NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

August 16, 2022

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Share Application
1825 Route 198, Woodstock, CT 06281
Latitude: 42.012250
Longitude: -72.077444
Site #: CT14089-A_CTNL185A_SBA/T-Mobile

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of T-Mobile. T-Mobile plans to install antennas and related equipment on the tower site located at 1825 Route 198, Woodstock, Connecticut.

T-Mobile proposes to install six (6) panel antennas, six (6) RRUs and (1) microwave antenna at the 167-foot level of the existing 180-foot self-support tower, three (3) HCS Fiber cables and (1) coax will also be installed. T-Mobile equipment cabinets and a 48kW diesel generator will be placed within a 10' x 15' lease area within the existing fenced compound. Included are plans by Chappell Engineering, dated July 1, 2022, Exhibit C. Also included is a structural analysis prepared by TES, dated July 11, 2022, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. The facility was originally approved by the Town of Woodstock on November 26, 1986. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of T-Mobile intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Jay Swan, First Selectman and Ashley Stevens, Zoning Enforcement Officer for the Town of Woodstock, as well as the tower owner (SBA) and property owner (George & Barbara Davis).

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the existing tower is 180-feet and the T-Mobile antennas will be located at a center line height of 167-feet.

2. The proposed modifications will not result in an increase of the site boundary as depicted on the attached site plan.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligent.

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. The combined site operations will result in a total power density of 0.14% as evidenced by Exhibit F.

Connecticut General Statutes 16-50aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, T-Mobile respectfully submits that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing tower has been deemed structurally capable of supporting T-Mobile proposed loading. The structural analysis is included as Exhibit D.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this tower in Woodstock. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit T-Mobile to obtain a building permit for the proposed installation. Further, a Letter of Authorization is included as Exhibit G, authorizing T-Mobile to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of T-Mobile equipment at the 167-foot level of the existing 180-foot tower would have an insignificant visual impact on the area around the tower. T-Mobile ground equipment would be installed within the existing facility compound. T-Mobile's shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. T-Mobile will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist T-Mobile with this tower sharing application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting T-Mobile proposed loading. T-Mobile is not aware of any public safety concerns relative to the proposed sharing of the existing tower. T-Mobile's intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Woodstock.

Sincerely,

Denise Sabo

Denise Sabo
Mobile: 203-435-3640
Fax: 413-521-0558
Office: 4 Angela's Way, Burlington CT 06013
Email: denise@northeastsitesolutions.com

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Jay Swan, First Selectman
Town of Woodstock CT
415 Route 169
Woodstock, CT 06281-3039

Ashley Stevens, Zoning Enforcement Officer
Town of Woodstock CT
415 Route 169
Woodstock, CT 06281-3039

George & Barbara Davis - Property Owners
1814 Route 171
Woodstock Valley, CT 06282

SBA - Tower Owner

Exhibit A

PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK

Owner Davis Electronics Street RT 198

Date 11-26-86 NO 3689

CERTIFICATE OF OCCUPANCY MUST BE OBTAINED

TO THE BUILDING INSPECTOR, TOWN OF WOODSTOCK, CONN.:

THE UNDERSIGNED HEREBY APPLIES FOR PERMIT TO DO WORK ACCORDING TO THE FOLLOWING SPECIFICATIONS, SAME TO BE IN ALL RESPECTS IN ACCORDANCE WITH THE LAWS AND BUILDING REGULATIONS OF THE STATE OF CONNECTICUT AND THE TOWN OF WOODSTOCK AND AS SET FORTH IN THE ACCOMPANYING DRAWINGS AND SPECIFICATIONS IN SO FAR AS THE SAME SHALL BE FOUND NOT TO CONFLICT WITH THE AFORESAID STATE AND TOWN LAWS AND REGULATIONS.

Est. Cost	$ 21,000
Approved By:	
Bldg. Permit Fee (Date / Name)	126 (Date) (Name)
Septic ~~Permit~~ Fee	
~~C.O.~~ Credit	48
~~Ft~~ 3667	
TOTAL FEE Net	78 00

No. _____ Lot Located on the _____ Side of Street at No. _____ Street / Avenue

Nearest Cross Street _____

Owner of Land Same Address _____ Phone _____

Builder SELF Address _____ Phone _____

Architect _____ Address _____ Phone _____

Size of Main Building:—No. Ft. Front Overall _____ No. Ft. Deep Overall _____ Net Area _____

Statutes of the State of Connecticut require all buildings of 5,000 square feet to bear the seal of an Architect or Professional Engineer registered in Connecticut.

Size of Lot _____ Distance From Street Line _____ Distance From Right Side Line _____

Distance From Left Side Line _____ Distance From Rear Line _____ Zone _____

Purpose: Equipment Shelter + 190FT Tower as Per Plan

Signature Barbara B Davis REC'D FEE OF $ 78.00 Harry S. Yee BLDG. DEPT.

GENERAL CONTRACTOR	ELECTRICAL	HEATING	OIL BURNER & TANKS	PLUMBING	
NAME	NAME	NAME	NAME	NAME	NAME
EST. COST	EST. COST	EST. COST	EST. COST	EST. COST	EST. COST
		TYPE	NAME OF BURNER	NO. FIXTURES	

TYPE		FOUNDATIONS		ROOF TYPE		FLOOR CONST.				TILING		SPEC.	SIZE	SPAN
SINGLE FAM.		STONE		GABLE		WOOD JOIST				BATH FL. & WSCT		JOIST		
TWO FAM.		CONCRETE		HIP		CONCRETE				BATH FL. & WALLS		2ND FLR.		
APT. HOUSE		CONC. BLOCKS		GAMBREL						BATH FL. ONLY		RAFTER		
STORES		PIERS				FLOORING				TOILET-ROOMS		GIRDER		
ST. & TEN.		THICKNESS		FLAT			1	2	3	CERAMIC		COLUMN		
OFFICE		CONSTRUCTION		ROOF PITCH		HARD WOOD				OTHER		SILL		
FACTORY		FRAME		ROOFING		RES TILE				FOOTING		POST		
GAS STA.		BRICK		ASPH.SH.						SIZE		PLATE		
COM. GAR.		CONC. BLOCKS		WOOD SH.						STONE		STUD		
PRIVATE GAR. ATT.		VENEER		BUILT-UP						CONC				
BASE. GAR.		EXTERIOR		COMP. ROLL.		INTERIOR						INSPECTION		
FARM BUILDING		CLPBD. OR WD. SHINGLE					1	2	3					
NO. OF ROOMS		PLAIN BDG. OR NOV. 8-DG		CELLAR		PLAS.				CHIMNEYS		ELECTRICAL		
EXPANSION AREA		ASB.		WHOLE		GYP. BD.				SIZE OF FLUES				
ATTIC		ASPH.		PART		INS. BD.						PLUMBING		
BUILT		CONCRETE BLOCKS		NONE		WOOD						HEATING		
REMODELED		BR. CON. ☐ FACE ☐		CONC. FLOOR		LAYOUT						OIL BURNER		
NO. BATH ROOMS		BR.VN.CON ☐ FACE ☐		DIRT FLOOR		COND.								
FIREPLACES		ALUM.										BUILDING		

THIS PERMIT GOOD FOR ONE YEAR ONLY

BLDG. DEPT. ACCOUNT

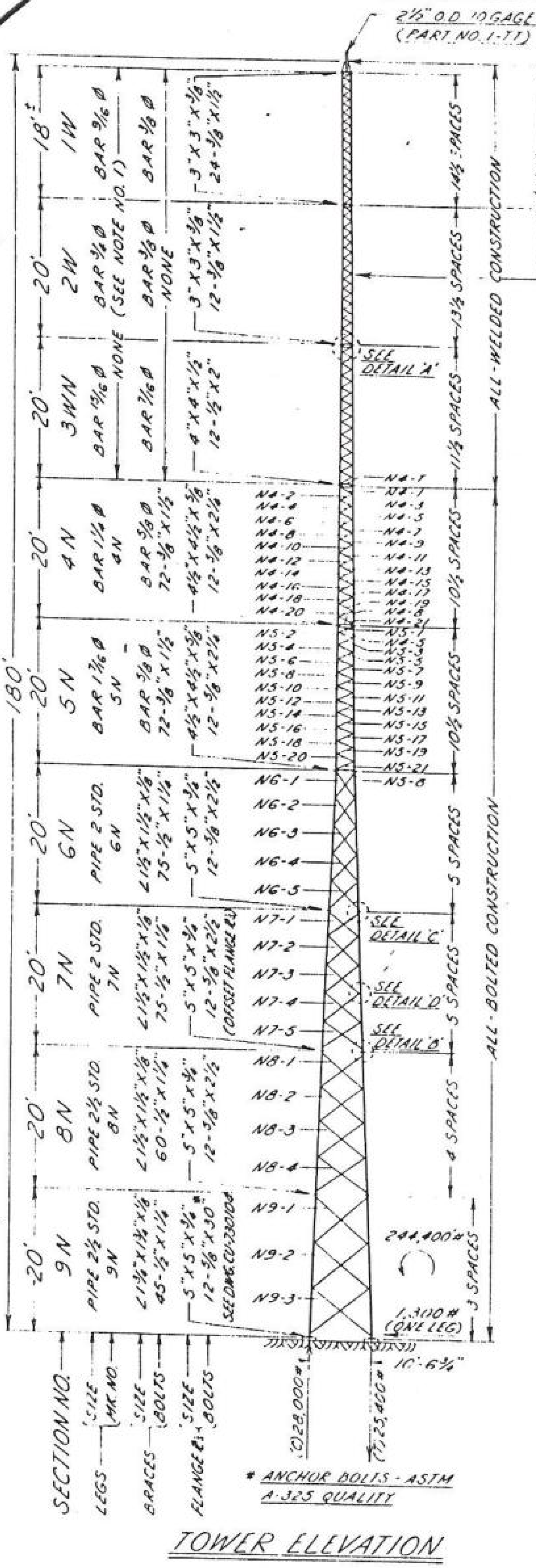
ROHN MANUFACTURING, DIVISION OF [logo]

TITLE: 170' & 180' MODEL SSV TOWER 30 P.S.F. E.I.A.

THIS DRAWING IS THE PROPERTY OF ROHN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRACED IN WHOLE OR IN PART WITHOUT OUR WRITTEN CONSENT.

SCALE	NONE
DWN BY	GLS, DATE 1/10/73
CK'D BY	T.S., DATE 2/13/73
APP'D ENGRG	CW, DATE 2/19/73
DWG NO.	CU-72116

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE GIVEN IN INCHES.



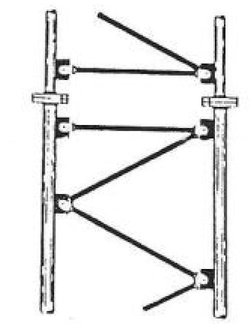
ALLOWABLE LOAD 3 SQ FT PROJECTED AREA

30' MIN. 20' MIN. 10' SEC. 1WB

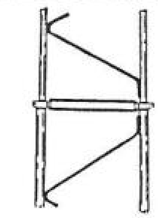
NOTE: AT THE 160' LEVEL, SPECIAL SECTION 1WB TO BE USED FOR 170' TOWER.

AT THIS LEVEL ALLOWABLE LOAD 5 SQ. FT. PROJECTED AREA (INCLUDING SIDE ARM)

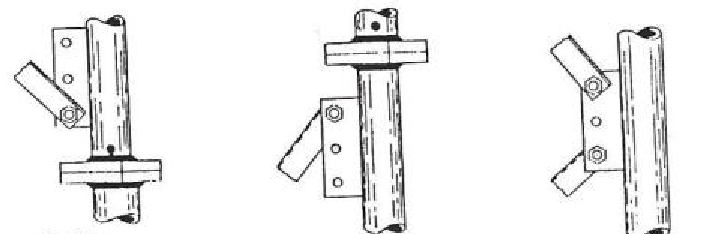
TOWER ELEVATION



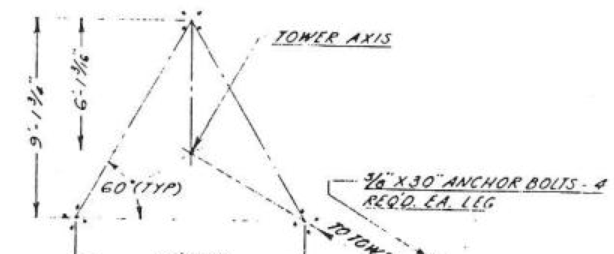
BRACING DETAIL (SEC. 4N & 5N) SEE DWG. SK-720305



DETAIL A



DETAIL B DETAIL C DETAIL D (TYP SECTIONS 6N THRU 9N)



BASE DIMENSIONS

(FOR FOUNDATION DETAILS SEE DWG. D-700300R.)
(FOR ANCHOR DETAILS SEE DWG. CU-730104)

GENERAL NOTES

1. LEG MK. NO. IS METAL STAMPED AT BOTTOM OF EACH LEG OF BOLTED SECTIONS. SECTION NO. IS METAL STAMPED AT BOTTOM OF ONE LEG OF WELDED SECTIONS.
2. PAL NUTS ARE PROVIDED FOR ALL TOWER BOLTS.
3. ALL MATERIAL HOT-DIPPED GALVANIZED AFTER FABRICATION.
4. BOLTS TO BE ASTM A-325 QUALITY.
5. BRACE MK. NO. IS METAL STAMPED AT ONE END OF EACH BRACE (BOLTED SECTIONS ONLY).
6. THE USE OF SHIMS TO PERFECTLY PLUMB TOWER MAY BE NECESSARY.
7. WHERE DRAINAGE IS REQ'D., A DRAIN HOLE IS PROVIDED AT THE BASE OF EACH LEG OF THE SECTION.
8. STEP BOLTS PROVIDED ONE LEG ONLY SECTIONS 6N THRU 9N.

PRINTED IN U.S.A.

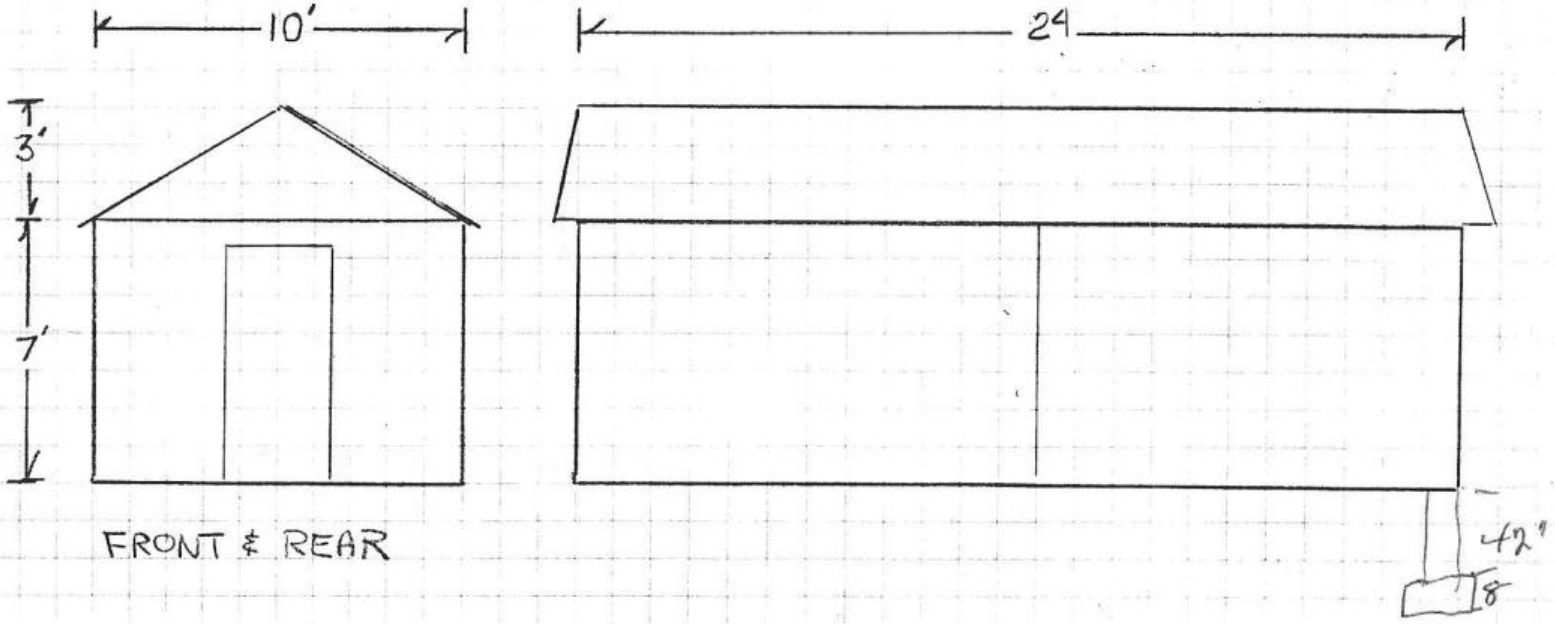
NOTE: 10' antenna mounted will Bring total heigth to 190' ft

Equipment Shelter

WALLS ARE to BE CONCRETE OR CEMENT BLOCK TO ROOFLINE.

Roof will BE CORREGATED Steel.

Excevation FOR 3'6" FROST WALLS & FOOTINGS

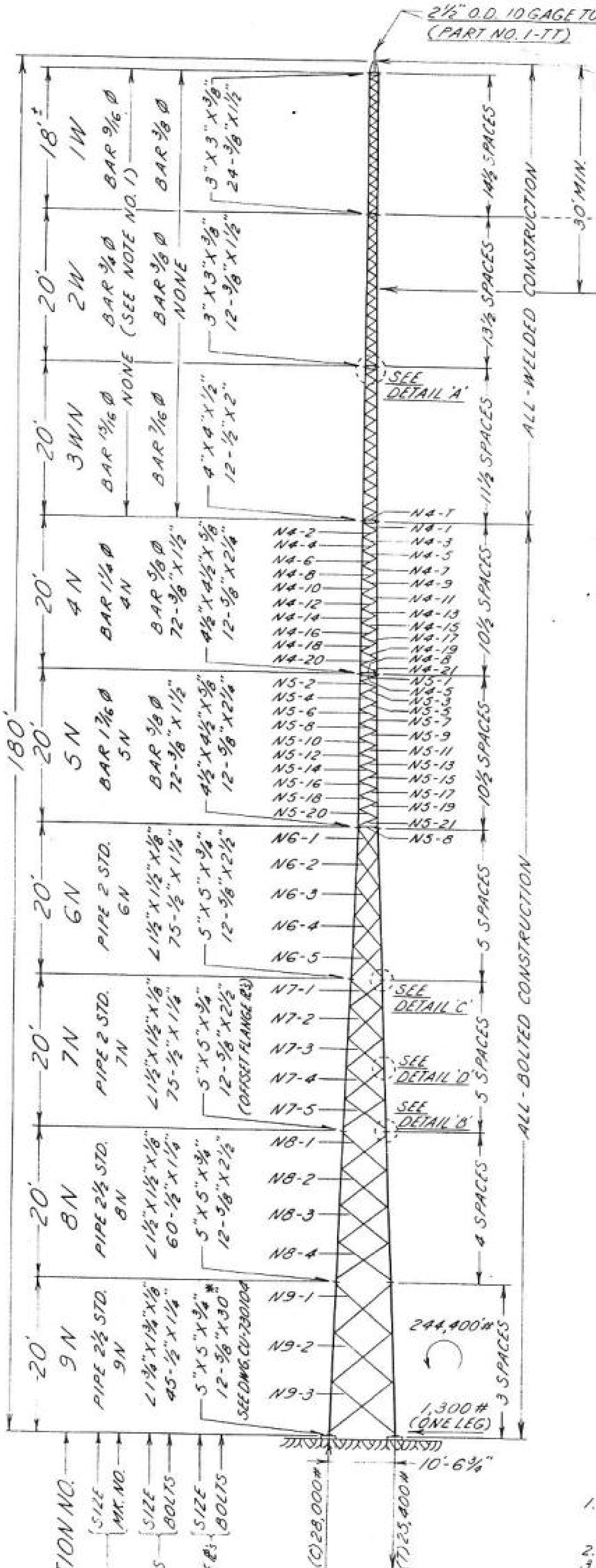


Estimated cost of Materials + Construction $8,000

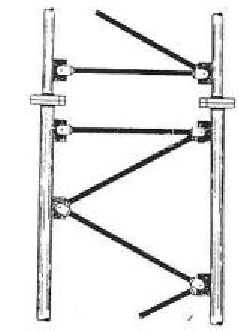
DAVIS ELECTRONICS
ROUTE 171
WOODSTOCK VALLEY, CT 06282

11-86

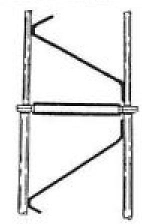
memo



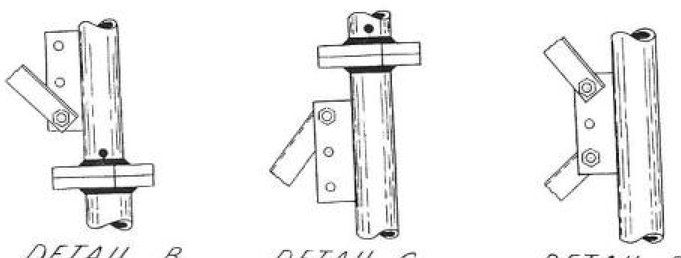
TOWER ELEVATION



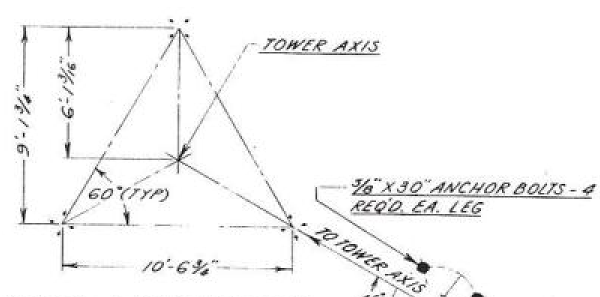
BRACING DETAIL
(SEC. 4N & 5N)
SEE DWG. SK-720305



DETAIL A



DETAIL B   DETAIL C   DETAIL D
(TYP SECTIONS 6N THRU 9N)



BASE DIMENSIONS
(FOR FOUNDATION DETAILS SEE DWG. D-700300R2)
(FOR ANCHOR DETAILS SEE DWG. CU-730104)

GENERAL NOTES

1. LEG MK. NO. IS METAL STAMPED AT BOTTOM OF EACH LEG OF BOLTED SECTIONS. SECTION NO. IS METAL STAMPED AT BOTTOM OF ONE LEG OF WELDED SECTIONS.
2. PAL NUTS ARE PROVIDED FOR ALL TOWER BOLTS.
3. ALL MATERIAL HOT-DIPPED GALVANIZED AFTER FABRICATION.
4. BOLTS TO BE ASTM A-325 QUALITY.
5. BRACE MK. NO. IS METAL STAMPED AT ONE END OF EACH BRACE (BOLTED SECTIONS ONLY).
6. THE USE OF SHIMS TO PERFECTLY PLUMB TOWER MAY BE NECESSARY.
7. WHERE DRAINAGE IS REQ'D., A DRAIN HOLE IS PROVIDED AT THE BASE OF EACH LEG OF THE SECTION.
8. STEP BOLTS PROVIDED ONE LEG ONLY SECTIONS 6N THRU 9N.

NO.	DESCRIPTION	DATE	BY
	REVISIONS		

ROHN® MANUFACTURING DIVISION OF UNARCO

TITLE: 170' & 180' MODEL SSV TOWER 30 P.S.F. E.I.A.

FILE NO.

SCALE: NONE · MATERIAL · FINISH · WT.

DWN. BY: GLS · DATE: 1/10/73
CKD. BY: T.S. · DATE: 2/13/73
APP'D. ENGRG.: CWJ · DATE: 2/19/73
APP'D. SALES · DATE: 1/6/[illegible]

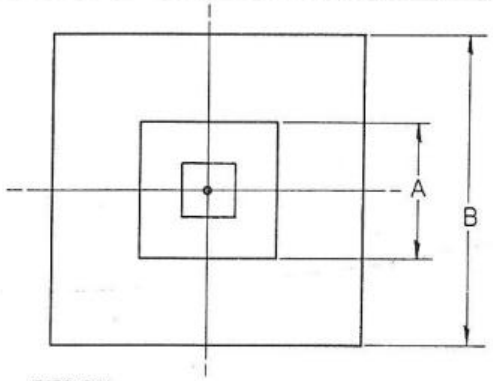
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE GIVEN IN INCHES. TOLERANCES: DEC. ± FRAC. ± ANGLES ±

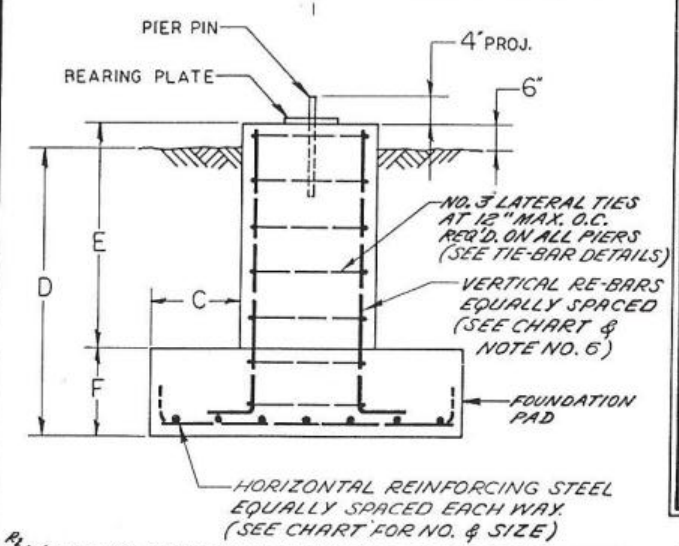
DWG. NO.: CU-721116

PRINTED IN U.S.A.

CITY BLUE PRINT

Estamated cost of Tower, Base & Installation #12,600 (H)

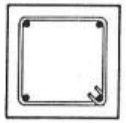


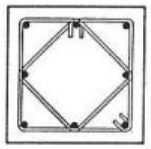


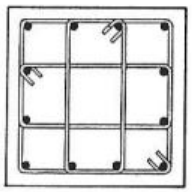
CONCRETE BASE SCHEDULE

CB NO.	TOWER BASE REACTION	DIMENSIONS A	B	C	D	E	F	BEARING PLATE	CONC. (CU. YDS.)	VERTICAL BARS (NO. & SIZE)	HORIZ. BARS (NO. & SIZE)
1	14000	2'-0	2'-0	0	4'-0	0	0	BP 6	.70	4-NO.6	NONE*
2	22000	2'-6	2'-6	0	4'-0	0	0	BP 6	1.00	4-NO.6	NONE*
3	32000	3'-0	3'-0	0	4'-0	0	0	BP 6	1.50	4-NO.6	NONE*
4	44000	3'-6	3'-6	0	4'-0	0	0	BP 6	2.10	4-NO.6	NONE*
5	58000	2'-0	4'-0	1'-0"	4'-0	3'-3	1'-3	BP 6	1.22	4-NO.6	6-NO.4
6	74000	2'-0	4'-6	1'-3"	4'-0	3'-3	1'-3	BP 6	1.42	4-NO.6	6-NO.5
7	90000	2'-0	5'-0	1'-6	4'-6	3'-9	1'-3	BP 10	1.70	8-NO.6	6-NO.5
8	109000	2'-0	5'-6	1'-9	4'-6	3'-9	1'-3	BP 10	2.00	8-NO.6	6-NO.5
9	130000	2'-0	6'-0	2'-0	4'-6	3'-6	1'-6	BP 10	2.50	8-NO.6	7-NO.5
10	150000	2'-0	6'-6	2'-3	4'-6	3'-6	1'-6	BP 10	2.90	8-NO.6	8-NO.5
11	173000	2'-6	7'-0	2'-3	5'-0	3'-9	1'-9	BP 15	4.00	8-NO.7	8-NO.6
12	198000	2'-6	7'-6	2'-6	5'-0	3'-9	1'-9	BP 15	4.50	8-NO.7	8-NO.6
13	224000	2'-6	8'-0	2'-9	5'-0	3'-9	1'-9	BP 15	5.00	8-NO.7	9-NO.6
14	251000	3'-0	8'-6	2'-9	5'-0	3'-6	2'-0	BP 15	6.50	12-NO.7	9-NO.7
15	279000	3'-0	9'-0	3'-0	5'-0	3'-6	2'-0	BP 15	7.20	12-NO.7	10-NO.7

R3 NOTE: DUE TO VARIABLES INVOLVED IN ROOF AND OTHER INSTALLATIONS, IT SHALL BE THE CUSTOMER'S OR INSTALLER'S RESPONSIBILITY TO PROVIDE STRUCTURALLY ADEQUATE SUPPORTS FOR PIER & ANCHOR CONNECTIONS. IT MAY ALSO BE NECESSARY FOR THE CUSTOMER OR INSTALLER TO SECURE THE SERVICE OF A LOCAL ENGINEER TO DETERMINE THAT INSTALLATION COMPLIES WITH LOCAL BUILDING CODES.


CB1 THRU CB6


CB7 THRU CB13


CB14 & CB 15

TIE BAR DETAILS

GENERAL NOTES:

1. BASE PIER DESIGNED FOR AN ALLOWABLE NET SOIL PRESSURE OF 4000 PSF.
2. CONCRETE - 3000 PSI MIN. ULT. STRENGTH AT 28 DAYS.
3. REINFORCING STEEL - ASTM A-615 GRADE 40 DEFORMED BARS.
4. MIN. COVER ON ALL REINFORCING STEEL IS 3".
5. ALL FORMS MUST BE REMOVED FROM CONCRETE BEFORE PLACING COMPACTED BACKFILL.
6. VERTICAL REINFORCING STEEL MAY BE PLACED WITH AN OPTIONAL STANDARD ACI 90° BEND AT BOTTOM.
7. FOUNDATION DESIGN PER E.I.A STANDARDS.
8. BEARING PLATE PROVIDED ONLY ON TOWERS WITH TAPERED BASE.

*3. HORIZ. BARS IN CHART REFER ONLY TO THE BARS IN THE FOUNDATION PAD.

R2	ADDED NOTE	7-6-76	DH
R1	RE-DRAWN-SUPERSEDES C-610621D	2-26-75	DH
NO.	DESCRIPTION	DATE	BY

REVISIONS

ROHN® MANUFACTURING
DIVISION OF FRANCE

TITLE
CONCRETE BASE SCHEDULE

FILE NO.

SCALE ~	MATERIAL	FINISH	WT.
DWN. BY D.H	DATE 2-26-75	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE GIVEN IN INCHES.	
CK'D. BY WSM	DATE 3-7-75	TOLERANCES DEC. ± FRAC. ± ANGLES ±	DWG. NO. C 610621 R5
APP'D. ENGRG. (illegible)	DATE 3-7-75		
APP'D. BY BR	DATE 3-15-75		

R5	ADDED GENERAL NOTE #9	1-21-80	JHD
R4	REMOVED RS-222-B FROM GEN. NOTE NO. 7.	3/7/77	GLS
R3	DELETE SIZE PIER PIN.	7/29/76	GLS

GAF 880-250 2-72 48194

PRINTED IN U.S.A.

