



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

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

April 27, 2022

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

RE: Exempt Modification Application
72 Jerry Brown Road, Stonington, CT 06355
Latitude: 41.375466
Longitude: -71.953361
Site#: CT00799-S_CT11045D_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 72 Jerry Brown Road, Stonington, CT 06355. T-Mobile currently maintains three (3) antennas at the 135-foot level of the existing 160-foot tower. The property is owned by JBRV LLC, and the tower is owned by SBA. T-Mobile now intends to replace (3) existing antennas with (3) new antennas. The new antennas would be installed at the 135-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.

T-Mobile Planned Modifications:

Remove: None

Remove and Replace:

(3) RFS APXVAR18-43-C-NA20 Antennas (Remove) – (3) COMMSCOPE FW-65B-R3 Antennas (Replace)

Install New:

(3) COMMSCOPE ATSBT-TOP-FM Smart Bias Ts
(6) Coax 1-1/4"

Existing to Remain:

(6) Coax 1-5/8"
(6) Coax 1-1/4"
(6) Ericsson KRY 12 1444/1 TMAs*

*Equipment listed for entitlement purposed only



This facility was approved by the Town of Stonington Planning & Zoning Commission on October 20, 1998. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-72(b)(2), for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Danielle Chesebrough, First Selectman and Keith Byrnes, Town Planner for the Town of Stonington, as well as the property owner and the tower owner.

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

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

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

Sincerely,

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



NSS

NORTHEAST
SITE SOLUTIONS

Turnkey Wireless Development

Attachments

Cc: Danielle Chesebrough-First Selectman
Town of Stonington
152 Elm Street
Stonington, CT 06378

Keith Byrnes, Town Planner
Town of Stonington
152 Elm Street
Stonington, CT 06378

JBRV LLC, Property Owner
PO Box 10
Mystic, CT 06355

SBA – Tower Owner

Exhibit A

Original Facility Approval

TOWN OF STONINGTON
The Planning and Zoning Commission
152 Elm Street, P.O. Box 352
Stonington, Connecticut 06378
(860) 535-5095

October 22, 1998

Mr. Scott Thomae
SBA, Inc.
125 Shaw Street
Suite 116
New London, CT 06320

Dear Mr. Thomae:

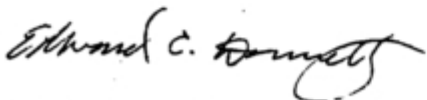
The Planning and Zoning Commission at their meeting of October 20, 1998 voted to APPROVE your application #PZ9842SPA SBA, Inc. / SCOTT THOMAE - Application for Site Plan Approval for construction of a multi-tenant flagpole telecommunications facility and placement of associated equipment. Property located at 72 Jerry Brown Road, Stonington. Assessor's Map 164 Block 2 Lot 3 Zone GC-60. This application was approved with the following stipulations:

1. The application shall go to the Inland Wetlands Commission for approval prior to construction
2. If major changes are made by the Inland Wetlands Commission, the application shall come back before the Planning and Zoning Commission as a consent agenda item.
3. The application shall be reviewed by the Town Engineer.

Please schedule an appointment with the Planning Office to review the final plans which have incorporated all the above stipulations and/or changes and have been listed on the site plan. Please bring to the Planning and Zoning Office for the Chairman's signature one (1) set of blueprints.

If you have any questions, please feel free to contact the Planning Office.

Sincerely,



Edward C. Donnelly, AICP
Planning Director

Exhibit B

Property Card



Town of Stonington, CT

Property Listing Report

Map Block Lot

164-2-3

Building # 1

Section # 1

Account

00846700

Property Information

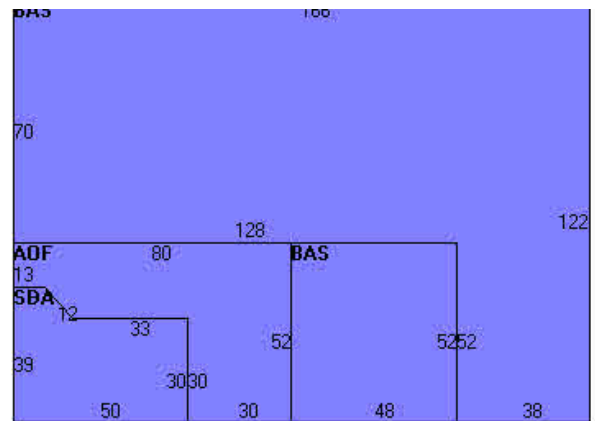
Property Location	72 JERRY BROWNE RD
Owner	JBRV LLC
Co-Owner	
Mailing Address	P O BOX 10 MYSTIC CT 06355
Land Use	3300 AUTO V S&S
Land Class	C
Zoning Code	GC-60
Census Tract	7054

Street Index	8000
Acreage	14.5
Utilities	
Lot Setting/Desc	Suburban
Survey Map #	NA
School District	
Fire District	Old Mystic
Trash Day	TH
Polling Place (District)	3

Photo



Sketch



Primary Construction Details

Year Built	1983
Stories	2
Building Style	Auto dealer
Building Use	Ind/Comm
Building Condition	G
Occupancy	1
Extra Fixtures	
Bath Style	NA
Kitchen Style	NA
AC Type	None
Heating Type	Forced Air-Duc
Heating Fuel	Gas

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Total Rooms	0
Roof Style	Gable/Hip
Roof Cover	Metal/Tin
Interior Floors 1	Concr-Finished
Interior Floors 2	Ceram Clay Til
Exterior Walls	Pre-finsh Metl
Exterior Walls 2	NA
Interior Walls	Minim/Masonry
Interior Walls 2	Drywall/Sheet

(*Industrial / Commercial Details)

Building Desc.	AUTO V S&S
Building Grade	Average
Heat / AC	HEAT/AC PKGS
Frame Type	STEEL
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & MIN WL
Rooms / Prtns	AVERAGE
Wall Height	16
First Floor Use	

Town of Stonington, CT

Property Listing Report

Map Block Lot

164-2-3

Building # **1**Section # **1**

Account

00846700

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	4040300	2828300
Extras	207600	145400
Improvements		
Outbuildings	301700	211300
Land	2722100	1905500
Total	7271700	5090500

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Office, (Average)	2543	2543
First Floor	16092	16092
Store Display Area	1617	1617
Total Area	20252	20252

Outbuilding and Extra Features

Type	Description
AIR CONDITION	9199.00 UNITS
DOUBLE SIDED	80.00 S.F.&HGT
W/DOUBLE LIGHT	15.00 UNITS
W/FOUR LIGHTS	16.00 UNITS
LIGHTS-IN W/PL	5.00 UNITS
W/TRIPLE LIGHT	2.00 UNITS
CELL TOWER	1.00 UNIT
PAVING-ASPHALT	60000.00 S.F.
SIGN-1 SD W/M	25.00 S.F.&HGT
SIGN-1 SD W/M	13.00 S.F.&HGT

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
JBRV LLC	0665/0504	1/5/2010	0
VALENTI FRED & ROBERT	0243/0527	9/9/1983	0



Town of Stonington, CT

Property Listing Report

Map Block Lot

164-2-3

Building #

2

Section #

1

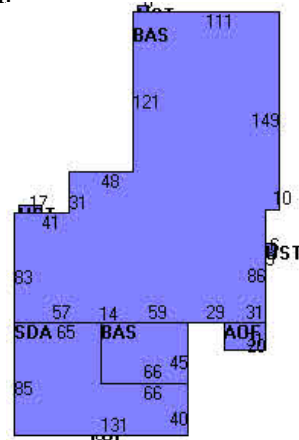
Account

00846700

Photo



Sketch



Primary Construction Details

Year Built	1983
Stories	1
Building Style	Auto dealer
Building Use	Ind/Comm
Building Condition	G
Occupancy	1
Extra Fixtures	
Bath Style	NA
Kitchen Style	NA
AC Type	None
Heating Type	Forced Air-Duc
Heating Fuel	Gas

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Total Rooms	0
Roof Style	Gable/Hip
Roof Cover	Metal/Tin
Interior Floors 1	Concr-Finished
Interior Floors2	Ceram Clay Til
Exterior Walls	Pre-finish Metl
Exterior Walls 2	NA
Interior Walls	Minim/Masonry
Interior Walls 2	Drywall/Sheet

(*Industrial / Commercial Details)

Building Desc.	AUTO V S&S
Building Grade	Average
Heat / AC	HEAT/AC PKGS
Frame Type	STEEL
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & MIN WL
Rooms / Prtns	AVERAGE
Wall Height	16
First Floor Use	

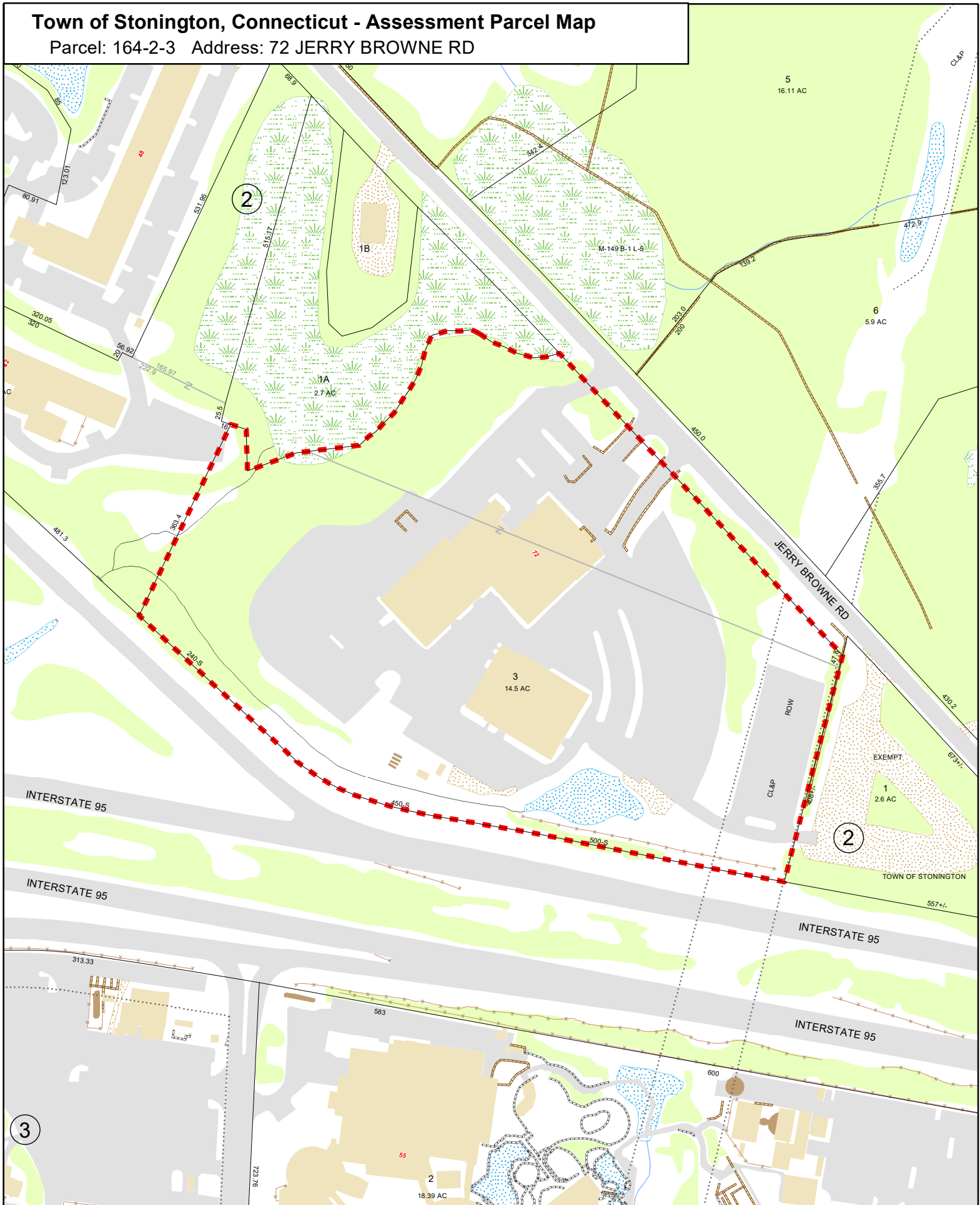
Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Office, (Average)	620	620
First Floor	37084	37084
Porch, Open	88	0
Store Display Area	8165	8165
Utility, Storage, Unfinished	196	98

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	46153	45967

Town of Stonington, Connecticut - Assessment Parcel Map

Parcel: 164-2-3 Address: 72 JERRY BROWNE RD



Approximate Scale:

1 inch = 200 feet

0 120 240 360 480 Feet

Revised To: October 2018

Map Produced: April 2019

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Stonington and its mapping contractors assume no legal responsibility for the information contained herein.

Exhibit C

Construction Drawings

SPECIAL CONSTRUCTION NOTE (CANISTER BUMP-OUT DESIGN SERVICES PROVIDED BY SBA COMMUNICATIONS):
SBA COMMUNICATIONS RESPONSIBLE FOR DESIGN-BUILD FOR ALL REQUIRED CANISTER MODIFICATIONS, ENGINEERING
CONSTRUCTION CONTROL INSPECTIONS, AND FINAL ENGINEERING AFFIDAVIT (ALL PREVIOUS ITEMS TO BE DESIGN-BUILD PERFORMED
BY SBA UNDER A SEPARATE BUILDING PERMIT). THE ENGINEER-OF-RECORD FOR THESE CONSTRUCTION DRAWINGS IS NOT
RESPONSIBLE FOR CANISTER BUMP-OUT DESIGN SERVICES OR FOR FINAL ANTENNA FITMENT MODIFICATIONS DESIGNED BY OTHERS.

STONINGTON/1-95/X90/JE

72 JERRY BROWNE ROAD
MYSTIC, CT 06355
NEW LONDON COUNTY

SITE NO.: CT11045D

SITE TYPE: 159'± FLAGPOLE

RF DESIGN GUIDELINE: 67G5C998G 6160

SCOPE OF WORK

REMOVE:

- 3 ANTENNAS
- 12 TMA'S
- 6 FILTERS
- 6 RADIOS
- 1 RBS 6102 CABINET

INSTALL:

- 3 ANTENNAS
- 6 RADIOS
- 3 QUAD DIPLEXERS
- 3 SMART BIAS T'S
- 1 B160 BATTERY CABINET
- 1 6160 CABINET
- 1 SLACKBOX
- 6 COAX CABLES

APPROVALS

<u>PROJECT MANAGER:</u>	<u>DATE:</u>	<u>ZONING/SITE ACQ.:</u>	<u>DATE:</u>
_____	_____	_____	_____
<u>CONSTRUCTION:</u>	<u>DATE:</u>	<u>OPERATIONS:</u>	<u>DATE:</u>
_____	_____	_____	_____
<u>RF ENGINEERING:</u>	<u>DATE:</u>	<u>TOWER OWNER:</u>	<u>DATE:</u>
_____	_____	_____	_____

T-MOBILE TECHNICIAN SITE SAFETY NOTES

<u>LOCATION</u>	<u>SPECIAL RESTRICTIONS</u>
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	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

