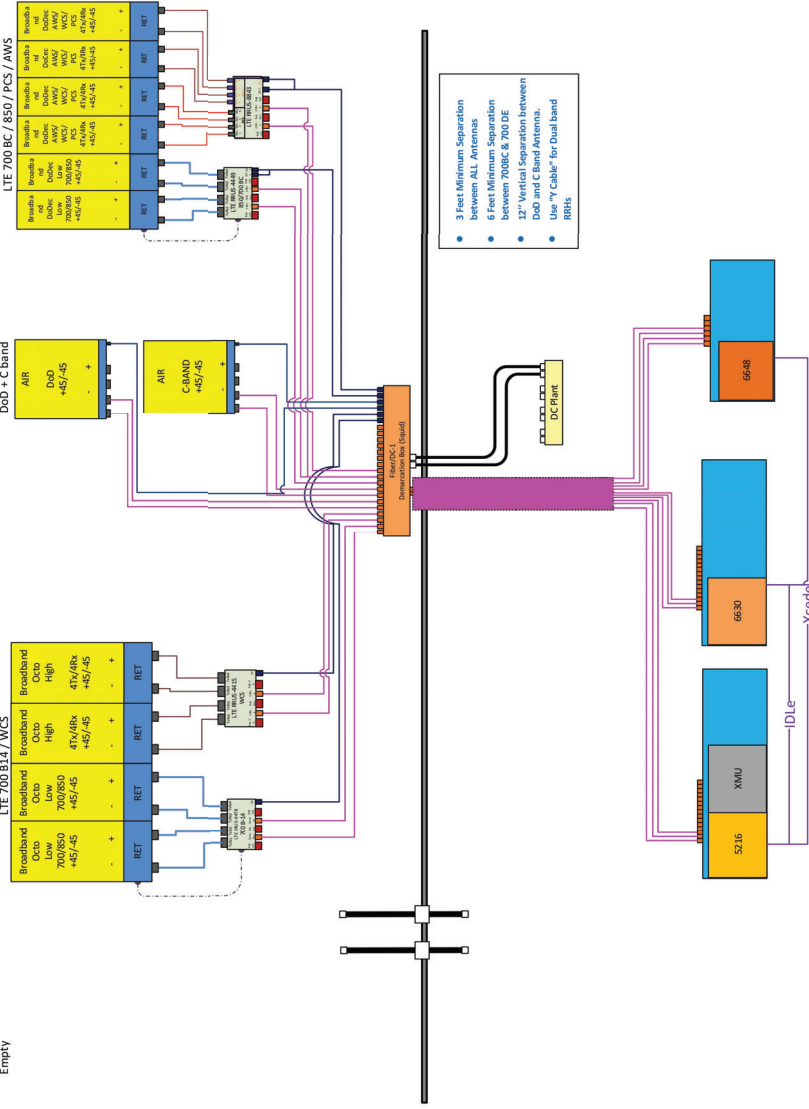
AT&T
CREATING BETTER
WORKING PEOPLE
SOFTWARE ROAD, 50 W. MAIN, SUITE 100
ROCKY HILL, CT 06067
SITE NUMBER: CTL05638
DRAWING NUMBER: G-1
REV: B

Antenna 1
Empty

Antenna 2
LTE 700 B14 / WCS

Antenna 3
Dob + C Band

Antenna 4
LTE 700 BC / B50 / PCS / AWS



- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE
- 12" Vertical Separation between Dob and C Band Antenna.
- Use "Y Cable" for Dual band RRHs

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

RF PLUMBING DIAGRAM
SCALE: N.T.S.
1
RF-1

AT&T	
RF PLUMBING DESIGN	RF-1
ANTENNA INSTALLATION	RF-2
SYNTHESIS	RF-3
RF DATA SHEET	RF-4
RF PLUMBING DIAGRAM	RF-5
RF PLUMBING	RF-6
RF PLUMBING	RF-7
RF PLUMBING	RF-8
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RF PLUMBING	RF-95
RF PLUMBING	RF-96
RF PLUMBING	RF-97
RF PLUMBING	RF-98
RF PLUMBING	RF-99
RF PLUMBING	RF-100

NO.	DATE	REVISIONS	BY	CHK	APP'D
A	02/23/22	ISSUED FOR REVIEW	GO	AT	DPH
B	09/21/22	ISSUED FOR PERMITTING	JS	AT	DPH
SCALE: AS SHOWN					
DESIGNED BY: AT			DRAWN BY: GD		

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

SITE NUMBER: CTLO5638
SITE NAME: NORTHFORD - TOTOKET
88 PARSONAGE HILL ROAD
NORTHFORD, CT 06472
NEW HAVEN COUNTY

CENTERLINE
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

HDP HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 655 6553
FAX: (978) 334 5394

EXHIBIT 2

CURRENT OWNER		TOPO		UTILITIES		STRT / ROAD		LOCATION		CURRENT ASSESSMENT	
SZWABOWSKI JEAN 1/3		1 Level		5 Well 6 Septic		1 Paved		3 Rural		Assessed	
OCHENKOWSKI J JR 1/3 & K W 1/3										Assessed	
84 PARSONAGE HL RD		Alt Prcl ID 002953		SUPPLEMENTAL DATA						Assessed	
NORTHFORD CT 06472-1445		Sub-Div Need Lette Ward		Block Fire School Heart Freeze						Assessed	
Prec. Tract 1862		GIS ID 3060								Assessed	
Assoc Pld##										Assessed	

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	Q/U	V/I	SALE PRICE	VC
SZWABOWSKI JEAN 1/3	0429	1132	12-23-2009	U	I	90,000	
SZWABOWSKI JEAN &	0429	1128	12-23-2009	U	I	90,000	
SZWABOWSKI JEAN &	0276	0749	12-15-1998	U	I	0	
OCHENKOWSKI VERONICA TIC +	0269	0844	05-11-1998	U	I	400,000	01
OCHENKOWSKI VERONICA	0040	0206	11-14-1960			0	

EXEMPTIONS		Amount	Description	Code	Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
Total		0.00			2019	1-1	94,600	2018	1-1	94,600	2017	1-1	94,600
Total		0.00			2019	1-2	150,600	2018	1-2	150,600	2017	1-2	150,600
Total		0.00			2019	1-3	160,000	2018	1-3	160,000	2017	1-3	160,000
Total		0.00			2019	1-4	101,700	2018	1-4	101,700	2017	1-4	101,700
Total		0.00			2019	1-4	864,000	2018	1-4	864,000	2017	1-4	864,000

OTHER ASSESSMENTS		Amount	Description	Number
Total		0.00		

ASSESSING NEIGHBORHOOD		Nbhd Name	Tracing	Batch
Total		B		

NOTES	
FBM=1 BAS=5 FHS=3	
ECO = MKT/INC/LOC/RSADJ	
CELL TOWER	
FBM AREA=OFFICES; AM. RADIANT TECH;	
OCHEN. DRAINAGE; OCHEN. INS.	

BUILDING PERMIT RECORD		Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
16-125B	03-01-2016	CM	Commercial	15,000	100	10-01-2014	Install three (3) antenna' (NVC			
15-50B	09-25-2014	CM	Install 3 antenn	20,000	100	10-01-2014	decomm T-mobile/Tele site			
15-19E	07-28-2014	EL	Electric	1,000	100	10-01-2014	sprint-install 3 new antennas			
15-16B	07-22-2014	CM	Commercial	30,000	100	10-01-2014	change out 6 antennas on cell			
14-153B	05-21-2014	CM	Commercial	16,500	100	10-01-2014	repl 6 antennas			
14-122B	04-07-2014	CM	Commercial	10,000	100	10-01-2014	add cabinets/bracing in Meitro			
13-0059	04-10-2013	CM	Commercial	20,000	100	10-01-2013				

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
1	010M	SINGLE FAM M	R40		0.920 AC	138,520	1.06090	5	1.00	1.00	1,000	1,000	TOPO	1.0000	146,955.8	135,200
1	0101	SINGLE FAM M	R40		7.240 AC	12,000	1.00000	0	0.75	0.75	1,000	1,000	CELL SITE	1.0000	9,000	65,200
1	0101	SINGLE FAM M	R40		0.230 AC	652,174	1.00000	0	1.00	1.00	1,000	1,000		1.0000	652,174	150,000
Total Card Land Units 8.390 AC Parcel Total Land Area 9.3100 Total Land Value 350,400																

CONSTRUCTION DETAIL		CONSTRUCTION DETAIL (CONTINUED)	
Element	Cd	Description	Element
68	RES TYPE COMM		
03	Res Type Com		
04	Above Avg		
1.5	1 1/2 Stories		
2	Aluminum Siding		
26	Gable/Hip		
03	Asphalt Shingl		
03	Plastered		
04	Plywood Panel		
14	Carpet		
12	Hardwood		
02	Oil		
04	Forced Air-Duc		
03	Central		
02	2 Bedrooms		
2	Average		
1	Average		
02			
02			

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)										
Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Adj.	Appr. Value
FPL2	FIREPLACE 1.	B	1	5000.00	1980		55	0.00	0.00	2,800
SHD1	SHED FRAME	L	288	12.00	2001		50	0.00	0.00	1,700

BUILDING SUB-AREA SUMMARY SECTION						
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
AOF	Office, (Average)	484	484	0	0	0
BAS	First Floor	1,008	1,008	0	0	0
FBM	Basement, Finished	0	504	0	0	0
FEP	Porch, Enclosed, Finished	0	192	0	0	0
FHS	Half Story, Finished	504	1,008	0	0	0
UBM	Basement, Unfinished	0	504	0	0	0
UGR	Garage, Unfinished	0	676	0	0	0
Ttl Gross Liv / Lease Area		1,996	4,376			

FEP UGR	12	16	18	18	22
FHS BAS FBM	28	28	18	22	
FHS BAS UBM					
AOF UGR					



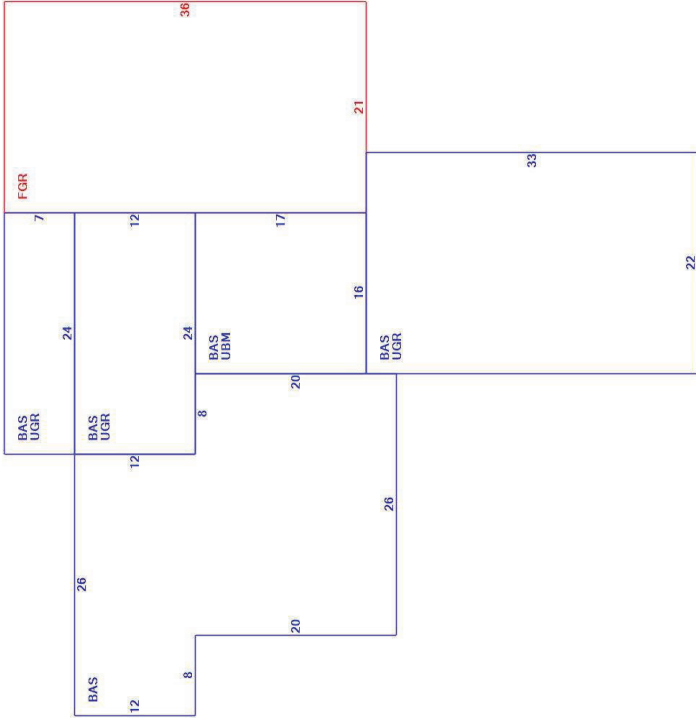
CURRENT OWNER	TOPO			UTILITIES		STRT / ROAD		LOCATION		CURRENT ASSESSMENT													
SZWABOWSKI JEAN 1/3	1 Level	5 Well	6 Septic	1 Paved	3 Rural	RES LAND	1-1	135,200	Assessed	Code	Assessed	Assessed	6099										
OCHENKOWSKI J J JR 1/3 & K W 1/3						RES EXCES	1-2	215,200		1-1	150,600	94,600	NORTH BRANFORD, CT										
84 PARSONAGE HL RD						DWELLING	1-3	228,400		1-2	160,000	150,600											
						RES OUTBL	1-4	145,100	SUPPLEMENTAL DATA		1-3	160,000	101,700										
						UTL LAND	4-1	207,000	Block	4-1	144,900	144,900	VISION										
						UTL BLDG	4-2	19,100	Fire	4-2	13,400	13,400											
						UTL OUTBL	4-3	298,800	School	4-3	198,800	198,800											
									Heart														
									Freeze														
									Assoc Pld##														
RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE		Q/U		VI		SALE PRICE		VC		PREVIOUS ASSESSMENTS (HISTORY)										
SZWABOWSKI JEAN 1/3	0429	1132	12-23-2009	U	I	90,000							Year	Code	Assessed	Year	Code	Assessed					
SZWABOWSKI JEAN &	0429	1128	12-23-2009	U	I	90,000							2019	1-1	94,600	2018	1-1	94,600					
SZWABOWSKI JEAN &	0276	0749	12-15-1998	U	I	0							2019	1-2	150,600	2018	1-2	150,600					
OCHENKOWSKI VERONICA TIC +	0269	0844	05-11-1998	U	I	400,000	01						2019	1-3	160,000	2018	1-3	160,000					
OCHENKOWSKI VERONICA	0040	0206	11-14-1960			0							2019	1-4	101,700	2018	1-4	101,700					
Total			0.00								Total		864,000		864,000		864,000						
EXEMPTIONS				OTHER ASSESSMENTS								APPRAISED VALUE SUMMARY											
Description				Amount	Description	Number	Amount	Code	Description	Comm Int.	Appraised Bldg. Value (Card)												
										Appraised Xf (B) Value (Bldg)													
										Appraised Ob (B) Value (Bldg)													
										Appraised Land Value (Bldg)													
										Special Land Value													
										Total Appraised Parcel Value													
										Valuation Method													
										Total Appraised Parcel Value													
										1,248,800													
<p>10/1/94 TC15-94 SPLIT</p> <p>5/11/98 269-844% TRANS</p> <p>OCHENKOWSKI VERONICA</p> <p>(1/4) SZWABOWSKI JEAN +</p> <p>OCHENKOWSKI JOS JR(3/4)</p>																							
BUILDING PERMIT RECORD				VISIT / CHANGE HISTORY																			
Permit id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments	Date	Id	Type	Is	Cd	Purpose/Result									
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								
2	0101	SINGLE FAM M	R40		0 SF	0	1.00000	0	1.00		1.000		0.0000	0	0								
Total Card Land Units 0.000 SF																Parcel Total Land Area 9.3100				Total Land Value		0	

This signature acknowledges a visit by a Data Collector or Assessor

CONSTRUCTION DETAIL		CONSTRUCTION DETAIL (CONTINUED)	
Element	Cd	Description	Element
Style: 01	Ranch	Residential	
Model: 01	Residential	Average	
Grade: 03	Average	1 Story	
Stories: 1	1	Vinyl Siding	
Occupancy: 25		Gable/Hip	
Exterior Wall 1		Asphalt Shingl	
Exterior Wall 2		Drywall/Sheet	
Roof Structure:		Carpet	
Roof Cover: 03		Oil	
Interior Wall 1		Hot Water	
Interior Wall 2		None	
Interior Flr 1		3 Bedrooms	
Interior Flr 2		5 Rooms	
Heat Fuel:		Average	
Heat Type:			
AC Type:			
Total Bedrooms:			
Total Half Baths:			
Total Xtra Fixtrs:			
Total Rooms:			
Bath Style:			
Kitchen Style:			

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)						
Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd
SHD1	SHED FRAME	L	220	12.00	2001	30
						Grade
						Grade Adj.
						Appr. Value
						800

BUILDING SUB-AREA SUMMARY SECTION				
Code	Description	Living Area	Floor Area	Eff Area
BAS	First Floor	2,286	2,286	0
FGR	Garage, Framed	0	756	0
UBM	Basement, Unfinished	0	272	0
UGR	Garage, Unfinished	0	1,182	0
	Ttl Gross Liv / Lease Area	2,286	4,496	



CURRENT OWNER				UTILITIES				STRT / ROAD				LOCATION			
SZWABOWSKI JEAN 1/3		5 Well		1 Paved		3 Rural		RES LAND		Code		Appraised		Assessed	
OCHENKOWSKI J JR 1/3 & KW 1/3		6 Septic						RES EXCES		1-1		135,200		94,600	
84 PARSONAGE HL RD								DWELLING		1-2		215,200		150,600	
								RES OUTBL		1-3		228,400		160,000	
								UTL LAND		1-4		145,100		101,700	
REAL_OWNERS CT 06472-1445		Alt Prcl ID 002953		Block		Assoc Pld##		UTL BLDG		4-1		207,000		144,900	
Prec. Tract 1862		Sub-Div		Fire				UTL BLDG		4-2		19,100		13,400	
GIS ID 3060		Need Lette		School				UTL OUTBL		4-3		298,800		198,800	

RECORD OF OWNERSHIP						BK-VOL/PAGE						SALE DATE						Q/U						VI						SALE PRICE						VC					
SZWABOWSKI JEAN 1/3		0429		1132		12-23-2009		U		I		90,000		90,000		2019		1-1		94,600		2017		1-1		94,600		Assessed		94,600		Assessed		6099							
SZWABOWSKI JEAN &		0429		1128		12-23-2009		U		I		90,000		90,000		2018		1-2		150,600		2017		1-2		150,600		150,600		150,600		150,600									
SZWABOWSKI JEAN &		0276		0749		12-15-1998		U		I		0		0		2018		1-3		160,000		2017		1-3		160,000		160,000		160,000		160,000									
OCHENKOWSKI VERONICA TIC +		0269		0844		05-11-1998		U		I		400,000		01		2018		1-4		101,700		2017		1-4		101,700		101,700		101,700		101,700									
OCHENKOWSKI VERONICA		0040		0206		11-14-1960		U		I		0		0		2018		1-4		101,700		2017		1-4		101,700		101,700		101,700		101,700									
Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		864,000							

EXEMPTIONS				OTHER ASSESSMENTS			
Description		Amount		Description		Amount	
Year		Code		Year		Code	
		Comm Int					

ASSESSING NEIGHBORHOOD			
Nbhnd Name		Batch	
0001		Tracing	

NOTES	
POLICE & FIRE EQUIP STORAGE	
10/1/06 ADD 20X30 ELEC COMM BLDG	
METRO PCS OB +15000; SPRINT; UPDATED	
ALL ANTENNAES 2013-2014	
10/1/07 ADD NEXTEL ELCB-NO LONGER PP	
36X80 HOOP GARAGE - N/V	

BUILDING PERMIT RECORD						VISIT / CHANGE HISTORY									
Permit Id		Issue Date		Type		Description		Amount		% Comp		Date Comp		Comments	
Total Appraised Parcel Value		1,248,800		Total Appraised Parcel Value		1,248,800		Valuation Method		C					

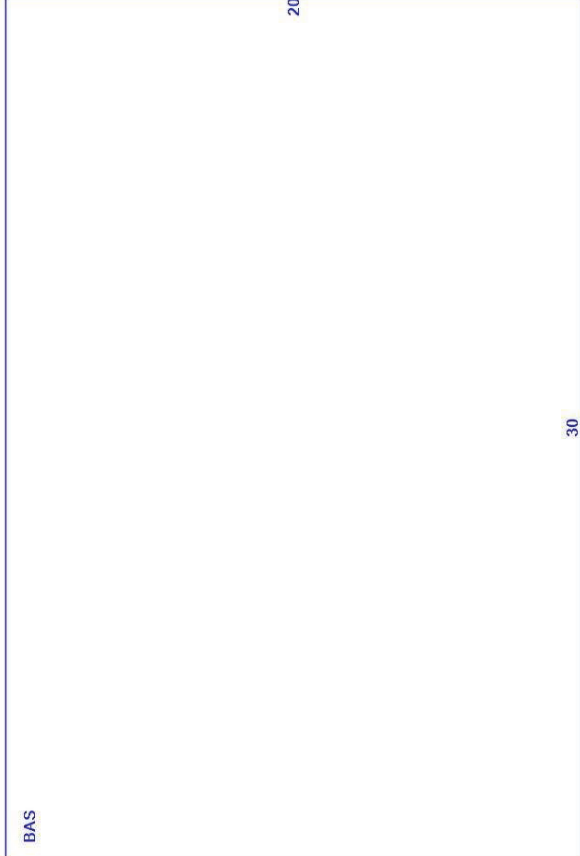
LAND LINE VALUATION SECTION																					
B Use Code		Zone		Land Type		Land Units		Unit Price		I. Factor		Site Index		Cond.		Nbhnd.		Nhbnd Adj		Notes	
3		4300		CELL SITE		R40		0.920 AC		225,000		1.00000		0		1.00		1.000			
Total Card Land Units		0.920 AC		Parcel Total Land Area:		9.3100		Total Appraised Parcel Value		1,248,800		Total Appraised Parcel Value		1,248,800		Total Land Value		207,000			

PREVIOUS ASSESSMENTS (HISTORY)																							
Year		Code		Assessed		Year		Code		Assessed		Year		Code		Assessed		Year		Code		Assessed	
2019		1-1		94,600		2018		1-1		94,600		2017		1-1		94,600		2017		1-1		94,600	
		1-2		150,600				1-2		150,600				1-2		150,600				1-2		150,600	
		1-3		160,000				1-3		160,000				1-3		160,000				1-3		160,000	
		1-4		101,700				1-4		101,700				1-4		101,700				1-4		101,700	
Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total		Total	
864,000		864,000		864,000		864,000		864,000		864,000		864,000		864,000		864,000		864,000		864,000		864,000	

This signature acknowledges a visit by a Data Collector or Assessor

CONSTRUCTION DETAIL

Element	Cd	Description	Element	Cd	Description
Style:	40	Industrial			
Model	96	Ind or Comm			
Grade	03	Average			
Stories:	1				
Occupancy	1.00				
Exterior Wall 1	15	Concr/Cinder			Percentage
Exterior Wall 2					100
Roof Structure	01	Flat			0
Roof Cover	02	Rolled Compos			0
Interior Wall 1	05	Drywall/Sheet			
Interior Wall 2	01	Minim/Masonry			
Interior Floor 1	05	Vinyl/Asphalt			
Interior Floor 2					
Heating Fuel	03	Gas			38,964
Heating Type	04	Forced Air-Duc			1973
AC Type	02	Heat Pump			1982
Bldg Use	0311	COMM WHSE MDL-96			A
Total Rooms	00				
Total Bedrms	0				
Total Baths	01				41
Heat/AC	03	HEAT/AC PKGS			0
Frame Type	01	MASONRY			10
Baths/Plumbing	03	LIGHT			1
Ceiling/Wall	06	CEIL & WALLS			
Rooms/Prtns	02	AVERAGE			
Wall Height	0.00				49
% Comm Wall	12.00				19,100
1st Floor Use:	0311				



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

Code	Description	L/B	Units	Unit Price	Yr-Bit	Cond.	Cd	% Good	Grade	Grade Adj	Appr. Value
PAV1	PAVING-ASPH	L	4,000	1.90	1989			45		0.00	3,400
FN5	FENCE-10'CHA	L	300	23.50	1989			45		0.00	3,200
SHD8	SHED UNDER	L	128	0.00	2001			50		0.00	15,000
FGR2	GARAGE-GOO	L	1,200	45.00	2001			50		0.00	27,000
MSC4	RADIO TOWER	L	175	500.00	2001			20		0.00	17,500
MSC4	RADIO TOWER	L	175	500.00	2013			100		0.00	87,500
TW1	CELL TOWER	L	125	900.00	2013			100		0.00	50,600
ELCB	ELECTRONIC	L	360	225.00	2010			75		0.00	60,800
ELCB	ELECTRONIC	L	200	225.00	2000			75		0.00	33,800

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprac Value
BAS	First Floor	600	600	600	0	0
		Ttl Gross Liv / Lease Area	600	600		

CURRENT OWNER		TOPO		UTILITIES		STRT / ROAD		LOCATION		CURRENT ASSESSMENT		
SZWABOWSKI JEAN 1/3	1 Level	5 Well	1 Paved	3 Rural	RES LAND	Code	Assessed	Assessed	Assessed	Code	Year	Assessed
OCHENKOWSKI J J JR 1/3 & K W 1/3	6 Septic				RES EXCES	1-1	135,200	135,200	94,600	1-1	2017	94,600
84 PARSONAGE HL RD	SUPPLEMENTAL DATA				DWELLING	1-2	228,400	215,200	150,600	1-2	2017	150,600
	Alt Prcl ID 002953	Block			RES OUTBL	1-3	145,100	228,400	160,000	1-3	2017	160,000
	Sub-Div	Fire			UTL LAND	1-4	207,000	145,100	101,700	1-4	2017	101,700
	Need Lette	School			UTL BLDG	4-1	19,100	207,000	144,900	4-1	2017	144,900
	Ward	Heart			UTL OUTBL	4-2	298,800	19,100	13,400	4-2	2017	13,400
	Tract	Freeze			VISION							
	1862				Total 1,248,800							
	3060				Total 864,000							

RECORD OF OWNERSHIP				BK-VOL/PAGE				SALE DATE				Q/U VI				SALE PRICE				VC			
Year	Code	Description	Amount	Code	Description	Number	Amount	Code	Description	Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed		
			0.00							2019	1-1	94,600	2018	1-1	94,600	2017	1-1	94,600	2017	1-1	94,600		
											1-2	150,600		1-2	150,600		1-2	150,600		1-2	150,600		
											1-3	160,000		1-3	160,000		1-3	160,000		1-3	160,000		
											1-4	101,700		1-4	101,700		1-4	101,700		1-4	101,700		
											Total	864,000		Total	864,000		Total	864,000		Total	864,000		

EXEMPTIONS
 Description: Comm Int

OTHER ASSESSMENTS
 Description: Tracing

ASSESSING NEIGHBORHOOD
 Nbhd Name: B
 Batch: Tracing

NOTES
 AMERICAN RADIANT TECH
 OCHENKOWSKI INSURANCE AGENCY

BUILDING PERMIT RECORD				VISIT / CHANGE HISTORY									
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Date	Id	Type	Is	Cd	Purpose/Result

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
4 0106	AC LND IMP M	R40		0.000 AC	0	1.00000	0	1.00		1.000		0.0000	0	0
Total Card Land Units: 0.000 AC										Parcel Total Land Area: 9.3100	Total Land Value: 0		Total Land Value: 0	

CONSTRUCTION DETAIL		CONSTRUCTION DETAIL (CONTINUED)									
Element	Cd	Description	Element								
94 00		Outbuildings Vacant									
CONDO DATA											
Parcel Id	C	Owne	0.0								
Adjust Type	Code	Description	Factor%								
Condo Flr		B	S								
Condo Unit											
COST / MARKET VALUATION											
Building Value New			0								
Year Built			0								
Effective Year Built			0								
Depreciation Code											
Remodel Rating											
Year Remodeled			0								
Depreciation %			0								
Functional Obsol			0								
External Obsol			0								
Trend Factor			1								
Condition			100								
Condition %											
Percent Good			0								
RCNLD											
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	Description	L/B	Units	Unit Price	Yr Blt	Cond.	Cd	% Gd	Grade	Grade Adj.	Appr. Value
ELCB	ELECTRONIC	L	576	225.00	1980			50		0.00	64,800
ELCB	ELECTRONIC	L	576	225.00	1980			50		0.00	64,800
BRN1	BARN - 1 STO	L	5,058	25.74				10		0.00	13,000
BUILDING SUB-AREA SUMMARY SECTION											
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value					
Ttl Gross Liv / Lease Area		0	0	0							

No Sketch

CURRENT OWNER		UTILITIES		STRT / ROAD		LOCATION		CURRENT ASSESSMENT	
SZWABOWSKI JEAN 1/3	1 Level	5 Well	1 Paved	3 Rural				Code	Assessed
OCHENKOWSKI J JR 1/3 & K W 1/3		6 Septic						1-1	135,200
84 PARSONAGE HL RD								1-2	215,200
								1-3	228,400
								1-4	145,100
								4-1	207,000
								4-2	19,100
								4-3	298,800
								Total	1,248,800
SUPPLEMENTAL DATA Alt Prcl ID 002953 Sub-Div Block Need Lette Fire Ward School Prec. Heart Tract Freeze 1862 GIS ID 3060 Assoc Pid#									

RECORD OF OWNERSHIP			BK-VOL/PAGE	SALE DATE	Q/U	VI	SALE PRICE	VC
SZWABOWSKI JEAN 1/3	0429	1132	12-23-2009	U	I		90,000	
SZWABOWSKI JEAN &	0429	1128	12-23-2009	U	I		90,000	
SZWABOWSKI JEAN &	0276	0749	12-15-1998				0	
OCHENKOWSKI VERONICA TIC +	0269	0844	05-11-1998	U	I		400,000	01
OCHENKOWSKI VERONICA	0040	0206	11-14-1960				0	
Total								

EXEMPTIONS			OTHER ASSESSMENTS		
Year	Code	Description	Code	Description	Amount
					Comm Int
Total 0.00					

ASSESSING NEIGHBORHOOD		APPRAISED VALUE SUMMARY	
Nbhd	0001	B	Tracing
AMERICAN RADIANT TECH			
OCHENKOWSKI INSURANCE AGENCY			
Appraised Bldg. Value (Card)		244,700	
Appraised Xf (B) Value (Bldg)		2,800	
Appraised Ob (B) Value (Bldg)		443,900	
Appraised Land Value (Bldg)		557,400	
Special Land Value		0	
Total Appraised Parcel Value		1,248,800	
Valuation Method		C	

BUILDING PERMIT RECORD			VISIT / CHANGE HISTORY					
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
Total Appraised Parcel Value 1,248,800								

LAND LINE VALUATION SECTION											
B Use Code	Description	Zone	Land Type	Land Units	Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nbhd Adj	Notes
4	0106	AC LND IMP M	R40	0.000	AC	0	1.00000	0	1.00	1.000	
Total Card Land Units 0.000 AC											
Parcel Total Land Area: 9.3100											
Total Land Value 557,400											

RECORD OF OWNERSHIP			PREVIOUS ASSESSMENTS (HISTORY)		
Year	Code	Description	Year	Code	Assessed
2019	1-1	RES LAND	2018	1-1	94,600
	1-2	RES EXCES		1-2	150,600
	1-3	DWELLING		1-3	160,000
	1-4	RES OUTBL		1-4	101,700
	4-1	UTL LAND		4-1	144,900
	4-2	UTL BLDG		4-2	13,400
	4-3	UTL OUTBL		4-3	198,800
Total			Total		864,000

This signature acknowledges a visit by a Data Collector or Assessor

VISION

CONSTRUCTION DETAIL		CONSTRUCTION DETAIL (CONTINUED)			
Element	Cd	Description	Element	Cd	Description
94	00	Outbuildings Vacant			
MIXED USE Code Description Percentage 0106 AC LND IMP MDL-00 100 0 0 0 0					
COST / MARKET VALUATION RCN 0 Year Built 0 Effective Year Built 0 Depreciation Code 0 Remodel Rating 0 Year Remodeled 0 Depreciation % 0 Functional Obsol 0 External Obsol 0 Trend Factor 1 Condition 100 Condition % 100 Percent Good 0 RCNLD 0 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	Description	L/B	Units	Unit Price	Yr Bilt	Cond.	Cd	% Good	Grade	Grade Adj	Appr. Value
ELCB	ELECTRONIC	L	576	225.00	1980			50		0.00	64,800
ELCB	ELECTRONIC	L	576	225.00	1980			50		0.00	64,800
BRN1	BARN - 1 STO	L	5,058	25.74				10		0.00	13,000

BUILDING SUB-AREA SUMMARY SECTION						
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
	Ttl Gross Liv / Lease Area	0	0	0		

No Sketch

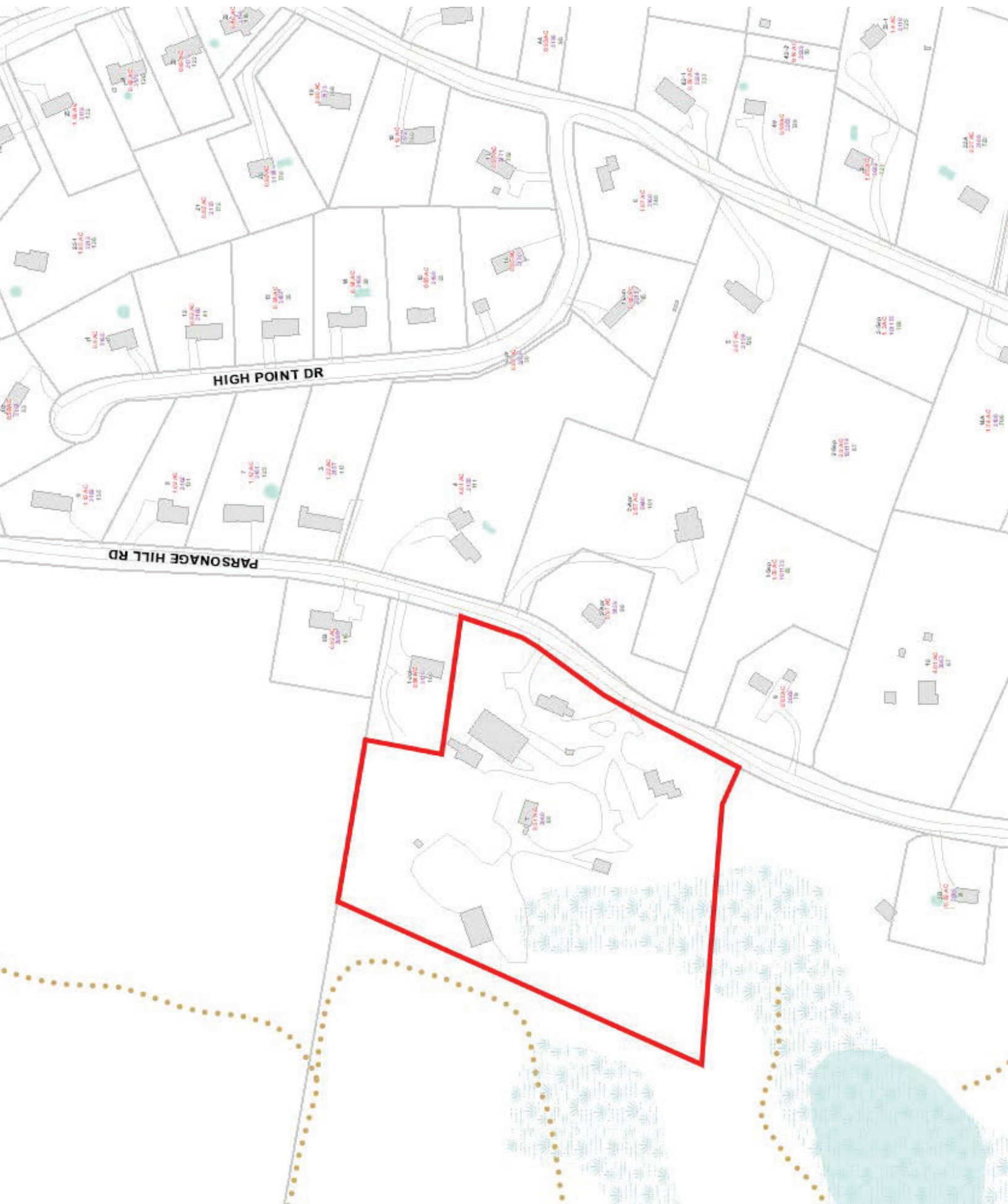


EXHIBIT 3

Structural Analysis Report

195' Existing Lattice Tower

*Proposed AT&T
Antenna Upgrade*

Site Ref: CT5638

*88 Parsonage Hill Road
North Branford, CT*

Centek Project No. 22146.00

Date: November 7, 2022

Max Stress Ratio = 67%

Prepared for:
AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

Table of Contents

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- INTRODUCTION
- ANTENNA AND APPURTENANCE SUMMARY
- PRIMARY ASSUMPTIONS USED IN THE ANALYSIS
- ANALYSIS
- TOWER LOADING
- TOWER CAPACITY
- FOUNDATION AND ANCHORS
- CONCLUSION

SECTION 2 – CONDITIONS & SOFTWARE

- STANDARD ENGINEERING CONDITIONS
- GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

SECTION 3 – CALCULATIONS

- tnxTower INPUT/OUTPUT SUMMARY
- tnxTower FEED LINE PLAN
- tnxTower FEED LINE DISTRIBUTION
- tnxTower DETAILED OUTPUT
- FOUNDATION ANALYSIS

SECTION 4 – REFERENCE MATERIALS

- RF DATA SHEET

Introduction

The purpose of this report is to summarize the results of the non-linear, P- Δ structural analysis of the antenna upgrade proposed by AT&T on the existing lattice tower located in Northford (North Branford), Connecticut.

The host tower is a 195-ft, three-legged, lattice tower originally designed and manufactured by Central Tower project no. F-722 dated 4/9/99. The tower geometry, structure member sizes and foundation information were taken from the aforementioned design documents.

Existing antenna and appurtenance inventory was taken from a previous structural analysis prepared by Centek dated October 12, 2022.

Proposed antenna and appurtenance inventory for AT&T was taken from an RF data sheet.

The tower consists of ten (10) vertical sections consisting of solid round pipe legs conforming to ASTM A529 Gr. 50 and steel angle lateral bracing conforming to ASTM A36. The vertical tower sections are connected by bolted flange plates with the diagonal and horizontal bracing to pipe legs consisting of bolted connections. The width of the tower face is 5-ft 0-in at the top and 23-ft 6-in at the bottom.

Antenna and Appurtenance Summary

The existing and proposed loads considered in the analysis consist of the following:

- T-MOBILE (Existing/Reserved):
Antennas: Three (3) Ericsson AIR6419 panel antennas, three (3) RFS APXVAALL24_43 panel antennas, three (3) Ericsson 4460 remote radio heads and three (3) Ericsson 4480 remote radio heads mounted on three (3) SitePro VFA12-HD V-Frames with a RAD center elevation of ± 180 -ft above grade level.
Coax Cables: Three (3) 6x24 hybrid cables running on a face of the existing tower as specified in Section 3 of this report.
- Dish (Reserved):
Antennas: Three (3) JMA MX08FR0665-21 panel antennas, three (3) Fujitsu TA08025-B605 remote radio heads, three (3) Fujitsu TA08025-B604 remote radio heads and one (1) main distribution box mounted on three (3) existing 12-ft T-Frames with a RAD center elevation of ± 162 -ft above grade level.
Coax Cable: One (1) 1-3/4" \varnothing hybrid cable running on a face of the existing tower as specified in Section 3 of this report.
- VERIZON (EXISTING/RESERVED):
Antennas: Three (3) Andrew LNX-6513DS panel antennas, six (6) JMA MX06FRO660-03 panel antennas, three (3) Samsung MT6407-77A panel antennas, three (3) Samsung B2/B66A remote radio heads, three (3) Samsung B5/B13 remote radio heads and one (1) OVP box mounted on (3) 12-ft T-Frames with a RAD center elevation of ± 146 -ft above grade level.
Coax Cable: Twelve (12) 1-5/8" \varnothing coax cables and one (1) 1-5/8" \varnothing fiber cable running on a leg/face of the existing tower as specified in Section 3 of this report

- **AT&T (Existing to Remain):**
Antenna: Three (3) CCI DMP65R-BU6DA panel antennas, three (3) Ericsson 4478 B14 remote radio heads, three (3) Ericsson 4449 B5/B12 remote radio heads, three (3) Ericsson 8843 B2/B66A remote radio heads and two (2) Raycap DC6-48-60-18-8F surge arrestors mounted on three (3) 12-ft T-Frames with a RAD center elevation of ±173-ft above grade level.
Coax Cable: Six (6) 1-5/8" Ø coax cables, two (2) fiber cable and four (4) dc control cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- **AT&T (Existing to Remove):**
Antenna: Three (3) Kathrein 800-10121 panel antennas, three (3) CCI OPA65R-BU6DA panel antennas and six (6) Powerwave LGP21401 TMAs mounted on three (3) 12-ft T-Frames with a RAD center elevation of ±173-ft above grade level.
- **AT&T (Proposed):**
Antenna: Three (3) CCI TPA-65R-BU6D panel antennas, three (3) Ericsson AIR6449 panel antennas, three (3) Ericsson AIR6419 panel antennas, three (3) Ericsson 4415 B30 remote radio heads and one (1) Raycap DC6-48-60-18-8F surge arrestor mounted on three (3) 12-ft T-Frames with a RAD center elevation of ±173-ft above grade level.
Coax Cable: One (1) fiber cable and two (2) dc control cables running on a leg/face of the existing tower as specified in Section 3 of this report.

Primary Assumptions Used in the Analysis

- The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- The tower carries the horizontal and vertical loads due to the weight of antennas, ice load and wind.
- Tower is properly installed and maintained.
- Tower is in plumb condition.
- Tower loading for antennas and mounts as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as specified in the original tower design documents.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.
- All tower members were properly designed, detailed, fabricated, installed and have been properly maintained since erection.
- Any deviation from the analyzed antenna loading will require a new analysis for verification of structural adequacy.
- All coax cables should be routed as specified in section 3 of this report.

A n a l y s i s

The existing tower was analyzed using a comprehensive computer program entitled tnxTower. The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the tower, and the model assumes that the tower members are subjected to bending, axial, and shear forces.

The existing tower was analyzed for the controlling basic wind speed (3-second gust) with no ice and the applicable wind and ice combination to determine stresses in members as per guidelines of TIA-222-H entitled “Structural Standard for Antenna Support Structures and Antennas”, the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Load and Resistance Factor Design (LRFD).

The controlling wind speed is determined by evaluating the local available wind speed data as provided in Appendix P of the CSBC¹ and the wind speed data available in the TIA-222-H Standard.

T o w e r L o a d i n g

Tower loading was determined by the basic wind speed as applied to projected surface areas with modification factors per TIA-222-H, gravity loads of the tower structure and its components, and the application of 1.00” radial ice on the tower structure and its components.

Load Cases:	<u>Load Case 1</u> ; 125 mph (Ultimate) wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation.	<i>[Appendix P of the 2022 CT Building Code]</i>
	<u>Load Case 2</u> ; 50 mph wind speed w/ 1.00” radial ice plus gravity load – used in calculation of tower stresses.	<i>[Annex B of TIA-222-H]</i>

¹ The 2021 International Building Code as amended by the 2022 Connecticut State Building Code (CSBC).

Tower Capacity

Calculated stresses were found to be within allowable limits.

Tower Section	Elevation	Stress Ratio (%of capacity)	Result
Diagonal (T2)	155'-0"-175'-0"	67.2%	PASS
Leg (T9)	20'-0"-40'-0"	60.3%	PASS

Foundation and Anchors

The existing foundation consists of a three (3) 3-ft \varnothing x 4-ft long reinforced concrete piers concentrically bearing on a 34-ft square x 2-ft 6-in thick reinforced concrete mat. The sub grade conditions used in the foundation analysis were derived from the aforementioned design documents. The base of the tower is connected to the foundation by means of (8) 1.375" \varnothing , ASTM A449 anchor bolts per leg embedded 5-ft 10-in into the concrete foundation structure.

- The tower reactions developed from the governing Load Case were used in the verification of the foundation and anchor bolts:

Load Effect	Proposed Tower Reactions
Leg Shear	41,173 lbs
Leg Compression	390,034 lbs
Leg Tension	325,486 lbs
Base Moment	7,386,012 ft-lbs
Base Shear	67,034 lbs

- The anchor bolts were found to be within allowable limits.

Tower Section	Component	Stress Ratio (percentage of capacity)	Result
Anchor Bolts	Tension	38.6%	PASS

- The foundation was found to be within allowable limits.

Foundation	Design Limit	TIA-222-H Required FS ⁽¹⁾	Proposed Loading (FS) ⁽¹⁾	Result
Reinforced Concrete Pad and Piers	Overturning	1.0	1.75	PASS

Note 1: FS denotes Factor of Safety

Conclusion

This analysis shows that the subject tower **is adequate** to support the proposed antenna configuration with the below recommendations.