Exhibit B

1825 RT 198

Location	1825 RT 198	**Mblu**	5709/ 02/ 08/ /
Acct#	D0095200	**Owner**	DAVIS GEORGE L + BARBARA B
Assessment	$160,260	**Appraisal**	$268,400
PID	968	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$0	$268,400	$268,400
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$0	$160,260	$160,260

Owner of Record

Owner	DAVIS GEORGE L + BARBARA B	**Sale Price**	$0
Co-Owner		**Certificate**	1
Address	1814 ROUTE 171 WOODSTOCK VALLEY , CT 06282	**Book & Page**	345/ 496
		Sale Date	05/01/2002

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
DAVIS GEORGE L + BARBARA B	$0	1	345/ 496	05/01/2002

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes

Field	Description
Style	Outbuildings
Model	
Grade:	
Stories:	
Living Units	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Whirlpool Tubs	
Bsmt. Garages	

Building Photo

(https://images.vgsi.com/photos/WoodstockCTPhotos//\00\00\47/20.jpg)

Building Layout

Building Layout
(https://images.vgsi.com/photos/WoodstockCTPhotos//Sketches/968_968.j

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	201
Description	Commercial Vacant
Zone	
Neighborhood	300
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	34.28
Frontage	
Depth	
Assessed Value	$160,260
Appraised Value	$268,400

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

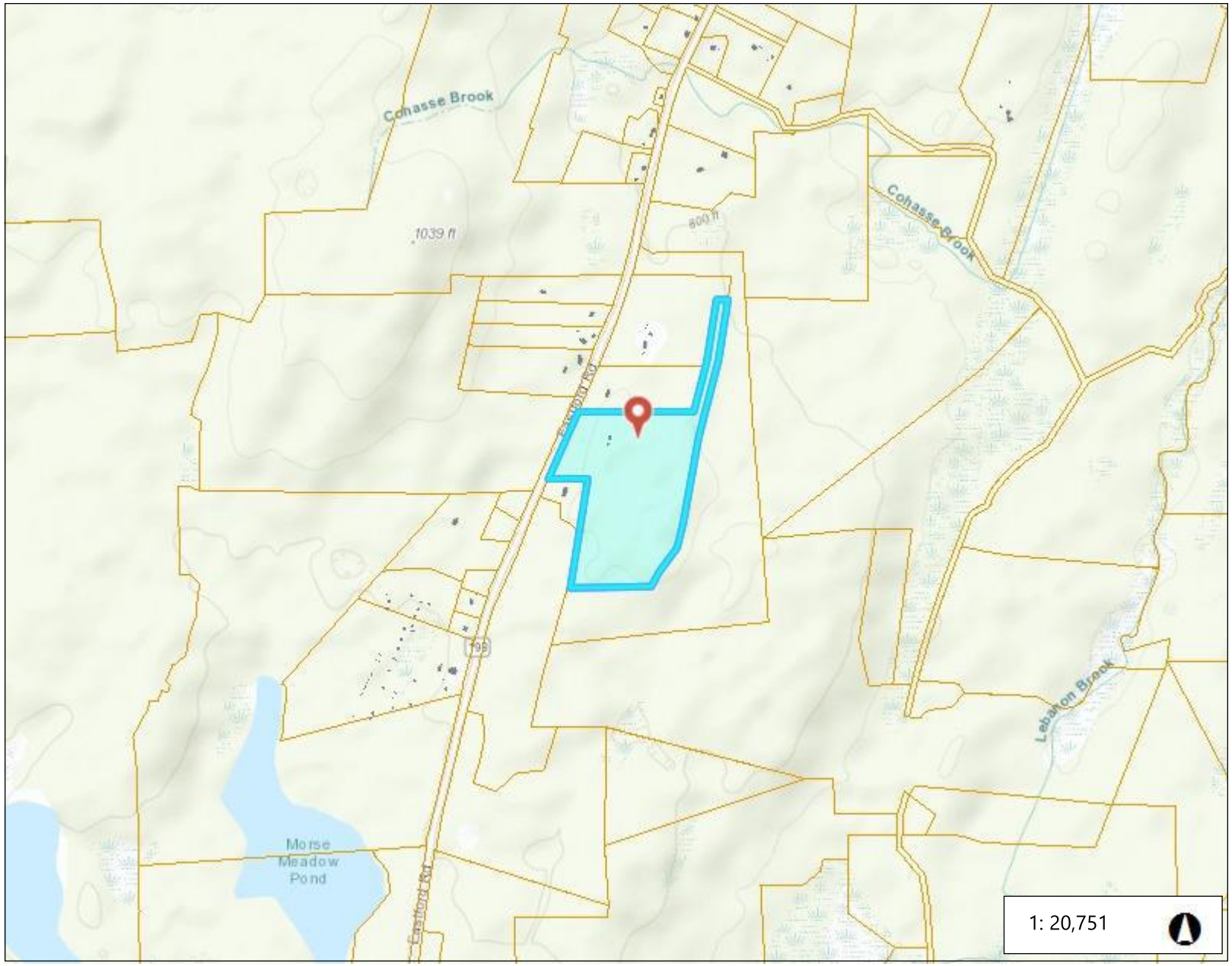
Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$0	$218,400	$218,400
2019	$0	$218,400	$218,400
2018	$0	$228,800	$228,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$0	$110,720	$110,720
2019	$0	$110,720	$110,720
2018	$0	$111,590	$111,590

neccog

1825 RTE 198



Legend

- Town
- Buildings 2012
- Parcels

Notes

0.7 0 0.33 0.7 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

Exhibit C

CTNL185_SBA_SST_WOODSTOCK

APPROVALS

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

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
SECTOR D:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

1825 ROUTE 198
WOODSTOCK, CT 06281
WINDHAM COUNTY

SITE NO.: CTNL185A

SITE TYPE: 180'± SELF-SUPPORT TOWER

RF DESIGN GUIDELINE: 67E5D998E 6160

SCOPE OF WORK

INSTALL:

- 6 ANTENNAS
- 1 DISH ANTENNA
- 6 RADIOS
- 1 6160 EQUIPMENT CABINET
- 1 B160 BATTERY CABINET
- 1 PPC
- 1 PURCELL CABINET
- 1 SLACKBOX
- 3 HYBRID CABLES
- 1 COAX CABLE FOR GPS
- 3 HEAVY-DUTY V-FRAMES
- 1 10'x20' CONCRETE PAD
- 1 10'x12' ICE CANOPY
- 1 GENERATOR
- 1 AUTOMATIC TRANSFER SWITCH
- 1 GPS ANTENNA

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

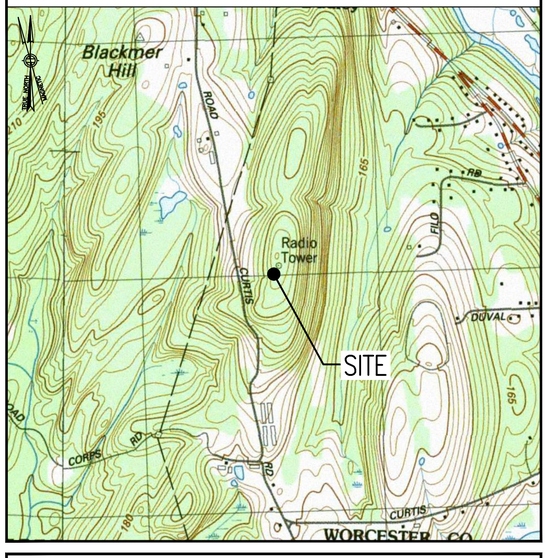
GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. TAKE EXIT 58 TOWARD I-90 WEST. KEEP LEFT AT FORK & FOLLOW SIGNS FOR I-90 WEST/SPRINGFIELD/ALBANY. MERGE ONTO I-90 WEST. TAKE EXIT 78 TOWARD I-84. CONTINUE ONTO I-84. TAKE EXIT 5 TOWARD OLD STURBRIDGE VILLAGE ROAD. KEEP LEFT FOLLOW SIGNS FOR MA-131. TURN LEFT ONTO OLD STURBRIDGE VILLAGE ROAD. TURN LEFT ONTO RIVER ROAD. TURN LEFT ONTO MASHAPAUG ROAD. CONTINUE ONTO SOUTH STREET. TURN RIGHT ONTO OLD SOUTH ROAD. TURN RIGHT ONTO DENNISON DRIVE. SLIGHT RIGHT ONTO MA-198 SOUTH. SITE IS LOCATED ON THE LEFT HAND SIDE.

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	2
GN-1	GENERAL NOTES	2
A-1	COMPOUND PLAN, EQUIPMENT PLAN & PHOTO	2
A-2	TOWER ELEVATION, ANTENNA PLANS & PHOTO	2
A-3	SITE DETAILS 1 OF 2	2
A-4	SITE DETAILS 2 OF 2	2
A-5	GENERATOR SPECIFICATIONS 1 OF 2	2
A-6	GENERATOR SPECIFICATIONS 2 OF 2	2
A-7	ANTENNA & FEEDLINE CHARTS	2
E-1	SITE ELECTRIC & GROUNDING DETAILS 1 OF 2	2
E-2	SITE ELECTRIC & GROUNDING DETAILS 2 OF 2	2
E-3	ANTENNA ELECTRIC & GROUNDING DETAILS	2

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT SUMMARY

SITE NUMBER:	CTNL185A
SITE NAME:	CTNL185_SBA_SST_WOODSTOCK
SBA SITE NUMBER:	CT14089-A
SBA SITE NAME:	WOODSTOCK NORTH
SITE ADDRESS:	1825 ROUTE 198 WOODSTOCK, CT 06281
PROPERTY OWNER:	DAVIS GEORGE L. & BARBARA B. 1814 ROUTE 171 WOODSTOCK VALLEY, CT 06282
TOWER OWNER:	SBA TOWERS V, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	HAMPDEN
ZONING DISTRICT:	COMMUNITY DISTRICT
STRUCTURE TYPE:	SELF-SUPPORT TOWER
STRUCTURE HEIGHT:	180'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 42.012280° N42°00'44.21" LONGITUDE: -72.077380° W72°04'38.57"

SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER

7/1/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.490

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – T–MOBILE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

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

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

4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

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

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

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

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

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

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

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

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

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

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

17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

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

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.

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

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

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

6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

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

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

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

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

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

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.

7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

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

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

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

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

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

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

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

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

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

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

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

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

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.

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

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

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

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

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

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

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

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

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

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

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

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

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

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

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

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

25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

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

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

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

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

T-MOBILE
NORTHEAST LLC

15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286–2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251–0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil ·Structural ·Land Surveying

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481–7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED
PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

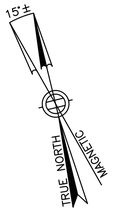
SHEET TITLE
GENERAL NOTES

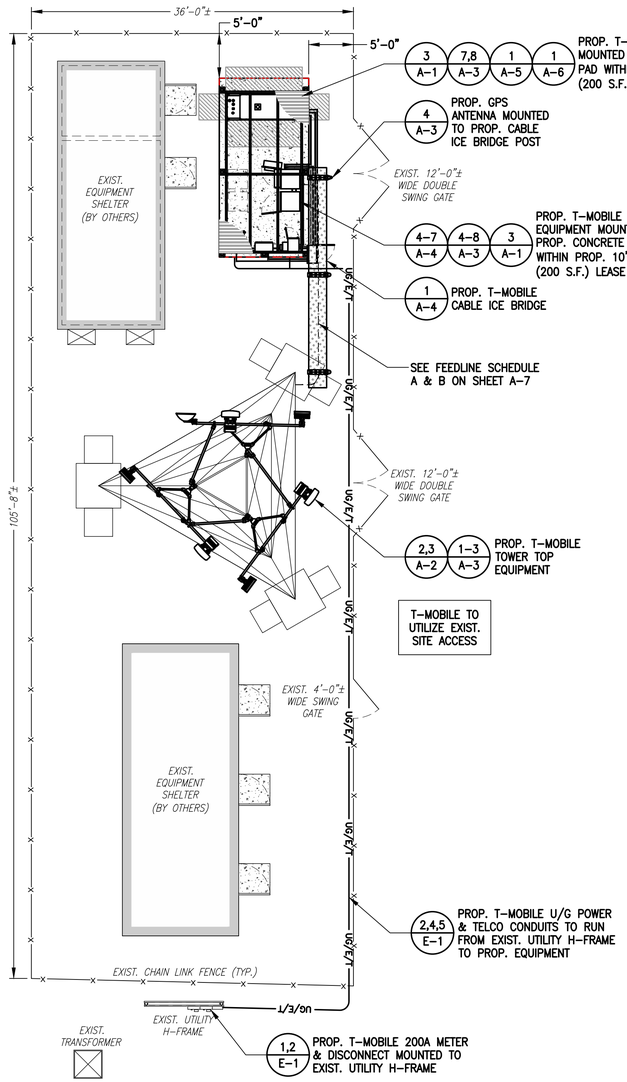
SHEET NUMBER
GN-1

1815.490

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

SPECIAL CONSTRUCTION WORK NOTE (HAND DUG UTILITY TRENCH EXCAVATION REQUIRED):
EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND-EXCAVATE TO REQUIRED SUB-GRADE DEPTH SUFFICIENT TEST HOLES OR AS DIRECTED/REQUIRED BY SBA REGIONAL SITE MANAGER SHALL HAND-EXCAVATE ALL PROPOSED UNDERGROUND UTILITY TRENCHES. GENERAL CONTRACTOR RESPONSIBLE FOR ANY REQUIRED SPECIAL TEMPORARY PROTECTION OF EXISTING UNDERGROUND UTILITIES, PHYSICAL DAMAGE REPAIR, AND SERVICE RESTORATION.

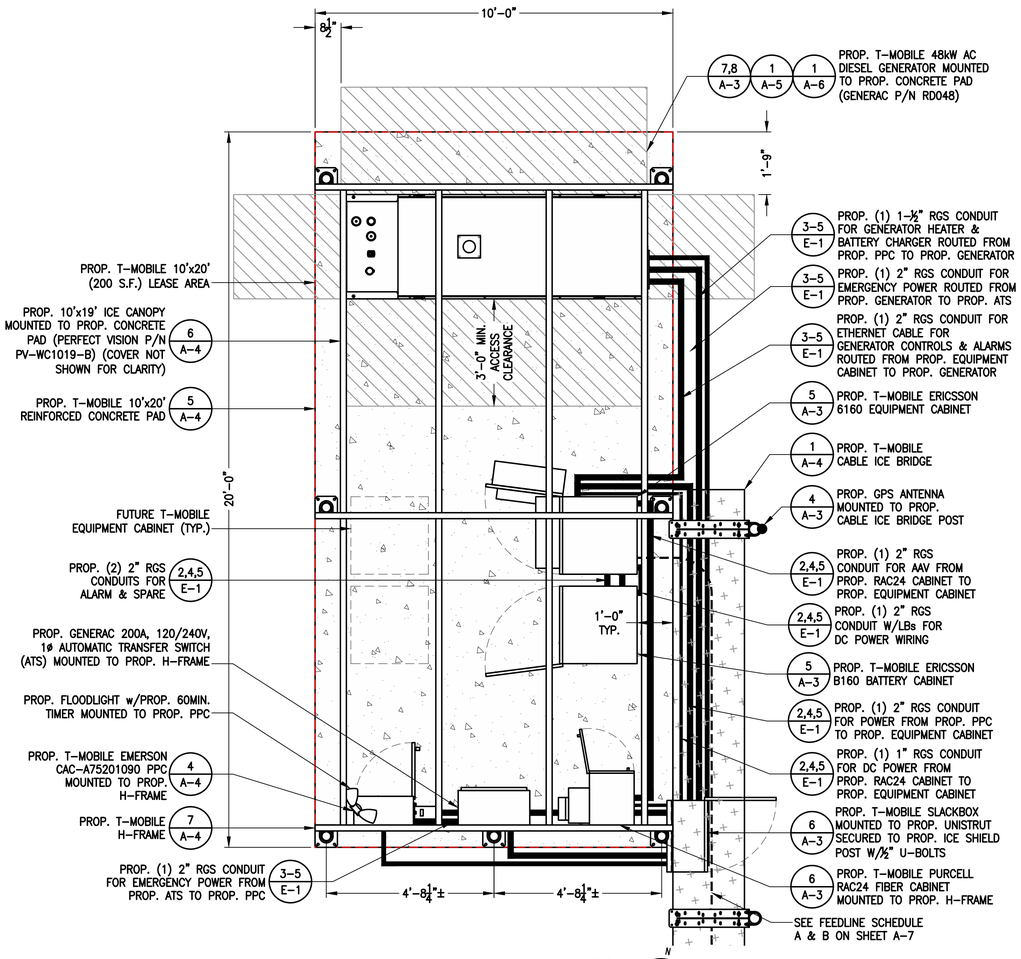




COMPOUND PLAN
1 A-1
SCALE: 1" = 8'-0"
0 8'-0" 16'-0" 24'-0"

APPROX. LOCATION OF PROP. T-MOBILE 10'x20' (200 S.F.) LEASE AREA 3 A-1

PROPOSED EQUIPMENT LOCATION PHOTO
2 A-1
SCALE: N.T.S.



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

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED
PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
COMPOUND, EQUIPMENT PLAN & PHOTO

SHEET NUMBER
A-1

1815.490

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

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

RAD CENTER NOTE:
T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.

EXISTING TOWER PHOTO (1 / A-2)
SCALE: N.T.S.

ALL SECTORS
PROP. T-MOBILE ERICSSON M-MIMO AIR6419 B41 ANTENNAS MOUNTED TO PROP. SECTOR FRAME ON EXIST. SELF-SUPPORT TOWER (1 PER SECTOR, TOTAL OF 3) (3 / A-2) (1 / A-3)

TOP OF EXIST. SELF-SUPPORT TOWER EL. = 180'± AGL
℄ EXIST. ANTENNAS BY OTHERS EL. = 177'± AGL
TOP OF PROP. (3) T-MOBILE ANTENNAS EL. = 171'± AGL
℄ PROP. (4) T-MOBILE ANTENNAS EL. = 167'± AGL
EXIST. 5' WHIP ANTENNA BY OTHERS EL. = 164'± AGL
EXIST. 10' WHIP ANTENNA BY OTHERS EL. = 158'± AGL
EXIST. YAGI ANTENNA BY OTHERS EL. = 153'± AGL
EXIST. YAGI ANTENNA BY OTHERS EL. = 151'± AGL
EXIST. 10' WHIP ANTENNA BY OTHERS EL. = 143'± AGL
EXIST. WHIP ANTENNA (TYP.)
EXIST. 21' WHIP ANTENNA BY OTHERS EL. = 118'± AGL
EXIST. 7' WHIP ANTENNA BY OTHERS EL. = 57'± AGL
SEE FEEDLINE SCHEDULE A & B ON SHEET A-7
EXIST. 180'± SELF-SUPPORT TOWER
EXIST. 3' WHIP ANTENNA BY OTHERS EL. = 24'± AGL
GROUND LEVEL EL. = 0.0' AGL

PROP. T-MOBILE COMMSCOPE VHLP2-11W-2GR DISH ANTENNAS MOUNTED TO PROP. SECTOR FRAME ON EXIST. SELF-SUPPORT TOWER (TOTAL OF 1) (3 / A-2) (1 / A-3)

ALL SECTORS
PROP. T-MOBILE ERICSSON RADIO 4480 B71+B85 MOUNTED TO PROP. DUAL RADIO MOUNT ON PROP. SECTOR FRAME (1 PER SECTOR, TOTAL OF 3) (3 / A-2) (2 / A-3)

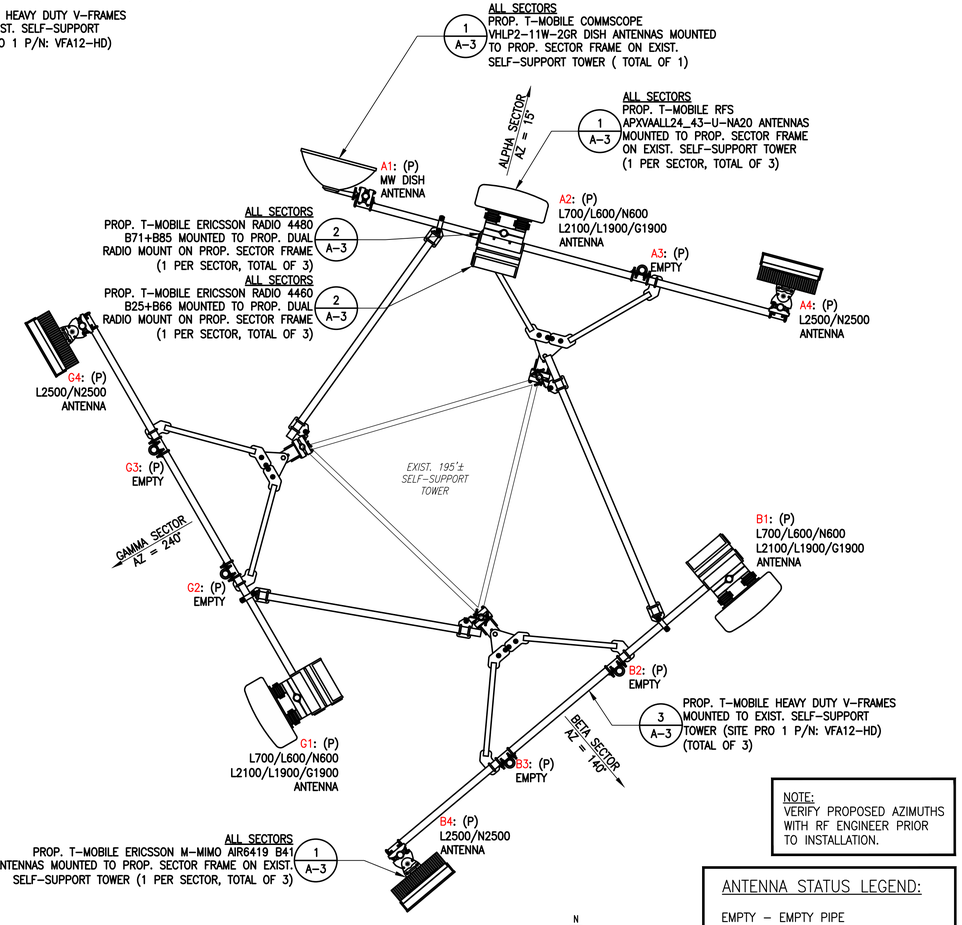
ALL SECTORS
PROP. T-MOBILE ERICSSON RADIO 4460 B25+B66 MOUNTED TO PROP. DUAL RADIO MOUNT ON PROP. SECTOR FRAME (1 PER SECTOR, TOTAL OF 3) (3 / A-2) (2 / A-3)

ALL SECTORS
PROP. T-MOBILE RFS APXVAALL24_43-U-NA20 ANTENNAS MOUNTED TO PROP. SECTOR FRAME ON EXIST. SELF-SUPPORT TOWER (1 PER SECTOR, TOTAL OF 3) (3 / A-2) (1 / A-3)

PROP. T-MOBILE HEAVY DUTY V-FRAMES MOUNTED TO EXIST. SELF-SUPPORT TOWER (SITE PRO 1 P/N: VFA12-HD) (TOTAL OF 3) (3 / A-2) (3 / A-3)

NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

TOWER ELEVATION (2 / A-2)
SCALE: 1" = 10'-0"
0 10' 20' 30'



PROPOSED ANTENNA PLAN (3 / A-2)
SCALE: 1/2" = 1'-0"

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

ANTENNA STATUS LEGEND:

EMPTY – EMPTY PIPE

(E) – EXISTING
(P) – INSTALL
(F) – FUTURE

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED
PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

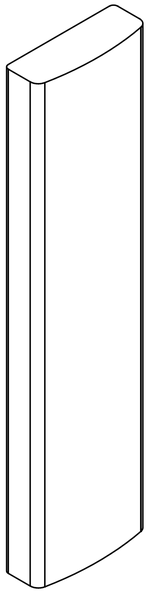
SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
TOWER ELEVATION, ANTENNA PLAN & PHOTO

SHEET NUMBER
A-2

1815.490



RFS APXVAALL24_43-U-NA20 ANTENNA

DIMENSIONS: 95.9"H x 24.0"W x 8.5"D
WEIGHT: 122.8 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

COMMSCOPE VHLP2-11W/B DISH ANTENNA

DIMENSIONS: 25.9"ø x 8.9"D
WEIGHT: 25.0 lbs
TOTAL OF 1

ERICSSON M-MIMO AIR6419 B41 ANTENNA

DIMENSIONS: 36.3"H x 20.9"W x 9.0"D
WEIGHT: 83.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS (1 / A-3)
SCALE: N.T.S.

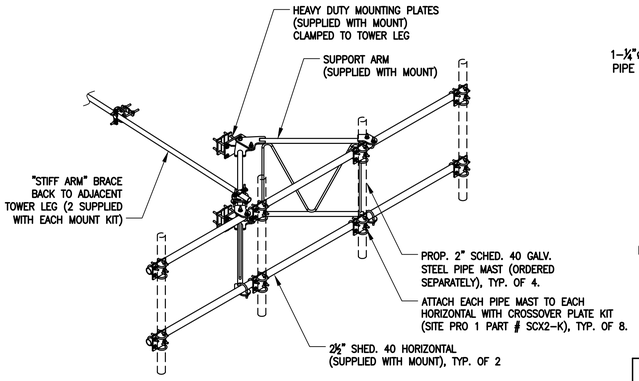
ERICSSON RADIO 4460 B25+B66

DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ERICSSON RADIO 4480 B71+B85

DIMENSIONS: 19.2"H x 15.1"W x 7.5"D
WEIGHT: 92.6 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

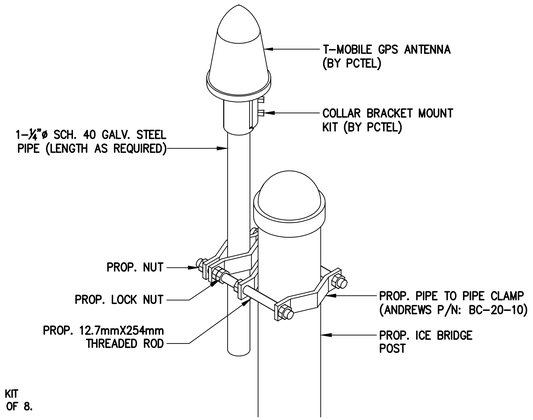
RADIO DETAILS (2 / A-3)
SCALE: N.T.S.



SITE-PRO 1 12'-6" HEAVY-DUTY V-FRAME

PART NUMBER: VFA12-HD
(TOTAL OF 3 REQUIRED)

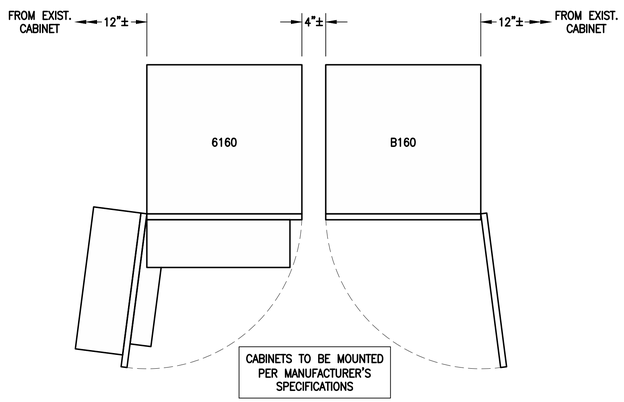
TYPICAL SITE PRO 1, 12'-6" HEAVY DUTY V-FRAME ASSEMBLY (3 / A-3)
SCALE: N.T.S.



NOTE:
THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"-1¼" DIAMETER GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.

GPS ANTENNA MOUNTING DETAIL (4 / A-3)
SCALE: N.T.S.

NOTE:
GENERATOR DIESEL TANK TO BE FILLED BY CONTRACTOR.



ERICSSON 6160 SITE SUPPORT CABINET

DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

ERICSSON B160 BATTERY CABINET

DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
WEIGHT: 1771.0 lbs
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL (5 / A-3)
SCALE: N.T.S.

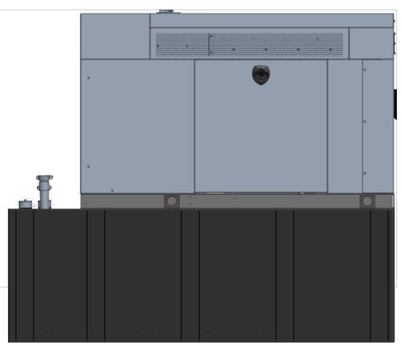
SLACKBOX - HOFFMAN 32FH91 NEMA 3R ENCLOSURE

DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

PURCELL SITE SUPPORT CABINET RAC24

DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
QUANTITY: TOTAL OF 1

SSC DETAILS (6 / A-3)
SCALE: N.T.S.

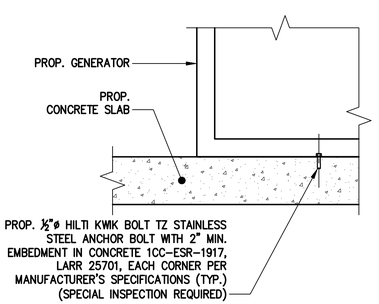


GENERAC RD048 48kW AC DIESEL GENERATOR

DIMENSIONS: 103.4"L x 35.0"W x 90.0"H
WEIGHT: 2,954 lbs
QUANTITY: TOTAL OF 1

GENERATOR DETAIL (7 / A-3)
SCALE: N.T.S.

NOTE:
CONTRACTOR TO VERIFY 3" MIN. FROM EDGE OF CONCRETE TO NEW MOUNTING BOLT.



GENERATOR MOUNTING DETAIL (8 / A-3)
SCALE: N.T.S.

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
7/11/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

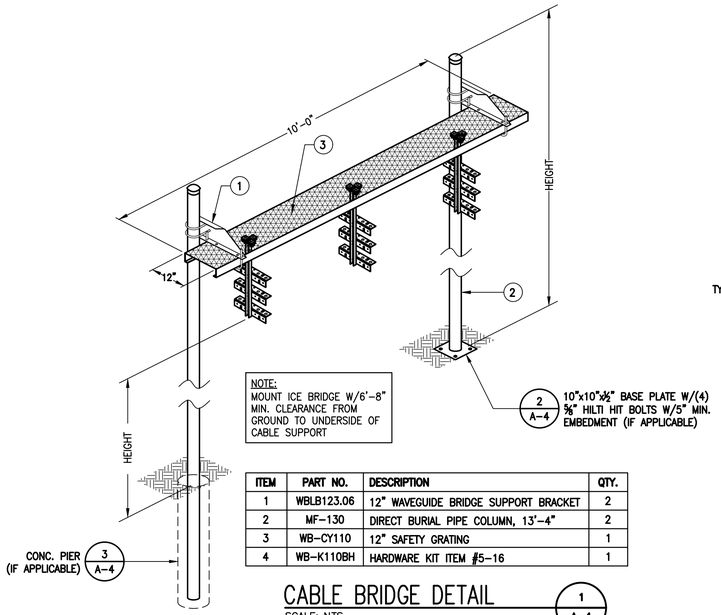
SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
SITE DETAILS
1 OF 2

SHEET NUMBER
A-3

1815.490

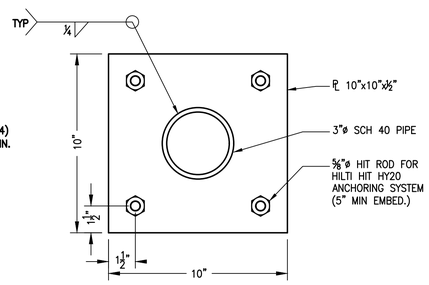


NOTE:
MOUNT ICE BRIDGE W/6'-8" MIN. CLEARANCE FROM GROUND TO UNDERSIDE OF CABLE SUPPORT

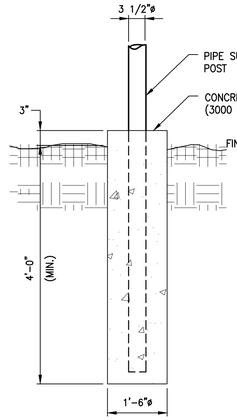
2 A-4 10"x10"x½" BASE PLATE W/(4) ⅝" HILTI HIT BOLTS W/5" MIN. EMBEDMENT (IF APPLICABLE)

ITEM	PART NO.	DESCRIPTION	QTY.
1	WBLB123.06	12" WAVEGUIDE BRIDGE SUPPORT BRACKET	2
2	MF-130	DIRECT BURIAL PIPE COLUMN, 13'-4"	2
3	WB-CY110	12" SAFETY GRATING	1
4	WB-K110BH	HARDWARE KIT ITEM #5-16	1

CABLE BRIDGE DETAIL (1 A-4)
SCALE: NTS



CABLE BRIDGE BASE PLATE (2 A-4)
SCALE: NTS



NOTES:

1. FOR EXPOSED LEDGE, PROVIDE GROUT LEVELING PAD. INSTALL (2)-⅝"ø EXPANSION ANCHORS, (6" LONG).
2. FOR BURIED LEDGE AT LESS THAN 3'-6" BELOW FINISH GRADE, CORE 8"ø HOLE INTO LEDGE 18" DEEP. FILL AROUND PIPE WITH NON-SHRINK GROUT. USE COAL TAR ON BURIED LENGTH OF PIPE, AND BACKFILL TO FINISH GRADE
3. FOR CONCRETE, FASTEN BASEPLATE WITH (2)-⅝"ø EXPANSION ANCHORS, (6" LONG).
4. FOR POSTS ON CONCRETE OR EXPOSED LEDGE, PROVIDE 4"x8"x⅜" BASE PLATE WITH (2)-1⅛"ø HOLES @ 6" O.C.