GENERAL NOTES

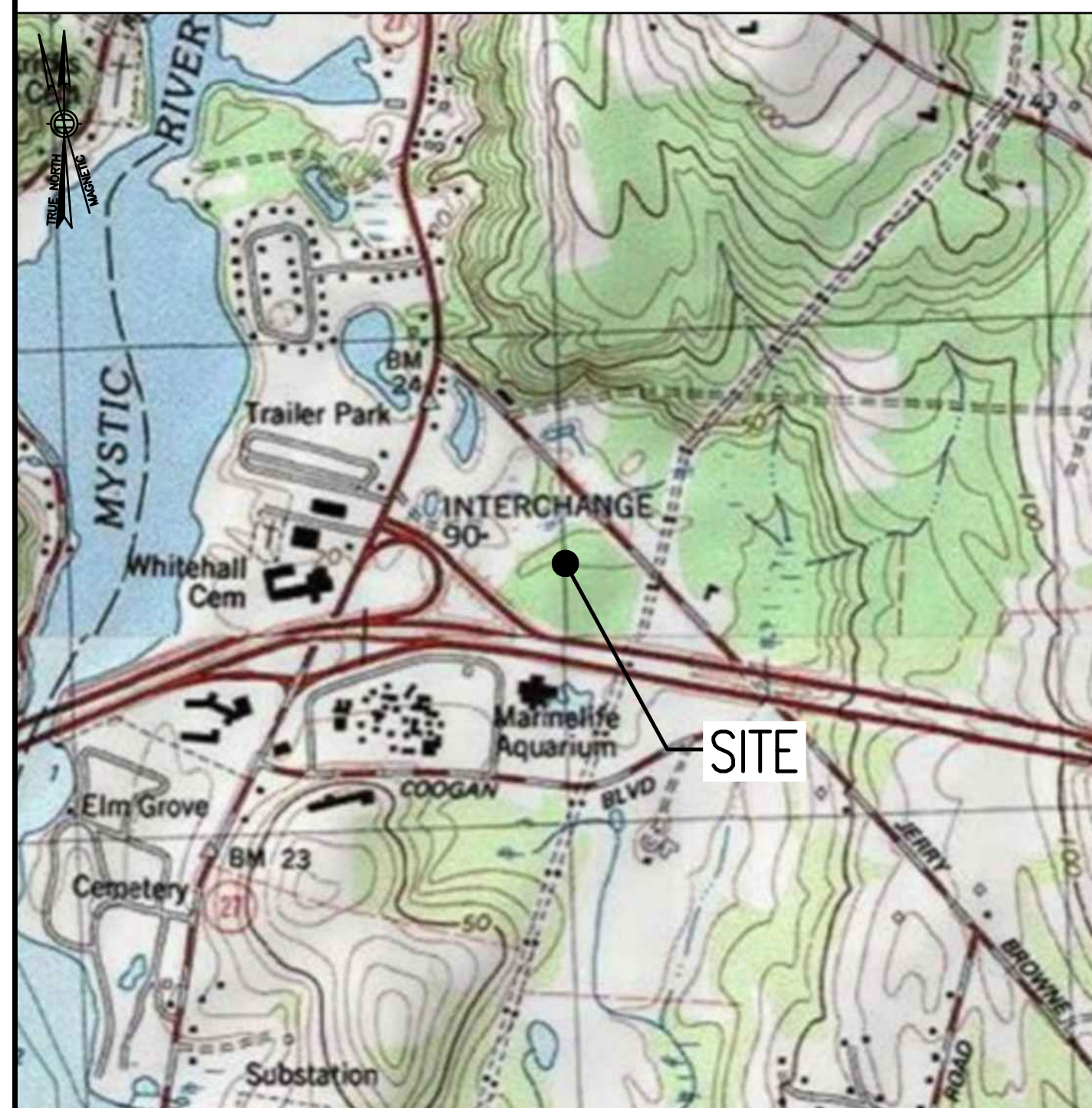
1. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED 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 OMINPOINT 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
- 

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 33B FOR I-95 SOUTH
 TOWARD PROVIDENCE RI. TAKE EXIT 6 FOR I-295 S. MERGE ONTO I-95 S. KEEP RIGHT AT THE
 FORK TO STAY ON I-95 S. TAKE EXIT 90 FOR CT-27 TOWARD MYSTIC. DESTINATION WILL BE ON
 THE RIGHT HAND SIDE.

SHEET INDEX

[illegible]

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: CT11045D
SITE NAME: STONINGTON/I-95/X90/JE
SBA SITE NUMBER: CT00799-S
SBA SITE NAME: MYSTIC
SITE ADDRESS: 72 JERRY BROWNE ROAD
MYSTIC, CT 06355
PROPERTY OWNER: JBRV LLC
P.O. BOX 10
MYSTIC, CT 06355
TOWER OWNER: SBA TOWERS, LLC
8501 CONGRESS AVENUE
BOCA RATON, FL 33487
PHONE: 561-226-9523
COUNTY: NEW LONDON
ZONING DISTRICT: GC-60 (COMMERCIAL)
STRUCTURE TYPE: FLAGPOLE
STRUCTURE HEIGHT: 159'±
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: N.41.375500" N.41°22'31.80"
LONGITUDE: W.71.953390" W.71°57'12.20"

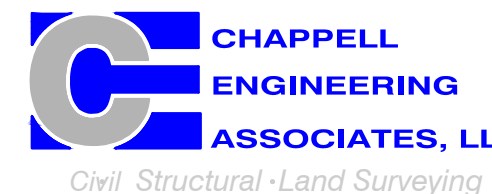
SPECIAL ZONING NOTE:
 BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS 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



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



CHECKED BY:	JM
-------------	----

APPROVED BY: JM

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	04/20/22	ISSUED FOR CONSTRUCTION	CWC
0	03/23/22	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CT11045D

SITE ADDRESS:
72 JERRY BROWNE ROAD
MYSTIC, CT 06355

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

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 (400PSI) 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 LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER
OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ 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") 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 ¾" 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 DRUM, 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:

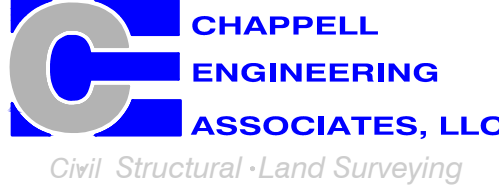
1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR 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/IEEC 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/IEEC 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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	04/20/22	ISSUED FOR CONSTRUCTION	CMC
0	03/23/22	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CT11045D

SITE ADDRESS:
72 JERRY BROWNE ROAD
MYSTIC, CT 06355

SHEET TITLE

GENERAL NOTES

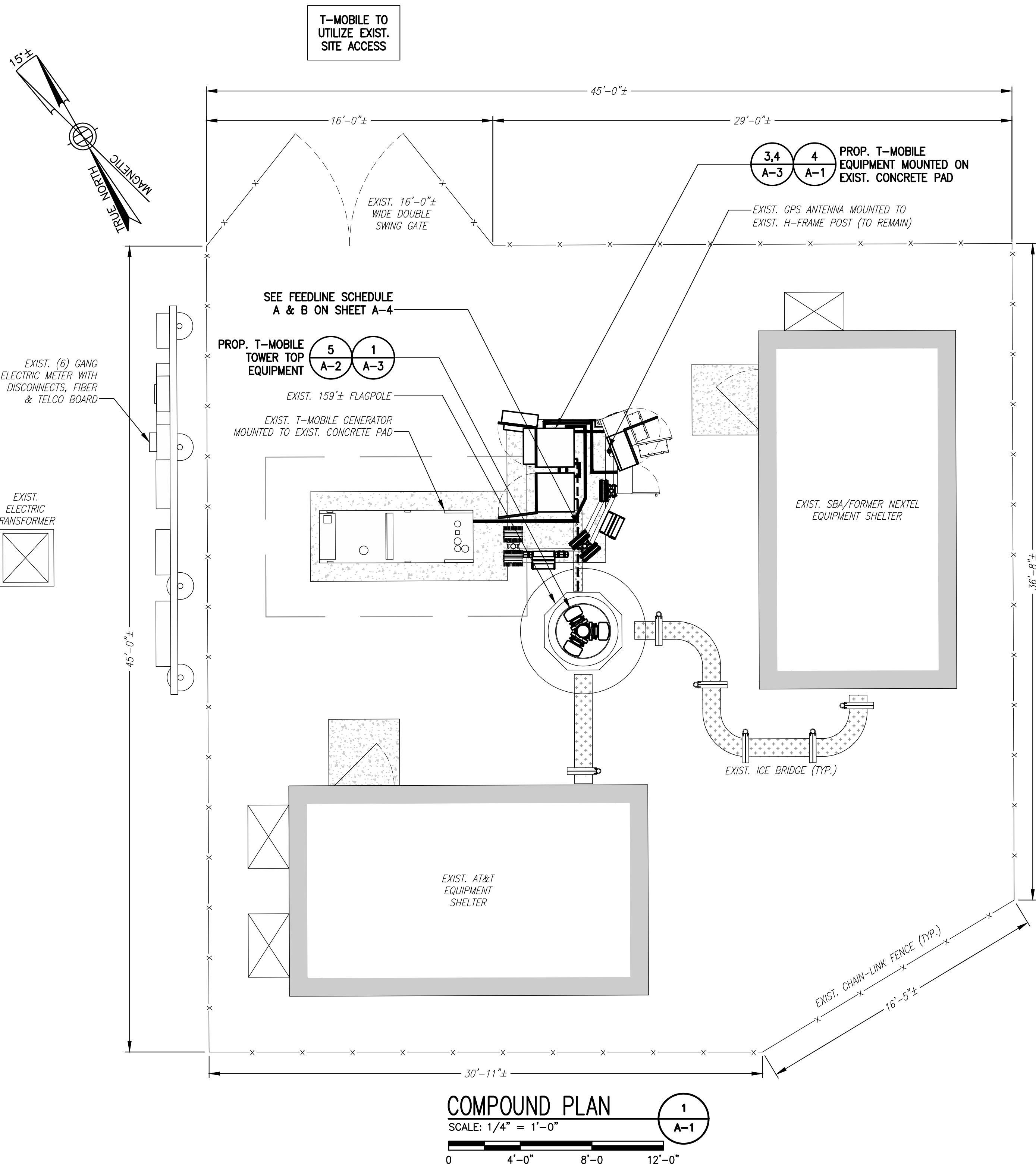
SHEET NUMBER

GN-1

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).

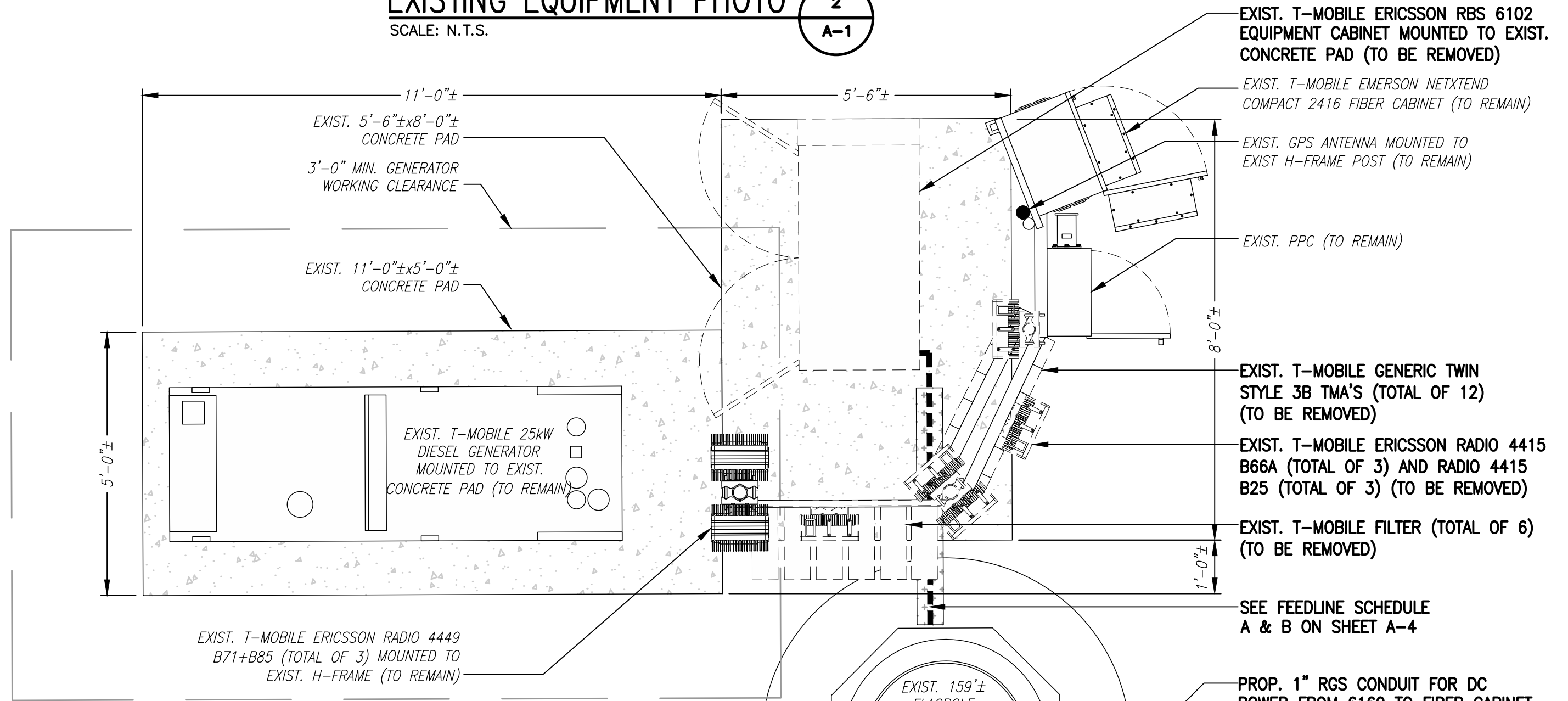
SPECIAL CONSTRUCTION NOTE (CANISTER BUMP-OUT DESIGN SERVICES PROVIDED BY SBA COMMUNICATIONS):
SBA COMMUNICATIONS RESPONSIBLE FOR DESIGN-BUILD FOR ALL REQUIRED CANISTER MODIFICATIONS, ENGINEERING CONSTRUCTION CONTROL INSPECTIONS, AND FINAL ENGINEERING AFFIDAVIT (ALL PREVIOUS ITEMS TO BE DESIGN-BUILD PERFORMED BY SBA UNDER A SEPARATE BUILDING PERMIT). THE ENGINEER-OF-RECORD FOR THESE CONSTRUCTION DRAWINGS IS NOT RESPONSIBLE FOR CANISTER BUMP-OUT DESIGN SERVICES OR FOR FINAL ANTENNA FITMENT MODIFICATIONS DESIGNED BY OTHERS.



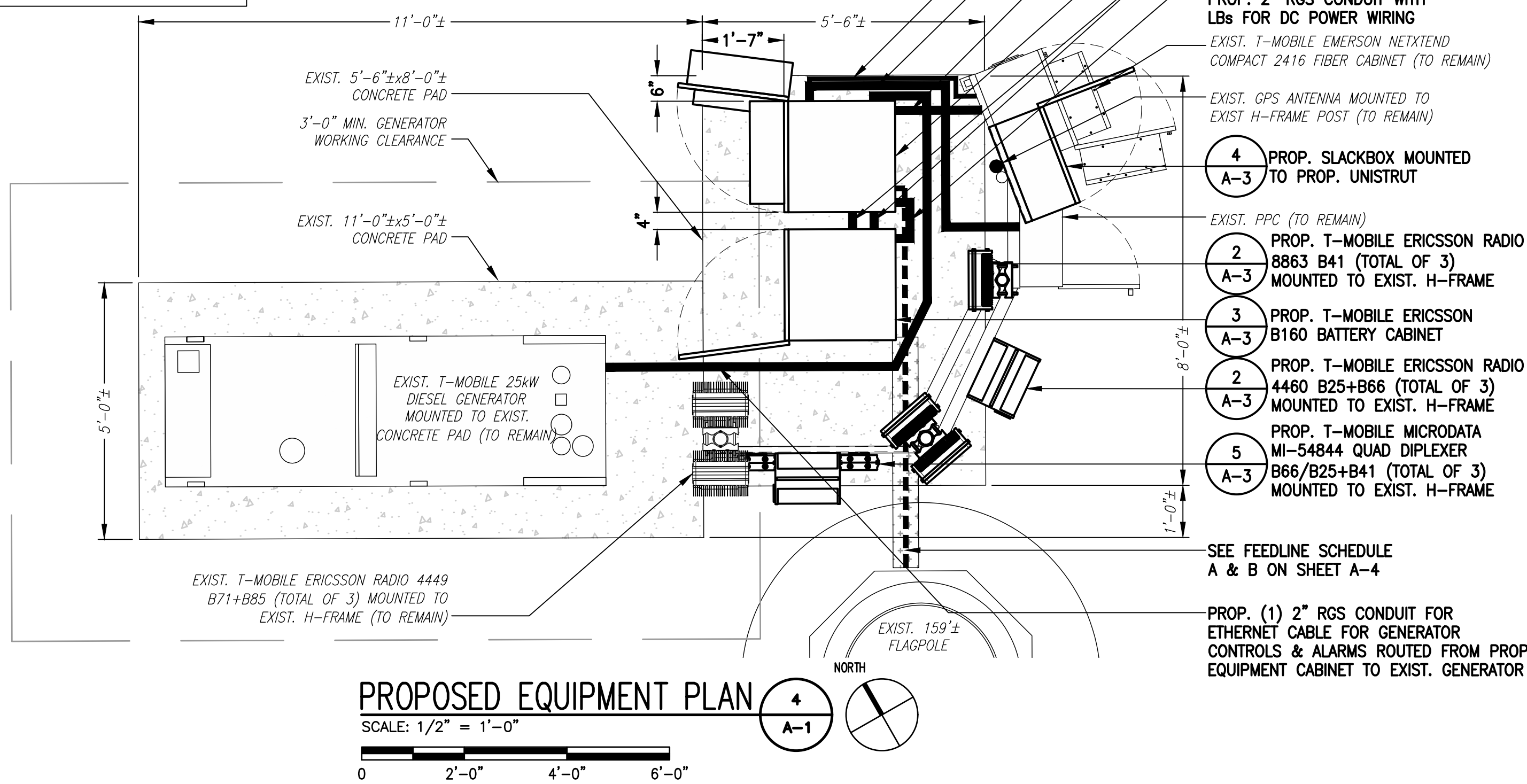
EXISTING EQUIPMENT PHOTO

SCALE: N.T.S.