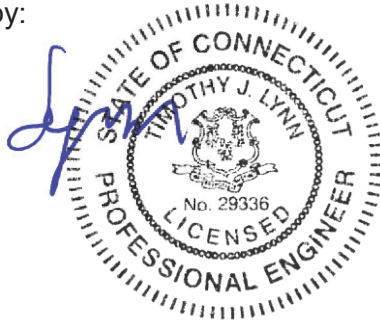
The analysis is based, in part, on the information provided to this office by AT&T. If the existing conditions are different than the information in this report, Centek Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:



Timothy J. Lynn, PE
Structural Engineer



*Standard Conditions for Furnishing of
Professional Engineering Services on
Existing Structures*

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Centek Engineering, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to Centek Engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the “as new” condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Centek Engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

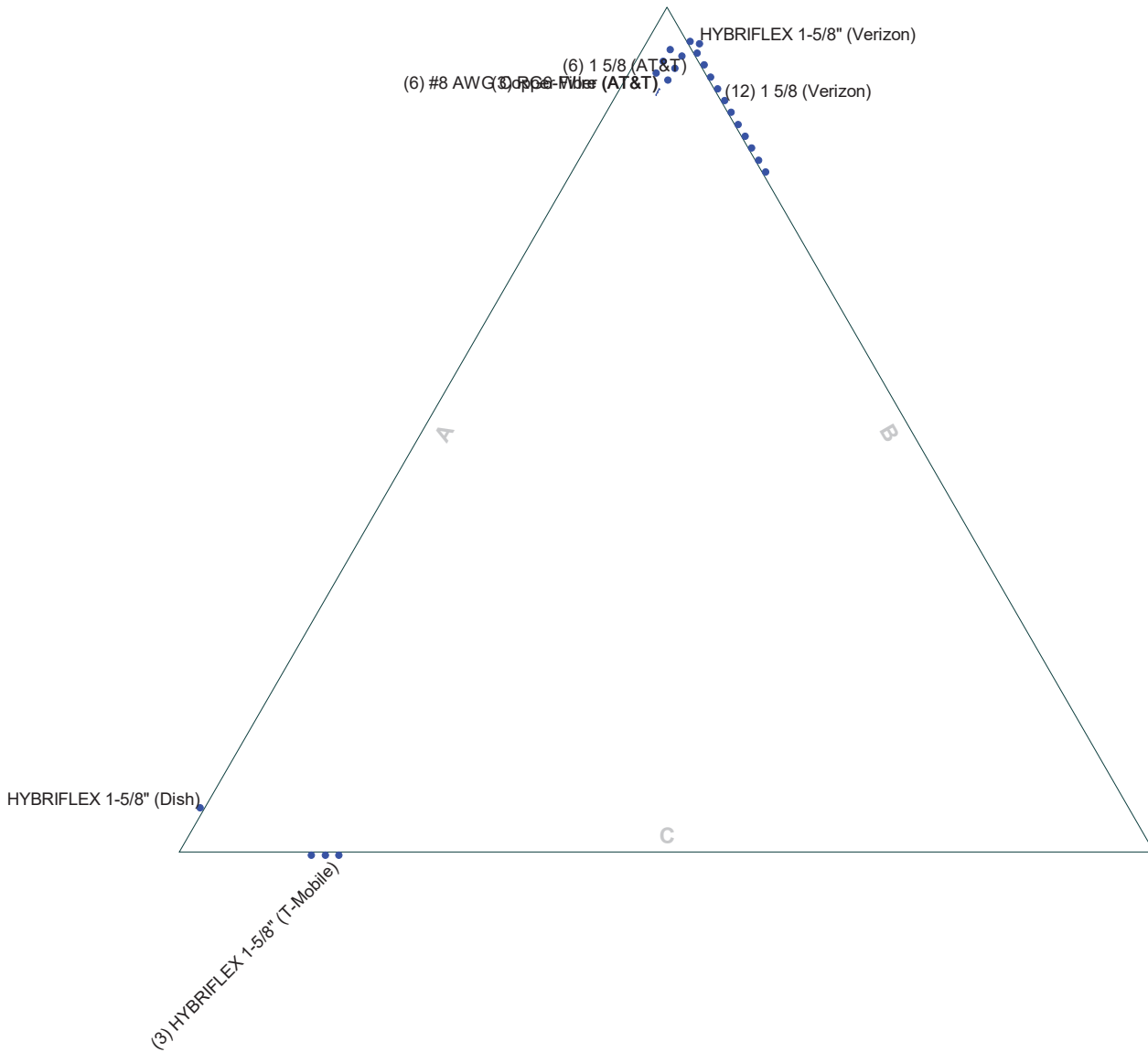
tnxTower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, tnxTower, formerly RISA Tower, automates much of the tower analysis and design required by the TIA/EIA 222 Standard.

tnxTower Features:

- tnxTower can analyze and design 3- and 4-sided guyed towers, 3- and 4-sided self-supporting towers and either round or tapered ground mounted poles with or without guys.
- The program analyzes towers using the TIA-222-H standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD or the AISC LRFD specifications.
- Linear and non-linear (P-delta) analyses can be used in determining displacements and forces in the structure. Wind pressures and forces are automatically calculated.
- Extensive graphics plots include material take-off, shear-moment, leg compression, displacement, twist, feed line, guy anchor and stress plots.
- tnxTower contains unique features such as True Cable behavior, hog rod take-up, foundation stiffness and much more.

Feed Line Plan

— Round
 — Flat
 — App In Face
 — App Out Face

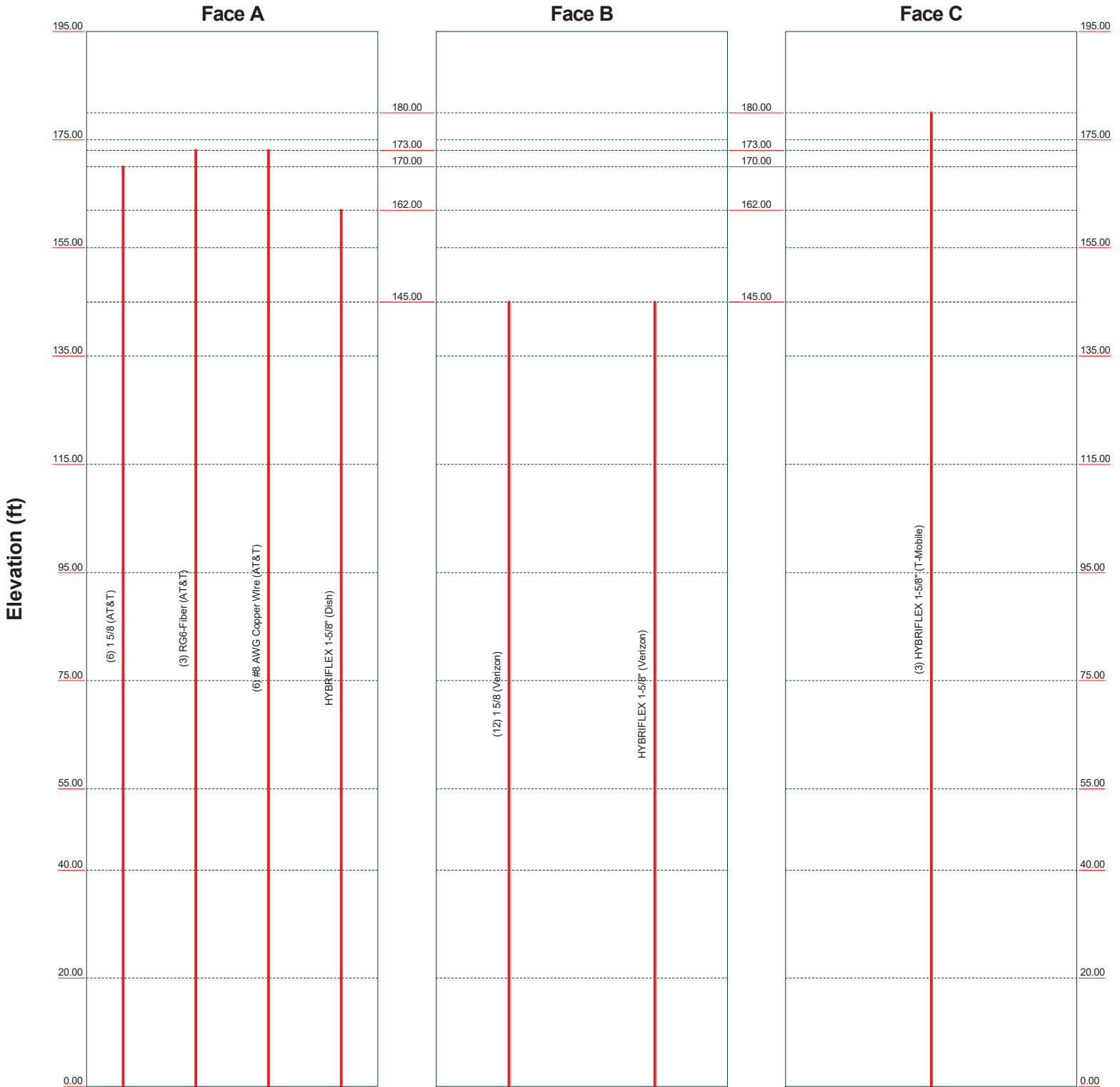


Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587		Job: 22146.00 - CT5638	
		Project: 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	
Client: AT&T	Drawn by: T.JL	App'd:	
Code: TIA-222-H	Date: 11/07/22	Scale: NTS	
Path:	Dwg No. E-7		

Feed Line Distribution Chart

0' - 195'

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



Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587		Job: 22146.00 - CT5638		
		Project: 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT		
Client: AT&T		Drawn by: T.JL		App'd:
Code: TIA-222-H		Date: 11/07/22		Scale: NTS
Path:		Dwg No. E-7		

J:\Jobs\2214600.W\05 Structural Backup Documentation\Trx\195-ft Central Lattice Tower.dwg

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22146.00 - CT5638	Page 1 of 40
	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 195.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 5.00 ft at the top and 23.50 ft at the base.

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

The following design criteria apply:

Tower base elevation above sea level: 0.00 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: 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

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

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

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

Pressures are calculated at each section.

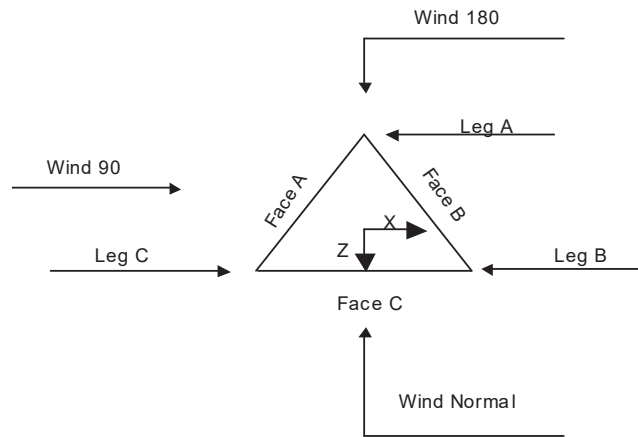
Stress ratio used in tower member design is 1.

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
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Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	195.00-175.00			5.00	1	20.00
T2	175.00-155.00			6.00	1	20.00
T3	155.00-135.00			8.00	1	20.00
T4	135.00-115.00			10.00	1	20.00
T5	115.00-95.00			12.00	1	20.00
T6	95.00-75.00			14.00	1	20.00
T7	75.00-55.00			16.00	1	20.00
T8	55.00-40.00			18.00	1	15.00
T9	40.00-20.00			19.50	1	20.00
T10	20.00-0.00			21.50	1	20.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	195.00-175.00	3.33	X Brace	No	Yes	0.0000	0.0000
T2	175.00-155.00	6.67	X Brace	No	No	0.0000	0.0000
T3	155.00-135.00	6.67	X Brace	No	No	0.0000	0.0000
T4	135.00-115.00	6.67	X Brace	No	No	0.0000	0.0000
T5	115.00-95.00	6.67	X Brace	No	No	0.0000	0.0000

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Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T6	95.00-75.00	6.67	X Brace	No	No	0.0000	0.0000
T7	75.00-55.00	6.67	X Brace	No	No	0.0000	0.0000
T8	55.00-40.00	5.00	X Brace	No	No	0.0000	0.0000
T9	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T10	20.00-0.00	6.67	X Brace	No	No	0.0000	0.0000

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 195.00-175.00	Solid Round	3	A529-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T2 175.00-155.00	Solid Round	3 3/4	A529-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T3 155.00-135.00	Solid Round	4	A529-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x5/16	A36 (36 ksi)
T4 135.00-115.00	Solid Round	4 1/4	A529-50 (50 ksi)	Single Angle	L3x3x1/4	A36 (36 ksi)
T5 115.00-95.00	Solid Round	4 1/4	A529-50 (50 ksi)	Single Angle	L3x3x3/8	A36 (36 ksi)
T6 95.00-75.00	Solid Round	4 1/2	A529-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)
T7 75.00-55.00	Solid Round	4 3/4	A529-50 (50 ksi)	Single Angle	L4x4x1/4	A36 (36 ksi)
T8 55.00-40.00	Solid Round	4 3/4	A529-50 (50 ksi)	Single Angle	L4x4x1/4	A36 (36 ksi)
T9 40.00-20.00	Solid Round	4 3/4	A529-50 (50 ksi)	Single Angle	L4x4x5/16	A36 (36 ksi)
T10 20.00-0.00	Solid Round	5	A529-50 (50 ksi)	Single Angle	L4x4x3/8	A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 195.00-175.00	Solid Round	1 1/4	A36 (36 ksi)	Solid Round	1 1/4	A36 (36 ksi)

Tower Section Geometry (cont'd)

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
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Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
T1 195.00-175.00	0.00	0.0000	A36 (36 ksi)	1	1	1	30.0000	30.0000	36.0000
T2 175.00-155.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 155.00-135.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 135.00-115.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 115.00-95.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 95.00-75.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 75.00-55.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 55.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T10 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors ¹							
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace	
											X Y
T1 195.00-175.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T2 175.00-155.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T3 155.00-135.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T4 135.00-115.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T5 115.00-95.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T6 95.00-75.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T7 75.00-55.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T8 55.00-40.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T9 40.00-20.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T10 20.00-0.00	Yes	Yes	1	1	1	1	1	1	1	1	1

¹Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

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Tower Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 195.00-175.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	1	0.0000	0.75
T2 175.00-155.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T3 155.00-135.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T4 135.00-115.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T5 115.00-95.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T6 95.00-75.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T7 75.00-55.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T8 55.00-40.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T9 40.00-20.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T10 20.00-0.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 195.00-175.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 175.00-155.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 155.00-135.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 135.00-115.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 115.00-95.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 95.00-75.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 75.00-55.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 55.00-40.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 40.00-20.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 20.00-0.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

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Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 195.00-175.00	Flange	1.1250	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T2 175.00-155.00	Flange	1.1250	6	0.8750	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T3 155.00-135.00	Flange	1.1250	6	0.8750	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T4 135.00-115.00	Flange	1.1250	6	0.8750	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5 115.00-95.00	Flange	1.1250	8	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6 95.00-75.00	Flange	1.1250	8	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T7 75.00-55.00	Flange	1.2500	8	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8 55.00-40.00	Flange	1.2500	8	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T9 40.00-20.00	Flange	1.2500	8	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T10 20.00-0.00	Flange	1.3750	8	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A449		A325N		A325N		A325N		A325X		A325N		A325X	

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1 5/8 (Verizon)	B	No	No	Ar (CaAa)	145.00 - 0.00	0.0000	-0.38	12	12	1.9800	1.9800		1.04
1 5/8 (AT&T)	A	No	No	Ar (CaAa)	170.00 - 0.00	-10.000	0.45	6	3	1.9800	1.9800		1.04
RG6-Fiber (AT&T)	A	No	No	Ar (CaAa)	173.00 - 0.00	-10.000	0.42	3	3	0.5000	0.5000		1.00
#8 AWG Copper Wire (AT&T)	A	No	No	Ar (CaAa)	173.00 - 0.00	-10.000	0.42	6	6	0.2500	0.1285		0.05
HYBRIFLEX 1-5/8" (T-Mobile)	C	No	No	Ar (CaAa)	180.00 - 0.00	0.0000	0.35	3	3	1.9800	1.9800		1.90
HYBRIFLEX 1-5/8" (Verizon)	B	No	No	Ar (CaAa)	145.00 - 0.00	2.0000	-0.45	1	1	1.9800	1.9800		1.90
HYBRIFLEX 1-5/8" (Dish)	A	No	No	Ar (CaAa)	162.00 - 0.00	0.0000	-0.45	1	1	1.9800	1.9800		1.90

Feed Line/Linear Appurtenances Section Areas

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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 lb
T1	195.00-175.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	2.970	0.000	28.50
T2	175.00-155.00	A	0.000	0.000	23.294	0.000	166.30
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	11.880	0.000	114.00
T3	155.00-135.00	A	0.000	0.000	32.262	0.000	228.80
		B	0.000	0.000	25.740	0.000	143.80
		C	0.000	0.000	11.880	0.000	114.00
T4	135.00-115.00	A	0.000	0.000	32.262	0.000	228.80
		B	0.000	0.000	51.480	0.000	287.60
		C	0.000	0.000	11.880	0.000	114.00
T5	115.00-95.00	A	0.000	0.000	32.262	0.000	228.80
		B	0.000	0.000	51.480	0.000	287.60
		C	0.000	0.000	11.880	0.000	114.00
T6	95.00-75.00	A	0.000	0.000	32.262	0.000	228.80
		B	0.000	0.000	51.480	0.000	287.60
		C	0.000	0.000	11.880	0.000	114.00
T7	75.00-55.00	A	0.000	0.000	32.262	0.000	228.80
		B	0.000	0.000	51.480	0.000	287.60
		C	0.000	0.000	11.880	0.000	114.00
T8	55.00-40.00	A	0.000	0.000	24.197	0.000	171.60
		B	0.000	0.000	38.610	0.000	215.70
		C	0.000	0.000	8.910	0.000	85.50
T9	40.00-20.00	A	0.000	0.000	32.262	0.000	228.80
		B	0.000	0.000	51.480	0.000	287.60
		C	0.000	0.000	11.880	0.000	114.00
T10	20.00-0.00	A	0.000	0.000	32.262	0.000	228.80
		B	0.000	0.000	51.480	0.000	287.60
		C	0.000	0.000	11.880	0.000	114.00

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 lb
T1	195.00-175.00	A	1.188	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	8.141	0.000	106.61
T2	175.00-155.00	A	1.175	0.000	0.000	54.721	0.000	805.49
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	32.479	0.000	423.33
T3	155.00-135.00	A	1.160	0.000	0.000	71.884	0.000	1087.97
		B		0.000	0.000	64.364	0.000	829.30
		C		0.000	0.000	32.383	0.000	419.88
T4	135.00-115.00	A	1.142	0.000	0.000	71.464	0.000	1078.02
		B		0.000	0.000	128.567	0.000	1643.45
		C		0.000	0.000	32.274	0.000	415.99
T5	115.00-95.00	A	1.123	0.000	0.000	70.978	0.000	1066.59
		B		0.000	0.000	128.381	0.000	1625.97
		C		0.000	0.000	32.149	0.000	411.51
T6	95.00-75.00	A	1.099	0.000	0.000	70.402	0.000	1053.10
		B		0.000	0.000	128.159	0.000	1605.25
		C		0.000	0.000	31.999	0.000	406.20
T7	75.00-55.00	A	1.070	0.000	0.000	69.687	0.000	1036.53
		B		0.000	0.000	127.885	0.000	1579.63
		C		0.000	0.000	31.814	0.000	399.67
T8	55.00-40.00	A	1.037	0.000	0.000	51.658	0.000	763.43

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

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 lb
T9	40.00-20.00	B		0.000	0.000	95.681	0.000	1162.98
		C		0.000	0.000	23.704	0.000	294.22
		A	0.991	0.000	0.000	67.736	0.000	992.03
		B		0.000	0.000	127.137	0.000	1509.95
T10	20.00-0.00	C		0.000	0.000	31.310	0.000	382.00
		A	0.887	0.000	0.000	75.291	0.000	776.02
		B		0.000	0.000	97.628	0.000	1095.94
		C		0.000	0.000	22.530	0.000	300.54

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
T1	195.00-175.00	-1.4242	1.2318	-1.9274	1.6671
T2	175.00-155.00	-2.7645	-4.9666	-4.3301	-5.7465
T3	155.00-135.00	-2.7217	-14.8161	-3.8113	-17.9336
T4	135.00-115.00	-1.8442	-21.5647	-2.5718	-26.9335
T5	115.00-95.00	-2.2550	-24.1308	-3.1516	-30.6283
T6	95.00-75.00	-2.4483	-24.8399	-3.5424	-32.9962
T7	75.00-55.00	-2.5682	-25.1167	-3.8340	-34.8477
T8	55.00-40.00	-2.4307	-23.3479	-3.7779	-34.0998
T9	40.00-20.00	-2.9450	-27.4373	-4.3843	-39.2267
T10	20.00-0.00	-3.1175	-28.4668	-4.1934	-40.3915

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T1	7	HYBRIFLEX 1-5/8"	175.00 - 180.00	0.6000	0.6000
T2	2	1 5/8	155.00 - 170.00	0.6000	0.6000
T2	5	RG6-Fiber	155.00 - 173.00	0.6000	0.6000
T2	6	#8 AWG Copper Wire	155.00 - 173.00	0.6000	0.6000
T2	7	HYBRIFLEX 1-5/8"	155.00 - 175.00	0.6000	0.6000
T2	10	HYBRIFLEX 1-5/8"	155.00 - 162.00	1.0000	1.0000
T3	1	1 5/8	135.00 - 145.00	0.6000	0.6000
T3	2	1 5/8	135.00 - 155.00	0.6000	0.6000
T3	5	RG6-Fiber	135.00 - 155.00	0.6000	0.6000
T3	6	#8 AWG Copper Wire	135.00 - 155.00	0.6000	0.6000
T3	7	HYBRIFLEX 1-5/8"	135.00 - 155.00	0.6000	0.6000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T3	9	HYBRIFLEX 1-5/8"	135.00 - 145.00	0.6000	0.6000
T3	10	HYBRIFLEX 1-5/8"	135.00 - 155.00	1.0000	1.0000
T4	1	1 5/8	115.00 - 135.00	0.6000	0.6000
T4	2	1 5/8	115.00 - 135.00	0.6000	0.6000
T4	5	RG6-Fiber	115.00 - 135.00	0.6000	0.6000
T4	6	#8 AWG Copper Wire	115.00 - 135.00	0.6000	0.6000
T4	7	HYBRIFLEX 1-5/8"	115.00 - 135.00	0.6000	0.6000
T4	9	HYBRIFLEX 1-5/8"	115.00 - 135.00	0.6000	0.6000
T4	10	HYBRIFLEX 1-5/8"	115.00 - 135.00	1.0000	1.0000
T5	1	1 5/8	95.00 - 115.00	0.6000	0.6000
T5	2	1 5/8	95.00 - 115.00	0.6000	0.6000
T5	5	RG6-Fiber	95.00 - 115.00	0.6000	0.6000
T5	6	#8 AWG Copper Wire	95.00 - 115.00	0.6000	0.6000
T5	7	HYBRIFLEX 1-5/8"	95.00 - 115.00	0.6000	0.6000
T5	9	HYBRIFLEX 1-5/8"	95.00 - 115.00	0.6000	0.6000
T5	10	HYBRIFLEX 1-5/8"	95.00 - 115.00	1.0000	1.0000
T6	1	1 5/8	75.00 - 95.00	0.6000	0.6000
T6	2	1 5/8	75.00 - 95.00	0.6000	0.6000
T6	5	RG6-Fiber	75.00 - 95.00	0.6000	0.6000
T6	6	#8 AWG Copper Wire	75.00 - 95.00	0.6000	0.6000
T6	7	HYBRIFLEX 1-5/8"	75.00 - 95.00	0.6000	0.6000
T6	9	HYBRIFLEX 1-5/8"	75.00 - 95.00	0.6000	0.6000
T6	10	HYBRIFLEX 1-5/8"	75.00 - 95.00	1.0000	1.0000
T7	1	1 5/8	55.00 - 75.00	0.6000	0.6000
T7	2	1 5/8	55.00 - 75.00	0.6000	0.6000
T7	5	RG6-Fiber	55.00 - 75.00	0.6000	0.6000
T7	6	#8 AWG Copper Wire	55.00 - 75.00	0.6000	0.6000
T7	7	HYBRIFLEX 1-5/8"	55.00 - 75.00	0.6000	0.6000
T7	9	HYBRIFLEX 1-5/8"	55.00 - 75.00	0.6000	0.6000
T7	10	HYBRIFLEX 1-5/8"	55.00 - 75.00	1.0000	1.0000
T8	1	1 5/8	40.00 - 55.00	0.6000	0.6000
T8	2	1 5/8	40.00 - 55.00	0.6000	0.6000
T8	5	RG6-Fiber	40.00 - 55.00	0.6000	0.6000
T8	6	#8 AWG Copper Wire	40.00 - 55.00	0.6000	0.6000
T8	7	HYBRIFLEX 1-5/8"	40.00 - 55.00	0.6000	0.6000
T8	9	HYBRIFLEX 1-5/8"	40.00 - 55.00	0.6000	0.6000
T8	10	HYBRIFLEX 1-5/8"	40.00 - 55.00	1.0000	1.0000
T9	1	1 5/8	20.00 - 40.00	0.6000	0.6000
T9	2	1 5/8	20.00 - 40.00	0.6000	0.6000
T9	5	RG6-Fiber	20.00 - 40.00	0.6000	0.6000
T9	6	#8 AWG Copper Wire	20.00 - 40.00	0.6000	0.6000
T9	7	HYBRIFLEX 1-5/8"	20.00 - 40.00	0.6000	0.6000
T9	9	HYBRIFLEX 1-5/8"	20.00 - 40.00	0.6000	0.6000
T9	10	HYBRIFLEX 1-5/8"	20.00 - 40.00	1.0000	1.0000
T10	1	1 5/8	0.00 - 20.00	0.6000	0.6000
T10	2	1 5/8	0.00 - 20.00	0.6000	0.6000
T10	5	RG6-Fiber	0.00 - 20.00	0.6000	0.6000
T10	6	#8 AWG Copper Wire	0.00 - 20.00	0.6000	0.6000
T10	7	HYBRIFLEX 1-5/8"	0.00 - 20.00	0.6000	0.6000
T10	9	HYBRIFLEX 1-5/8"	0.00 - 20.00	0.6000	0.6000
T10	10	HYBRIFLEX 1-5/8"	0.00 - 20.00	1.0000	1.0000

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

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	lb
Top Triangular Mount (Empty)	C	From Face	2.00	0.0000	192.00	No Ice	75.30	75.30	2500.00
			0.00			1/2" Ice	86.60	86.60	2875.00
			0.00			1" Ice	97.90	97.90	3250.00
SitePro VFA12-HD (T-Mobile)	A	From Leg	2.00	0.0000	180.00	No Ice	21.00	21.00	750.00
			0.00			1/2" Ice	25.00	25.00	900.00
			0.00			1" Ice	29.00	29.00	1050.00
SitePro VFA12-HD (T-Mobile)	B	From Leg	2.00	0.0000	180.00	No Ice	21.00	21.00	750.00
			0.00			1/2" Ice	25.00	25.00	900.00
			0.00			1" Ice	29.00	29.00	1050.00
SitePro VFA12-HD (T-Mobile)	C	From Leg	2.00	0.0000	180.00	No Ice	21.00	21.00	750.00
			0.00			1/2" Ice	25.00	25.00	900.00
			0.00			1" Ice	29.00	29.00	1050.00
AIR6419 (T-Mobile)	A	From Leg	4.00	0.0000	180.00	No Ice	3.66	1.66	66.00
			-4.00			1/2" Ice	3.91	1.85	91.40
			0.00			1" Ice	4.16	2.05	120.26
APXVAALL24-43 (T-Mobile)	A	From Leg	0.00	0.0000	180.00	No Ice	20.24	8.89	153.00
			0.00			1/2" Ice	20.89	9.49	265.59
			0.00			1" Ice	21.54	10.09	386.72
AIR6419 (T-Mobile)	B	From Leg	4.00	0.0000	180.00	No Ice	3.66	1.66	66.00
			-4.00			1/2" Ice	3.91	1.85	91.40
			0.00			1" Ice	4.16	2.05	120.26
APXVAALL24-43 (T-Mobile)	B	From Leg	0.00	0.0000	180.00	No Ice	20.24	8.89	153.00
			0.00			1/2" Ice	20.89	9.49	265.59
			0.00			1" Ice	21.54	10.09	386.72
AIR6419 (T-Mobile)	C	From Leg	4.00	0.0000	180.00	No Ice	3.66	1.66	66.00
			-4.00			1/2" Ice	3.91	1.85	91.40
			0.00			1" Ice	4.16	2.05	120.26
APXVAALL24-43 (T-Mobile)	C	From Leg	0.00	0.0000	180.00	No Ice	20.24	8.89	153.00
			0.00			1/2" Ice	20.89	9.49	265.59
			0.00			1" Ice	21.54	10.09	386.72
4460 B25+B66 (T-Mobile)	A	From Leg	4.00	0.0000	180.00	No Ice	2.56	1.98	109.00
			0.00			1/2" Ice	2.76	2.16	134.38
			0.00			1" Ice	2.97	2.34	163.03
4460 B25+B66 (T-Mobile)	B	From Leg	4.00	0.0000	180.00	No Ice	2.56	1.98	109.00
			0.00			1/2" Ice	2.76	2.16	134.38
			0.00			1" Ice	2.97	2.34	163.03
4460 B25+B66 (T-Mobile)	C	From Leg	4.00	0.0000	180.00	No Ice	2.56	1.98	109.00
			0.00			1/2" Ice	2.76	2.16	134.38
			0.00			1" Ice	2.97	2.34	163.03
4480 B71+B85 (T-Mobile)	A	From Leg	4.00	0.0000	180.00	No Ice	2.85	1.38	84.00
			0.00			1/2" Ice	3.06	1.54	105.70
			0.00			1" Ice	3.28	1.71	130.51
4480 B71+B85 (T-Mobile)	B	From Leg	4.00	0.0000	180.00	No Ice	2.85	1.38	84.00
			0.00			1/2" Ice	3.06	1.54	105.70
			0.00			1" Ice	3.28	1.71	130.51
4480 B71+B85 (T-Mobile)	C	From Leg	4.00	0.0000	180.00	No Ice	2.85	1.38	84.00
			0.00			1/2" Ice	3.06	1.54	105.70
			0.00			1" Ice	3.28	1.71	130.51
Pirod 12' T-Frame Sector	A	From Leg	2.00	0.0000	173.00	No Ice	13.60	13.60	465.00

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	Client		AT&T		Designed by		TJL	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
					°	ft	ft ²	ft ²	lb
Mount (1) (AT&T)				0.00			1/2" Ice	18.40	600.00
				0.00			1" Ice	23.20	735.00
Pirod 12' T-Frame Sector Mount (1) (AT&T)	B	From Leg	2.00	0.0000		173.00	No Ice	13.60	465.00
				0.00			1/2" Ice	18.40	600.00
				0.00			1" Ice	23.20	735.00
Pirod 12' T-Frame Sector Mount (1) (AT&T)	C	From Leg	2.00	0.0000		173.00	No Ice	13.60	465.00
				0.00			1/2" Ice	18.40	600.00
				0.00			1" Ice	23.20	735.00
TPA65R-BU6D (AT&T - Proposed)	A	From Leg	4.00	0.0000		173.00	No Ice	12.71	75.00
				-6.00			1/2" Ice	13.21	148.96
				0.00			1" Ice	13.71	229.56
AIR6419 (AT&T - Proposed)	A	From Leg	4.00	0.0000		173.00	No Ice	3.66	66.00
				0.00			1/2" Ice	3.91	91.40
				2.00			1" Ice	4.16	120.26
AIR6419 (AT&T - Proposed)	A	From Leg	4.00	0.0000		173.00	No Ice	3.66	66.00
				0.00			1/2" Ice	3.91	91.40
				-2.00			1" Ice	4.16	120.26
DMP65R-BU6D (AT&T)	A	From Leg	4.00	0.0000		173.00	No Ice	12.71	96.00
				6.00			1/2" Ice	13.21	169.96
				0.00			1" Ice	13.71	250.56
TPA65R-BU6D (AT&T - Proposed)	B	From Leg	4.00	0.0000		173.00	No Ice	12.71	75.00
				-6.00			1/2" Ice	13.21	148.96
				0.00			1" Ice	13.71	229.56
AIR6419 (AT&T - Proposed)	B	From Leg	4.00	0.0000		173.00	No Ice	3.66	66.00
				0.00			1/2" Ice	3.91	91.40
				2.00			1" Ice	4.16	120.26
AIR6419 (AT&T - Proposed)	B	From Leg	4.00	0.0000		173.00	No Ice	3.66	66.00
				0.00			1/2" Ice	3.91	91.40
				-2.00			1" Ice	4.16	120.26
DMP65R-BU6D (AT&T)	B	From Leg	4.00	0.0000		173.00	No Ice	12.71	96.00
				6.00			1/2" Ice	13.21	169.96
				0.00			1" Ice	13.71	250.56
TPA65R-BU6D (AT&T - Proposed)	C	From Leg	4.00	0.0000		173.00	No Ice	12.71	75.00
				-6.00			1/2" Ice	13.21	148.96
				0.00			1" Ice	13.71	229.56
AIR6419 (AT&T - Proposed)	C	From Leg	4.00	0.0000		173.00	No Ice	3.66	66.00
				0.00			1/2" Ice	3.91	91.40
				2.00			1" Ice	4.16	120.26
AIR6419 (AT&T - Proposed)	C	From Leg	4.00	0.0000		173.00	No Ice	3.66	66.00
				0.00			1/2" Ice	3.91	91.40
				-2.00			1" Ice	4.16	120.26
DMP65R-BU6D (AT&T)	C	From Leg	4.00	0.0000		173.00	No Ice	12.71	96.00
				6.00			1/2" Ice	13.21	169.96
				0.00			1" Ice	13.71	250.56
DC6-48-60-18-8F Surge Arrestor (AT&T - Proposed)	A	From Face	0.50	0.0000		173.00	No Ice	1.91	20.00
				0.50			1/2" Ice	2.10	39.36
				0.00			1" Ice	2.29	61.70
DC6-48-60-18-8F Surge Arrestor (AT&T)	B	From Face	0.50	0.0000		173.00	No Ice	1.91	20.00
				0.50			1/2" Ice	2.10	39.36
				0.00			1" Ice	2.29	61.70
DC6-48-60-18-8F Surge Arrestor (AT&T)	C	From Face	0.50	0.0000		173.00	No Ice	1.91	20.00
				0.50			1/2" Ice	2.10	39.36
				0.00			1" Ice	2.29	61.70
4478 B14 (AT&T)	A	From Face	4.00	0.0000		173.00	No Ice	1.84	60.00
				-2.00			1/2" Ice	2.01	75.88
				0.00			1" Ice	2.19	94.39
4478 B14	B	From Face	4.00	0.0000		173.00	No Ice	1.84	60.00

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	Client		AT&T		Designed by		TJL	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
			Horz Lateral ft	Vert ft					
(AT&T)			-2.00			1/2" Ice	2.01	1.20	75.88
			0.00			1" Ice	2.19	1.34	94.39
4478 B14	C	From Face	4.00	0.0000	173.00	No Ice	1.84	1.06	60.00
(AT&T)			-2.00			1/2" Ice	2.01	1.20	75.88
			0.00			1" Ice	2.19	1.34	94.39
4449 B5/B12	A	From Face	4.00	0.0000	173.00	No Ice	1.97	1.41	71.00
(AT&T)			-2.00			1/2" Ice	2.14	1.56	89.51
			0.00			1" Ice	2.33	1.73	110.84
4449 B5/B12	B	From Face	4.00	0.0000	173.00	No Ice	1.97	1.41	71.00
(AT&T)			-2.00			1/2" Ice	2.14	1.56	89.51
			0.00			1" Ice	2.33	1.73	110.84
4449 B5/B12	C	From Face	4.00	0.0000	173.00	No Ice	1.97	1.41	71.00
(AT&T)			-2.00			1/2" Ice	2.14	1.56	89.51
			0.00			1" Ice	2.33	1.73	110.84
8843 B2/B66A	A	From Face	4.00	0.0000	173.00	No Ice	1.64	1.35	72.00
(AT&T)			-2.00			1/2" Ice	1.80	1.50	89.60
			0.00			1" Ice	1.97	1.65	109.91
8843 B2/B66A	B	From Face	4.00	0.0000	173.00	No Ice	1.64	1.35	72.00
(AT&T)			-2.00			1/2" Ice	1.80	1.50	89.60
			0.00			1" Ice	1.97	1.65	109.91
8843 B2/B66A	C	From Face	4.00	0.0000	173.00	No Ice	1.64	1.35	72.00
(AT&T)			-2.00			1/2" Ice	1.80	1.50	89.60
			0.00			1" Ice	1.97	1.65	109.91
4415 B30	A	From Face	4.00	0.0000	173.00	No Ice	1.84	0.82	46.00
(AT&T - Proposed)			-2.00			1/2" Ice	2.01	0.94	60.07
			0.00			1" Ice	2.19	1.07	76.66
4415 B30	B	From Face	4.00	0.0000	173.00	No Ice	1.84	0.82	46.00
(AT&T - Proposed)			-2.00			1/2" Ice	2.01	0.94	60.07
			0.00			1" Ice	2.19	1.07	76.66
4415 B30	C	From Face	4.00	0.0000	173.00	No Ice	1.84	0.82	46.00
(AT&T - Proposed)			-2.00			1/2" Ice	2.01	0.94	60.07
			0.00			1" Ice	2.19	1.07	76.66
Pirot 12' T-Frame Sector Mount (1) (Dish)	A	From Leg	2.00	0.0000	160.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00			1" Ice	23.20	23.20	735.00
Pirot 12' T-Frame Sector Mount (1) (Dish)	B	From Leg	2.00	0.0000	160.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00			1" Ice	23.20	23.20	735.00
Pirot 12' T-Frame Sector Mount (1) (Dish)	C	From Leg	2.00	0.0000	160.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00			1" Ice	23.20	23.20	735.00
MX08FRO665-21 (Dish)	A	From Leg	3.00	0.0000	162.00	No Ice	12.49	5.87	83.00
			0.00			1/2" Ice	12.99	6.32	156.79
			0.00			1" Ice	13.49	6.79	237.26
MX08FRO665-21 (Dish)	B	From Leg	3.00	0.0000	162.00	No Ice	12.49	5.87	83.00
			0.00			1/2" Ice	12.99	6.32	156.79
			0.00			1" Ice	13.49	6.79	237.26
MX08FRO665-21 (Dish)	C	From Leg	3.00	0.0000	162.00	No Ice	12.49	5.87	83.00
			0.00			1/2" Ice	12.99	6.32	156.79
			0.00			1" Ice	13.49	6.79	237.26
TA08025-B604 (Dish)	A	From Leg	2.00	0.0000	162.00	No Ice	1.98	1.04	65.00
			2.00			1/2" Ice	2.15	1.18	81.85
			0.00			1" Ice	2.33	1.32	101.41
TA08025-B604 (Dish)	B	From Leg	2.00	0.0000	162.00	No Ice	1.98	1.04	65.00
			2.00			1/2" Ice	2.15	1.18	81.85
			0.00			1" Ice	2.33	1.32	101.41
TA08025-B604	C	From Leg	2.00	0.0000	162.00	No Ice	1.98	1.04	65.00

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	Project		195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT				Date		08:43:42 11/07/22
	Client		AT&T				Designed by		TJL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA}		Weight lb
			Horz Lateral ft	Vert ft			Front ft ²	Side ft ²	
(Dish)			2.00			1/2" Ice	2.15	1.18	81.85
			0.00			1" Ice	2.33	1.32	101.41
TA08025-B605 (Dish)	A	From Leg	2.00	0.0000	162.00	No Ice	1.98	1.20	75.00
			-2.00			1/2" Ice	2.15	1.34	93.09
			0.00			1" Ice	2.33	1.49	113.96
TA08025-B605 (Dish)	B	From Leg	2.00	0.0000	162.00	No Ice	1.98	1.20	75.00
			-2.00			1/2" Ice	2.15	1.34	93.09
			0.00			1" Ice	2.33	1.49	113.96
TA08025-B605 (Dish)	C	From Leg	2.00	0.0000	162.00	No Ice	1.98	1.20	75.00
			-2.00			1/2" Ice	2.15	1.34	93.09
			0.00			1" Ice	2.33	1.49	113.96
Pirod 12' T-Frame Sector Mount (1) (Verizon)	A	From Leg	2.00	0.0000	146.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00			1" Ice	23.20	23.20	735.00
Pirod 12' T-Frame Sector Mount (1) (Verizon)	B	From Leg	2.00	0.0000	146.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00			1" Ice	23.20	23.20	735.00
Pirod 12' T-Frame Sector Mount (1) (Verizon)	C	From Leg	2.00	0.0000	146.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00			1" Ice	23.20	23.20	735.00
SitePro SFS-V-L (Verizon)	A	From Leg	2.00	0.0000	146.00	No Ice	5.09	4.75	77.00
			0.00			1/2" Ice	5.74	5.35	100.00
			0.00			1" Ice	6.53	6.07	137.00
SitePro SFS-V-L (Verizon)	B	From Leg	2.00	0.0000	146.00	No Ice	5.09	4.75	77.00
			0.00			1/2" Ice	5.74	5.35	100.00
			0.00			1" Ice	6.53	6.07	137.00
SitePro SFS-V-L (Verizon)	C	From Leg	2.00	0.0000	146.00	No Ice	5.09	4.75	77.00
			0.00			1/2" Ice	5.74	5.35	100.00
			0.00			1" Ice	6.53	6.07	137.00
LNX-6513DS-VTM (Verizon)	A	From Leg	4.00	0.0000	146.00	No Ice	5.85	3.84	32.00
			-6.00			1/2" Ice	6.21	4.19	70.84
			0.00			1" Ice	6.58	4.54	114.65
(2) MX06FRO660 (Verizon)	A	From Leg	4.00	0.0000	146.00	No Ice	9.87	7.34	57.00
			0.00			1/2" Ice	10.34	7.78	125.84
			0.00			1" Ice	10.82	8.24	201.18
MT6407-77A (Verizon)	A	From Leg	4.00	0.0000	146.00	No Ice	4.71	1.84	87.00
			2.00			1/2" Ice	5.00	2.06	116.31
			0.00			1" Ice	5.29	2.29	149.49
LNX-6513DS-VTM (Verizon)	B	From Leg	4.00	0.0000	146.00	No Ice	5.85	3.84	32.00
			-6.00			1/2" Ice	6.21	4.19	70.84
			0.00			1" Ice	6.58	4.54	114.65
(2) MX06FRO660 (Verizon)	B	From Leg	4.00	0.0000	146.00	No Ice	9.87	7.34	57.00
			0.00			1/2" Ice	10.34	7.78	125.84
			0.00			1" Ice	10.82	8.24	201.18
MT6407-77A (Verizon)	B	From Leg	4.00	0.0000	146.00	No Ice	4.71	1.84	87.00
			2.00			1/2" Ice	5.00	2.06	116.31
			0.00			1" Ice	5.29	2.29	149.49
LNX-6513DS-VTM (Verizon)	C	From Leg	4.00	0.0000	146.00	No Ice	5.85	3.84	32.00
			-6.00			1/2" Ice	6.21	4.19	70.84
			0.00			1" Ice	6.58	4.54	114.65
(2) MX06FRO660 (Verizon)	C	From Leg	4.00	0.0000	146.00	No Ice	9.87	7.34	57.00
			0.00			1/2" Ice	10.34	7.78	125.84
			0.00			1" Ice	10.82	8.24	201.18
MT6407-77A (Verizon)	C	From Leg	4.00	0.0000	146.00	No Ice	4.71	1.84	87.00
			2.00			1/2" Ice	5.00	2.06	116.31
			0.00			1" Ice	5.29	2.29	149.49
B2/B66A RRH	A	From Leg	2.00	0.0000	146.00	No Ice	2.54	1.61	60.00

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

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	lb
(Verizon)			-4.00			1/2" Ice	2.75	1.79	80.12
			0.00			1" Ice	2.97	1.98	103.35
B2/B66A RRH (Verizon)	B	From Leg	2.00		0.0000	No Ice	2.54	1.61	60.00
			-4.00			1/2" Ice	2.75	1.79	80.12
			0.00			1" Ice	2.97	1.98	103.35
B2/B66A RRH (Verizon)	C	From Leg	2.00		0.0000	No Ice	2.54	1.61	60.00
			-4.00			1/2" Ice	2.75	1.79	80.12
			0.00			1" Ice	2.97	1.98	103.35
B5/B13 RRH (Verizon)	A	From Leg	2.00		0.0000	No Ice	1.87	1.02	70.00
			-4.00			1/2" Ice	2.03	1.15	86.42
			0.00			1" Ice	2.21	1.29	105.50
B5/B13 RRH (Verizon)	B	From Leg	2.00		0.0000	No Ice	1.87	1.02	70.00
			-4.00			1/2" Ice	2.03	1.15	86.42
			0.00			1" Ice	2.21	1.29	105.50
B5/B13 RRH (Verizon)	C	From Leg	2.00		0.0000	No Ice	1.87	1.02	70.00
			-4.00			1/2" Ice	2.03	1.15	86.42
			0.00			1" Ice	2.21	1.29	105.50
RC2DC-3315-PF-48 (Verizon)	A	From Leg	2.00		0.0000	No Ice	3.01	1.96	25.00
			0.00			1/2" Ice	3.23	2.15	51.21
			0.00			1" Ice	3.46	2.35	80.79