CABLE BRIDGE PIER (3 A-4)
SCALE: NTS

EMERSON CAC-A75201090 PPC
DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
QUANTITY: TOTAL OF 1

PPC DETAIL (5 A-4)
SCALE: N.T.S.

CONCRETE GENERAL NOTES

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND TO THE PROJECT SPECIFICATIONS.
2. ALL CONCRETE IS TO BE NORMAL DENSITY CONCRETE WITH A MAXIMUM SLUMP OF 4 INCHES. MAXIMUM AGGREGATE SIZE ¾ INCH. NO ADDITIONAL WATER SHALL BE ADDED TO THE CONCRETE AT THE JOB SITE.
3. PROVIDE AIR ENTRAINMENT OF 4 TO 6 PERCENT IN ALL EXPOSED CONCRETE WORK WITH AIR-ENTRAINING ADMIXTURE COMPLYING WITH ASTM C 260. AT TROWEL-FINISHED FLOORS, DO NOT EXCEED AIR-ENTRAINMENT CONTENT OF 3 PERCENT.
4. NO HOLES OR SLEEVES SHALL BE MADE THROUGH CONCRETE WORK OTHER THAN THOSE INDICATED ON THE STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
5. ALL FORMWORK OFFSET TOLERANCES (PER ACI 117) TO BE CLASS A.
6. FLOOR SLAB TOLERANCES TO ASTM E1155; SPECIFIED OVERALL MINIMUM VALUE OF FLATNESS F F=25 WITH LOCAL MINIMUM F F=17, AND MINIMUM VALUE OF LEVELNESS F F=20 WITH LOCAL MINIMUM F I AND F F WITHIN 72 HOURS OF SLAB CONSTRUCTION.
7. CABINETS ON SLAB (IF APPLICABLE). ALLOWABLE CAPACITY OF CONCRETE USED IN DESIGN MIN. 4000 PSI.

FOUNDATION NOTES:

1. DESIGN INFORMATION AND GENERAL REQUIREMENTS

1.1 CODES

A. DESIGN CONFORMS TO INTERNATIONAL BUILDING CODE 2012.

B. AMERICAN CONCRETE INSTITUTE "BUILDING COADE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-08.

2. EARTHWORK

2.1 FOUNDATIONS

A. FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON (UNDISTURBED RESIDUAL SOILS/COMPACTED STRUCTURAL FILL), CAPABLE OF SAFELY SUPPORTING A NET ALLOWABLE BEARING PRESSURE OF 2000 PSF. IF FOUNDATION CONDITIONS PROVE UNACCEPTABLE AT ELEVATIONS SHOWN, EXCAVATION SHALL BE CARRIED DEEPER AND SHALL BE BACKFILLED WITH LEAN CONCRETE TO PLAN FOOTING BOTTOM, OR REDESIGN OF FOUNDATIONS WILL BE REQUIRED AT THE DIRECTION OF THE ENGINEER.

B. DESIGN, FURNISH AND INSTALL ALL TEMPORARY SHEETING, SHORING AND DRAINAGE NECESSARY TO MAINTAIN THE EXCAVATION AND PROTECT SURROUNDING STRUCTURES AND UTILITIES.

C. THOROUGHLY COMPACT ALL BOTTOM OF FOOTINGS PRIOR TO PLACING ANY CONCRETE.

3. CONCRETE

3.1 FORMWORK

A. CONCRETE CONSTRUCTION SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL, CONCRETE FOR BUILDINGS," (ACI 301-89).

B. FORMWORK SHALL CONFORM TO ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS."

3.2 REINFORCEMENT

A. REINFORCING STEEL ASTM A615, GRADE 60. WELDED WIRE ASTM A185 (FLAT SHEET). LAPS 40 BAR DIAMETERS UNLESS NOTED. BARS SHALL BE SECURELY HELD IN ACCURATE POSITION BY SUITABLE ACCESSORIES, TIE BARS, SUPPORT BARS, ETC. HOOK LENGTHS SHALL BE 12 BAR DIAMETERS.

B. CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

FOOTINGS & SLABS CAST AGAINST GROUND	3"
CONCRETE TO BE IN CONTACT WITH GROUND OR WEATHER AT BARS GREATER THAN #5	2"
AT BARS #5 OR LESS	1-1/2"
CONCRETE NOT TO BE EXPOSED TO GROUND OR WEATHER BEAMS, GIRDERS & COLUMNS	1-1/2"
SLABS & WALLS	3/4"

3.3 CAST-IN-PLACE-CONCRETE

A. MINIMUM 28 DAY CYLINDER STRENGHT AND MAXIMUM SLUMP, PRIOR TO ADDITION OF SUPER PLASTICIZERS, AS FOLLOWS:

	F'C (PSI)	SLUMP
CLASS I FOOTINGS	4000	3"
CLASS II FOOTINGS	4000	3"
CLASS III INTERIOR ELEVATED SLABS & WALLS	4000	4"
CLASS V OTHER WORK	4000	4"
CLASS VI LEAN CONCRETE FOR OVER EXCAVATION OF FOUNDATIONS	2000	N/A

B. MIX DESIGN TO BE IN ACCORDANCE WITH ACI 318, CHAPTER 5. NO CALCIUM CHLORIDE OR ADMIXTURE CONTAINING CHLORIDES SHALL BE USED IN ANY CONCRETE.

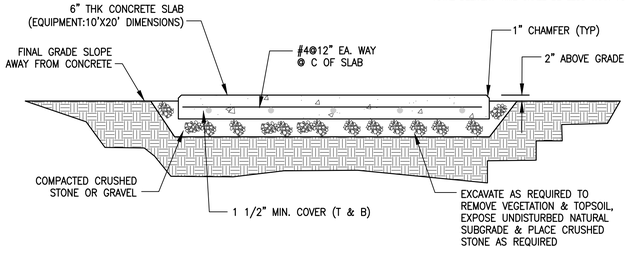
C. COARSE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33 SIZE $57. COARSE AGGREGATE FOR LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C330 GRADED 3/4" TO 1/4".

D. COLD WEATHER PLACEMENT SHALL COMPLY WITH ACI 306.1.

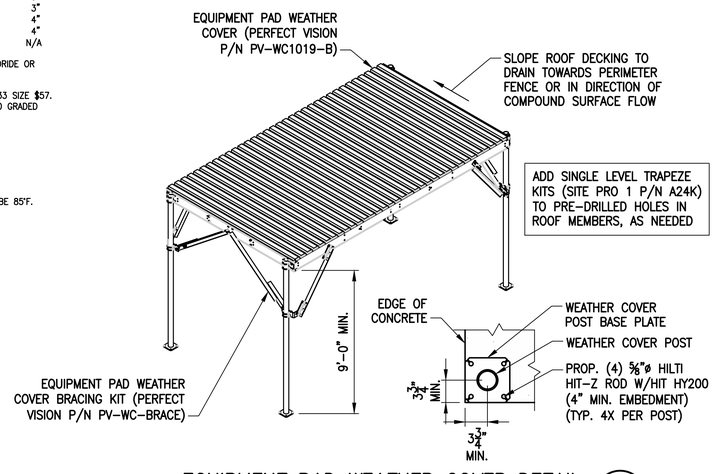
E. HOT WEATHER PLACEMENT SHALL COMPLY WITH ACI 305 R.

F. CHAMFER ALL EXPOSED EDGES 3/4".

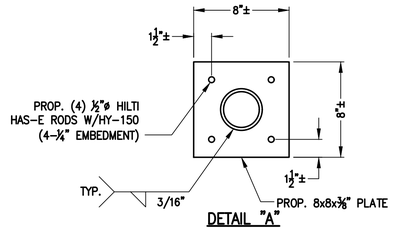
G. THE MAXIMUM TEMPERATURE OF ALL CONCRETE AT DELIVERY TO THE SITE SHALL BE 85°F. TOTAL DELIVERY TIME SHALL BE LESS THAN 75 MINUTES.



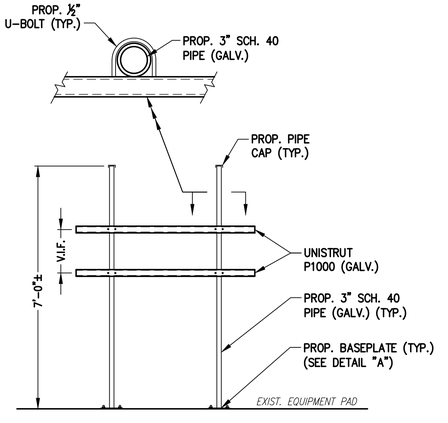
CONCRETE PAD DETAIL (4 A-4)
SCALE: N.T.S.



EQUIPMENT PAD WEATHER COVER DETAIL (6 A-4)
SCALE: N.T.S.



DETAIL "A"



H-FRAME DETAIL (7 A-4)
SCALE: N.T.S.

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT ★ JAMES M. FITZGERALD ★ No. 25997 LICENSED PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

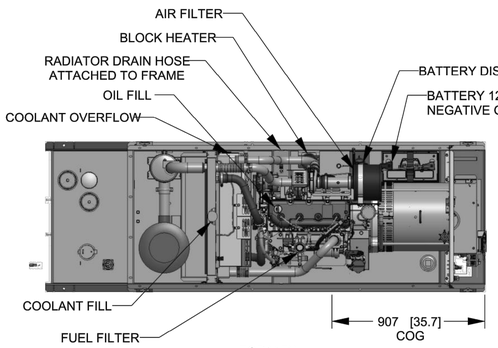
SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
SITE DETAILS
2 OF 2

SHEET NUMBER
A-4

1815.490

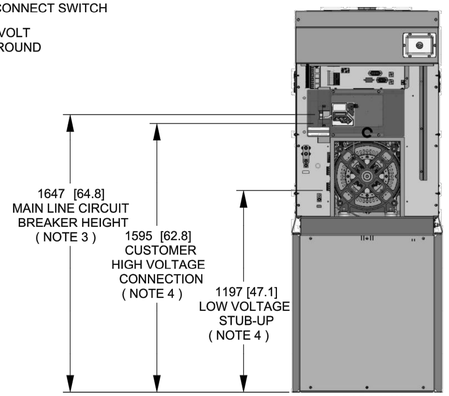
SH	REV	WINDCHILL VERSION	
1/2	A	A.1	



TOP VIEW
(SHOWN WITH ENCLOSURE REMOVED)

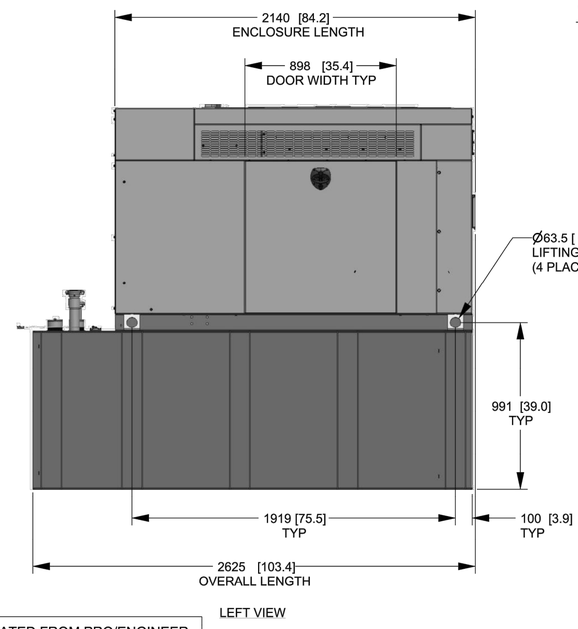
WEIGHT DATA WITH EMPTY BASETANK (SEE NOTE 6)	
GENERATOR AS SHOWN	1,322 [2,915]
WITH WOODEN SHIPPING SKID	1,340 [2,954]

WEIGHT: KG [LBS]
DIMENSIONS: MM [INCH]

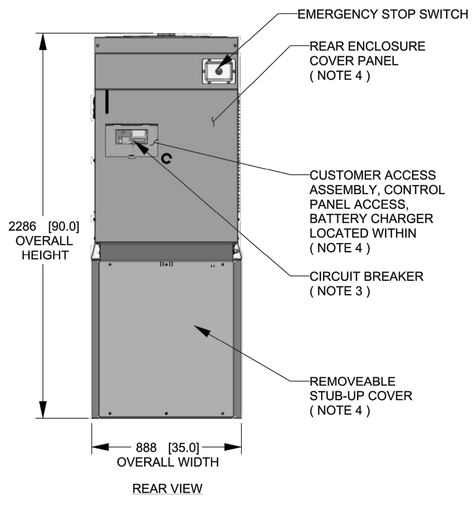


REAR VIEW
(SHOWN WITH REAR COVER PANEL REMOVED)

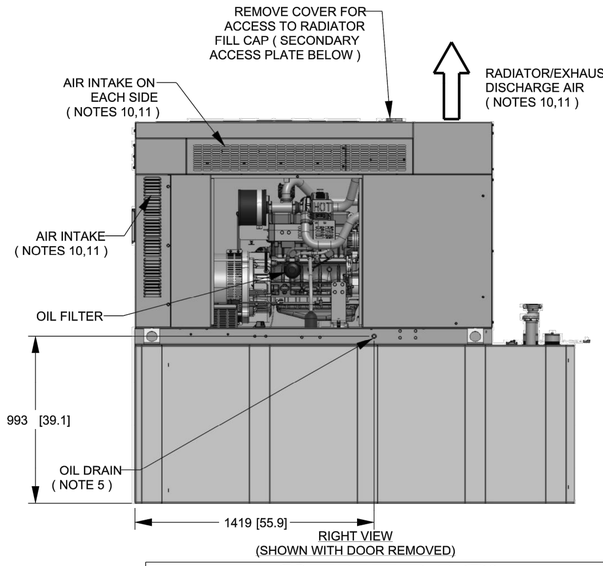
NOTES:
1. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
2. BATTERY (12 VOLT NEGATIVE GROUND SYSTEM).
3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
   - MAIN LINE CIRCUIT BREAKER 200 AMPS.
   - SEE SPECIFICATION SHEET OR OWNERS MANUAL.
   - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR.
   - CONTROL PANEL INCLUDES INTEGRATED BATTERY CHARGER.
4. REMOVE THE REAR STUB-UP AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
   - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, AND BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
   - LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.
5. ENGINE SERVICE CONNECTIONS:
   OIL DRAIN = 1/2" NPT
   RADIATOR DRAIN = HOSE CLAMPED TO FRAME
6. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
7. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
8. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
9. MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)
10. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
11. GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED. RECOMMENDED MINIMUM PERIMETER (3FT) AND VERTICAL OVER EXHAUST (5FT) CLEARANCE FOR SITE LOCATION.
12. GENERATOR MUST BE GROUNDED.



LEFT VIEW



REAR VIEW



RIGHT VIEW
(SHOWN WITH DOOR REMOVED)

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

INSTALLATION DRAWING

ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
INSTALL D3.4L G16
48KW Y06 EXT

ISSUE DATE:	8/8/18			
SIZE B	CAGE NO N/A	DWG NO 10000041950		REV A
SCALE 0.035	WT-KG SEE ABOVE	SHEET 1 of 2		

GENERATOR SPECIFICATIONS
SCALE: N.T.S.
1 / A-5

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED
PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

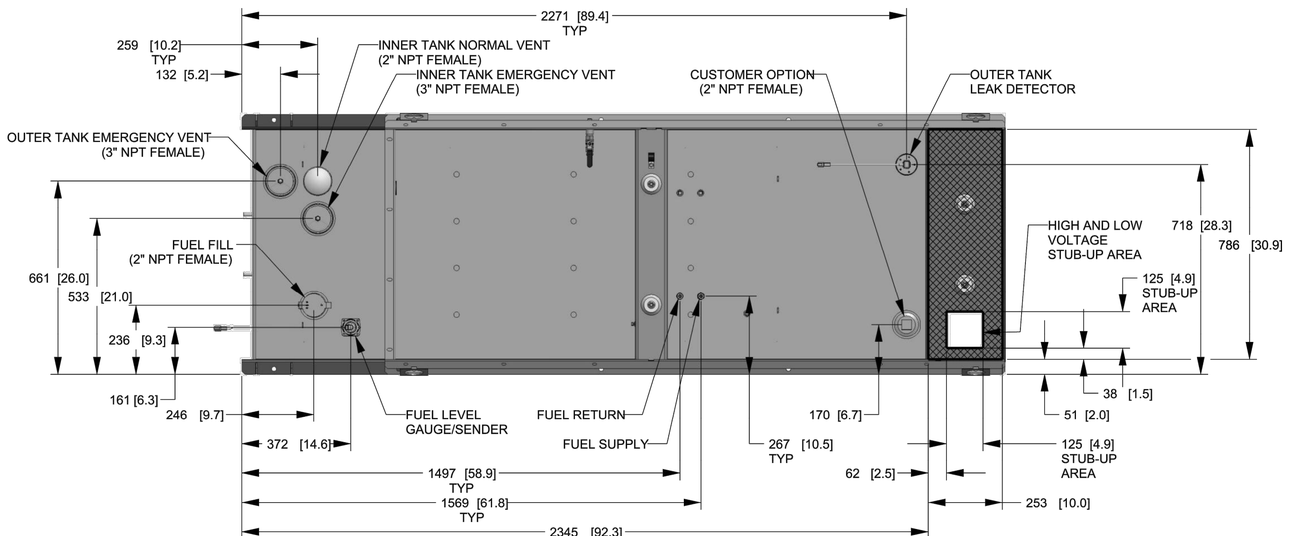
SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

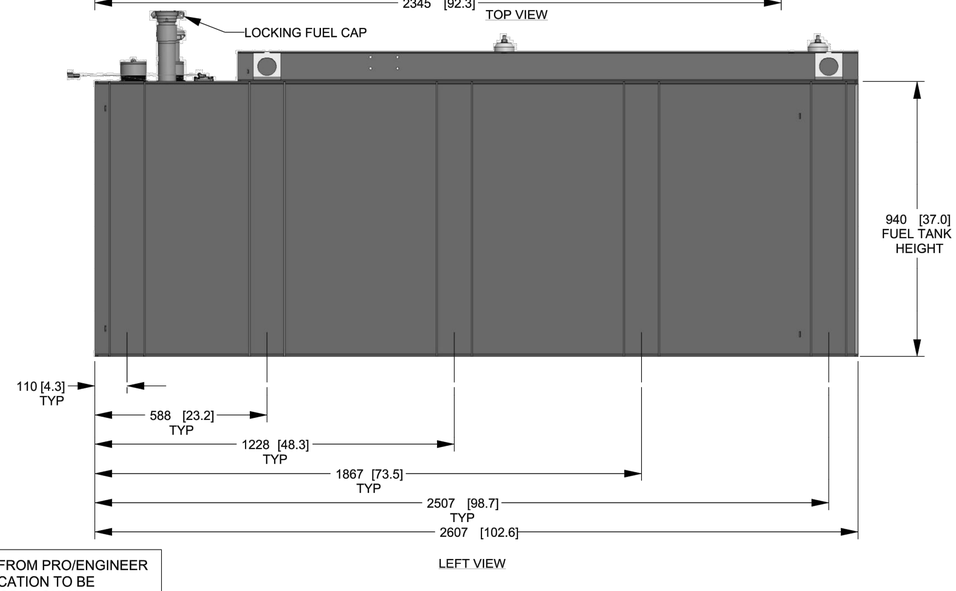
SHEET TITLE
GENERATOR SPECIFICATIONS 1

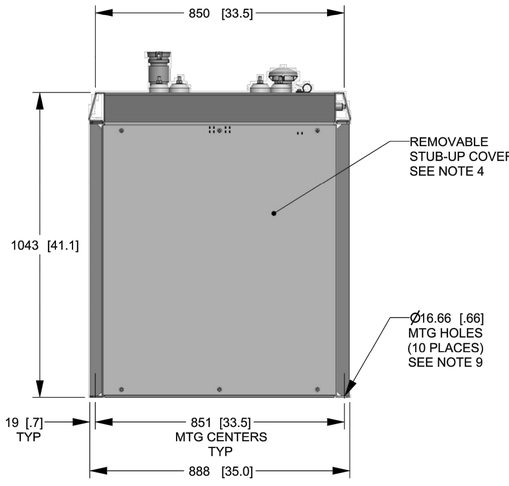
SHEET NUMBER
A-5

1815.490

SH	REV	WINDCHILL VERSION
2/2	A	A.1







FUEL TANK	
TOTAL CAPACITY	908 [240]
USABLE CAPACITY	867 [229]

CAPACITY: LITER [GALLON]
DIMENSIONS: MM [INCH]

TANK IS LISTED TO UL142 AND ULC5601

NOTE: STUB-UP AREA FOR HIGH AND LOW VOLTAGE CONNECTIONS, CIRCUIT BREAKER, NEUTRAL AND CUSTOMER CONNECTION OPENING.

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

INSTALLATION DRAWING

ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE
INSTALL D3.4L G16
48KW Y06 EXT

ISSUE DATE: 8/8/18

SIZE	CAGE NO	DWG NO	REV
B	N/A	10000041950	A

SCALE 0.060 | WT-KG SEE ABOVE | SHEET 2 of 2

GENERATOR SPECIFICATIONS 1
SCALE: N.T.S.

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
GENERATOR SPECIFICATIONS 2

SHEET NUMBER
A-6

1815.490

FINAL ANTENNA CONFIGURATION

SECTOR		ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	A1	COMMSCOPE VHLP2-11W-2GR	167'± AGL	15°	0°	0°	–	–	PROP. (3) 2" (6x24) HCS FIBER CABLES (240'±) PROP. (1) ½"ø COX CABLE FOR DISH
	A2	RFS APXVAALL24_43-U-NA20	167'± AGL	15°	0°	2°	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
							L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
	A3	EMPTY PIPE	–	–	–	–	–	–	
	A4	ERICSSON M-MIMO AIR6419 B41	167'± AGL	15°	0°	2°	L2500/N2500	–	
BETA	B1	RFS APXVAALL24_43-U-NA20	167'± AGL	140°	0°	2°	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
							L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
	B2	EMPTY PIPE	–	–	–	–	–	–	
	B3	EMPTY PIPE	–	–	–	–	–	–	
	B4	ERICSSON M-MIMO AIR6419 B41	167'± AGL	140°	0°	2°	L2500/N2500	–	
GAMMA	G1	RFS APXVAALL24_43-U-NA20	167'± AGL	240°	0°	2°	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
							L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
	G2	EMPTY PIPE	–	–	–	–	–	–	
	G3	EMPTY PIPE	–	–	–	–	–	–	
	G4	ERICSSON M-MIMO AIR6419 B41	167'± AGL	240°	0°	2°	L2500/N2500	–	

CABLE NOTE: SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV1 – 02/25/22

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES		LOCATION
A	*EXISTING TO REMAIN:*	*NONE*	ROUTED PER STRUCTURAL ANALYSIS
	EXISTING TO BE REMOVED:	*NONE*	
B	PROPOSED:	(3) 2" (6x24) HCS FIBER CABLES (1) ½"ø COX CABLE FOR DISH ANTENNA (1) ½" COAX CABLE FOR GPS ANTENNA	

NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED
PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
ANTENNA & FEEDLINE CHARTS

SHEET NUMBER
A-7

1815.490

NOTES TO CONTRACTOR:

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE ENGINEER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS REQUIRED WITH LOCAL AUTHORITY.
3. UTILITY SERVICES SHOWN ARE PROPOSED, THE ELECTRIC CONTRACTOR SHALL COORDINATE EXACT TELEPHONE AND ELECTRIC SERVICE CONNECTION POINTS, ROUTING AND ASSOCIATED REQUIREMENTS WITH LOCAL UTILITY COMPANIES & SPRINT CONSTRUCTION MANAGER.
4. THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING AS REQUIRED FOR THE WORK.
5. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
6. THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
7. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
8. ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
9. ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
10. ALL WIRE SHALL BE TYPE THWN, SOLID, ANNEALED COPPER UP TO SIZE #10 AWG (#8 AND LARGER SHALL BE CONCENTRIC STRANDED) 75 DEGREE C, (167 DEGREES F), 98% CONDUCTIVITY, MINIMUM #12.
11. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY, OR APPROVED EQUAL.
12. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
13. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
14. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN NOT HAND WRITTEN.
15. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES, AND ALL DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.
16. THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS, DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
17. ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL LOCATIONS FED FROM (NO EXCEPTIONS.)
18. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

   NOTE: ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY NOT BE CORRECT AS SHOWN ON THESE DRAWINGS). LOCATION OF OUTLETS, BOXES, ETC. AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
19. ALL UNDERGROUND CONDUIT ROUTING SHALL BE COORDINATED IN FIELD BETWEEN SPRINT WIE, CONTRACTOR, AND RESPECTIVE UTILITY COMPANIES.
20. ALL CONDUITS ROUTED BELOW GRADE SHALL TRANSITION TO RIGID GALVANIZED ELBOWS WITH RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE.
21. CONTRACTOR SHALL PROVIDE ALL DIRECT BURIED CONDUITS WITH 6" WIDE. 6 MIL THICK ALUMINIZED PLASTIC WARNING TAPE IDENTIFYING CONTENTS. TAPE COLORS SHALL BE ORANGE FOR TELEPHONE AND RED FOR ELECTRIC.
22. ELECTRICAL CONTRACTOR SHALL PROVIDE A SECTION OF SEALTITE CONDUIT FOR TELCO CONNECTION TO THE PRIMARY RADIO CABINET. COORDINATE EXACT CONNECTION TYPE WITH LUCENT.
23. ELECTRICAL CONTRACTOR SHALL PROVIDE A SECTION OF SEALTITE CONDUIT FOR POWER CONNECTION TO THE PRIMARY RADIO CABINET. THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL 6'-0" COIL OF WIRE AT THE END OF THE SEALTITE.
24. GROUND IN ACCORD W/LOCAL CODE & SHEET E-2.
25. PROVIDE (2) 4" GALVANIZED RIGID STEEL CONDUIT RISER WITH 1/4" NYLON DRAG LINE INCLUDING 90° GRC SWEEP AT POLE (UP TO 20'-0" AFG). SECURE TO POLE PER UTILITY COMPANY REQUIREMENTS. PRIMARY CABLES BY UTILITY COMPANY.

ELECTRICAL SPECIFICATIONS

SECTION 16010 – GENERAL PROVISIONS

A. REQUIREMENTS: FURNISH ALL LABOR, MATERIALS, SERVICE, EQUIPMENT, AND APPLIANCES REQUIRED TO COMPLETE THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND CONTRACT DRAWINGS.

B. REQUIREMENTS OF REGULATORY AGENCIES AND STANDARDS: INSTALLATION, MATERIAL, EQUIPMENT AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE (NEC) – APPLICABLE STATE ELECTRIC CODES, THE NATIONAL ELECTRICAL SAFETY CODE (NESC), AND THE TERMS AND THE CONDITIONS OF THE AUTHORITIES HAVING LAWFUL JURISDICTION PERTAINING TO THE WORK REQUIRED. ALL MODIFICATIONS REQUIRED BY THESE CODES, RULES, REGULATIONS, AND AUTHORITIES SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL CHARGE TO THE OWNER.

C. UNDERWRITER'S LABORATORIES (UL): ALL MATERIALS, APPLIANCES, EQUIPMENT, OR OR DEVICES SHALL CONFORM TO THE APPLICABLE STANDARDS OF UNDERWRITER'S LABORATORIES, INC. THE LABEL OF, OR LISTING BY, UL, IS REQUIRED.

SECTION 16110 – RACEWAYS, BOXES AND FITTINGS

A. CONDUIT FITTINGS, CONNECTORS AND COUPLINGS, EMT COUPLINGS AND CONNECTORS EITHER STEEL OR MALLEABLE IRON ONLY. "CONCRETE TIGHT" OR "RAIN TIGHT" AND EITHER THE GLAND AND RING COMPRESSION TYPE OR STAINLESS STEEL MULTIPLE POINT LOCKING TYPE. CONNECTORS TO HAVE INSULATED THROATS. EMT FITTINGS USING SET SCREWS OR INDENTATIONS AS A MEANS OF ATTACHMENT ARE NOT PERMITTED.

B. BUSHINGS: INSULATED TYPE, DESIGNED TO PREVENT ABRASION OF WIRES WITHOUT IMPAIRING THE CONTINUITY OF THE CONDUIT GROUNDING SYSTEM, FOR RIGID STEEL CONDUIT, IMC AND RIGID ALUMINUM CONDUIT.

C. CONDUIT INSTALLATIONS: CONDUIT SYSTEMS, EMT, OR RIGID NON-METALLIC CONDUIT UNLESS NOTED. INSTALL CONCEALED CONDUIT AND EMT IN AS DIRECT LINES AS POSSIBLE. INSTALL EXPOSED CONDUITS AND EMT PARALLEL TO OR AT RIGHT ANGLES TO THE LINES OF THE BUILDING. RIGHT ANGLE BENDS IN EXPOSED CONDUIT AND EMT RUNS SHALL BE MADE WITH STANDARD ELBOWS, SCREW JOINTED CONDUIT FITTINGS OR CONDUIT BENT TO RADIUS NO LESS THAN THOSE OF STANDARD ELBOWS.

D. CONDUIT SUPPORTS: PROVIDE SUPPORTS FOR HORIZONTAL CONDUITS AND EMT NOT MORE THAN 8 FEET APART WITH NOT LESS THAN TWO SUPPORTS FOR EACH 10 FOOT STRAIGHT LENGTH AND ONE SUPPORT NEAR EACH ELBOW OR BEND INCLUDING RUNS ABOVE SUSPENDED CEILINGS AND WITHIN 3 FEET OF ALL JUNCTION BOXES, SWITCHES, FITTINGS, ETC. INSTALL ONE HOLE PIPE STRAPS ON CONDUITS 1 INCH OR SMALLER INSTALL INDIVIDUAL PIPE HANGERS FOR CONDUITS LARGER THAN 1 INCH. SPRING STEEL FASTENERS WITH HANGER RODS MAY BE USED IN DRY LOCATIONS IN LIEU OF PIPE STRAPS.

SECTION 16120 – CONDUCTORS

A. WIRES AND CABLES (600 VOLTS): CONFORM TO THE APPLICABLE UL AND ICEA STANDARDS FOR THE USE INTENDED. USE COPPER CONDUCTORS WITH 600 VOLTS INSULATION UNLESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS. USE STRANDED CONDUCTORS FOR NO. 8 OR LARGER WHERE ELSEWHERE SPECIFIED OR NOTED OTHERWISE ON THE DRAWINGS. USE OF ALUMINUM CONDUCTORS WILL NOT BE PERMITTED. INSULATION SHALL BE TYPE THHN/THWN, 75°C, FOR ALL CONDUCTORS, USELESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS.

B. COLOR CODING. PHASE, NEUTRAL, AND GROUND CONDUCTORS COLOR-CODED IN ACCORDANCE WITH NEC. CONNECT ALL CONDUCTORS OF THE SAME COLOR TO THE SAME PHASE CONDUCTOR, COLOR CODING SHALL BE BLACK, RED, BLUE, WHITE (120/208) OR BROWN ORANGE, YELLOW, GRAY (277/480) WITH GREEN FOR ALL GROUND CONDUCTORS.