2
A-1



NOTE:
BURY CONDUITS, AS REQUIRED, TO AVOID TRIP HAZARD.

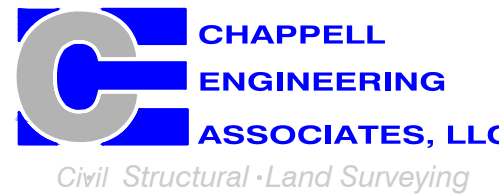


T-MOBILE NORTHEAST LLC

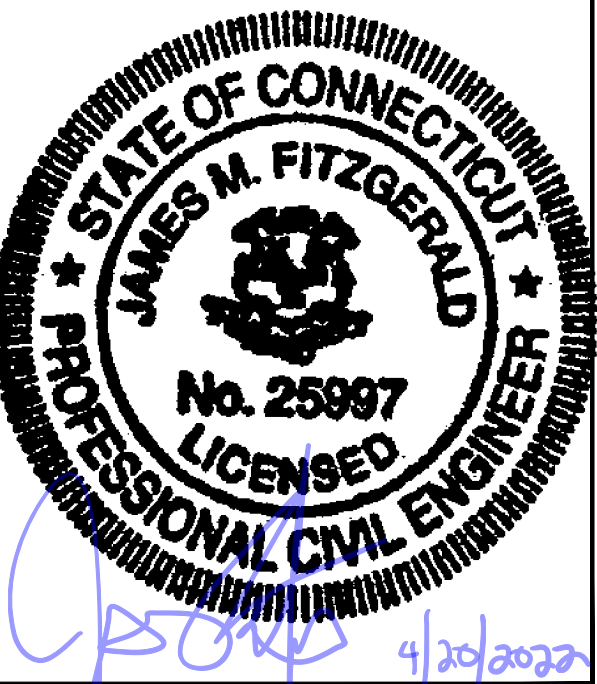
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	04/20/22	ISSUED FOR CONSTRUCTION	CMC
0	03/23/22	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CT11045D

SITE ADDRESS:
72 JERRY BROWNE ROAD
MYSTIC, CT 06355

SHEET TITLE
COMPOUND &
EQUIPMENT PLANS

SHEET NUMBER
A-1

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.

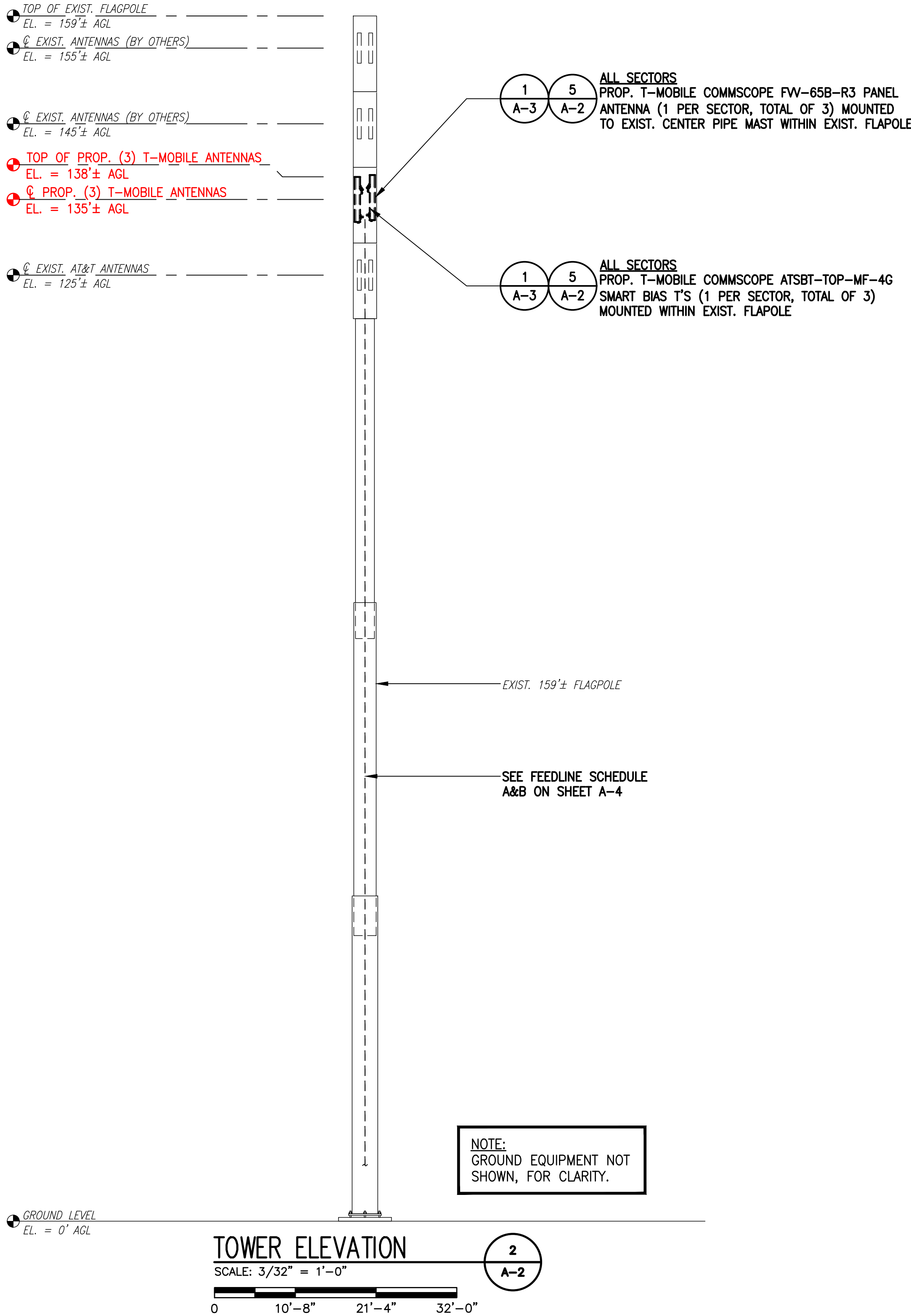
SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED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

SPECIAL CONSTRUCTION NOTE (CANISTER BUMP-OUT DESIGN SERVICES PROVIDED BY SBA COMMUNICATIONS):
SBA COMMUNICATIONS RESPONSIBLE FOR DESIGN-BUILD FOR ALL REQUIRED CANISTER MODIFICATIONS, ENGINEERING CONSTRUCTION CONTROL INSPECTIONS, AND FINAL ENGINEERING AFFIDAVIT (ALL PREVIOUS ITEMS TO BE DESIGN-BUILD PERFORMED BY SBA UNDER A SEPARATE BUILDING PERMIT). THE ENGINEER-OF-RECORD FOR THESE CONSTRUCTION DRAWINGS IS NOT RESPONSIBLE FOR CANISTER BUMP-OUT DESIGN SERVICES OR FOR FINAL ANTENNA FITMENT MODIFICATIONS DESIGNED BY OTHERS.



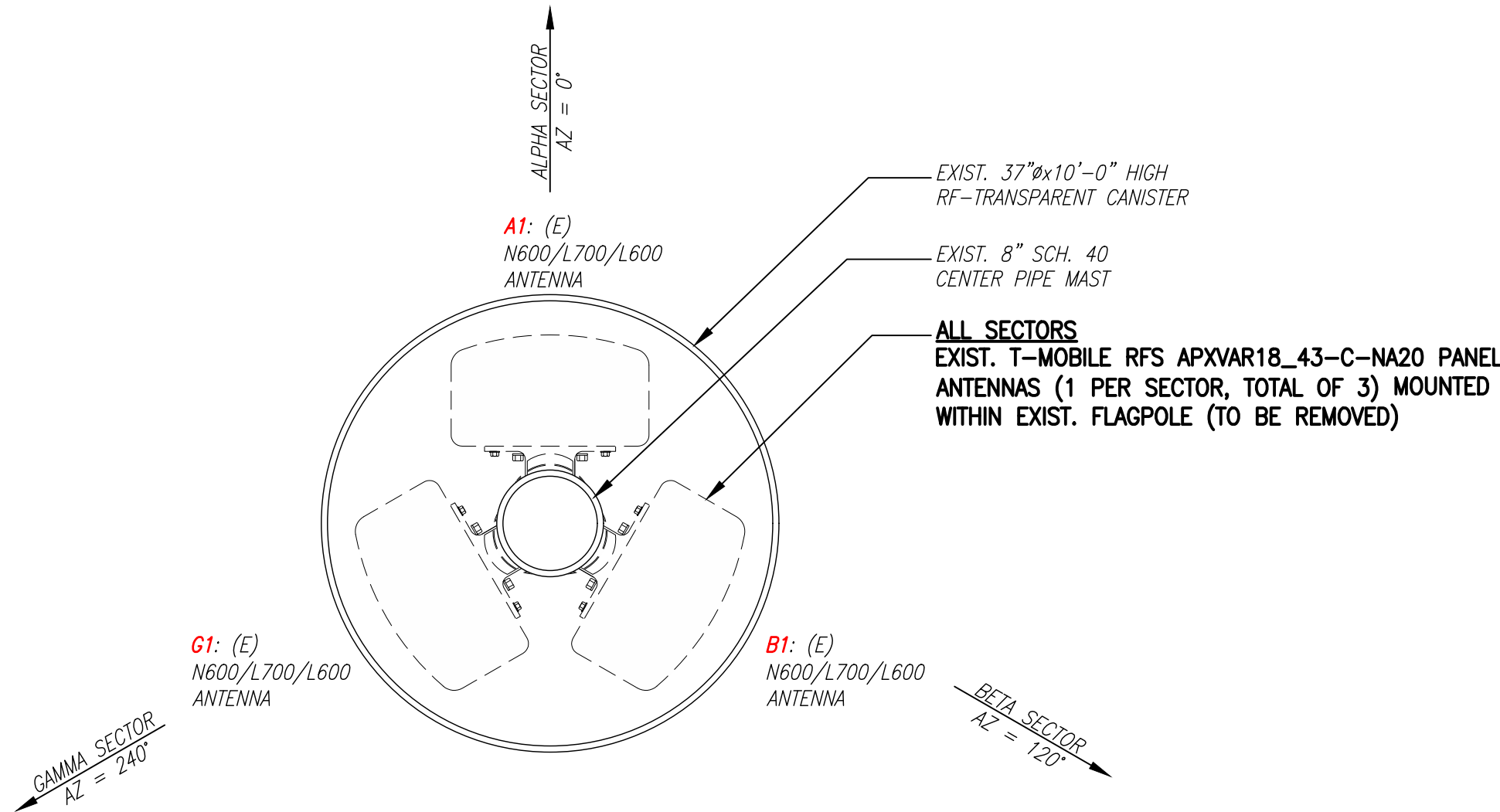
EXISTING TOWER PHOTO
SCALE: N.T.S.



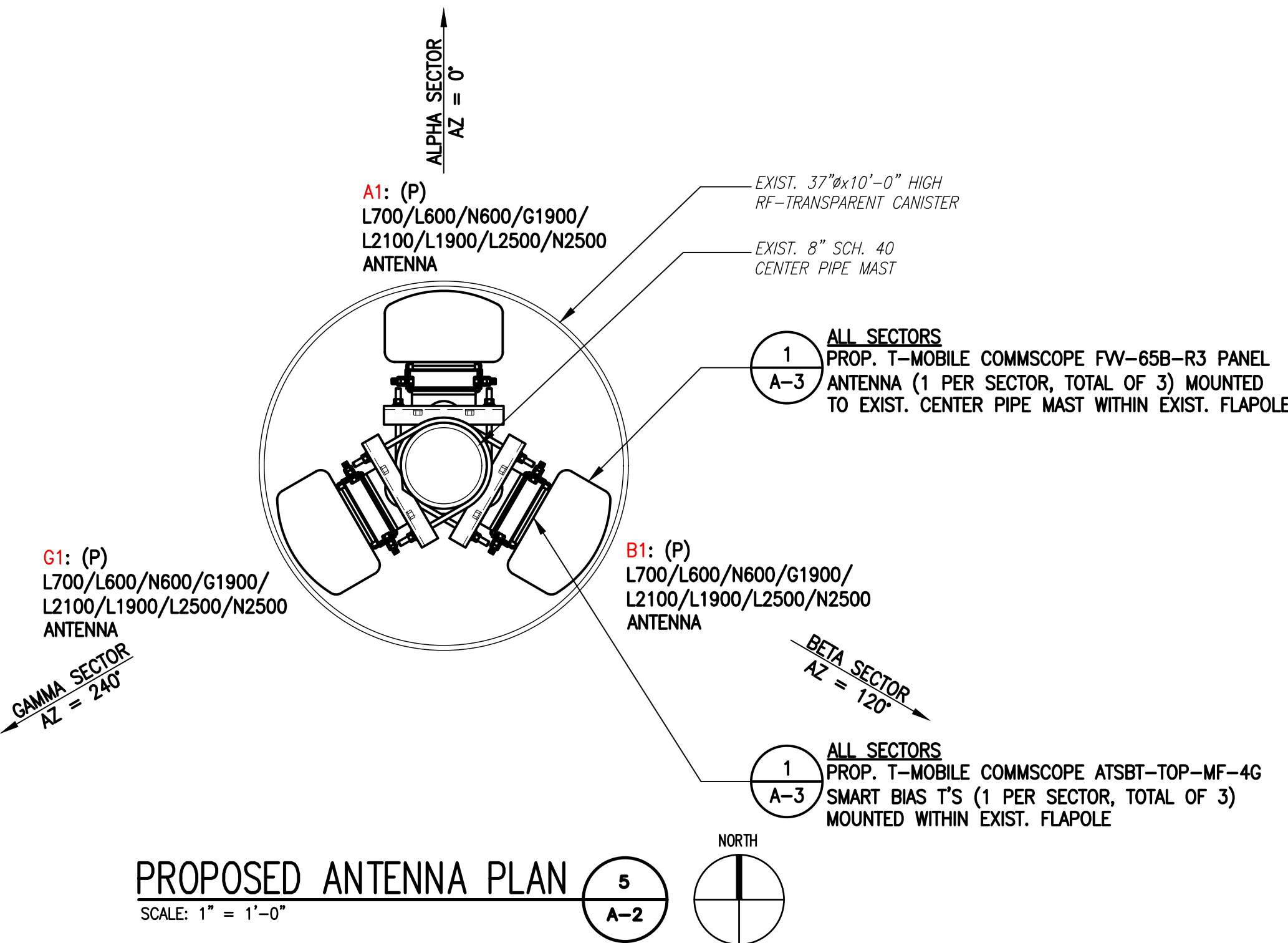
TOWER ELEVATION
SCALE: 3/32" = 1'-0"



EXISTING ANTENNA PHOTO
SCALE: N.T.S.