Tower Pressures - No Ice

$G_H = 0.850$

Section Elevation	z	K _Z	q _z	A _G	F _a	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face	C _{AA} Out Face
ft	ft		psf	ft ²	c	ft ²	ft ²	ft ²		ft ²	ft ²
T1 195.00-175.00	185.00	1.441	49	115.002	A	0.000	18.774	10.004	53.29	0.000	0.000
					B	0.000	18.774		53.29	0.000	0.000
					C	0.000	18.774		53.29	2.970	0.000
T2 175.00-155.00	165.00	1.406	48	146.258	A	11.554	12.521	12.521	52.01	23.294	0.000
					B	11.554	12.521		52.01	0.000	0.000
					C	11.554	12.521		52.01	11.880	0.000
T3 155.00-135.00	145.00	1.369	47	186.675	A	13.489	13.356	13.356	49.75	32.262	0.000
					B	13.489	13.356		49.75	25.740	0.000
					C	13.489	13.356		49.75	11.880	0.000
T4 135.00-115.00	125.00	1.326	45	227.092	A	18.679	14.190	14.190	43.17	32.262	0.000
					B	18.679	14.190		43.17	51.480	0.000
					C	18.679	14.190		43.17	11.880	0.000
T5 115.00-95.00	105.00	1.279	43	267.092	A	21.322	14.190	14.190	39.96	32.262	0.000
					B	21.322	14.190		39.96	51.480	0.000
					C	21.322	14.190		39.96	11.880	0.000
T6 95.00-75.00	85.00	1.223	42	307.509	A	28.012	15.025	15.025	34.91	32.262	0.000
					B	28.012	15.025		34.91	51.480	0.000
					C	28.012	15.025		34.91	11.880	0.000
T7 75.00-55.00	65.00	1.156	39	347.927	A	35.675	15.860	15.860	30.78	32.262	0.000
					B	35.675	15.860		30.78	51.480	0.000
					C	35.675	15.860		30.78	11.880	0.000

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	Client AT&T	Designed by TJL

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
T8 55.00-40.00	47.50	1.082	37	287.195	A	37.993	11.895	11.895	23.84	24.197	0.000
					B	37.993	11.895	23.84	38.610	0.000	
					C	37.993	11.895	23.84	8.910	0.000	
T9 40.00-20.00	30.00	0.982	33	417.927	A	42.284	15.860	15.860	27.28	32.262	0.000
					B	42.284	15.860	27.28	51.480	0.000	
					C	42.284	15.860	27.28	11.880	0.000	
T10 20.00-0.00	10.00	0.85	29	458.344	A	46.067	16.694	16.694	26.60	32.262	0.000
					B	46.067	16.694	26.60	51.480	0.000	
					C	46.067	16.694	26.60	11.880	0.000	

Tower Pressure - With Ice

$G_H = 0.850$

Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
T1 195.00-175.00	185.00	1.441	8	1.1881	118.963	A	0.000	43.369	17.928	41.34	0.000	0.000
						B	0.000	43.369	41.34	0.000	0.000	
						C	0.000	43.369	41.34	8.141	0.000	
T2 175.00-155.00	165.00	1.406	8	1.1746	150.178	A	11.554	31.221	20.365	47.61	54.721	0.000
						B	11.554	31.221	47.61	0.000	0.000	
						C	11.554	31.221	47.61	32.479	0.000	
T3 155.00-135.00	145.00	1.369	7	1.1595	190.545	A	13.489	33.611	21.099	44.80	71.884	0.000
						B	13.489	33.611	44.80	64.364	0.000	
						C	13.489	33.611	44.80	32.383	0.000	
T4 135.00-115.00	125.00	1.326	7	1.1425	230.905	A	18.679	36.046	21.819	39.87	71.464	0.000
						B	18.679	36.046	39.87	128.567	0.000	
						C	18.679	36.046	39.87	32.274	0.000	
T5 115.00-95.00	105.00	1.279	7	1.1227	270.839	A	21.322	37.647	21.687	36.78	70.978	0.000
						B	21.322	37.647	36.78	128.381	0.000	
						C	21.322	37.647	36.78	32.149	0.000	
T6 95.00-75.00	85.00	1.223	7	1.0992	311.178	A	28.012	39.961	22.365	32.90	70.402	0.000
						B	28.012	39.961	32.90	128.159	0.000	
						C	28.012	39.961	32.90	31.999	0.000	
T7 75.00-55.00	65.00	1.156	6	1.0701	351.498	A	35.675	42.094	23.006	29.58	69.687	0.000
						B	35.675	42.094	29.58	127.885	0.000	
						C	35.675	42.094	29.58	31.814	0.000	
T8 55.00-40.00	47.50	1.082	6	1.0371	289.791	A	37.993	36.790	17.089	22.85	51.658	0.000
						B	37.993	36.790	22.85	95.681	0.000	
						C	37.993	36.790	22.85	23.704	0.000	
T9 40.00-20.00	30.00	0.982	5	0.9905	421.232	A	42.284	43.416	22.474	26.22	67.736	0.000
						B	42.284	43.416	26.22	127.137	0.000	
						C	42.284	43.416	26.22	31.310	0.000	
T10 20.00-0.00	10.00	0.85	5	0.8875	461.306	A	46.067	43.062	22.621	25.38	75.291	0.000
						B	46.067	43.062	25.38	97.628	0.000	
						C	46.067	43.062	25.38	22.530	0.000	

Tower Pressure - Service

$G_H = 0.850$

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

Section Elevation <i>ft</i>	<i>z</i> <i>ft</i>	<i>K_Z</i>	<i>q_z</i> <i>psf</i>	<i>A_G</i> <i>ft²</i>	<i>F_a</i> <i>c</i> <i>e</i>	<i>A_F</i> <i>ft²</i>	<i>A_R</i> <i>ft²</i>	<i>A_{leg}</i> <i>ft²</i>	<i>Leg</i> <i>%</i>	<i>C_{AA}</i> <i>In</i> <i>Face</i> <i>ft²</i>	<i>C_{AA}</i> <i>Out</i> <i>Face</i> <i>ft²</i>
T1 195.00-175.00	185.00	1.441	11	115.002	A	0.000	18.774	10.004	53.29	0.000	0.000
					B	0.000	18.774		53.29	0.000	0.000
					C	0.000	18.774		53.29	2.970	0.000
T2 175.00-155.00	165.00	1.406	11	146.258	A	11.554	12.521	12.521	52.01	23.294	0.000
					B	11.554	12.521		52.01	0.000	0.000
					C	11.554	12.521		52.01	11.880	0.000
T3 155.00-135.00	145.00	1.369	11	186.675	A	13.489	13.356	13.356	49.75	32.262	0.000
					B	13.489	13.356		49.75	25.740	0.000
					C	13.489	13.356		49.75	11.880	0.000
T4 135.00-115.00	125.00	1.326	10	227.092	A	18.679	14.190	14.190	43.17	32.262	0.000
					B	18.679	14.190		43.17	51.480	0.000
					C	18.679	14.190		43.17	11.880	0.000
T5 115.00-95.00	105.00	1.279	10	267.092	A	21.322	14.190	14.190	39.96	32.262	0.000
					B	21.322	14.190		39.96	51.480	0.000
					C	21.322	14.190		39.96	11.880	0.000
T6 95.00-75.00	85.00	1.223	10	307.509	A	28.012	15.025	15.025	34.91	32.262	0.000
					B	28.012	15.025		34.91	51.480	0.000
					C	28.012	15.025		34.91	11.880	0.000
T7 75.00-55.00	65.00	1.156	9	347.927	A	35.675	15.860	15.860	30.78	32.262	0.000
					B	35.675	15.860		30.78	51.480	0.000
					C	35.675	15.860		30.78	11.880	0.000
T8 55.00-40.00	47.50	1.082	8	287.195	A	37.993	11.895	11.895	23.84	24.197	0.000
					B	37.993	11.895		23.84	38.610	0.000
					C	37.993	11.895		23.84	8.910	0.000
T9 40.00-20.00	30.00	0.982	8	417.927	A	42.284	15.860	15.860	27.28	32.262	0.000
					B	42.284	15.860		27.28	51.480	0.000
					C	42.284	15.860		27.28	11.880	0.000
T10 20.00-0.00	10.00	0.85	7	458.344	A	46.067	16.694	16.694	26.60	32.262	0.000
					B	46.067	16.694		26.60	51.480	0.000
					C	46.067	16.694		26.60	11.880	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation <i>ft</i>	<i>Add</i> <i>Weight</i> <i>lb</i>	<i>Self</i> <i>Weight</i> <i>lb</i>	<i>F_a</i> <i>c</i> <i>e</i>	<i>e</i>	<i>C_F</i>	<i>q_z</i> <i>psf</i>	<i>D_F</i>	<i>D_R</i>	<i>A_E</i> <i>ft²</i>	<i>F</i> <i>lb</i>	<i>w</i> <i>plf</i>	<i>Ctrl.</i> <i>Face</i>
T1 195.00-175.00	28.50	2548.67	A	0.163	2.723	49	1	1	10.683	1285.42	64.27	C
			B	0.163	2.723		1	1	10.683			
			C	0.163	2.723		1	1	10.683			
T2 175.00-155.00	280.30	2793.29	A	0.165	2.718	48	1	1	18.344	2907.08	145.35	C
			B	0.165	2.718		1	1	18.344			
			C	0.165	2.718		1	1	18.344			
T3 155.00-135.00	486.60	3572.06	A	0.144	2.794	47	1	1	20.555	3992.98	199.65	C
			B	0.144	2.794		1	1	20.555			
			C	0.144	2.794		1	1	20.555			
T4 135.00-115.00	630.40	4036.07	A	0.145	2.791	45	1	1	26.067	5049.10	252.45	C
			B	0.145	2.791		1	1	26.067			
			C	0.145	2.791		1	1	26.067			
T5 115.00-95.00	630.40	4789.76	A	0.133	2.835	43	1	1	28.727	5188.53	259.43	C
			B	0.133	2.835		1	1	28.727			
			C	0.133	2.835		1	1	28.727			
T6 95.00-75.00	630.40	5354.18	A	0.14	2.809	42	1	1	35.769	5635.04	281.75	C
			B	0.14	2.809		1	1	35.769			
			C	0.14	2.809		1	1	35.769			
T7	630.40	5794.03	A	0.148	2.778	39	1	1	43.809	6035.57	301.78	C

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
75.00-55.00			B	0.148	2.778		1	1	43.809			
			C	0.148	2.778		1	1	43.809			
T8	472.80	5023.91	A	0.174	2.686	37	1	1	44.248	5099.44	339.96	C
55.00-40.00			B	0.174	2.686		1	1	44.248			
			C	0.174	2.686		1	1	44.248			
T9	630.40	6793.06	A	0.139	2.812	33	1	1	50.643	5716.09	285.80	C
40.00-20.00			B	0.139	2.812		1	1	50.643			
			C	0.139	2.812		1	1	50.643			
T10	630.40	8126.54	A	0.137	2.82	29	1	1	54.927	5253.47	262.67	C
20.00-0.00			B	0.137	2.82		1	1	54.927			
			C	0.137	2.82		1	1	54.927			
Sum Weight:	5050.60	48831.58						OTM	3809917.2 4 lb-ft	46162.72		

Tower Forces - No Ice - Wind 45 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1	28.50	2548.67	A	0.163	2.723	49	0.825	1	10.683	1285.42	64.27	C
195.00-175.00			B	0.163	2.723		0.825	1	10.683			
			C	0.163	2.723		0.825	1	10.683			
T2	280.30	2793.29	A	0.165	2.718	48	0.825	1	16.322	2683.69	134.18	C
175.00-155.00			B	0.165	2.718		0.825	1	16.322			
			C	0.165	2.718		0.825	1	16.322			
T3	486.60	3572.06	A	0.144	2.794	47	0.825	1	18.195	3732.08	186.60	C
155.00-135.00			B	0.144	2.794		0.825	1	18.195			
			C	0.144	2.794		0.825	1	18.195			
T4	630.40	4036.07	A	0.145	2.791	45	0.825	1	22.798	4699.36	234.97	C
135.00-115.00			B	0.145	2.791		0.825	1	22.798			
			C	0.145	2.791		0.825	1	22.798			
T5	630.40	4789.76	A	0.133	2.835	43	0.825	1	24.996	4797.58	239.88	C
115.00-95.00			B	0.133	2.835		0.825	1	24.996			
			C	0.133	2.835		0.825	1	24.996			
T6	630.40	5354.18	A	0.14	2.809	42	0.825	1	30.867	5148.35	257.42	C
95.00-75.00			B	0.14	2.809		0.825	1	30.867			
			C	0.14	2.809		0.825	1	30.867			
T7	630.40	5794.03	A	0.148	2.778	39	0.825	1	37.566	5456.13	272.81	C
75.00-55.00			B	0.148	2.778		0.825	1	37.566			
			C	0.148	2.778		0.825	1	37.566			
T8	472.80	5023.91	A	0.174	2.686	37	0.825	1	37.599	4540.96	302.73	C
55.00-40.00			B	0.174	2.686		0.825	1	37.599			
			C	0.174	2.686		0.825	1	37.599			
T9	630.40	6793.06	A	0.139	2.812	33	0.825	1	43.244	5125.43	256.27	C
40.00-20.00			B	0.139	2.812		0.825	1	43.244			
			C	0.139	2.812		0.825	1	43.244			
T10	630.40	8126.54	A	0.137	2.82	29	0.825	1	46.865	4694.97	234.75	C
20.00-0.00			B	0.137	2.82		0.825	1	46.865			
			C	0.137	2.82		0.825	1	46.865			
Sum Weight:	5050.60	48831.58						OTM	3521595.0 8 lb-ft	42163.97		

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	Client AT&T	Designed by TJL

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 195.00-175.00	28.50	2548.67	A	0.163	2.723	49	0.8	1	10.683	1285.42	64.27	C
			B	0.163	2.723		0.8	1	10.683			
			C	0.163	2.723		0.8	1	10.683			
T2 175.00-155.00	280.30	2793.29	A	0.165	2.718	48	0.8	1	16.033	2651.78	132.59	C
			B	0.165	2.718		0.8	1	16.033			
			C	0.165	2.718		0.8	1	16.033			
T3 155.00-135.00	486.60	3572.06	A	0.144	2.794	47	0.8	1	17.858	3694.81	184.74	C
			B	0.144	2.794		0.8	1	17.858			
			C	0.144	2.794		0.8	1	17.858			
T4 135.00-115.00	630.40	4036.07	A	0.145	2.791	45	0.8	1	22.331	4649.40	232.47	C
			B	0.145	2.791		0.8	1	22.331			
			C	0.145	2.791		0.8	1	22.331			
T5 115.00-95.00	630.40	4789.76	A	0.133	2.835	43	0.8	1	24.463	4741.73	237.09	C
			B	0.133	2.835		0.8	1	24.463			
			C	0.133	2.835		0.8	1	24.463			
T6 95.00-75.00	630.40	5354.18	A	0.14	2.809	42	0.8	1	30.166	5078.83	253.94	C
			B	0.14	2.809		0.8	1	30.166			
			C	0.14	2.809		0.8	1	30.166			
T7 75.00-55.00	630.40	5794.03	A	0.148	2.778	39	0.8	1	36.674	5373.35	268.67	C
			B	0.148	2.778		0.8	1	36.674			
			C	0.148	2.778		0.8	1	36.674			
T8 55.00-40.00	472.80	5023.91	A	0.174	2.686	37	0.8	1	36.649	4461.18	297.41	C
			B	0.174	2.686		0.8	1	36.649			
			C	0.174	2.686		0.8	1	36.649			
T9 40.00-20.00	630.40	6793.06	A	0.139	2.812	33	0.8	1	42.186	5041.04	252.05	C
			B	0.139	2.812		0.8	1	42.186			
			C	0.139	2.812		0.8	1	42.186			
T10 20.00-0.00	630.40	8126.54	A	0.137	2.82	29	0.8	1	45.713	4615.19	230.76	C
			B	0.137	2.82		0.8	1	45.713			
			C	0.137	2.82		0.8	1	45.713			
Sum Weight:	5050.60	48831.58						OTM	3480406.2 0 lb-ft	41592.72		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 195.00-175.00	28.50	2548.67	A	0.163	2.723	49	0.85	1	10.683	1285.42	64.27	C
			B	0.163	2.723		0.85	1	10.683			
			C	0.163	2.723		0.85	1	10.683			
T2 175.00-155.00	280.30	2793.29	A	0.165	2.718	48	0.85	1	16.611	2715.61	135.78	C
			B	0.165	2.718		0.85	1	16.611			
			C	0.165	2.718		0.85	1	16.611			
T3 155.00-135.00	486.60	3572.06	A	0.144	2.794	47	0.85	1	18.532	3769.35	188.47	C
			B	0.144	2.794		0.85	1	18.532			
			C	0.144	2.794		0.85	1	18.532			
T4	630.40	4036.07	A	0.145	2.791	45	0.85	1	23.265	4749.32	237.47	C

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
135.00-115.00			B	0.145	2.791		0.85	1	23.265			
			C	0.145	2.791		0.85	1	23.265			
T5	630.40	4789.76	A	0.133	2.835	43	0.85	1	25.529	4853.43	242.67	C
115.00-95.00			B	0.133	2.835		0.85	1	25.529			
			C	0.133	2.835		0.85	1	25.529			
T6	630.40	5354.18	A	0.14	2.809	42	0.85	1	31.567	5217.88	260.89	C
95.00-75.00			B	0.14	2.809		0.85	1	31.567			
			C	0.14	2.809		0.85	1	31.567			
T7	630.40	5794.03	A	0.148	2.778	39	0.85	1	38.458	5538.90	276.95	C
75.00-55.00			B	0.148	2.778		0.85	1	38.458			
			C	0.148	2.778		0.85	1	38.458			
T8	472.80	5023.91	A	0.174	2.686	37	0.85	1	38.549	4620.75	308.05	C
55.00-40.00			B	0.174	2.686		0.85	1	38.549			
			C	0.174	2.686		0.85	1	38.549			
T9	630.40	6793.06	A	0.139	2.812	33	0.85	1	44.301	5209.81	260.49	C
40.00-20.00			B	0.139	2.812		0.85	1	44.301			
			C	0.139	2.812		0.85	1	44.301			
T10	630.40	8126.54	A	0.137	2.82	29	0.85	1	48.017	4774.76	238.74	C
20.00-0.00			B	0.137	2.82		0.85	1	48.017			
			C	0.137	2.82		0.85	1	48.017			
Sum Weight:	5050.60	48831.58						OTM	3562783.9 6 lb-ft	42735.22		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1	106.61	3850.02	A	0.365	2.138	8	1	1	26.959	416.58	20.83	C
195.00-175.00			B	0.365	2.138		1	1	26.959			
			C	0.365	2.138		1	1	26.959			
T2	1228.81	4395.28	A	0.285	2.337	8	1	1	30.110	805.73	40.29	C
175.00-155.00			B	0.285	2.337		1	1	30.110			
			C	0.285	2.337		1	1	30.110			
T3	2337.15	5353.02	A	0.247	2.446	7	1	1	33.128	1174.86	58.74	C
155.00-135.00			B	0.247	2.446		1	1	33.128			
			C	0.247	2.446		1	1	33.128			
T4	3137.45	6229.27	A	0.237	2.477	7	1	1	39.655	1478.36	73.92	C
135.00-115.00			B	0.237	2.477		1	1	39.655			
			C	0.237	2.477		1	1	39.655			
T5	3104.07	7168.45	A	0.218	2.538	7	1	1	43.075	1487.64	74.38	C
115.00-95.00			B	0.218	2.538		1	1	43.075			
			C	0.218	2.538		1	1	43.075			
T6	3064.55	8206.74	A	0.218	2.536	7	1	1	51.107	1534.11	76.71	C
95.00-75.00			B	0.218	2.536		1	1	51.107			
			C	0.218	2.536		1	1	51.107			
T7	3015.83	9142.51	A	0.221	2.527	6	1	1	60.027	1563.85	78.19	C
75.00-55.00			B	0.221	2.527		1	1	60.027			
			C	0.221	2.527		1	1	60.027			
T8	2220.63	8317.11	A	0.258	2.414	6	1	1	59.589	1245.21	83.01	C
55.00-40.00			B	0.258	2.414		1	1	59.589			
			C	0.258	2.414		1	1	59.589			
T9	2883.98	10332.13	A	0.203	2.585	5	1	1	67.252	1420.23	71.01	C

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJJ

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
40.00-20.00			B	0.203	2.585		1	1	67.252			
			C	0.203	2.585		1	1	67.252			
T10 20.00-0.00	2172.51	11507.55	A	0.193	2.619	5	1	1	70.756	1201.01	60.05	C
			B	0.193	2.619		1	1	70.756			
			C	0.193	2.619		1	1	70.756			
Sum Weight:	23271.58	74502.07						OTM	1067178.4 9 lb-ft	12327.58		

Tower Forces - With Ice - Wind 45 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 195.00-175.00	106.61	3850.02	A	0.365	2.138	8	0.825	1	26.959	416.58	20.83	C
			B	0.365	2.138		0.825	1	26.959			
			C	0.365	2.138		0.825	1	26.959			
T2 175.00-155.00	1228.81	4395.28	A	0.285	2.337	8	0.825	1	28.088	775.00	38.75	C
			B	0.285	2.337		0.825	1	28.088			
			C	0.285	2.337		0.825	1	28.088			
T3 155.00-135.00	2337.15	5353.02	A	0.247	2.446	7	0.825	1	30.768	1138.32	56.92	C
			B	0.247	2.446		0.825	1	30.768			
			C	0.247	2.446		0.825	1	30.768			
T4 135.00-115.00	3137.45	6229.27	A	0.237	2.477	7	0.825	1	36.386	1428.70	71.43	C
			B	0.237	2.477		0.825	1	36.386			
			C	0.237	2.477		0.825	1	36.386			
T5 115.00-95.00	3104.07	7168.45	A	0.218	2.538	7	0.825	1	39.344	1431.65	71.58	C
			B	0.218	2.538		0.825	1	39.344			
			C	0.218	2.538		0.825	1	39.344			
T6 95.00-75.00	3064.55	8206.74	A	0.218	2.536	7	0.825	1	46.205	1463.82	73.19	C
			B	0.218	2.536		0.825	1	46.205			
			C	0.218	2.536		0.825	1	46.205			
T7 75.00-55.00	3015.83	9142.51	A	0.221	2.527	6	0.825	1	53.784	1479.54	73.98	C
			B	0.221	2.527		0.825	1	53.784			
			C	0.221	2.527		0.825	1	53.784			
T8 55.00-40.00	2220.63	8317.11	A	0.258	2.414	6	0.825	1	52.940	1164.93	77.66	C
			B	0.258	2.414		0.825	1	52.940			
			C	0.258	2.414		0.825	1	52.940			
T9 40.00-20.00	2883.98	10332.13	A	0.203	2.585	5	0.825	1	59.852	1333.36	66.67	C
			B	0.203	2.585		0.825	1	59.852			
			C	0.203	2.585		0.825	1	59.852			
T10 20.00-0.00	2172.51	11507.55	A	0.193	2.619	5	0.825	1	62.694	1118.03	55.90	C
			B	0.193	2.619		0.825	1	62.694			
			C	0.193	2.619		0.825	1	62.694			
Sum Weight:	23271.58	74502.07						OTM	1026018.5 6 lb-ft	11749.93		

Tower Forces - With Ice - Wind 60 To Face

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	Project	195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT		Date	08:43:42 11/07/22
	Client	AT&T		Designed by	TJL

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 195.00-175.00	106.61	3850.02	A	0.365	2.138	8	0.8	1	26.959	416.58	20.83	C
			B	0.365	2.138		0.8	1	26.959			
			C	0.365	2.138		0.8	1	26.959			
T2 175.00-155.00	1228.81	4395.28	A	0.285	2.337	8	0.8	1	27.799	770.61	38.53	C
			B	0.285	2.337		0.8	1	27.799			
			C	0.285	2.337		0.8	1	27.799			
T3 155.00-135.00	2337.15	5353.02	A	0.247	2.446	7	0.8	1	30.431	1133.10	56.65	C
			B	0.247	2.446		0.8	1	30.431			
			C	0.247	2.446		0.8	1	30.431			
T4 135.00-115.00	3137.45	6229.27	A	0.237	2.477	7	0.8	1	35.919	1421.60	71.08	C
			B	0.237	2.477		0.8	1	35.919			
			C	0.237	2.477		0.8	1	35.919			
T5 115.00-95.00	3104.07	7168.45	A	0.218	2.538	7	0.8	1	38.810	1423.65	71.18	C
			B	0.218	2.538		0.8	1	38.810			
			C	0.218	2.538		0.8	1	38.810			
T6 95.00-75.00	3064.55	8206.74	A	0.218	2.536	7	0.8	1	45.505	1453.77	72.69	C
			B	0.218	2.536		0.8	1	45.505			
			C	0.218	2.536		0.8	1	45.505			
T7 75.00-55.00	3015.83	9142.51	A	0.221	2.527	6	0.8	1	52.892	1467.50	73.37	C
			B	0.221	2.527		0.8	1	52.892			
			C	0.221	2.527		0.8	1	52.892			
T8 55.00-40.00	2220.63	8317.11	A	0.258	2.414	6	0.8	1	51.990	1153.46	76.90	C
			B	0.258	2.414		0.8	1	51.990			
			C	0.258	2.414		0.8	1	51.990			
T9 40.00-20.00	2883.98	10332.13	A	0.203	2.585	5	0.8	1	58.795	1320.96	66.05	C
			B	0.203	2.585		0.8	1	58.795			
			C	0.203	2.585		0.8	1	58.795			
T10 20.00-0.00	2172.51	11507.55	A	0.193	2.619	5	0.8	1	61.542	1106.18	55.31	C
			B	0.193	2.619		0.8	1	61.542			
			C	0.193	2.619		0.8	1	61.542			
Sum Weight:	23271.58	74502.07						OTM	1020138.5 6 lb-ft	11667.40		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 195.00-175.00	106.61	3850.02	A	0.365	2.138	8	0.85	1	26.959	416.58	20.83	C
			B	0.365	2.138		0.85	1	26.959			
			C	0.365	2.138		0.85	1	26.959			
T2 175.00-155.00	1228.81	4395.28	A	0.285	2.337	8	0.85	1	28.377	779.39	38.97	C
			B	0.285	2.337		0.85	1	28.377			
			C	0.285	2.337		0.85	1	28.377			
T3 155.00-135.00	2337.15	5353.02	A	0.247	2.446	7	0.85	1	31.105	1143.54	57.18	C
			B	0.247	2.446		0.85	1	31.105			
			C	0.247	2.446		0.85	1	31.105			
T4 135.00-115.00	3137.45	6229.27	A	0.237	2.477	7	0.85	1	36.853	1435.79	71.79	C
			B	0.237	2.477		0.85	1	36.853			
			C	0.237	2.477		0.85	1	36.853			
T5 115.00-95.00	3104.07	7168.45	A	0.218	2.538	7	0.85	1	39.877	1439.65	71.98	C
			B	0.218	2.538		0.85	1	39.877			
			C	0.218	2.538		0.85	1	39.877			

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T6 95.00-75.00	3064.55	8206.74	A	0.218	2.536	7	0.85	1	46.906	1473.86	73.69	C
			B	0.218	2.536		0.85	1	46.906			
			C	0.218	2.536		0.85	1	46.906			
T7 75.00-55.00	3015.83	9142.51	A	0.221	2.527	6	0.85	1	54.676	1491.59	74.58	C
			B	0.221	2.527		0.85	1	54.676			
			C	0.221	2.527		0.85	1	54.676			
T8 55.00-40.00	2220.63	8317.11	A	0.258	2.414	6	0.85	1	53.890	1176.40	78.43	C
			B	0.258	2.414		0.85	1	53.890			
			C	0.258	2.414		0.85	1	53.890			
T9 40.00-20.00	2883.98	10332.13	A	0.203	2.585	5	0.85	1	60.909	1345.77	67.29	C
			B	0.203	2.585		0.85	1	60.909			
			C	0.203	2.585		0.85	1	60.909			
T10 20.00-0.00	2172.51	11507.55	A	0.193	2.619	5	0.85	1	63.846	1129.89	56.49	C
			B	0.193	2.619		0.85	1	63.846			
			C	0.193	2.619		0.85	1	63.846			
Sum Weight:	23271.58	74502.07						OTM	1031898.5 5 lb-ft	11832.45		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 195.00-175.00	28.50	2548.67	A	0.163	2.723	11	1	1	10.683	296.16	14.81	C
			B	0.163	2.723		1	1	10.683			
			C	0.163	2.723		1	1	10.683			
T2 175.00-155.00	280.30	2793.29	A	0.165	2.718	11	1	1	18.680	678.35	33.92	C
			B	0.165	2.718		1	1	18.680			
			C	0.165	2.718		1	1	18.680			
T3 155.00-135.00	486.60	3572.06	A	0.144	2.794	11	1	1	21.061	932.85	46.64	C
			B	0.144	2.794		1	1	21.061			
			C	0.144	2.794		1	1	21.061			
T4 135.00-115.00	630.40	4036.07	A	0.145	2.791	10	1	1	26.725	1179.55	58.98	C
			B	0.145	2.791		1	1	26.725			
			C	0.145	2.791		1	1	26.725			
T5 115.00-95.00	630.40	4789.76	A	0.133	2.835	10	1	1	29.354	1210.57	60.53	C
			B	0.133	2.835		1	1	29.354			
			C	0.133	2.835		1	1	29.354			
T6 95.00-75.00	630.40	5354.18	A	0.14	2.809	10	1	1	36.525	1315.62	65.78	C
			B	0.14	2.809		1	1	36.525			
			C	0.14	2.809		1	1	36.525			
T7 75.00-55.00	630.40	5794.03	A	0.148	2.778	9	1	1	44.673	1409.06	70.45	C
			B	0.148	2.778		1	1	44.673			
			C	0.148	2.778		1	1	44.673			
T8 55.00-40.00	472.80	5023.91	A	0.174	2.686	8	1	1	44.777	1185.16	79.01	C
			B	0.174	2.686		1	1	44.777			
			C	0.174	2.686		1	1	44.777			
T9 40.00-20.00	630.40	6793.06	A	0.139	2.812	8	1	1	51.269	1328.49	66.42	C
			B	0.139	2.812		1	1	51.269			
			C	0.139	2.812		1	1	51.269			
T10 20.00-0.00	630.40	8126.54	A	0.137	2.82	7	1	1	55.522	1219.90	60.99	C
			B	0.137	2.82		1	1	55.522			
			C	0.137	2.82		1	1	55.522			

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
Sum Weight:	5050.60	48831.58						OTM	888298.36 lb-ft	10755.71		

Tower Forces - Service - Wind 45 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 195.00-175.00	28.50	2548.67	A	0.163	2.723	11	0.825	1	10.683	296.16	14.81	C
			B	0.163	2.723		0.825	1	10.683			
			C	0.163	2.723		0.825	1	10.683			
T2 175.00-155.00	280.30	2793.29	A	0.165	2.718	11	0.825	1	16.658	626.88	31.34	C
			B	0.165	2.718		0.825	1	16.658			
			C	0.165	2.718		0.825	1	16.658			
T3 155.00-135.00	486.60	3572.06	A	0.144	2.794	11	0.825	1	18.700	872.73	43.64	C
			B	0.144	2.794		0.825	1	18.700			
			C	0.144	2.794		0.825	1	18.700			
T4 135.00-115.00	630.40	4036.07	A	0.145	2.791	10	0.825	1	23.456	1098.97	54.95	C
			B	0.145	2.791		0.825	1	23.456			
			C	0.145	2.791		0.825	1	23.456			
T5 115.00-95.00	630.40	4789.76	A	0.133	2.835	10	0.825	1	25.623	1120.50	56.02	C
			B	0.133	2.835		0.825	1	25.623			
			C	0.133	2.835		0.825	1	25.623			
T6 95.00-75.00	630.40	5354.18	A	0.14	2.809	10	0.825	1	31.623	1203.49	60.17	C
			B	0.14	2.809		0.825	1	31.623			
			C	0.14	2.809		0.825	1	31.623			
T7 75.00-55.00	630.40	5794.03	A	0.148	2.778	9	0.825	1	38.430	1275.56	63.78	C
			B	0.148	2.778		0.825	1	38.430			
			C	0.148	2.778		0.825	1	38.430			
T8 55.00-40.00	472.80	5023.91	A	0.174	2.686	8	0.825	1	38.128	1056.49	70.43	C
			B	0.174	2.686		0.825	1	38.128			
			C	0.174	2.686		0.825	1	38.128			
T9 40.00-20.00	630.40	6793.06	A	0.139	2.812	8	0.825	1	43.869	1192.40	59.62	C
			B	0.139	2.812		0.825	1	43.869			
			C	0.139	2.812		0.825	1	43.869			
T10 20.00-0.00	630.40	8126.54	A	0.137	2.82	7	0.825	1	47.460	1091.22	54.56	C
			B	0.137	2.82		0.825	1	47.460			
			C	0.137	2.82		0.825	1	47.460			
Sum Weight:	5050.60	48831.58						OTM	821868.94 lb-ft	9834.39		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1	28.50	2548.67	A	0.163	2.723	11	0.8	1	10.683	296.16	14.81	C

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	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
195.00-175.00			B	0.163	2.723		0.8	1	10.683			
			C	0.163	2.723		0.8	1	10.683			
T2	280.30	2793.29	A	0.165	2.718	11	0.8	1	16.370	619.52	30.98	C
175.00-155.00			B	0.165	2.718		0.8	1	16.370			
			C	0.165	2.718		0.8	1	16.370			
T3	486.60	3572.06	A	0.144	2.794	11	0.8	1	18.363	864.15	43.21	C
155.00-135.00			B	0.144	2.794		0.8	1	18.363			
			C	0.144	2.794		0.8	1	18.363			
T4	630.40	4036.07	A	0.145	2.791	10	0.8	1	22.989	1087.46	54.37	C
135.00-115.00			B	0.145	2.791		0.8	1	22.989			
			C	0.145	2.791		0.8	1	22.989			
T5	630.40	4789.76	A	0.133	2.835	10	0.8	1	25.090	1107.63	55.38	C
115.00-95.00			B	0.133	2.835		0.8	1	25.090			
			C	0.133	2.835		0.8	1	25.090			
T6	630.40	5354.18	A	0.14	2.809	10	0.8	1	30.923	1187.47	59.37	C
95.00-75.00			B	0.14	2.809		0.8	1	30.923			
			C	0.14	2.809		0.8	1	30.923			
T7	630.40	5794.03	A	0.148	2.778	9	0.8	1	37.538	1256.49	62.82	C
75.00-55.00			B	0.148	2.778		0.8	1	37.538			
			C	0.148	2.778		0.8	1	37.538			
T8	472.80	5023.91	A	0.174	2.686	8	0.8	1	37.179	1038.10	69.21	C
55.00-40.00			B	0.174	2.686		0.8	1	37.179			
			C	0.174	2.686		0.8	1	37.179			
T9	630.40	6793.06	A	0.139	2.812	8	0.8	1	42.812	1172.96	58.65	C
40.00-20.00			B	0.139	2.812		0.8	1	42.812			
			C	0.139	2.812		0.8	1	42.812			
T10	630.40	8126.54	A	0.137	2.82	7	0.8	1	46.308	1072.84	53.64	C
20.00-0.00			B	0.137	2.82		0.8	1	46.308			
			C	0.137	2.82		0.8	1	46.308			
Sum Weight:	5050.60	48831.58						OTM	812379.02 lb-ft	9702.78		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1	28.50	2548.67	A	0.163	2.723	11	0.85	1	10.683	296.16	14.81	C
195.00-175.00			B	0.163	2.723		0.85	1	10.683			
			C	0.163	2.723		0.85	1	10.683			
T2	280.30	2793.29	A	0.165	2.718	11	0.85	1	16.947	634.23	31.71	C
175.00-155.00			B	0.165	2.718		0.85	1	16.947			
			C	0.165	2.718		0.85	1	16.947			
T3	486.60	3572.06	A	0.144	2.794	11	0.85	1	19.037	881.32	44.07	C
155.00-135.00			B	0.144	2.794		0.85	1	19.037			
			C	0.144	2.794		0.85	1	19.037			
T4	630.40	4036.07	A	0.145	2.791	10	0.85	1	23.923	1110.48	55.52	C
135.00-115.00			B	0.145	2.791		0.85	1	23.923			
			C	0.145	2.791		0.85	1	23.923			
T5	630.40	4789.76	A	0.133	2.835	10	0.85	1	26.156	1133.37	56.67	C
115.00-95.00			B	0.133	2.835		0.85	1	26.156			
			C	0.133	2.835		0.85	1	26.156			
T6	630.40	5354.18	A	0.14	2.809	10	0.85	1	32.323	1219.50	60.98	C

tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job 22146.00 - CT5638	Page 25 of 40
	Project 195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT	Date 08:43:42 11/07/22
	Client AT&T	Designed by TJL

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
95.00-75.00			B	0.14	2.809		0.85	1	32.323			
			C	0.14	2.809		0.85	1	32.323			
T7 75.00-55.00	630.40	5794.03	A	0.148	2.778	9	0.85	1	39.321	1294.63	64.73	C
			B	0.148	2.778		0.85	1	39.321			
			C	0.148	2.778		0.85	1	39.321			
T8 55.00-40.00	472.80	5023.91	A	0.174	2.686	8	0.85	1	39.078	1074.87	71.66	C
			B	0.174	2.686		0.85	1	39.078			
			C	0.174	2.686		0.85	1	39.078			
T9 40.00-20.00	630.40	6793.06	A	0.139	2.812	8	0.85	1	44.926	1211.85	60.59	C
			B	0.139	2.812		0.85	1	44.926			
			C	0.139	2.812		0.85	1	44.926			
T10 20.00-0.00	630.40	8126.54	A	0.137	2.82	7	0.85	1	48.612	1109.60	55.48	C
			B	0.137	2.82		0.85	1	48.612			
			C	0.137	2.82		0.85	1	48.612			
Sum Weight:	5050.60	48831.58						OTM	831358.86 lb-ft	9966.01		

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M _x lb-ft	Sum of Overturning Moments, M _z lb-ft	Sum of Torques lb-ft
Leg Weight	29308.81					
Bracing Weight	19522.77					
Total Member Self-Weight	48831.58					
Total Weight	67783.18					
Wind 0 deg - No Ice		0.00	-67034.28	-7354696.32	5042.25	-9720.84
Wind 30 deg - No Ice		31786.75	-55085.08	-6157274.92	-3539051.65	-42414.27
Wind 45 deg - No Ice		44549.31	-44572.85	-5000932.71	-4977938.47	-54950.96
Wind 60 deg - No Ice		54066.83	-31232.14	-3519850.62	-6062167.22	-63742.83
Wind 90 deg - No Ice		63573.49	0.00	-14515.97	-7083145.55	-67991.55
Wind 120 deg - No Ice		58024.56	33517.14	3655574.21	-6347532.15	-54021.99
Wind 135 deg - No Ice		46165.05	46188.59	5088400.52	-5094438.22	-41203.61
Wind 150 deg - No Ice		31786.75	55085.08	6128242.98	-3539051.65	-25577.28
Wind 180 deg - No Ice		0.00	62464.28	6996153.34	5042.25	9720.84
Wind 210 deg - No Ice		-31786.75	55085.08	6128242.98	3549136.15	42414.27
Wind 225 deg - No Ice		-44549.31	44572.85	4971900.78	4988022.97	54950.96
Wind 240 deg - No Ice		-58024.56	33517.14	3655574.21	6357616.64	63742.83
Wind 270 deg - No Ice		-63573.49	0.00	-14515.97	7093230.04	67991.55
Wind 300 deg - No Ice		-54066.83	-31232.14	-3519850.62	6072251.71	54021.99
Wind 315 deg - No Ice		-44549.31	-44572.85	-5000932.72	4988022.97	41203.61
Wind 330 deg - No Ice		-31786.75	-55085.08	-6157274.92	3549136.15	25577.28
Member Ice	25670.49					
Total Weight Ice	123050.59					
Wind 0 deg - Ice		0.00	-16957.77	-1960032.30	11584.81	-3721.48
Wind 30 deg - Ice		8228.47	-14257.06	-1681799.02	-894714.48	-16495.23
Wind 45 deg - Ice		11578.47	-11582.49	-1389453.71	-1265958.15	-21401.41
Wind 60 deg - Ice		14109.20	-8148.79	-1012158.19	-1547987.16	-24849.11
Wind 90 deg - Ice		16456.95	0.00	-111324.00	-1801013.76	-26544.68
Wind 120 deg - Ice		14680.93	8478.88	813030.15	-1588724.93	-21127.63
Wind 135 deg - Ice		11811.88	11815.89	1183436.83	-1282589.28	-16138.44
Wind 150 deg - Ice		8228.47	14257.06	1459151.03	-894714.48	-10049.45
Wind 180 deg - Ice		0.00	16297.59	1690344.38	11584.81	3721.48

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587</p>	<p>Job</p> <p style="text-align: center;">22146.00 - CT5638</p>	<p>Page</p> <p style="text-align: center;">26 of 40</p>
	<p>Project</p> <p style="text-align: center;">195' Lattice Tower - 88 Parsonage Hill Rd., Northford, CT</p>	<p>Date</p> <p style="text-align: center;">08:43:42 11/07/22</p>
	<p>Client</p> <p style="text-align: center;">AT&T</p>	<p>Designed by</p> <p style="text-align: center;">TJL</p>

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Wind 210 deg - Ice		-8228.47	14257.06	1459151.03	917884.10	16495.23
Wind 225 deg - Ice		-11578.47	11582.49	1166805.71	1289127.77	21401.41
Wind 240 deg - Ice		-14680.93	8478.88	813030.15	1611894.55	24849.11
Wind 270 deg - Ice		-16456.95	0.00	-111324.00	1824183.39	26544.68
Wind 300 deg - Ice		-14109.20	-8148.79	-1012158.19	1571156.78	21127.63
Wind 315 deg - Ice		-11578.47	-11582.49	-1389453.71	1289127.77	16138.44
Wind 330 deg - Ice		-8228.47	-14257.06	-1681799.02	917884.10	10049.45
Total Weight	67783.18			-14515.97	5042.25	
Wind 0 deg - Service		0.00	-15564.51	-1693132.75	0.00	-2239.68
Wind 30 deg - Service		7383.57	-12795.37	-1415841.01	-821805.95	-9772.25
Wind 45 deg - Service		10348.88	-10354.31	-1147752.16	-1155498.73	-12660.70
Wind 60 deg - Service		12560.76	-7255.79	-804337.59	-1406972.64	-14686.35
Wind 90 deg - Service		14767.15	0.00	8538.23	-1643611.90	-15665.25
Wind 120 deg - Service		13472.62	7782.26	859373.72	-1472720.72	-12446.67
Wind 135 deg - Service		10721.15	10726.57	1191670.17	-1182340.28	-9493.31
Wind 150 deg - Service		7383.57	12795.37	1432917.47	-821805.95	-5893.00
Wind 180 deg - Service		0.00	14511.58	1634289.87	0.00	2239.68
Wind 210 deg - Service		-7383.57	12795.37	1432917.47	821805.95	9772.25
Wind 225 deg - Service		-10348.88	10354.31	1164828.63	1155498.73	12660.70
Wind 240 deg - Service		-13472.62	7782.26	859373.72	1472720.72	14686.35
Wind 270 deg - Service		-14767.15	0.00	8538.23	1643611.90	15665.25
Wind 300 deg - Service		-12560.76	-7255.79	-804337.59	1406972.64	12446.67
Wind 315 deg - Service		-10348.88	-10354.31	-1147752.16	1155498.74	9493.31
Wind 330 deg - Service		-7383.57	-12795.37	-1415841.01	821805.95	5893.00

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 45 deg - No Ice
7	0.9 Dead+1.0 Wind 45 deg - No Ice
8	1.2 Dead+1.0 Wind 60 deg - No Ice
9	0.9 Dead+1.0 Wind 60 deg - No Ice
10	1.2 Dead+1.0 Wind 90 deg - No Ice
11	0.9 Dead+1.0 Wind 90 deg - No Ice
12	1.2 Dead+1.0 Wind 120 deg - No Ice
13	0.9 Dead+1.0 Wind 120 deg - No Ice
14	1.2 Dead+1.0 Wind 135 deg - No Ice
15	0.9 Dead+1.0 Wind 135 deg - No Ice
16	1.2 Dead+1.0 Wind 150 deg - No Ice
17	0.9 Dead+1.0 Wind 150 deg - No Ice
18	1.2 Dead+1.0 Wind 180 deg - No Ice
19	0.9 Dead+1.0 Wind 180 deg - No Ice
20	1.2 Dead+1.0 Wind 210 deg - No Ice
21	0.9 Dead+1.0 Wind 210 deg - No Ice
22	1.2 Dead+1.0 Wind 225 deg - No Ice
23	0.9 Dead+1.0 Wind 225 deg - No Ice
24	1.2 Dead+1.0 Wind 240 deg - No Ice
25	0.9 Dead+1.0 Wind 240 deg - No Ice
26	1.2 Dead+1.0 Wind 270 deg - No Ice
27	0.9 Dead+1.0 Wind 270 deg - No Ice