C. CONNECTORS AND LUGS: FOR COPPER CONDUCTORS NO. 6 AND SMALLER: 3M SCOTCH-LOK OR T & B STA-KON COMPRESSION OR INDENT TYPE CONNECTORS WITH INTEGRAL OR SEPARATE INSULATING CAPS. FOR COPPER CONDUCTORS LARGER THAN NO. 6 SOLDERLESS, INDENT, HEX SCREW OR BOLT TYPE PRESSURE CONNECTORS, PROPERLY TAPED OR INSULATED.

D. SPLICES: (480 VOLTS AND UNDER): CONDUCTOR LENGTHS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION WITHOUT SPLICES UNLESS APPROVED BY THE BUILDING INSPECTOR.

SECTION 16220 – CIRCUIT BREAKERS

A. PROVIDE MOLDED CASE, BOLT-ON, THERMAL MAGNETIC TRIP, SINGLE, TWO OR THREE POLE BRANCH CIRCUIT BREAKERS AS SHOWN ON DRAWINGS. MULTIPLE POLE BREAKERS SHALL BE SINGLE HANDLE, COMMON TRIP. AIC RATING TO MATCH EXISTING OR AS REQUIRED FOR AVAILABLE FAULT CURRENTS.

EXISTING METER PHOTO (6 / E-1)
SCALE: NOT TO SCALE

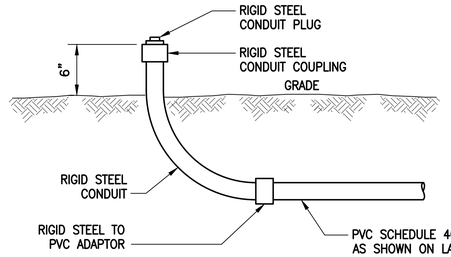
ELECTRICAL LEGEND

SYMBOLS

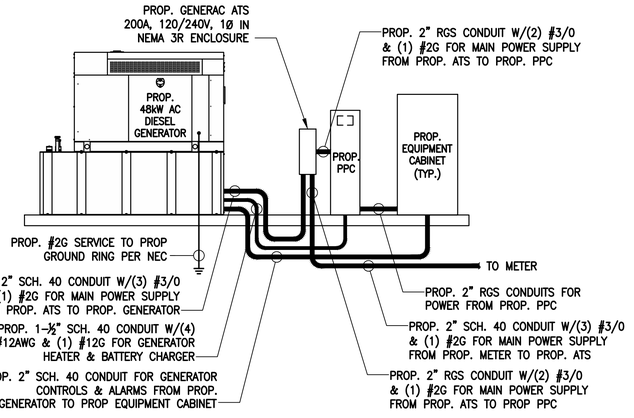
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CONDUIT RUN UNDERGROUND
- CONDUIT RUN ABOVE GROUND
- (M) METER ON METER/BREAKER UNIT
- 5/8" x 10'-0" COPPER CLAD GROUND ROD
- EXOTHERMIC TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- G — G GROUND RING. #2 AWG SOLID TINNED BARE COPPER GROUND CONDUCTOR 6" BELOW FROST LINE AND 24" OFF CONCRETE PLATFORM
- XXX / XXX REPRESENTS DETAIL NUMBER; REF. DRAWING NUMBER
- XXX DETAIL NUMBER

ABBREVIATIONS

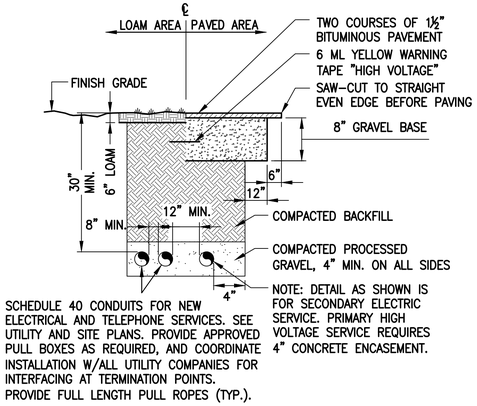
ACCA	ANTENNA CABLE COVER ASSEMBLY
AGB	COPPER ANTENNA GROUND BAR
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BTS	BASE TRANSMISSION SYSTEM
CIBGE	COAX ISOLATED GROUND BAR EXTERNAL
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GR	GROWTH
IGR	INTERIOR GROUND RING (HALO)
LAGB	LOWER ANTENNA COPPER GROUND BAR
MIGB	MASTER ISOLATED GROUND BAR
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
PRC	PRIMARY RADIO CABINET
RGS	RIGID GALVANIZED STEEL
RWY	RACEWAY
TYP	TYPICAL
SSLP	SPRINT SPECTRUM LIMITED PARTNERSHIP
UAGB	UPPER ANTENNA COPPER GROUND BAR
EXIST.	EXISTING
PROP.	PROPOSED



TYPICAL CONDUIT STUB-UP DETAIL (4 / E-1)
SCALE: NONE

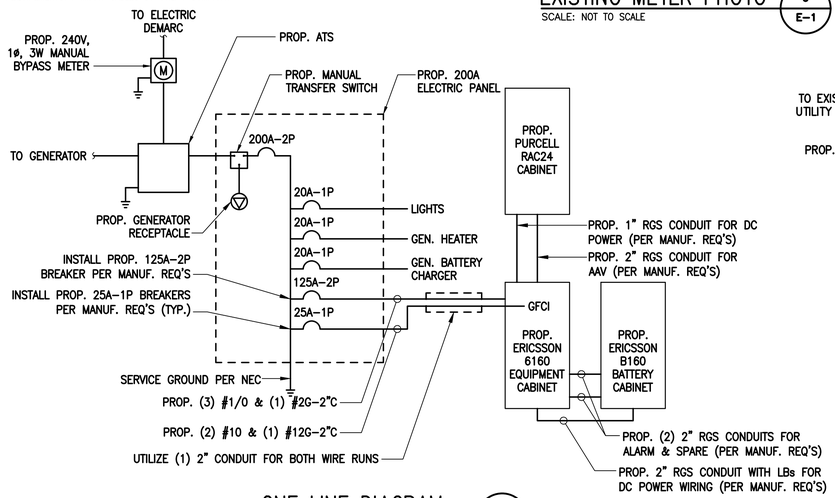


GENERATOR ONE-LINE POWER DIAGRAM (3 / E-1)
SCALE: NOT TO SCALE

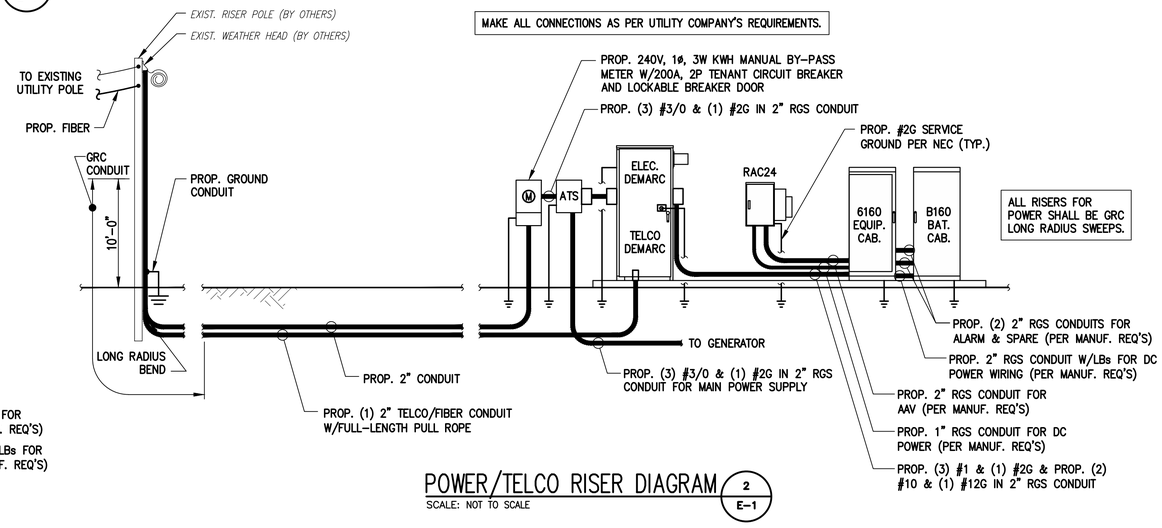


SCHEDULE 40 CONDUITS FOR NEW ELECTRICAL AND TELEPHONE SERVICES. SEE UTILITY AND SITE PLANS. PROVIDE APPROVED PULL BOXES AS REQUIRED, AND COORDINATE INSTALLATION W/ALL UTILITY COMPANIES FOR INTERFACING AT TERMINATION POINTS. PROVIDE FULL LENGTH PULL ROPES (TYP.).

BURIED CONDUIT DETAIL (5 / E-1)
SCALE: NOT TO SCALE



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



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

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
SITE ELECTRIC & GROUNDING DETAILS 1 OF 2

SHEET NUMBER
E-1

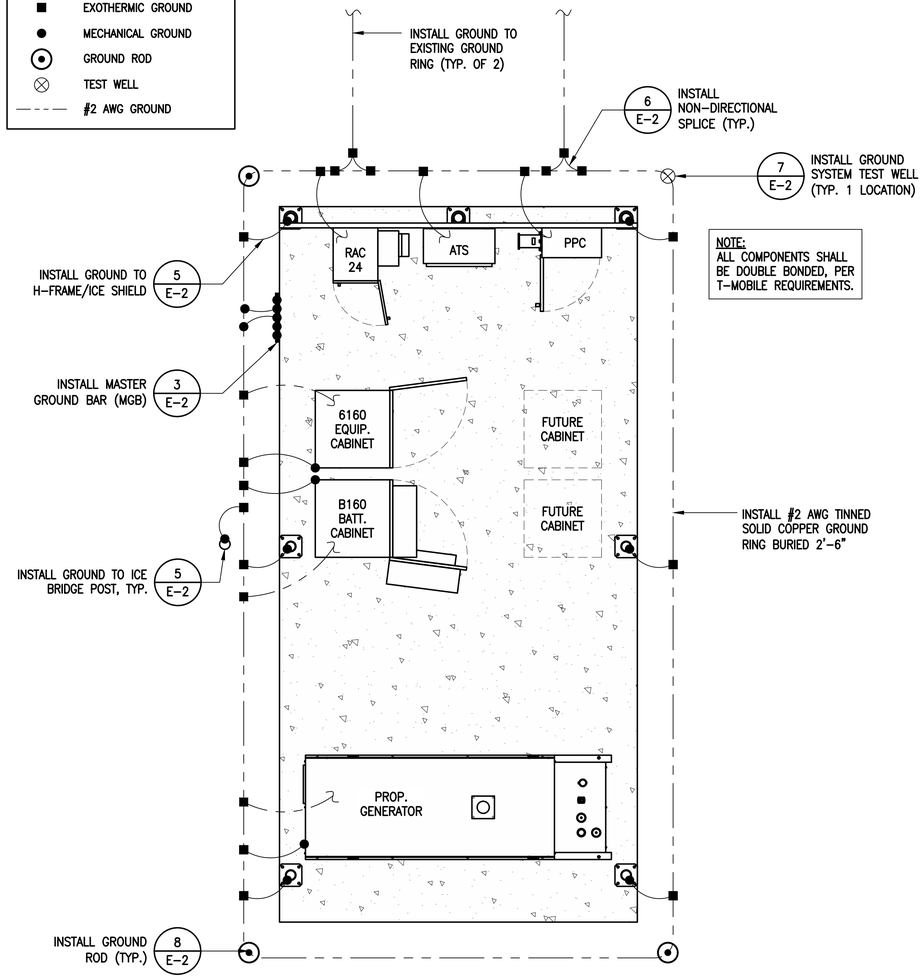
1815.490

PROTECTIVE GROUNDING SYSTEMS GENERAL NOTES

1. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250–GROUNDING AND BONDING.
2. GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES" AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING".
3. PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTIVE ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.
4. GROUND CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED, REMOVE THE COATING, APPLY A NON–CORROSIVE APPROVED COMPOUND TO CLEAN SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVAMOX" OR EQUAL.
5. ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
6. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
7. ALL GROUND WIRES SHALL BE #2 SOLID TINNED BCW UNLESS NOTED OTHERWISE.
8. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.
9. GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
10. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 SOLID TINNED BCW EQUIPMENT CABINETS WALL HAVE (2) CONNECTIONS.
11. GROUND HYBRIFLEX SHIELD AT TOP, BOTTOM AND AT TRANSITION TO HYBRIFLEX JUMPER CABLES AT EQUIPMENT CABINET ENTRANCE USING MANUFACTURER'S GUIDELINES. WHEN HYBRIFLEX CABLE EXCEEDS 200', GROUND AT INTERVALS NOT EXCEEDING 100'.
12. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.
13. EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL OTHERWISE. THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE–2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH AN ANTI–OXIDANT (THOMAS BETTS KOPR–SHILD) BEFORE MAKING THE CRIMP CONNECTIONS THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED TORQUES ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS.
14. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING. CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF–TAPPING SCREWS.
15. THE MASTER GROUND BAR (MGB) SHALL BE MADE OF BARE 1/4"x2" COPPER (FOR OUTDOOR APPLICATIONS IT SHALL BE TINNED COPPER) AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MGB SHALL ELECTRICAL INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
16. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
17. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI–CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH SPRINT CONSTRUCTION MANAGER.
18. FOR NEW OR REPAIRED GROUNDING EQUIPMENT. REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
    –ANTI–THEFT UPDATE TO SPRINT GROUNDING DATED 08–24–12
    –SPRINT ENGINEERING LETTER EL–0504 DATED 04–20–12

GROUNDING LEGEND

- EXOTHERMIC GROUND
- MECHANICAL GROUND
- GROUND ROD
- TEST WELL
- #2 AWG GROUND

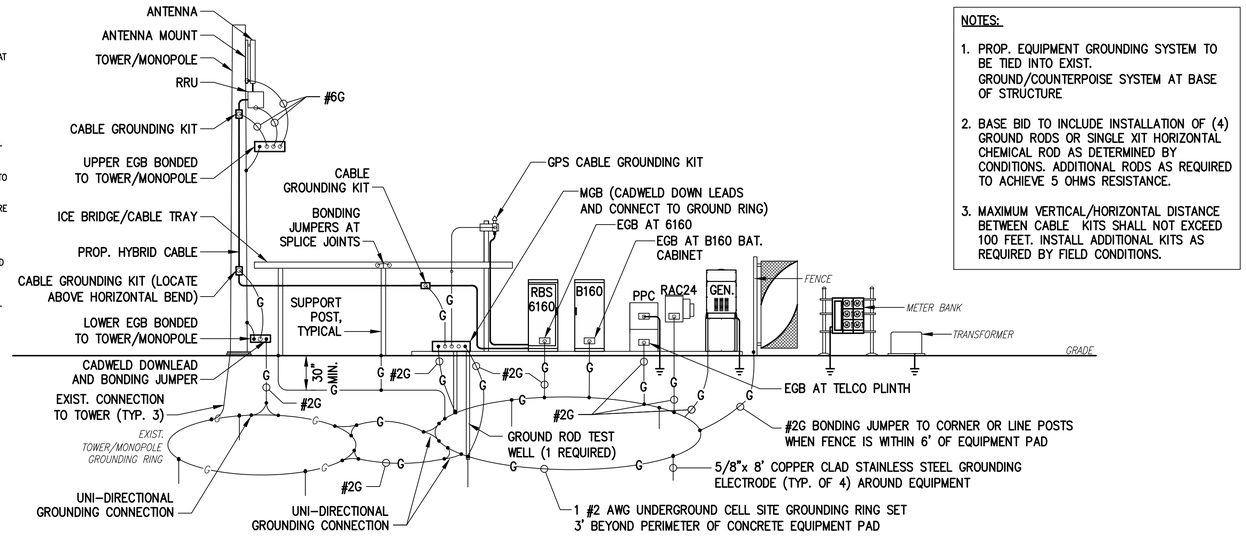


NOTE:
ALL COMPONENTS SHALL BE DOUBLE BONDED, PER T–MOBILE REQUIREMENTS.

GROUNDING PLAN

SCALE: N.T.S.

1 E–2



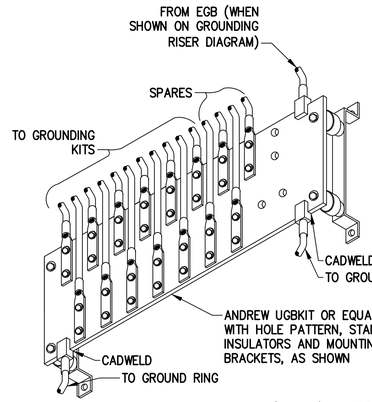
NOTES:

1. PROP. EQUIPMENT GROUNDING SYSTEM TO BE TIED INTO EXIST. GROUND/COUNTERPOISE SYSTEM AT BASE OF STRUCTURE
2. BASE BID TO INCLUDE INSTALLATION OF (4) GROUND RODS OR SINGLE KIT HORIZONTAL CHEMICAL ROD AS DETERMINED BY CONDITIONS. ADDITIONAL RODS AS REQUIRED TO ACHIEVE 5 OHMS RESISTANCE.
3. MAXIMUM VERTICAL/HORIZONTAL DISTANCE BETWEEN CABLE KITS SHALL NOT EXCEED 100 FEET. INSTALL ADDITIONAL KITS AS REQUIRED BY FIELD CONDITIONS.

GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE

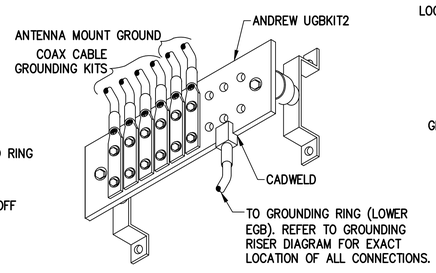
2 E–2



MASTER GROUND BAR (MGB)

SCALE: NOT TO SCALE

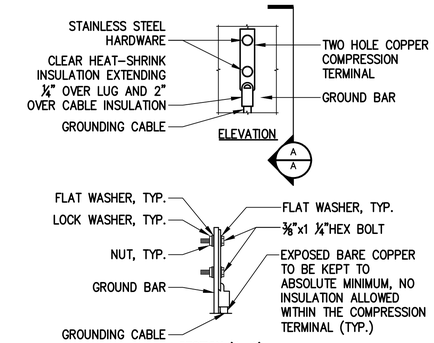
3 E–2



GROUND BAR (EGB)

SCALE: NOT TO SCALE

4 E–2



SECTION 'A–A'

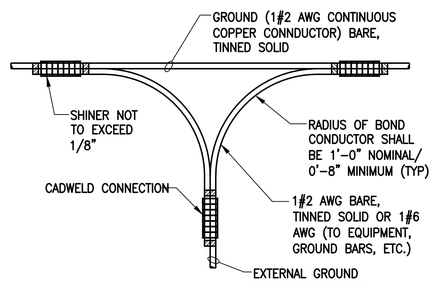
NOTE:

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

TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: NOT TO SCALE

5 E–2

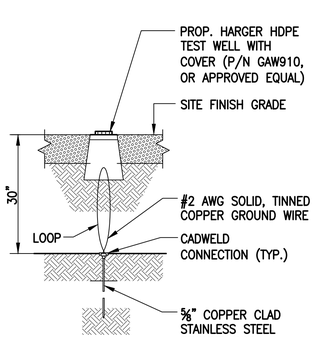


NOTE: ALL CONNECTION TO GROUND SHALL BE NON–DIRECTIONAL.

NON–DIRECTIONAL SPLICE

SCALE: NOT TO SCALE

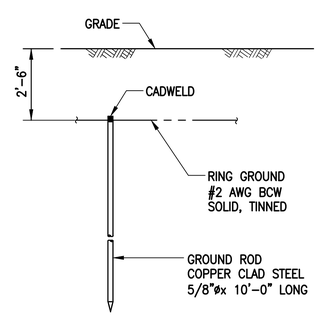
6 E–2



GROUND ROD TEST WELL DETAIL

SCALE: NOT TO SCALE

7 E–2



GROUND ROD

SCALE: NOT TO SCALE

8 E–2

T–MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286–2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251–0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

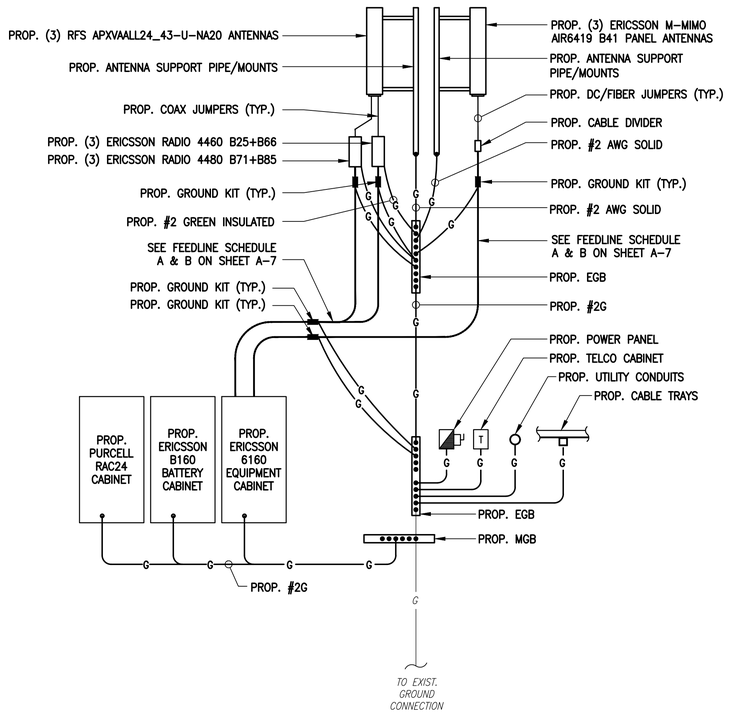
SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

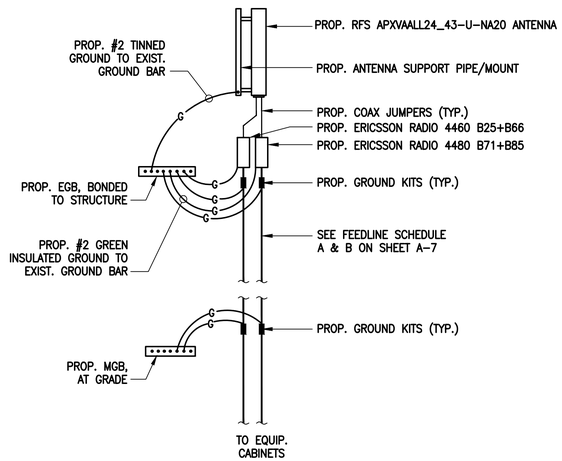
SHEET TITLE
SITE ELECTRIC & GROUNDING DETAILS
2 OF 2

SHEET NUMBER
E-2

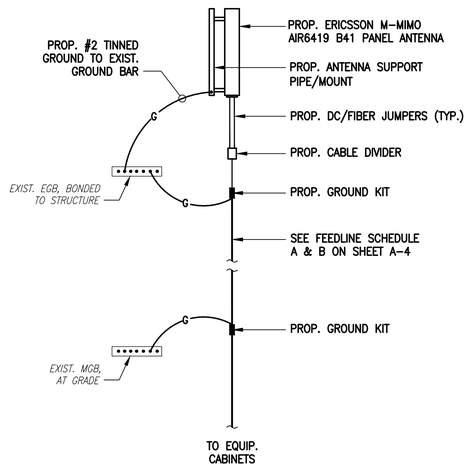
1815.490



GROUNDING RISER DIAGRAM (1 / E-3)
SCALE: NOT TO SCALE



L700/L600/N600
L2100/L1900/G1900 ANTENNA



L2500/N2500 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL (2 / E-3)
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHNINSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN PROP. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED
PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	07/01/22	REVISED CONSTRUCTION	JRV
1	05/10/22	ISSUED FOR CONSTRUCTION	JRV
0	05/04/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL185A

SITE ADDRESS:
1825 ROUTE 198
WOODSTOCK, CT 06281

SHEET TITLE
ANTENNA ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-3

1815.490

Exhibit D

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

Structural Analysis Report

Existing 180 ft Valmont Self Supporting Tower
Customer Name: SBA Communications Corp
Customer Site Number: CT14089-A
Customer Site Name: Woodstock North
Carrier Name: T-Mobile (App#: 198395, v2)
Carrier Site ID / Name: CTNL185A / CTNL185_SBA_SST_Woodstock
Site Location: 1825 Route 198
Woodstock, Connecticut
Windham County
Latitude: 42.012281
Longitude: -72.077372

Analysis Result:

Max Structural Usage: 95.3% [Pass]
Max Foundation Usage: 59.1% [Pass]
Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Ram Kodali

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

Structural Analysis Report

Existing 180 ft Valmont Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT14089-A

Customer Site Name: Woodstock North

Carrier Name: T-Mobile (App#: 198395, v2)

Carrier Site ID / Name: CTNL185A / CTNL185_SBA_SST_Woodstock

Site Location: 1825 Route 198

Woodstock, Connecticut

Windham County

Latitude: 42.012281

Longitude: -72.077372

Analysis Result:

Max Structural Usage: 95.3% [Pass]

Max Foundation Usage: 59.1% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Ram Kodali

Introduction

The purpose of this report is to summarize the analysis results on the 180 ft Valmont Self Supporting Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Valmont, Dwg # BC03069, dated 6/26/1987
Foundation Drawing	FDH, Mapping Project # 1202713EN1, dated 3/27/2012
Geotechnical Report	FDH, Project # 12-02713E G1, dated 3/28/2012
Modification Drawings	FDH, Project # 12-02713E S2, dated 6/22/2012
Mount Analysis	TES, Project # 129927, dated 6/6/2022

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2**.** In accordance with this standard, the structure was analyzed using **TESTowers,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 130 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 101 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.172, S_1 = 0.063

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	180.0	1	DB404-B	(3) Stand-Off	(3) 7/8"	George L Davis, LLC
2		1	FG4507			
3		1	ANT150F6p			
4	177.0	6	Antel LPA-80080-6CF-5 - Panel	(3) Sector Frame W/ Mount fix mods	(10) 1 5/8" (2) 6x12 Hybriflex	Verizon
5		6	JMA Wireless MX06FRO660-03 - Panel			
6		3	Samsung MT6407-77A - Panel			
7		3	Samsung B2/B66A - RRU			
8		3	Samsung B5/B13 - RRU			
9		1	Raycap RVZDC-6627-PF-48 - OVP			
16	15.0	1	Zmodo P366SV - Camera	Pipe	(1) CAT5	George L Davis, LLC

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
10	167.0	3	RFS APXVAALL24_43-U-NA20 - Panel	SitePro (3) VFA12-HD	(3) 1.9" Fiber (1) 1/2"	T-Mobile
11		3	Ericsson AIR6419 B41 - Panel			
12		1	Commscope VHLP2-11W-2GR - Dish			
13		1	Ceragon RFU-C			
14		3	Ericsson 4480 B71 + B85 - RRU			
15		3	Ericsson 4460 B25 + B66 - RRU			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	**81.9%**	**95.3%**	**42.2%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Analysis Reactions	247.8	199.5	32.9

The foundation has been investigated using the supplied documents and soils report and was found to be adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity)

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.1728 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Structure: CT14089-A-SBA

Site Name:	Woodstock North			**Code:**	TIA-222-G	7/11/2022
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	101.00	
Height:	180.00 (ft)	**Base Width:**	25.40	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	6.40	**Operational WS:**	60.00	Page: 1

Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1	60D 60D 8X8X0.625	SAE 3.5X3.5X0.25	SAE 4X4X0.375
2	60D 60D 8X8X0.5	SAE 3X3X0.25	SAE 3.5X3.5X0.25
3	60D 60D 6X6X0.5	SAE 3X3X0.1875	SAE 3X3X0.25
4	60D 60D 6X6X0.5	SAE 3.5X3.5X0.25	
5	60D 60D 5X5X0.5	SAE 3X3X0.3125	
6	60D 60D 5X5X0.375	SAE 3X3X0.1875	
7	60D 60D 4X4X0.5	SAE 2.5X2.5X0.1875	
8	60D 60D 4X4X0.375	SAE 2X2X0.25	
9	60D 60D 4X4X0.375	SAE 1.75X1.75X0.25	SAE 1.75X1.75X0.25

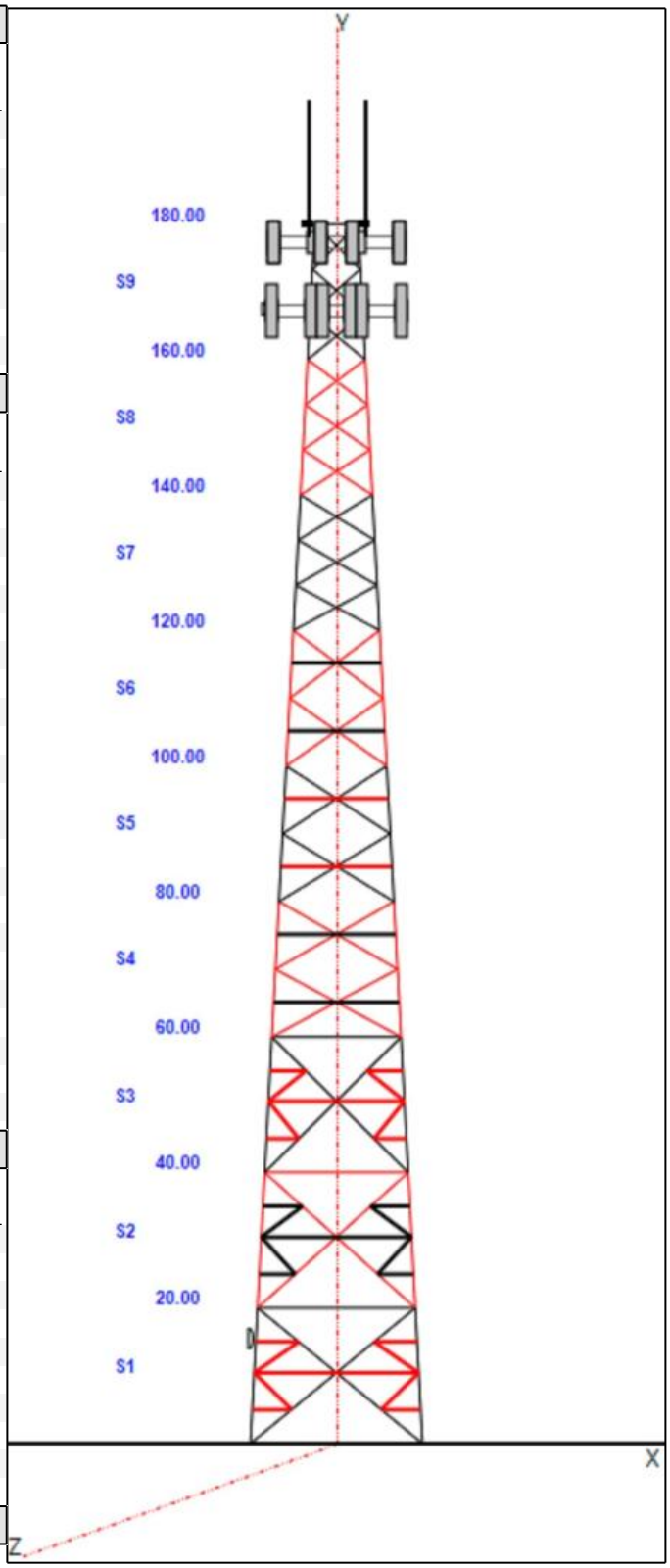
Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
180.00	187.00	1	DB404-B
180.00	189.00	1	FG4507
180.00	188.00	1	ANT150F6
180.00	180.00	3	Stand-Off
177.00	177.00	3	Sector Frame
177.00	177.00	6	LPA-80080-6CF-5
177.00	177.00	6	MX06FRO660-03
177.00	177.00	3	MT6407-77A
177.00	177.00	3	B2/B66A
177.00	177.00	3	B5/B13
177.00	177.00	1	RVZDC-6627-PF-48
177.00	177.00	2	V-Brace Kit
177.00	177.00	3	P2.5 STD 8' Long
177.00	177.00	3	JMA 91903314-02
177.00	177.00	6	Crossover Plate
167.00	167.00	3	VFA12-HD
167.00	167.00	3	APXVAALL24_43-U-NA20
167.00	167.00	3	AIR6419 B41
167.00	167.00	1	VHLP2-11W-2GR
167.00	167.00	1	RFU-C
167.00	167.00	3	4480 B71 + B85
167.00	167.00	3	4460 B25 + B66
15.00	15.00	1	Zmodo P366SV