EXISTING ANTENNA PLAN
SCALE: 1" = 1'-0"



PROPOSED ANTENNA PLAN
SCALE: 1" = 1'-0"

ANTENNA STATUS LEGEND:

EMPTY - EMPTY PIPE

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

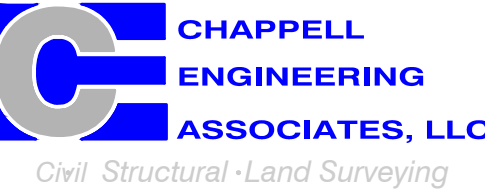
NOTE:
VERIFY PROPOSED AZIMUTHS
WITH RF ENGINEER PRIOR
TO INSTALLATION.

T-MOBILE
NORTHEAST LLC

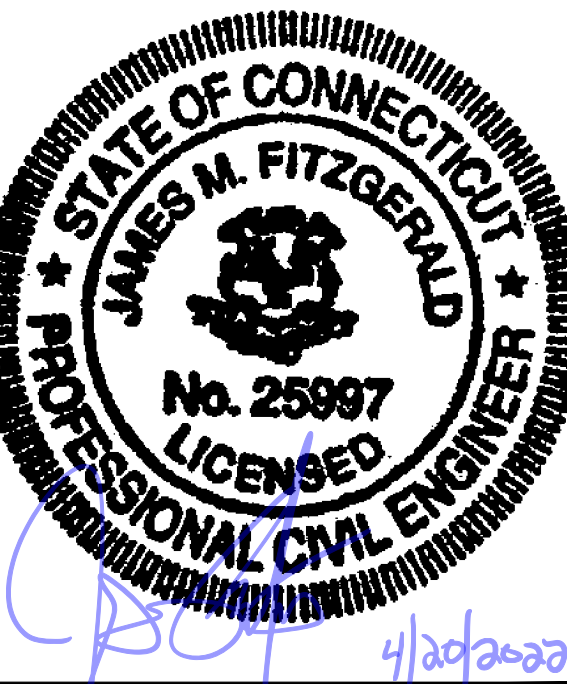
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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



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



CHECKED BY: JMT

APPROVED BY: JMT

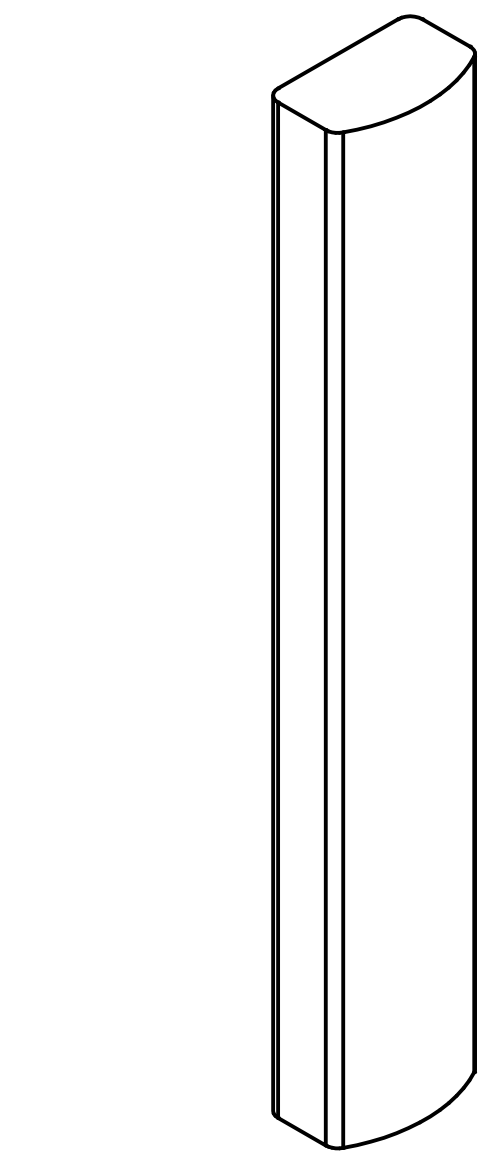
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	04/20/22	ISSUED FOR CONSTRUCTION	CMC
0	03/23/22	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CT11045D

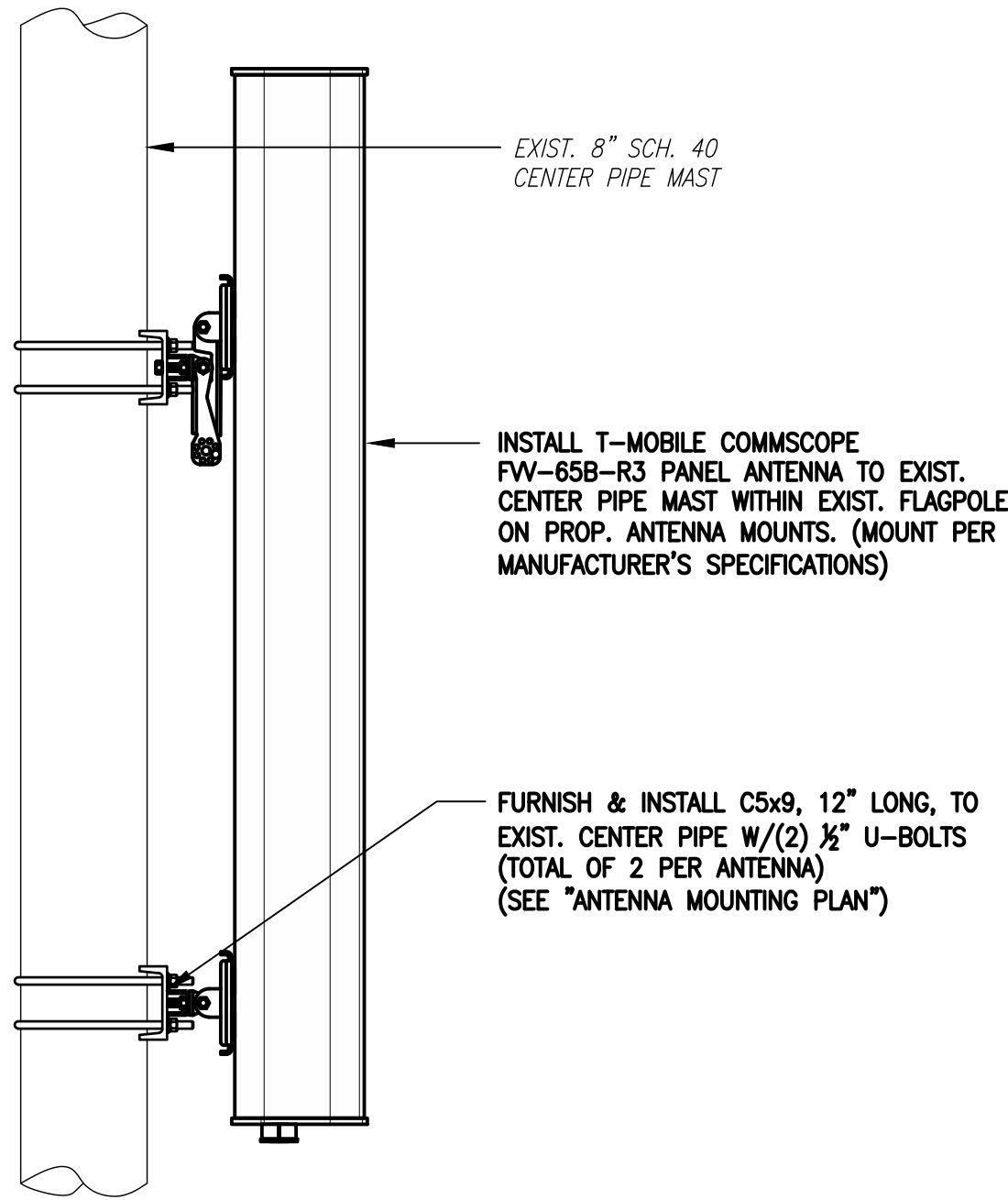
SITE ADDRESS:
72 JERRY BROWNE ROAD
MYSTIC, CT 06355

SHEET TITLE
**TOWER ELEVATIONS &
ANTENNA PLANS**

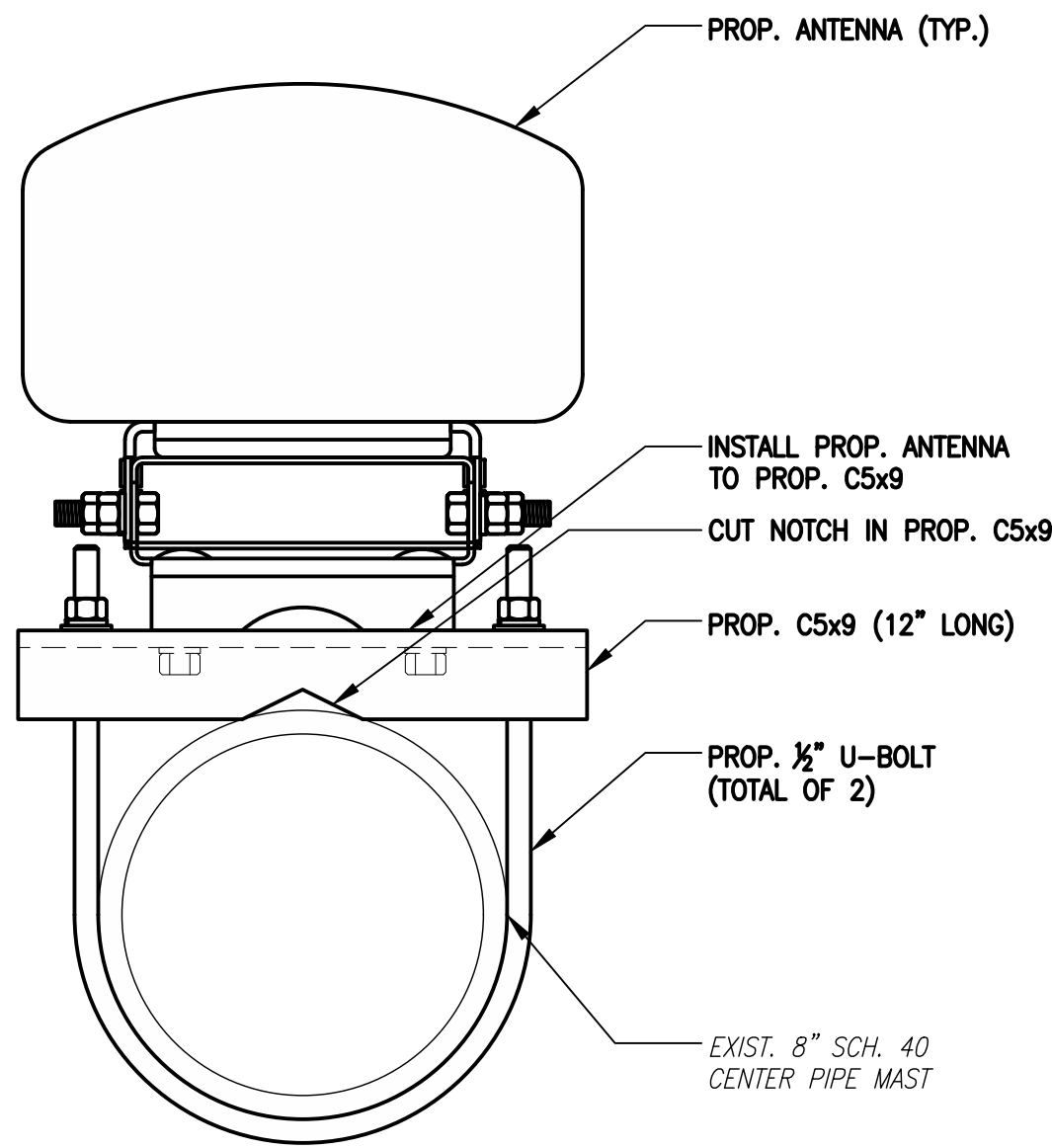
SHEET NUMBER
A-2



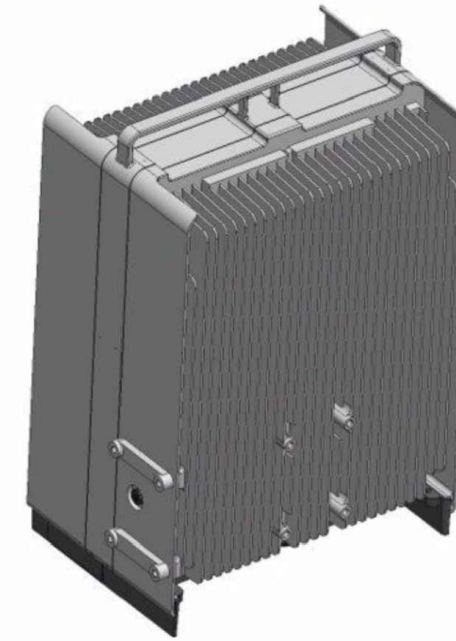
COMMSCOPE FW-65B-R3 ANTENNA
DIMENSIONS: 72.0"H x 11.8"W x 7.1"D
WEIGHT: 43.2 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3



ANTENNA MOUNTING SECTION
SCALE: 1" = 1'-0"



ANTENNA MOUNTING PLAN
SCALE: 3" = 1'-0"

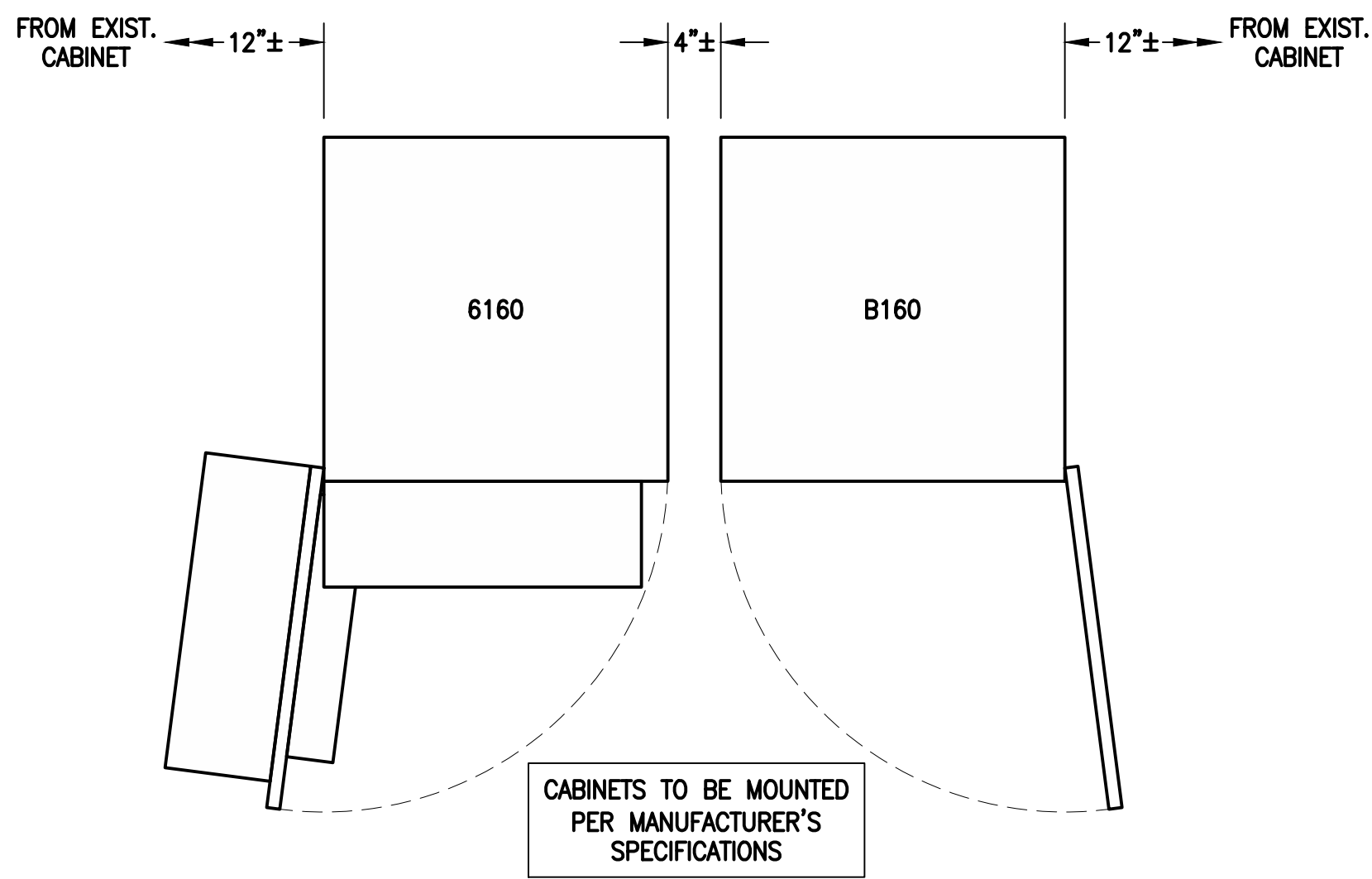


ERICSSON RADIO 4460 B25+B66
DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: TOTAL OF 3



ERICSSON RADIO 8863 B41
DIMENSIONS: 18.5"H x 14.5"W x 5.5"D
WEIGHT: 51.0 lbs
QUANTITY: TOTAL OF 3

RADIO DETAILS
SCALE: N.T.S.