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Comb. No.	Description
28	1.2 Dead+1.0 Wind 300 deg - No Ice
29	0.9 Dead+1.0 Wind 300 deg - No Ice
30	1.2 Dead+1.0 Wind 315 deg - No Ice
31	0.9 Dead+1.0 Wind 315 deg - No Ice
32	1.2 Dead+1.0 Wind 330 deg - No Ice
33	0.9 Dead+1.0 Wind 330 deg - No Ice
34	1.2 Dead+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
39	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
40	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
41	1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp
42	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
43	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
44	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
45	1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp
46	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
47	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
48	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
49	1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp
50	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
51	Dead+Wind 0 deg - Service
52	Dead+Wind 30 deg - Service
53	Dead+Wind 45 deg - Service
54	Dead+Wind 60 deg - Service
55	Dead+Wind 90 deg - Service
56	Dead+Wind 120 deg - Service
57	Dead+Wind 135 deg - Service
58	Dead+Wind 150 deg - Service
59	Dead+Wind 180 deg - Service
60	Dead+Wind 210 deg - Service
61	Dead+Wind 225 deg - Service
62	Dead+Wind 240 deg - Service
63	Dead+Wind 270 deg - Service
64	Dead+Wind 300 deg - Service
65	Dead+Wind 315 deg - Service
66	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	195 - 175	Leg	Max Tension	19	13501.14	-217.49	1.04
			Max. Compression	24	-18763.24	656.61	-36.36
			Max. Mx	8	6760.68	1023.57	1.73
			Max. My	32	-2765.54	-2.36	-999.80
			Max. Vy	8	1085.81	-159.25	-104.49
			Max. Vx	12	1869.03	-83.99	-181.99
		Diagonal	Max Tension	10	4417.25	0.00	0.00
			Max. Compression	10	-4482.99	0.00	0.00
			Max. Mx	44	430.05	-11.36	0.70
			Max. My	26	-2922.23	-4.92	-3.84
			Max. Vy	46	-16.12	-11.32	-1.20
			Max. Vx	26	1.26	-4.92	-3.84
		Top Girt	Max Tension	19	226.59	0.00	0.00
			Max. Compression	12	-248.99	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T2	175 - 155	Bottom Girt	Max. Mx	34	-28.03	26.72	0.00
			Max. My	26	-10.17	0.00	0.00
			Max. Vy	34	-21.38	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	3	466.82	0.00	0.00
			Max. Compression	28	-514.80	0.00	0.00
			Max. Mx	34	-58.97	38.48	0.00
			Max. My	2	-266.87	0.00	0.00
			Max. Vy	34	-25.65	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
			Max Tension	19	48242.48	-357.62	-8.51
			Max. Compression	24	-59144.22	157.48	-3.37
			Max. Mx	8	19281.36	1745.58	39.99
			Max. My	32	-5895.81	-50.20	-1721.14
			Max. Vy	18	-1235.85	-700.03	-7.95
T3	155 - 135	Leg	Max. Vx	10	1161.42	-27.08	580.99
			Max Tension	10	7452.04	0.00	0.00
			Max. Compression	10	-7561.38	0.00	0.00
			Max. Mx	44	764.88	28.03	-3.32
			Max. My	26	-6857.12	2.61	17.99
			Max. Vy	44	26.18	28.03	-3.32
			Max. Vx	26	-4.36	0.00	0.00
			Max Tension	19	89983.46	-848.71	-10.50
			Max. Compression	24	-106950.88	-10.71	-55.55
			Max. Mx	18	73659.91	1761.16	-9.37
			Max. My	10	-7596.07	-48.48	-1849.82
			Max. Vy	18	-1235.26	-1070.84	-9.37
			Max. Vx	26	-1195.86	-34.18	-857.23
			Max Tension	10	8651.69	0.00	0.00
			Max. Compression	10	-8696.52	0.00	0.00
T4	135 - 115	Diagonal	Max. Mx	43	1621.70	49.33	-6.62
			Max. My	26	-8225.82	6.82	11.06
			Max. Vy	43	39.67	49.33	-6.62
			Max. Vx	26	-2.52	0.00	0.00
			Max Tension	19	131895.83	-166.12	-5.97
			Max. Compression	24	-153338.29	358.88	-75.16
			Max. Mx	13	-150024.68	360.17	64.05
			Max. My	26	-10687.42	-7.08	-385.41
			Max. Vy	18	117.04	-286.29	-6.57
			Max. Vx	26	174.64	-14.34	-298.93
			Max Tension	10	8128.30	0.00	0.00
			Max. Compression	4	-8208.50	0.00	0.00
			Max. Mx	48	1562.91	71.27	-9.42
			Max. My	46	-27.52	61.53	-10.02
			Max. Vy	48	50.51	71.27	-9.42
T5	115 - 95	Leg	Max. Vx	46	2.80	0.00	0.00
			Max Tension	19	168667.02	-241.86	-7.56
			Max. Compression	24	-195476.82	219.81	-64.84
			Max. Mx	13	-163914.35	360.16	64.05
			Max. My	26	-11009.16	-7.09	-385.41
			Max. Vy	18	-92.81	-348.98	-10.79
			Max. Vx	10	147.93	-7.09	385.20
			Max Tension	4	8664.67	0.00	0.00
			Max. Compression	4	-8790.38	0.00	0.00
			Max. Mx	48	1498.99	111.97	-14.46
			Max. My	47	-1173.25	95.47	-15.28
			Max. Vy	48	70.29	111.97	-14.46
			Max. Vx	47	3.77	0.00	0.00
			Max Tension	19	202635.62	-259.97	-7.60
			T6	95 - 75	Leg	Max. Compression	24
Max. Mx	18	188273.59				-276.43	-7.27

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T7	75 - 55	Diagonal	Max. My	26	-14971.81	-13.92	-350.62
			Max. Vy	18	79.31	-276.43	-7.27
			Max. Vx	26	140.04	-13.92	-350.62
			Max Tension	4	9437.97	0.00	0.00
			Max. Compression	4	-9514.21	0.00	0.00
			Max. Mx	48	1515.53	147.41	-19.28
			Max. My	47	-1285.90	127.72	-20.39
		Leg	Max. Vy	48	83.58	147.41	-19.28
			Max. Vx	47	4.44	0.00	0.00
			Max Tension	29	235303.67	-321.63	-58.44
			Max. Compression	2	-275200.04	76.04	-3.23
			Max. Mx	18	230964.83	-336.71	-8.59
			Max. My	26	-17765.23	-43.03	-444.63
			Max. Vy	18	-115.42	-336.71	-8.59
T8	55 - 40	Diagonal	Max. Vx	10	179.91	-43.04	444.07
			Max Tension	20	10355.88	0.00	0.00
			Max. Compression	20	-10481.07	0.00	0.00
			Max. Mx	48	1475.18	185.91	-24.35
			Max. My	47	-1484.53	164.28	-25.62
			Max. Vy	48	94.54	185.91	-24.35
			Max. Vx	47	4.99	0.00	0.00
		Leg	Max Tension	29	260656.42	-115.61	-3.39
			Max. Compression	2	-306697.26	683.24	20.18
			Max. Mx	43	30662.66	-705.68	-7.49
			Max. My	26	-21042.12	-16.53	-667.72
			Max. Vy	43	234.49	-705.68	-7.49
			Max. Vx	10	-188.38	-16.53	667.67
			Max Tension	20	10872.96	0.00	0.00
T9	40 - 20	Diagonal	Max. Compression	20	-10973.41	0.00	0.00
			Max. Mx	48	1290.64	196.57	-24.99
			Max. My	47	-1070.83	171.23	-27.19
			Max. Vy	48	98.52	187.13	-25.41
			Max. Vx	47	5.09	0.00	0.00
			Max Tension	29	290911.20	-307.73	-38.96
			Max. Compression	2	-344822.70	357.90	10.54
		Leg	Max. Mx	40	-116863.01	2034.94	21.86
			Max. My	26	-21436.62	-16.53	-667.72
			Max. Vy	43	-501.05	-1284.78	-2.42
			Max. Vx	26	171.90	-31.26	-621.53
			Max Tension	20	11995.65	0.00	0.00
			Max. Compression	20	-12180.79	0.00	0.00
			Max. Mx	48	367.16	322.82	-36.82
T10	20 - 0	Diagonal	Max. My	39	-2757.47	296.67	38.54
			Max. Vy	48	124.51	322.82	-36.82
			Max. Vx	39	-6.33	0.00	0.00
			Max Tension	29	321136.70	-312.86	-44.77
			Max. Compression	2	-384195.74	-0.00	-0.02
			Max. Mx	40	-125402.73	3333.03	6.94
			Max. My	26	-26505.37	-56.03	-715.17
		Leg	Max. Vy	43	-962.39	-3045.44	-1.18
			Max. Vx	26	-205.07	-56.04	-715.17
			Max Tension	20	12838.18	0.00	0.00
			Max. Compression	14	-13218.99	0.00	0.00
			Max. Mx	48	-1377.62	461.23	-47.01
			Max. My	47	-4447.75	433.20	-49.27
			Max. Vy	48	145.84	461.23	-47.01
Diagonal	Max. Vx	47	7.38	0.00	0.00		

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Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	24	388829.13	34858.55	-21906.58
	Max. H _x	24	388829.13	34858.55	-21906.58
	Max. H _z	7	-315318.57	-28227.24	19444.06
	Min. Vert	9	-325099.46	-29603.64	18931.60
	Min. H _x	9	-325099.46	-29603.64	18931.60
Leg B	Min. H _z	24	388829.13	34858.55	-21906.58
	Max. Vert	12	388312.29	-34970.53	-21696.42
	Max. H _x	29	-325486.50	29729.46	18725.69
	Max. H _z	31	-315705.93	28401.80	19149.44
	Min. Vert	29	-325486.50	29729.46	18725.69
Leg A	Min. H _x	12	388312.29	-34970.53	-21696.42
	Min. H _z	12	388312.29	-34970.53	-21696.42
	Max. Vert	2	390033.66	-238.03	41172.74
	Max. H _x	27	20980.48	6832.56	1586.69
	Max. H _z	2	390033.66	-238.03	41172.74
	Min. Vert	19	-324508.86	241.26	-35106.46
	Min. H _x	11	20980.79	-6839.55	1586.84
	Min. H _z	19	-324508.86	241.26	-35106.46

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	67783.18	0.00	0.00	-14516.54	5042.25	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	81339.81	-0.00	-67034.28	-7386009.58	6087.54	-9742.45
0.9 Dead+1.0 Wind 0 deg - No Ice	61004.86	-0.00	-67034.28	-7374509.09	4566.14	-9737.12
1.2 Dead+1.0 Wind 30 deg - No Ice	81339.81	31786.75	-55085.09	-6184159.86	-3551813.68	-42435.28
0.9 Dead+1.0 Wind 30 deg - No Ice	61004.86	31786.75	-55085.09	-6173779.05	-3549855.13	-42433.78
1.2 Dead+1.0 Wind 45 deg - No Ice	81339.81	44549.32	-44572.85	-5023359.39	-4996339.66	-54964.95
0.9 Dead+1.0 Wind 45 deg - No Ice	61004.86	44549.32	-44572.85	-5014104.90	-4992963.05	-54961.15
1.2 Dead+1.0 Wind 60 deg - No Ice	81339.81	54066.83	-31232.14	-3536530.04	-6084849.22	-63753.33
0.9 Dead+1.0 Wind 60 deg - No Ice	61004.86	54066.83	-31232.14	-3528726.07	-6080397.77	-63749.31
1.2 Dead+1.0 Wind 90 deg - No Ice	81339.81	63573.50	-0.00	-17504.62	-7109787.15	-68004.39
0.9 Dead+1.0 Wind 90 deg - No Ice	61004.86	63573.50	0.00	-13143.90	-7104350.11	-67974.57
1.2 Dead+1.0 Wind 120 deg - No Ice	81339.81	58024.56	33517.14	3666818.14	-6371138.48	-54026.26
0.9 Dead+1.0 Wind 120 deg - No Ice	61004.86	58024.56	33517.14	3667602.37	-6366471.39	-54026.43
1.2 Dead+1.0 Wind 135 deg - No Ice	81339.81	46165.06	46188.59	5105273.83	-5113266.90	-41202.09
0.9 Dead+1.0 Wind 135 deg - No Ice	61004.86	46165.05	46188.59	5104655.19	-5109804.20	-41215.73
1.2 Dead+1.0 Wind 150 deg -	81339.81	31786.75	55085.09	6149277.80	-3551872.10	-25565.60

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Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
No Ice						
0.9 Dead+1.0 Wind 150 deg - No Ice	61004.86	31786.75	55085.09	6147610.74	-3549917.46	-25567.06
1.2 Dead+1.0 Wind 180 deg - No Ice	81339.81	-0.00	62464.28	7020661.45	6086.96	9739.64
0.9 Dead+1.0 Wind 180 deg - No Ice	61004.86	-0.00	62464.28	7018122.29	4565.57	9734.66
1.2 Dead+1.0 Wind 210 deg - No Ice	81339.81	-31786.75	55085.09	6149267.47	3564038.17	42435.45
0.9 Dead+1.0 Wind 210 deg - No Ice	61004.86	-31786.75	55085.09	6147597.62	3559038.36	42433.93
1.2 Dead+1.0 Wind 225 deg - No Ice	81339.81	-44549.32	44572.85	4988416.90	5008574.12	54976.98
0.9 Dead+1.0 Wind 225 deg - No Ice	61004.86	-44549.31	44572.85	4987882.89	5002157.24	54984.67
1.2 Dead+1.0 Wind 240 deg - No Ice	81339.81	-58024.56	33517.14	3666811.03	6383288.22	63768.51
0.9 Dead+1.0 Wind 240 deg - No Ice	61004.86	-58024.56	33517.14	3667593.35	6375578.22	63763.42
1.2 Dead+1.0 Wind 270 deg - No Ice	81339.81	-63573.50	-0.00	-17496.23	7121928.52	68004.36
0.9 Dead+1.0 Wind 270 deg - No Ice	61004.86	-63573.50	0.00	-13137.61	7113448.55	67974.58
1.2 Dead+1.0 Wind 300 deg - No Ice	81339.81	-54066.83	-31232.14	-3536508.71	6096998.75	54013.61
0.9 Dead+1.0 Wind 300 deg - No Ice	61004.86	-54066.83	-31232.14	-3528706.50	6089504.41	54014.57
1.2 Dead+1.0 Wind 315 deg - No Ice	81339.81	-44549.32	-44572.85	-5023336.36	5008498.46	41189.48
0.9 Dead+1.0 Wind 315 deg - No Ice	61004.86	-44549.32	-44572.85	-5014084.15	5002078.01	41194.13
1.2 Dead+1.0 Wind 330 deg - No Ice	81339.81	-31786.75	-55085.09	-6184141.56	3563979.99	25565.34
0.9 Dead+1.0 Wind 330 deg - No Ice	61004.86	-31786.75	-55085.09	-6173764.62	3558978.88	25566.85
1.2 Dead+1.0 Ice+1.0 Temp	136607.22	0.00	0.00	-114253.87	12604.73	-0.81
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	136607.22	0.00	-16957.76	-1974746.38	12661.01	-3730.42
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	136607.22	8228.47	-14257.05	-1694857.11	-899227.72	-16536.28
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp	136607.22	11578.47	-11582.48	-1400722.82	-1272767.85	-21456.21
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	136607.22	14109.20	-8148.79	-1021112.50	-1556544.36	-24912.54
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	136607.22	16456.94	0.00	-114728.82	-1811121.10	-26609.30
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	136607.22	14680.93	8478.88	815287.03	-1597478.25	-21181.69
1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp	136607.22	11811.87	11815.89	1187984.09	-1289479.06	-16178.37
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	136607.22	8228.47	14257.05	1465415.34	-899226.65	-10076.57
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	136607.22	0.00	16297.58	1698072.93	12671.98	3730.10
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	136607.22	-8228.47	14257.05	1465417.78	924564.61	16536.36
1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp	136607.22	-11578.46	11582.48	1171278.28	1298103.91	21454.57
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	136607.22	-14680.93	8478.88	815292.44	1622809.84	24912.21
1.2 Dead+1.0 Wind 270	136607.22	-16456.94	0.00	-114721.04	1836447.18	26609.31

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Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	136607.22	-14109.20	-8148.79	-1021103.07	1581867.75	21179.55
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 315	136607.22	-11578.47	-11582.48	-1400715.85	1298088.61	16180.73
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	136607.22	-8228.47	-14257.05	-1694851.11	924548.86	10076.23
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	67783.18	0.00	-15564.51	-1721678.43	5057.09	-2243.48
Dead+Wind 30 deg - Service	67783.18	7383.57	-12795.37	-1443528.74	-819420.65	-9773.30
Dead+Wind 45 deg - Service	67783.18	10348.88	-10354.31	-1174573.97	-1154204.76	-12662.05
Dead+Wind 60 deg - Service	67783.18	12560.76	-7255.79	-830046.12	-1406504.58	-14687.93
Dead+Wind 90 deg - Service	67783.18	14767.15	-0.00	-14527.87	-1643903.02	-15666.89
Dead+Wind 120 deg - Service	67783.18	13472.62	7782.26	839059.03	-1472420.82	-12446.57
Dead+Wind 135 deg - Service	67783.18	10721.15	10726.57	1172441.60	-1181114.88	-9489.90
Dead+Wind 150 deg - Service	67783.18	7383.57	12795.37	1414490.48	-819423.18	-5890.25
Dead+Wind 180 deg - Service	67783.18	-0.00	14511.58	1616531.68	5057.02	2243.67
Dead+Wind 210 deg - Service	67783.18	-7383.57	12795.37	1414489.66	829538.15	9773.29
Dead+Wind 225 deg - Service	67783.18	-10348.88	10354.31	1145533.52	1164319.10	12662.71
Dead+Wind 240 deg - Service	67783.18	-13472.62	7782.26	839059.80	1482533.69	14690.33
Dead+Wind 270 deg - Service	67783.18	-14767.15	-0.00	-14526.28	1654015.44	15666.88
Dead+Wind 300 deg - Service	67783.18	-12560.76	-7255.79	-830044.19	1416617.04	12445.65
Dead+Wind 315 deg - Service	67783.18	-10348.88	-10354.31	-1174572.42	1164317.67	9489.62
Dead+Wind 330 deg - Service	67783.18	-7383.57	-12795.37	-1443526.79	829534.45	5889.44

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-67783.18	0.00	-0.00	67783.18	-0.00	0.000%
2	-0.00	-81339.81	-67034.28	0.00	81339.81	67034.28	0.000%
3	-0.00	-61004.86	-67034.28	0.00	61004.86	67034.28	0.000%
4	31786.75	-81339.81	-55085.08	-31786.75	81339.81	55085.09	0.000%
5	31786.75	-61004.86	-55085.08	-31786.75	61004.86	55085.09	0.000%
6	44549.31	-81339.81	-44572.85	-44549.32	81339.81	44572.85	0.000%
7	44549.31	-61004.86	-44572.85	-44549.32	61004.86	44572.85	0.000%
8	54066.83	-81339.81	-31232.14	-54066.83	81339.81	31232.14	0.000%
9	54066.83	-61004.86	-31232.14	-54066.83	61004.86	31232.14	0.000%
10	63573.49	-81339.81	0.00	-63573.50	81339.81	0.00	0.000%
11	63573.49	-61004.86	0.00	-63573.50	61004.86	-0.00	0.000%
12	58024.56	-81339.81	33517.14	-58024.56	81339.81	-33517.14	0.000%
13	58024.56	-61004.86	33517.14	-58024.56	61004.86	-33517.14	0.000%
14	46165.05	-81339.81	46188.59	-46165.06	81339.81	-46188.59	0.000%
15	46165.05	-61004.86	46188.59	-46165.05	61004.86	-46188.59	0.000%
16	31786.75	-81339.81	55085.08	-31786.75	81339.81	-55085.09	0.000%
17	31786.75	-61004.86	55085.08	-31786.75	61004.86	-55085.09	0.000%
18	0.00	-81339.81	62464.28	0.00	81339.81	-62464.28	0.000%
19	0.00	-61004.86	62464.28	0.00	61004.86	-62464.28	0.000%
20	-31786.75	-81339.81	55085.08	31786.75	81339.81	-55085.09	0.000%
21	-31786.75	-61004.86	55085.08	31786.75	61004.86	-55085.09	0.000%
22	-44549.31	-81339.81	44572.85	44549.32	81339.81	-44572.85	0.000%
23	-44549.31	-61004.86	44572.85	44549.31	61004.86	-44572.85	0.000%
24	-58024.56	-81339.81	33517.14	58024.56	81339.81	-33517.14	0.000%
25	-58024.56	-61004.86	33517.14	58024.56	61004.86	-33517.14	0.000%
26	-63573.49	-81339.81	0.00	63573.50	81339.81	0.00	0.000%
27	-63573.49	-61004.86	0.00	63573.50	61004.86	-0.00	0.000%
28	-54066.83	-81339.81	-31232.14	54066.83	81339.81	31232.14	0.000%
29	-54066.83	-61004.86	-31232.14	54066.83	61004.86	31232.14	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
30	-44549.31	-81339.81	-44572.85	44549.32	81339.81	44572.85	0.000%
31	-44549.31	-61004.86	-44572.85	44549.32	61004.86	44572.85	0.000%
32	-31786.75	-81339.81	-55085.08	31786.75	81339.81	55085.09	0.000%
33	-31786.75	-61004.86	-55085.08	31786.75	61004.86	55085.09	0.000%
34	0.00	-136607.22	0.00	-0.00	136607.22	-0.00	0.000%
35	-0.00	-136607.22	-16957.77	-0.00	136607.22	16957.76	0.000%
36	8228.47	-136607.22	-14257.06	-8228.47	136607.22	14257.05	0.000%
37	11578.47	-136607.22	-11582.49	-11578.47	136607.22	11582.48	0.000%
38	14109.20	-136607.22	-8148.79	-14109.20	136607.22	8148.79	0.000%
39	16456.95	-136607.22	0.00	-16456.94	136607.22	-0.00	0.000%
40	14680.93	-136607.22	8478.88	-14680.93	136607.22	-8478.88	0.000%
41	11811.88	-136607.22	11815.89	-11811.87	136607.22	-11815.89	0.000%
42	8228.47	-136607.22	14257.06	-8228.47	136607.22	-14257.05	0.000%
43	0.00	-136607.22	16297.59	-0.00	136607.22	-16297.58	0.000%
44	-8228.47	-136607.22	14257.06	8228.47	136607.22	-14257.05	0.000%
45	-11578.47	-136607.22	11582.49	11578.46	136607.22	-11582.48	0.000%
46	-14680.93	-136607.22	8478.88	14680.93	136607.22	-8478.88	0.000%
47	-16456.95	-136607.22	0.00	16456.94	136607.22	-0.00	0.000%
48	-14109.20	-136607.22	-8148.79	14109.20	136607.22	8148.79	0.000%
49	-11578.47	-136607.22	-11582.49	11578.47	136607.22	11582.48	0.000%
50	-8228.47	-136607.22	-14257.06	8228.47	136607.22	14257.05	0.000%
51	0.00	-67783.18	-15564.51	-0.00	67783.18	15564.51	0.000%
52	7383.57	-67783.18	-12795.37	-7383.57	67783.18	12795.37	0.000%
53	10348.88	-67783.18	-10354.31	-10348.88	67783.18	10354.31	0.000%
54	12560.76	-67783.18	-7255.79	-12560.76	67783.18	7255.79	0.000%
55	14767.15	-67783.18	0.00	-14767.15	67783.18	0.00	0.000%
56	13472.62	-67783.18	7782.26	-13472.62	67783.18	-7782.26	0.000%
57	10721.15	-67783.18	10726.57	-10721.15	67783.18	-10726.57	0.000%
58	7383.57	-67783.18	12795.37	-7383.57	67783.18	-12795.37	0.000%
59	-0.00	-67783.18	14511.58	0.00	67783.18	-14511.58	0.000%
60	-7383.57	-67783.18	12795.37	7383.57	67783.18	-12795.37	0.000%
61	-10348.88	-67783.18	10354.31	10348.88	67783.18	-10354.31	0.000%
62	-13472.62	-67783.18	7782.26	13472.62	67783.18	-7782.26	0.000%
63	-14767.15	-67783.18	0.00	14767.15	67783.18	0.00	0.000%
64	-12560.76	-67783.18	-7255.79	12560.76	67783.18	7255.79	0.000%
65	-10348.88	-67783.18	-10354.31	10348.88	67783.18	10354.31	0.000%
66	-7383.57	-67783.18	-12795.37	7383.57	67783.18	12795.37	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	0.00000001
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000001
5	Yes	4	0.00000001	0.00000001
6	Yes	4	0.00000001	0.00000001
7	Yes	4	0.00000001	0.00000001
8	Yes	4	0.00000001	0.00000001
9	Yes	4	0.00000001	0.00000001
10	Yes	4	0.00000001	0.00000001
11	Yes	4	0.00000001	0.00000113
12	Yes	4	0.00000001	0.00000001
13	Yes	4	0.00000001	0.00000001
14	Yes	4	0.00000001	0.00000001

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15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00000001
17	Yes	4	0.00000001	0.00000001
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000001
21	Yes	4	0.00000001	0.00000001
22	Yes	4	0.00000001	0.00000001
23	Yes	4	0.00000001	0.00000001
24	Yes	4	0.00000001	0.00000001
25	Yes	4	0.00000001	0.00000001
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00000113
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000001
30	Yes	4	0.00000001	0.00000001
31	Yes	4	0.00000001	0.00000001
32	Yes	4	0.00000001	0.00000001
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000001
35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001
51	Yes	4	0.00000001	0.00000001
52	Yes	4	0.00000001	0.00000001
53	Yes	4	0.00000001	0.00000001
54	Yes	4	0.00000001	0.00000001
55	Yes	4	0.00000001	0.00000001
56	Yes	4	0.00000001	0.00000001
57	Yes	4	0.00000001	0.00000001
58	Yes	4	0.00000001	0.00000001
59	Yes	4	0.00000001	0.00000001
60	Yes	4	0.00000001	0.00000001
61	Yes	4	0.00000001	0.00000001
62	Yes	4	0.00000001	0.00000001
63	Yes	4	0.00000001	0.00000001
64	Yes	4	0.00000001	0.00000001
65	Yes	4	0.00000001	0.00000001
66	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	195 - 175	2.650	62	0.1056	0.0129
T2	175 - 155	2.207	62	0.1021	0.0045

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T3	155 - 135	1.768	51	0.0955	0.0128
T4	135 - 115	1.372	51	0.0849	0.0156
T5	115 - 95	1.018	51	0.0728	0.0159
T6	95 - 75	0.722	51	0.0591	0.0148
T7	75 - 55	0.480	51	0.0461	0.0127
T8	55 - 40	0.284	51	0.0339	0.0096
T9	40 - 20	0.162	51	0.0248	0.0063
T10	20 - 0	0.054	51	0.0119	0.0030

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
192.00	Top Triangular Mount	62	2.584	0.1051	0.0106	568214
180.00	SitePro VFA12-HD	62	2.319	0.1031	0.0052	189405
173.00	Pirod 12' T-Frame Sector Mount (1)	62	2.163	0.1016	0.0045	202203
162.00	MX08FRO665-21	62	1.918	0.0983	0.0087	133055
160.00	Pirod 12' T-Frame Sector Mount (1)	62	1.874	0.0975	0.0100	113718
146.00	Pirod 12' T-Frame Sector Mount (1)	51	1.584	0.0910	0.0153	101132

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	195 - 175	11.411	24	0.4481	0.0561
T2	175 - 155	9.523	24	0.4374	0.0195
T3	155 - 135	7.631	2	0.4109	0.0554
T4	135 - 115	5.915	2	0.3661	0.0679
T5	115 - 95	4.383	2	0.3146	0.0693
T6	95 - 75	3.108	2	0.2549	0.0642
T7	75 - 55	2.064	2	0.1982	0.0551
T8	55 - 40	1.223	2	0.1459	0.0417
T9	40 - 20	0.696	2	0.1063	0.0273
T10	20 - 0	0.232	2	0.0509	0.0131

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
192.00	Top Triangular Mount	24	11.129	0.4469	0.0463	192426
180.00	SitePro VFA12-HD	24	9.999	0.4410	0.0224	64142
173.00	Pirod 12' T-Frame Sector Mount (1)	24	9.331	0.4356	0.0200	78246
162.00	MX08FRO665-21	2	8.281	0.4225	0.0380	34630
160.00	Pirod 12' T-Frame Sector Mount (1)	2	8.093	0.4195	0.0435	28295
146.00	Pirod 12' T-Frame Sector Mount (1)	2	6.835	0.3923	0.0666	23837

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Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load Allowable	Allowable Ratio	Criteria
T1	195	Leg	A325N	1.1250	4	3375.29	68694.60	0.049 ✓	1	Bolt Tension
T2	175	Leg	A325N	1.1250	6	8040.41	68694.60	0.117 ✓	1	Bolt Tension
		Diagonal	A325N	0.8750	1	7452.04	11092.50	0.672 ✓	1	Member Bearing
T3	155	Leg	A325N	1.1250	6	14997.20	68694.60	0.218 ✓	1	Bolt Tension
		Diagonal	A325N	0.8750	1	8651.69	18487.50	0.468 ✓	1	Member Bearing
T4	135	Leg	A325N	1.1250	6	21982.60	68694.60	0.320 ✓	1	Bolt Tension
		Diagonal	A325N	0.8750	1	8128.30	14790.00	0.550 ✓	1	Member Bearing
T5	115	Leg	A325N	1.1250	8	21083.40	68694.60	0.307 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	8664.67	25447.50	0.340 ✓	1	Member Bearing
T6	95	Leg	A325N	1.1250	8	25329.50	68694.60	0.369 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	9437.97	21206.30	0.445 ✓	1	Member Bearing
T7	75	Leg	A325N	1.2500	8	29413.00	87219.80	0.337 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	10355.90	16965.00	0.610 ✓	1	Member Bearing
T8	55	Leg	A325N	1.2500	8	32582.10	87219.80	0.374 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	10873.00	16965.00	0.641 ✓	1	Member Bearing
T9	40	Leg	A325N	1.2500	8	36363.90	87219.80	0.417 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	11995.60	21206.30	0.566 ✓	1	Member Bearing
T10	20	Leg	A449	1.3750	8	40142.10	103939.00	0.386 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	12838.20	25447.50	0.504 ✓	1	Member Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	195 - 175	3	20.01	3.33	53.4 K=1.00	7.0686	-18763.20	258313.00	0.073 ¹ ✓
T2	175 - 155	3 3/4	20.03	6.68	85.5 K=1.00	11.0447	-59144.20	291317.00	0.203 ¹ ✓
T3	155 - 135	4	20.03	6.68	80.1 K=1.00	12.5664	-106951.00	353604.00	0.302 ¹ ✓
T4	135 - 115	4 1/4	20.03	6.68	75.4 K=1.00	14.1863	-153338.00	421170.00	0.364 ¹ ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T5	115 - 95	4 1/4	20.03	6.68	75.4 K=1.00	14.1863	-195477.00	421170.00	0.464 ¹
T6	95 - 75	4 1/2	20.03	6.68	71.2 K=1.00	15.9043	-235605.00	493875.00	0.477 ¹
T7	75 - 55	4 3/4	20.03	6.68	67.5 K=1.00	17.7205	-275200.00	571599.00	0.481 ¹
T8	55 - 40	4 3/4	15.03	5.01	50.6 K=1.00	17.7205	-306697.00	661231.00	0.464 ¹
T9	40 - 20	4 3/4	20.03	6.68	67.5 K=1.00	17.7205	-344823.00	571599.00	0.603 ¹
T10	20 - 0	5	20.03	6.68	64.1 K=1.00	19.6350	-384196.00	654248.00	0.587 ¹

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	195 - 175	1 1/4	6.79	3.30	114.0 K=0.90	1.2272	-4482.99	20048.60	0.224 ¹
T2	175 - 155	L2 1/2x2 1/2x3/16	10.16	4.94	119.9 K=1.00	0.9020	-7561.38	17796.90	0.425 ¹
T3	155 - 135	L2 1/2x2 1/2x5/16	11.74	5.72	140.4 K=1.00	1.4600	-8696.52	21200.60	0.410 ¹
T4	135 - 115	L3x3x1/4	13.44	6.56	132.9 K=1.00	1.4400	-8208.50	23336.40	0.352 ¹
T5	115 - 95	L3x3x3/8	15.21	7.43	151.8 K=1.00	2.1100	-8790.38	26209.50	0.335 ¹
T6	95 - 75	L3 1/2x3 1/2x5/16	17.03	8.32	144.8 K=1.00	2.0900	-9514.21	28541.90	0.333 ¹
T7	75 - 55	L4x4x1/4	18.88	9.24	139.5 K=1.00	1.9400	-10481.10	28533.90	0.367 ¹
T8	55 - 40	L4x4x1/4	19.89	9.70	146.5 K=1.00	1.9400	-10973.40	25887.60	0.424 ¹
T9	40 - 20	L4x4x5/16	22.19	10.90	165.3 K=1.00	2.4000	-12180.80	25136.10	0.485 ¹
T10	20 - 0	L4x4x3/8	24.11	11.84	180.4 K=1.00	2.8600	-13219.00	25163.60	0.525 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	195 - 175	1 1/4	5.00	4.75	127.7 K=0.70	1.2272	-248.99	16855.20	0.015 ¹

¹ P_u / φP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	195 - 175	1 1/4	6.00	5.75	154.6 K=0.70	1.2272	-1025.69	11605.30	0.088 ¹

¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	195 - 175	3	20.01	3.33	53.4	7.0686	13501.10	318086.00	0.042 ¹
T2	175 - 155	3 3/4	20.03	6.68	85.5	11.0447	48242.50	497010.00	0.097 ¹
T3	155 - 135	4	20.03	6.68	80.1	12.5664	89983.50	565487.00	0.159 ¹
T4	135 - 115	4 1/4	20.03	6.68	75.4	14.1863	131896.00	638381.00	0.207 ¹
T5	115 - 95	4 1/4	20.03	6.68	75.4	14.1863	168667.00	638381.00	0.264 ¹
T6	95 - 75	4 1/2	20.03	6.68	71.2	15.9043	202636.00	715694.00	0.283 ¹
T7	75 - 55	4 3/4	20.03	6.68	67.5	17.7205	235304.00	797425.00	0.295 ¹
T8	55 - 40	4 3/4	15.03	5.01	50.6	17.7205	260656.00	797425.00	0.327 ¹
T9	40 - 20	4 3/4	20.03	6.68	67.5	17.7205	290911.00	797425.00	0.365 ¹
T10	20 - 0	5	20.03	6.68	64.1	19.6350	321137.00	883573.00	0.363 ¹

¹ P_u / φP_n controls

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Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	195 - 175	1 1/4	6.79	3.30	126.7	1.2272	4417.25	39760.80	0.111 ¹
T2	175 - 155	L2 1/2x2 1/2x3/16	10.16	4.94	78.6	0.9020	7452.04	29224.80	0.255 ¹
T3	155 - 135	L2 1/2x2 1/2x5/16	11.74	5.72	92.6	1.4600	8651.69	47304.00	0.183 ¹
T4	135 - 115	L3x3x1/4	12.30	5.99	79.3	1.4400	8128.30	46656.00	0.174 ¹
T5	115 - 95	L3x3x3/8	15.21	7.43	99.8	2.1100	8664.67	68364.00	0.127 ¹
T6	95 - 75	L3 1/2x3 1/2x5/16	17.03	8.32	94.3	2.0900	9437.97	67716.00	0.139 ¹
T7	75 - 55	L4x4x1/4	18.88	9.24	90.3	1.9400	10355.90	62856.00	0.165 ¹
T8	55 - 40	L4x4x1/4	19.89	9.70	94.7	1.9400	10873.00	62856.00	0.173 ¹
T9	40 - 20	L4x4x5/16	22.19	10.90	107.1	2.4000	11995.60	77760.00	0.154 ¹
T10	20 - 0	L4x4x3/8	24.11	11.84	117.2	2.8600	12838.20	92664.00	0.139 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	195 - 175	1 1/4	5.00	4.75	182.4	1.2272	226.59	39760.80	0.006 ¹

¹ P_u / φP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	195 - 175	1 1/4	6.00	5.75	220.8	1.2272	1025.69	39760.80	0.026 ¹

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¹ $P_u / \phi P_n$ controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	195 - 175	Leg	3	1	-18763.20	258313.00	7.3	Pass
T2	175 - 155	Leg	3 3/4	46	-59144.20	291317.00	20.3	Pass
T3	155 - 135	Leg	4	67	-106951.00	353604.00	30.2	Pass
T4	135 - 115	Leg	4 1/4	88	-153338.00	421170.00	36.4	Pass
T5	115 - 95	Leg	4 1/4	109	-195477.00	421170.00	46.4	Pass
T6	95 - 75	Leg	4 1/2	130	-235605.00	493875.00	47.7	Pass
T7	75 - 55	Leg	4 3/4	153	-275200.00	571599.00	48.1	Pass
T8	55 - 40	Leg	4 3/4	174	-306697.00	661231.00	46.4	Pass
T9	40 - 20	Leg	4 3/4	195	-344823.00	571599.00	60.3	Pass
T10	20 - 0	Leg	5	216	-384196.00	654248.00	58.7	Pass
T1	195 - 175	Diagonal	1 1/4	11	-4482.99	20048.60	22.4	Pass
T2	175 - 155	Diagonal	L2 1/2x2 1/2x3/16	50	-7561.38	17796.90	42.5	Pass
							67.2 (b)	
T3	155 - 135	Diagonal	L2 1/2x2 1/2x5/16	71	-8696.52	21200.60	41.0	Pass
							46.8 (b)	
T4	135 - 115	Diagonal	L3x3x1/4	95	-8208.50	23336.40	35.2	Pass
							55.0 (b)	
T5	115 - 95	Diagonal	L3x3x3/8	116	-8790.38	26209.50	33.5	Pass
							34.0 (b)	
T6	95 - 75	Diagonal	L3 1/2x3 1/2x5/16	137	-9514.21	28541.90	33.3	Pass
							44.5 (b)	
T7	75 - 55	Diagonal	L4x4x1/4	159	-10481.10	28533.90	36.7	Pass
							61.0 (b)	
T8	55 - 40	Diagonal	L4x4x1/4	180	-10973.40	25887.60	42.4	Pass
							64.1 (b)	
T9	40 - 20	Diagonal	L4x4x5/16	201	-12180.80	25136.10	48.5	Pass
							56.6 (b)	
T10	20 - 0	Diagonal	L4x4x3/8	219	-13219.00	25163.60	52.5	Pass
T1	195 - 175	Top Girt	1 1/4	6	-248.99	16855.20	1.5	Pass
T1	195 - 175	Bottom Girt	1 1/4	9	-1025.69	11605.30	8.8	Pass
							Summary	
							Leg (T9)	60.3
							Diagonal (T2)	67.2
							Top Girt (T1)	1.5
							Bottom Girt (T1)	8.8
							Bolt Checks	67.2
							RATING =	67.2
								Pass

Pier and Mat Foundation Analysis:

Input Data:

Tower Data

Overturing Moment =	OM := 7386-ft-kips	(User Input from tnxTower)
Shear Force =	$S_t := 67$ -kip	(User Input from tnxTower)
Axial Force =	$WT_t := 81$ -kip	(User Input from tnxTower)
Max Compression Force =	$C_t := 390$ -kip	(User Input from tnxTower)
Max Uplift Force =	$U_t := 325$ -kip	(User Input from tnxTower)
Tower Height =	$H_t := 195$ -ft	(User Input)
Tower Width =	$W_t := 23.5$ -ft	(User Input)
Tower Position on Foundation (1=offset, 2=centered) =	$Pos_t := 2$	(User Input)

Footing Data:

Overall Depth of Footing =	$D_f := 6.0$ -ft	(User Input)
Length of Pier =	$L_p := 4.0$ -ft	(User Input)
Extension of Pier Above Grade =	$L_{pag} := 0.5$ -ft	(User Input)
Diameter of Pier =	$d_p := 3.0$ -ft	(User Input)
Thickness of Footing =	$T_f := 2.5$ -ft	(User Input)
Width of Footing =	$W_f := 34.0$ -ft	(User Input)

Material Properties:

Concrete Compressive Strength =	$f_c := 3000$ -psi	(User Input)
Steel Reinforcement Yield Strength =	$f_y := 60000$ -psi	(User Input)
Internal Friction Angle of Soil =	$\Phi_s := 30$ -deg	(User Input)
Allowable Soil Bearing Capacity =	$q_s := 4000$ -psf	(User Input)
Unit Weight of Soil =	$\gamma_{soil} := 110$ -pcf	(User Input)
Unit Weight of Concrete =	$\gamma_{conc} := 150$ -pcf	(User Input)
Foundation Bouyancy =	Bouyancy := 0	(User Input) (Yes=1 / No=0)
Depth to Neglect =	n := 0-ft	(User Input)
Cohesion of Clay Type Soil =	c := 0-ksf	(User Input) (Use 0 for Sandy Soil)
Seismic Zone Factor =	Z := 2	(User Input) (UBC-1997 Fig 23-2)
Coefficient of Friction Between Concrete =	$\mu := 0.45$	(User Input)

Pier Reinforcement:

Bar Size =	$BS_{\text{pier}} := 8$	(User Input)	
Bar Diameter =	$d_{\text{bpier}} := 1.0\text{-in}$	(User Input)	
Number of Bars =	$NB_{\text{pier}} := 20$	(User Input)	
Clear Cover of Reinforcement =	$Cvr_{\text{pier}} := 3\text{-in}$	(User Input)	
Reinforcement Location Factor =	$\alpha_{\text{pier}} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Coating Factor =	$\beta_{\text{pier}} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Concrete Strength Factor =	$\lambda_{\text{pier}} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Reinforcement Size Factor =	$\gamma_{\text{pier}} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Diameter of Tie =	$d_{\text{Tie}} := 4\text{-in}$	(User Input)	

Pad Reinforcement:

Bar Size =	$BS_{\text{top}} := 8$	(User Input)	(Top of Pad)
Bar Diameter =	$d_{\text{btop}} := 1.0\text{-in}$	(User Input)	(Top of Pad)
Number of Bars =	$NB_{\text{top}} := 34$	(User Input)	(Top of Pad)
Bar Size =	$BS_{\text{bot}} := 8$	(User Input)	(Bottom of Pad)
Bar Diameter =	$d_{\text{bbot}} := 1.000\text{-in}$	(User Input)	(Bottom of Pad)
Number of Bars =	$NB_{\text{bot}} := 34$	(User Input)	(Bottom of Pad)
Clear Cover of Reinforcement =	$Cvr_{\text{pad}} := 3.0\text{-in}$	(User Input)	
Reinforcement Location Factor =	$\alpha_{\text{pad}} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Coating Factor =	$\beta_{\text{pad}} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Concrete Strength Factor =	$\lambda_{\text{pad}} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Reinforcement Size Factor =	$\gamma_{\text{pad}} := 1.0$	(User Input)	(ACI-2008 12.2.4)

Calculated Factors:

Pier Reinforcement Bar Area =	$A_{\text{bpier}} := \frac{\pi \cdot d_{\text{bpier}}^2}{4} = 0.785 \cdot \text{in}^2$
Pad Top Reinforcement Bar Area =	$A_{\text{btop}} := \frac{\pi \cdot d_{\text{btop}}^2}{4} = 0.785 \cdot \text{in}^2$
Pad Bottom Reinforcement Bar Area =	$A_{\text{bbot}} := \frac{\pi \cdot d_{\text{bbot}}^2}{4} = 0.785 \cdot \text{in}^2$
Coefficient of Lateral Soil Pressure =	$K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 3$
Load Factor =	$LF := 1$

Stability of Footing:

Adjusted Concrete Unit Weight = $\gamma_c := \text{if}(\text{Bouyancy} = 1, \gamma_{\text{conc}} - 62.4\text{pcf}, \gamma_{\text{conc}}) = 150\text{-pcf}$

Adjusted Soil Unit Weight = $\gamma_s := \text{if}(\text{Bouyancy} = 1, \gamma_{\text{soil}} - 62.4\text{pcf}, \gamma_{\text{soil}}) = 110\text{-pcf}$

Passive Pressure = $P_{pn} := K_p \cdot \gamma_s \cdot n + c \cdot 2 \cdot \sqrt{K_p} = 0\text{-ksf}$

$P_{pt} := K_p \cdot \gamma_s \cdot (D_f - T_f) + c \cdot 2 \cdot \sqrt{K_p} = 1.155\text{-ksf}$

$P_{top} := \text{if}[n < (D_f - T_f), P_{pt}, P_{pn}] = 1.155\text{-ksf}$

$P_{bot} := K_p \cdot \gamma_s \cdot D_f + c \cdot 2 \cdot \sqrt{K_p} = 1.98\text{-ksf}$

$P_{ave} := \frac{P_{top} + P_{bot}}{2} = 1.568\text{-ksf}$

$T_p := \text{if}[n < (D_f - T_f), T_f, (D_f - n)] = 2.5\text{-ft}$

$A_p := W_f \cdot T_p = 85\text{-ft}^2$

Ultimate Shear = $S_u := P_{ave} \cdot A_p = 133.238\text{-kip}$

Weight of Concrete = $WT_c := \left[(W_f^2 \cdot T_f) + (3) \cdot \left(\frac{d_p^2 \cdot \pi}{4} \cdot L_p \right) \right] \cdot \gamma_c = 446.223\text{-kip}$

Weight of Soil Above Footing = $WT_{s1} := \left[W_f^2 - (3) \cdot \left(\frac{d_p^2 \cdot \pi}{4} \right) \right] \cdot (L_p - L_{pag} - n) \cdot \gamma_s = 436.9\text{-kip}$

Tower Offset = $X_{t1} := \left[\frac{W_f}{2} - \frac{(W_t \cdot \cos(30\text{-deg}))}{2} \right]$ $X_{t2} := \frac{W_f}{2} - \frac{(W_t \cdot \cos(30\text{-deg}))}{3}$

$X_t := \text{if}(\text{Pos}_t = 1, X_{t1}, X_{t2}) = 10.216$

$X_{off1} := \frac{W_f}{2} - \left[\frac{(W_t \cdot \cos(30\text{-deg}))}{3} + X_t \right] = 0$ $X_{off2} := 0$

$X_{off} := \text{if}(\text{Pos}_t = 1, X_{off1}, X_{off2})$ $X_{off} = 0\text{-ft}$

Total Weight = $WT_{tot} := 0.9WT_c + 0.75WT_{s1} = 729.3\text{-kip}$

Resisting Moment = $M_r := (WT_{tot}) \cdot \frac{W_f}{2} + 0.9WT_t \cdot \left(\frac{W_f}{2} - X_{off} \right) + 0.75 \left(S_u \cdot \frac{T_p}{3} \right) = 13720\text{-kip-ft}$

Overturning Moment = $M_{ot} := OM + S_t \cdot (L_p + T_f) = 7821.5\text{-kip-ft}$

Factor of Safety Actual = $FS := \frac{M_r}{M_{ot}} = 1.75$

Factor of Safety Required = $FS_{req} := 1$ $\text{OverTurning_Moment_Check} := \text{if}(FS \geq FS_{req}, \text{"Okay"}, \text{"No Good"})$

$\text{OverTurning_Moment_Check} = \text{"Okay"}$

Shear Capacity in Pier:

Shear Resistance of Pier =
$$S_p := \frac{P_{ave} \cdot A_p + \mu \cdot W_{T_{tot}}}{FS_{req}} = 461.41 \text{ kips}$$

Shear_Check := if($S_p > S_t$, "Okay", "No Good")

Shear_Check = "Okay"

Bearing Pressure Caused by Footing:

Total Load =
$$Load_{tot} := W_{T_c} + W_{T_{s1}} + W_{T_t} = 964 \text{ kip}$$

Area of the Mat =
$$A_{mat} := W_f^2 = 1.156 \times 10^3$$

Section Modulus of Mat =
$$S := \frac{W_f^3}{6} = 6550.67 \cdot ft^3$$

Maximum Pressure in Mat =
$$P_{max} := \frac{Load_{tot}}{A_{mat}} + \frac{M_{ot}}{S} = 2.028 \text{ ksf}$$

Max_Pressure_Check := if($P_{max} < 0.75q_s$, "Okay", "No Good")

Max_Pressure_Check = "Okay"

Minimum Pressure in Mat =
$$P_{min} := \frac{Load_{tot}}{A_{mat}} - \frac{M_{ot}}{S} = -0.36 \text{ ksf}$$

Min_Pressure_Check := if($(P_{min} \geq 0) \cdot (P_{min} < 0.75q_s)$, "Okay", "No Good")

Min_Pressure_Check = "No Good"

Distance to Resultant of Pressure Distribution =
$$X_p := \frac{P_{max}}{P_{max} - P_{min}} \cdot \frac{1}{3} = 9.625$$

Distance to Kern =
$$X_k := \frac{W_f}{6} = 5.667$$
 Since Resultant Force is Not in Kern, Area to which Pressure is Applied Must be Reduced.