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	180.00	3	7/8" Coax
0.00	180.00	1	Safety Cable
0.00	180.00	3	Step bolts (ladder)
0.00	177.00	10	1 5/8" Coax
0.00	177.00	2	6x12 Hybriflex
0.00	177.00	1	W/G Ladder
0.00	167.00	3	1.9" Fiber
0.00	167.00	1	1/2" Coax
0.00	167.00	1	W/G Ladder
0.00	15.00	1	CAT5

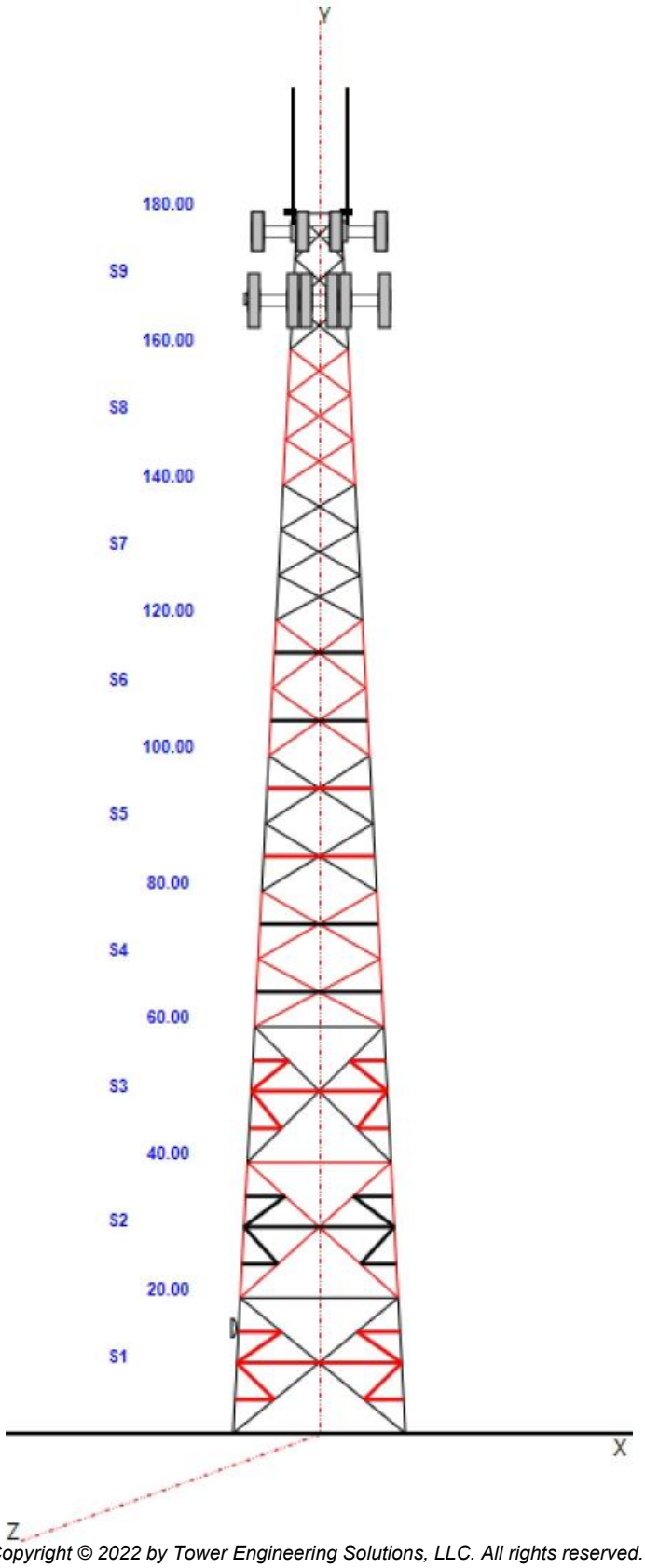
Base Reactions



Structure: CT14089-A-SBA

Site Name:	Woodstock North			**Code:**	TIA-222-G	7/11/2022
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	101.00	
Height:	180.00 (ft)	**Base Width:**	25.40	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	6.40	**Operational WS:**	60.00	Page: 2

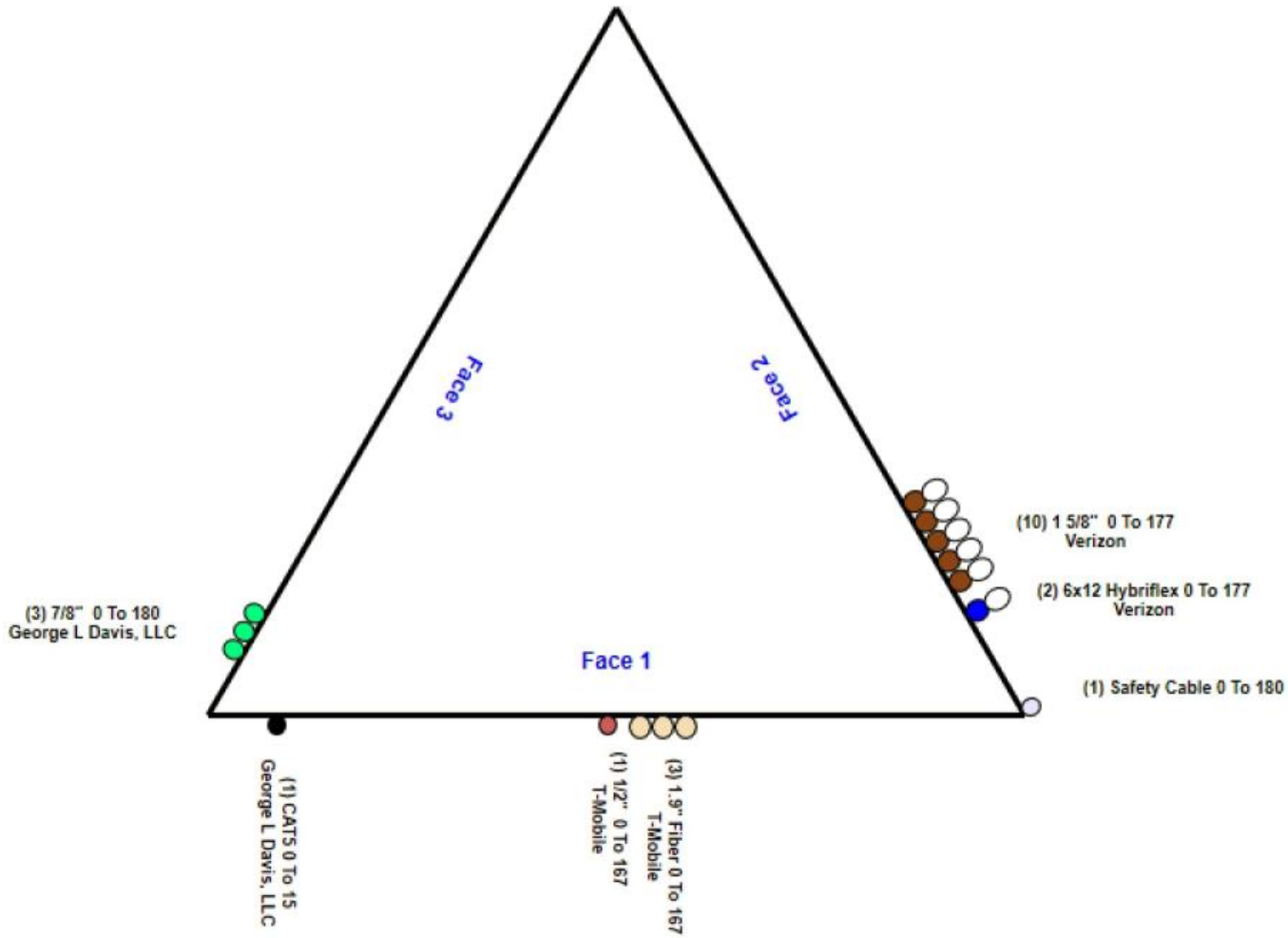
Leg			Overturning		
Max Uplift:	-199.47	(kips	Moment:	5135.51	(ft-kips)
Max Down:	247.83	(kips	Total Down:	43.00	(kips)
Max Shear:	32.94	(kips	Total Shear:	48.51	(kips)



Structure: CT14089-A-SBA - Coax Line Placement

Type: Self Support
Site Name: Woodstock North
Height: 180.00 (ft)

7/11/2022



Loading Summary

Structure:	CT14089-A-SBA		**Code:**	TIA-222-G	7/11/2022
Site Name:	Woodstock North		**Exposure:**	B	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 5

Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	Ice Weight (lb)	Ice CaAa (sf)	Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
180.00	DB404-B	1	14.00	1.030	57.82	4.821	60.000	1.700	1.700	1.00	1.00	7.000
180.00	FG4507	1	8.00	1.780	73.25	6.092	107.000	2.000	2.000	1.00	1.00	9.000
180.00	ANT150F6	1	41.00	5.590	232.94	15.316	244.000	2.700	2.700	1.00	1.00	8.000
180.00	Stand-Off	3	75.00	3.000	163.36	7.722	0.000	0.000	0.000	0.75	0.75	0.000
177.00	Sector Frame	3	500.00	17.500	1442.50	36.303	0.000	0.000	0.000	0.75	0.75	0.000
177.00	LPA-80080-6CF-5	6	21.00	4.330	302.45	5.975	70.900	5.500	13.200	0.80	1.70	0.000
177.00	MX06FRO660-03	6	46.00	9.870	428.86	11.763	71.300	15.400	10.700	0.80	0.87	0.000
177.00	MT6407-77A	3	79.40	4.690	252.91	5.990	35.100	16.100	5.500	0.80	0.70	0.000
177.00	B2/B66A	3	84.40	1.870	196.76	2.670	15.000	15.000	10.000	0.80	0.67	0.000
177.00	B5/B13	3	70.30	1.870	172.59	2.670	15.000	15.000	8.100	0.80	0.67	0.000
177.00	RVZDC-6627-PF-48	1	32.00	4.060	185.82	5.170	29.500	16.500	12.600	1.00	1.00	0.000
177.00	V-Brace Kit	2	329.00	10.000	949.17	24.138	0.000	0.000	0.000	0.75	1.00	0.000
177.00	P2.5 STD 8' Long	3	283.00	2.300	683.09	5.552	96.000	0.000	0.000	1.00	1.00	0.000
177.00	JMA 91903314-02	3	28.00	0.100	67.59	0.241	70.900	5.500	13.200	1.00	1.00	0.000
177.00	Crossover Plate	6	28.00	0.100	67.59	0.241	70.900	5.500	13.200	1.00	1.00	0.000
167.00	VFA12-HD	3	774.00	18.900	1795.30	50.964	0.000	0.000	0.000	0.75	0.75	0.000
167.00	APXVAALL24_43-U-NA20	3	122.80	20.240	725.75	22.839	95.900	24.000	8.500	0.80	0.73	0.000
167.00	AIR6419 B41	3	83.30	6.320	328.82	7.740	36.300	20.900	9.000	0.80	0.73	0.000
167.00	VHLP2-11W-2GR	1	25.00	4.620	155.18	6.336	25.900	25.900	10.200	1.00	1.00	0.000
167.00	RFU-C	1	9.00	0.600	29.58	1.364	7.900	7.900	3.400	1.00	1.00	0.000
167.00	4480 B71 + B85	3	93.00	2.850	224.00	3.819	21.800	15.700	7.500	0.80	0.74	0.000
167.00	4460 B25 + B66	3	104.00	2.850	235.00	3.819	21.800	15.700	7.500	0.80	0.74	0.000
15.00	Zmodo P366SV	1	7.88	2.940	95.74	3.828	0.000	0.000	0.000	1.00	1.00	0.000
	Totals:	**63**	**8,256.48**		**26,384.99**						**Number of Appurtenances :**	**23**

Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	180.00	7/8" Coax	3	1.11	0.52	100.00	3	Individual IR		N	1.00	1.00	
0.00	180.00	Safety Cable	1	0.38	0.27	100.00	2	Individual NR		N	1.00	1.00	
0.00	180.00	Step bolts (ladder)	3	0.63	1.04	100.00	1,2,3	Individual NR		N	1.00	1.00	
0.00	177.00	1 5/8" Coax	10	1.98	1.04	50.00	2	Block		N	0.50	1.00	
0.00	177.00	6x12 Hybriflex	2	1.43	1.63	50.00	2	Block		N	1.00	1.00	
0.00	177.00	W/G Ladder	1	2.00	6.00	100.00	2	Individual NR		N	1.00	1.00	
0.00	167.00	1.9" Fiber	3	1.90	1.10	100.00	1	Individual IR		N	1.00	1.00	
0.00	167.00	1/2" Coax	1	0.50	0.16	100.00	1	Individual NR		N	1.00	1.00	
0.00	167.00	W/G Ladder	1	2.50	6.00	100.00	1	Individual NR		N	1.00	1.00	
0.00	15.00	CAT5	1	0.25	0.20	100.00	1	Individual NR		N	1.00	1.00	

Section Forces

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W Normal Wind — 1.2D + 1.6W 101 mph Wind at Normal To Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	15.54	67.497	0.00	0.00	0.13	2.83	1.00	1.00	0.00	67.50	49.66	0.00	6,132.7	0.0	4033.08	916.19	4,949.27
2	30.0	15.55	60.350	0.00	0.00	0.13	2.84	1.00	1.00	0.00	60.35	49.35	0.00	4,913.8	0.0	3624.39	912.21	4,536.60
3	50.0	17.99	49.711	0.00	0.00	0.12	2.88	1.00	1.00	0.00	49.71	49.35	0.00	3,918.1	0.0	3507.13	1055.55	4,562.68
4	70.0	19.81	50.862	0.00	0.00	0.14	2.82	1.00	1.00	0.00	50.86	49.35	0.00	4,349.8	0.0	3862.04	1162.07	5,024.10
5	90.0	21.29	41.536	0.00	0.00	0.13	2.86	1.00	1.00	0.00	41.54	49.35	0.00	3,987.2	0.0	3434.83	1248.58	4,683.41
6	110.0	22.54	37.786	0.00	0.00	0.13	2.83	1.00	1.00	0.00	37.79	49.35	0.00	2,856.8	0.0	3283.84	1322.25	4,606.09
7	130.0	23.64	29.734	0.00	0.00	0.12	2.87	1.00	1.00	0.00	29.73	49.35	0.00	2,632.7	0.0	2744.21	1386.90	4,131.10
8	150.0	24.63	24.570	0.00	0.00	0.12	2.87	1.00	1.00	0.00	24.57	49.35	0.00	2,328.2	0.0	2361.08	1444.78	3,805.85
9	170.0	25.53	22.590	0.00	0.00	0.15	2.79	1.00	1.00	0.00	22.59	36.09	0.00	1,968.8	0.0	2187.61	1091.70	3,279.31
														33,087.9	**0.0**			**39,578.42**

Load Case: 1.2D + 1.6W 60° Wind — 1.2D + 1.6W 101 mph Wind at 60° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	15.54	67.497	0.00	0.00	0.13	2.83	0.80	1.00	0.00	54.00	49.66	0.00	6,132.7	0.0	3226.46	916.19	4,142.66
2	30.0	15.55	60.350	0.00	0.00	0.13	2.84	0.80	1.00	0.00	48.28	49.35	0.00	4,913.8	0.0	2899.51	912.21	3,811.72
3	50.0	17.99	49.711	0.00	0.00	0.12	2.88	0.80	1.00	0.00	39.77	49.35	0.00	3,918.1	0.0	2805.70	1055.55	3,861.26
4	70.0	19.81	50.862	0.00	0.00	0.14	2.82	0.80	1.00	0.00	40.69	49.35	0.00	4,349.8	0.0	3089.63	1162.07	4,251.70
5	90.0	21.29	41.536	0.00	0.00	0.13	2.86	0.80	1.00	0.00	33.23	49.35	0.00	3,987.2	0.0	2747.86	1248.58	3,996.44
6	110.0	22.54	37.786	0.00	0.00	0.13	2.83	0.80	1.00	0.00	30.23	49.35	0.00	2,856.8	0.0	2627.07	1322.25	3,949.33
7	130.0	23.64	29.734	0.00	0.00	0.12	2.87	0.80	1.00	0.00	23.79	49.35	0.00	2,632.7	0.0	2195.37	1386.90	3,582.26
8	150.0	24.63	24.570	0.00	0.00	0.12	2.87	0.80	1.00	0.00	19.66	49.35	0.00	2,328.2	0.0	1888.86	1444.78	3,333.64
9	170.0	25.53	22.590	0.00	0.00	0.15	2.79	0.80	1.00	0.00	18.07	36.09	0.00	1,968.8	0.0	1750.09	1091.70	2,841.79
														33,087.9	**0.0**			**33,770.78**

Section Forces

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 90° Wind — 1.2D + 1.6W 101 mph Wind at 90° From Face

Wind Load Factor: 1.60
Dead Load Factor: 1.20
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	15.54	67.497	0.00	0.00	0.13	2.83	0.85	1.00	0.00	57.37	49.66	0.00	6,132.7	0.0	3428.12	916.19	4,344.31
2	30.0	15.55	60.350	0.00	0.00	0.13	2.84	0.85	1.00	0.00	51.30	49.35	0.00	4,913.8	0.0	3080.73	912.21	3,992.94
3	50.0	17.99	49.711	0.00	0.00	0.12	2.88	0.85	1.00	0.00	42.25	49.35	0.00	3,918.1	0.0	2981.06	1055.55	4,036.61
4	70.0	19.81	50.862	0.00	0.00	0.14	2.82	0.85	1.00	0.00	43.23	49.35	0.00	4,349.8	0.0	3282.73	1162.07	4,444.80
5	90.0	21.29	41.536	0.00	0.00	0.13	2.86	0.85	1.00	0.00	35.31	49.35	0.00	3,987.2	0.0	2919.61	1248.58	4,168.18
6	110.0	22.54	37.786	0.00	0.00	0.13	2.83	0.85	1.00	0.00	32.12	49.35	0.00	2,856.8	0.0	2791.26	1322.25	4,113.52
7	130.0	23.64	29.734	0.00	0.00	0.12	2.87	0.85	1.00	0.00	25.27	49.35	0.00	2,632.7	0.0	2332.58	1386.90	3,719.47
8	150.0	24.63	24.570	0.00	0.00	0.12	2.87	0.85	1.00	0.00	20.88	49.35	0.00	2,328.2	0.0	2006.92	1444.78	3,451.69
9	170.0	25.53	22.590	0.00	0.00	0.15	2.79	0.85	1.00	0.00	19.20	36.09	0.00	1,968.8	0.0	1859.47	1091.70	2,951.17
														33,087.9	**0.0**			**35,222.69**

Load Case: 0.9D + 1.6W Normal Wind — 0.9D + 1.6W 101 mph Wind at Normal To Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	15.54	67.497	0.00	0.00	0.13	2.83	1.00	1.00	0.00	67.50	49.66	0.00	4,599.6	0.0	4033.08	916.19	4,949.27
2	30.0	15.55	60.350	0.00	0.00	0.13	2.84	1.00	1.00	0.00	60.35	49.35	0.00	3,685.4	0.0	3624.39	912.21	4,536.60
3	50.0	17.99	49.711	0.00	0.00	0.12	2.88	1.00	1.00	0.00	49.71	49.35	0.00	2,938.6	0.0	3507.13	1055.55	4,562.68
4	70.0	19.81	50.862	0.00	0.00	0.14	2.82	1.00	1.00	0.00	50.86	49.35	0.00	3,262.3	0.0	3862.04	1162.07	5,024.10
5	90.0	21.29	41.536	0.00	0.00	0.13	2.86	1.00	1.00	0.00	41.54	49.35	0.00	2,990.4	0.0	3434.83	1248.58	4,683.41
6	110.0	22.54	37.786	0.00	0.00	0.13	2.83	1.00	1.00	0.00	37.79	49.35	0.00	2,142.6	0.0	3283.84	1322.25	4,606.09
7	130.0	23.64	29.734	0.00	0.00	0.12	2.87	1.00	1.00	0.00	29.73	49.35	0.00	1,974.5	0.0	2744.21	1386.90	4,131.10
8	150.0	24.63	24.570	0.00	0.00	0.12	2.87	1.00	1.00	0.00	24.57	49.35	0.00	1,746.1	0.0	2361.08	1444.78	3,805.85
9	170.0	25.53	22.590	0.00	0.00	0.15	2.79	1.00	1.00	0.00	22.59	36.09	0.00	1,476.6	0.0	2187.61	1091.70	3,279.31
														24,815.9	**0.0**			**39,578.42**

Section Forces

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 60° Wind — 0.9D + 1.6W 101 mph Wind at 60° From Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	15.54	67.497	0.00	0.00	0.13	2.83	0.80	1.00	0.00	54.00	49.66	0.00	4,599.6	0.0	3226.46	916.19	4,142.66
2	30.0	15.55	60.350	0.00	0.00	0.13	2.84	0.80	1.00	0.00	48.28	49.35	0.00	3,685.4	0.0	2899.51	912.21	3,811.72
3	50.0	17.99	49.711	0.00	0.00	0.12	2.88	0.80	1.00	0.00	39.77	49.35	0.00	2,938.6	0.0	2805.70	1055.55	3,861.26
4	70.0	19.81	50.862	0.00	0.00	0.14	2.82	0.80	1.00	0.00	40.69	49.35	0.00	3,262.3	0.0	3089.63	1162.07	4,251.70
5	90.0	21.29	41.536	0.00	0.00	0.13	2.86	0.80	1.00	0.00	33.23	49.35	0.00	2,990.4	0.0	2747.86	1248.58	3,996.44
6	110.0	22.54	37.786	0.00	0.00	0.13	2.83	0.80	1.00	0.00	30.23	49.35	0.00	2,142.6	0.0	2627.07	1322.25	3,949.33
7	130.0	23.64	29.734	0.00	0.00	0.12	2.87	0.80	1.00	0.00	23.79	49.35	0.00	1,974.5	0.0	2195.37	1386.90	3,582.26
8	150.0	24.63	24.570	0.00	0.00	0.12	2.87	0.80	1.00	0.00	19.66	49.35	0.00	1,746.1	0.0	1888.86	1444.78	3,333.64
9	170.0	25.53	22.590	0.00	0.00	0.15	2.79	0.80	1.00	0.00	18.07	36.09	0.00	1,476.6	0.0	1750.09	1091.70	2,841.79
														24,815.9	**0.0**			**33,770.78**

Load Case: 0.9D + 1.6W 90° Wind — 0.9D + 1.6W 101 mph Wind at 90° From Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	15.54	67.497	0.00	0.00	0.13	2.83	0.85	1.00	0.00	57.37	49.66	0.00	4,599.6	0.0	3428.12	916.19	4,344.31
2	30.0	15.55	60.350	0.00	0.00	0.13	2.84	0.85	1.00	0.00	51.30	49.35	0.00	3,685.4	0.0	3080.73	912.21	3,992.94
3	50.0	17.99	49.711	0.00	0.00	0.12	2.88	0.85	1.00	0.00	42.25	49.35	0.00	2,938.6	0.0	2981.06	1055.55	4,036.61
4	70.0	19.81	50.862	0.00	0.00	0.14	2.82	0.85	1.00	0.00	43.23	49.35	0.00	3,262.3	0.0	3282.73	1162.07	4,444.80
5	90.0	21.29	41.536	0.00	0.00	0.13	2.86	0.85	1.00	0.00	35.31	49.35	0.00	2,990.4	0.0	2919.61	1248.58	4,168.18
6	110.0	22.54	37.786	0.00	0.00	0.13	2.83	0.85	1.00	0.00	32.12	49.35	0.00	2,142.6	0.0	2791.26	1322.25	4,113.52
7	130.0	23.64	29.734	0.00	0.00	0.12	2.87	0.85	1.00	0.00	25.27	49.35	0.00	1,974.5	0.0	2332.58	1386.90	3,719.47
8	150.0	24.63	24.570	0.00	0.00	0.12	2.87	0.85	1.00	0.00	20.88	49.35	0.00	1,746.1	0.0	2006.92	1444.78	3,451.69
9	170.0	25.53	22.590	0.00	0.00	0.15	2.79	0.85	1.00	0.00	19.20	36.09	0.00	1,476.6	0.0	1859.47	1091.70	2,951.17
														24,815.9	**0.0**			**35,222.69**

Section Forces

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	3.81	67.497	37.39	37.39	0.21	2.57	1.00	1.00	1.77	104.88	91.83	34.02	15,467.	9335.1	873.10	391.84	1,264.94
2	30.0	3.81	60.350	39.97	39.97	0.22	2.54	1.00	1.00	1.98	100.32	95.64	33.02	14,629.	9715.5	826.61	400.20	1,226.81
3	50.0	4.41	49.711	40.27	40.27	0.21	2.55	1.00	1.00	2.08	89.98	97.71	34.75	13,308.	9390.5	859.39	477.21	1,336.61
4	70.0	4.86	50.862	44.02	44.02	0.25	2.43	1.00	1.00	2.16	94.88	99.14	35.94	14,035.	9685.6	952.65	528.48	1,481.13
5	90.0	5.22	41.536	42.46	42.46	0.25	2.43	1.00	1.00	2.21	83.99	100.24	36.85	12,892.	8904.8	905.78	576.26	1,482.05
6	110.0	5.52	37.786	40.69	40.69	0.27	2.38	1.00	1.00	2.26	78.47	101.13	37.60	11,387.	8531.0	877.41	613.49	1,490.90
7	130.0	5.79	29.734	46.17	46.17	0.31	2.28	1.00	1.00	2.29	75.90	101.89	38.23	10,344.	7711.4	852.10	640.57	1,492.67
8	150.0	6.04	24.570	42.68	42.68	0.33	2.23	1.00	1.00	2.33	67.25	102.56	38.78	9,374.9	7046.7	768.26	667.51	1,435.77
9	170.0	6.26	22.590	41.83	41.83	0.39	2.08	1.00	1.00	2.36	64.42	73.97	34.17	7,949.4	5980.7	711.14	504.30	1,215.45
														109,389.2	**76301.3**			**12,426.32**

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	3.81	67.497	37.39	37.39	0.21	2.57	0.80	1.00	1.77	91.38	91.83	34.02	15,467.	9335.1	760.73	391.84	1,152.56
2	30.0	3.81	60.350	39.97	39.97	0.22	2.54	0.80	1.00	1.98	88.25	95.64	33.02	14,629.	9715.5	727.16	400.20	1,127.36
3	50.0	4.41	49.711	40.27	40.27	0.21	2.55	0.80	1.00	2.08	80.04	97.71	34.75	13,308.	9390.5	764.44	477.21	1,241.65
4	70.0	4.86	50.862	44.02	44.02	0.25	2.43	0.80	1.00	2.16	84.70	99.14	35.94	14,035.	9685.6	850.51	528.48	1,379.00
5	90.0	5.22	41.536	42.46	42.46	0.25	2.43	0.80	1.00	2.21	75.69	100.24	36.85	12,892.	8904.8	816.20	576.26	1,392.46
6	110.0	5.52	37.786	40.69	40.69	0.27	2.38	0.80	1.00	2.26	70.92	101.13	37.60	11,387.	8531.0	792.91	613.49	1,406.40
7	130.0	5.79	29.734	46.17	46.17	0.31	2.28	0.80	1.00	2.29	69.96	101.89	38.23	10,344.	7711.4	785.34	640.57	1,425.91
8	150.0	6.04	24.570	42.68	42.68	0.33	2.23	0.80	1.00	2.33	62.34	102.56	38.78	9,374.9	7046.7	712.12	667.51	1,379.63
9	170.0	6.26	22.590	41.83	41.83	0.39	2.08	0.80	1.00	2.36	59.90	73.97	34.17	7,949.4	5980.7	661.27	504.30	1,165.57
														109,389.2	**76301.3**			**11,670.54**

Section Forces

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	3.81	67.497	37.39	37.39	0.21	2.57	0.85	1.00	1.77	94.76	91.83	34.02	15,467.	9335.1	788.82	391.84	1,180.66
2	30.0	3.81	60.350	39.97	39.97	0.22	2.54	0.85	1.00	1.98	91.27	95.64	33.02	14,629.	9715.5	752.02	400.20	1,152.22
3	50.0	4.41	49.711	40.27	40.27	0.21	2.55	0.85	1.00	2.08	82.52	97.71	34.75	13,308.	9390.5	788.18	477.21	1,265.39
4	70.0	4.86	50.862	44.02	44.02	0.25	2.43	0.85	1.00	2.16	87.25	99.14	35.94	14,035.	9685.6	876.05	528.48	1,404.53
5	90.0	5.22	41.536	42.46	42.46	0.25	2.43	0.85	1.00	2.21	77.76	100.24	36.85	12,892.	8904.8	838.59	576.26	1,414.86
6	110.0	5.52	37.786	40.69	40.69	0.27	2.38	0.85	1.00	2.26	72.81	101.13	37.60	11,387.	8531.0	814.03	613.49	1,427.52
7	130.0	5.79	29.734	46.17	46.17	0.31	2.28	0.85	1.00	2.29	71.44	101.89	38.23	10,344.	7711.4	802.03	640.57	1,442.60
8	150.0	6.04	24.570	42.68	42.68	0.33	2.23	0.85	1.00	2.33	63.57	102.56	38.78	9,374.9	7046.7	726.16	667.51	1,393.66
9	170.0	6.26	22.590	41.83	41.83	0.39	2.08	0.85	1.00	2.36	61.03	73.97	34.17	7,949.4	5980.7	673.74	504.30	1,178.04
														109,389.2	**76301.3**			**11,859.48**

Load Case: 1.0D + 1.0W Normal Wind — 1.0D + 1.0W 60 mph Wind at Normal To Face

Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	5.48	67.497	0.00	0.00	0.13	2.83	1.00	1.00	0.00	67.50	49.66	0.00	5,110.6	0.0	889.56	202.08	1,091.64
2	30.0	5.49	60.350	0.00	0.00	0.13	2.84	1.00	1.00	0.00	60.35	49.35	0.00	4,094.8	0.0	799.42	201.20	1,000.62
3	50.0	6.35	49.711	0.00	0.00	0.12	2.88	1.00	1.00	0.00	49.71	49.35	0.00	3,265.1	0.0	773.56	232.82	1,006.38
4	70.0	6.99	50.862	0.00	0.00	0.14	2.82	1.00	1.00	0.00	50.86	49.35	0.00	3,624.8	0.0	851.84	256.31	1,108.15
5	90.0	7.51	41.536	0.00	0.00	0.13	2.86	1.00	1.00	0.00	41.54	49.35	0.00	3,322.6	0.0	757.61	275.39	1,033.00
6	110.0	7.96	37.786	0.00	0.00	0.13	2.83	1.00	1.00	0.00	37.79	49.35	0.00	2,380.6	0.0	724.31	291.65	1,015.95
7	130.0	8.34	29.734	0.00	0.00	0.12	2.87	1.00	1.00	0.00	29.73	49.35	0.00	2,193.9	0.0	605.28	305.90	911.18
8	150.0	8.69	24.570	0.00	0.00	0.12	2.87	1.00	1.00	0.00	24.57	49.35	0.00	1,940.1	0.0	520.77	318.67	839.44
9	170.0	9.01	22.590	0.00	0.00	0.15	2.79	1.00	1.00	0.00	22.59	36.09	0.00	1,640.6	0.0	482.51	240.79	723.31
														27,573.3	**0.0**			**8,729.68**