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
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

SSC DETAILS
SCALE: N.T.S.



MICRODATA MI-54844 QUAD (8:4) B66/B25+B41 DIPLEXER
DIMENSIONS: 4.3"H x 9.4"W x 3.5"D
WEIGHT: 11.0 lbs
QUANTITY: TOTAL OF 3

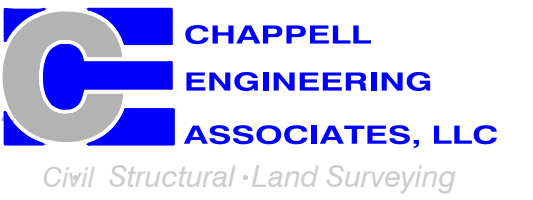
DIPLEXER DETAIL
SCALE: N.T.S.

T-MOBILE NORTHEAST LLC

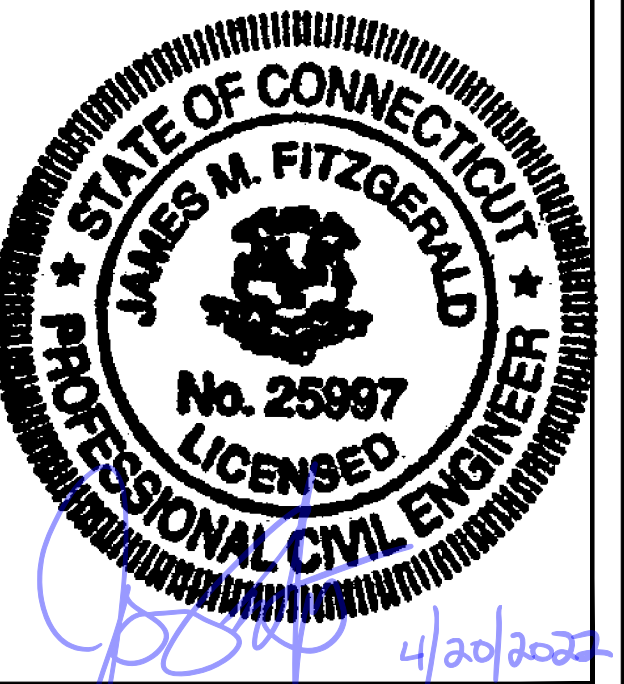
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	04/20/22	ISSUED FOR CONSTRUCTION	CMC
0	03/23/22	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CT11045D

SITE ADDRESS:
72 JERRY BROWNE ROAD
MYSTIC, CT 06355

SHEET TITLE

SITE DETAILS

SHEET NUMBER

A-3

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 COMMSCOPE FW-65B-R3	135'± AGL	0°	0°	0°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85	(6) 1-5/8" COAX CABLES (6) 1-1/4" COAX CABLES (6) 1-3/4" COAX CABLES
					0°	G1900/L2100/L1900/L2500/N2500	COMMSCOPE ATSBT-TOP-MF-4G	
							MICRODATA B66/B25+B41 DIPLEXER	
							ERICSSON RADIO 4460 B25+B66	
							ERICSSON RADIO 8863 B41	
BETA	B1 COMMSCOPE FW-65B-R3	135'± AGL	120°	0°	0°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85	
					0°	G1900/L2100/L1900/L2500/N2500	COMMSCOPE ATSBT-TOP-MF-4G	
							MICRODATA B66/B25+B41 DIPLEXER	
							ERICSSON RADIO 4460 B25+B66	
							ERICSSON RADIO 8863 B41	
GAMMA	G1 COMMSCOPE FW-65B-R3	135'± AGL	240°	0°	0°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85	
					0°	G1900/L2100/L1900/L2500/N2500	COMMSCOPE ATSBT-TOP-MF-4G	
							MICRODATA B66/B25+B41 DIPLEXER	
							ERICSSON RADIO 4460 B25+B66	
							ERICSSON RADIO 8863 B41	
CABLE NOTE: SEE FEEDLINE SCHEDULE A & B BELOW.								

NOTE: RFDS REV4 - 03/02/22

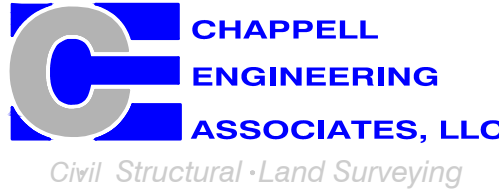
FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) 1/2" COAX CABLE FOR GPS ANTENNA (6) 1-5/8" COAX CABLES (6) 1-1/4" COAX CABLES EXISTING TO BE REMOVED: NONE	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (6) 1-3/4" COAX CABLES	
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY 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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	04/20/22	ISSUED FOR CONSTRUCTION	CMC
0	03/23/22	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CT11045D

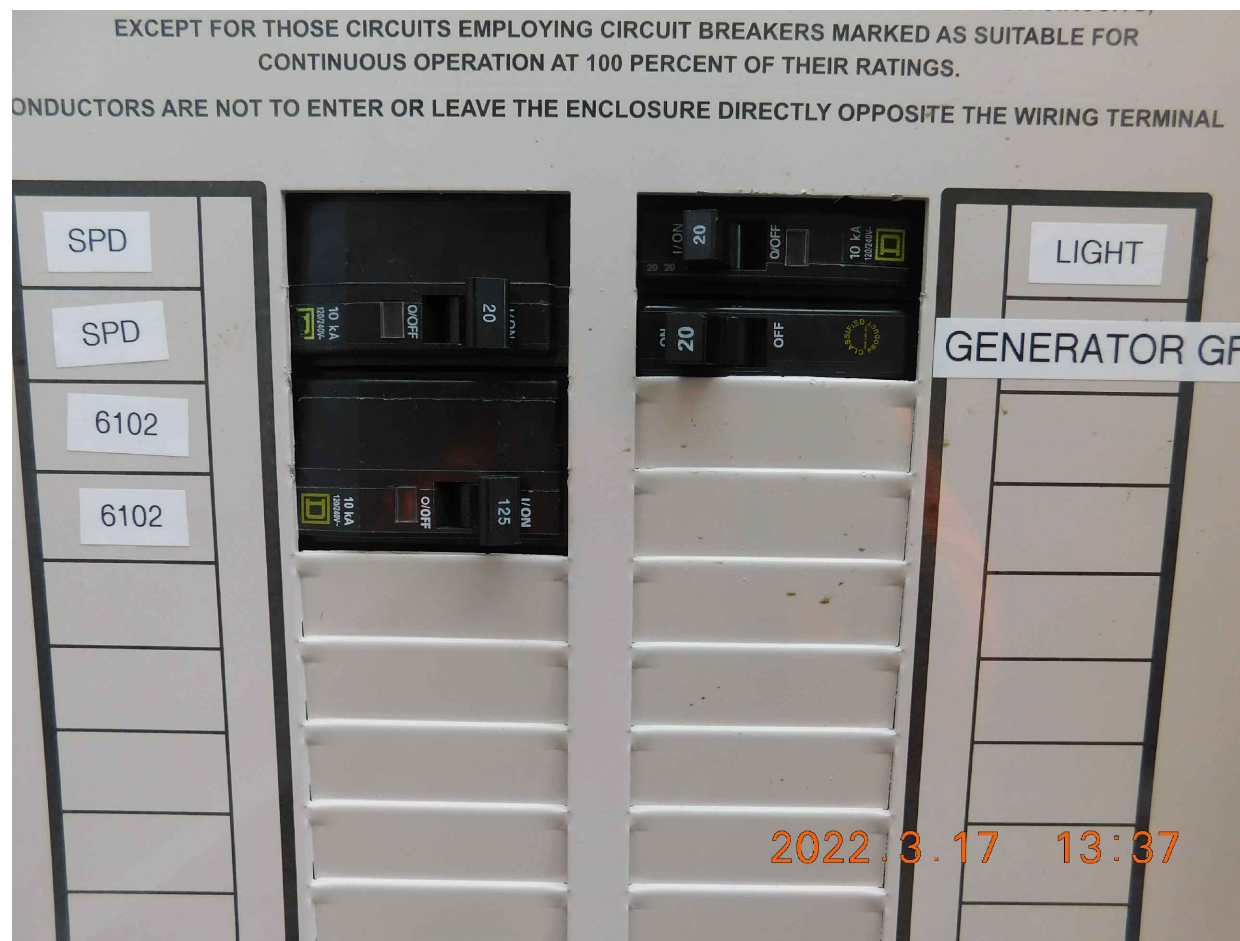
SITE ADDRESS:
72 JERRY BROWNE ROAD
MYSTIC, CT 06355