Eccentricity =
$$e := \frac{M_{ot}}{Load_{tot}} = 8.113$$

Adjusted Soil Pressure =
$$P_a := \frac{2 \cdot Load_{tot}}{3 \cdot W_f \left(\frac{W_f}{2} - e \right)} = 2.127 \text{ ksf}$$

$q_{adj} := \text{if}(P_{min} < 0, P_a, P_{max}) = 2.127 \text{ ksf}$

Pressure_Check := if($q_{adj} < 0.75q_s$, "Okay", "No Good")

Pressure_Check = "Okay"

Concrete Bearing Capacity:

Strength Reduction Factor =

$$\Phi_c := 0.65 \quad (\text{ACI-2008 9.3.2.2})$$

Bearing Strength Between Pier and Pad =

$$P_b := \Phi_c \cdot 0.85 \cdot f_c \cdot \frac{\pi \cdot d_p^2}{4} = 1.687 \times 10^3 \text{ kips} \quad (\text{ACI-2008 10.14})$$

$$\text{Bearing_Check} := \text{if}(P_b > LF \cdot C_t, \text{"Okay"}, \text{"No Good"})$$

Bearing_Check = "Okay"

Shear Strength of Concrete:

Beam Shear:

(Critical section located at a distance d from the face of Pier) (ACI 11.3.1.1)

$$\Phi_c := 0.85 \quad (\text{ACI 9.3.2.5})$$

$$d := T_f - C_{v\text{rpad}} - d_{\text{bbot}} = 26 \text{ in}$$

$$FL := LF \cdot \frac{C_t}{W_f^2} = 0.337 \text{ ksf}$$

$$V_{\text{req}} := FL \cdot (X_t - .5 \cdot d_p - d) \cdot W_f = 75.126 \text{ kips}$$

$$V_{\text{Avail}} := \Phi_c \cdot 2 \cdot \sqrt{f_c \cdot \text{psi}} \cdot W_f \cdot d = 988 \text{ kip} \quad (\text{ACI-2008 11.2.1.1})$$

$$\text{Beam_Shear_Check} := \text{if}(V_{\text{req}} < V_{\text{Avail}}, \text{"Okay"}, \text{"No Good"})$$

Beam_Shear_Check = "Okay"

Punching Shear:

(Critical Section Located at a distance of d/2 from the face of pier) (ACI 11.11.1.2)

Critical Perimeter of Punching Shear =

$$b_o := (d_p + d) \cdot \pi = 16.2$$

Area Included Inside Perimeter =

$$A_{bo} := \frac{\pi \cdot (d_p + d)^2}{4} = 21$$

Required Shear Strength =

$$V_{\text{req}} := FL \cdot (W_f^2 - A_{bo}) = 383 \text{ kips}$$

Available Shear Strength =

$$V_{\text{Avail}} := \Phi_c \cdot 4 \cdot \sqrt{f_c \cdot \text{psi}} \cdot b_o \cdot d = 943.1 \text{ kip} \quad (\text{ACI-2008 11.11.2.1})$$

$$\text{Punching_Shear_Check} := \text{if}(V_{\text{req}} < V_{\text{Avail}}, \text{"Okay"}, \text{"No Good"})$$

Punching_Shear_Check = "Okay"

Steel Reinforcement in Pad:

Required Reinforcement for Bending:

Strength Reduction Factor = $\phi_m := .90$ (ACI-2008 9.3.2.1)

Maximum Moment in Pad = $M_{max} := 1400 \cdot \text{kip}\cdot\text{ft}$ (User Input)

Design Moment = $M_n := \frac{LF \cdot M_{max}}{\phi_m} = 1.556 \times 10^3 \cdot \text{kips}\cdot\text{ft}$

$$\beta := \begin{cases} 0.85 & \text{if } 2500 \cdot \text{psi} \leq f_c \leq 4000 \cdot \text{psi} \\ 0.65 & \text{if } f_c > 8000 \cdot \text{psi} \\ \left[0.85 - \left[\frac{\left(\frac{f_c}{\text{psi}} - 4000 \right)}{1000} \right] \cdot 0.5 \right] & \text{otherwise} \end{cases} = 0.85$$

(ACI-2008 10.2.7.3)

$b_{eff} := W_t \cdot \cos(30 \cdot \text{deg}) + d_p = 280.219 \cdot \text{in}$

$A_s := \frac{M_n}{(f_y \cdot d)} = 11.966 \cdot \text{in}^2$

$a := \frac{A_s \cdot f_y}{\beta \cdot f_c \cdot b_{eff}} = 1.005 \cdot \text{in}$

$A_s := \frac{M_n}{f_y \cdot \left(d - \frac{a}{2} \right)} = 12.202 \cdot \text{in}^2$

$\rho := \frac{A_s}{b_{eff} \cdot d} = 0.0201 \cdot \text{in}$

Required Reinforcement for Temperature and Shrinkage:

$$\rho_{sh} := \begin{cases} .0018 & \text{if } f_y \geq 60000 \text{ psi} \\ .0020 & \text{otherwise} \end{cases} = 0.0018 \quad (\text{ACI-2008 7.12.2.1})$$

Check Bottom Bars:

$$A_s := \text{if} \left(\rho \geq \rho_{sh}, A_s, \rho_{sh} \cdot \frac{b_{eff}}{2} \cdot d \right) = 6.6 \text{ in}^2$$

$$A_{s_{prov}} := A_{bbot} \cdot NB_{bot} = 26.7 \text{ in}^2$$

$$\text{Pad_Reinforcement_Bot} := \text{if}(A_{s_{prov}} > A_s, \text{"Okay"}, \text{"No Good"})$$

Pad_Reinforcement_Bot = "Okay"

Check top Bars:

$$A_s := \text{if} \left(\rho \geq \rho_{sh}, A_s, \rho_{sh} \cdot \frac{b_{eff}}{2} \cdot d \right) = 6.6 \text{ in}^2$$

$$A_{s_{prov}} := A_{btop} \cdot NB_{top} = 26.7 \text{ in}^2$$

$$\text{Pad_Reinforcement_Top} := \text{if}(A_{s_{prov}} > A_s, \text{"Okay"}, \text{"No Good"})$$

Pad_Reinforcement_Top = "Okay"

Development Length Pad Reinforcement:

Bar Spacing =

$$B_{sPad} := \frac{W_f - 2 \cdot C_{vr_{pad}} - NB_{bot} \cdot d_{bbot}}{NB_{bot} - 1} = 11.15 \text{ in}$$

Spacing or Cover Dimension =

$$c := \text{if} \left(C_{vr_{pad}} < \frac{B_{sPad}}{2}, C_{vr_{pad}}, \frac{B_{sPad}}{2} \right) = 3 \text{ in}$$

Transverse Reinforcement Index =

$$k_{tr} := 0 \quad (\text{ACI-2008 12.2.3})$$

$$L_{dbt} := \frac{3 \cdot f_y \alpha_{pad} \beta_{pad} \gamma_{pad} \lambda_{pad}}{40 \cdot \sqrt{f_c \text{ psi}} \cdot \frac{c + k_{tr}}{d_{bbot}}} \cdot d_{bbot} = 27.4 \text{ in}$$

Minimum Development Length =

$$L_{dbmin} := 12 \text{ in} \quad (\text{ACI-2008 12.2.1})$$

$$L_{dbtCheck} := \text{if}(L_{dbt} \geq L_{dbmin}, \text{"Use L.dbt"}, \text{"Use L.dbmin"}) = \text{"Use L.dbt"}$$

Available Length in Pad =

$$L_{Pad} := \frac{W_f}{2} - \frac{W_t}{2} - C_{vr_{pad}} = 60 \text{ in}$$

$$L_{pad_Check} := \text{if}(L_{Pad} > L_{dbt}, \text{"Okay"}, \text{"No Good"})$$

Lpad_Check = "Okay"

Steel Reinforcement in Pier:

Area of Pier = $A_p := \frac{\pi \cdot d_p^2}{4} = 1017.88 \cdot \text{in}^2$

$A_{smin} := 0.01 \cdot 0.5 \cdot A_p = 5.09 \cdot \text{in}^2$ (ACI-2008 10.8.4 & 10.9.1)

$A_{sprov} := N_{B_{pier}} \cdot A_{B_{pier}} = 15.71 \cdot \text{in}^2$

Steel_Area_Check := if($A_{sprov} > A_{smin}$, "Okay", "No Good")

Steel_Area_Check = "Okay"

Bar Spacing In Pier = $B_{sPier} := \frac{d_p \cdot \pi}{N_{B_{pier}}} - d_{B_{pier}} = 4.655 \cdot \text{in}$

Diameter of Reinforcement Cage = $Diam_{cage} := d_p - 2 \cdot C_{vr_{pier}} = 30 \cdot \text{in}$

Maximum Moment in Pier = $M_p := S_t(L_p) \cdot LF = 3216 \cdot \text{in} \cdot \text{kips}$

Pier Check evaluated from outside program and results are listed below;

$(D \ N \ n \ P_u \ M_{Xu}) := \left(d_p^{12} \ N_{B_{pier}} \ B_{S_{pier}} \ \frac{C_t \cdot 1.333}{\text{kips}} \ \frac{M_p}{\text{in} \cdot \text{kips}} \right)$

$(D \ N \ n \ P_u \ M_{Xu}) = (36 \ 20 \ 8 \ 519.87 \ 3.216 \times 10^3)$

$(\phi P_n \ \phi M_{xn} \ f_{sp} \ \rho) := (0 \ 0 \ 0 \ 0)$

$(\phi P_n \ \phi M_{xn} \ f_{sp} \ \rho) := \phi P'_n (D, N, n, P_u, M_{Xu})^T$

$(\phi P_n \ \phi M_{xn} \ f_{sp} \ \rho) = (1.516 \times 10^3 \ 9.377 \times 10^3 \ -28.542 \ 0.016)$

Axial_Load_Check := if($\phi P_n \geq P_u$, "Okay", "No Good")

Axial_Load_Check = "Okay"

Bending_Check := if($\phi M_{xn} \geq M_{Xu}$, "Okay", "No Good")

Bending_Check = "Okay"

Development Length Pier Reinforcement:

Available Length in Foundation:

$$L_{\text{pier}} := L_p - C_{\text{vr}}_{\text{pier}} = 45 \text{ in}$$

$$L_{\text{pad}} := T_f - C_{\text{vr}}_{\text{pad}} = 27 \text{ in}$$

Tension:

(ACI-2008 12.2.3)

Spacing or Cover Dimension =

$$c := \text{if} \left(C_{\text{vr}}_{\text{pier}} < \frac{B_{\text{sPier}}}{2}, C_{\text{vr}}_{\text{pier}}, \frac{B_{\text{sPier}}}{2} \right) = 2.327 \text{ in}$$

Transverse Reinforcement =

$$k_{\text{tr}} := 0 \quad \text{(ACI-2008 12.2.3)}$$

$$L_{\text{dbt}} := \frac{3 \cdot f_y \cdot \alpha_{\text{pier}} \cdot \beta_{\text{pier}} \cdot \gamma_{\text{pier}} \cdot \lambda_{\text{pier}}}{40 \cdot \sqrt{f_c \text{ psi}} \cdot \left(\frac{c + k_{\text{tr}}}{d_{\text{bpier}}} \right)} \cdot d_{\text{bpier}} = 35.3 \text{ in}$$

Minimum Development Length =

$$L_{\text{dh}} := \frac{1200 \cdot d_{\text{bpier}}}{\sqrt{\frac{f_c}{\text{psi}}}} \cdot .7 = 15.336 \text{ in} \quad \text{(ACI 12.2.1)}$$

Pier reinforcement bars are standard 90 degree hooks and therefore development in the pad is computed as follows:

$$L_{\text{db}} := \max(L_{\text{dbt}}, L_{\text{dbmin}}) = 35.3 \text{ in}$$

$$L_{\text{tension_Check}} := \text{if}(L_{\text{pier}} + L_{\text{pad}} > L_{\text{db}}, \text{"Okay"}, \text{"No Good"})$$

$$L_{\text{tension_Check}} = \text{"Okay"}$$

Compression:

(ACI-2008 12.3.2)

$$L_{\text{dbc1}} := \frac{.02 \cdot d_{\text{bpier}} \cdot f_y}{\sqrt{f_c \text{ psi}}} = 21.909 \text{ in}$$

$$L_{\text{dbmin}} := 0.0003 \cdot \frac{\text{in}^2}{I_b} \cdot (d_{\text{bpier}} \cdot f_y) = 18 \text{ in}$$

$$L_{\text{dbc}} := \text{if}(L_{\text{dbc1}} \geq L_{\text{dbmin}}, L_{\text{dbc1}}, L_{\text{dbmin}}) = 21.909 \text{ in}$$

$$L_{\text{compression_Check}} := \text{if}(L_{\text{pier}} + L_{\text{pad}} > L_{\text{dbc}}, \text{"Okay"}, \text{"No Good"})$$

$$L_{\text{compression_Check}} = \text{"Okay"}$$

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME: CT9538	DATE: 11/10/2021	RF DESIGN ENG: Prashanthi Srintha	RFDS PROGRAM TYPE: 2021 5G NR Radio
ISSUE: Bronze Standard	Approved? (Y/N): Yes	RF DESIGN PHONE: 20182363071	RFDS TECHNOLOGY: 5G NR, 1SR CBAND
REVISION: Final	RF MANAGER: John Benedetto	RF DESIGN EMAIL: jrb5152@att.com	STATE STATUS: Final/Approved
INITIATIVE /PROJECT: 10182022_WCS SOW Cancelled/removed,C-Band , 3.45 GHz DoD, 650 B(U) , 700 B-C , 1900 A3			ADDITIONAL WORKFLOW NOTIFICATIONS: Created By: jrb5152 Date Created: 11/09/2021 5:36:18 PM Estimated SOIN: 15.598 RFDS ID: 4682138 Updated By: jrb5152 Date Updated: 10/18/2022 12:23:24 PM Expiration: 2022/10/19 22:34:17 Calculation ID: 50
			IPLAN PRD GRP SUB GRP #1: 5G NR Radio 5G NR USR CBand Activation
			IPLAN PRD GRP SUB GRP #2: ER_RCTB-21-03080
			IPLAN PRD GRP SUB GRP #3: ER_RCTB-21-03055
			IPLAN PRD GRP SUB GRP #4: ER_RCTB-21-03051
			IPLAN PRD GRP SUB GRP #5: 5G NR Software Radio 5G NR Activation
			IPLAN PRD GRP SUB GRP #6: ER_RCTB-21-03075
			IPLAN PRD GRP SUB GRP #7: ER_RCTB-21-03821
			IPLAN PRD GRP SUB GRP #8:
			IPLAN PRD GRP SUB GRP #9:
			IPLAN PRD GRP SUB GRP #10:
			IPLAN PRD GRP SUB GRP #11:
			IPLAN PRD GRP SUB GRP #12:
			IPLAN PRD GRP SUB GRP #13:
			IPLAN PRD GRP SUB GRP #14:
			IPLAN PRD GRP SUB GRP #15:
			IPLAN PRD GRP SUB GRP #16:

Section 2 - LOCATION INFORMATION

USID: 26043	FALLOCATION CODE: 1007180	LOCATION NAME: NORTHERD - TOTOWET	PAGE_JOB # 1: MRCTB062657
REGION: NORTHEAST	MARKET CLUSTER: NEW ENGLAND	MARKET: CONNECTICUT	PAGE_JOB # 2: MRCTB066525
ADDRESS: 88 PARSONAGE HILL ROAD	CITY: NORTHERD	STATE: CT	PAGE_JOB # 3: MRCTB063739
ZIP CODE: 06472	COUNTY: NEW HAVEN	LONG (DEC DEG.): -72.8104688	PAGE_JOB # 4: MRCTB065921
LATITUDE (D-M-S): 41.022m 73.984s		LAT (DEC DEG.): 41.3690919	PAGE_JOB # 5: MRCTB063317
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION: HCS9808871 ET175-HCS9729082 ET233-HCS9748207 POWER: WALLINGFORD ELECTRIC DEP 203.294.2030METER: 80.3305.086		LONG (DEC DEG.): 72.8104688	PAGE_JOB # 6: MRCTB063317
		LAT (DEC DEG.): 41.3690919	PAGE_JOB # 7: MRCTB063317
			PAGE_JOB # 8: MRCTB063317
			PAGE_JOB # 9: MRCTB063317
			PAGE_JOB # 10: MRCTB063317
			PAGE_JOB # 11: MRCTB063317
			PAGE_JOB # 12: MRCTB063317
			PAGE_JOB # 13: MRCTB063317
			PAGE_JOB # 14: MRCTB063317
			PAGE_JOB # 15: MRCTB063317
			PAGE_JOB # 16: MRCTB063317
			SEARCH_RING_NAME: BORDER CELL WITH CONTOUR COORD:
			SEARCH_RING_ID: AM STUDY RECD (Y/N): No
			BTA: MSB / RBA
			LAC(UMTS): 05898
			RNC(UMTS): BRP1CT0ACR807
			MME POOL ID(TE): FF01
			PARENT_NAME(UMTS): BRIDGEPORT RNC07 ERICSSON 3820

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No): No	CGSA LOSS:	CGSA EXT AGMT NEEDED:	PCS REDUCED - UPS ZIP:
CGSA - MINOR FILING NEEDED (Yes/No): No	CGSA SCORECARD UPDATED:	CGSA SCORECARD UPDATED:	PCS POPS REDUCED:
CGSA - MAJOR FILING NEEDED (Yes/No): Yes			

Section 4 - TOWER/REGULATORY INFORMATION

CGSA CALL SIGNS:

STRUCTURE AT&T OWNED?: Yes	GROUND ELEVATION (ft):	STRUCTURE TYPE	SELF SUPPORT	MARKET LOCATION 700 MHz Band:
ADDITIONAL REGULATORY?: Yes	HEIGHT OVERALL (ft): 195.00	FCC AIR NUMBER	NR	MARKET LOCATION 800 MHz Band:
SUB-LEASE RIGHTS?: Yes	STRUCTURE HEIGHT (ft): 195.00			MARKET LOCATION 1900 MHz Band:
LIGHTING TYPE: NOT REQUIRED				MARKET LOCATION AWS Band:
				MARKET LOCATION WCS Band:
				MARKET LOCATION Future Band:

SECTION 6/7 - BBU INFORMATION - existing

BBU 1	BBU 2	BBU 3
BBU RBS ID: 301003	210897	387017
TECHNOLOGY: UMTS	UMTS	LTE
BBU NAME: CTU05638	CTU05638	CTU05638
BBU USD: 26043	26043	26043
CELL ID / BCF: CTU05638	CTU05638	CTU05638
BTA/D: 318W	318U	318L
4-9 DIGIT SITE ID: 5638	5638	5638
COW OR TOY?: No	No	No
CELL SITE TYPE: SECTORIZED	SECTORIZED	SECTORIZED
SITE TYPE: MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL
BTS LOCATION ID: GROUND	GROUND	INTERNAL
BASE STATION TYPE: OVERLAY	BASE	BASE
EQUIPMENT NAME: NORTHFORD - TOTOKET	NORTHFORD - TOTOKET	NORTHFORD - TOTOKET
DISASTER PRIORITY: 0	0	3
EQUIPMENT VENDOR: ERICSSON	ERICSSON	ERICSSON
EQUIPMENT TYPE (Model): 3106 OUTDOOR	3106 OUTDOOR	6801 INDOOR (M)
BASEBAND CONFIGURATION:		
MARKET STATE CODE:		
NODE B NUMBER: 0	0	5638
SIDEHAUL SWITCH VENDOR:		
SIDEHAUL SWITCH MODEL:		
SIDEHAUL SWITCH NAME:		
SIDEHAUL SWITCH ADDITIONAL CARDS:		
UL Co-MP:		
CSS - CTS COMMON ID: CTU05638	CTU05638	CTU05638
CSS - SECONDARY FUNCTION ID:		

SECTION 6/7 - BBU INFORMATION - final

BBU 1	BBU 2	BBU 3
BBU RBS ID: 387017	RFD5_76825739	684215
TECHNOLOGY: LTE	5G	LTE 5G
BBU NAME: CTN036538	CTN036538	CTN04838R.CTN005638
BBU USD: 26043	26043	26043
CELL ID / BCF: CTN009638	CTN009638	CTN009638
BTA/D: 318L	318L	318L
4-9 DIGIT SITE ID: 5638	14036538	009638
COW OR TOY?: No	No	No
CELL SITE TYPE: SECTORIZED	SECTORIZED	SECTORIZED
SITE TYPE: MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL
BTS LOCATION ID: INTERNAL	INTERNAL	INTERNAL
BASE STATION TYPE: BASE	OVERLAY	BASE
EQUIPMENT NAME: NORTHFORD - TOTOKET	CTN036538	NORTHFORD - TOTOKET
DISASTER PRIORITY: 3	0	3
EQUIPMENT VENDOR: ERICSSON	ERICSSON	ERICSSON
EQUIPMENT TYPE (Model): 6801 RADIO NODE 6216	BASEBAND 6648	BASEBAND 6630
BASEBAND CONFIGURATION: 1x6001 / 1x5216 / 1xMMU	xxxxx / 1x6648 / xxxxxx + IDLE	xxxxx / 1x6630 / xxxxxx + IDLE
MARKET STATE CODE: CT	CTC	CT.CTC
NODE B NUMBER: 5638	36438	4638.5638
SIDEHAUL SWITCH VENDOR:		
SIDEHAUL SWITCH MODEL:		
SIDEHAUL SWITCH NAME:		
SIDEHAUL SWITCH ADDITIONAL CARDS:		
UL Co-MP:		
CSS - CTS COMMON ID: CTU05638		CTN009638
CSS - SECONDARY FUNCTION ID:		

Section 15A - CURRENT TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION IS LEFT TO RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	800-10121	OPAGER-BURDA	DMP66R-BURDA				
ANTENNA VENDOR	Green	CCI	CCI				
ANTENNA SIZE (H x W x D)	64.5X10.3X5.9	71.2X21X7.8					
ANTENNA WEIGHT	44.1	60.2	79.4				
AZIMUTH	20	20	20				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	173	173	173				
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	2	0	0				
FEEDER AMOUNT	2						
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Model (QTY/MODEL)	2						
SURGE ARRESTOR (QTY/MODEL)	2						
DIPLEXER (QTY/MODEL)	2						
DUPLEXER (QTY/MODEL)	2						
Antenna RET CONTROL UNIT (QTY/MODEL)	1						
DC BLOCK (QTY/MODEL)	2						
TWALMA (QTY/MODEL)	2						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2						
POU FOR TMA5 (QTY/MODEL)	1						
FILTER (QTY/MODEL)							
SOLID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)							
RRH - 800 band (QTY/MODEL)							
RRH - 900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH 75 1 (QTY/MODEL)							
RRH 75 2 (QTY/MODEL)							
RRH 75 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (Aoltr)	ATOLL TXID	ATOLL CELLID	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	EXACT KIT MODULE?	TRIPLEXER of LLC (QTY)	TRIPLEXER of LLC (MODEL)	SCRAMBLER MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		CTV5681	CTV5681	UMTS 850	800 10121 @850_Xcpal_20t	13.47	20	2	None	Andrew 1-5/6 (850)	210.053777					242.66			1	
ANTENNA POSITION 3	PORT 1		CTU06938_7A_3_F	CTU06938_7A_3_F	LTE 700	OPAGER-BURDA_725MHz_020t	13.5	20	2	TOP	FIBER	0					295.1413			5	

ANTENNA POSITION 4	PORT 3	CTL06638_9A_1	CTL06638_9A_1	LTE 1900	OPASER- BUID_1900MHz_04D 17.4 T	20	4	TOP	FIBER	0					3864.3757		6
	PORT 4	CTL06638_9A_2	CTL06638_9A_2	LTE 1900	OPASER- BUID_1900MHz_04D 17.4 T	20	4	TOP	FIBER	0					3864.3757		6
	PORT 1	CTL06638_7A_1	CTL06638_7A_1	LTE 700	DMP66R- BUID_720MHz_02DT	13.2	2	TOP	FIBER	0					1475.7065		7
	PORT 2	CTL06638_8A_1	CTL06638_8A_1	LTE 850	DMP66R- BUID_850MHz_02DT	13.1	2	TOP	FIBER	0					1000		7
	PORT 3	CTL06638_2A_2	CTL06638_2A_2	LTE AWS	DMP66R- BUID_2130MHz_03D 17.5 T	20	3	TOP	FIBER	0					1285.2866		8
PORT 5	CTCN06638_N09A_1	CTCN06638_N09A_1	5G 850	DMP66R- BUID_850MHz_02DT	13.1	2	TOP	FIBER	0					1000		7	

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION IS LEFT TO RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	800-10121	OPAGER-BURDA	DMP66R-BURDA				
ANTENNA VENDOR	Green	CCI	CCI				
ANTENNA SIZE (H x W x D)	64.5X10.3X5.9	71.2X21X7.8					
ANTENNA WEIGHT	44.1	60.2					
AZIMUTH	140	140					
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	173	173					
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	2	0					
FEEDER AMOUNT	2						
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Model (QTY/MODEL)	2						
SURGE ARRESTOR (QTY/MODEL)	Kathres 660-10025		Bulk-in	Bulk-in			
DIPLEXER (QTY/MODEL)	2	LGP21801					
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TWALMA (QTY/MODEL)	2	LGP21401					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	1000860					
POU FOR TMA5 (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)							
RRH - 800 band (QTY/MODEL)							
RRH - 900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH-75 1 (QTY/MODEL)							
RRH-75 2 (QTY/MODEL)							
RRH-75 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USED (C-SSng)	USED (Aolt)	ATOLL TXID	ATOLL CELLID	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	EXACT KIT MODULE?	TRIPLEXER of LLC (QTY)	TRIPLEXER of LLC (MODEL)	SCRAMBLER MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1			CTV6582	CTV6582	UMTS 850	800-10121 @850_Xcpd_4dt	13.41	140	4	None	Andrew 1-5/6 (850)	210.053777						239.33		9	
ANTENNA POSITION 3	PORT 1			CTU06938_7B_3_F	CTU06938_7B_3_F	LTE 700	OPAGER-BURDA_725MHz_0207	13.5	140	2	TOP	FIBER	0						295.1413		13	

ANTENNA POSITION 4	PORT 3	CTL06638_9B_1	CTL06638_9B_1	CTL06638_9B_2	CTL06638_9B_2	LTE 1900	OPASER- BUID_1900MHz_04D 17.4 T	140	4	TOP	FIBER	0					3864.3757	14
	PORT 4	CTL06638_9B_2	CTL06638_9B_2	CTL06638_9B_1	CTL06638_9B_1	LTE 1900	OPASER- BUID_1900MHz_04D 17.4 T	140	4	TOP	FIBER	0					3864.3757	14
	PORT 1	CTL06638_7B_1	CTL06638_7B_1	CTL06638_7B_2	CTL06638_7B_2	LTE 700	DMP66R- BUID_720MHz_02DT T	140	2	TOP	FIBER	0					1475.7065	15
	PORT 2	CTL06638_8B_1	CTL06638_8B_1	CTL06638_8B_2	CTL06638_8B_2	LTE 850	DMP66R- BUID_850MHz_02DT T	140	2	TOP	FIBER	0					1000	15
	PORT 3	CTL06638_2B_2	CTL06638_2B_2	CTL06638_2B_1	CTL06638_2B_1	LTE AWS	DMP66R- BUID_2130MHz_03D 17.5 T	140	3	TOP	FIBER	0					1285.2866	16
PORT 5	CTCN06638_N09B _1	CTCN06638_N09B _1	CTCN06638_N09B _1	CTCN06638_N09B _1	5G 850	DMP66R- BUID_850MHz_02DT T	140	2	TOP	FIBER	0					1000	15	

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	800-10121	OPAGER-BURDA	DMP66R-BURDA				
ANTENNA VENDOR	Green	CCI	CCI				
ANTENNA SIZE (H x W x D)	64.5X10.3X5.9	71.2X21X7.8					
ANTENNA WEIGHT	44.1	60.2					
AZIMUTH	260	260					
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	173	173					
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	2	0					
FEEDER AMOUNT	2						
VERTICAL SEPARATION FROM ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION FROM ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION FROM ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Model (QTY/MODEL)	2						
SURGE ARRESTOR (QTY/MODEL)	2						
DIPLEXER (QTY/MODEL)	2						
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TWALMA (QTY/MODEL)	2						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2						
POU FOR TMA5 (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)							
RRH - 800 band (QTY/MODEL)							
RRH - 900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH-75 1 (QTY/MODEL)							
RRH-75 2 (QTY/MODEL)							
RRH-75 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (Aoltr)	ATOLL TXID	ATOLL CELLID	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	EXACT KIT MODULE?	TRIPLEXER of LLC (QTY)	TRIPLEXER of LLC (MODEL)	SCRAMBLER MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		CTV56583	CTV56583	UMTS 850	800-10121 @850_Xcpd_8ft	13.41	260	8	None	Andrew 1-5/6 (850)	210.053777					239.33			17	
ANTENNA POSITION 3	PORT 1		CTU05638_7C_3_F	CTU05638_7C_3_F	LTE 700	OPAGER-BURDA_725MHz_100T	13	260	10	TOP	FIBER	0					295.1413			21	

ANTENNA POSITION 4	PORT 3	CTL06638_9C_1	CTL06638_9C_1	LTE 1900	OPASER- BUID_1950MHz_Q4D 17.4 T	260	4	TOP	FIBER	0					3864.3757		22
	PORT 4	CTL06638_9C_2	CTL06638_9C_2	LTE 1900	OPASER- BUID_1950MHz_Q4D 17.4 T	260	4	TOP	FIBER	0					3864.3757		22
	PORT 1	CTL06638_7C_1	CTL06638_7C_1	LTE 700	DMP66R- BUID_720MHz_10DT 12.7	260	10	TOP	FIBER	0					1475.7065		23
	PORT 2	CTL06638_8C_1	CTL06638_8C_1	LTE 850	DMP66R- BUID_850MHz_10DT 13.3	260	10	TOP	FIBER	0					1000		23
	PORT 3	CTL06638_2C_2	CTL06638_2C_2	LTE AWS	DMP66R- BUID_2130MHz_Q3D 17.5 T	260	3	TOP	FIBER	0					1285.2866		24
PORT 5	CTCN06638_N096C_1	CTCN06638_N096C_1	5G 850	DMP66R- BUID_850MHz_10DT 13.3	260	10	TOP	FIBER	0					1000		23	

Section 16A - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7															
Existing Antenna?																						
ANTENNA MAKE /MODEL	TPA-6RR-BU/BD4-K		ARR648 B77D-ARR6419 B77G ST/CKED																			
ANTENNA VENDOR	CCI		Eriksen																			
ANTENNA SIZE (H x W x D)	71.2X20.7X7.7		30.4X15.9X8.1																			
ANTENNA WEIGHT	784		81.6																			
AZIMUTH	20																					
MAGNETIC DECLINATION																						
RADIATION CENTER (feet)	173																					
ANTENNA TIP-HEIGHT																						
MECHANICAL DOWNTILT	0																					
FEDER AMOUNT																						
VERTICAL SEPARATION FROM ANTENNA ABOVE (TIP to TIP)																						
VERTICAL SEPARATION FROM ANTENNA BELOW (TIP to TIP)																						
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO LEFT (CENTERLINE to CENTERLINE)																						
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO RIGHT (CENTERLINE to CENTERLINE)																						
HORIZONTAL SEPARATION FROM ANOTHER ANTENNA (within antenna # 1 or 2 of inches)																						
Antenna RET Motor (QTY/MODEL)		Built in																				
SURGE ARRESTOR (QTY/MODEL)																						
DUPLEXER (QTY/MODEL)																						
DUPLEXER (QTY/MODEL)																						
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED																				
DC BLOCK (QTY/MODEL)																						
TWAILNA (QTY/MODEL)																						
CURRENT INJECTORS FOR TMA (QTY/MODEL)																						
PDU FOR TMA5 (QTY/MODEL)																						
FILTER (QTY/MODEL)																						
SQUID (QTY/MODEL)																						
FIBER TRUNK (QTY/MODEL)																						
DC TRUNK (QTY/MODEL)																						
REPEATER (QTY/MODEL)																						
RRH - 800 band (QTY/MODEL)																						
RRH - 1900 band (QTY/MODEL)																						
RRH - AWS band (QTY/MODEL)																						
RRH - WCS band (QTY/MODEL)																						
Additional RRH #1 - any band (QTY/MODEL)			1			integrated within: ARR6449 B77D																
Additional RRH #2 - any band (QTY/MODEL)						integrated within: ARR6419 B77G																
RRH 7B 1 (QTY/MODEL)																						
RRH 7B 2 (QTY/MODEL)																						
RRH 7B 3 (QTY/MODEL)																						
Additional Component 1 (QTY/MODEL)																						
Additional Component 2 (QTY/MODEL)																						
Additional Component 3 (QTY/MODEL)																						
Local Market Note 1	-Arrange antenna and radio positions as per PD. -Swap and add antennas. -Add 1xDC/Fiber Squid. -Add C-band and Doh antenna/radio. -Add 6648-Xcable Cable. -Decomm. LIMITS.																					
Local Market Note 2																						
Local Market Note 3	5216-XMU/6630h-D/e / 6648-Xcable																					
PORT SPECIFIC FIELDS	PORT NUMBER	USEID (C55ng)	USEID (Acol)	ATOLL TXID	ATOLL CELLID	TX/RX TECHNOLOGY/FREQ BAND	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	POW KIT MODULE?	TRIPLEXER of LLC (QTY)	TRIPLEXER of LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID NUMBER (CSSNG)

Section 16B - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7															
Existing Antenna?																						
ANTENNA MAKE /MODEL	TPA-6RR-BU/SDA-K		AIR6449 B7D-AIR6419 B77G ST/CKED																			
ANTENNA VENDOR	CCI		Eriksen																			
ANTENNA SIZE (H x W x D)	71.2X20.7X7.7		30.4X15.9X8.1																			
ANTENNA HEIGHT	79.4		81.6																			
AZIMUTH	140																					
MAGNETIC DECLINATION																						
RADIATION CENTER (feet)	173																					
ANTENNA TIP-HEIGHT																						
MECHANICAL DOWNTILT	0																					
FEDER AMOUNT																						
VERTICAL SEPARATION FROM ANTENNA ABOVE (TIP to TIP)																						
VERTICAL SEPARATION FROM ANTENNA BELOW (TIP to TIP)																						
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO LEFT (CENTERLINE to CENTERLINE)																						
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO RIGHT (CENTERLINE to CENTERLINE)																						
HORIZONTAL SEPARATION FROM ANOTHER ANTENNA (vertical antenna #1 of #2 of inches)																						
Antenna RET Motor (QTY/MODEL)		Built in																				
SURGE ARRESTOR (QTY/MODEL)																						
DIPLEXER (QTY/MODEL)																						
DUPLEXER (QTY/MODEL)																						
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED																				
DC BLOCK (QTY/MODEL)																						
TWAILNA (QTY/MODEL)																						
CURRENT INJECTORS FOR TMA (QTY/MODEL)																						
PDU FOR TMA5 (QTY/MODEL)																						
FILTER (QTY/MODEL)																						
SQUID (QTY/MODEL)																						
FIBER TRUNK (QTY/MODEL)																						
DC TRUNK (QTY/MODEL)																						
REPEATER (QTY/MODEL)																						
RRH - 800 band (QTY/MODEL)																						
RRH - 1900 band (QTY/MODEL)																						
RRH - AWS band (QTY/MODEL)																						
RRH - WCS band (QTY/MODEL)																						
Additional RRH #1 - any band (QTY/MODEL)			1 integrated within: AIR6449 B7D																			
Additional RRH #2 - any band (QTY/MODEL)			1 integrated within: AIR6419 B77G																			
RRH 7B 1 (QTY/MODEL)																						
RRH 7B 2 (QTY/MODEL)																						
RRH 7B 3 (QTY/MODEL)																						
Additional Component 1 (QTY/MODEL)																						
Additional Component 2 (QTY/MODEL)																						
Additional Component 3 (QTY/MODEL)																						
Local Market Note 1	sww -Arrange antenna and radio positions as per PD. -Swap and add antennas. -Add 1xDC/Fiber Squid. -Add C-band and Doh antenna/radio. -Add 6648-Xcable Cable. -Decom UMTS.																					
Local Market Note 2																						
Local Market Note 3	5216-XMU/6630-ID.e / 6648-Xcable																					
PORT SPECIFIC FIELDS	PORT NUMBER	USEID (C-SSng)	USEID (Acol)	ATOLL TXID	ATOLL CELLID	TX/RX TECHNOLOGY/FREQ UENCT	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEDERS TYPE	FEEDER LENGTH (feet)	POW KIT MODULE?	TRIPLEXER of LLC (QTY)	TRIPLEXER of LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID NUMBER (CSSNG)

Section 16C - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7															
Existing Antennas?																						
ANTENNA MAKE /MODEL	TPA-68R-BU/SDA-K		AIR6449 B7D-AIR6419 B776 STACKED																			
ANTENNA VENDOR	CCI		Eriksen																			
ANTENNA SIZE (H x W x D)	71.2X20.7X7.7		30.4X15.9X8.1																			
ANTENNA HEIGHT	79.4		81.6																			
AZIMUTH	260																					
MAGNETIC DECLINATION																						
RADIATION CENTER (feet)	173																					
ANTENNA TIP-HEIGHT																						
MECHANICAL DOWNTILT	0																					
FEDER AMOUNT																						
VERTICAL SEPARATION FROM ANTENNA ABOVE (TIP to TIP)																						
VERTICAL SEPARATION FROM ANTENNA BELOW (TIP to TIP)																						
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO LEFT (CENTERLINE to CENTERLINE)																						
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO RIGHT (CENTERLINE to CENTERLINE)																						
HORIZONTAL SEPARATION FROM ANOTHER ANTENNA (vertical antenna #1 or #2 of inches)																						
Antenna RET Motor (QTY/MODEL)		Built in																				
SURGE ARRESTOR (QTY/MODEL)																						
DIPLEXER (QTY/MODEL)																						
DUPLEXER (QTY/MODEL)																						
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED																				
DC BLOCK (QTY/MODEL)																						
TWAILNA (QTY/MODEL)																						
CURRENT INJECTORS FOR TMA (QTY/MODEL)																						
PDU FOR TMA5 (QTY/MODEL)																						
FILTER (QTY/MODEL)																						
SQUID (QTY/MODEL)																						
FIBER TRUNK (QTY/MODEL)																						
DC TRUNK (QTY/MODEL)																						
REPEATER (QTY/MODEL)																						
RRH - 800 band (QTY/MODEL)																						
RRH - 1900 band (QTY/MODEL)																						
RRH - AWS band (QTY/MODEL)																						
RRH - WCS band (QTY/MODEL)																						
Additional RRH #1 - any band (QTY/MODEL)			1 integrated within: AIR6449 B7D																			
Additional RRH #2 - any band (QTY/MODEL)			1 integrated within: AIR6419 B776																			
RRH 7B 1 (QTY/MODEL)																						
RRH 7B 2 (QTY/MODEL)																						
RRH 7B 3 (QTY/MODEL)																						
Additional Component 1 (QTY/MODEL)																						
Additional Component 2 (QTY/MODEL)																						
Additional Component 3 (QTY/MODEL)																						
Local Market Note 1	sow: -Arrange antenna and radio positions as per PD. -Swap and add antennas. -Add 1xDC/Fiber Squid. -Add C-band and Doh antenna/radio. -Add 6648-Xcable Cable. -Decom UMTS.																					
Local Market Note 2																						
Local Market Note 3	5216-XMU/6630-ID.e / 6648-Xcable																					
PORT SPECIFIC FIELDS	PORT NUMBER	USEID (C-SSing)	USEID (Acol)	ATOLL TXID	ATOLL CELLID	TX/RX TECHNOLOGY/FREQ UENCT	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	POW KIT MODULE?	TRIPLEXER of LLC (QTY)	TRIPLEXER of LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID NUMBER (CSSNG)

ANTENNA POSITION 2	PORT 1	CTL06588_7C_3_F	CTL06588_7C_3_F	LTE 700	TPA-6RR-BU0DA-K_770MHz_020T	260	0	TOP	FIBER	0					4842.058		
	PORT 3	CTL04638_9C_1	CTL04638_9C_1	LTE 1900	TPA-6RR-BU0DA-K_1930MHz_03DT	260	0	TOP	FIBER	0					4842.058		
	PORT 4	CTL04638_9C_2	CTL04638_9C_2	LTE 1900	TPA-6RR-BU0DA-K_1930MHz_03DT	260	0	TOP	FIBER	0					4842.058		
	PORT 7	CTCN065638_N002C_1	CTCN065638_N002C_1	5G 1900	TPA-6RR-BU0DA-K_1930MHz_03DT	260	0	TOP	FIBER	0					3664.3757		
	PORT 8	CTL04638_ZC_2	CTL04638_ZC_2	LTE AWS	TPA-6RR-BU0DA-K_2170MHz_03DT	260	0	TOP	FIBER	0					5070.2572		
	PORT 11	CTCN065638_N066C_1	CTCN065638_N066C_1	5G AWS	TPA-6RR-BU0DA-K_2130MHz_03DT	260	0	TOP	FIBER	0					3837.0724		
	ANTENNA POSITION 3	PORT 1	CTCN065638_N077C_1	CTCN065638_N077C_1	5G CBAND		260	10	TOP	FIBER	0					2851.143	
		PORT 2	CTCN065638_N077C_2	CTCN065638_N077C_2	5G D40		260	0	TOP	FIBER	0						

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	TPA-6ER-BURDA-K	TPA-6ER-BURDA-K	AIRB449 B7D-AIRB419 B77G STACKED	DMP6R-BURDA			
ANTENNA VENDOR	CCI	CCI	Ericsson	CCI			
ANTENNA SIZE (H x W x D)	71.2X20.7X7.7	71.2X20.7X7.7	30.4X15.9X8.1	71.2X20.7X7.7			
ANTENNA WEIGHT	79.4	79.4	81.6	79.4			
AZIMUTH	20	20	20	20			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	173	173	173	173			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT							
VERTICAL SEPARATION FROM ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION FROM ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION FROM ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Model (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)		Built in	Built in	Built in			
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED	RRH CONTROLLED	RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TWALMA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
POU FOR TMA5 (QTY/MODEL)							
FILTER (QTY/MODEL)			1				
SOLID (QTY/MODEL)			DOE-46-60-15-8F				
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)	1	4476 B14			1	4449 B5/6/12	RRH is shared with another band
RRH - 800 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)	1	3643 B2/B6/A					
RRH - AWS band (QTY/MODEL)		RRH is shared with another band					
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)			1	integrated within: AIRB449 B7D			
Additional RRH #2 - any band (QTY/MODEL)			1	integrated within: AIRB419 B77G			
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)	1	Y-Cable			1	Y-Cable	
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							

saw
 -Average antenna and radio positions as per PD.
 -Antenna height is based on tower centerline.
 -Add 1 -DC Feeder Study
 -Add C-band and DBO antenna fields.
 -Add 6648-Xcable Cable.
 -Decom UMTS.