Section Forces

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60° Wind — 1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	5.48	67.497	0.00	0.00	0.13	2.83	0.80	1.00	0.00	54.00	49.66	0.00	5,110.6	0.0	711.65	202.08	913.73
2	30.0	5.49	60.350	0.00	0.00	0.13	2.84	0.80	1.00	0.00	48.28	49.35	0.00	4,094.8	0.0	639.54	201.20	840.74
3	50.0	6.35	49.711	0.00	0.00	0.12	2.88	0.80	1.00	0.00	39.77	49.35	0.00	3,265.1	0.0	618.84	232.82	851.66
4	70.0	6.99	50.862	0.00	0.00	0.14	2.82	0.80	1.00	0.00	40.69	49.35	0.00	3,624.8	0.0	681.47	256.31	937.78
5	90.0	7.51	41.536	0.00	0.00	0.13	2.86	0.80	1.00	0.00	33.23	49.35	0.00	3,322.6	0.0	606.09	275.39	881.48
6	110.0	7.96	37.786	0.00	0.00	0.13	2.83	0.80	1.00	0.00	30.23	49.35	0.00	2,380.6	0.0	579.44	291.65	871.09
7	130.0	8.34	29.734	0.00	0.00	0.12	2.87	0.80	1.00	0.00	23.79	49.35	0.00	2,193.9	0.0	484.22	305.90	790.13
8	150.0	8.69	24.570	0.00	0.00	0.12	2.87	0.80	1.00	0.00	19.66	49.35	0.00	1,940.1	0.0	416.62	318.67	735.29
9	170.0	9.01	22.590	0.00	0.00	0.15	2.79	0.80	1.00	0.00	18.07	36.09	0.00	1,640.6	0.0	386.01	240.79	626.80
														27,573.3	**0.0**			**7,448.71**

Load Case: 1.0D + 1.0W 90° Wind — 1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	5.48	67.497	0.00	0.00	0.13	2.83	0.85	1.00	0.00	57.37	49.66	0.00	5,110.6	0.0	756.13	202.08	958.21
2	30.0	5.49	60.350	0.00	0.00	0.13	2.84	0.85	1.00	0.00	51.30	49.35	0.00	4,094.8	0.0	679.51	201.20	880.71
3	50.0	6.35	49.711	0.00	0.00	0.12	2.88	0.85	1.00	0.00	42.25	49.35	0.00	3,265.1	0.0	657.52	232.82	890.34
4	70.0	6.99	50.862	0.00	0.00	0.14	2.82	0.85	1.00	0.00	43.23	49.35	0.00	3,624.8	0.0	724.06	256.31	980.37
5	90.0	7.51	41.536	0.00	0.00	0.13	2.86	0.85	1.00	0.00	35.31	49.35	0.00	3,322.6	0.0	643.97	275.39	919.36
6	110.0	7.96	37.786	0.00	0.00	0.13	2.83	0.85	1.00	0.00	32.12	49.35	0.00	2,380.6	0.0	615.66	291.65	907.30
7	130.0	8.34	29.734	0.00	0.00	0.12	2.87	0.85	1.00	0.00	25.27	49.35	0.00	2,193.9	0.0	514.49	305.90	820.39
8	150.0	8.69	24.570	0.00	0.00	0.12	2.87	0.85	1.00	0.00	20.88	49.35	0.00	1,940.1	0.0	442.66	318.67	761.33
9	170.0	9.01	22.590	0.00	0.00	0.15	2.79	0.85	1.00	0.00	19.20	36.09	0.00	1,640.6	0.0	410.14	240.79	650.93
														27,573.3	**0.0**			**7,768.95**

Force/Stress Compression Summary

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	60D - 60D 8X8X0.625	-230.08	1.2D + 1.6W Normal Wind	20.04	25	25	25	31.47	50.00	402.24	57.2	Member Z
2	40	60D - 60D 8X8X0.5	-203.96	1.2D + 1.6W Normal Wind	20.04	25	25	25	31.15	50.00	280.51	72.7	Member Z
3	60	60D - 60D 6X6X0.5	-174.57	1.2D + 1.6W Normal Wind	20.04	25	25	25	42.33	50.00	226.97	76.9	Member Z
4	80	60D - 60D 6X6X0.5	-158.05	1.2D + 1.6W Normal Wind	10.02	50	50	50	42.33	50.00	226.97	69.6	Member Z
5	100	60D - 60D 5X5X0.5	-130.68	1.2D + 1.6W Normal Wind	10.02	50	50	50	51.38	50.00	176.23	74.2	Member Z
6	120	60D - 60D 5X5X0.375	-103.58	1.2D + 1.6W Normal Wind	10.02	50	50	50	50.51	50.00	134.80	76.8	Member Z
7	140	60D - 60D 4X4X0.5	-79.12	1.2D + 1.6W Normal Wind	6.68	100	100	100	87.31	50.00	96.65	81.9	Member Z
8	160	60D - 60D 4X4X0.375	-52.47	1.2D + 1.6W Normal Wind	6.68	100	100	100	86.00	50.00	74.95	70.0	Member Z
9	180	60D - 60D 4X4X0.375	-23.32	1.2D + 1.6W Normal Wind	6.68	100	100	100	86.00	50.00	74.95	31.1	Member Z

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20	SAE - 4X4X0.375	-7.50	0.9D + 1.6W Normal Wind	23.29	50	50	50	155.24	36.00	26.81	3	1	65.58	89.39	28	Member Z
2	40	SAE - 3.5X3.5X0.25	-6.39	0.9D + 1.6W Normal Wind	21.17	50	50	50	158.78	36.00	15.14	3	1	65.58	59.59	42	Member Z
3	60	SAE - 3X3X0.25	-3.58	0.9D + 1.6W Normal Wind	19.06	50	50	50	165.02	36.00	11.95	3	1	65.58	59.59	30	Member Z
4	80										0.00	0	0				
5	100										0.00	0	0				
6	120										0.00	0	0				
7	140										0.00	0	0				
8	160										0.00	0	0				
9	180	SAE - 1.75X1.75X0.25	-1.39	1.2D + 1.6W 60° Wind	6.40	100	100	100	225.08	36.00	3.61	1	1	15.19	13.05	38	Member Z

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20	SAE - 3.5X3.5X0.25	-13.5	1.2D + 1.6W Normal Wind	31.51	24	49	24	158.12	36.00	15.27	3	1	65.58	59.5	88	Member Y
2	40	SAE - 3X3X0.25	-13.2	1.2D + 1.6W Normal Wind	29.91	24	24	24	139.47	36.00	16.72	3	1	65.58	59.5	79	Member Z
3	60	SAE - 3X3X0.1875	-13.2	1.2D + 1.6W Normal Wind	28.37	24	24	24	133.08	36.00	13.90	3	1	65.58	44.7	95	Member Z
4	80	SAE - 3.5X3.5X0.25	-7.33	1.2D + 1.6W 90° Wind	21.06	50	50	50	167.36	36.00	13.63	2	1	43.72	36.9	54	Member Z
5	100	SAE - 3X3X0.3125	-6.64	1.2D + 1.6W 90° Wind	19.23	50	50	50	177.88	36.00	12.71	2	1	30.38	41.8	52	Member Z
6	120	SAE - 3X3X0.1875	-6.11	1.2D + 1.6W 90° Wind	17.46	50	50	50	162.56	36.00	9.32	2	1	30.38	25.1	66	Member Z
7	140	SAE - 2.5X2.5X0.1875	-4.84	1.2D + 1.6W 90° Wind	14.06	50	50	50	170.42	36.00	7.02	1	1	15.19	9.79	69	Member Z
8	160	SAE - 2X2X0.25	-4.48	1.2D + 1.6W 90° Wind	12.24	50	50	50	187.87	36.00	6.02	1	1	15.19	13.0	75	Member Z
9	180	SAE - 1.75X1.75X0.25	-4.44	1.2D + 1.6W 90° Wind	10.54	50	50	50	185.37	36.00	5.33	1	1	15.19	13.0	83	Member Z

Force/Stress Tension Summary

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 14	

TES Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	60D - 60D 8X8X0.625	187.12	0.9D + 1.6W 60° Wind	50	432.45	43.3	Member
2	40	60D - 60D 8X8X0.5	166.10	0.9D + 1.6W 60° Wind	50	348.75	47.6	Member
3	60	60D - 60D 6X6X0.5	143.33	0.9D + 1.6W 60° Wind	50	258.75	55.4	Member
4	80	60D - 60D 6X6X0.5	129.59	0.9D + 1.6W 60° Wind	50	258.75	50.1	Member
5	100	60D - 60D 5X5X0.5	107.76	0.9D + 1.6W 60° Wind	50	213.75	50.4	Member
6	120	60D - 60D 5X5X0.375	85.72	0.9D + 1.6W 60° Wind	50	162.45	52.8	Member
7	140	60D - 60D 4X4X0.5	65.00	0.9D + 1.6W 60° Wind	50	168.75	38.5	Member
8	160	60D - 60D 4X4X0.375	41.67	0.9D + 1.6W 60° Wind	50	128.70	32.4	Member
9	180	60D - 60D 4X4X0.375	15.49	0.9D + 1.6W 60° Wind	50	128.70	12.0	Member

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	SAE - 4X4X0.375	8.53	1.2D + 1.6W 60° Wind	36	82.60	3	1	65.58	89.39	60.36	14.1	Blck Shear
2	40	SAE - 3.5X3.5X0.25	7.48	1.2D + 1.6W 60° Wind	36	54.76	3	1	65.58	59.59	37.52	19.9	Blck Shear
3	60	SAE - 3X3X0.25	4.10	1.2D + 1.6W 60° Wind	36	46.66	3	1	65.58	59.59	34.80	11.8	Blck Shear
4	80	-			36	0.00	0	0					
5	100	-			36	0.00	0	0					
6	120	-			36	0.00	0	0					
7	140	-			36	0.00	0	0					
8	160	-			36	0.00	0	0					
9	180	SAE - 1.75X1.75X0.25	1.51	0.9D + 1.6W Normal Wi	36	26.24	1	1	15.19	13.05	9.99	15.1	Blck Shear

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	SAE - 3.5X3.5X0.25	10.64	0.9D + 1.6W 60° Wind	36	48.00	3	1	65.58	59.59	34.80	30.6	Blck Shear
2	40	SAE - 3X3X0.25	10.53	0.9D + 1.6W 60° Wind	36	39.84	3	1	65.58	59.59	32.08	32.8	Blck Shear
3	60	SAE - 3X3X0.1875	10.56	0.9D + 1.6W 60° Wind	36	30.21	3	1	65.58	44.70	24.06	43.9	Blck Shear
4	80	SAE - 3.5X3.5X0.25	7.18	0.9D + 1.6W 90° Wind	36	48.00	2	1	43.72	36.98	25.73	27.9	Blck Shear
5	100	SAE - 3X3X0.3125	6.50	0.9D + 1.6W 90° Wind	36	50.43	2	1	30.38	41.87	27.71	23.4	Blck Shear
6	120	SAE - 3X3X0.1875	5.97	1.2D + 1.6W 90° Wind	36	30.97	2	1	30.38	25.12	16.63	35.9	Blck Shear
7	140	SAE - 2.5X2.5X0.1875	4.79	1.2D + 1.6W 90° Wind	36	24.84	1	1	15.19	9.79	9.53	50.2	Blck Shear
8	160	SAE - 2X2X0.25	4.49	1.2D + 1.6W 90° Wind	36	24.55	1	1	15.19	13.05	9.99	44.9	Blck Shear
9	180	SAE - 1.75X1.75X0.25	4.32	0.9D + 1.6W 90° Wind	36	20.31	1	1	15.19	13.05	8.63	50.0	Blck Shear

Seismic Section Forces

Structure:	CT14089-A-SBA	**Code:**	TIA-222-G	7/11/2022	
Site Name:	Woodstock North	**Exposure:**	B		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 15	

TES Tower Engineering Solutions

Load Case: 1.2D + 1.0E

Dead Load Factor	1.20	**Sds**	0.183	**Ss**	0.1720	**Fa**	1.6000	**Ke**	0.0000
Seismic Load Factor	1.00	**Sd1**	0.100	**S1**	0.0630	**Fv**	2.4000	**Kg**	0.0000
Seismic Importance Factor	1.00	**SA**	0.183	**R**	3.0000	**Vs**	2.6307	**f1**	1.9757

Sect #	Elev (ft)	Wz (lb)	a	b	c	Lateral Fsz (lb)
1	10.00	5118.5	0.01	0.05	0.03	16.29
2	30.00	4094.8	0.05	0.07	0.04	30.39
3	50.00	3265.0	0.15	0.07	0.03	42.12
4	70.00	3624.8	0.29	0.05	0.01	73.63
5	90.00	3322.6	0.47	-0.01	0.01	94.49
6	110.00	2380.6	0.71	-0.09	0.03	88.54
7	130.00	2193.8	0.99	-0.11	0.12	110.47
8	150.00	1940.1	1.31	0.14	0.35	148.37
9	170.00	9889.2	1.69	1.07	0.79	1244.99

Load Case: 0.9D + 1.0E

Dead Load Factor	0.90	**Sds**	0.183	**Ss**	0.1720	**Fa**	1.6000	**Ke**	0.0000
Seismic Load Factor	1.00	**Sd1**	0.100	**S1**	0.0630	**Fv**	2.4000	**Kg**	0.0000
Seismic Importance Factor	1.00	**SA**	0.183	**R**	3.0000	**Vs**	2.6307	**f1**	1.9757

Sect #	Elev (ft)	Wz (lb)	a	b	c	Lateral Fsz (lb)
1	10.00	5118.5	0.01	0.05	0.03	16.29
2	30.00	4094.8	0.05	0.07	0.04	30.39
3	50.00	3265.0	0.15	0.07	0.03	42.12
4	70.00	3624.8	0.29	0.05	0.01	73.63
5	90.00	3322.6	0.47	-0.01	0.01	94.49
6	110.00	2380.6	0.71	-0.09	0.03	88.54
7	130.00	2193.8	0.99	-0.11	0.12	110.47
8	150.00	1940.1	1.31	0.14	0.35	148.37
9	170.00	9889.2	1.69	1.07	0.79	1244.99

Support Forces Summary

Structure:	CT14089-A-SBA		**Code:**	TIA-222-G	7/11/2022
Site Name:	Woodstock North		**Exposure:**	B	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 16

TES Tower Engineering Solutions

Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	0.00	247.83	-32.94	
	1a	11.71	-102.42	-7.78	
	1b	-11.71	-102.42	-7.78	
1.2D + 1.6W 60° Wind	1	-0.50	119.65	-15.59	
	1a	-13.74	119.47	7.39	
	1b	-22.73	-196.12	-13.14	
1.2D + 1.6W 90° Wind	1	-0.72	14.34	-1.72	
	1a	-23.07	201.56	13.01	
	1b	-20.36	-172.90	-11.29	
0.9D + 1.6W Normal Wind	1	0.00	243.99	-32.50	
	1a	12.08	-105.87	-8.00	
	1b	-12.08	-105.87	-8.00	
0.9D + 1.6W 60° Wind	1	-0.51	115.94	-15.16	
	1a	-13.36	115.77	7.17	
	1b	-23.09	-199.47	-13.35	
0.9D + 1.6W 90° Wind	1	-0.73	10.75	-1.29	
	1a	-22.69	197.77	12.79	
	1b	-20.73	-176.27	-11.50	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	119.43	-12.41	
	1a	1.76	8.31	-1.18	
	1b	-1.76	8.31	-1.18	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.10	80.92	-7.34	
	1a	-6.40	80.77	3.59	
	1b	-5.63	-25.63	-3.25	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.14	45.40	-2.74	
	1a	-9.38	107.39	5.35	
	1b	-4.68	-16.73	-2.62	
1.2D + 1.0E	1	0.00	27.12	2.94	
	1a	4.33	7.94	-2.39	
	1b	-4.33	7.94	-2.39	
0.9D + 1.0E	1	0.00	23.52	3.38	
	1a	4.71	4.36	-2.60	
	1b	-4.71	4.36	-2.60	
1.0D + 1.0W Normal Wind	1	0.00	63.32	-8.34	
	1a	1.66	-13.74	-1.17	
	1b	-1.66	-13.74	-1.17	
1.0D + 1.0W 60° Wind	1	-0.12	35.13	-4.50	
	1a	-3.95	35.08	2.15	
	1b	-4.07	-34.38	-2.35	
1.0D + 1.0W 90° Wind	1	-0.16	11.95	-1.44	
	1a	-6.02	53.13	3.39	
	1b	-3.54	-29.25	-1.96	

Max Reactions

	Leg			Overturning	
Max Uplift:	-199.47	(kips)	Moment:	5135.51	(ft-kips)
Max Down:	247.83	(kips)	Total Down:	43.00	(kips)
Max Shear:	32.94	(kips)	Total Shear:	48.51	(kips)

Max Reactions

Leg			Overturning		
Max Uplift:	-199.47	(kips)	Moment:	5135.51	(ft-kips)
Max Down:	247.83	(kips)	Total Down:	43.00	(kips)
Max Shear:	32.94	(kips)	Total Shear:	48.51	(kips)

Anchor Bolts

Bolt Size (in.):	1.50	Number Bolts:	8
Yield Strength (Ksi):	36.00	Tensile Strength (Ksi):	58.00
Detail Type:	C		

Interaction Ratio: 0.50

Max Usages

Max Leg: 81.9% (1.2D + 1.6W Normal Wind - Sect 7)
Max Diag: 95.3% (1.2D + 1.6W Normal Wind - Sect 3)
Max Horiz: 42.2% (0.9D + 1.6W Normal Wind - Sect 2)

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0E - Normal To Face	20.00	0.0048	0.0000	0.0104
	166.67	0.0770	-0.0010	0.0600
	180.00	0.0907	-0.0004	0.0595
0.9D + 1.6W 101 mph Wind at 60° From Face	20.00	0.0162	-0.0039	0.0808
	166.67	1.0231	0.0481	0.7137
	180.00	1.1906	0.0520	0.6952
0.9D + 1.6W 101 mph Wind at 90° From Face	20.00	0.0161	-0.0047	0.0822
	166.67	1.0447	-0.0599	0.7201
	180.00	1.2147	-0.0583	0.6272
0.9D + 1.6W 101 mph Wind at Normal To Face	20.00	0.0203	0.0000	0.0940
	166.67	1.1131	-0.0346	0.7841
	180.00	1.2931	-0.0427	0.9414
1.0D + 1.0W 60 mph Wind at 60° From Face	20.00	0.0036	-0.0009	0.0179
	166.67	0.2254	-0.0111	0.1569
	180.00	0.2623	-0.0108	0.1523
1.0D + 1.0W 60 mph Wind at 90° From Face	20.00	0.0035	-0.0010	0.0181
	166.67	0.2301	-0.0131	0.1588
	180.00	0.2675	-0.0128	0.1402
1.0D + 1.0W 60 mph Wind at Normal To Face	20.00	0.0046	0.0000	0.0209
	166.67	0.2452	-0.0072	0.1728
	180.00	0.2849	-0.0094	0.2050
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	20.00	0.0045	-0.0014	0.0244
	166.67	0.3448	-0.0225	0.2357
	180.00	0.3999	0.0230	0.2205

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	20.00	0.0057	-0.0016	0.0276
	166.67	0.3470	-0.0269	0.2340
	180.00	0.4023	-0.0271	0.1884
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	20.00	0.0041	0.0000	0.0234
	166.67	0.3570	-0.0177	0.2517
	180.00	0.4141	-0.0212	0.3199
1.2D + 1.0E - Normal To Face	20.00	0.0048	0.0000	0.0103
	166.67	0.0772	0.0010	0.0602
	180.00	0.0908	-0.0004	0.0598
1.2D + 1.6W 101 mph Wind at 60° From Face	20.00	0.0163	-0.0039	0.0809
	166.67	1.0250	0.0481	0.7152
	180.00	1.1928	0.0520	0.6966
1.2D + 1.6W 101 mph Wind at 90° From Face	20.00	0.0161	-0.0047	0.0823
	166.67	1.0466	-0.0599	0.7218
	180.00	1.2170	-0.0583	0.6289
1.2D + 1.6W 101 mph Wind at Normal To Face	20.00	0.0204	0.0000	0.0942
	166.67	1.1151	-0.0346	0.7860
	180.00	1.2956	-0.0427	0.9437

Exhibit E

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

Antenna Mount Analysis Report

Existing Self Support Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT14089-A-SBA

Customer Site Name: Woodstock North

Carrier Name: T-Mobile (App#: 198395-2, V2)

Carrier Site ID / Name: CTNL185A / CTNL185_SBA_SST_Woodstock

Site Location: 1825 Route 198

Woodstock, Connecticut

Windham County

Latitude: 42.012281

Longitude: -72.077372

6/6/22

Analysis Result:

Max Structural Usage: 55.1% [Pass]

Report Prepared By: Progesh Roka

NOTE: The proposed [(3) Site Pro VFA12-HD] mounts were not currently installed on the tower. The proposed mounts were assumed to be installed per the manufacturer's instructions, and it was assumed that they can be installed properly on the tower. TES cannot verify that the proposed mounts will fit properly and is not liable for any fit-up issues during installation.

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

Antenna Mount Analysis Report

Existing Self Support Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT14089-A-SBA

Customer Site Name: Woodstock North

Carrier Name: T-Mobile (App#: 198395-2, V2)

Carrier Site ID / Name: CTNL185A / CTNL185_SBA_SST_Woodstock

Site Location: 1825 Route 198

Woodstock, Connecticut

Windham County

Latitude: 42.012281

Longitude: -72.077372

Analysis Result:

Max Structural Usage: 55.1% [Pass]

Report Prepared By: Progesh Roka

NOTE: The proposed [(3) Site Pro VFA12-HD] mounts were not currently installed on the tower. The proposed mounts were assumed to be installed per the manufacturer's instructions, and it was assumed that they can be installed properly on the tower. TES cannot verify that the proposed mounts will fit properly and is not liable for any fit-up issues during installation.

Introduction

The purpose of this report is to summarize the analysis results on the [(3) Site Pro VFA12-HD] at 167.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount info provided by SBA; Application #: 198395, v2; dated 5/31/2022 [(3) Site Pro VFA12-HD]; Structural Details provided by Site Pro
Antenna Loading	Provided by SBA; Application #: 198395, v2; dated 5/31/2022
Modification Drawings	N/A

Analysis Criteria

Basic Wind Speed Used in the Analysis: V_{ULT} = 130 mph (3-Sec. Gust) / Equivalent to
V_{ASD} = 101 mph (3-Sec. Gust)
Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed: 30 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-G/2015 IBC/2018 CSBC
Exposure Category: B
Structure Class: II
Topographic Category: 1
Crest Height (Ft): 0

The site is a Risk Category II structure per IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

[(3) Site Pro VFA12-HD] at 167.00' elevation

Final Antenna Configuration

3	RFS APXVAALL24_43-U-NA20
3	Ericsson AIR6419 B41
1	Commscope VHLP2-11W-2GR
1	Ceragon RFU-C
3	Ericsson 4480 B71 + B85
3	Ericsson 4460 B25 + B66

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the proposed mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 55.1%, which occurs in the standoff vertical member. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

NOTE: The proposed [(3) Site Pro VFA12-HD] mounts were not currently installed on the tower. The proposed mounts were assumed to be installed per the manufacturer's instructions, and it was assumed that they can be installed properly on the tower. TES cannot verify that the proposed mounts will fit properly and is not liable for any fit-up issues during installation.

Attachments

1. Mount Diagram
2. Antenna Placement Diagram
3. Analysis Calculations
4. Miscellaneous Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.

2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.

4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.

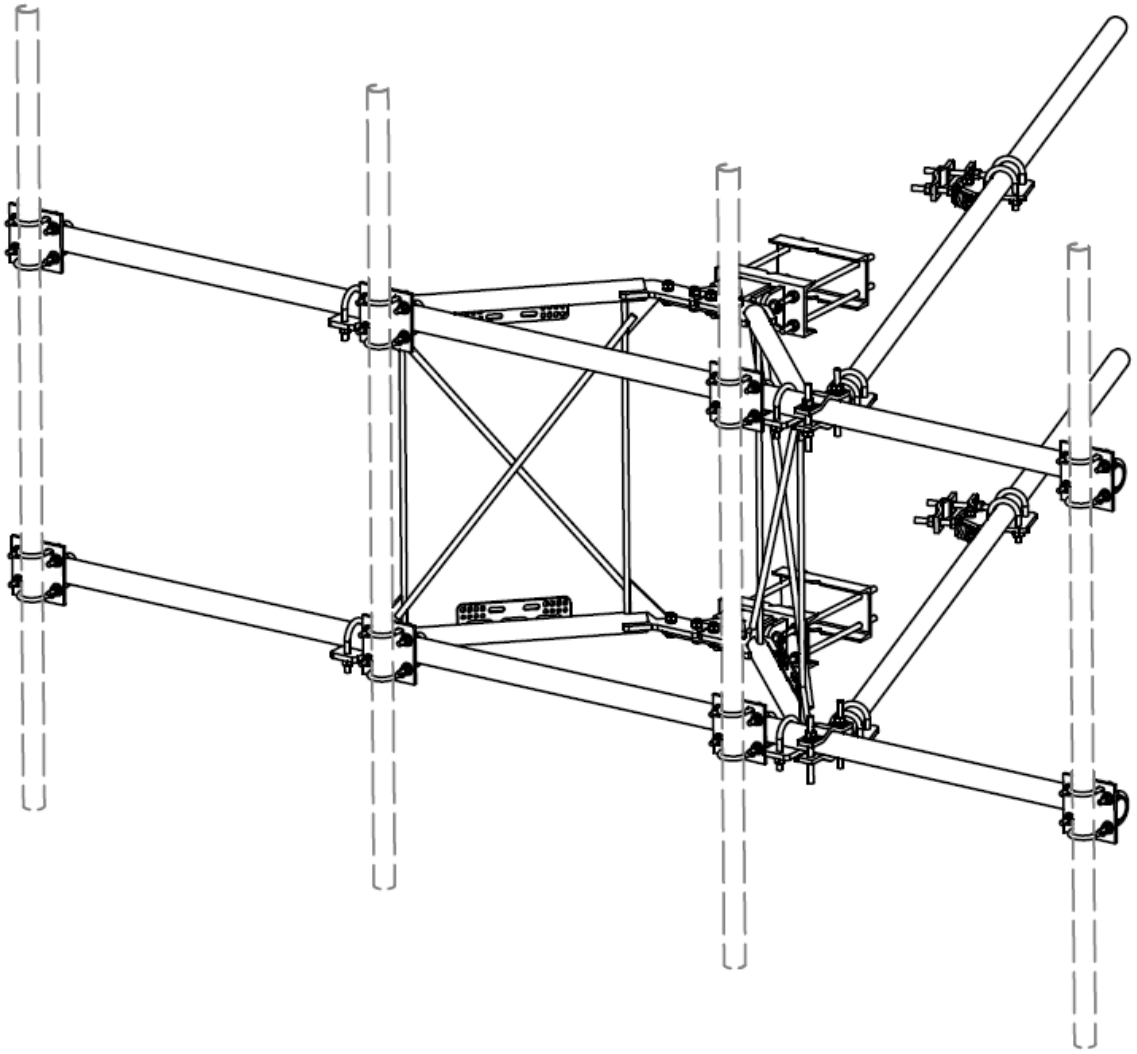
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.

6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.

7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.

8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.

9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.



Site Pro VFA12-HD

Structure: CT14089-A-SBA - Woodstock North

Sector: A

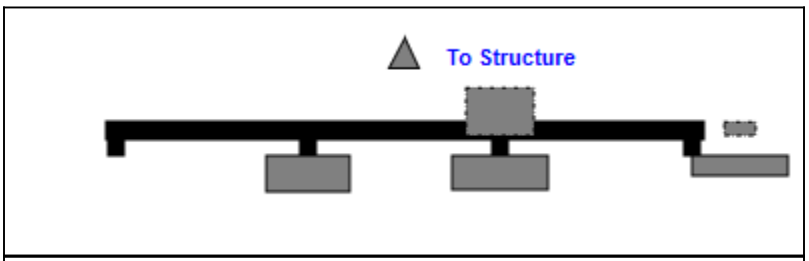
Structure Type: Self Support

Mount Elev: 167.00

6/6/2022

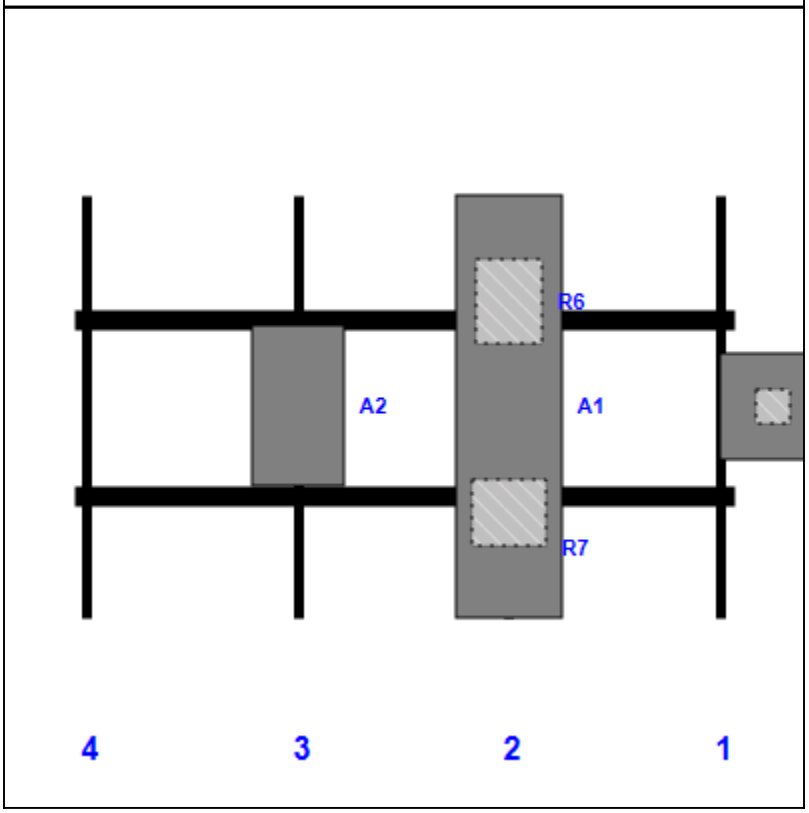
Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A4	VHLP2-11W-2GR	24.00	24.00	147.00	1	a	Front	48.00	12.00		
A5	Ceragon RFU-C	7.90	7.90	147.00	1	a	Behind	48.00	12.00		
A1	APXVAALL24_43-U-NA20	95.90	24.00	99.00	2	a	Front	48.00			
R6	4480 B71 + B85	19.20	15.10	99.00	2	a	Behind	24.00			
R7	4460 B25 + B66	15.10	17.00	99.00	2	a	Behind	72.00			
A2	AIR6419 B41	36.30	20.90	51.00	3	a	Front	47.94			