SHEET TITLE

ANTENNA &
FEEDLINE CHARTS

SHEET NUMBER

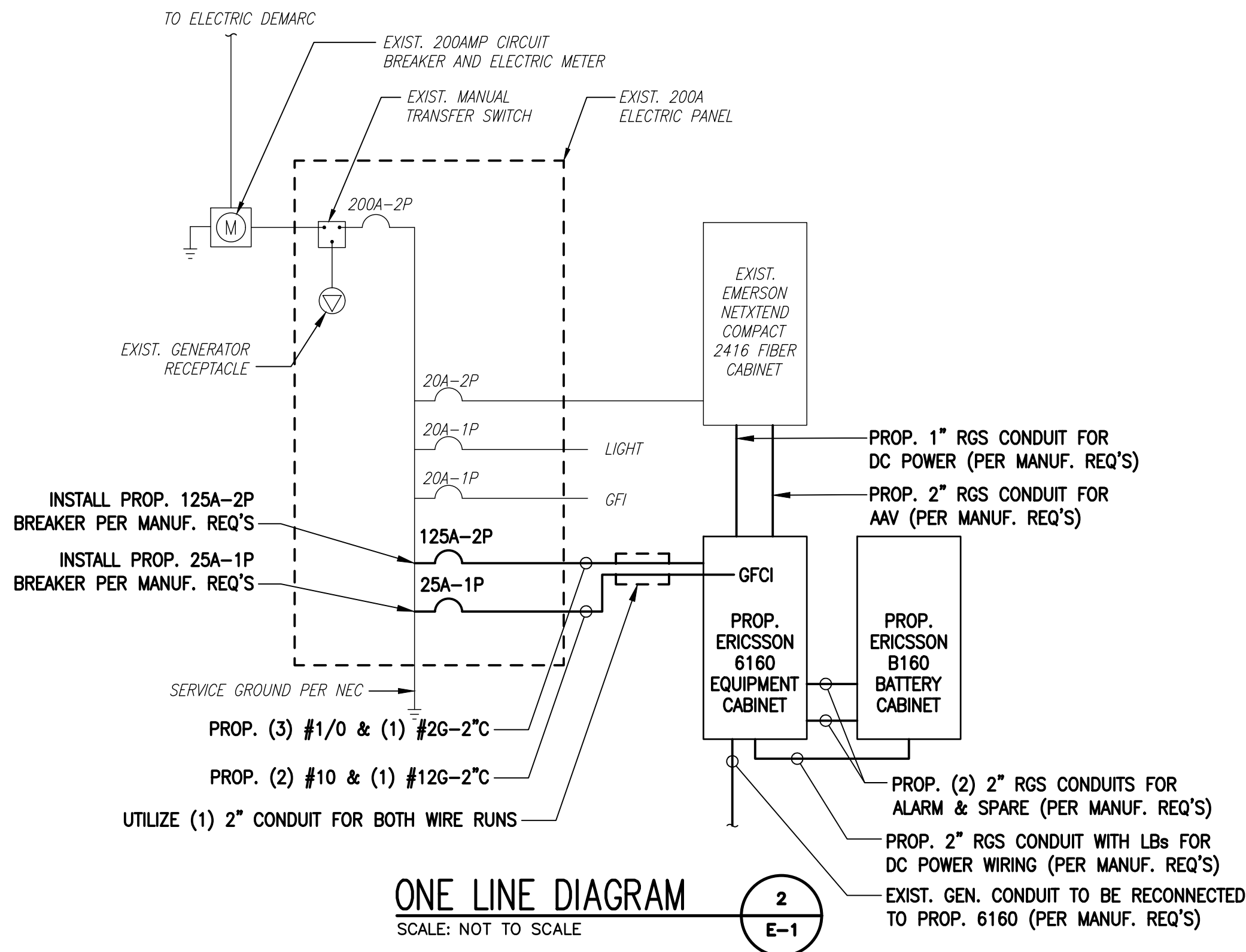
A-4



EXISTING POWER PANEL PHOTOS

SCALE: NOT TO SCALE

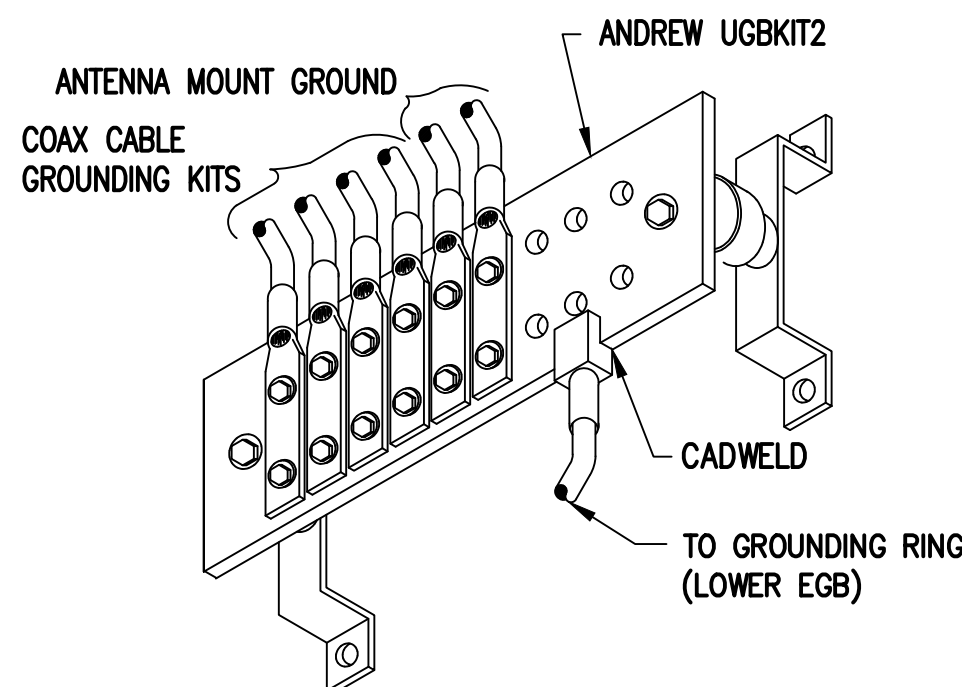
1
E-1



ONE LINE DIAGRAM

SCALE: NOT TO SCALE

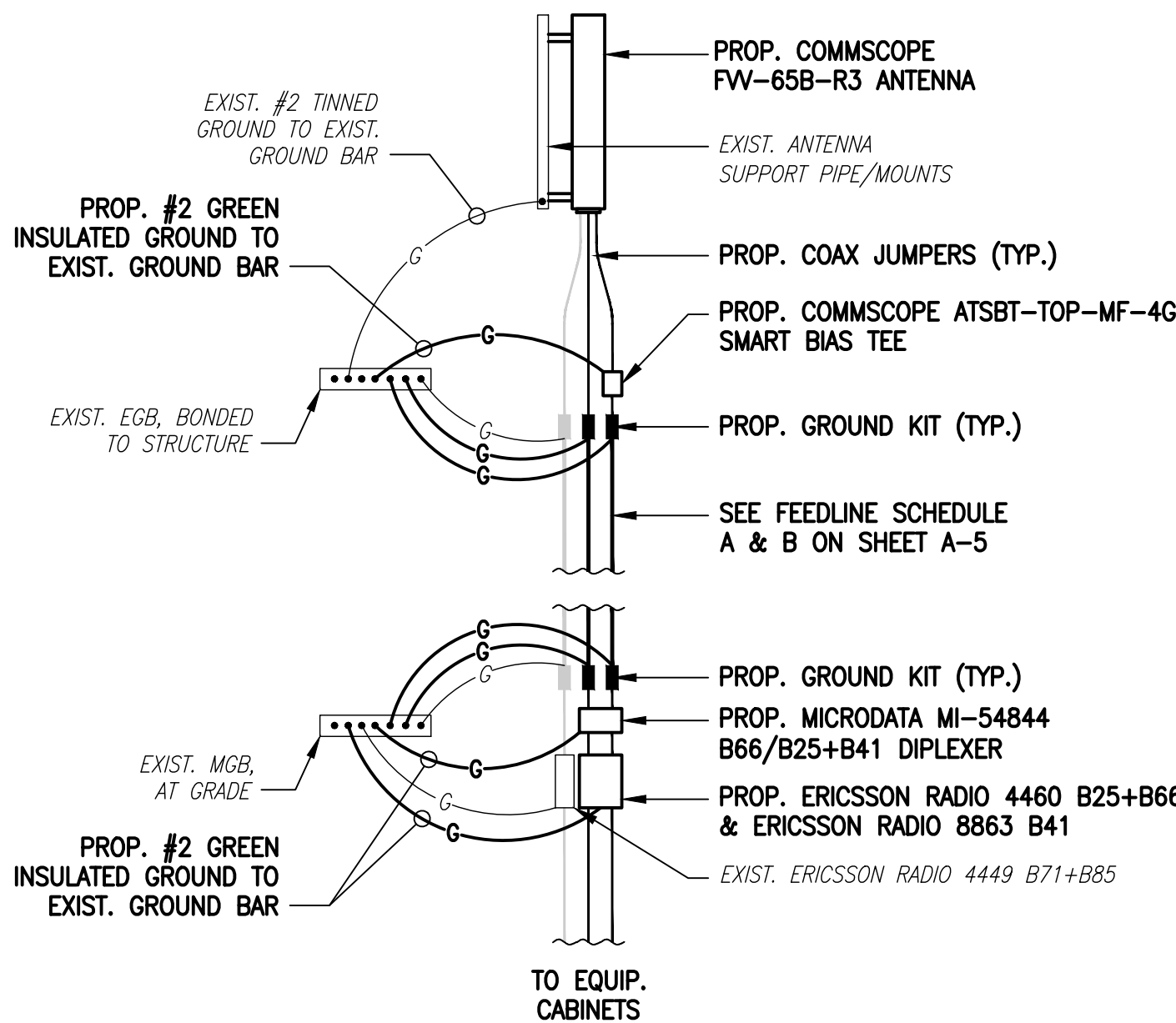
2
E-1



GROUND BAR (EGB)

SCALE: NOT TO SCALE

5
E-1

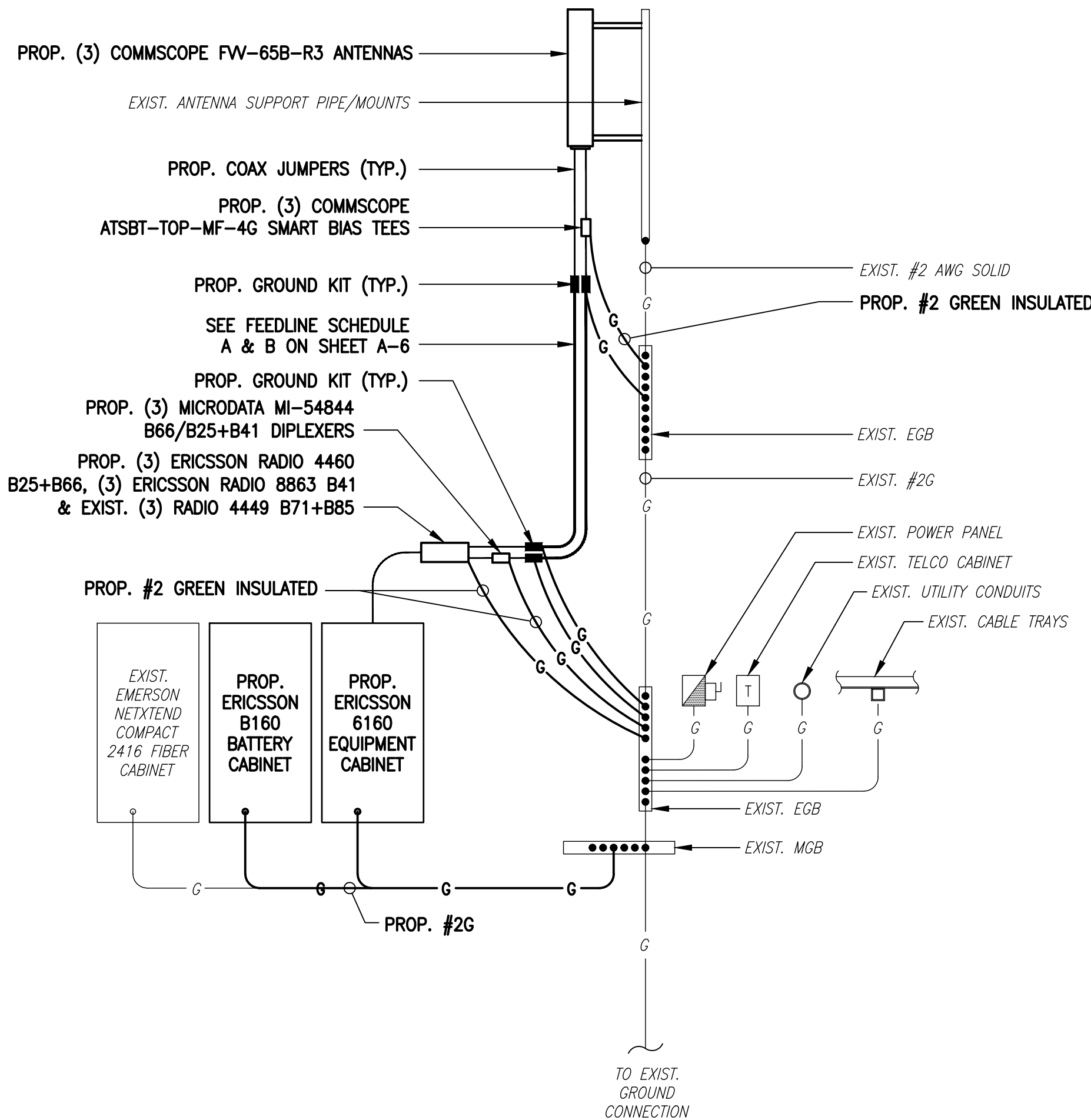


L2500/N2500/L2100/L1900/G1900/
L700/L600/N600 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL

SCALE: NOT TO SCALE

4
E-1



GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE

3
E-1

ELECTRICAL AND GROUNDING NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- 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.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
- 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.
- 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.
- 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.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- 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".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- 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.
- 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.
- 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.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE-OUT.

NOTES:

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

TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: NOT TO SCALE

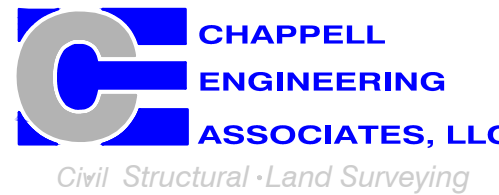
6
E-1

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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/20/22	ISSUED FOR CONSTRUCTION	CMC
0	03/23/22	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CT11045D

SITE ADDRESS:
72 JERRY BROWNE ROAD
MYSTIC, CT 06355

SHEET TITLE

**ELECTRIC & GROUNDING
DETAILS**

SHEET NUMBER

E-1

Exhibit D

Structural Analysis Report



Tower Engineering Solutions

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

Structural Analysis Report

Existing 159 ft SUMMIT Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT00799-S
Customer Site Name: Mystic
Carrier Name: T-Mobile (App#: 192312, V1)
Carrier Site ID / Name: CT11045D / Mystic
Site Location: 72 Jerry Brown Road
Mystic, Connecticut
New London County
Latitude: 41.375480
Longitude: -71.953369

Analysis Result:

Max Structural Usage: 92.1% [Pass]
Max Foundation Usage: 48% [Pass]
Additional Usage Caused by New Mount/Mount Modification: N/A



Report Prepared By: Stacey Hesselbein



Tower Engineering Solutions

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

Structural Analysis Report

Existing 159 ft SUMMIT Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT00799-S

Customer Site Name: Mystic

Carrier Name: T-Mobile (App#: 192312, V1)

Carrier Site ID / Name: CT11045D / Mystic

Site Location: 72 Jerry Brown Road

Mystic, Connecticut

New London County

Latitude: 41.375480

Longitude: -71.953369

Analysis Result:

Max Structural Usage: 92.1% [Pass]

Max Foundation Usage: 48% [Pass]

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

Report Prepared By: Stacey Hesselbein

Introduction

The purpose of this report is to summarize the analysis results on the 159 ft SUMMIT Monopole 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	Drawings by Summit Manufacturing, Job # 4252 Dated 12/10/1998 Concealment Drawings by Stealth, Job # FOUR-4C-100-40 Dated 03/17/2003
Foundation Drawing	Drawings by Summit Manufacturing, Job # 4252 Dated 12/10/1998
Geotechnical Report	Geotechnical Report by FHD, Project # 1424W51600 Dated 03/26/2014
Modification Drawings	TES Job # 70368 Rev 1 Dated 03/23/2020
Mount Analysis	N/A

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 **TESPoles**, 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 $V_{ult} = 135$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" 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:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.161$, $S_1 = 0.058$

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	147.0	6	Cci BPD7823VG12A TMA	Concealed Inside 37" Canister from 140ft. to 150ft.	(12) 7/8"	AT&T
2	145.0	3	Andrew SBNHH-1D65A Panel			
-	135.0	3	RFS APXVAR18_43-C-NA20 Panel	Concealed Inside 37"	(6) 1 1/4"	T-Mobile
-		6	Ericsson KRY 112 144/1 TMA	Canister from 130ft. to 140ft.	(6) 1 5/8"	
6	126.0	6	Cci BPD7823VG12A TMA	Concealed Inside 37"	(12) 1 5/8"	AT&T
7		3	Andrew SBNHH-1D65A Panel	Canister from 120ft. to 130ft.		

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
3	135.0	3	Commscope FVV-65B-R3 Panel	Concealed Inside 37" Canister from 130ft. to 140ft.	(6) 1 5/8" (12) 1 1/4"	T-Mobile
4		3	Commscope ATSBT-TOP-FM Bias Ts			
5		6	Ericsson KRY 112 144/1 TMA			

All transmission lines are considered running inside of the pole shafts.

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:

	Pole shafts	Anchor Bolts	Base Plate	Flange Connections
Max. Usage:	74.5%	72.8%	52.8%	92.1%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	1617.1	18.3	30.8

The foundation has been investigated using the supplied documents and soils report and was found 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 0.9513 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.

Usage Diagram - Max Ratio 74.70% at 120.0ft

Structure: CT00799-S-SBA

Code: EIA/TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Gh: 1.1

Base Elev: 0.000 (ft)

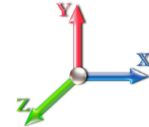
Page: 1



Dead Load Factor: 1.20

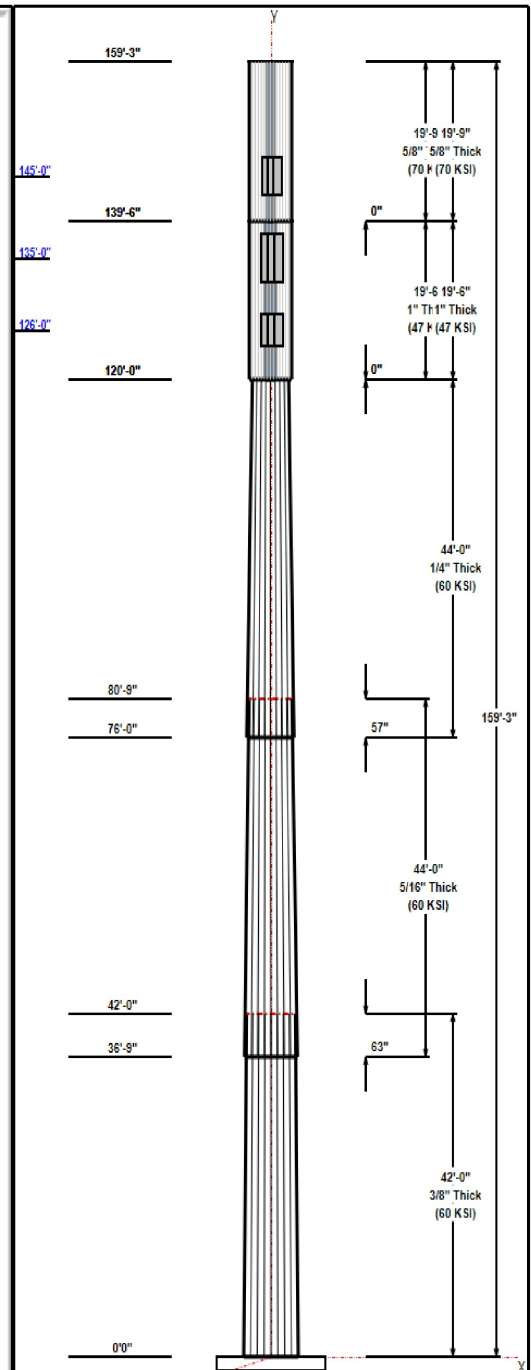
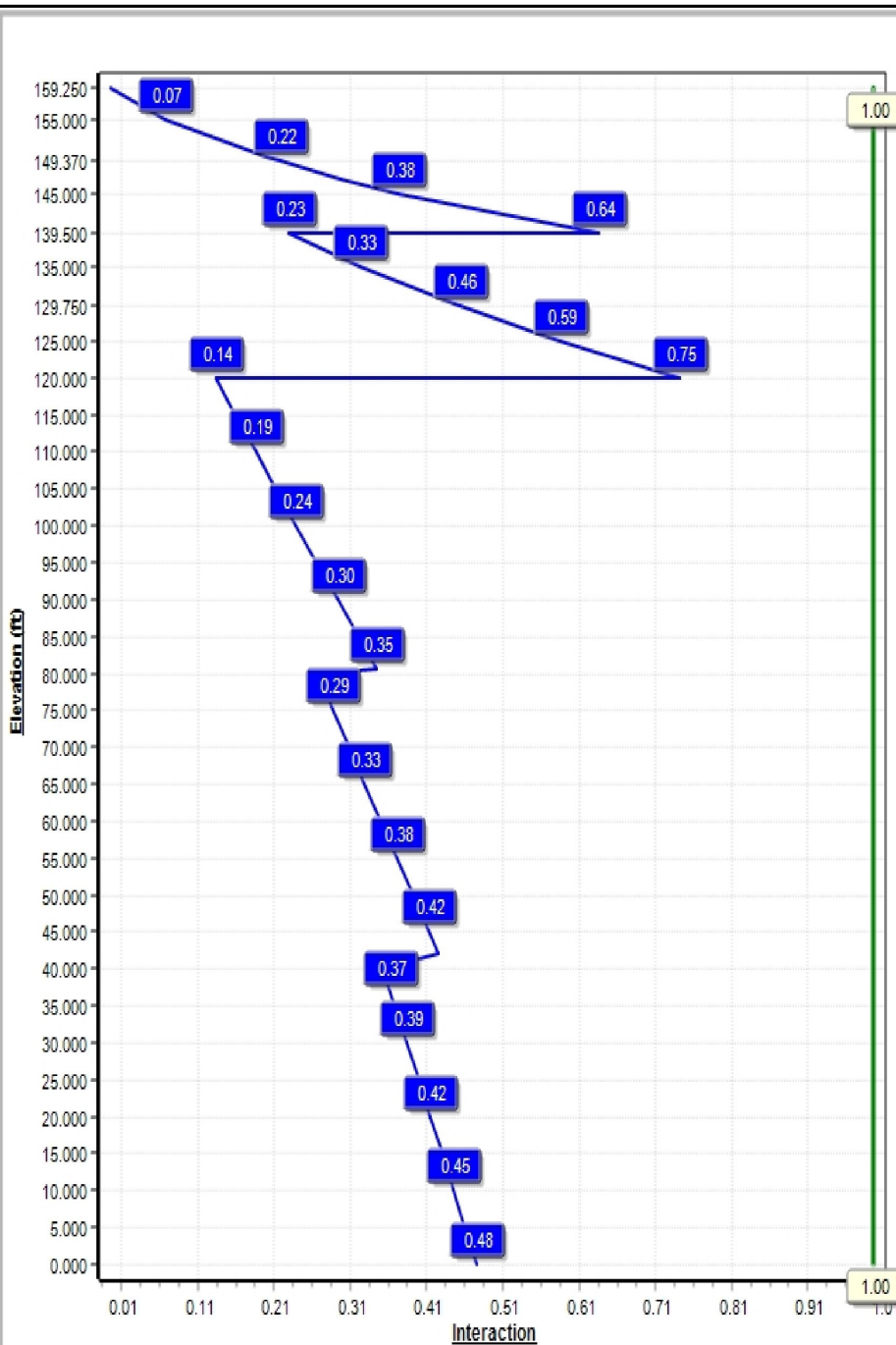
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 105 mph Wind



Iterations: 28

Copyright © 2022 by Tower Engineering Solutions, LLC. All rights reserved.