Local Market Note 1	
Local Market Note 2	
Local Market Note 3	6216-YXUJ / 6630-IDLe / 6648-Ycable

PORT SPECIFIC FIELDS	PORT NUMBER	USED (CSS#)	USEID (Acol)	ATOLL TXID	ATOLL CELLID	TX/RX TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/IT KIT MODULE?	TRIPLEXER or LLC (GTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSS#)	
ANTENNA POSITION 2	PORT 1	26043.A.700.4G.5		CTL06638_7A_3_F	CTL06638_7A_3_F	LTE 700	TPA-6RR-BUJDA-K_770MHz_03DT	20	0	TOP	FIBER	0						2951.413					
	PORT 3	26043.A.1900.4G.1mp5		CTL04638_9A_1	CTL04638_9A_1	LTE 1900	TPA-6RR-BUJDA-K_1930MHz_03DT	20	0	TOP	FIBER	0						4842.058					
	PORT 4	26043.A.1800.4G.1mp6		CTL04638_9A_2	CTL04638_9A_2	LTE 1800	TPA-6RR-BUJDA-K_1830MHz_03DT	20	0	TOP	FIBER	0						4842.058					
	PORT 7	26043.A.1900.5G.1mp1		CTCN005638_N002A_1	CTCN005638_N002A_1	5G 1900	TPA-6RR-BUJDA-K_1930MHz_03DT	20	0	TOP	FIBER	0							3864.3757				
	PORT 8	26043.A.AV5.4G.1mp1		CTL04638_2A_2	CTL04638_2A_2	LTE AV5	TPA-6RR-BUJDA-K_2170MHz_03DT	20	0	TOP	FIBER	0							5070.2572				
	PORT 11	26043.A.AV5.5G.1mp1		CTCN005638_N006A_1	CTCN005638_N006A_1	5G AV5	TPA-6RR-BUJDA-K_2130MHz_03DT	20	0	TOP	FIBER	0							3837.0724				
					CTCN03638_N077A_1	CTCN03638_N077A_1	5G CBAND																
ANTENNA POSITION 3	PORT 1	26043.A.CBAND.5G.1mp1		CTCN03638_N077A_1	CTCN03638_N077A_1	5G CBAND																	
	PORT 2	26043.A.CBAND.5G.1mp2		CTCN03638_N077A_2	CTCN03638_N077A_2	5G D4D																	
ANTENNA POSITION 4	PORT 1	26043.A.700.4G.1		CTL06638_7A_1	CTL06638_7A_1	LTE 700	DWP66R-BUJDA_735MHz_02D 13.2	13.2	2	TOP	FIBER	0							1475.7085				
	PORT 2	26043.A.850.5G.1		CTCN005638_N005A_1	CTCN005638_N005A_1	5G 850	DWP66R-BUJDA_850MHz_02D 13.1	13.1	2	TOP	FIBER	0							1000				

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION IS LEFT TO RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	TPA-6ER-BURDA-K	TPA-6ER-BURDA-K	AIRB48 B7D-AIRB419 B77G STACKED	DMP6R-BURDA			
ANTENNA VENDOR	CCI	CCI	Ericsson	CCI			
ANTENNA SIZE (H x W x D)	71.2X30.7X7.7	71.2X30.7X7.7	30.4X15.9X8.1	71.2X30.7X7.7			
ANTENNA WEIGHT	79.4	79.4	81.6	79.4			
AZIMUTH	140	140	140	140			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	173	173	173	173			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Model (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)	Built in	Built in	Built in	Built in			
DIPLEXER (QTY/MODEL)							
ANTENNA RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED	RRH CONTROLLED	RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TWALMA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
POU FOR TMA5 (QTY/MODEL)							
FILTER (QTY/MODEL)			1				
SOLID (QTY/MODEL)			DOE-48-60-18-8F				
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)	1	4478 B14					
RRH - 800 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)	1	8643 B2B266A					
RRH - AWS band (QTY/MODEL)		RRH is shared with another band					
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)			1		integrated within: AIRB419 B77G		
Additional RRH #2 - any band (QTY/MODEL)			1		integrated within: AIRB419 B77G		
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)	1	Y-Cable					
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							

saw
 -Average antenna and radio positions as per PD.
 -Antenna height is based on tower centerline.
 -Add 1-DC Feeder Study
 -Add C-band and DBO antenna fields.
 -Add 6648-Xcable Cable.
 -Decom UMTS.
 Local Market Note 1
 Local Market Note 2
 Local Market Note 3
 6216-XMMU / 6630-IDLe / 6648-Xcable

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION IS LEFT TO RIGHT FROM BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	TPA-6ER-BURDA-K	TPA-6ER-BURDA-K	AIRB449 B7D-AIRB419 B77G STACKED	DMP6R-BURDA			
ANTENNA VENDOR	CCI	CCI	Ericsson	CCI			
ANTENNA SIZE (H x W x D)	71.2X30.7X7.7	71.2X30.7X7.7	30.4X15.9X8.1	71.2X30.7X7.7			
ANTENNA WEIGHT	79.4	79.4	81.6	79.4			
AZIMUTH	260	260	260	260			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	173	173	173	173			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT							
VERTICAL SEPARATION FROM ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION FROM ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION FROM CLOSEST ANTENNA TO RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION FROM ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Model (QTY/MODEL)							
SURGE ARRESTOR (QTY/MODEL)	Built in	Built in	Built in	Built in			
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED	RRH CONTROLLED	RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TWALMA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
POU FOR TMA5 (QTY/MODEL)							
FILTER (QTY/MODEL)			1				
SOLID (QTY/MODEL)			DOE-46-60-15-8F				
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)	1	4476 B14			1	4449 B5/6/12	RRH is shared with another band
RRH - 800 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)	1	3643 B2/B26A					
RRH - AWS band (QTY/MODEL)		RRH is shared with another band					
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)			1	integrated within: AIRB449 B77D			
Additional RRH #2 - any band (QTY/MODEL)			1	integrated within: AIRB419 B77G			
RRH 7B 1 (QTY/MODEL)							
RRH 7B 2 (QTY/MODEL)							
RRH 7B 3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)	1	Y-Cable				Y-Cable	
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							

show
 -Average antenna and radio positions as per PD.
 -Antenna height is measured from the top of the tower.
 -Add 1-DC Feeder Stub.
 -Add C-band and DBO antenna feeds.
 -Add 6648-Xcable Cable.
 -Decom UMTS.

Local Market Note 1

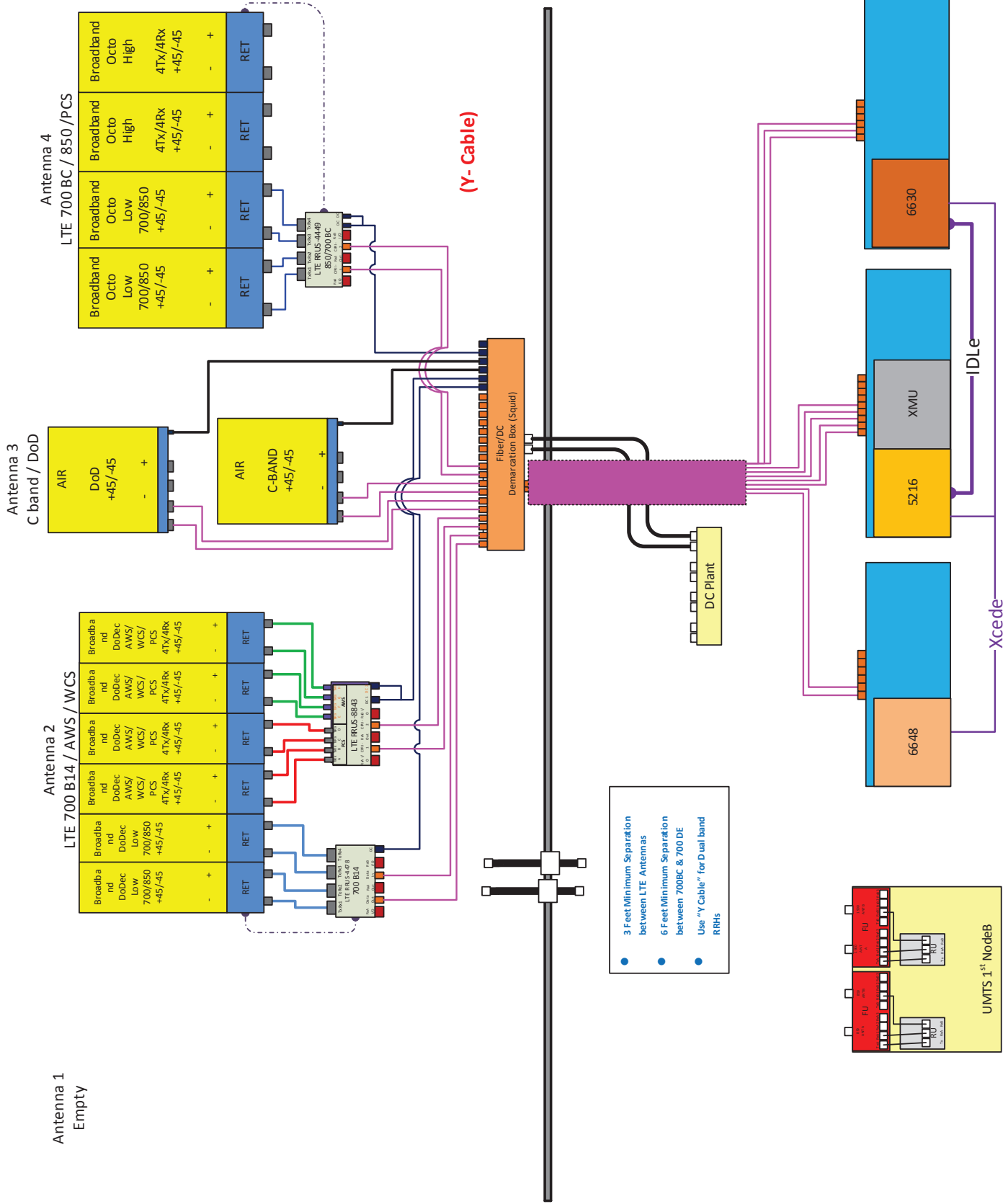
Local Market Note 2

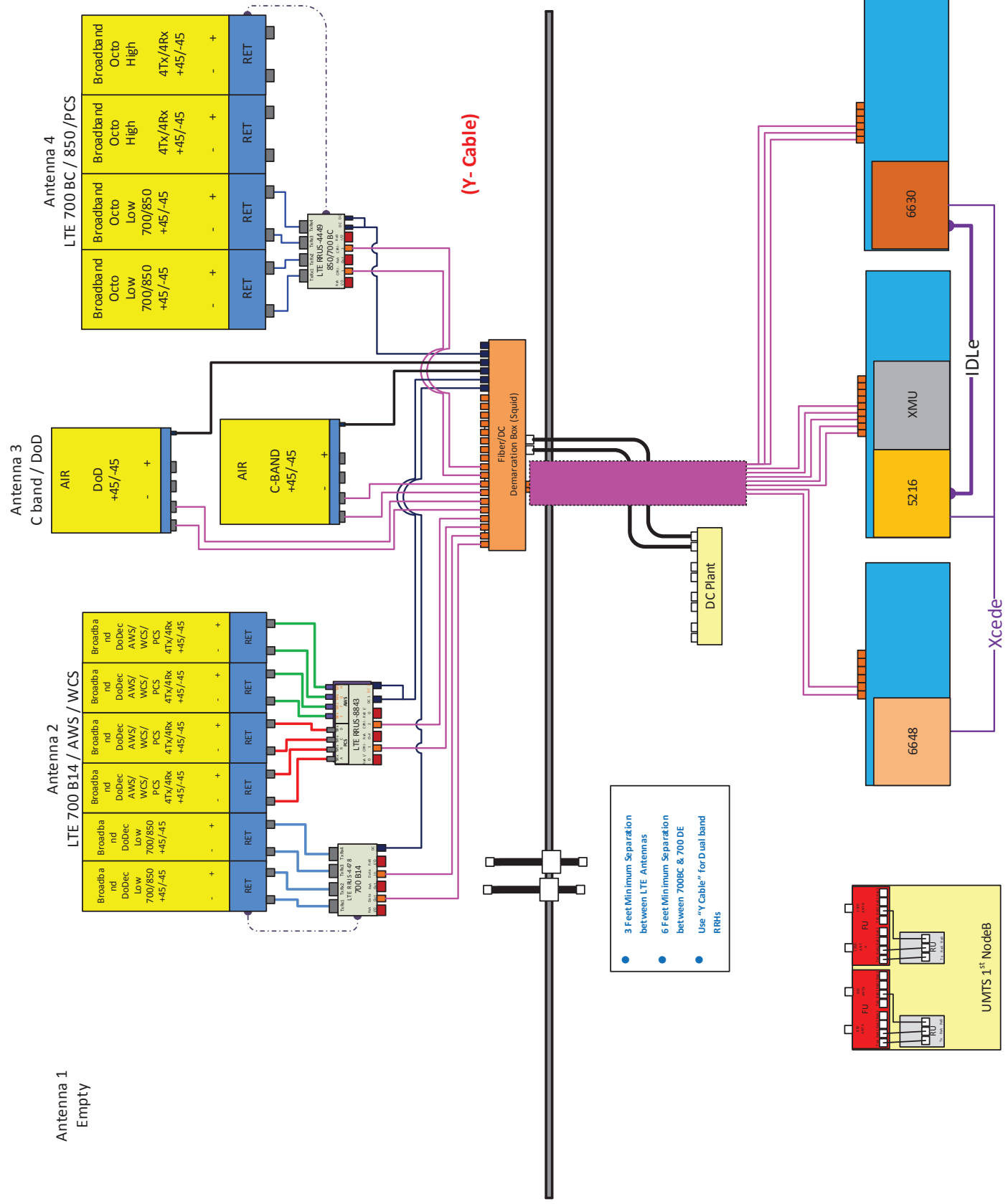
Local Market Note 3

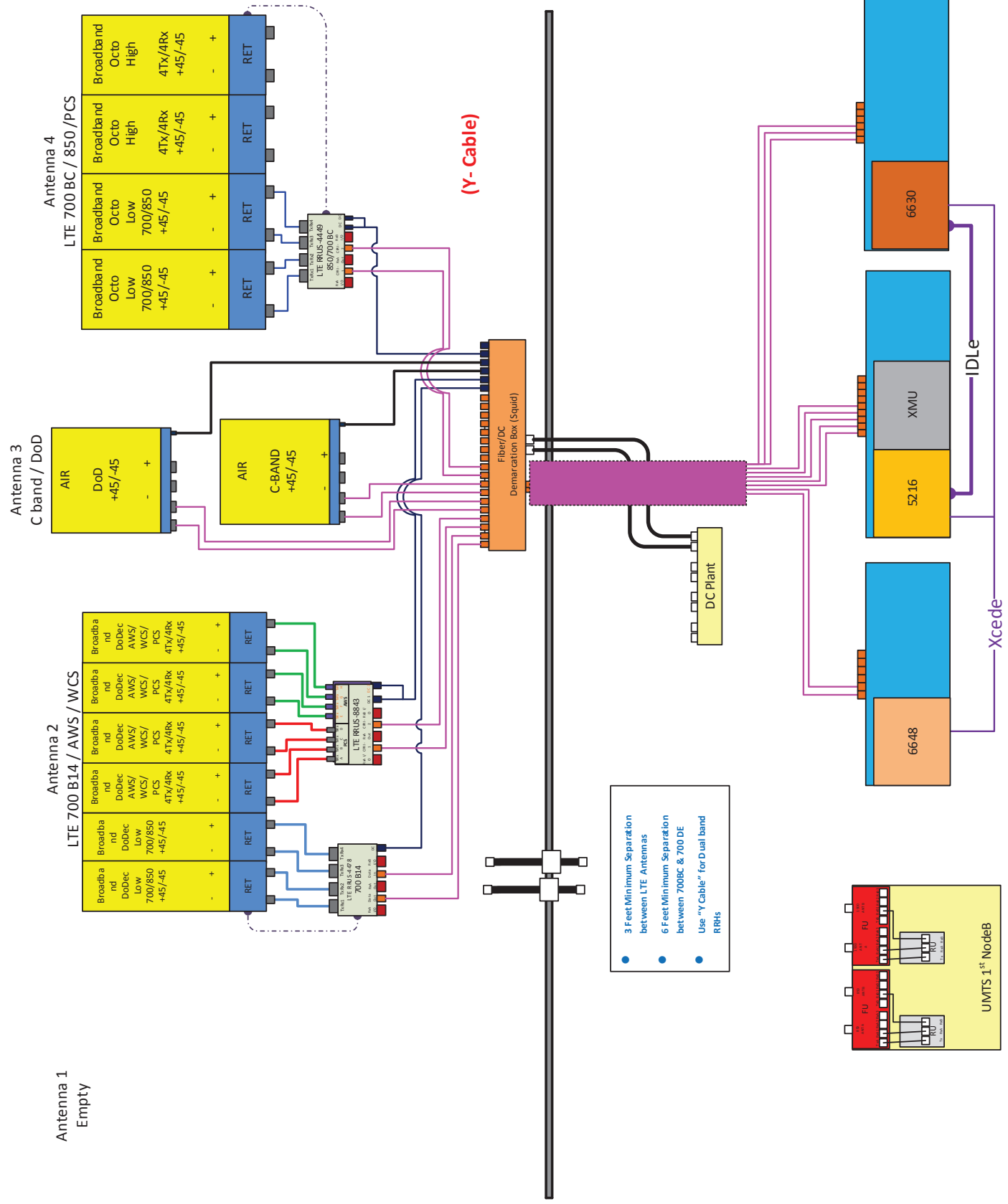
6216-XMU / 6630-IDLe / 6648-Xcable

PORT SPECIFIC FIELDS	PORT NUMBER	USED (CSS#)	USEID (Acol)	ATOLL TXID	ATOLL CELLID	TX/RX TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX KIT MODULE?	TRIPLEXER or LLC (GTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)		
ANTENNA POSITION 2	PORT 1	26043.C.700.4G.5		CTL06638_7C_3_F	CTL06638_7C_3_F	LTE 700	TPA-66R-BUJDA-K_770MHz_03DT	260	0	TOP	FIBER	0	2651.413					2651.413						
	PORT 3	26043.C.1900.4G.1mp5		CTL04638_9C_1	CTL04638_9C_1	LTE 1900	TPA-66R-BUJDA-K_1930MHz_03DT	260	0	TOP	FIBER	0	4842.058						4842.058					
	PORT 4	26043.C.1800.4G.1mp6		CTL04638_9C_2	CTL04638_9C_2	LTE 1800	TPA-66R-BUJDA-K_1830MHz_03DT	260	0	TOP	FIBER	0	4842.058						4842.058					
	PORT 7	26043.C.1900.5G.1mp1		CTCN005638_N009C_1	CTCN005638_N009C_1	5G 1900	TPA-66R-BUJDA-K_1930MHz_03DT	260	0	TOP	FIBER	0	3864.3757						3864.3757					
	PORT 8	26043.C.AVS.4G.1mp1		CTL04638_2C_2	CTL04638_2C_2	LTE AVS	TPA-66R-BUJDA-K_2170MHz_03DT	260	0	TOP	FIBER	0	5070.2572						5070.2572					
	PORT 11	26043.C.AVS.5G.1mp1		CTCN005638_N009C_1	CTCN005638_N009C_1	5G AVS	TPA-66R-BUJDA-K_2130MHz_03DT	260	0	TOP	FIBER	0	3837.0724						3837.0724					
	PORT 12	26043.C.AVS.5G.1mp1		CTCN035638_N077C_1	CTCN035638_N077C_1	5G CBAND		13	260	10	TOP	FIBER	0	2651.413					2651.413					
ANTENNA POSITION 3	PORT 2	26043.C.CBAND.5G.1mp2		CTCN035638_N077C_2	CTCN035638_N077C_2	5G D4D			260	0	TOP	FIBER	0											
	PORT 1	26043.C.700.4G.1		CTL06638_7C_1	CTL06638_7C_1	LTE 700	DMP66R-BUJDA_735MHz_03D 12.7	260	10	TOP	FIBER	0	1475.7085						1475.7085					
ANTENNA POSITION 4	PORT 2	26043.C.850.5G.1		CTCN005638_N009C_1	CTCN005638_N009C_1	5G 850	DMP66R-BUJDA_850MHz_03D 13.3	260	10	TOP	FIBER	0	1000						1000					

Comments: Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson







NOTES

Date Time (Eastern)	Version	ATTUID	Note
3/2/2022 1:47:14 PM	2.00	pn5165	RFDS VERSION incremented.
9/19/2022 10:25:06 PM	3.00	mh705r	RFDS VERSION incremented.
10/18/2022 9:37:46 AM	4.00	mh705r	RFDS VERSION incremented.

WORKFLOW SUMMARY

Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
11/12/2021	Preliminary In Progress	pn5165	Preliminary Submitted for Approval	KG0839	Promote	Prelim	ER_RCTB-21-03316 MRCTB054235 SUCCESS 11/12/2021 1:47:05 AM ER_RCTB-21-03665 PENDING 11/12/2021 1:47:05 AM ER_RCTB-21-03075 PENDING 11/12/2021 1:47:05 AM ER_RCTB-21-04055 PENDING 11/12/2021 1:47:05 AM ER_RCTB-21-03521 MRCTB053317 SUCCESS 11/12/2021 1:47:05 AM ER_RCTB-21-03531 MRCTB053739 SUCCESS 11/12/2021 1:47:05 AM ER_RCTB-21-03080 PENDING 11/12/2021 1:47:05 AM
11/22/2021	Preliminary Submitted for Approval	KG0839	Preliminary Approved	LW826K	Promote	11/22/21 - promoted without review	
02/02/2022	Preliminary Approved	LW826K	Preliminary In Progress	pn5165	Pull Back	Add WCS	ER_RCTB-21-03316 PENDING 02/02/2022 3:32:21 PM ER_RCTB-21-03665 PENDING 02/02/2022 3:32:21 PM ER_RCTB-21-03075 FAILURE 02/02/2022 3:32:21 PM ER_RCTB-21-04055 PENDING 02/02/2022 3:32:21 PM ER_RCTB-21-03521 FAILURE 02/02/2022 3:32:21 PM ER_RCTB-21-03531 FAILURE 02/02/2022 3:32:21 PM ER_RCTB-21-03080 FAILURE 02/02/2022 3:32:21 PM
02/02/2022	Preliminary In Progress	pn5165	Preliminary Submitted for Approval	KG0839	Promote	Add WCS	
02/03/2022	Preliminary Submitted for Approval	KG0839	Preliminary Approved	LW826K	Promote	2/3/22 - re-promoted without review	
02/24/2022	Preliminary Approved	LW826K	Final RF Approval	pn5165	Promote	Add (3) 800-10121 antennas to Section 15, they're currently installed on the tower but missing from 156C job to be added, refresh RFDS Please promote back as final approvedThank you	
03/02/2022	Final RF Approval	pn5165	Final Approved	LW826K	Promote	Final/RF Approval	ER_RCTB-21-03080 PENDING 03/02/2022 6:58:18 PM ER_RCTB-21-03665 PENDING 03/02/2022 6:58:18 PM ER_RCTB-21-04055 MRCTB056325 SUCCESS 03/02/2022 6:58:18 PM ER_RCTB-21-03531 MRCTB053739 SUCCESS 03/02/2022 6:58:18 PM ER_RCTB-21-03521 MRCTB053317 SUCCESS 03/02/2022 6:58:18 PM ER_RCTB-21-03075 PENDING 03/02/2022 6:58:18 PM

								ER_-RCTB-21-03316 MRCTB064235 SUCCESS 03/02/2022 6:58:18 PM ER_-RCTB-22-00311 MRCTB062278 SUCCESS 03/02/2022 6:58:18 PM
09/12/2022	Final Approved	LW826K	Final Modification Recommended	MH705R	Demote		Per RF's comments below:RFDS need demotion to move WCS (new 6C) to P2 and 8843 PCS/AWS on to P4, on all sectors to avoid PIM. Sections 16, 17 & PD needs to be updatedThank you	
09/19/2022	Final Modification Recommended	MH705R	Final Approved	LW826K	Promote		Final RFDS updated for demotion comments revised SOW	
10/18/2022	Final Approved	LW826K	Final RF Approval	mh705r	Pull Back		Pull back to remove Cancelled WCS SOW	ER_-RCTB-21-03080 PENDING 10/18/2022 12:26:11 PM ER_-RCTB-21-04055 PENDING 10/18/2022 12:26:11 PM ER_-RCTB-21-03531 PENDING 10/18/2022 12:26:11 PM ER_-RCTB-21-03075 PENDING 10/18/2022 12:26:11 PM ER_-RCTB-21-03521 PENDING 10/18/2022 12:26:11 PM
10/18/2022	Final RF Approval	mh705r	Final Approved	LW826K	Promote		Final RFDS updated for revised SOW based one mail discussion.	

EXHIBIT 4

May 6, 2022



Centerline Communications
750 West Center Street, Suite #301
West Bridgewater, MA 02379

RE: Site Number: CT5638
 FA Number: 10071180
 PACE Number: MRCTB062278
 PT Number: 2051A146JA
 Site Name: NORTHFORD - TOTOKET
 Site Address: 88 Parsonage Hill Road
 Northford, CT 06472

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by Centerline Communications to perform a mount analysis on the existing AT&T antenna/RRH mounts to determine their capability of supporting the following additional loading:

- (3) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 80 lbs. /each)
- (3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)
- (3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)
- (3) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)
- (2) DC6-48-60-18-8F Surge Arrestor (24.0"x9.7"Ø – Wt. = 33 lbs.)
- **(3) AIR6449 Antennas (30.6"x15.9"x10.6" – Wt. 82 lbs. /each)**
- **(3) AIR6419 Antennas (31.1"x16.1"x7.3" – Wt. = 66 lbs. /each)**
- **(3) TPA65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 69 lbs. /each)**
- **(3) 4415 B30 RRH's (16.5"x13.4"x5.9" – Wt. = 46 lbs. /each)**
- **(1) DC6-48-60-18-8F Surge Arrestor (24.0"x9.7"Ø – Wt. = 33 lbs.)**

**Proposed equipment shown in bold.*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on April 9, 2019. HDG conducted a ground audit of the existing AT&T antenna mounts on December 20, 2021.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R16.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 130 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.18 in was used for this analysis.
- HDG considers this site to be exposure category C; tower is located near large, flat, open, terrain/grasslands.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_S , of 0.186 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.062.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 1.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing self supporting tower with threaded rods and steel plates tightened around the tower leg. HDG considers the threaded rods as the governing connection members.

Based on our evaluation, we have determined that the existing mounts **ARE CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	3	LC49	73%	PASS

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mounts have been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC



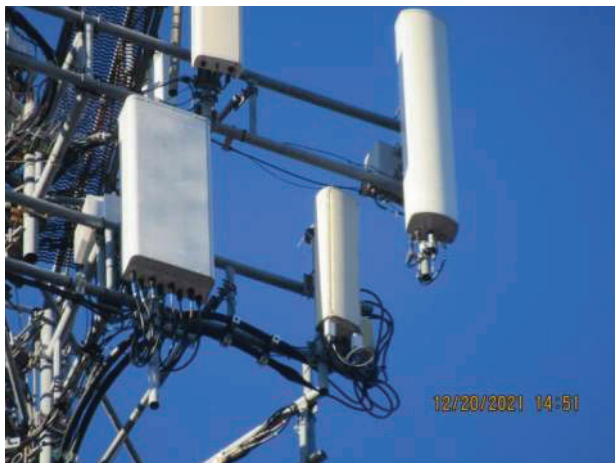
Michael Cabral
Vice President



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

**Wind & Ice
Calculations**

Date: 5-6-2022
 Project Name: NORTHFORD - TOTOKET
 Project No.: CT5638
 Designed By: SR Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

$K_z =$ **1.420**

$z =$ 173 (ft)
 $z_g =$ 900 (ft)
 $\alpha =$ 9.5

$K_{zmin} \leq K_z \leq 2.01$

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_c K_t / K_h)]^2$$

$$K_h = e^{(fz/H)}$$

$K_{zt} =$ **1**

$K_h =$ 1
 $K_c =$ 1 (from Table 2-4)
 $K_t =$ 0 (from Table 2-5)
 $f =$ 0 (from Table 2-5)
 $z =$ 173
 $z_s =$ 279 (Mean elevation of base of structure above sea level)
 $H =$ 0 (Ht. of the crest above surrounding terrain)
 $K_{zt} =$ 1.00 (from 2.6.6.2.1)
 $K_e =$ 0.99 (from 2.6.8)

(If Category 1 then $K_{zt} = 1.0$)

Category = **1**

2.6.10 Design Ice Thickness

Max Ice Thickness =
 Importance Factor =

$t_i =$ 1.00 in
 $I =$ 1.0 (from Table 2-3)
 $K_{iz} =$ 1.18 (from Sec. 2.6.10)

$$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} =$ 1.18 in

Date: 5/6/2022
 Project Name: NORTHFORD - TOTOKET
 Project No.: CT5638
 Designed By: SR Checked By: MSC



2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

G_h = 0.85 + 0.15 [h/150 - 3.0]

h= ht. of structure

h= 195

G_h= 0.85

2.6.9.2 Guyed Masts

G_h= 0.85

2.6.9.3 Pole Structures

G_h= 1.1

2.6.9 Appurtenances

G_h= 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

G_h= 1.35

G_h= 1.00

2.6.11.2 Design Wind Force on Appurtenances

F= q_z*G_h*(EPA)_A

q_z= 0.00256*K_z*K_{zt}*K_s*K_e*K_d*V_{max}²

K_z= 1.420 (from 2.6.5.2)

K_{zt}= 1.0 (from 2.6.6.2.1)

K_s= 1.0 (from 2.6.7)

K_e= 0.99 (from 2.6.8)

K_d= 0.85 (from Table 2-2)

V_{max}= 130 mph (Ultimate Wind Speed)

V_{max (ice)}= 50 mph

V₃₀= 30 mph

q_z= 51.71

q_{z (ice)}= 7.65

q_{z (30)}= 2.75

Table 2-2

Structure Type	Wind Direction Probability Factor, K _d
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

Date: 5-6-2022
 Project Name: NORTHFORD - TOTOKET
 Project No.: CT5638
 Designed By: SR Checked By: MSC



Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		1.2 - 2.8(r _s) ≥ 0.85	1.4 - 4.0(r _s) ≥ 0.90	2.0 - 6.0(r _s) ≥ 1.25
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	4.14/(C ^{0.485})	3.66/(C ^{0.415})	46.8/(C ^{1.0})
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance.)

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.18 in** **Angle = 0 (deg)** **Equivalent Angle = 180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	657	112	35
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	1.92	1.20	210	38	11
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.93	1.20	216	39	11
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.44	1.24	657	112	35
B14 4478 RRH	18.1	8.3	13.4	1.04	2.18	1.20	65	14	3
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.20	70	15	4
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.90	1.20	73	15	4
4415 B30 RRH	16.5	5.9	13.4	0.68	2.80	1.21	42	10	2
DC6-48-60-18-8F Surge Arrestor	31.4	10.2	10.2	2.22	3.08	0.70	81	16	4
1 1/2" Pipe	1.9	12.0		0.16	0.16	1.20	10		
2" Pipe	2.4	12.0		0.20	0.20	1.20	12		
2 1/2" Pipe	2.9	12.0		0.24	0.24	1.20	15		
3" Pipe	3.5	12.0		0.29	0.29	1.20	18		
HSS 2 1/2"x2 1/2"	2.5	12.0		0.21	0.21	2.00	22		

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WIND LOADS

Angle = 30 (deg) Ice Thickness = 1.18 in. Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	565
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	210	142	193
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	216	104	188
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	565
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	65	105	75
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	70	85	74
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	73	102	80
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	95	56

WIND LOADS WITH ICE:

DMP65R-BU6DA Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	97
AIR6449 B77D Antenna	33.0	18.3	13.0	4.18	2.97	1.81	2.54	1.20	1.20	38	27	36
AIR6419 B77G Antenna	33.5	18.5	9.7	4.29	2.24	1.81	3.46	1.20	1.24	39	21	35
TPA65RBU6DA-K Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	97
B14 4478 RRH	20.5	10.7	15.8	1.51	2.24	1.92	1.30	1.20	1.20	14	21	16
B2/B66A 8843 RRH	17.3	13.3	15.6	1.59	1.87	1.30	1.11	1.20	1.20	15	17	15
B5/B12 4449 RRH	20.3	11.8	15.6	1.65	2.19	1.72	1.30	1.20	1.20	15	20	16
4415 B30 RRH	18.9	8.3	15.8	1.08	2.06	2.28	1.20	1.20	1.20	10	19	12

WIND LOADS AT 30 MPH:

DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	30
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	11	8	10
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	11	6	10
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	30
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	6	4
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	5	4
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	3

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WIND LOADS

Angle = 60 (deg) Ice Thickness = 1.18 in. Equivalent Angle = 240 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	382
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	210	142	159
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	216	104	132
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	382
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	65	105	95
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	70	85	81
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	73	102	94
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	95	82

WIND LOADS WITH ICE:

DMP65R-BU6DA Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	69
AIR6449 B77D Antenna	33.0	18.3	13.0	4.18	2.97	1.81	2.54	1.20	1.20	38	27	30
AIR6419 B77G Antenna	33.5	18.5	9.7	4.29	2.24	1.81	3.46	1.20	1.24	39	21	26
TPA65RBU6DA-K Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	69
B14 4478 RRH	20.5	10.7	15.8	1.51	2.24	1.92	1.30	1.20	1.20	14	21	19
B2/B66A 8843 RRH	17.3	13.3	15.6	1.59	1.87	1.30	1.11	1.20	1.20	15	17	16
B5/B12 4449 RRH	20.3	11.8	15.6	1.65	2.19	1.72	1.30	1.20	1.20	15	20	19
4415 B30 RRH	18.9	8.3	15.8	1.08	2.06	2.28	1.20	1.20	1.20	10	19	17

WIND LOADS AT 30 MPH:

DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	20
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	11	8	8
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	11	6	7
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	20
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	6	5
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	5	5
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	4

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WIND LOADS

Angle = 90 (deg) Ice Thickness = 1.18 in. Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	290
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	210	142	142
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	216	104	104
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	290
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	65	105	105
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	70	85	85
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	73	102	102
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	95	95

WIND LOADS WITH ICE:

DMP65R-BU6DA Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	55
AIR6449 B77D Antenna	33.0	18.3	13.0	4.18	2.97	1.81	2.54	1.20	1.20	38	27	27
AIR6419 B77G Antenna	33.5	18.5	9.7	4.29	2.24	1.81	3.46	1.20	1.24	39	21	21
TPA65RBU6DA-K Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	55
B14 4478 RRH	20.5	10.7	15.8	1.51	2.24	1.92	1.30	1.20	1.20	14	21	21
B2/B66A 8843 RRH	17.3	13.3	15.6	1.59	1.87	1.30	1.11	1.20	1.20	15	17	17
B5/B12 4449 RRH	20.3	11.8	15.6	1.65	2.19	1.72	1.30	1.20	1.20	15	20	20
4415 B30 RRH	18.9	8.3	15.8	1.08	2.06	2.28	1.20	1.20	1.20	10	19	19

WIND LOADS AT 30 MPH:

DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	15
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	11	8	8
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	11	6	6
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	15
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	6	6
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	5	5
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	5

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 Designed By: SR Checked By: MSC



WIND LOADS

Angle = 120 (deg) Ice Thickness = 1.18 in. Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	382
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	210	142	159
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	216	104	132
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	382
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	65	105	95
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	70	85	81
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	73	102	94
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	95	82

WIND LOADS WITH ICE:

DMP65R-BU6DA Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	69
AIR6449 B77D Antenna	33.0	18.3	13.0	4.18	2.97	1.81	2.54	1.20	1.20	38	27	30
AIR6419 B77G Antenna	33.5	18.5	9.7	4.29	2.24	1.81	3.46	1.20	1.24	39	21	26
TPA65RBU6DA-K Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	69
B14 4478 RRH	20.5	10.7	15.8	1.51	2.24	1.92	1.30	1.20	1.20	14	21	19
B2/B66A 8843 RRH	17.3	13.3	15.6	1.59	1.87	1.30	1.11	1.20	1.20	15	17	16
B5/B12 4449 RRH	20.3	11.8	15.6	1.65	2.19	1.72	1.30	1.20	1.20	15	20	19
4415 B30 RRH	18.9	8.3	15.8	1.08	2.06	2.28	1.20	1.20	1.20	10	19	17

WIND LOADS AT 30 MPH:

DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	20
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	11	8	8
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	11	6	7
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	20
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	6	5
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	5	5
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	4

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 Designed By: SR Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.18 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	565
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	210	142	193
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	216	104	188
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	657	290	565
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	65	105	75
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	70	85	74
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	73	102	80
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	95	56

WIND LOADS WITH ICE:

DMP65R-BU6DA Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	97
AIR6449 B77D Antenna	33.0	18.3	13.0	4.18	2.97	1.81	2.54	1.20	1.20	38	27	36
AIR6419 B77G Antenna	33.5	18.5	9.7	4.29	2.24	1.81	3.46	1.20	1.24	39	21	35
TPA65RBU6DA-K Antenna	73.6	23.1	10.1	11.78	5.14	3.19	7.31	1.23	1.41	111	55	97
B14 4478 RRH	20.5	10.7	15.8	1.51	2.24	1.92	1.30	1.20	1.20	14	21	16
B2/B66A 8843 RRH	17.3	13.3	15.6	1.59	1.87	1.30	1.11	1.20	1.20	15	17	15
B5/B12 4449 RRH	20.3	11.8	15.6	1.65	2.19	1.72	1.30	1.20	1.20	15	20	16
4415 B30 RRH	18.9	8.3	15.8	1.08	2.06	2.28	1.20	1.20	1.20	10	19	12

WIND LOADS AT 30 MPH:

DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	30
AIR6449 B77D Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	11	8	10
AIR6419 B77G Antenna	31.1	16.1	7.3	3.48	1.58	1.93	4.26	1.20	1.28	11	6	10
TPA65RBU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	35	15	30
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	6	4
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B5/B12 4449 RRH	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	5	4
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	3

Date: 5-6-2022

Project Name: NORTHFORD - TOTOKET

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Designed By: SR Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1.18 in.
Density of ice: 56 pcf

DMP65R-BU6DA Antenna

Weight of ice based on total radial SF area:

Height (in): 71.2
Width (in): 20.7
Depth (in): 7.7

Total weight of ice on object: 199 lbs

Weight of object: 80.0 lbs

Combined weight of ice and object: 279 lbs

AIR6449 B77D Antenna

Weight of ice based on total radial SF area:

Height (in): 30.6
Width (in): 15.9
Depth (in): 10.6

Total weight of ice on object: 75 lbs

Weight of object: 82.0 lbs

Combined weight of ice and object: 157 lbs

AIR6419 B77G Antenna

Weight of ice based on total radial SF area:

Height (in): 31.1
Width (in): 16.1
Depth (in): 7.3

Total weight of ice on object: 70 lbs

Weight of object: 66.0 lbs

Combined weight of ice and object: 136 lbs

TPA65RBU6DA-K Antenna

Weight of ice based on total radial SF area:

Height (in): 71.2
Width (in): 20.7
Depth (in): 7.7

Total weight of ice on object: 199 lbs

Weight of object: 69.0 lbs

Combined weight of ice and object: 268 lbs

B14 4478 RRH

Weight of ice based on total radial SF area:

Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3

Total weight of ice on object: 37 lbs

Weight of object: 60.0 lbs

Combined weight of ice and object: 97 lbs

B2/B66A 8843 RRH

Weight of ice based on total radial SF area:

Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9

Total weight of ice on object: 33 lbs

Weight of object: 72.0 lbs

Combined weight of ice and object: 105 lbs

B5/B12 4449 RRH

Weight of ice based on total radial SF area:

Height (in): 17.9
Width (in): 13.2
Depth (in): 9.4

Total weight of ice on object: 37 lbs

Weight of object: 73.0 lbs

Combined weight of ice and object: 110 lbs

4415 B30 RRH

Weight of ice based on total radial SF area:

Height (in): 16.5
Width (in): 13.4
Depth (in): 5.9

Total weight of ice on object: 31 lbs

Weight of object: 46.0 lbs

Combined weight of ice and object: 77 lbs

DC6-48-60-18-8F Surge Arrestor

Weight of ice based on total radial SF area:

Depth (in): 31.4
Diameter(in): 10.2

Total weight of ice on object: 43 lbs

Weight of object: 29 lbs

Combined weight of ice and object: 72 lbs

1 1/2" Pipe

Per foot weight of ice:

diameter (in): 1.875

Per foot weight of ice on object: 4 plf

2 1/2" Pipe

Per foot weight of ice:

diameter (in): 2.88

Per foot weight of ice on object: 6 plf

2 " Pipe

Per foot weight of ice:

diameter (in): 2.38

Per foot weight of ice on object: 5 plf

HSS 2 1/2x2 1/2

Weight of ice based on total radial SF area:

Height (in): 2.5
Width (in): 2.5

Per foot weight of ice on object: 7 plf

3 " Pipe

Per foot weight of ice:

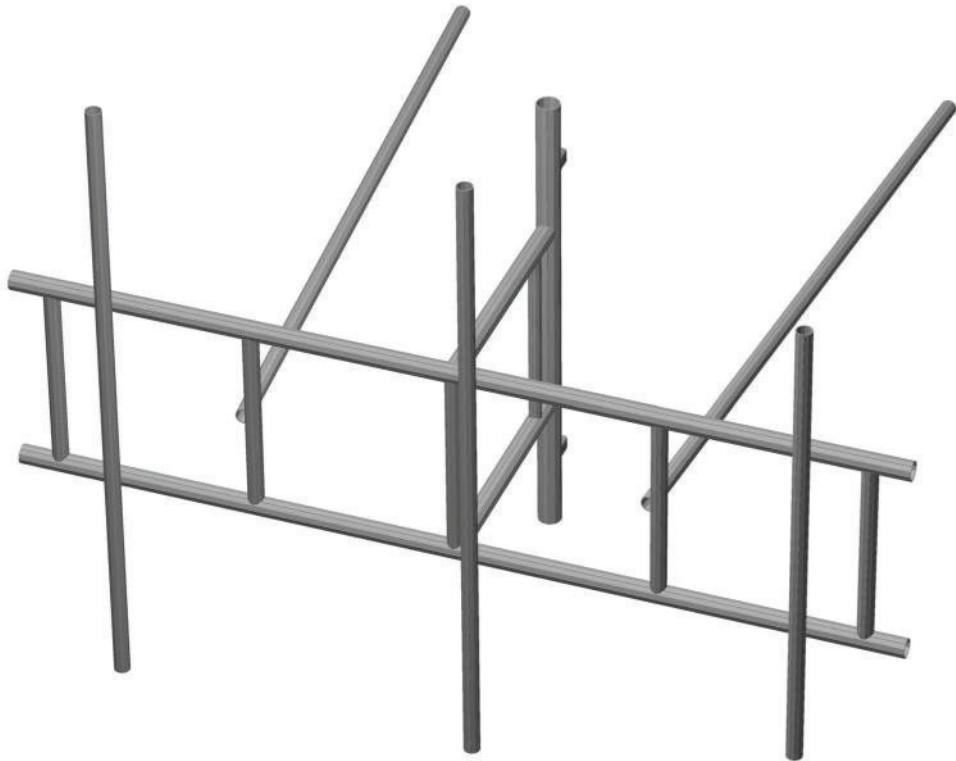
diameter (in): 3.5

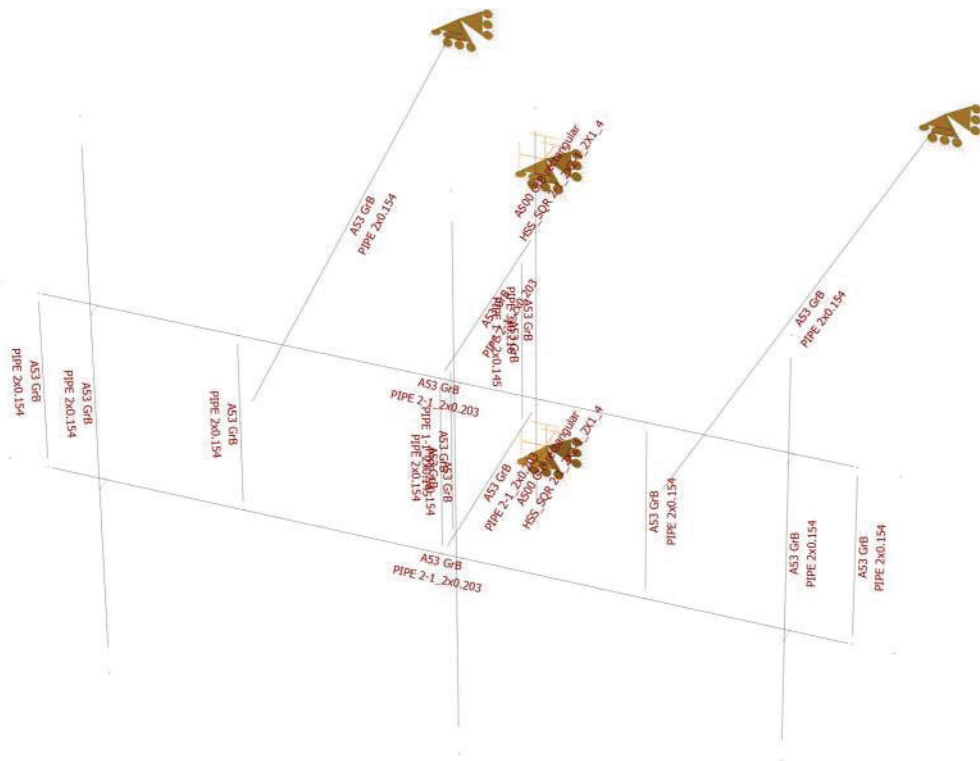
Per foot weight of ice on object: 7 plf

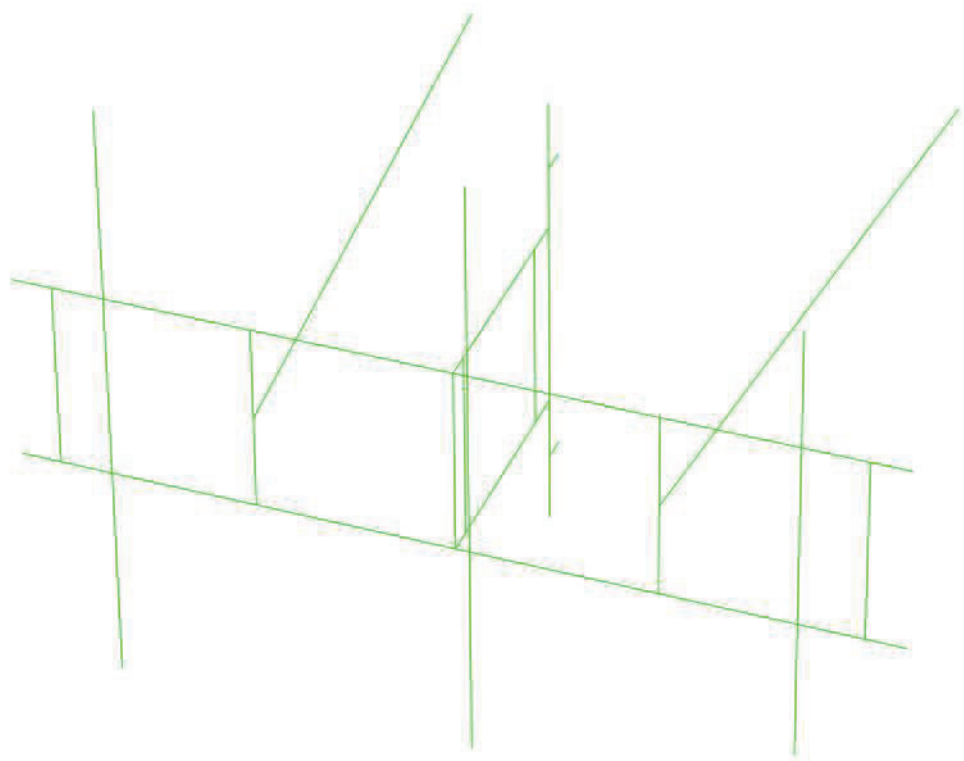


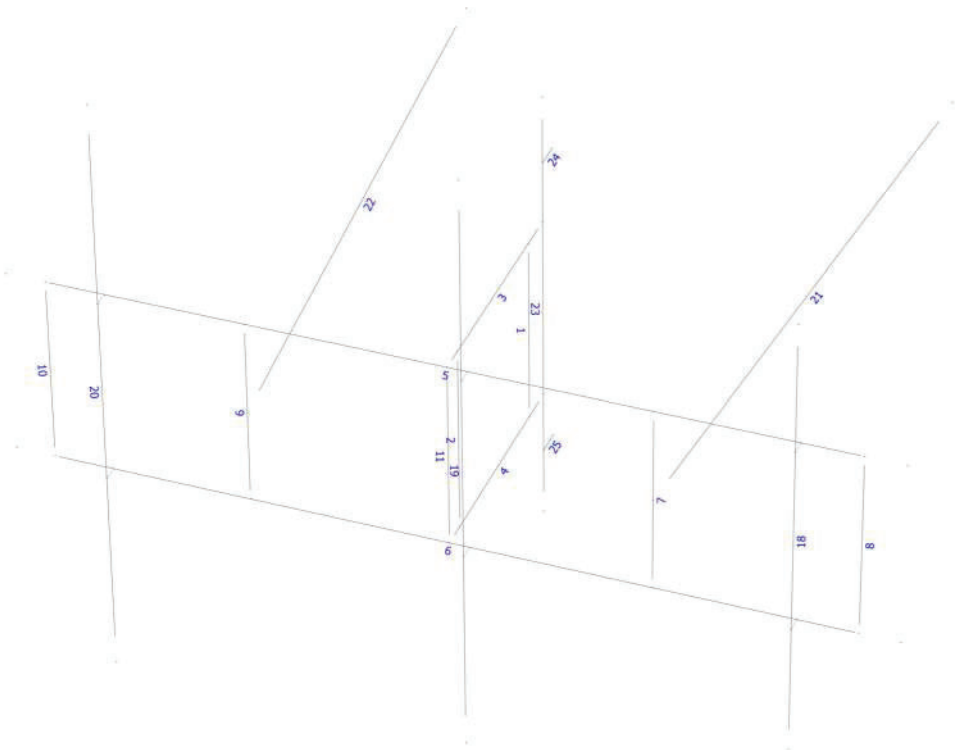
HUDSON
Design Group LLC

**Mount Calculations
(Existing Conditions)**









Load data

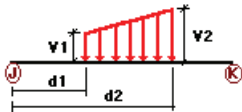
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No	WIND
WI150	WL ICE 150deg	No	WIND
WL0	WL 30 mph 0deg	No	WIND
WL30	WL 30 mph 30deg	No	WIND
WL60	WL 30 mph 60deg	No	WIND
WL90	WL 30 mph 90deg	No	WIND
WL120	WL 30 mph 120deg	No	WIND
WL150	WL 30 mph 150deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load Right End of Mount	No	LL
LL3	250 lb Live Load Left End of Mount	No	LL
LLa1	500 lb Live Load Antenna 1	No	LL
LLa2	500 lb Live Load Antenna 2	No	LL
LLa3	500 lb Live Load Antenna 3	No	LL

Distributed force on members

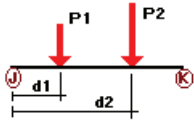


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	5	z	-0.015	0.00	0.00	No	0.00	No
	6	z	-0.015	0.00	0.00	No	0.00	No
	10	z	-0.012	0.00	0.00	No	0.00	No
	9	z	-0.012	0.00	0.00	No	0.00	No
	7	z	-0.012	0.00	0.00	No	0.00	No
	8	z	-0.012	0.00	0.00	No	0.00	No
	11	z	-0.012	0.00	0.00	No	0.00	No
	22	z	-0.012	0.00	0.00	No	0.00	No
	21	z	-0.012	0.00	0.00	No	0.00	No
	23	z	-0.018	0.00	0.00	No	0.00	No
	1	z	-0.01	0.00	0.00	No	0.00	No

W30	2	z	-0.01	0.00	0.00	No	0.00	No
	5	z	-0.015	0.00	0.00	No	0.00	No
	6	z	-0.015	0.00	0.00	No	0.00	No
	10	z	-0.012	0.00	0.00	No	0.00	No
	9	z	-0.012	0.00	0.00	No	0.00	No
	7	z	-0.012	0.00	0.00	No	0.00	No
	8	z	-0.012	0.00	0.00	No	0.00	No
	11	z	-0.012	0.00	0.00	No	0.00	No
	22	z	-0.012	0.00	0.00	No	0.00	No
	21	z	-0.012	0.00	0.00	No	0.00	No
	23	z	-0.018	0.00	0.00	No	0.00	No
W60	1	z	-0.01	0.00	0.00	No	0.00	No
	2	z	-0.01	0.00	0.00	No	0.00	No
	10	x	-0.012	0.00	0.00	No	0.00	No
	9	x	-0.012	0.00	0.00	No	0.00	No
	7	x	-0.012	0.00	0.00	No	0.00	No
	8	x	-0.012	0.00	0.00	No	0.00	No
	11	x	-0.012	0.00	0.00	No	0.00	No
	22	x	-0.012	0.00	0.00	No	0.00	No
	21	x	-0.012	0.00	0.00	No	0.00	No
	20	x	-0.012	0.00	0.00	No	0.00	No
	19	x	-0.012	0.00	0.00	No	0.00	No
	18	x	-0.012	0.00	0.00	No	0.00	No
	23	x	-0.018	0.00	0.00	No	0.00	No
	1	x	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.018	0.00	0.00	No	0.00	No
W90	4	x	-0.018	0.00	0.00	No	0.00	No
	24	x	-0.022	0.00	0.00	No	0.00	No
	25	x	-0.022	0.00	0.00	No	0.00	No
	2	x	-0.01	0.00	0.00	No	0.00	No
	10	x	-0.012	0.00	0.00	No	0.00	No
	9	x	-0.012	0.00	0.00	No	0.00	No
	7	x	-0.012	0.00	0.00	No	0.00	No
	8	x	-0.012	0.00	0.00	No	0.00	No
	11	x	-0.012	0.00	0.00	No	0.00	No
	22	x	-0.012	0.00	0.00	No	0.00	No
	21	x	-0.012	0.00	0.00	No	0.00	No
	20	x	-0.012	0.00	0.00	No	0.00	No
	19	x	-0.012	0.00	0.00	No	0.00	No
	18	x	-0.012	0.00	0.00	No	0.00	No
	23	x	-0.018	0.00	0.00	No	0.00	No
W120	1	x	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.018	0.00	0.00	No	0.00	No
	4	x	-0.018	0.00	0.00	No	0.00	No
	24	x	-0.022	0.00	0.00	No	0.00	No
	25	x	-0.022	0.00	0.00	No	0.00	No
	2	x	-0.01	0.00	0.00	No	0.00	No
	10	x	-0.012	0.00	0.00	No	0.00	No
	9	x	-0.012	0.00	0.00	No	0.00	No
	7	x	-0.012	0.00	0.00	No	0.00	No
	8	x	-0.012	0.00	0.00	No	0.00	No
	11	x	-0.012	0.00	0.00	No	0.00	No
	22	x	-0.012	0.00	0.00	No	0.00	No
	21	x	-0.012	0.00	0.00	No	0.00	No
	20	x	-0.012	0.00	0.00	No	0.00	No
	19	x	-0.012	0.00	0.00	No	0.00	No
18	x	-0.012	0.00	0.00	No	0.00	No	
23	x	-0.018	0.00	0.00	No	0.00	No	
W150	1	x	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.018	0.00	0.00	No	0.00	No
	4	x	-0.018	0.00	0.00	No	0.00	No
	24	x	-0.022	0.00	0.00	No	0.00	No
	25	x	-0.022	0.00	0.00	No	0.00	No
	2	x	-0.01	0.00	0.00	No	0.00	No
	5	z	0.018	0.00	0.00	No	0.00	No
	6	z	0.018	0.00	0.00	No	0.00	No

	10	z	0.012	0.00	0.00	No	0.00	No
	9	z	0.012	0.00	0.00	No	0.00	No
	7	z	0.012	0.00	0.00	No	0.00	No
	8	z	0.012	0.00	0.00	No	0.00	No
	11	z	0.012	0.00	0.00	No	0.00	No
	22	z	0.012	0.00	0.00	No	0.00	No
	21	z	0.012	0.00	0.00	No	0.00	No
	20	z	0.012	0.00	0.00	No	0.00	No
	19	z	0.012	0.00	0.00	No	0.00	No
	18	z	0.012	0.00	0.00	No	0.00	No
	23	z	0.018	0.00	0.00	No	0.00	No
	1	z	0.01	0.00	0.00	No	0.00	No
	3	z	0.018	0.00	0.00	No	0.00	No
	4	z	0.018	0.00	0.00	No	0.00	No
	24	z	0.022	0.00	0.00	No	0.00	No
	25	z	0.022	0.00	0.00	No	0.00	No
	2	z	0.01	0.00	0.00	No	0.00	No
Di	5	y	-0.006	0.00	0.00	No	0.00	No
	6	y	-0.006	0.00	0.00	No	0.00	No
	10	y	-0.005	0.00	0.00	No	0.00	No
	9	y	-0.005	0.00	0.00	No	0.00	No
	7	y	-0.005	0.00	0.00	No	0.00	No
	8	y	-0.005	0.00	0.00	No	0.00	No
	11	y	-0.005	0.00	0.00	No	0.00	No
	22	y	-0.005	0.00	0.00	No	0.00	No
	21	y	-0.005	0.00	0.00	No	0.00	No
	20	y	-0.005	0.00	0.00	No	0.00	No
	19	y	-0.005	0.00	0.00	No	0.00	No
	18	y	-0.005	0.00	0.00	No	0.00	No
	23	y	-0.007	0.00	0.00	No	0.00	No
	1	y	-0.004	0.00	0.00	No	0.00	No
	3	y	-0.006	0.00	0.00	No	0.00	No
	4	y	-0.006	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	20	y	-0.033	10.00	Yes
		y	-0.033	80.00	Yes
		y	-0.073	30.00	Yes
		y	-0.046	30.00	Yes
	19	y	-0.041	10.00	Yes
		y	-0.041	40.00	Yes
		y	-0.033	60.00	Yes
		y	-0.033	90.00	Yes
	18	y	-0.04	10.00	Yes
		y	-0.04	80.00	Yes
		y	-0.06	30.00	Yes
		y	-0.072	30.00	Yes
Wo	23	y	-0.029	50.00	Yes
	20	z	-0.34	10.00	Yes
		z	-0.34	80.00	Yes
		z	-0.073	30.00	Yes
		z	-0.042	30.00	Yes
19	z	-0.105	10.00	Yes	
	z	-0.105	40.00	Yes	

		z	-0.108	60.00	Yes
		z	-0.108	90.00	Yes
	18	z	-0.329	10.00	Yes
		z	-0.329	80.00	Yes
		z	-0.065	30.00	Yes
		z	-0.07	30.00	Yes
	23	z	-0.081	50.00	Yes
W30	20	3	-0.283	10.00	Yes
		3	-0.283	80.00	Yes
		3	-0.08	30.00	Yes
		3	-0.056	30.00	Yes
	19	3	-0.097	10.00	Yes
		3	-0.097	40.00	Yes
		3	-0.094	60.00	Yes
		3	-0.094	90.00	Yes
	18	3	-0.283	10.00	Yes
		3	-0.283	80.00	Yes
		3	-0.075	30.00	Yes
		3	-0.074	30.00	Yes
	23	3	-0.081	50.00	Yes
W60	20	3	-0.191	10.00	Yes
		3	-0.191	80.00	Yes
		3	-0.094	30.00	Yes
		3	-0.082	30.00	Yes
	19	3	-0.08	10.00	Yes
		3	-0.08	40.00	Yes
		3	-0.066	60.00	Yes
		3	-0.066	90.00	Yes
	18	3	-0.191	10.00	Yes
		3	-0.191	80.00	Yes
		3	-0.095	30.00	Yes
		3	-0.081	30.00	Yes
	23	3	-0.081	50.00	Yes
W90	20	x	-0.145	10.00	Yes
		x	-0.145	80.00	Yes
		x	-0.102	30.00	Yes
		x	-0.095	30.00	Yes
	19	x	-0.071	10.00	Yes
		x	-0.071	40.00	Yes
		x	-0.052	60.00	Yes
		x	-0.052	90.00	Yes
	18	x	-0.145	10.00	Yes
		x	-0.145	80.00	Yes
		x	-0.105	30.00	Yes
		x	-0.085	30.00	Yes
	23	x	-0.081	50.00	Yes
W120	20	2	-0.191	10.00	Yes
		2	-0.191	80.00	Yes
		2	-0.094	30.00	Yes
		2	-0.082	30.00	Yes
	19	2	-0.08	10.00	Yes
		2	-0.08	40.00	Yes
		2	-0.066	60.00	Yes
		2	-0.066	90.00	Yes
	18	2	-0.191	10.00	Yes
		2	-0.191	80.00	Yes
		2	-0.095	30.00	Yes
		2	-0.081	30.00	Yes
	23	2	-0.081	50.00	Yes
W150	20	2	-0.283	10.00	Yes
		2	-0.283	80.00	Yes
		2	-0.08	30.00	Yes
		2	-0.056	30.00	Yes
	19	2	-0.097	10.00	Yes
		2	-0.097	40.00	Yes
		2	-0.094	60.00	Yes

		2	-0.094	90.00	Yes
	18	2	-0.283	10.00	Yes
		2	-0.283	80.00	Yes
		2	-0.075	30.00	Yes
		2	-0.074	30.00	Yes
	23	2	-0.081	50.00	Yes
Di	20	y	-0.10	10.00	Yes
		y	-0.10	80.00	Yes
		y	-0.037	30.00	Yes
		y	-0.031	30.00	Yes
	19	y	-0.038	10.00	Yes
		y	-0.038	40.00	Yes
		y	-0.035	60.00	Yes
		y	-0.035	90.00	Yes
	18	y	-0.10	10.00	Yes
		y	-0.10	80.00	Yes
		y	-0.037	30.00	Yes
		y	-0.033	30.00	Yes
WI0	23	y	-0.043	50.00	Yes
	20	z	-0.056	10.00	Yes
		z	-0.056	80.00	Yes
		z	-0.015	30.00	Yes
		z	-0.01	30.00	Yes
	19	z	-0.019	10.00	Yes
		z	-0.019	40.00	Yes
		z	-0.02	60.00	Yes
		z	-0.02	90.00	Yes
	18	z	-0.056	10.00	Yes
		z	-0.056	80.00	Yes
		z	-0.014	30.00	Yes
		z	-0.015	30.00	Yes
	23	z	-0.016	50.00	Yes
WI30	20	3	-0.049	10.00	Yes
		3	-0.049	80.00	Yes
		3	-0.016	30.00	Yes
		3	-0.012	30.00	Yes
	19	3	-0.018	10.00	Yes
		3	-0.018	40.00	Yes
		3	-0.018	60.00	Yes
		3	-0.018	90.00	Yes
	18	3	-0.049	10.00	Yes
		3	-0.049	80.00	Yes
		3	-0.016	30.00	Yes
		3	-0.015	30.00	Yes
	23	3	-0.016	50.00	Yes
WI60	20	3	-0.035	10.00	Yes
		3	-0.035	80.00	Yes
		3	-0.019	30.00	Yes
		3	-0.017	30.00	Yes
	19	3	-0.015	10.00	Yes
		3	-0.015	40.00	Yes
		3	-0.013	60.00	Yes
		3	-0.013	90.00	Yes
	18	3	-0.035	10.00	Yes
		3	-0.035	80.00	Yes
		3	-0.019	30.00	Yes
		3	-0.016	30.00	Yes
	23	3	-0.016	50.00	Yes
WI90	20	x	-0.028	10.00	Yes
		x	-0.028	80.00	Yes
		x	-0.02	30.00	Yes
		x	-0.019	30.00	Yes
	19	x	-0.014	10.00	Yes
		x	-0.014	40.00	Yes
		x	-0.011	60.00	Yes
		x	-0.011	90.00	Yes

	18	x	-0.028	10.00	Yes
		x	-0.028	80.00	Yes
		x	-0.021	30.00	Yes
		x	-0.017	30.00	Yes
	23	x	-0.016	50.00	Yes
WI120	20	2	-0.035	10.00	Yes
		2	-0.035	80.00	Yes
		2	-0.019	30.00	Yes
		2	-0.017	30.00	Yes
	19	2	-0.015	10.00	Yes
		2	-0.015	40.00	Yes
		2	-0.013	60.00	Yes
		2	-0.013	90.00	Yes
	18	2	-0.035	10.00	Yes
		2	-0.035	80.00	Yes
		2	-0.019	30.00	Yes
		2	-0.016	30.00	Yes
	23	2	-0.016	50.00	Yes
WI150	20	2	-0.049	10.00	Yes
		2	-0.049	80.00	Yes
		2	-0.016	30.00	Yes
		2	-0.012	30.00	Yes
	19	2	-0.018	10.00	Yes
		2	-0.018	40.00	Yes
		2	-0.018	60.00	Yes
		2	-0.018	90.00	Yes
	18	2	-0.049	10.00	Yes
		2	-0.049	80.00	Yes
		2	-0.016	30.00	Yes
		2	-0.015	30.00	Yes
	23	2	-0.016	50.00	Yes
WL0	20	z	-0.018	10.00	Yes
		z	-0.018	80.00	Yes
		z	-0.004	30.00	Yes
		z	-0.002	30.00	Yes
	19	z	-0.006	10.00	Yes
		z	-0.006	40.00	Yes
		z	-0.006	60.00	Yes
		z	-0.006	90.00	Yes
	18	z	-0.018	10.00	Yes
		z	-0.018	80.00	Yes
		z	-0.003	30.00	Yes
		z	-0.004	30.00	Yes
	23	z	-0.004	50.00	Yes
WL30	20	3	-0.015	10.00	Yes
		3	-0.015	80.00	Yes
		3	-0.004	30.00	Yes
		3	-0.003	30.00	Yes
	19	3	-0.005	10.00	Yes
		3	-0.005	40.00	Yes
		3	-0.005	60.00	Yes
		3	-0.005	90.00	Yes
	18	3	-0.015	10.00	Yes
		3	-0.015	80.00	Yes
		3	-0.002	30.00	Yes
		3	-0.004	30.00	Yes
	23	3	-0.004	50.00	Yes
WL60	20	3	-0.01	10.00	Yes
		3	-0.01	80.00	Yes
		3	-0.005	30.00	Yes
		3	-0.004	30.00	Yes
	19	3	-0.004	10.00	Yes
		3	-0.004	40.00	Yes
		3	-0.004	60.00	Yes
		3	-0.004	90.00	Yes
	18	3	-0.01	10.00	Yes

		3	-0.01	80.00	Yes
		3	-0.003	30.00	Yes
		3	-0.004	30.00	Yes
WL90	23	3	-0.004	50.00	Yes
	20	x	-0.008	10.00	Yes
		x	-0.008	80.00	Yes
		x	-0.005	30.00	Yes
		x	-0.005	30.00	Yes
	19	x	-0.004	10.00	Yes
		x	-0.004	40.00	Yes
		x	-0.003	60.00	Yes
		x	-0.003	90.00	Yes
	18	x	-0.008	10.00	Yes
		x	-0.008	80.00	Yes
		x	-0.003	30.00	Yes
		x	-0.005	30.00	Yes
WL120	23	x	-0.004	50.00	Yes
	20	2	-0.01	10.00	Yes
		2	-0.01	80.00	Yes
		2	-0.005	30.00	Yes
		2	-0.004	30.00	Yes
	19	2	-0.004	10.00	Yes
		2	-0.004	40.00	Yes
		2	-0.004	60.00	Yes
		2	-0.004	90.00	Yes
	18	2	-0.01	10.00	Yes
		2	-0.01	80.00	Yes
		2	-0.003	30.00	Yes
		2	-0.004	30.00	Yes
	23	2	-0.004	50.00	Yes
WL150	20	2	-0.015	10.00	Yes
		2	-0.015	80.00	Yes
		2	-0.004	30.00	Yes
		2	-0.003	30.00	Yes
	19	2	-0.005	10.00	Yes
		2	-0.005	40.00	Yes
		2	-0.005	60.00	Yes
		2	-0.005	90.00	Yes
	18	2	-0.015	10.00	Yes
		2	-0.015	80.00	Yes
		2	-0.002	30.00	Yes
		2	-0.004	30.00	Yes
	23	2	-0.004	50.00	Yes
LL1	6	y	-0.25	50.00	Yes
LL2	6	y	-0.25	100.00	Yes
LL3	6	y	-0.25	0.00	Yes
LLa1	18	y	-0.50	50.00	Yes
LLa2	19	y	-0.50	50.00	Yes
LLa3	20	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00

Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LL3	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00

Steel Code Check

Report: Summary - Group by member**Load conditions to be included in design :**

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+WIo
LC26=1.2D+Di+Wl30
LC27=1.2D+Di+Wl60
LC28=1.2D+Di+Wl90
LC29=1.2D+Di+Wl120
LC30=1.2D+Di+Wl150
LC31=1.2D+Di-WIo
LC32=1.2D+Di-Wl30
LC33=1.2D+Di-Wl60
LC34=1.2D+Di-Wl90
LC35=1.2D+Di-Wl120
LC36=1.2D+Di-Wl150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+WLo+1.6LLa1
LC41=1.2D+Wl30+1.6LLa1
LC42=1.2D+Wl60+1.6LLa1
LC43=1.2D+Wl90+1.6LLa1
LC44=1.2D+Wl120+1.6LLa1
LC45=1.2D+Wl150+1.6LLa1
LC46=1.2D-WLo+1.6LLa1
LC47=1.2D-Wl30+1.6LLa1
LC48=1.2D-Wl60+1.6LLa1
LC49=1.2D-Wl90+1.6LLa1
LC50=1.2D-Wl120+1.6LLa1
LC51=1.2D-Wl150+1.6LLa1
LC52=1.2D+WLo+1.6LLa2
LC53=1.2D+Wl30+1.6LLa2
LC54=1.2D+Wl60+1.6LLa2
LC55=1.2D+Wl90+1.6LLa2
LC56=1.2D+Wl120+1.6LLa2
LC57=1.2D+Wl150+1.6LLa2
LC58=1.2D-WLo+1.6LLa2
LC59=1.2D-Wl30+1.6LLa2
LC60=1.2D-Wl60+1.6LLa2

LC61=1.2D-WL90+1.6LLa2
 LC62=1.2D-WL120+1.6LLa2
 LC63=1.2D-WL150+1.6LLa2
 LC64=1.2D+WL0+1.6LLa3
 LC65=1.2D+WL30+1.6LLa3
 LC66=1.2D+WL60+1.6LLa3
 LC67=1.2D+WL90+1.6LLa3
 LC68=1.2D+WL120+1.6LLa3
 LC69=1.2D+WL150+1.6LLa3
 LC70=1.2D-WL0+1.6LLa3
 LC71=1.2D-WL30+1.6LLa3
 LC72=1.2D-WL60+1.6LLa3
 LC73=1.2D-WL90+1.6LLa3
 LC74=1.2D-WL120+1.6LLa3
 LC75=1.2D-WL150+1.6LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	<i>HSS_SQR 2-1_2X2-1_2X1_4</i>	24	LC10 at 100.00%	0.33	OK	
		25	LC4 at 100.00%	0.26	OK	
	<i>PIPE 1-1_2x0.145</i>	1	LC49 at 0.00%	0.31	OK	
		2	LC47 at 100.00%	0.38	OK	
	<i>PIPE 2-1_2x0.203</i>	3	LC49 at 0.00%	0.73	OK	
		4	LC45 at 0.00%	0.73	OK	
		5	LC47 at 50.00%	0.51	OK	
		6	LC45 at 50.00%	0.52	OK	
	<i>PIPE 2x0.154</i>	7	LC46 at 0.00%	0.53	OK	
		8	LC38 at 100.00%	0.30	OK	
		9	LC70 at 0.00%	0.53	OK	
		10	LC39 at 0.00%	0.22	OK	
		11	LC32 at 0.00%	0.33	OK	
		18	LC1 at 27.08%	0.26	OK	
		19	LC7 at 35.42%	0.21	OK	
		20	LC1 at 33.33%	0.51	OK	
		21	LC12 at 100.00%	0.19	OK	
		22	LC3 at 62.50%	0.17	OK	
	<i>PIPE 3x0.216</i>	23	LC31 at 71.25%	0.27	OK	

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
I _g factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
47	0.00	2.0833	-3.4792	0
48	0.00	-2.0833	-3.4792	0
40	3.25	0.00	-9.1042	0
39	-3.25	0.00	-9.1042	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
47	1	1	1	1	1	1
48	1	1	1	1	1	1
40	1	1	1	0	0	0
39	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
5	12	10		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
6	11	9		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
10	13	14		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	15	16		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	17	18		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	20	19		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
11	8	4		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
22	38	39		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	37	40		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
20	36	33		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
19	35	32		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
18	34	31		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
23	43	44		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
1	2	6		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00
3	5	8		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
4	1	4		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
24	45	47		HSS_SQR 2-1_2X2-1_2X...A500 GrB rectangular	A500 GrB rectangular	0.00	0.00	0.00
25	46	48		HSS_SQR 2-1_2X2-1_2X...A500 GrB rectangular	A500 GrB rectangular	0.00	0.00	0.00
2	3	7		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00

Orientation of local axes

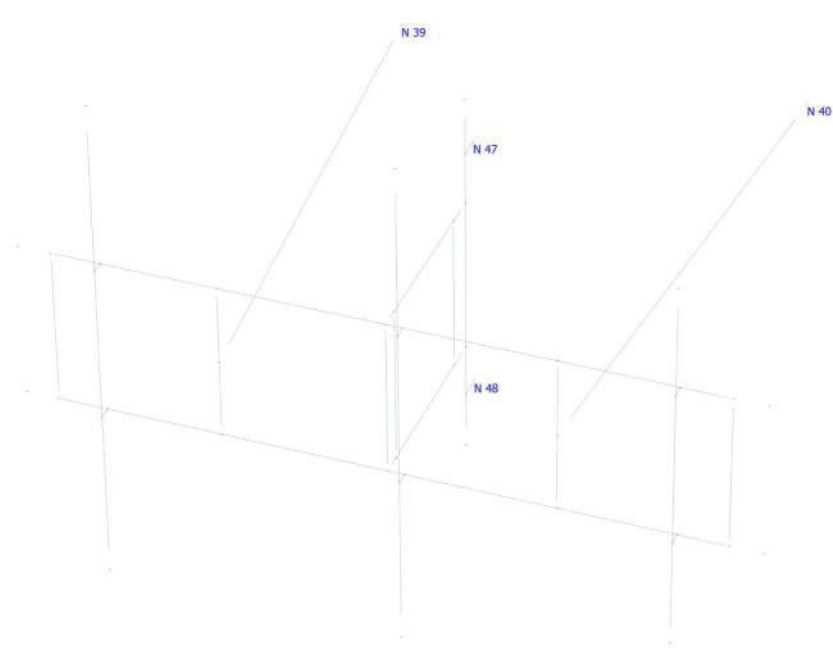
Member	Rotation [Deg]	Axis23	NX	NY	NZ
8	45.00	0	0.00	0.00	0.00
20	315.00	0	0.00	0.00	0.00
19	315.00	0	0.00	0.00	0.00
18	315.00	0	0.00	0.00	0.00
23	315.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
22	-1.50	0.00	0.00	-1.50	0.00	0.00
21	-1.50	0.00	0.00	-1.50	0.00	0.00

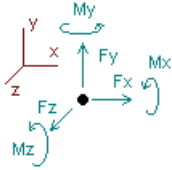
Hinges

Member	Node-J				Node-K				TOR	AXL	Axial rigidity
	M33	M22	V3	V2	M33	M22	V3	V2			
22	1	1	0	0	0	0	0	0	0	0	Full
21	1	1	0	0	0	0	0	0	0	0	Full



Analysis result

Reactions



Direction of positive forces and moments

Node	Forces [Kip]			Moments [Kip*ft]		
	FX	FY	FZ	MX	MY	MZ
Condition LC1=1.2D+Wo						
47	-0.01106	0.67090	-0.79065	-0.05602	-0.00109	0.01046
48	0.06424	0.45735	0.52472	-0.10201	0.06999	-0.02002
40	-0.15146	0.01851	1.57981	0.00000	0.00000	0.00000
39	0.09829	0.01856	1.43711	0.00000	0.00000	0.00000
SUM	0.00000	1.16532	2.75100	-0.15803	0.06890	-0.00956
Condition LC2=1.2D+W30						
47	0.75113	0.57130	-0.72683	-0.05563	1.17752	0.30189
48	0.53766	0.55696	0.71808	-0.06700	0.96508	-0.27878
40	-0.05582	0.01851	0.58466	0.00000	0.00000	0.00000
39	0.09639	0.01856	1.40945	0.00000	0.00000	0.00000
SUM	1.32936	1.16532	1.98536	-0.12262	2.14260	0.02311
Condition LC3=1.2D+W60						
47	1.00244	0.55408	-0.72749	-0.06123	1.48330	0.39725
48	0.78485	0.57417	0.71280	-0.06281	1.26673	-0.37375
40	0.05548	0.01851	-0.00891	0.00000	0.00000	0.00000
39	0.12853	0.01856	1.07648	0.00000	0.00000	0.00000
SUM	1.97130	1.16532	1.05288	-0.12404	2.75003	0.02350
Condition LC4=1.2D+W90						
47	1.16742	0.48014	-0.77985	-0.03144	1.71087	0.45057
48	0.82516	0.64811	0.97966	-0.00471	1.37289	-0.41242
40	0.12714	0.01851	-0.75447	0.00000	0.00000	0.00000
39	0.09270	0.01856	0.55467	0.00000	0.00000	0.00000
SUM	2.21242	1.16532	0.00000	-0.03615	3.08376	0.03815
Condition LC5=1.2D+W120						
47	0.98042	0.41972	-0.84827	0.00055	1.45418	0.38497
48	0.76208	0.70854	1.23051	0.05131	1.23935	-0.35992
40	0.18184	0.01851	-1.32359	0.00000	0.00000	0.00000
39	0.04697	0.01856	-0.11152	0.00000	0.00000	0.00000
SUM	1.97130	1.16532	-1.05288	0.05186	2.69354	0.02505

Condition LC6=1.2D+W150						
47	0.71188	0.47482	-0.93321	0.00607	1.12550	0.28010
48	0.49769	0.65343	1.14095	0.04438	0.91471	-0.25552
40	0.17055	0.01851	-1.77836	0.00000	0.00000	0.00000
39	-0.05076	0.01856	-0.74474	0.00000	0.00000	0.00000
SUM	1.32936	1.16532	-2.31536	0.05045	2.04021	0.02459
Condition LC7=1.2D-Wo						
47	-0.06371	0.45750	-0.96908	0.02007	-0.07122	-0.01891
48	0.01053	0.67075	1.23473	0.06603	0.00233	0.01155
40	0.15145	0.01851	-1.57967	0.00000	0.00000	0.00000
39	-0.09828	0.01856	-1.43698	0.00000	0.00000	0.00000
SUM	0.00000	1.16532	-2.75100	0.08610	-0.06889	-0.00736
Condition LC8=1.2D-W30						
47	-0.82590	0.55711	-1.03290	0.01967	-1.24983	-0.31034
48	-0.46289	0.57115	1.04138	0.03101	-0.89275	0.27031
40	0.05581	0.01851	-0.58452	0.00000	0.00000	0.00000
39	-0.09638	0.01856	-1.40932	0.00000	0.00000	0.00000
SUM	-1.32936	1.16532	-1.98536	0.05069	-2.14258	-0.04003
Condition LC9=1.2D-W60						
47	-1.07721	0.57432	-1.03224	0.02528	-1.55561	-0.40570
48	-0.71008	0.55393	1.04666	0.02683	-1.19440	0.36528
40	-0.05549	0.01851	0.00905	0.00000	0.00000	0.00000
39	-0.12852	0.01856	-1.07635	0.00000	0.00000	0.00000
SUM	-1.97130	1.16532	-1.05288	0.05211	-2.75001	-0.04041
Condition LC10=1.2D-W90						
47	-1.24218	0.64826	-0.97988	-0.00451	-1.78318	-0.45902
48	-0.75039	0.47999	0.77980	-0.03127	-1.30056	0.40396
40	-0.12715	0.01851	0.75462	0.00000	0.00000	0.00000
39	-0.09269	0.01856	-0.55454	0.00000	0.00000	0.00000
SUM	-2.21242	1.16532	0.00000	-0.03579	-3.08374	-0.05506
Condition LC11=1.2D-W120						
47	-1.05519	0.70868	-0.91146	-0.03651	-1.52649	-0.39342
48	-0.68730	0.41957	0.52895	-0.08729	-1.16702	0.35145
40	-0.18185	0.01851	1.32374	0.00000	0.00000	0.00000
39	-0.04696	0.01856	0.11165	0.00000	0.00000	0.00000
SUM	-1.97130	1.16532	1.05288	-0.12379	-2.69352	-0.04197
Condition LC12=1.2D-W150						
47	-0.78664	0.65358	-0.82652	-0.04202	-1.19781	-0.28855
48	-0.42292	0.47467	0.61851	-0.08036	-0.84238	0.24705
40	-0.17056	0.01851	1.77850	0.00000	0.00000	0.00000
39	0.05076	0.01856	0.74487	0.00000	0.00000	0.00000
SUM	-1.32936	1.16532	2.31536	-0.12238	-2.04019	-0.04150
Condition LC13=0.9D+Wo						
47	-0.00171	0.52985	-0.57068	-0.05153	0.00795	0.01152
48	0.05489	0.31634	0.30479	-0.09752	0.06095	-0.01896
40	-0.15146	0.01389	1.57979	0.00000	0.00000	0.00000
39	0.09829	0.01392	1.43709	0.00000	0.00000	0.00000
SUM	0.00000	0.87399	2.75100	-0.14904	0.06890	-0.00744

Condition LC14=0.9D+W30						
47	0.76048	0.43025	-0.50686	-0.05113	1.18656	0.30295
48	0.52831	0.41594	0.49815	-0.06250	0.95604	-0.27772
40	-0.05582	0.01389	0.58465	0.00000	0.00000	0.00000
39	0.09639	0.01392	1.40943	0.00000	0.00000	0.00000
SUM	1.32936	0.87399	1.98536	-0.11363	2.14260	0.02523
Condition LC15=0.9D+W60						
47	1.01179	0.41303	-0.50752	-0.05674	1.49234	0.39830
48	0.77550	0.43316	0.49287	-0.05831	1.25769	-0.37269
40	0.05548	0.01389	-0.00893	0.00000	0.00000	0.00000
39	0.12852	0.01392	1.07646	0.00000	0.00000	0.00000
SUM	1.97130	0.87399	1.05288	-0.11505	2.75003	0.02561
Condition LC16=0.9D+W90						
47	1.17676	0.33909	-0.55988	-0.02694	1.71991	0.45163
48	0.81581	0.50710	0.75973	-0.00021	1.36384	-0.41137
40	0.12714	0.01389	-0.75449	0.00000	0.00000	0.00000
39	0.09270	0.01392	0.55465	0.00000	0.00000	0.00000
SUM	2.21242	0.87399	0.00000	-0.02716	3.08375	0.04026
Condition LC17=0.9D+W120						
47	0.98976	0.27867	-0.62830	0.00505	1.46322	0.38603
48	0.75273	0.56752	1.01058	0.05580	1.23031	-0.35886
40	0.18184	0.01389	-1.32361	0.00000	0.00000	0.00000
39	0.04697	0.01392	-0.11154	0.00000	0.00000	0.00000
SUM	1.97130	0.87399	-1.05288	0.06085	2.69353	0.02717
Condition LC18=0.9D+W150						
47	0.72122	0.33377	-0.71325	0.01056	1.13454	0.28116
48	0.48835	0.51242	0.92102	0.04888	0.90567	-0.25446
40	0.17055	0.01389	-1.77838	0.00000	0.00000	0.00000
39	-0.05076	0.01392	-0.74475	0.00000	0.00000	0.00000
SUM	1.32936	0.87399	-2.31536	0.05944	2.04021	0.02670
Condition LC19=0.9D-W0						
47	-0.05436	0.31645	-0.74912	0.02456	-0.06218	-0.01785
48	0.00119	0.52974	1.01480	0.07053	-0.00671	0.01261
40	0.15145	0.01389	-1.57969	0.00000	0.00000	0.00000
39	-0.09828	0.01392	-1.43700	0.00000	0.00000	0.00000
SUM	0.00000	0.87399	-2.75100	0.09509	-0.06889	-0.00524
Condition LC20=0.9D-W30						
47	-0.81656	0.41606	-0.81293	0.02417	-1.24080	-0.30928
48	-0.47223	0.43013	0.82145	0.03551	-0.90179	0.27137
40	0.05581	0.01389	-0.58454	0.00000	0.00000	0.00000
39	-0.09638	0.01392	-1.40933	0.00000	0.00000	0.00000
SUM	-1.32936	0.87399	-1.98536	0.05968	-2.14258	-0.03791
Condition LC21=0.9D-W60						
47	-1.06787	0.43327	-0.81227	0.02978	-1.54657	-0.40464
48	-0.71942	0.41292	0.82673	0.03132	-1.20344	0.36634
40	-0.05549	0.01389	0.00903	0.00000	0.00000	0.00000
39	-0.12852	0.01392	-1.07637	0.00000	0.00000	0.00000
SUM	-1.97130	0.87399	-1.05288	0.06110	-2.75001	-0.03830