Structure: CT14089-A-SBA - Woodstock North

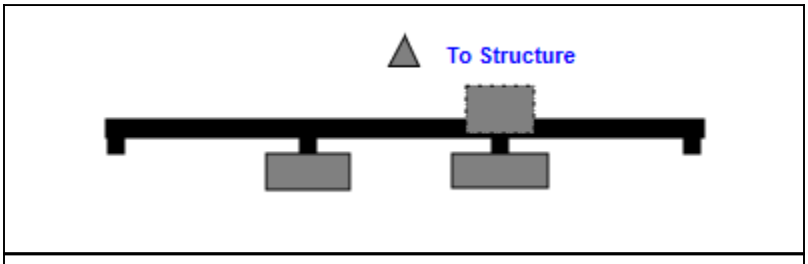
Sector: B

Structure Type: Self Support

Mount Elev: 167.00

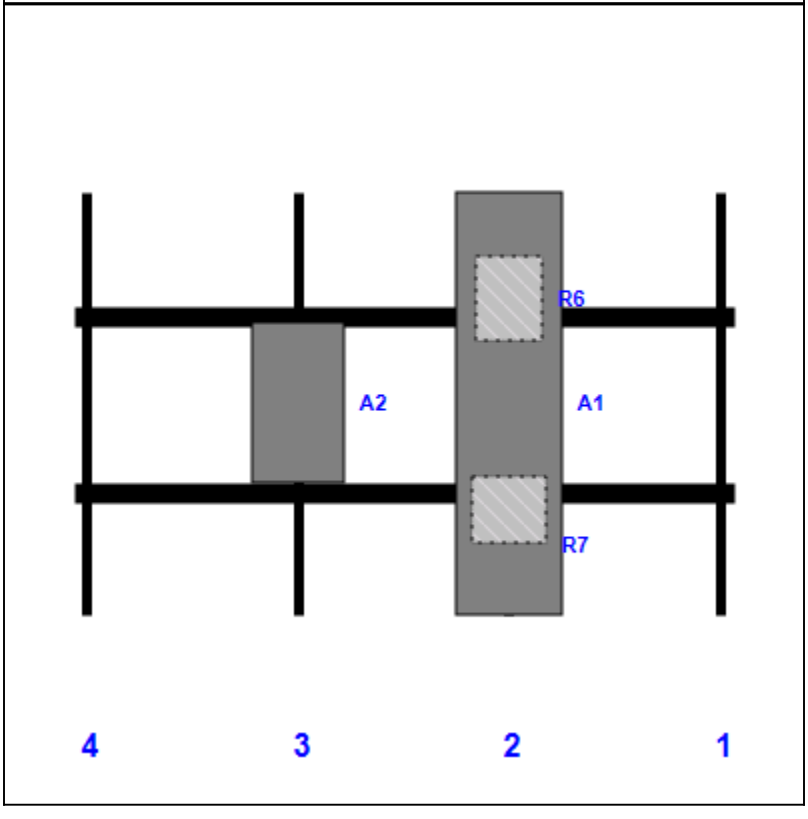
6/6/2022

Plan View



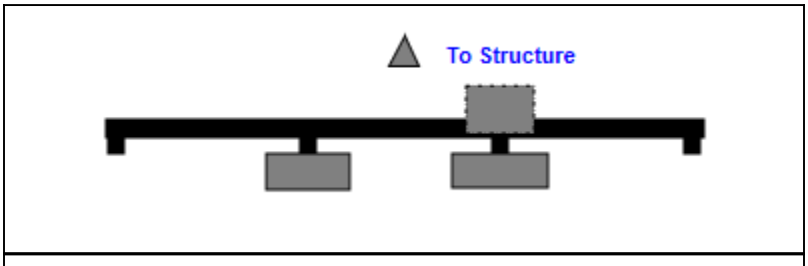
Front View

Looking Toward Structure



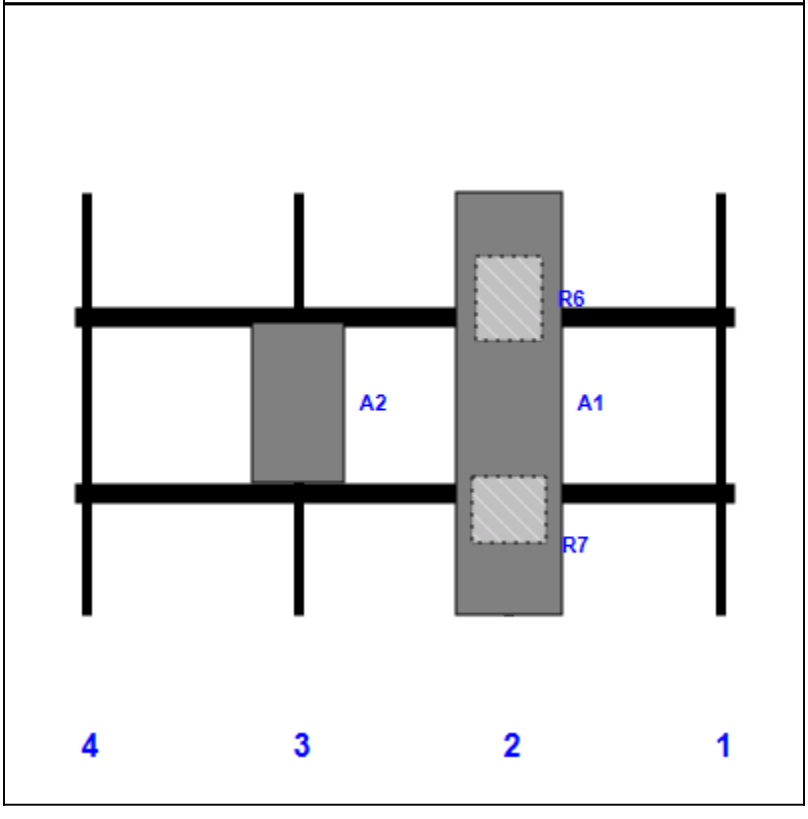
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	APXVAALL24_43-U-NA20	95.90	24.00	99.00	2	a	Front	48.00			
R6	4480 B71 + B85	19.20	15.10	99.00	2	a	Behind	24.00			
R7	4460 B25 + B66	15.10	17.00	99.00	2	a	Behind	72.00			
A2	AIR6419 B41	36.30	20.90	51.00	3	a	Front	47.94			

Plan View

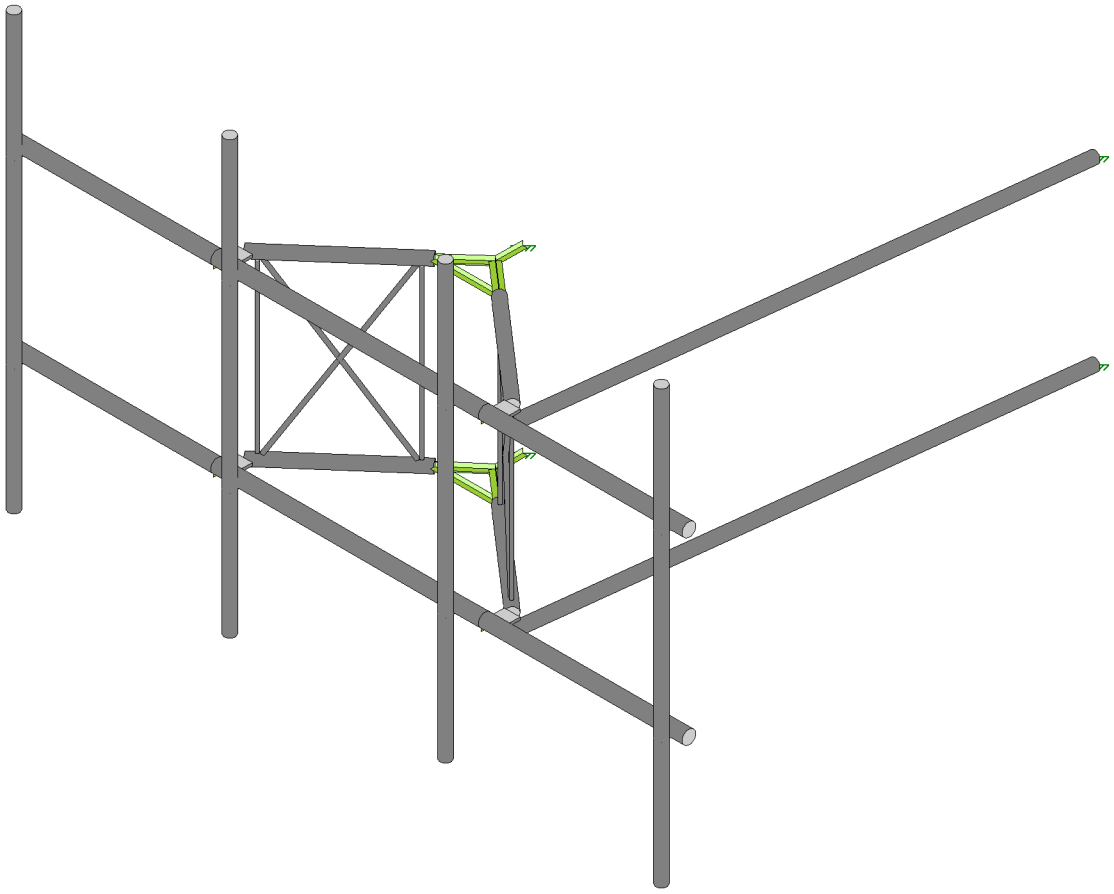


Front View

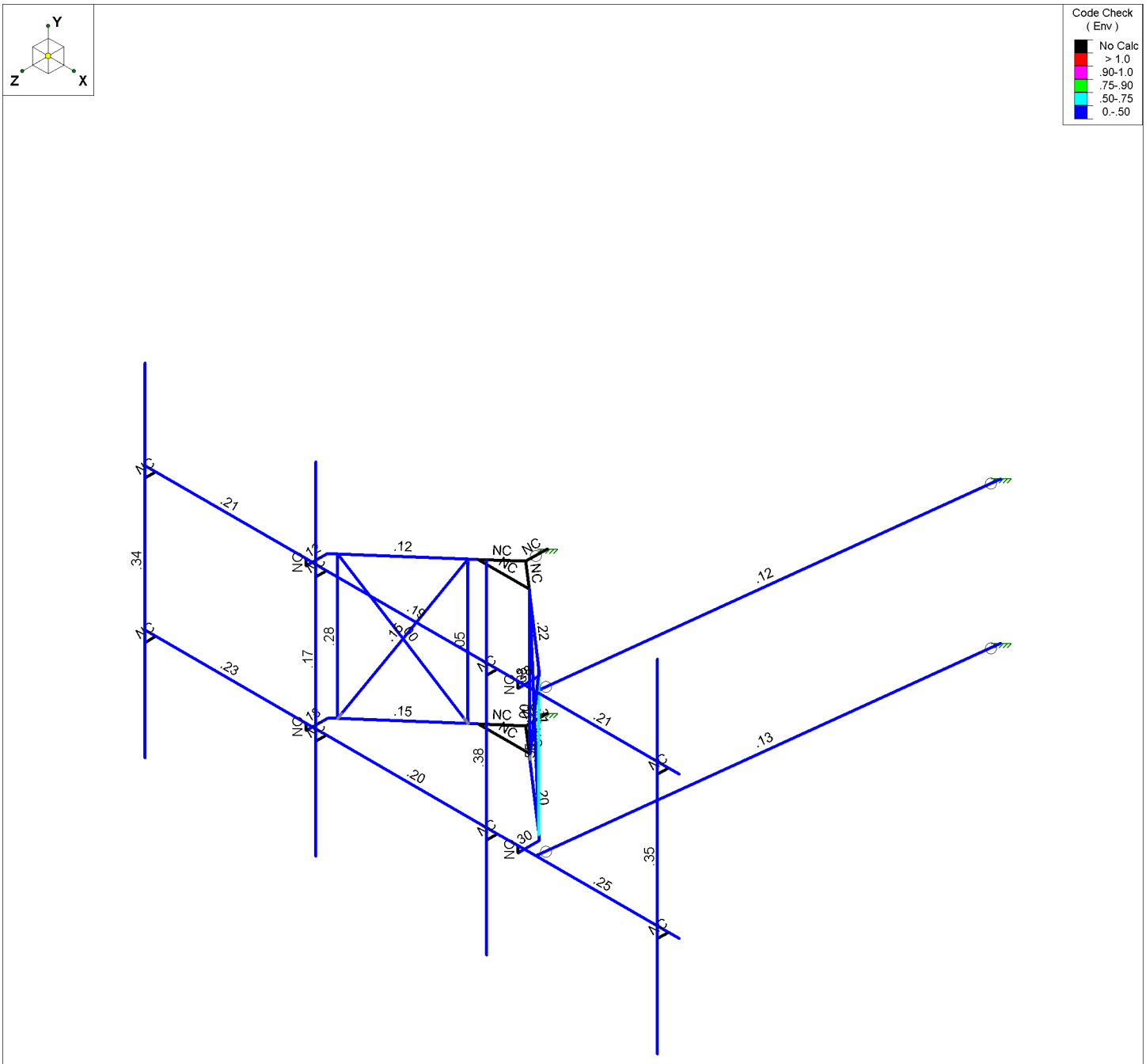
Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	APXVAALL24_43-U-NA20	95.90	24.00	99.00	2	a	Front	48.00			
R6	4480 B71 + B85	19.20	15.10	99.00	2	a	Behind	24.00			
R7	4460 B25 + B66	15.10	17.00	99.00	2	a	Behind	72.00			
A2	AIR6419 B41	36.30	20.90	51.00	3	a	Front	47.94			

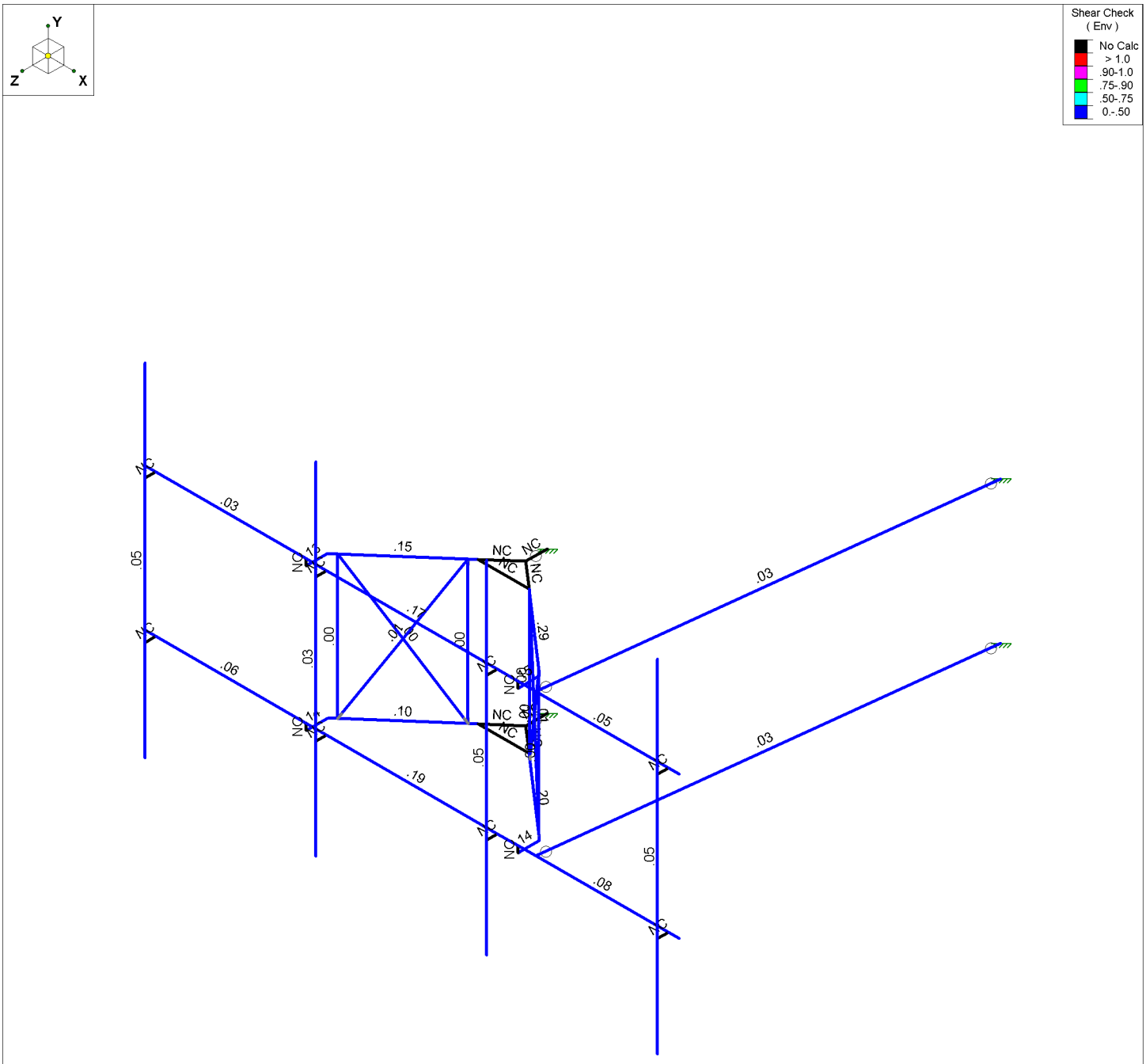


Tower Engineering Solutio...	CT14089-A-SBA_MT_LOT_Loads Only_Sector A_G	SK - 1
		June 6, 2022 at 4:11 PM
TES Project No. 129927	RENDER	CT14089-A-SBA_129927_G_RISA_...



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

Tower Engineering Solutio...	CT14089-A-SBA_MT_LOT_Loads Only_Sector A_G	SK - 2
		June 6, 2022 at 4:11 PM
TES Project No. 129927	UNITY	CT14089-A-SBA_129927_G_RISA_...



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

Tower Engineering Solutio...	CT14089-A-SBA_MT_LOT_Loads Only_Sector A_G	SK - 3
		June 6, 2022 at 4:11 PM
TES Project No. 129927	SHEAR	CT14089-A-SBA_129927_G_RISA_...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Antenna D	None					8			
2	Antenna Di	None					8			
3	Antenna W Front	None					8			
4	Antenna Wi Front	None					8			
5	Antenna W Side	None					8			
6	Antenna Wi Side	None					8			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1						
10	Structure Di	None						28		
11	Structure W Front	None						28		
12	Structure Wi Front	None						28		
13	Structure W Side	None						28		
14	Structure Wi Side	None						28		

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
1	1.2D+1.6W (Front)	Yes	Y		1	1.2	9	1.2	3	1.6	11	1.6												
2	1.2D+1.6W (Back)	Yes	Y		1	1.2	9	1.2	3	-1.6	11	-1.6												
3	1.2D+1.6W (Left)	Yes	Y		1	1.2	9	1.2	5	1.6	13	1.6												
4	1.2D+1.6W (Right)	Yes	Y		1	1.2	9	1.2	5	-1.6	13	-1.6												
5	1.2D+1.0Di+1.0Wi (Front)	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	1	12	1								
6	1.2D+1.0Di+1.0Wi (Back)	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-1	12	-1								
7	1.2D+1.0Di+1.0Wi (Left)	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	1	14	1								
8	1.2D+1.0Di+1.0Wi (Right)	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	-1	14	-1								
9	1.2D+1.5L1+.16W (Mai...	Yes	Y		1	1.2	9	1.2	7	1.5	3	.16	11	.16										
10	1.2D+1.5L2+.16W (Mai...	Yes	Y		1	1.2	9	1.2	8	1.5	3	.16	11	.16										
11	1.4D	Yes	Y		1	1.4	9	1.4																

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	-0.145667	0.5	0	
2	N2	-2.479167	-0.145667	2.665361	0	
3	N3	2.479167	-0.145667	2.665361	0	
4	N4	-2.479167	-0.145667	3.165361	0	
5	N5	2.479167	-0.145667	3.165361	0	
6	N6	-6.25	0	3.165361	0	
7	N7	6.25	0	3.165361	0	
8	N8	0	3.187667	0.5	0	
9	N9	-2.479167	3.187667	2.665361	0	
10	N10	2.479167	3.187667	2.665361	0	
11	N11	-2.479167	3.187667	3.165361	0	
12	N12	2.479167	3.187667	3.165361	0	
13	N13	-6.25	3.333333	3.165361	0	
14	N14	6.25	3.333333	3.165361	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
15	N15	-6	0	3.165361	0	
16	N16	-6	3.333333	3.165361	0	
17	N17	-0.596256	3.187667	1.020783	0	
18	N18	-0.596256	-0.145667	1.020783	0	
19	N19	0.596256	3.187667	1.020783	0	
20	N20	0.596256	-0.145667	1.020783	0	
21	N21	-2	0	3.165361	0	
22	N22	-2	3.333333	3.165361	0	
23	N23	6	0	3.165361	0	
24	N24	6	3.333333	3.165361	0	
25	N25	2	0	3.165361	0	
26	N26	2	3.333333	3.165361	0	
27	N27	-6	5.666667	3.415361	0	
28	N28	-2	5.666667	3.415361	0	
29	N29	6	5.666667	3.415361	0	
30	N30	2	5.666667	3.415361	0	
31	N31	-6	-2.333333	3.415361	0	
32	N32	-2	-2.333333	3.415361	0	
33	N33	6	-2.333333	3.415361	0	
34	N34	2	-2.333333	3.415361	0	
35	N35	0	-0.145667	-4e-9	0	
36	N36	0	3.187667	-4e-9	0	
37	N37	-0.721783	3.187667	1.130421	0	
38	N38	-0.721783	-0.145667	1.130421	0	
39	N39	0.721783	3.187667	1.130421	0	
40	N40	0.721783	-0.145667	1.130421	0	
41	N41	-2.353641	3.187667	2.555723	0	
42	N42	-2.353641	-0.145667	2.555723	0	
43	N43	2.353641	3.187667	2.555723	0	
44	N44	2.353641	-0.145667	2.555723	0	
45	N45	-6	0	3.415361	0	
46	N46	-6	3.333333	3.415361	0	
47	N47	-2	0	3.415361	0	
48	N48	-2	3.333333	3.415361	0	
49	N49	6	0	3.415361	0	
50	N50	6	3.333333	3.415361	0	
51	N51	2	0	3.415361	0	
52	N52	2	3.333333	3.415361	0	
53	N53	-2.895833	3.333333	3.165361	0	
54	N54	2.895834	3.333333	3.165361	0	
55	N55	-2.479167	3.333333	3.165361	0	
56	N56	2.479167	3.333333	3.165361	0	
57	N57	-2.479167	0	3.165361	0	
58	N58	2.479167	0	3.165361	0	
59	N59	-1.537712	1.521	1.843072	0	
60	N60	1.537712	1.521	1.843072	0	
61	N61	3.885	3.187667	-6.729017	0	
62	N62	2.895834	-0.	3.165361	0	
63	N63	3.885	-0.145667	-6.729017	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipe	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Standoff Horizontal	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	Stanodff Vertical	SR_0.625	Beam	BAR	A36 Gr.36	Typical	.307	.007	.007	.015
4	Standoff Diagonal	SR_0.75	Beam	BAR	A36 Gr.36	Typical	.442	.016	.016	.031
5	Face Horizontal	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
6	Tie-back	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Connection Plate	PL5/8x3.5	Beam	RECT	A36 Gr.36	Typical	2.188	.071	2.233	.253

Hot Rolled Steel Properties

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

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N2	N4		90	Connection Plate	Beam	RECT	A36 Gr.36	Typical
2	M2	N3	N5		90	Connection Plate	Beam	RECT	A36 Gr.36	Typical
3	M3	N9	N11		90	Connection Plate	Beam	RECT	A36 Gr.36	Typical
4	M4	N10	N12		90	Connection Plate	Beam	RECT	A36 Gr.36	Typical
5	M5	N17	N9			Standoff Horizontal	Beam	Pipe	A53 Gr.B	Typical
6	M6	N18	N2			Standoff Horizontal	Beam	Pipe	A53 Gr.B	Typical
7	M7	N19	N10			Standoff Horizontal	Beam	Pipe	A53 Gr.B	Typical
8	M8	N20	N3			Standoff Horizontal	Beam	Pipe	A53 Gr.B	Typical
9	M9	N8	N17			RIGID	Beam	None	RIGID	DR1
10	M10	N8	N19			RIGID	Beam	None	RIGID	DR1
11	M11	N1	N18			RIGID	Beam	None	RIGID	DR1
12	M12	N1	N20			RIGID	Beam	None	RIGID	DR1
13	MP4A	N27	N31			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
14	MP3A	N28	N32			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
15	MP2A	N30	N34			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
16	MP1A	N29	N33			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
17	M17	N36	N8			RIGID	Beam	None	RIGID	DR1
18	M18	N35	N1			RIGID	Beam	None	RIGID	DR1
19	M19	N54	N61			Tie-back	Beam	Pipe	A53 Gr.B	Typical
20	M20	N37	N38			Stanodff Vertical	Beam	BAR	A36 Gr.36	Typical
21	M21	N41	N42			Stanodff Vertical	Beam	BAR	A36 Gr.36	Typical
22	M22	N39	N40			Stanodff Vertical	Beam	BAR	A36 Gr.36	Typical
23	M23	N43	N44			Stanodff Vertical	Beam	BAR	A36 Gr.36	Typical
24	M24	N37	N42			Standoff Diagonal	Beam	BAR	A36 Gr.36	Typical
25	M25	N41	N38			Standoff Diagonal	Beam	BAR	A36 Gr.36	Typical
26	M26	N17	N19			RIGID	Beam	None	RIGID	DR1
27	M27	N18	N20			RIGID	Beam	None	RIGID	DR1
28	M28	N24	N50			RIGID	Beam	None	RIGID	DR1

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
29	M29	N23	N49			RIGID	Beam	None	RIGID	DR1
30	M30	N26	N52			RIGID	Beam	None	RIGID	DR1
31	M31	N25	N51			RIGID	Beam	None	RIGID	DR1
32	M32	N22	N48			RIGID	Beam	None	RIGID	DR1
33	M33	N21	N47			RIGID	Beam	None	RIGID	DR1
34	M34	N16	N46			RIGID	Beam	None	RIGID	DR1
35	M35	N15	N45			RIGID	Beam	None	RIGID	DR1
36	M36	N13	N55			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
37	M37	N6	N57			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
38	M38	N39	N44			Standoff Diagonal	Beam	BAR	A36 Gr.36	Typical
39	M39	N43	N40			Standoff Diagonal	Beam	BAR	A36 Gr.36	Typical
40	M40	N55	N11			RIGID	Beam	None	RIGID	DR1
41	M41	N56	N12			RIGID	Beam	None	RIGID	DR1
42	M42	N57	N4			RIGID	Beam	None	RIGID	DR1
43	M43	N58	N5			RIGID	Beam	None	RIGID	DR1
44	M45	N58	N7			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
45	M46	N57	N58			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
46	M47	N56	N14			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
47	M48	N55	N56			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
48	M48A	N62	N63			Tie-back	Beam	Pipe	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1				1.45		Yes				None
2	M2				1.45		Yes				None
3	M3				1.45		Yes				None
4	M4				1.45		Yes				None
5	M5						Yes				None
6	M6						Yes				None
7	M7						Yes				None
8	M8						Yes				None
9	M9						Yes				None
10	M10						Yes				None
11	M11						Yes				None
12	M12						Yes				None
13	MP4A						Yes				None
14	MP3A						Yes				None
15	MP2A						Yes				None
16	MP1A						Yes				None
17	M17		OOOOOO				Yes				None
18	M18		OOOOOO				Yes				None
19	M19	BenPIN	BenPIN				Yes				None
20	M20			1.45	1.45		Yes				None
21	M21			1.45	1.45		Yes				None
22	M22			1.45	1.45		Yes				None
23	M23			1.45	1.45		Yes				None
24	M24			1.45	1.45		Yes				None
25	M25			1.45	1.45	Tension ...	Yes				None
26	M26						Yes				None
27	M27						Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
28	M28						Yes				None
29	M29						Yes				None
30	M30						Yes				None
31	M31						Yes				None
32	M32						Yes				None
33	M33						Yes				None
34	M34						Yes				None
35	M35						Yes				None
36	M36						Yes				None
37	M37						Yes				None
38	M38			1.45	1.45		Yes				None
39	M39			1.45	1.45	Tension ...	Yes				None
40	M40						Yes				None
41	M41						Yes				None
42	M42						Yes				None
43	M43						Yes				None
44	M45						Yes				None
45	M46						Yes				None
46	M47						Yes				None
47	M48						Yes				None
48	M48A	BenPIN	BenPIN				Yes				None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Connection ...	.5			Lbyy						Lateral
2	M2	Connection ...	.5			Lbyy						Lateral
3	M3	Connection ...	.5			Lbyy						Lateral
4	M4	Connection ...	.5			Lbyy						Lateral
5	M5	Standoff Ho...	2.5			Lbyy						Lateral
6	M6	Standoff Ho...	2.5			Lbyy						Lateral
7	M7	Standoff Ho...	2.5			Lbyy						Lateral
8	M8	Standoff Ho...	2.5			Lbyy						Lateral
9	MP4A	Mount Pipe	8			Lbyy						Lateral
10	MP3A	Mount Pipe	8			Lbyy						Lateral
11	MP2A	Mount Pipe	8			Lbyy						Lateral
12	MP1A	Mount Pipe	8			Lbyy						Lateral
13	M19	Tie-back	9.945			Lbyy						Lateral
14	M20	Stanodff Ve...	3.333			Lbyy			.65	.65		Lateral
15	M21	Stanodff Ve...	3.333			Lbyy			.65	.65		Lateral
16	M22	Stanodff Ve...	3.333			Lbyy			.65	.65		Lateral
17	M23	Stanodff Ve...	3.333			Lbyy			.65	.65		Lateral
18	M24	Standoff Dia...	3.976			Lbyy			.65	.65		Lateral
19	M25	Standoff Dia...	3.976			Lbyy			.65	.65		Lateral
20	M36	Face Horizo...	3.771			Lbyy			2.1	2.1		Lateral
21	M37	Face Horizo...	3.771			Lbyy			2.1	2.1		Lateral
22	M38	Standoff Dia...	3.976			Lbyy			.65	.65		Lateral
23	M39	Standoff Dia...	3.976			Lbyy			.65	.65		Lateral
24	M45	Face Horizo...	3.771			Lbyy			2.1	2.1		Lateral
25	M46	Face Horizo...	4.958			Lbyy			1	1		Lateral
26	M47	Face Horizo...	3.771			Lbyy			2.1	2.1		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
27	M48	Face Horizo...	4.958			Lbyy			1	1		Lateral
28	M48A	Tie-back	9.945			Lbyy						Lateral

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N36	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N35	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N61	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N63	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N36	max	861.642	9	3327.196	6	.701	1	-1.025	1	.431	9	.983	10
2		min	-1263.741	10	856.579	1	-2236.288	6	-3.836	8	-.632	10	-.565	9
3	N35	max	1270.294	10	204.677	5	2215.055	5	-.018	9	.635	10	.048	1
4		min	-855.092	9	-11.742	2	35.136	2	-.329	5	-.428	9	-.07	2
5	N61	max	83.617	4	89.552	7	403.189	3	0	1	0	10	.043	10
6		min	-80.871	3	14.417	4	-430.281	4	-.004	10	0	1	-.001	1
7	N63	max	85.542	4	90.942	7	476.593	3	0	2	0	10	.042	10
8		min	-88.218	3	14.157	4	-449.535	4	-.004	10	0	2	.002	2
9	Totals:	max	1110.871	4	3673.617	5	1771.759	1						
10		min	-1110.871	3	1002.652	2	-1771.76	2						

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

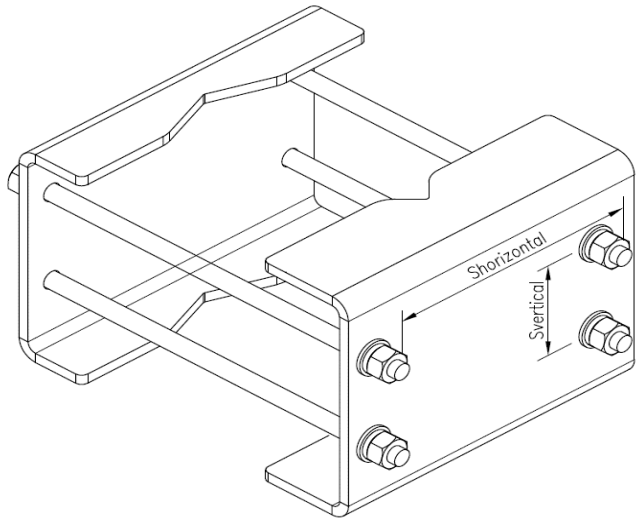
	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Lo.....		LC	phi*...	phi*...	phi*...	phi*...	Cb	Eqn
1	M23	SR 0.625	.551	3.092	5	.004	0		6	271...	994...	.097	.097	2.24	H1-...
2	MP2A	PIPE 2.0	.382	2.333	2	.047	2....		2	149...	32130	1.872	1.872	2.189	H1-...
3	MP1A	PIPE 2.0	.352	2.333	10	.047	5....		10	149...	32130	1.872	1.872	4.985	H1-...
4	MP4A	PIPE 2.0	.340	2.333	9	.049	5....		9	149...	32130	1.872	1.872	4.955	H1-...
5	M38	SR 0.75	.310	3.734	5	.011	3....		8	426...	143...	.184	.184	2.631	H1-...
6	M2	PL5/8x3.5	.303	.379	6	.143	0	y	10	685...	70875	.923	5.168	1.705	H1-...
7	M4	PL5/8x3.5	.275	.379	1	.147	0	y	10	685...	70875	.923	5.168	1.859	H1-...
8	M21	SR 0.625	.275	3.092	9	.002	3....		9	271...	994...	.097	.097	2.267	H1-...
9	M45	PIPE 2.5	.250	0	10	.076	0		10	303...	50715	3.596	3.596	2.24	H1-...
10	M37	PIPE 2.5	.230	3.771	9	.063	3....		9	303...	50715	3.596	3.596	2.232	H1-...
11	M7	PIPE 2.0	.218	0	6	.287	0		5	298...	32130	1.872	1.872	2.277	H1-...
12	M36	PIPE 2.5	.207	3.771	9	.031	3....		9	303...	50715	3.596	3.596	2.285	H1-...
13	M47	PIPE 2.5	.207	0	10	.049	0		6	303...	50715	3.596	3.596	2.213	H1-...
14	M8	PIPE 2.0	.200	2.318	6	.204	2....		6	298...	32130	1.872	1.872	1.93	H1-...
15	M46	PIPE 2.5	.195	0	9	.186	4....		2	414...	50715	3.596	3.596	2.936	H1-...
16	M48	PIPE 2.5	.191	4.958	10	.169	4....		1	414...	50715	3.596	3.596	2.944	H1-...
17	M1	PL5/8x3.5	.175	.379	9	.136	0	y	9	685...	70875	.923	5.168	2.166	H1-...
18	MP3A	PIPE 2.0	.168	5.667	9	.027	5....		9	149...	32130	1.872	1.872	4.992	H1-...
19	M24	SR 0.75	.147	3.734	5	.006	3....		7	426...	143...	.184	.184	2.502	H1-...
20	M6	PIPE 2.0	.145	2.318	9	.097	2....		8	298...	32130	1.872	1.872	1.964	H1-...
21	M48A	PIPE 2.0	.129	4.972	7	.028	9....		10	994...	32130	1.872	1.872	1.136	H1-...
22	M19	PIPE 2.0	.124	4.972	7	.028	9....		10	994...	32130	1.872	1.872	1.136	H1-...