Condition LC22=0.9D-W90						
47	-1.23284	0.50721	-0.75991	-0.00002	-1.77414	-0.45796
48	-0.75973	0.33898	0.55987	-0.02678	-1.30960	0.40501
40	-0.12715	0.01389	0.75460	0.00000	0.00000	0.00000
39	-0.09269	0.01392	-0.55455	0.00000	0.00000	0.00000
SUM	-2.21242	0.87399	0.00000	-0.02680	-3.08374	-0.05295
Condition LC23=0.9D-W120						
47	-1.04584	0.56763	-0.69149	-0.03201	-1.51745	-0.39236
48	-0.69665	0.27856	0.30902	-0.08279	-1.17607	0.35251
40	-0.18185	0.01389	1.32372	0.00000	0.00000	0.00000
39	-0.04696	0.01392	0.11164	0.00000	0.00000	0.00000
SUM	-1.97130	0.87399	1.05288	-0.11480	-2.69352	-0.03985
Condition LC24=0.9D-W150						
47	-0.77730	0.51253	-0.60655	-0.03753	-1.18877	-0.28749
48	-0.43227	0.33366	0.39858	-0.07587	-0.85142	0.24811
40	-0.17056	0.01389	1.77848	0.00000	0.00000	0.00000
39	0.05076	0.01392	0.74485	0.00000	0.00000	0.00000
SUM	-1.32936	0.87399	2.31536	-0.11339	-2.04019	-0.03939
Condition LC25=1.2D+Di+W10						
47	-0.04182	1.05916	-1.64096	-0.03477	-0.03922	-0.00293
48	0.05026	1.01152	1.57261	-0.04389	0.04994	-0.00784
40	-0.02256	0.04133	0.23475	0.00000	0.00000	0.00000
39	0.01411	0.04142	0.20560	0.00000	0.00000	0.00000
SUM	0.00000	2.15342	0.37200	-0.07866	0.01072	-0.01077
Condition LC26=1.2D+Di+W130						
47	0.09782	1.04264	-1.63125	-0.03444	0.17573	0.05039
48	0.13585	1.02803	1.60591	-0.03778	0.21180	-0.05505
40	-0.00555	0.04133	0.05777	0.00000	0.00000	0.00000
39	0.01442	0.04142	0.21011	0.00000	0.00000	0.00000
SUM	0.24254	2.15342	0.24254	-0.07222	0.38753	-0.00466
Condition LC27=1.2D+Di+W160						
47	0.07835	1.04157	-1.62855	-0.03500	0.14136	0.04145
48	0.11425	1.02910	1.60625	-0.03789	0.17530	-0.04591
40	-0.00452	0.04133	0.04704	0.00000	0.00000	0.00000
39	0.01204	0.04142	0.17538	0.00000	0.00000	0.00000
SUM	0.20011	2.15342	0.20011	-0.07289	0.31666	-0.00446
Condition LC28=1.2D+Di+W190						
47	0.11450	1.02775	-1.63896	-0.02923	0.19245	0.05355
48	0.12573	1.04293	1.65708	-0.02680	0.20238	-0.05510
40	0.00934	0.04133	-0.09720	0.00000	0.00000	0.00000
39	0.00543	0.04142	0.07908	0.00000	0.00000	0.00000
SUM	0.25500	2.15342	0.00000	-0.05604	0.39483	-0.00155
Condition LC29=1.2D+Di+W1120						
47	0.07428	1.01716	-1.65322	-0.02294	0.13599	0.03919
48	0.11002	1.05352	1.70408	-0.01622	0.17029	-0.04332
40	0.01928	0.04133	-0.20056	0.00000	0.00000	0.00000
39	-0.00346	0.04142	-0.05042	0.00000	0.00000	0.00000
SUM	0.20011	2.15342	-0.20011	-0.03916	0.30628	-0.00413

Condition LC30=1.2D+Di+WI150						
47	0.09246	1.01311	-1.64696	-0.02398	0.16873	0.04737
48	0.13036	1.05757	1.70797	-0.01585	0.20511	-0.05176
40	0.02366	0.04133	-0.24612	0.00000	0.00000	0.00000
39	-0.00394	0.04142	-0.05743	0.00000	0.00000	0.00000
SUM	0.24254	2.15342	-0.24254	-0.03984	0.37384	-0.00439
Condition LC31=1.2D+Di-WI0						
47	-0.05017	1.01173	-1.65530	-0.02121	-0.05015	-0.00763
48	0.04173	1.05895	1.72325	-0.01213	0.03945	-0.00275
40	0.02254	0.04133	-0.23454	0.00000	0.00000	0.00000
39	-0.01410	0.04142	-0.20541	0.00000	0.00000	0.00000
SUM	0.00000	2.15342	-0.37200	-0.03334	-0.01069	-0.01039
Condition LC32=1.2D+Di-WI30						
47	-0.18980	1.02825	-1.66501	-0.02155	-0.26510	-0.06095
48	-0.04386	1.04243	1.68995	-0.01825	-0.12241	0.04446
40	0.00553	0.04133	-0.05756	0.00000	0.00000	0.00000
39	-0.01441	0.04142	-0.20992	0.00000	0.00000	0.00000
SUM	-0.24254	2.15342	-0.24254	-0.03979	-0.38751	-0.01649
Condition LC33=1.2D+Di-WI60						
47	-0.17033	1.02932	-1.66770	-0.02098	-0.23073	-0.05202
48	-0.02225	1.04136	1.68962	-0.01813	-0.08590	0.03532
40	0.00450	0.04133	-0.04683	0.00000	0.00000	0.00000
39	-0.01203	0.04142	-0.17520	0.00000	0.00000	0.00000
SUM	-0.20011	2.15342	-0.20011	-0.03912	-0.31664	-0.01669
Condition LC34=1.2D+Di-WI90						
47	-0.20648	1.04314	-1.65730	-0.02675	-0.28182	-0.06411
48	-0.03374	1.02753	1.63878	-0.02922	-0.11298	0.04451
40	-0.00936	0.04133	0.09741	0.00000	0.00000	0.00000
39	-0.00542	0.04142	-0.07889	0.00000	0.00000	0.00000
SUM	-0.25500	2.15342	0.00000	-0.05597	-0.39481	-0.01961
Condition LC35=1.2D+Di-WI120						
47	-0.16626	1.05373	-1.64304	-0.03304	-0.22536	-0.04975
48	-0.01803	1.01694	1.59178	-0.03981	-0.08089	0.03272
40	-0.01930	0.04133	0.20076	0.00000	0.00000	0.00000
39	0.00347	0.04142	0.05060	0.00000	0.00000	0.00000
SUM	-0.20011	2.15342	0.20011	-0.07285	-0.30625	-0.01703
Condition LC36=1.2D+Di-WI150						
47	-0.18445	1.05778	-1.64929	-0.03200	-0.25810	-0.05794
48	-0.03837	1.01290	1.58789	-0.04017	-0.11572	0.04117
40	-0.02367	0.04133	0.24633	0.00000	0.00000	0.00000
39	0.00396	0.04142	0.05761	0.00000	0.00000	0.00000
SUM	-0.24254	2.15342	0.24254	-0.07217	-0.37381	-0.01677
Condition LC37=1.2D+1.6LL1						
47	-0.03741	0.76371	-1.21125	-0.02326	-0.03610	-0.00412
48	0.03741	0.76454	1.21124	-0.02334	0.03615	-0.00442
40	0.00000	0.01851	0.00002	0.00000	0.00000	0.00000
39	0.00000	0.01856	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	1.56532	0.00000	-0.04660	0.00005	-0.00855

Condition LC38=1.2D+1.6LL2						
47	-0.59476	0.76350	-1.21066	-0.02311	-0.57650	-0.06541
48	0.59472	0.76475	1.21210	-0.02292	0.57598	-0.06536
40	0.00008	0.01851	-0.00083	0.00000	0.00000	0.00000
39	-0.00004	0.01856	-0.00061	0.00000	0.00000	0.00000
SUM	0.00000	1.56532	0.00000	-0.04602	-0.00052	-0.13077
Condition LC39=1.2D+1.6LL3						
47	0.51988	0.76348	-1.21046	-0.02361	0.50331	0.05681
48	-0.51989	0.76477	1.21181	-0.02345	-0.50291	0.05670
40	0.00006	0.01851	-0.00062	0.00000	0.00000	0.00000
39	-0.00005	0.01856	-0.00073	0.00000	0.00000	0.00000
SUM	0.00000	1.56532	0.00000	-0.04706	0.00039	0.11351
Condition LC40=1.2D+WL0+1.6LLa1						
47	-0.89762	0.97188	-1.58599	-0.01784	-0.86480	-0.09830
48	0.90018	0.95637	1.56442	-0.02073	0.86803	-0.09980
40	-0.00688	0.01851	0.07157	0.00000	0.00000	0.00000
39	0.00433	0.01856	0.06300	0.00000	0.00000	0.00000
SUM	0.00000	1.96532	0.11300	-0.03857	0.00323	-0.19811
Condition LC41=1.2D+WL30+1.6LLa1						
47	-0.85889	0.96669	-1.58352	-0.01758	-0.80454	-0.08343
48	0.92479	0.96157	1.57537	-0.01867	0.91438	-0.11309
40	-0.00150	0.01851	0.01566	0.00000	0.00000	0.00000
39	0.00419	0.01856	0.06109	0.00000	0.00000	0.00000
SUM	0.06859	1.96532	0.06859	-0.03624	0.10983	-0.19653
Condition LC42=1.2D+WL60+1.6LLa1						
47	-0.86653	0.96557	-1.58262	-0.01764	-0.81739	-0.08665
48	0.91807	0.96268	1.57729	-0.01833	0.90244	-0.10999
40	-0.00108	0.01851	0.01127	0.00000	0.00000	0.00000
39	0.00328	0.01856	0.04780	0.00000	0.00000	0.00000
SUM	0.05374	1.96532	0.05374	-0.03596	0.08506	-0.19664
Condition LC43=1.2D+WL90+1.6LLa1						
47	-0.85652	0.96220	-1.58483	-0.01632	-0.80343	-0.08342
48	0.92057	0.96605	1.58946	-0.01570	0.90909	-0.11233
40	0.00249	0.01851	-0.02591	0.00000	0.00000	0.00000
39	0.00146	0.01856	0.02128	0.00000	0.00000	0.00000
SUM	0.06800	1.96532	0.00000	-0.03201	0.10566	-0.19574
Condition LC44=1.2D+WL120+1.6LLa1						
47	-0.86745	0.95964	-1.58801	-0.01487	-0.81857	-0.08717
48	0.91710	0.96862	1.60067	-0.01319	0.90139	-0.10934
40	0.00504	0.01851	-0.05247	0.00000	0.00000	0.00000
39	-0.00096	0.01856	-0.01394	0.00000	0.00000	0.00000
SUM	0.05374	1.96532	-0.05374	-0.02805	0.08283	-0.19651
Condition LC45=1.2D+WL150+1.6LLa1						
47	-0.86023	0.95752	-1.58591	-0.01509	-0.80630	-0.08420
48	0.92339	0.97074	1.60379	-0.01269	0.91275	-0.11222
40	0.00663	0.01851	-0.06901	0.00000	0.00000	0.00000
39	-0.00120	0.01856	-0.01746	0.00000	0.00000	0.00000
SUM	0.06859	1.96532	-0.06859	-0.02777	0.10645	-0.19642

Condition LC46=1.2D-WL0+1.6LLa1						
47	-0.90015	0.95652	-1.58844	-0.01415	-0.86808	-0.09974
48	0.89760	0.97173	1.60974	-0.01128	0.86487	-0.09826
40	0.00686	0.01851	-0.07143	0.00000	0.00000	0.00000
39	-0.00432	0.01856	-0.06287	0.00000	0.00000	0.00000
SUM	0.00000	1.96532	-0.11300	-0.02544	-0.00321	-0.19800
Condition LC47=1.2D-WL30+1.6LLa1						
47	-0.93889	0.96171	-1.59091	-0.01441	-0.92833	-0.11461
48	0.87299	0.96654	1.59879	-0.01335	0.81852	-0.08497
40	0.00149	0.01851	-0.01551	0.00000	0.00000	0.00000
39	-0.00418	0.01856	-0.06096	0.00000	0.00000	0.00000
SUM	-0.06859	1.96532	-0.06859	-0.02776	-0.10982	-0.19958
Condition LC48=1.2D-WL60+1.6LLa1						
47	-0.93124	0.96283	-1.59182	-0.01435	-0.91549	-0.11140
48	0.87971	0.96543	1.59687	-0.01369	0.83045	-0.08808
40	0.00107	0.01851	-0.01112	0.00000	0.00000	0.00000
39	-0.00327	0.01856	-0.04767	0.00000	0.00000	0.00000
SUM	-0.05374	1.96532	-0.05374	-0.02804	-0.08504	-0.19947
Condition LC49=1.2D-WL90+1.6LLa1						
47	-0.94126	0.96620	-1.58960	-0.01567	-0.92944	-0.11463
48	0.87721	0.96205	1.58470	-0.01632	0.82380	-0.08574
40	-0.00250	0.01851	0.02605	0.00000	0.00000	0.00000
39	-0.00145	0.01856	-0.02115	0.00000	0.00000	0.00000
SUM	-0.06800	1.96532	0.00000	-0.03200	-0.10564	-0.20037
Condition LC50=1.2D-WL120+1.6LLa1						
47	-0.93033	0.96877	-1.58642	-0.01712	-0.91431	-0.11087
48	0.88068	0.95949	1.57349	-0.01883	0.83150	-0.08872
40	-0.00506	0.01851	0.05261	0.00000	0.00000	0.00000
39	0.00097	0.01856	0.01407	0.00000	0.00000	0.00000
SUM	-0.05374	1.96532	0.05374	-0.03595	-0.08281	-0.19960
Condition LC51=1.2D-WL150+1.6LLa1						
47	-0.93754	0.97088	-1.58852	-0.01690	-0.92658	-0.11384
48	0.87439	0.95737	1.57037	-0.01933	0.82015	-0.08585
40	-0.00665	0.01851	0.06915	0.00000	0.00000	0.00000
39	0.00121	0.01856	0.01759	0.00000	0.00000	0.00000
SUM	-0.06859	1.96532	0.06859	-0.03623	-0.10643	-0.19969
Condition LC52=1.2D+WL0+1.6LLa2						
47	-0.08676	0.97188	-1.58567	-0.01850	-0.08176	-0.00901
48	0.08932	0.95637	1.56410	-0.02140	0.08499	-0.01051
40	-0.00688	0.01851	0.07157	0.00000	0.00000	0.00000
39	0.00433	0.01856	0.06300	0.00000	0.00000	0.00000
SUM	0.00000	1.96532	0.11300	-0.03990	0.00323	-0.01952
Condition LC53=1.2D+WL30+1.6LLa2						
47	-0.04802	0.96669	-1.58320	-0.01824	-0.02151	0.00586
48	0.11392	0.96157	1.57505	-0.01933	0.13134	-0.02380
40	-0.00150	0.01851	0.01566	0.00000	0.00000	0.00000
39	0.00419	0.01856	0.06109	0.00000	0.00000	0.00000
SUM	0.06859	1.96532	0.06859	-0.03757	0.10983	-0.01794

Condition LC54=1.2D+WL60+1.6LLa2						
47	-0.05567	0.96557	-1.58230	-0.01830	-0.03435	0.00265
48	0.10721	0.96268	1.57697	-0.01899	0.11941	-0.02070
40	-0.00108	0.01851	0.01127	0.00000	0.00000	0.00000
39	0.00328	0.01856	0.04780	0.00000	0.00000	0.00000
SUM	0.05374	1.96532	0.05374	-0.03729	0.08506	-0.01805
Condition LC55=1.2D+WL90+1.6LLa2						
47	-0.04566	0.96220	-1.58452	-0.01698	-0.02040	0.00588
48	0.10971	0.96605	1.58914	-0.01636	0.12606	-0.02303
40	0.00249	0.01851	-0.02591	0.00000	0.00000	0.00000
39	0.00146	0.01856	0.02128	0.00000	0.00000	0.00000
SUM	0.06800	1.96532	0.00000	-0.03334	0.10566	-0.01716
Condition LC56=1.2D+WL120+1.6LLa2						
47	-0.05659	0.95964	-1.58769	-0.01553	-0.03553	0.00212
48	0.10624	0.96862	1.60036	-0.01385	0.11836	-0.02005
40	0.00504	0.01851	-0.05247	0.00000	0.00000	0.00000
39	-0.00096	0.01856	-0.01394	0.00000	0.00000	0.00000
SUM	0.05374	1.96532	-0.05374	-0.02938	0.08283	-0.01793
Condition LC57=1.2D+WL150+1.6LLa2						
47	-0.04937	0.95752	-1.58559	-0.01575	-0.02326	0.00509
48	0.11253	0.97074	1.60347	-0.01335	0.12971	-0.02292
40	0.00663	0.01851	-0.06901	0.00000	0.00000	0.00000
39	-0.00120	0.01856	-0.01746	0.00000	0.00000	0.00000
SUM	0.06859	1.96532	-0.06859	-0.02910	0.10645	-0.01783
Condition LC58=1.2D-WL0+1.6LLa2						
47	-0.08929	0.95652	-1.58812	-0.01482	-0.08504	-0.01045
48	0.08674	0.97173	1.60942	-0.01195	0.08183	-0.00897
40	0.00686	0.01851	-0.07143	0.00000	0.00000	0.00000
39	-0.00432	0.01856	-0.06287	0.00000	0.00000	0.00000
SUM	0.00000	1.96532	-0.11300	-0.02677	-0.00321	-0.01941
Condition LC59=1.2D-WL30+1.6LLa2						
47	-0.12803	0.96171	-1.59059	-0.01507	-0.14530	-0.02532
48	0.06213	0.96654	1.59847	-0.01402	0.03548	0.00432
40	0.00149	0.01851	-0.01551	0.00000	0.00000	0.00000
39	-0.00418	0.01856	-0.06096	0.00000	0.00000	0.00000
SUM	-0.06859	1.96532	-0.06859	-0.02909	-0.10982	-0.02100
Condition LC60=1.2D-WL60+1.6LLa2						
47	-0.12038	0.96283	-1.59150	-0.01502	-0.13245	-0.02210
48	0.06884	0.96543	1.59655	-0.01435	0.04742	0.00122
40	0.00107	0.01851	-0.01112	0.00000	0.00000	0.00000
39	-0.00327	0.01856	-0.04767	0.00000	0.00000	0.00000
SUM	-0.05374	1.96532	-0.05374	-0.02937	-0.08504	-0.02088
Condition LC61=1.2D-WL90+1.6LLa2						
47	-0.13040	0.96620	-1.58928	-0.01634	-0.14641	-0.02533
48	0.06635	0.96205	1.58438	-0.01699	0.04077	0.00355
40	-0.00250	0.01851	0.02605	0.00000	0.00000	0.00000
39	-0.00145	0.01856	-0.02115	0.00000	0.00000	0.00000
SUM	-0.06800	1.96532	0.00000	-0.03332	-0.10564	-0.02178

Condition LC62=1.2D-WL120+1.6LLa2						
47	-0.11947	0.96877	-1.58611	-0.01779	-0.13127	-0.02158
48	0.06982	0.95949	1.57317	-0.01950	0.04847	0.00057
40	-0.00506	0.01851	0.05261	0.00000	0.00000	0.00000
39	0.00097	0.01856	0.01407	0.00000	0.00000	0.00000
SUM	-0.05374	1.96532	0.05374	-0.03728	-0.08281	-0.02101
Condition LC63=1.2D-WL150+1.6LLa2						
47	-0.12668	0.97088	-1.58821	-0.01757	-0.14355	-0.02455
48	0.06353	0.95737	1.57005	-0.01999	0.03711	0.00344
40	-0.00665	0.01851	0.06915	0.00000	0.00000	0.00000
39	0.00121	0.01856	0.01759	0.00000	0.00000	0.00000
SUM	-0.06859	1.96532	0.06859	-0.03756	-0.10643	-0.02111
Condition LC64=1.2D+WL0+1.6LLa3						
47	0.82523	0.97188	-1.58558	-0.01868	0.79419	0.09097
48	-0.82267	0.95637	1.56401	-0.02158	-0.79095	0.08947
40	-0.00688	0.01851	0.07157	0.00000	0.00000	0.00000
39	0.00433	0.01856	0.06300	0.00000	0.00000	0.00000
SUM	0.00000	1.96532	0.11300	-0.04026	0.00323	0.18044
Condition LC65=1.2D+WL30+1.6LLa3						
47	0.86397	0.96669	-1.58312	-0.01842	0.85444	0.10584
48	-0.79807	0.96157	1.57496	-0.01951	-0.74460	0.07618
40	-0.00150	0.01851	0.01566	0.00000	0.00000	0.00000
39	0.00419	0.01856	0.06109	0.00000	0.00000	0.00000
SUM	0.06859	1.96532	0.06859	-0.03793	0.10983	0.18202
Condition LC66=1.2D+WL60+1.6LLa3						
47	0.85632	0.96557	-1.58221	-0.01848	0.84160	0.10263
48	-0.80478	0.96268	1.57688	-0.01917	-0.75654	0.07928
40	-0.00108	0.01851	0.01127	0.00000	0.00000	0.00000
39	0.00328	0.01856	0.04780	0.00000	0.00000	0.00000
SUM	0.05374	1.96532	0.05374	-0.03765	0.08506	0.18191
Condition LC67=1.2D+WL90+1.6LLa3						
47	0.86633	0.96220	-1.58443	-0.01716	0.85555	0.10586
48	-0.80229	0.96605	1.58905	-0.01654	-0.74989	0.07695
40	0.00249	0.01851	-0.02591	0.00000	0.00000	0.00000
39	0.00146	0.01856	0.02128	0.00000	0.00000	0.00000
SUM	0.06800	1.96532	0.00000	-0.03370	0.10566	0.18280
Condition LC68=1.2D+WL120+1.6LLa3						
47	0.85540	0.95964	-1.58760	-0.01571	0.84041	0.10210
48	-0.80575	0.96862	1.60027	-0.01403	-0.75759	0.07993
40	0.00504	0.01851	-0.05247	0.00000	0.00000	0.00000
39	-0.00096	0.01856	-0.01394	0.00000	0.00000	0.00000
SUM	0.05374	1.96532	-0.05374	-0.02974	0.08283	0.18203
Condition LC69=1.2D+WL150+1.6LLa3						
47	0.86262	0.95752	-1.58550	-0.01593	0.85269	0.10507
48	-0.79946	0.97074	1.60339	-0.01353	-0.74624	0.07706
40	0.00663	0.01851	-0.06901	0.00000	0.00000	0.00000
39	-0.00120	0.01856	-0.01746	0.00000	0.00000	0.00000
SUM	0.06859	1.96532	-0.06859	-0.02946	0.10645	0.18213

Condition **LC70=1.2D-WL0+1.6LLa3**

47	0.82270	0.95652	-1.58804	-0.01499	0.79090	0.08954
48	-0.82525	0.97173	1.60934	-0.01213	-0.79412	0.09101
40	0.00686	0.01851	-0.07143	0.00000	0.00000	0.00000
39	-0.00432	0.01856	-0.06287	0.00000	0.00000	0.00000
SUM	0.00000	1.96532	-0.11300	-0.02712	-0.00321	0.18055

Condition **LC71=1.2D-WL30+1.6LLa3**

47	0.78396	0.96171	-1.59051	-0.01525	0.73065	0.07466
48	-0.84986	0.96654	1.59839	-0.01420	-0.84047	0.10430
40	0.00149	0.01851	-0.01551	0.00000	0.00000	0.00000
39	-0.00418	0.01856	-0.06096	0.00000	0.00000	0.00000
SUM	-0.06859	1.96532	-0.06859	-0.02945	-0.10982	0.17896

Condition **LC72=1.2D-WL60+1.6LLa3**

47	0.79161	0.96283	-1.59141	-0.01520	0.74349	0.07788
48	-0.84315	0.96543	1.59647	-0.01453	-0.82853	0.10120
40	0.00107	0.01851	-0.01112	0.00000	0.00000	0.00000
39	-0.00327	0.01856	-0.04767	0.00000	0.00000	0.00000
SUM	-0.05374	1.96532	-0.05374	-0.02973	-0.08504	0.17908

Condition **LC73=1.2D-WL90+1.6LLa3**

47	0.78159	0.96620	-1.58919	-0.01651	0.72954	0.07465
48	-0.84564	0.96205	1.58430	-0.01717	-0.83518	0.10353
40	-0.00250	0.01851	0.02605	0.00000	0.00000	0.00000
39	-0.00145	0.01856	-0.02115	0.00000	0.00000	0.00000
SUM	-0.06800	1.96532	0.00000	-0.03368	-0.10564	0.17818

Condition **LC74=1.2D-WL120+1.6LLa3**

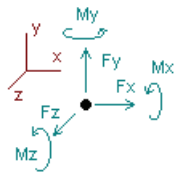
47	0.79252	0.96877	-1.58602	-0.01796	0.74468	0.07840
48	-0.84217	0.95949	1.57308	-0.01968	-0.82748	0.10055
40	-0.00506	0.01851	0.05261	0.00000	0.00000	0.00000
39	0.00097	0.01856	0.01407	0.00000	0.00000	0.00000
SUM	-0.05374	1.96532	0.05374	-0.03764	-0.08281	0.17895

Condition **LC75=1.2D-WL150+1.6LLa3**

47	0.78531	0.97088	-1.58812	-0.01775	0.73240	0.07543
48	-0.84846	0.95737	1.56996	-0.02017	-0.83883	0.10342
40	-0.00665	0.01851	0.06915	0.00000	0.00000	0.00000
39	0.00121	0.01856	0.01759	0.00000	0.00000	0.00000
SUM	-0.06859	1.96532	0.06859	-0.03792	-0.10643	0.17886

Envelope for nodal reactions

Note.- **LC** is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

LC1=1.2D+W0
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-W0
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+W0
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-W0
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+W0
LC26=1.2D+Di+W30
LC27=1.2D+Di+W60
LC28=1.2D+Di+W90
LC29=1.2D+Di+W120
LC30=1.2D+Di+W150
LC31=1.2D+Di-W0
LC32=1.2D+Di-W30
LC33=1.2D+Di-W60
LC34=1.2D+Di-W90
LC35=1.2D+Di-W120
LC36=1.2D+Di-W150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+W0+1.6LLa1
LC41=1.2D+W30+1.6LLa1
LC42=1.2D+W60+1.6LLa1
LC43=1.2D+W90+1.6LLa1
LC44=1.2D+W120+1.6LLa1
LC45=1.2D+W150+1.6LLa1
LC46=1.2D-W0+1.6LLa1
LC47=1.2D-W30+1.6LLa1
LC48=1.2D-W60+1.6LLa1
LC49=1.2D-W90+1.6LLa1
LC50=1.2D-W120+1.6LLa1
LC51=1.2D-W150+1.6LLa1
LC52=1.2D+W0+1.6LLa2
LC53=1.2D+W30+1.6LLa2
LC54=1.2D+W60+1.6LLa2
LC55=1.2D+W90+1.6LLa2
LC56=1.2D+W120+1.6LLa2
LC57=1.2D+W150+1.6LLa2
LC58=1.2D-W0+1.6LLa2
LC59=1.2D-W30+1.6LLa2
LC60=1.2D-W60+1.6LLa2
LC61=1.2D-W90+1.6LLa2
LC62=1.2D-W120+1.6LLa2
LC63=1.2D-W150+1.6LLa2
LC64=1.2D+W0+1.6LLa3
LC65=1.2D+W30+1.6LLa3
LC66=1.2D+W60+1.6LLa3
LC67=1.2D+W90+1.6LLa3
LC68=1.2D+W120+1.6LLa3
LC69=1.2D+W150+1.6LLa3

LC70=1.2D-WL0+1.6LLa3
 LC71=1.2D-WL30+1.6LLa3
 LC72=1.2D-WL60+1.6LLa3
 LC73=1.2D-WL90+1.6LLa3
 LC74=1.2D-WL120+1.6LLa3
 LC75=1.2D-WL150+1.6LLa3

Node		Forces						Moments					
		Fx [Kip]	lc	Fy [Kip]	lc	Fz [Kip]	lc	Mx [Kip*ft]	lc	My [Kip*ft]	lc	Mz [Kip*ft]	lc
47	Max	1.177	LC16	1.059	LC25	-0.507	LC14	0.02978	LC21	1.71991	LC16	0.45163	LC16
	Min	-1.242	LC10	0.279	LC17	-1.668	LC33	-0.06123	LC3	-1.78318	LC10	-0.45902	LC10
48	Max	0.925	LC41	1.059	LC31	1.723	LC31	0.07053	LC19	1.37289	LC4	0.40501	LC22
	Min	-0.850	LC71	0.279	LC23	0.305	LC13	-0.10201	LC1	-1.30960	LC22	-0.41242	LC4
40	Max	0.182	LC17	0.041	LC27	1.779	LC12	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-0.182	LC11	0.014	LC15	-1.778	LC18	0.00000	LC1	0.00000	LC1	0.00000	LC1
39	Max	0.129	LC3	0.041	LC28	1.437	LC1	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-0.129	LC21	0.014	LC17	-1.437	LC19	0.00000	LC1	0.00000	LC1	0.00000	LC1



HUDSON
Design Group LLC

Connection Check

Date: 5-6-2022
Project Name: BEACON FALLS NE
Project No.: CT5416
Designed By: SR Checked By: MSC



CHECK CONNECTION CAPACITY (Worst Case)

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = A36 5/8" Threaded Rod

Allowable Tensile Load =

$$F_{Tall} = 6673 \text{ lbs.}$$

Allowable Shear Load =

$$F_{Vall} = 4004 \text{ lbs.}$$

TENSILE FORCES

Reaction $F = 1779$ lbs. (See Bentley Output)

SHEAR FORCES

Reactions in X direction: 1177 lbs. (See Bentley Output)

Reactions in Y direction: 1059 lbs. (See Bentley Output)

Resultant: 1583 lbs.

No. of Supports = 1

No. of Bolts / Support = 4

Tension Design Load /Bolts =

$$f_t = 444.75 \text{ lbs.} < 6673 \text{ lbs.} \text{ Therefore, OK!}$$

Shear Design Load / Bolts=

$$f_v = 395.82 \text{ lbs.} < 4004 \text{ lbs.} \text{ Therefore, OK!}$$

CHECK COMBINED TENSION AND SHEAR

$$\begin{aligned} f_t / F_T &+ f_v / F_V \leq 1.0 \\ 0.067 &+ 0.099 = 0.166 < 1.0 \text{ Therefore, OK!} \end{aligned}$$

EXHIBIT 5

Radio Frequency Exposure Analysis Report

October 3, 2022

Centerline on behalf of AT&T

AT&T Site Name: NORTHFORD - TOTOKET

Site Number: CTL05638

FA#: 10071180

USID: 26043

Site Address: 88 Parsonage Hill Road, Northford, CT 06472



Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2023

Signed 03 October 2022

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	1.93808 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	0.24135%



October 3, 2022

Centerline
Attn: Jennifer Iliades, Project Manager
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **NORTHFORD - TOTOKET**

Centerline Communications, LLC (“Centerline”) was contracted to analyze the proposed AT&T facility at **88 PARSONAGE HILL ROAD, NORTHFORD, CT 06472** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{\text{MHz}}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of $1 \text{ mW}/\text{cm}^2$ ($1000 \mu\text{W}/\text{cm}^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

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

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.



Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.



Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at ground level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.



Maximum Calculated Cumulative Power Density @ Ground Level (Location: approximately 7' west of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
AT&T A 1	CCI DMP65R-BU6D	700	11.75	173.00	4.00	30.00	1795.48	0.00008	466.67	0.00002
AT&T A 1	CCI DMP65R-BU6D	2300	14.95	173.00	4.00	18.75	2344.56	0.00004	1000.00	0.00000
AT&T A 2	ERICSSON AIR6419	3400	23.55	174.50	1.00	108.40	24548.74	0.00354	1000.00	0.00035
AT&T A 3	ERICSSON AIR6449	3700	23.55	171.50	1.00	108.40	24548.74	0.00367	1000.00	0.00037
AT&T A 4	CCI TPA65R-BU6D	700	11.75	173.00	4.00	30.00	1795.48	0.00001	466.67	0.00000
AT&T A 4	CCI TPA65R-BU6D	850	12.45	173.00	4.00	30.00	2109.51	0.00000	566.67	0.00000
AT&T A 4	CCI TPA65R-BU6D	1900	15.05	173.00	4.00	30.00	3838.67	0.00002	1000.00	0.00000
AT&T A 4	CCI TPA65R-BU6D	2100	15.95	173.00	4.00	30.00	4722.60	0.00002	1000.00	0.00000
AT&T B 5	CCI DMP65R-BU6D	700	11.75	173.00	4.00	30.00	1795.48	0.00006	466.67	0.00001
AT&T B 5	CCI DMP65R-BU6D	2300	14.95	173.00	4.00	18.75	2344.56	0.00001	1000.00	0.00000
AT&T B 6	ERICSSON AIR6419	3400	23.55	174.50	1.00	108.40	24548.74	0.00354	1000.00	0.00035
AT&T B 7	ERICSSON AIR6449	3700	23.55	171.50	1.00	108.40	24548.74	0.00367	1000.00	0.00037
AT&T B 8	CCI TPA65R-BU6D	700	11.75	173.00	4.00	30.00	1795.48	0.00003	466.67	0.00001
AT&T B 8	CCI TPA65R-BU6D	850	12.45	173.00	4.00	30.00	2109.51	0.00002	566.67	0.00000
AT&T B 8	CCI TPA65R-BU6D	1900	15.05	173.00	4.00	30.00	3838.67	0.00002	1000.00	0.00000
AT&T B 8	CCI TPA65R-BU6D	2100	15.95	173.00	4.00	30.00	4722.60	0.00001	1000.00	0.00000
AT&T C 9	CCI DMP65R-BU6D	700	11.75	173.00	4.00	30.00	1795.48	0.04153	466.67	0.00890
AT&T C 9	CCI DMP65R-BU6D	2300	14.95	173.00	4.00	18.75	2344.56	0.02964	1000.00	0.00296
AT&T C 10	ERICSSON AIR6419	3400	23.55	174.50	1.00	108.40	24548.74	0.46357	1000.00	0.04636
AT&T C 11	ERICSSON AIR6449	3700	23.55	171.50	1.00	108.40	24548.74	0.48042	1000.00	0.04804
AT&T C 12	CCI TPA65R-BU6D	700	11.75	173.00	4.00	30.00	1795.48	0.03930	466.67	0.00842
AT&T C 12	CCI TPA65R-BU6D	850	12.45	173.00	4.00	30.00	2109.51	0.03857	566.67	0.00681
AT&T C 12	CCI TPA65R-BU6D	1900	15.05	173.00	4.00	30.00	3838.67	0.04336	1000.00	0.00434
AT&T C 12	CCI TPA65R-BU6D	2100	15.95	173.00	4.00	30.00	4722.60	0.04498	1000.00	0.00450
Verizon A 13	GENERIC PANEL 6FT	700	12.33	145.00	4.00	40.00	2736.02	0.00034	466.67	0.00007
Verizon A 14	GENERIC PANEL 6FT	850	12.62	145.00	4.00	40.00	2924.96	0.00001	566.67	0.00000
Verizon A 15	GENERIC PANEL 6FT	1900	15.84	145.00	4.00	40.00	6139.32	0.00002	1000.00	0.00000
Verizon A 16	GENERIC PANEL 6FT	2100	16.39	145.00	4.00	40.00	6968.19	0.00003	1000.00	0.00000
Verizon B 17	GENERIC PANEL 6FT	700	12.33	145.00	4.00	40.00	2736.02	0.00015	466.67	0.00003
Verizon B 18	GENERIC PANEL 6FT	850	12.62	145.00	4.00	40.00	2924.96	0.00020	566.67	0.00004
Verizon B 19	GENERIC PANEL 6FT	1900	15.84	145.00	4.00	40.00	6139.32	0.00011	1000.00	0.00001
Verizon B 20	GENERIC PANEL 6FT	2100	16.39	145.00	4.00	40.00	6968.19	0.00007	1000.00	0.00001
Verizon C 21	GENERIC PANEL 6FT	700	12.33	145.00	4.00	40.00	2736.02	0.07641	466.67	0.01637
Verizon C 22	GENERIC PANEL 6FT	850	12.62	145.00	4.00	40.00	2924.96	0.07891	566.67	0.01393
Verizon C 23	GENERIC PANEL 6FT	1900	15.84	145.00	4.00	40.00	6139.32	0.07870	1000.00	0.00787



Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
Verizon C 24	GENERIC PANEL 6FT	2100	16.39	145.00	4.00	40.00	6968.19	0.08283	1000.00	0.00828
Sprint A 25	GENERIC PANEL 6FT	850	12.62	160.00	2.00	40.00	1462.48	0.00000	566.67	0.00000
Sprint A 25	GENERIC PANEL 6FT	1900	15.84	160.00	2.00	60.00	4604.49	0.00001	1000.00	0.00000
Sprint A 26	GENERIC PANEL 6FT	2500	14.49	160.00	1.00	35.00	984.17	0.00004	1000.00	0.00000
Sprint B 27	GENERIC PANEL 6FT	850	12.62	160.00	2.00	40.00	1462.48	0.00008	566.67	0.00002
Sprint B 27	GENERIC PANEL 6FT	1900	15.84	160.00	2.00	60.00	4604.49	0.00007	1000.00	0.00001
Sprint B 28	GENERIC PANEL 6FT	2500	14.49	160.00	1.00	35.00	984.17	0.00005	1000.00	0.00001
Sprint C 29	GENERIC PANEL 6FT	850	12.62	160.00	2.00	40.00	1462.48	0.03213	566.67	0.00567
Sprint C 29	GENERIC PANEL 6FT	1900	15.84	160.00	2.00	60.00	4604.49	0.04809	1000.00	0.00481
Sprint C 30	GENERIC PANEL 6FT	2500	14.49	160.00	1.00	35.00	984.17	0.01391	1000.00	0.00139
T-Mobile A 31	GENERIC PANEL 6FT	1900	15.84	181.50	2.00	60.00	4604.49	0.00001	1000.00	0.00000
T-Mobile A 31	GENERIC PANEL 6FT	2100	16.39	181.50	2.00	60.00	5226.14	0.00001	1000.00	0.00000
T-Mobile A 32	GENERIC PANEL 6FT	600	0.00	181.50	2.00	60.00	120.00	0.00016	400.00	0.00004
T-Mobile A 32	GENERIC PANEL 6FT	700	12.33	181.50	2.00	60.00	2052.02	0.00016	466.67	0.00003
T-Mobile B 33	GENERIC PANEL 6FT	1900	15.84	181.50	2.00	60.00	4604.49	0.00005	1000.00	0.00001
T-Mobile B 33	GENERIC PANEL 6FT	2100	16.39	181.50	2.00	60.00	5226.14	0.00003	1000.00	0.00000
T-Mobile B 34	GENERIC PANEL 6FT	600	0.00	181.50	2.00	60.00	120.00	0.00007	400.00	0.00002
T-Mobile B 34	GENERIC PANEL 6FT	700	12.33	181.50	2.00	60.00	2052.02	0.00007	466.67	0.00002
T-Mobile C 35	GENERIC PANEL 6FT	1900	15.84	181.50	2.00	60.00	4604.49	0.03703	1000.00	0.00370
T-Mobile C 35	GENERIC PANEL 6FT	2100	16.39	181.50	2.00	60.00	5226.14	0.03897	1000.00	0.00390
T-Mobile C 36	GENERIC PANEL 6FT	600	0.00	181.50	2.00	60.00	120.00	0.03595	400.00	0.00899
T-Mobile C 36	GENERIC PANEL 6FT	700	12.33	181.50	2.00	60.00	2052.02	0.03595	466.67	0.00770
Unknown A 37	GENERIC PANEL 6FT	700	12.33	190.00	4.00	40.00	2736.02	0.00019	466.67	0.00004
Unknown A 37	GENERIC PANEL 6FT	850	12.62	190.00	4.00	40.00	2924.96	0.00000	566.67	0.00000
Unknown A 38	GENERIC PANEL 6FT	1900	15.84	190.00	4.00	40.00	6139.32	0.00001	1000.00	0.00000
Unknown A 38	GENERIC PANEL 6FT	2100	16.39	190.00	4.00	40.00	6968.19	0.00002	1000.00	0.00000
Unknown B 39	GENERIC PANEL 6FT	700	12.33	190.00	4.00	40.00	2736.02	0.00009	466.67	0.00002
Unknown B 39	GENERIC PANEL 6FT	850	12.62	190.00	4.00	40.00	2924.96	0.00012	566.67	0.00002
Unknown B 40	GENERIC PANEL 6FT	1900	15.84	190.00	4.00	40.00	6139.32	0.00006	1000.00	0.00001
Unknown B 40	GENERIC PANEL 6FT	2100	16.39	190.00	4.00	40.00	6968.19	0.00004	1000.00	0.00000
Unknown C 41	GENERIC PANEL 6FT	700	12.33	190.00	4.00	40.00	2736.02	0.04361	466.67	0.00934
Unknown C 41	GENERIC PANEL 6FT	850	12.62	190.00	4.00	40.00	2924.96	0.04503	566.67	0.00795
Unknown C 42	GENERIC PANEL 6FT	1900	15.84	190.00	4.00	40.00	6139.32	0.04491	1000.00	0.00449
Unknown C 42	GENERIC PANEL 6FT	2100	16.39	190.00	4.00	40.00	6968.19	0.04727	1000.00	0.00473

				Cumulative Power Density:		1.93808 $\mu\text{W}/\text{cm}^2$		Cumulative % MPE:		0.24135%
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Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **compliant** with FCC rules and regulations.

Matt Schulzinger
RF EME Technical Writer
Centerline Communications, LLC

EXHIBIT 6

Checked with White Smith 6.30.70

E#1366

Application for Building Permit - Town of North Branford

Application is hereby made this 1 day of July, 1970, for permission to do the following work.

Construct <input checked="" type="checkbox"/>	Add <input type="checkbox"/>	Alter <input type="checkbox"/>	Repair <input type="checkbox"/>	Demolish <input type="checkbox"/>	Move <input type="checkbox"/>	Residing <input type="checkbox"/>
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Location: TOWER AND ACCESSORY BLDG 30 X 40 No. 1183
PARSONAGE HILL ROAD Lot No. _____ Map _____

Lot Size: 10 ACRES +- Bldg. line _____ Zone _____

Legal Owner: JOSEPH OCHENKOWSKI Side Line _____

Address: PARSONAGE HILL ROAD NORTH BRANFORD CONN Rear Line _____

Type	Rms	Stories	Size	Colage or sq. ft.	TYPE	Br. Veneer
Dwelling						
Wing						
Store						
Factory						
Office <u>2</u>			<u>40 x 30</u>	<u>1200 sq ft</u>		
Warehouse						
Public Garage						
Farm-Bldg.						

FOUNDATION & MASONRY

	Md	Size	Concrete Footing
Foundation Walls			<u>31.67</u>
Underpinning			
Exterior wall			<u>METAL</u>
Division Walls			<u>WOOD</u>
Columns			<u>STEEL</u>
Piers or Pilasters			
Chimneys <input checked="" type="checkbox"/> P.P.	Flues <u>1</u>		<u>1</u>
Concrete Floor Slab	thick <u>4"</u>	Reinf. _____	Insulat. _____
Interior Wall Finish	Plaster <input type="checkbox"/>	Dry Wall <input type="checkbox"/>	<input type="checkbox"/>

STRUCTURAL STEEL & IRON DETAILS

As per plan _____

RESIDING Asbestos Asphalt Metal

North Branford BUILDING ORDINANCES REQUIRE:
 All dwellings must have certificate of occupancy. Where garages are attached to dwellings, a fireproof door shall separate the two structures. The side of garage attached to house must be sheathed and plastered. Cinder block walls must be capped or top course filled with concrete. All fire brick must be laid flat.

PLUMBING ELECTRICAL

Total Estimated Structural Cost to be \$ 10,000

Fee \$13.00 (Ch# 1800)

FRAME CONSTRUCTION

Carrying Beam	Studs/Fr	16" O.C.
Sills	Studs/Int.	16" O.C.
Floor Joists	Division Walls	16" O.C.
Ceiling Joists	Posts	Plate
Bridging	Rafters	Ridge
Ext. Sheathing	Roof Boards	
Ext. Finish	Roof Type	
	Roof Cover	
	Stairs	

ASSESSMENT

FINISHED BOARD OF APPEALS APPROVAL

UNFINISHED MAY 20 1968

UNFINISHED _____

UNFINISHED _____

REMARKS _____

I hereby agree to conform to all the Ordinances of the Town of North Branford and to notify the Building Inspector of any alteration in the plans or specifications of the Building for which this permit is asked. And agree that this building is to be located the proper distance from all street lines, side yard lines and required distances from all other zones and is located in a zone which this building and its use is allowed.

The above is a true description of proposed building and utilities.

Permitter or Agent Joseph Ochenskowski

EXHIBIT 7

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030334530163

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

10/11/2022

Delivered On

11/10/2022 3:04 P.M.

Delivered To

88 PARSONAGE HILL RD
NORTHFORD, CT, 06472, US

Left At

Rear Door

Reference Number(s)

CT5638-CSC_OCHENKOWSKI TOWERS

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 11/14/2022 10:07 A.M. EST

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030308362733

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

10/11/2022

Delivered On

11/10/2022 10:48 A.M.

Delivered To

TOWN MANAGER
909 FOXON RD
NORTH BRANFORD, CT, 06471, US

Received By

GINA

Left At

Inside Delivery

Reference Number(s)

CT5638-CSC_TOWN MANAGER

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 11/14/2022 10:08 A.M. EST

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030300911743

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

10/11/2022

Delivered On

11/10/2022 10:47 A.M.

Delivered To

909 FOXON RD
NORTH BRANFORD, CT, 06471, US

Received By

LYNN

Left At

Inside Delivery

Reference Number(s)

CT5638-CSC_ZEO & TOWN PLANNER

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 11/14/2022 10:10 A.M. EST