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

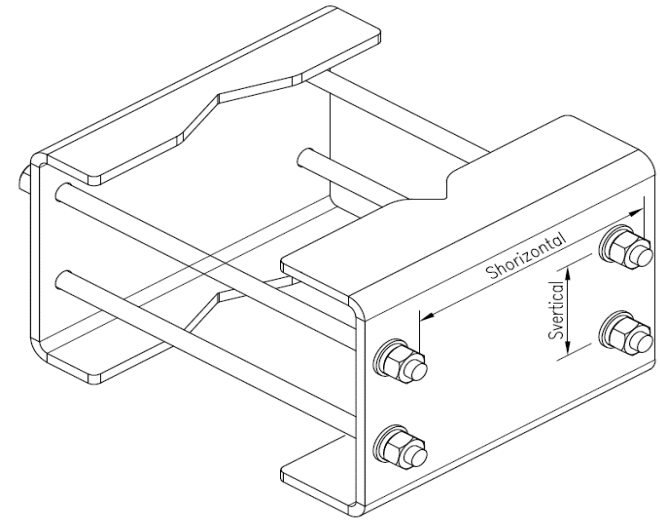
	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Lo.....		LC	phi*...	phi*...	phi*...	phi*...	Cb	Eqn
23	M3	PL5/8x3.5	.121	.379	9	.128	0	y	9	685...	70875	.923	5.168	2.149	H1-...
24	M5	PIPE_2.0	.118	0	7	.150	0		8	298...	32130	1.872	1.872	2.447	H1-...
25	M22	SR_0.625	.083	3.092	6	.002	0		2	271...	994...	.097	.097	1.916	H1-...
26	M20	SR_0.625	.047	3.092	5	.002	0		6	271...	994...	.097	.097	1.591	H1-...
27	M25	SR_0.75	.000	0	11	.000	0		11	426...	143...	.184	.184	1	H1-...
28	M39	SR_0.75	.000	0	11	.000	0		11	426...	143...	.184	.184	1	H1-...

	Sector Frames Connection Check			Date
				6/6/2022
	Customer:	SBA	TIA Standard:	ANSI/TIA-222-G
	Carrier:	T-Mobile	Mount Elev. [ft]:	167
	Site Name:	Woodstock North	Engineer Name:	P. Roka
	Site Number:	CT14089-A-SBA	TES Project #:	129927

NOTE: The results for all load combinations are presented in the Results Summary Table.



Configuration 2



Configuration 2

Inputs:

Connection # =	1		Connection # =	2	
RISA Joint Label =	N36		RISA Joint Label =	N35	
Load Combination # =	7		Load Combination # =	10	
Con. Configuration # =	2		Con. Configuration # =	2	
Bolt Diameter =	0.625	[Inches]	Bolt Diameter =	0.625	[Inches]
Bolt Fy =	36	[KSI]	Bolt Fy =	36	[KSI]
Bolt Fu =	58	[KSI]	Bolt Fu =	58	[KSI]
Applied Tension =	5.605	[Kips]	Applied Tension =	0.656	[Kips]
Tension Capacity, ΦRnt =	13.346	[Kips]	Tension Capacity, ΦRnt =	13.346	[Kips]
Tension Check:	54.74%		Tension Check:	4.92%	
Applied Shear =	0.851	[Kips]	Applied Shear =	0.307	[Kips]
Shear Capacity, ΦRnv =	8.897	[Kips]	Shear Capacity, ΦRnv =	8.897	[Kips]
Shear Check:	16.41%		Shear Check:	3.91%	
Interaction Check:	18.56%		Interaction Check:	0.36%	

Results Summary Table

Sector Frames Connection Check			Date
			6/6/2022
Customer:	SBA	TIA Standard:	ANSI/TIA-222-G
Carrier:	T-Mobile	Mount Elev. [ft]:	167
Site Name:	Woodstock North	Engineer Name:	P. Roka
Site Number:	CT14089-A-SBA	TES Project #:	129927

Connection #	Joint Label	Load Combo #	Tension [Kips]	Shear [Kips]	Tension Check	Shear Check	Interaction Check
1	N36	1	1.505	0.219	11.27%	3.19%	1.33%
1	N36	2	1.602	0.251	12.00%	7.74%	1.52%
1	N36	3	1.663	0.296	12.46%	4.14%	1.66%
1	N36	4	1.649	0.251	12.36%	7.85%	1.61%
1	N36	5	5.547	0.836	54.12%	16.50%	18.16%
1	N36	6	5.572	0.846	54.40%	17.80%	18.34%
1	N36	7	5.605	0.851	54.74%	16.41%	18.56%
1	N36	8	5.512	0.834	53.77%	17.91%	17.94%
1	N36	9	2.858	0.472	21.41%	14.27%	4.87%
1	N36	10	2.961	0.522	22.19%	18.48%	5.27%
1	N36	11	1.812	0.274	13.58%	5.54%	1.94%
2	N35	1	0.595	0.065	4.46%	1.11%	0.20%
2	N35	2	0.139	0.034	1.04%	1.00%	0.01%
2	N35	3	0.327	0.048	2.45%	0.83%	0.06%
2	N35	4	0.380	0.141	2.85%	1.64%	0.11%
2	N35	5	1.198	0.164	8.98%	2.15%	0.84%
2	N35	6	1.040	0.157	7.79%	2.23%	0.64%
2	N35	7	1.089	0.130	8.16%	1.91%	0.69%
2	N35	8	1.149	0.191	8.61%	2.48%	0.79%
2	N35	9	0.549	0.209	4.12%	2.66%	0.22%
2	N35	10	0.656	0.307	4.92%	3.91%	0.36%
2	N35	11	0.354	0.057	2.65%	0.78%	0.07%

Results Summary Table (continued)

Exhibit F

Radio Frequency Exposure Analysis Report

August 15, 2022

T-Mobile

T-Mobile Site Name: CTNL185_SBA_SST_Woodstock
T-Mobile Site Number: CTNL185A

Site Address: 1825 Route 198, Woodstock, CT 06281

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	1.166011 µW/cm^2
Cumulative General Population % MPE (Ground Level):	0.140727%

750 West Center Street | Suite 301 | West Bridgewater | MA | 02379

August 15, 2022

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

RF Exposure Analysis for Site: **CTNL185_SBA_SST_Woodstock**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed T-Mobile facility at **1825 Route 198, Woodstock, CT 06281** 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 ($\mu W/cm^2$). 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 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). 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 T-Mobile 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 20' east 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 (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	700	13.65	167.00	2.00	40.00	1853.92	0.00005	466.67	0.00001
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	600	12.95	167.00	2.00	40.00	1577.94	0.00004	400.00	0.00001
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	600	12.95	167.00	4.00	60.00	4733.81	0.00012	400.00	0.00003
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	1900	15.45	167.00	1.00	15.00	526.13	0.00000	1000.00	0.00000
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	1900	15.45	167.00	2.00	140.00	9821.05	0.00003	1000.00	0.00000
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	2110	16.45	167.00	2.00	140.00	12363.97	0.00012	1000.00	0.00001
T-Mobile A 2	ERICSSON AIR6419	2500	15.55	167.00	2.00	80.00	5742.75	0.00002	1000.00	0.00000
T-Mobile A 2	ERICSSON AIR6419	2500	15.55	167.00	2.00	80.00	5742.75	0.00002	1000.00	0.00000
T-Mobile B 3	RFS APXVAALL24 43-U-NA20	700	13.65	167.00	2.00	40.00	1853.92	0.01681	466.67	0.00360
T-Mobile B 3	RFS APXVAALL24 43-U-NA20	600	12.95	167.00	2.00	40.00	1577.94	0.01315	400.00	0.00329
T-Mobile B 3	RFS APXVAALL24 43-U-NA20	600	12.95	167.00	4.00	60.00	4733.81	0.03944	400.00	0.00986
T-Mobile B 3	RFS APXVAALL24 43-U-NA20	1900	15.45	167.00	1.00	15.00	526.13	0.00350	1000.00	0.00035
T-Mobile B 3	RFS APXVAALL24 43-U-NA20	1900	15.45	167.00	2.00	140.00	9821.05	0.06525	1000.00	0.00653
T-Mobile B 3	RFS APXVAALL24 43-U-NA20	2110	16.45	167.00	2.00	140.00	12363.97	0.07244	1000.00	0.00724
T-Mobile B 4	ERICSSON AIR6419	2500	15.55	167.00	2.00	80.00	5742.75	0.00073	1000.00	0.00007
T-Mobile B 4	ERICSSON AIR6419	2500	15.55	167.00	2.00	80.00	5742.75	0.00073	1000.00	0.00007
T-Mobile C 5	RFS APXVAALL24 43-U-NA20	700	13.65	167.00	2.00	40.00	1853.92	0.00001	466.67	0.00000
T-Mobile C 5	RFS APXVAALL24 43-U-NA20	600	12.95	167.00	2.00	40.00	1577.94	0.00001	400.00	0.00000
T-Mobile C 5	RFS APXVAALL24 43-U-NA20	600	12.95	167.00	4.00	60.00	4733.81	0.00002	400.00	0.00001
T-Mobile C 5	RFS APXVAALL24 43-U-NA20	1900	15.45	167.00	1.00	15.00	526.13	0.00000	1000.00	0.00000
T-Mobile C 5	RFS APXVAALL24 43-U-NA20	1900	15.45	167.00	2.00	140.00	9821.05	0.00002	1000.00	0.00000
T-Mobile C 5	RFS APXVAALL24 43-U-NA20	2110	16.45	167.00	2.00	140.00	12363.97	0.00002	1000.00	0.00000
T-Mobile C 6	ERICSSON AIR6419	2500	15.55	167.00	2.00	80.00	5742.75	0.00001	1000.00	0.00000
T-Mobile C 6	ERICSSON AIR6419	2500	15.55	167.00	2.00	80.00	5742.75	0.00001	1000.00	0.00000
							T-Mobile Power Density:	**0.212534**	**T-Mobile Power % MPE:**	**0.031096**
Verizon A 7	AMPHENOL LPA-80080-4CF-EDIN-0	850	12.50	177.00	4.00	20.00	1422.62	0.00001	566.67	0.00000
Verizon A 8	JMA MX06FRO660-03	700	12.05	177.00	2.00	40.00	1282.60	0.00001	466.67	0.00000
Verizon A 8	JMA MX06FRO660-03	850	12.05	177.00	2.00	40.00	1282.60	0.00000	566.67	0.00000
Verizon A 8	JMA MX06FRO660-03	1900	15.75	177.00	4.00	40.00	6013.40	0.00002	1000.00	0.00000
Verizon A 9	JMA MX06FRO660-03	700	12.05	177.00	2.00	40.00	1282.60	0.00000	466.67	0.00000
Verizon A 9	JMA MX06FRO660-03	850	12.05	177.00	2.00	40.00	1282.60	0.00000	566.67	0.00000
Verizon A 9	JMA MX06FRO660-03	2100	15.95	177.00	4.00	40.00	6296.80	0.00005	1000.00	0.00001
Verizon A 10	SAMSUNG MT6407	3700	23.34	177.00	4.00	50.00	43154.89	0.00302	1000.00	0.00030
Verizon B 11	AMPHENOL LPA-80080-4CF-EDIN-0	850	12.50	177.00	4.00	20.00	1422.62	0.00702	566.67	0.00124

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
Verizon B 12	AMPHENOL LPA-80080-4CF-EDIN-0	850	12.50	177.00	4.00	20.00	1422.62	0.02142	566.67	0.00378
Verizon B 13	JMA MX06FRO660-03	700	12.05	177.00	2.00	40.00	1282.60	0.02604	466.67	0.00558
Verizon B 13	JMA MX06FRO660-03	850	12.05	177.00	2.00	40.00	1282.60	0.03069	566.67	0.00542
Verizon B 13	JMA MX06FRO660-03	1900	15.75	177.00	4.00	40.00	6013.40	0.05728	1000.00	0.00573
Verizon B 14	JMA MX06FRO660-03	700	12.05	177.00	2.00	40.00	1282.60	0.03169	466.67	0.00679
Verizon B 14	JMA MX06FRO660-03	850	12.05	177.00	2.00	40.00	1282.60	0.03326	566.67	0.00587
Verizon B 14	JMA MX06FRO660-03	2100	15.95	177.00	4.00	40.00	6296.80	0.06775	1000.00	0.00678
Verizon B 15	SAMSUNG MT6407	3700	23.34	177.00	4.00	50.00	43154.89	0.67025	1000.00	0.06703
Verizon B 16	AMPHENOL LPA-80080-4CF-EDIN-0	850	12.50	177.00	4.00	20.00	1422.62	0.00175	566.67	0.00031
Verizon C 17	AMPHENOL LPA-80080-4CF-EDIN-0	850	12.50	177.00	4.00	20.00	1422.62	0.00000	566.67	0.00000
Verizon C 18	JMA MX06FRO660-03	700	12.05	177.00	2.00	40.00	1282.60	0.00001	466.67	0.00000
Verizon C 18	JMA MX06FRO660-03	850	12.05	177.00	2.00	40.00	1282.60	0.00000	566.67	0.00000
Verizon C 18	JMA MX06FRO660-03	1900	15.75	177.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Verizon C 19	JMA MX06FRO660-03	700	12.05	177.00	2.00	40.00	1282.60	0.00000	466.67	0.00000
Verizon C 19	JMA MX06FRO660-03	850	12.05	177.00	2.00	40.00	1282.60	0.00001	566.67	0.00000
Verizon C 19	JMA MX06FRO660-03	2100	15.95	177.00	4.00	40.00	6296.80	0.00000	1000.00	0.00000
Verizon C 20	SAMSUNG MT6407	3700	23.34	177.00	4.00	50.00	43154.89	0.00030	1000.00	0.00003
Verizon C 21	AMPHENOL LPA-80080-4CF-EDIN-0	850	12.50	177.00	4.00	20.00	1422.62	0.00001	566.67	0.00000
							Verizon Power Density:	**0.950596**	**Verizon % MPE:**	**0.108860**
George L Davis, LLC A 22	GENERIC OMNI	450	5.96	180.00	1.00	25.30	99.80	0.00073	300.00	0.00025
George L Davis, LLC A 23	GENERIC OMNI	450	5.96	180.00	1.00	25.30	99.80	0.00093	300.00	0.00031
George L Davis, LLC A 24	GENERIC OMNI	150	2.60	180.00	1.00	55.00	100.08	0.00122	566.67	0.00022
							George L Davis, LLC Power Density:	**0.002879**	**George L Davis, LLC % MPE:**	**0.000770**
							Cumulative Power Density:	**1.166011 µW/cm²**	**Cumulative % MPE:**	**0.140727%**

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.

Samuel Cosgrove
RF EME Technical Writer
Centerline Communications, LLC

Exhibit G

SBA Letter of Authorization

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

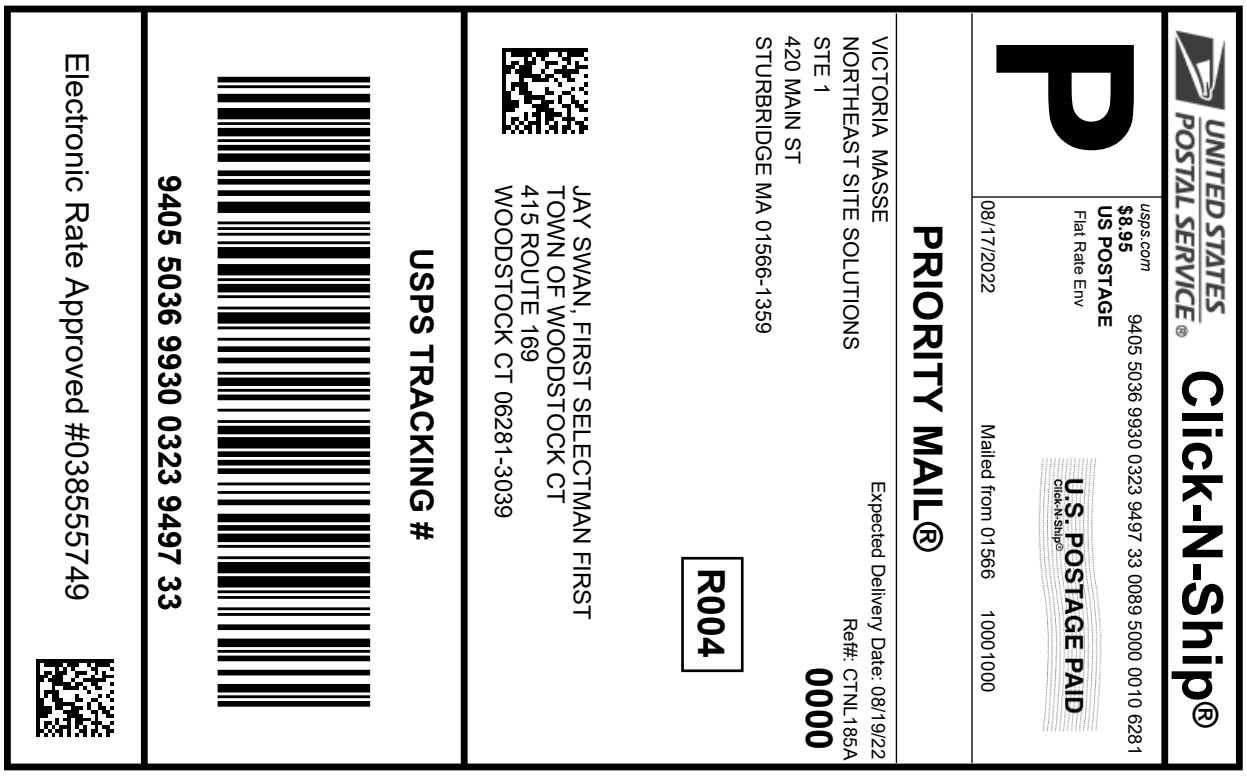
Re: Tower Share Application

SBA COMMUNICATIONS CORPORATION hereby authorizes T-Mobile, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CONNECTICUT SITING COUNCIL for existing wireless communications towers.

Kri Pelletier
Site Development Manager
SBA COMMUNICATIONS CORPORATION
134 Flanders Road, Suite 125
Westboro, MA 01581

SBA
By: _____ Date: 3-30-22

Exhibit H



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0323 9497 33

Trans. #:	569900536
Print Date:	08/17/2022
Ship Date:	08/17/2022
Expected Delivery Date:	08/19/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

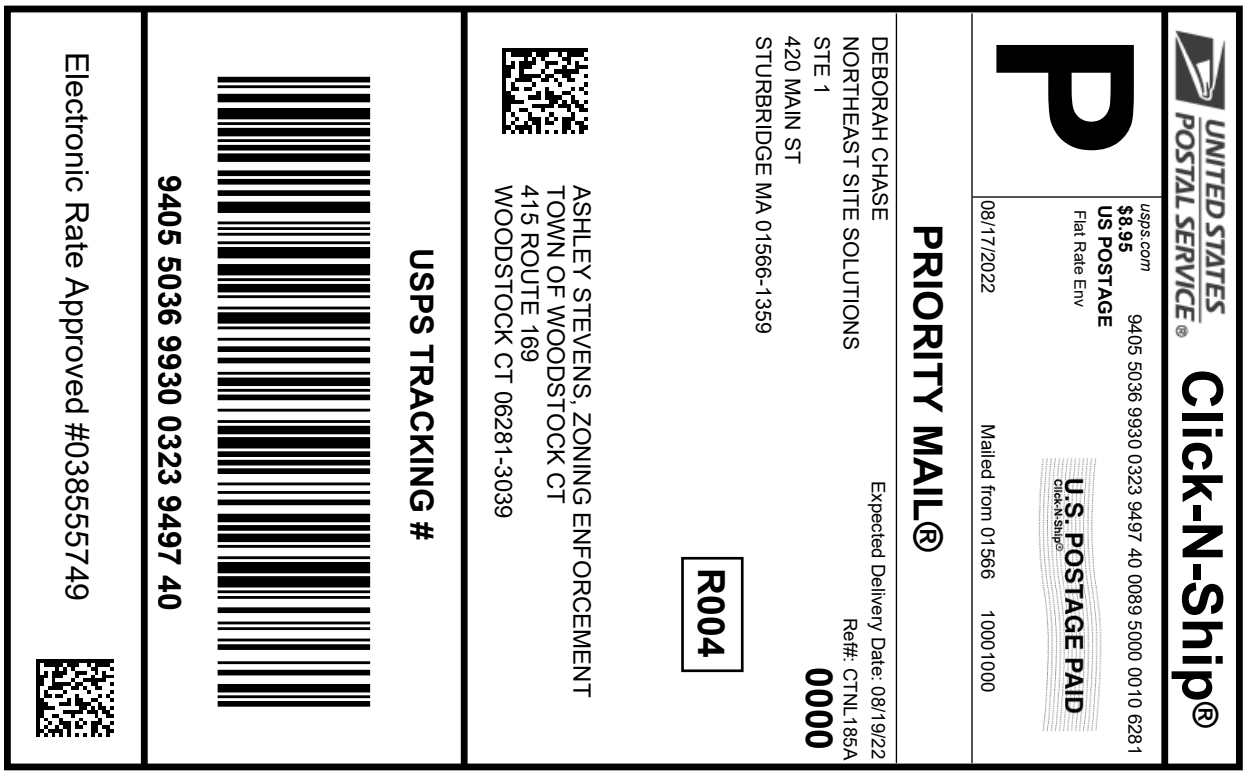
From: VICTORIA MASSE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CTNL185A

To: JAY SWAN, FIRST SELECTMAN FIRST SELECTMAN
TOWN OF WOODSTOCK CT
415 ROUTE 169
WOODSTOCK CT 06281-3039

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0323 9497 40

Trans. #:	569900536
Print Date:	08/17/2022
Ship Date:	08/17/2022
Expected Delivery Date:	08/19/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

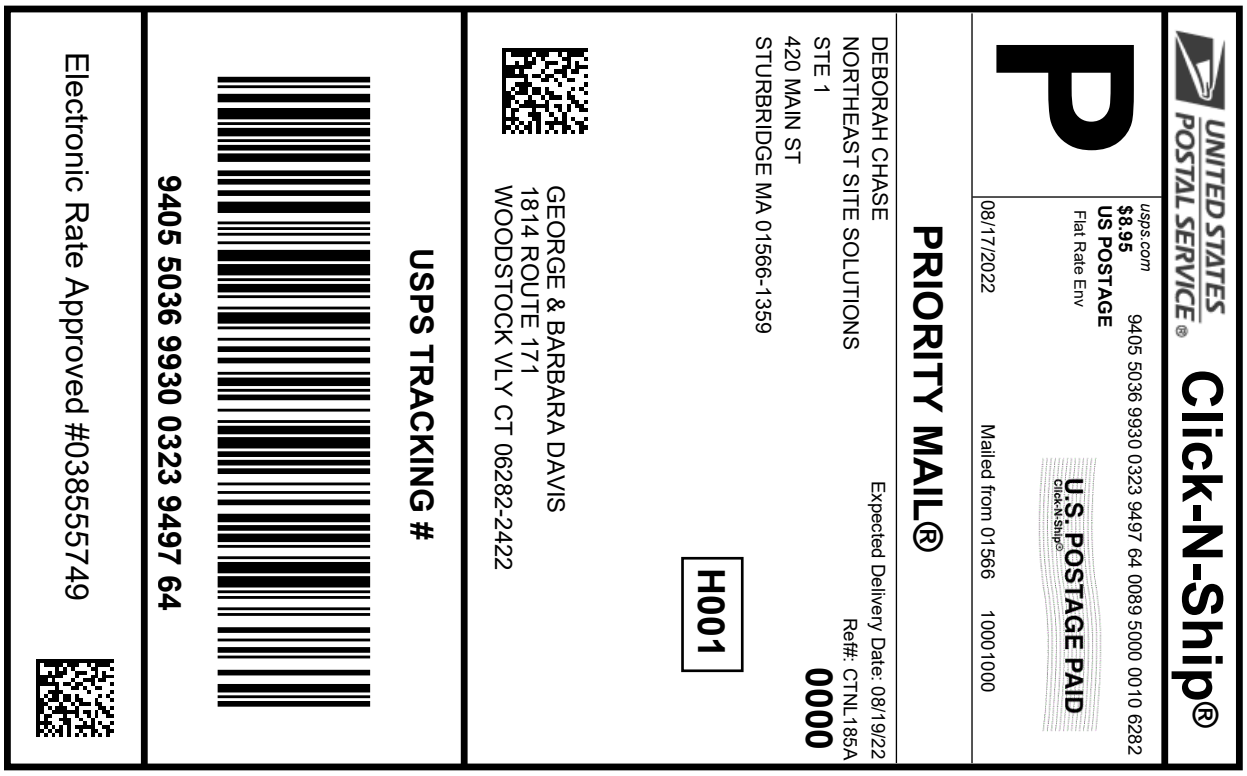
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CTNL185A

To: ASHLEY STEVENS, ZONING ENFORCEMENT OFFICER
TOWN OF WOODSTOCK CT
415 ROUTE 169
WOODSTOCK CT 06281-3039

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0323 9497 64

Trans. #:	569900536
Print Date:	08/17/2022
Ship Date:	08/17/2022
Expected Delivery Date:	08/19/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

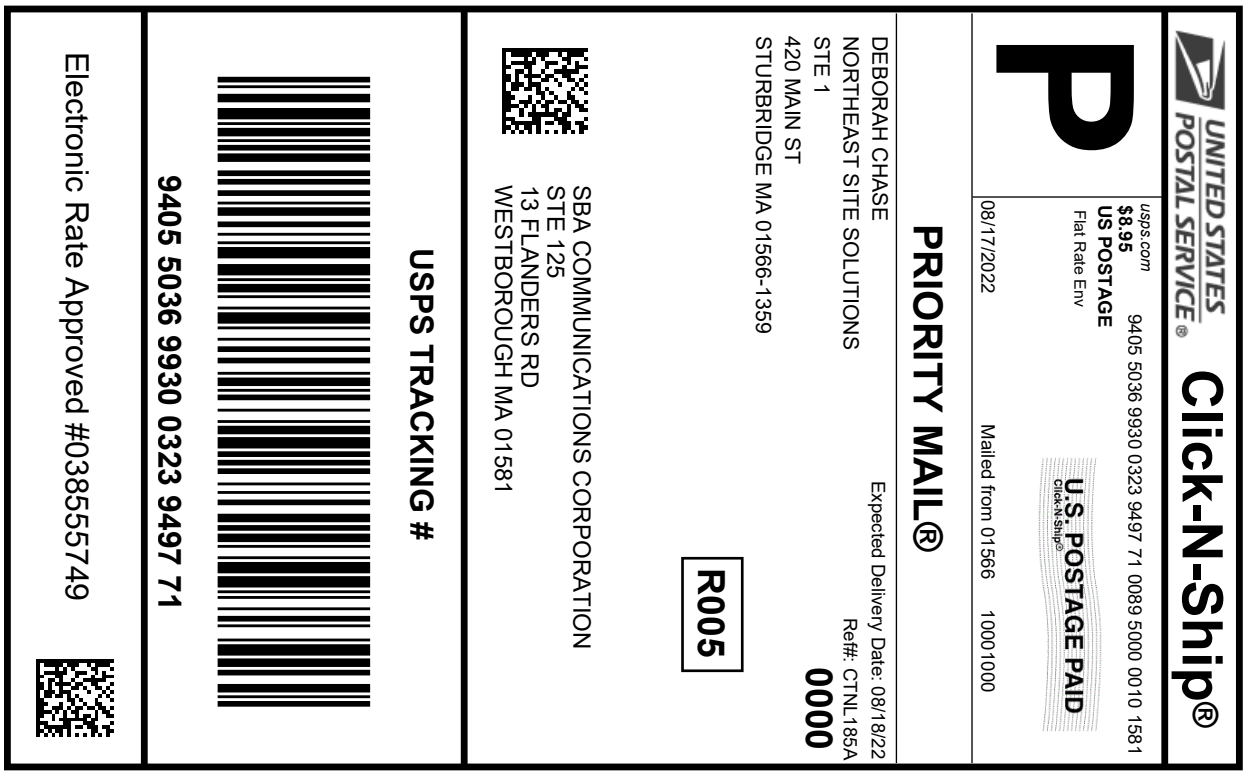
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CTNL185A

To: GEORGE & BARBARA DAVIS
1814 ROUTE 171
WOODSTOCK VLY CT 06282-2422

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0323 9497 71

Trans. #:	569900536
Print Date:	08/17/2022
Ship Date:	08/17/2022
Expected Delivery Date:	08/18/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CTNL185A

To: SBA COMMUNICATIONS CORPORATION
STE 125
13 FLANDERS RD
WESTBOROUGH MA 01581

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

CTNL 185 A SBA Two

UNITED STATES POSTAL SERVICE.

FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

08/17/2022 04:39 PM

Product	Qty	Unit Price	Price
Prepaid Mail Westborough, MA 01581 Weight: 0 lb 2.00 oz Acceptance Date: Wed 08/17/2022 Tracking #: 9405 5036 9930 0323 9497 71	1		$0.00
Prepaid Mail Woodstock, CT 06281 Weight: 0 lb 8.90 oz Acceptance Date: Wed 08/17/2022 Tracking #: 9405 5036 9930 0323 9497 33	1		$0.00
Prepaid Mail Woodstock, CT 06281 Weight: 0 lb 8.90 oz Acceptance Date: Wed 08/17/2022 Tracking #: 9405 5036 9930 0323 9497 40	1		$0.00
Prepaid Mail Woodstock Valley, CT 06282 Weight: 0 lb 8.90 oz Acceptance Date: Wed 08/17/2022 Tracking #: 9405 5036 9930 0323 9497 64	1		$0.00
Grand Total:			$0.00

****
Every household in the U.S. is now
eligible to receive a third set
of 8 free test kits.
Go to www.covidtests.gov
****

Preview your Mail
Track your Packages
Sign up for FREE @
https://informeddelivery.usps.com

All sales final on stamps and postage.
Refunds for guaranteed services only.
Thank you for your business.

Tell us about your experience.
Go to: https://postalexperience.com/Pos
or scan this code with your mobile device,

or call 1-800-410-7420.