Structure: CT00799-S-SBA

Type: Custom
Site Name: Mystic
Height: 159.25 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.15004

4/8/2022

Page: 2



Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	42.00	40.58	46.88	0.375		0.15004	60
2	44.00	35.39	41.99	0.313	Slip	0.15004	60
3	44.00	30.00	36.60	0.250	Slip	0.15004	60
4	19.50	8.00	8.00	1.000	Butt	0.00000	47
5	19.75	5.00	5.00	0.625	Butt	0.00000	70

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
159.25	159.25	1	6' Lightning rod	AT&T
159.25	159.25	1	Flag	AT&T
159.25	159.25	1	37" Canister	AT&T
149.37	149.37	1	37" Canister	AT&T
147.00	147.00	6	BPD7823VG12A	AT&T
145.00	145.00	3	SBNHH-1D65A	AT&T
145.00	145.00	1	Flush Mount	AT&T
139.50	139.50	1	37" Canister	AT&T
135.00	135.00	3	FVV-65B-R3	T-Mobile
135.00	135.00	3	ATSBT-TOP-FM	T-Mobile
135.00	135.00	6	KRY 112 144/1	T-Mobile
135.00	135.00	1	Flush Mount	T-Mobile
129.75	129.75	1	37" Canister	AT&T
126.00	126.00	3	AM-X-CD-14-65-00T	AT&T
126.00	126.00	3	LGP21401	AT&T
126.00	126.00	3	DTMABP7819VG12A	AT&T
126.00	126.00	1	Flush Mount	AT&T
120.00	120.00	1	37" Canister	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	145.00	Inside	7/8" Coax	AT&T
0.00	135.00	Inside	1 1/4" Coax	T-Mobile
0.00	135.00	Inside	1 5/8" Coax	T-Mobile
0.00	127.00	Inside	1 5/8" Coax	AT&T

Anchor Bolts

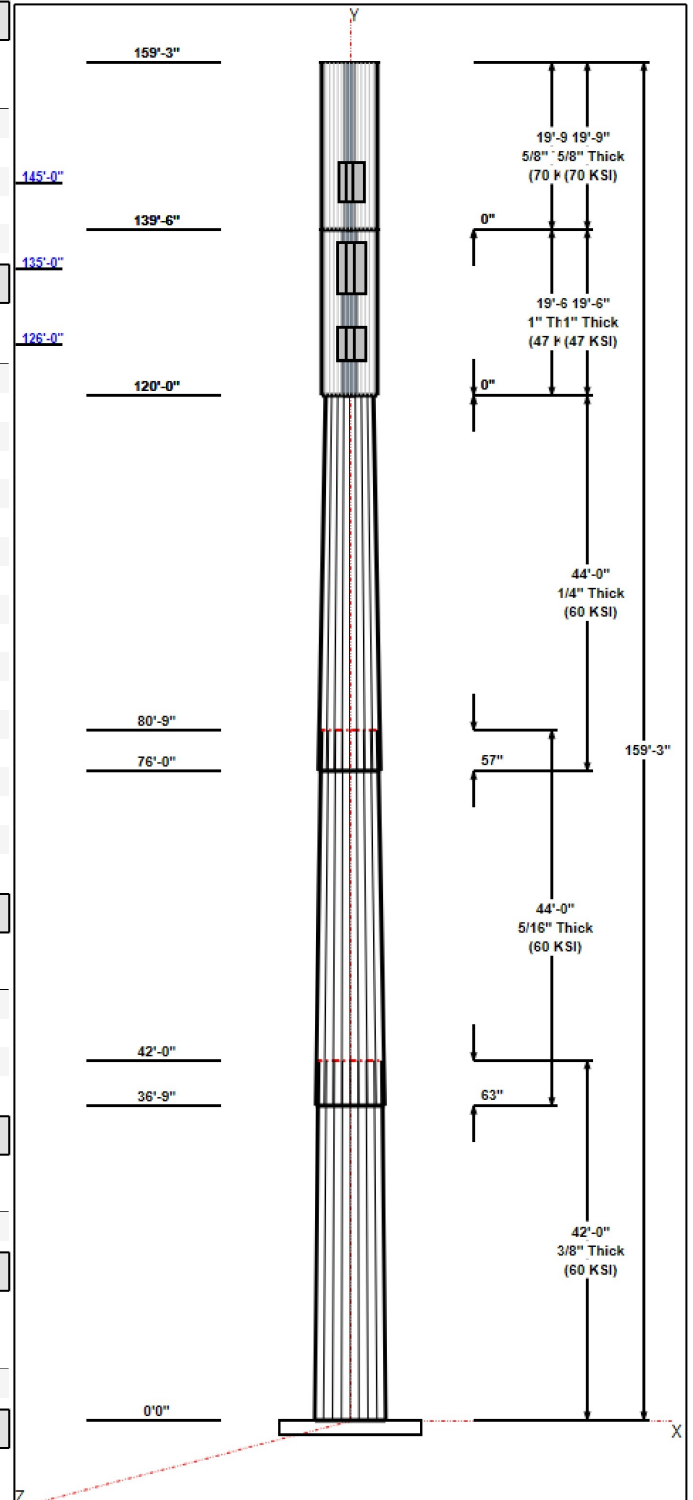
Qty	Specifications	Grade (ksi)	Arrangement
8	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	52.0	50.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	1617.1	18.3	30.8
0.9D + 1.6W 105 mph Wind	1603.7	18.3	23.1
1.2D + 1.0Di + 1.0Wi 50 mph Wind	526.2	5.6	44.1
1.2D + 1.0E	53.8	0.6	30.8
0.9D + 1.0E	53.3	0.6	23.1



Structure: CT00799-S-SBA

Type: Custom
Site Name: Mystic
Height: 159.25 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.00000

4/8/2022

Page: 3



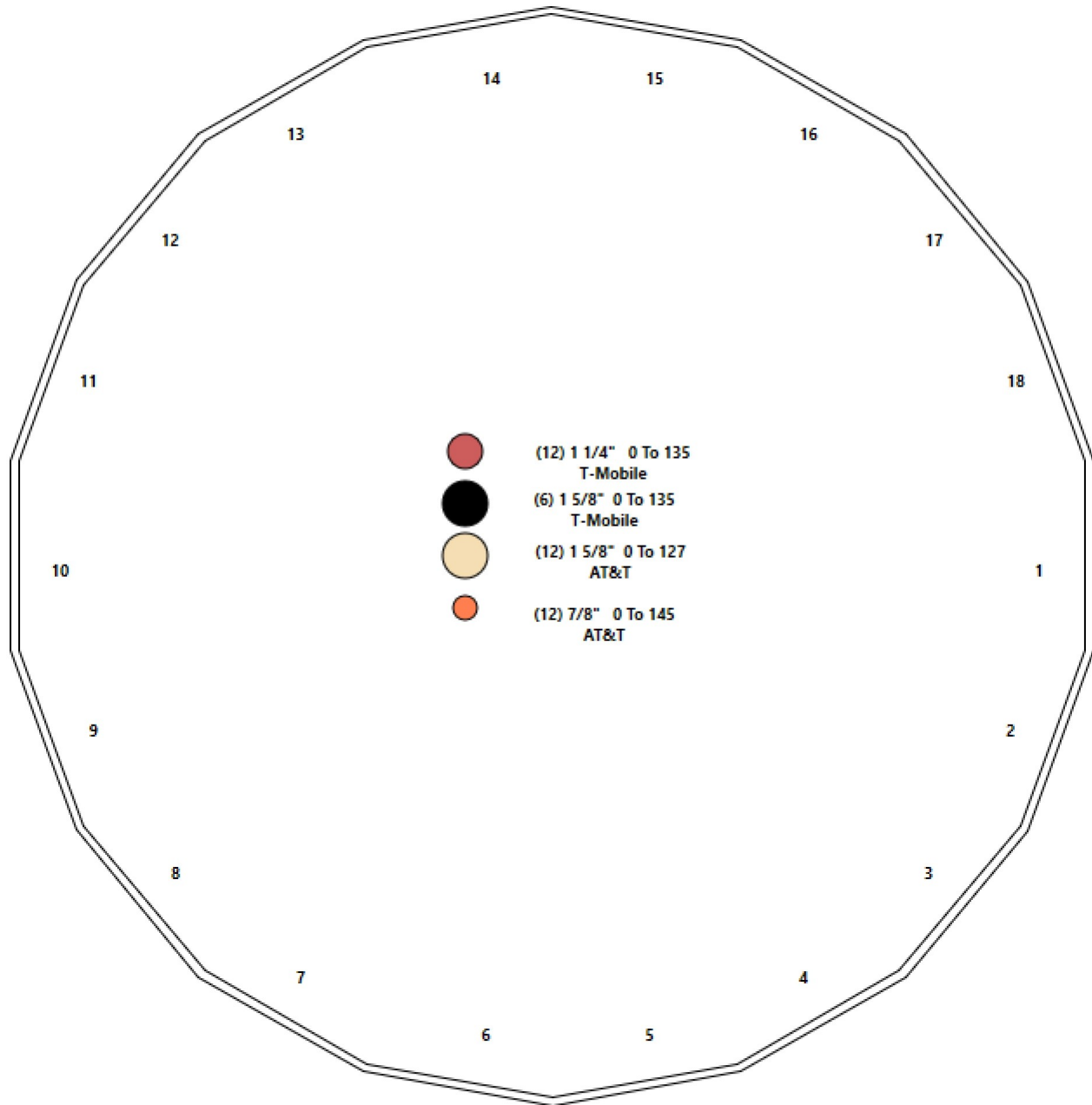
1.0D + 1.0W 60 mph Wind 328.3 3.7 25.7

Structure: CT00799-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Mystic
Height: 159.25 (ft)

4/8/2022

Page: 4



Shaft Properties

Structure: CT00799-S-SBA	Code: TIA-222-G	4/8/2022
Site Name: Mystic	Exposure: C	
Height: 159.25 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	42.000	0.3750	60		0.00	7,375
2	18	44.000	0.3125	60	Slip	63.00	5,699
3	18	44.000	0.2500	60	Slip	57.00	3,926
4	R	19.500	1.0000	47	Flange	0.00	1,459
5	R	19.750	0.6250	70	Flange	0.00	577
Total Shaft Weight:							19,037

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper	Canister Diam (in)
1	46.88	0.00	55.35	15124.28	20.63	125.01	40.58	42.00	47.85	9771.45	17.67	108.2	0.150042	0.00
2	41.99	36.75	41.34	9072.56	22.28	134.37	35.39	80.75	34.79	5408.14	18.56	113.2	0.150042	0.00
3	36.60	76.00	28.84	4815.74	24.40	146.41	30.00	120.00	23.61	2639.64	19.75	120.0	0.150042	0.00
4	8.00	120.0	21.99	134.80	0.00	8.00	8.00	139.50	21.99	134.80	0.00	8.00	0.000000	37.00
5	5.00	139.5	8.59	20.57	0.00	8.00	5.00	159.25	8.59	20.57	0.00	8.00	0.000000	37.00

Load Summary

Structure: CT00799-S-SBA	Code: TIA-222-G	4/8/2022
Site Name: Mystic	Exposure: C	
Height: 159.25 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 6

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	159.25	6' Lightning rod	1	6.50	0.38	1.00	43.02	1.474	1.00	0.00	0.00
2	159.25	Flag	1	0.00	7.27	1.00	0.00	7.781	1.00	0.00	0.00
3	159.25	37" Canister	1	98.19	0.00	1.00	105.09	0.000	1.00	0.00	0.00
4	149.37	37" Canister	1	196.29	0.00	1.00	209.99	0.000	1.00	0.00	0.00
5	147.00	BPD7823VG12A	6	19.20	0.00	0.00	44.67	0.000	0.00	0.00	0.00
6	145.00	SBNHH-1D65A	3	33.50	0.00	1.00	191.21	6.957	1.00	0.00	0.00
7	145.00	Flush Mount	1	150.00	0.00	1.00	275.23	0.000	1.00	0.00	0.00
8	139.50	37" Canister	1	195.00	0.00	1.00	208.51	0.000	1.00	0.00	0.00
9	135.00	FVV-65B-R3	3	43.70	0.00	0.00	242.79	9.357	0.00	0.00	0.00
10	135.00	ATSBT-TOP-FM	3	1.80	0.00	0.00	7.58	0.000	0.00	0.00	0.00
11	135.00	KRY 112 144/1	6	11.00	0.00	1.00	21.67	0.000	1.00	0.00	0.00
12	135.00	Flush Mount	1	150.00	0.00	1.00	274.34	0.000	1.00	0.00	0.00
13	129.75	37" Canister	1	193.80	0.00	1.00	207.13	0.000	1.00	0.00	0.00
14	126.00	AM-X-CD-14-65-00T	3	36.40	0.00	1.00	146.00	0.000	1.00	0.00	0.00
15	126.00	LGP21401	3	14.10	0.00	1.00	38.67	0.000	1.00	0.00	0.00
16	126.00	DTMABP7819VG12A	3	19.20	0.00	1.00	44.28	0.000	1.00	0.00	0.00
17	126.00	Flush Mount	1	150.00	0.00	1.00	273.48	0.000	1.00	0.00	0.00
18	120.00	37" Canister	1	96.90	0.00	1.00	103.52	0.000	1.00	0.00	0.00
Totals:			40	1,863.98			4,109.92				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	145.00	(12) 7/8" Coax	0.00	Inside
0.00	135.00	(12) 1 1/4" Coax	0.00	Inside
0.00	135.00	(6) 1 5/8" Coax	0.00	Inside
0.00	127.00	(12) 1 5/8" Coax	0.00	Inside

Shaft Section Properties

Structure: CT00799-S-SBA	Code: TIA-222-G	4/8/2022
Site Name: Mystic	Exposure: C	
Height: 159.25 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 7



Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3750	46.880	55.351	15124.3	20.63	125.01	72.1	635.4	0.0
5.00		0.3750	46.130	54.458	14404.1	20.28	123.01	72.4	615.0	934.1
10.00		0.3750	45.380	53.565	13707.1	19.93	121.01	72.8	594.9	918.9
15.00		0.3750	44.629	52.672	13033.0	19.57	119.01	73.2	575.2	903.7
20.00		0.3750	43.879	51.779	12381.4	19.22	117.01	73.6	555.8	888.6
25.00		0.3750	43.129	50.886	11751.8	18.87	115.01	73.9	536.7	873.4
30.00		0.3750	42.379	49.993	11144.0	18.52	113.01	74.3	517.9	858.2
35.00		0.3750	41.629	49.100	10557.5	18.16	111.01	74.7	499.5	843.0
36.75	Bot - Section 2	0.3750	41.366	48.788	10357.1	18.04	110.31	74.8	493.1	291.5
40.00		0.3750	40.878	48.207	9991.9	17.81	109.01	75.0	481.4	990.8
42.00	Top - Section 1	0.3125	41.203	40.557	8567.8	21.84	131.85	0.0	0.0	603.9
45.00		0.3125	40.753	40.111	8288.0	21.58	130.41	71.1	400.6	411.7
50.00		0.3125	40.003	39.367	7835.2	21.16	128.01	71.5	385.8	676.1
55.00		0.3125	39.253	38.622	7399.3	20.74	125.61	72.0	371.3	663.4
60.00		0.3125	38.502	37.878	6979.8	20.31	123.21	72.4	357.1	650.8
65.00		0.3125	37.752	37.134	6576.5	19.89	120.81	72.9	343.1	638.1
70.00		0.3125	37.002	36.390	6189.0	19.47	118.41	73.3	329.4	625.5
75.00		0.3125	36.252	35.646	5817.1	19.04	116.01	73.7	316.1	612.8
76.00	Bot - Section 3	0.3125	36.102	35.497	5744.5	18.96	115.53	73.8	313.4	121.0
80.00		0.3125	35.502	34.902	5460.4	18.62	113.61	74.2	302.9	868.5
80.75	Top - Section 2	0.2500	35.889	28.279	4538.0	23.90	143.56	0.0	0.0	161.2
85.00		0.2500	35.251	27.773	4298.8	23.45	141.01	69.1	240.2	405.3
90.00		0.2500	34.501	27.177	4028.2	22.92	138.00	69.7	230.0	467.5
95.00		0.2500	33.751	26.582	3769.3	22.39	135.00	70.2	220.0	457.3
100.00		0.2500	33.001	25.987	3521.7	21.87	132.00	70.8	210.2	447.2
105.00		0.2500	32.251	25.392	3285.2	21.34	129.00	71.3	200.6	437.1
110.00		0.2500	31.500	24.796	3059.5	20.81	126.00	71.9	191.3	426.9
115.00		0.2500	30.750	24.201	2844.4	20.28	123.00	72.4	182.2	416.8
120.00	Top - Section 3	0.2500	30.000	23.606	2639.6	19.75	120.00	73.0	173.3	406.7
120.00	Bot - Section 4	1.0000	8.000	21.991	134.8	4.94	30.00	47.0	33.7	
125.00		1.0000	8.000	21.991	134.8	0.00	8.00	47.0	33.7	374.2
126.00		1.0000	8.000	21.991	134.8	0.00	8.00	47.0	33.7	74.8
129.75		1.0000	8.000	21.991	134.8	0.00	8.00	47.0	33.7	280.6
130.00		1.0000	8.000	21.991	134.8	0.00	8.00	47.0	33.7	18.7
135.00		1.0000	8.000	21.991	134.8	0.00	8.00	47.0	33.7	374.2
139.50	Top - Section 4	1.0000	8.000	21.991	134.8	0.00	8.00	47.0	33.7	336.7
139.50	Bot - Section 5	0.6250	5.000	8.590	20.6	0.00	12.80	70.0	8.2	
140.00		0.6250	5.000	8.590	20.6	0.00	8.00	70.0	8.2	14.6
145.00		0.6250	5.000	8.590	20.6	0.00	8.00	70.0	8.2	146.2
147.00		0.6250	5.000	8.590	20.6	0.00	8.00	70.0	8.2	58.5
149.37		0.6250	5.000	8.590	20.6	0.00	8.00	70.0	8.2	69.3
150.00		0.6250	5.000	8.590	20.6	0.00	8.00	70.0	8.2	18.4
155.00		0.6250	5.000	8.590	20.6	0.00	8.00	70.0	8.2	146.2
159.25		0.6250	5.000	8.590	20.6	0.00	8.00	70.0	8.2	124.2
										19036.6

Wind Loading - Shaft

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 8

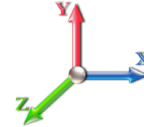


Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 28

Dead Load Factor 1.20

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	22.791	25.07	384.02	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	377.87	0.650	0.000	5.00	19.676	12.79	513.0	0.0	1121.0
10.00		1.00	0.85	22.791	25.07	371.73	0.650	0.000	5.00	19.359	12.58	504.7	0.0	1102.7
15.00		1.00	0.85	22.791	25.07	365.58	0.650	0.000	5.00	19.041	12.38	496.5	0.0	1084.5
20.00		1.00	0.90	24.182	26.60	370.25	0.650	0.000	5.00	18.724	12.17	518.0	0.0	1066.3
25.00		1.00	0.95	25.345	27.88	372.57	0.650	0.000	5.00	18.406	11.96	533.7	0.0	1048.0
30.00		1.00	0.98	26.337	28.97	373.18	0.650	0.000	5.00	18.089	11.76	545.0	0.0	1029.8
35.00		1.00	1.01	27.206	29.93	372.57	0.650	0.000	5.00	17.772	11.55	553.1	0.0	1011.6
36.75	Bot - Section 2	1.00	1.03	27.487	30.24	372.13	0.650	0.000	1.75	6.145	3.99	193.2	0.0	349.7
40.00		1.00	1.04	27.981	30.78	371.03	0.650	0.000	3.25	11.481	7.46	367.5	0.0	1189.0
42.00	Top - Section 1	1.00	1.05	28.270	31.10	370.21	0.650	0.000	2.00	6.999	4.55	226.3	0.0	724.7
45.00		1.00	1.07	28.684	31.55	374.51	0.650	0.000	3.00	10.403	6.76	341.4	0.0	494.1
50.00		1.00	1.09	29.327	32.26	371.72	0.650	0.000	5.00	17.084	11.10	573.2	0.0	811.3
55.00		1.00	1.12	29.922	32.91	368.42	0.650	0.000	5.00	16.766	10.90	573.9	0.0	796.1
60.00		1.00	1.14	30.475	33.52	364.71	0.650	0.000	5.00	16.449	10.69	573.5	0.0	780.9
65.00		1.00	1.16	30.993	34.09	360.63	0.650	0.000	5.00	16.131	10.49	572.0	0.0	765.8
70.00		1.00	1.17	31.480	34.63	356.23	0.650	0.000	5.00	15.814	10.28	569.5	0.0	750.6
75.00		1.00	1.19	31.941	35.13	351.55	0.650	0.000	5.00	15.497	10.07	566.2	0.0	735.4
76.00	Bot - Section 3	1.00	1.19	32.030	35.23	350.58	0.650	0.000	1.00	3.061	1.99	112.2	0.0	145.3
80.00		1.00	1.21	32.377	35.62	346.62	0.650	0.000	4.00	12.287	7.99	455.1	0.0	1042.2
80.75	Top - Section 2	1.00	1.21	32.441	35.69	345.86	0.650	0.000	0.75	2.281	1.48	84.7	0.0	193.5
85.00		1.00	1.22	32.793	36.07	346.38	0.650	0.000	4.25	12.792	8.31	479.9	0.0	486.4
90.00		1.00	1.24	33.190	36.51	341.06	0.650	0.000	5.00	14.756	9.59	560.3	0.0	560.9
95.00		1.00	1.25	33.570	36.93	335.54	0.650	0.000	5.00	14.439	9.39	554.5	0.0	548.8
100.00		1.00	1.27	33.935	37.33	329.86	0.650	0.000	5.00	14.121	9.18	548.2	0.0	536.6
105.00		1.00	1.28	34.285	37.71	324.02	0.650	0.000	5.00	13.804	8.97	541.4	0.0	524.5
110.00		1.00	1.29	34.623	38.08	318.04	0.650	0.000	5.00	13.486	8.77	534.2	0.0	512.3
115.00		1.00	1.30	34.948	38.44	311.92	0.650	0.000	5.00	13.169	8.56	526.5	0.0	500.2
120.00	Top - Section 3	1.00	1.32	35.263	38.79	305.68	0.650	0.000	5.00	12.852	8.35	518.4	0.0	488.0
125.00		1.00	1.33	35.567	39.12	372.87	0.600	0.000	5.00	15.417	9.25	579.0	0.0	508.2
126.00	Appurtenance(s)	1.00	1.33	35.627	39.19	373.19	0.600	0.000	1.00	3.083	1.85	116.0	0.0	101.6
129.75	Appurtenance(s)	1.00	1.34	35.847	39.43	374.34	0.600	0.000	3.75	11.563	6.94	437.7	0.0	381.1
130.00		1.00	1.34	35.862	39.45	374.42	0.600	0.000	0.25	0.771	0.46	29.2	0.0	25.4
135.00	Appurtenance(s)	1.00	1.35	36.148	39.76	375.91	0.600	0.000	5.00	15.417	9.25	588.5	0.0	508.2
139.50	Top - Section 4	1.00	1.36	36.398	40.04	377.21	0.600	0.000	4.50	13.875	8.32	533.3	0.0	457.4
140.00		1.00	1.36	36.426	40.07	377.35	0.600	0.000	0.50	1.542	0.93	59.3	0.0	23.5
145.00	Appurtenance(s)	1.00	1.37	36.696	40.37	378.75	0.600	0.000	5.00	15.417	9.25	597.4	0.0	234.6
147.00	Appurtenance(s)	1.00	1.37	36.802	40.48	379.29	0.600	0.000	2.00	6.167	3.70	239.7	0.0	93.8
149.37	Appurtenance(s)	1.00	1.38	36.926	40.62	379.93	0.600	0.000	2.37	7.308	4.38	284.9	0.0	111.2
150.00		1.00	1.38	36.959	40.65	380.10	0.600	0.000	0.63	1.942	1.17	75.8	0.0	29.6
155.00		1.00	1.39	37.215	40.94	381.41	0.600	0.000	5.00	15.417	9.25	605.9	0.0	234.6
159.25	Appurtenance(s)	1.00	1.40	37.427	41.17	382.50	0.600	0.000	4.25	13.104	7.86	517.9	0.0	199.4
Totals:									159.25			17,800.7		23,308.7

Discrete Appurtenance Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

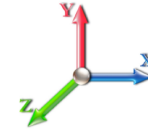
Page: 9



Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 28

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	159.25	Flag	1	37.427	41.170	1.00	1.00	7.27	0.00	0.000	0.000	478.89	0.00	0.00
2	159.25	6' Lightning rod	1	37.427	41.170	1.00	1.00	0.38	7.80	0.000	0.000	25.03	0.00	0.00
3	159.25	37" Canister	1	37.427	41.170	1.00	1.00	0.00	117.83	0.000	0.000	0.00	0.00	0.00
4	149.37	37" Canister	1	36.926	40.619	1.00	1.00	0.00	235.55	0.000	0.000	0.00	0.00	0.00
5	147.00	BPD7823VG12A	6	36.802	40.482	0.00	1.00	0.00	138.24	0.000	0.000	0.00	0.00	0.00
6	145.00	Flush Mount	1	36.696	40.365	1.00	1.00	0.00	180.00	0.000	0.000	0.00	0.00	0.00
7	145.00	SBNHH-1D65A	3	36.696	40.365	1.00	1.00	0.00	120.60	0.000	0.000	0.00	0.00	0.00
8	139.50	37" Canister	1	36.398	40.038	1.00	1.00	0.00	234.00	0.000	0.000	0.00	0.00	0.00
9	135.00	Flush Mount	1	36.148	39.763	1.00	1.00	0.00	180.00	0.000	0.000	0.00	0.00	0.00
10	135.00	KRY 112 144/1	6	36.148	39.763	1.00	1.00	0.00	79.20	0.000	0.000	0.00	0.00	0.00
11	135.00	ATSBT-TOP-FM	3	36.148	39.763	0.00	1.00	0.00	6.48	0.000	0.000	0.00	0.00	0.00
12	135.00	FVV-65B-R3	3	36.148	39.763	0.00	1.00	0.00	157.32	0.000	0.000	0.00	0.00	0.00
13	129.75	37" Canister	1	35.847	39.432	1.00	1.00	0.00	232.56	0.000	0.000	0.00	0.00	0.00
14	126.00	Flush Mount	1	35.627	39.189	1.00	1.00	0.00	180.00	0.000	0.000	0.00	0.00	0.00
15	126.00	DTMABP7819VG12A	3	35.627	39.189	1.00	1.00	0.00	69.12	0.000	0.000	0.00	0.00	0.00
16	126.00	LGP21401	3	35.627	39.189	1.00	1.00	0.00	50.76	0.000	0.000	0.00	0.00	0.00
17	126.00	AM-X-CD-14-65-00T	3	35.627	39.189	1.00	1.00	0.00	131.04	0.000	0.000	0.00	0.00	0.00
18	120.00	37" Canister	1	35.263	38.789	1.00	1.00	0.00	116.28	0.000	0.000	0.00	0.00	0.00
Totals:									2,236.78			503.92		

Total Applied Force Summary

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

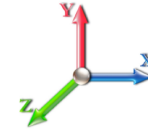
Page: 10



Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 28

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		513.01	1318.24	0.00	0.00
10.00		504.73	1300.01	0.00	0.00
15.00		496.46	1281.78	0.00	0.00
20.00		517.98	1263.55	0.00	0.00
25.00		533.69	1245.32	0.00	0.00
30.00		545.01	1227.09	0.00	0.00
35.00		553.11	1208.86	0.00	0.00
36.75		193.23	418.79	0.00	0.00
40.00		367.51	1317.22	0.00	0.00
42.00		226.34	803.58	0.00	0.00
45.00		341.35	612.46	0.00	0.00
50.00		573.16	1008.61	0.00	0.00
55.00		573.92	993.42	0.00	0.00
60.00		573.46	978.23	0.00	0.00
65.00		571.95	963.03	0.00	0.00
70.00		569.51	947.84	0.00	0.00
75.00		566.25	932.65	0.00	0.00
76.00		112.17	184.71	0.00	0.00
80.00		455.12	1199.98	0.00	0.00
80.75		84.66	223.05	0.00	0.00
85.00		479.91	654.05	0.00	0.00
90.00		560.28	758.23	0.00	0.00
95.00		554.51	746.07	0.00	0.00
100.00		548.20	733.92	0.00	0.00
105.00		541.41	721.77	0.00	0.00
110.00		534.17	709.61	0.00	0.00
115.00		526.50	697.46	0.00	0.00
120.00	(1) attachments	518.44	801.59	0.00	0.00
125.00		579.03	705.47	0.00	0.00
126.00	(10) attachments	116.00	572.01	0.00	0.00
129.75	(1) attachments	437.70	720.48	0.00	0.00
130.00		29.19	31.53	0.00	0.00
135.00	(13) attachments	588.49	1053.59	0.00	0.00
139.50	(1) attachments	533.31	725.06	0.00	0.00
140.00		59.30	27.20	0.00	0.00
145.00	(4) attachments	597.41	572.63	0.00	0.00
147.00	(6) attachments	239.65	232.07	0.00	0.00
149.37	(1) attachments	284.95	346.74	0.00	0.00
150.00		75.81	29.56	0.00	0.00
155.00		605.86	234.59	0.00	0.00
159.25	(3) attachments	1021.84	325.03	0.00	0.00
Totals:		18,304.57	30,827.06	0.00	0.00

Calculated Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 11



Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 28

Dead Load Factor 1.20

Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-30.80	-18.34	0.00	-1617.0	0.00	1617.08	3590.63	1795.31	6859.94	3435.07	0.00	0.000	0.000	0.479
5.00	-29.44	-17.91	0.00	-1525.3	0.00	1525.36	3550.74	1775.37	6673.42	3341.67	0.08	-0.148	0.000	0.465
10.00	-28.10	-17.47	0.00	-1435.8	0.00	1435.83	3510.26	1755.13	6488.29	3248.97	0.31	-0.294	0.000	0.450
15.00	-26.78	-17.03	0.00	-1348.5	0.00	1348.50	3469.19	1734.59	6304.60	3156.98	0.70	-0.438	0.000	0.435
20.00	-25.48	-16.56	0.00	-1263.3	0.00	1263.35	3427.52	1713.76	6122.40	3065.75	1.23	-0.581	0.000	0.420
25.00	-24.20	-16.07	0.00	-1180.5	0.00	1180.54	3385.27	1692.63	5941.76	2975.29	1.92	-0.721	0.000	0.404
30.00	-22.94	-15.57	0.00	-1100.1	0.00	1100.17	3342.42	1671.21	5762.72	2885.64	2.75	-0.859	0.000	0.388
35.00	-21.72	-15.03	0.00	-1022.3	0.00	1022.34	3298.98	1649.49	5585.34	2796.82	3.72	-0.995	0.000	0.372
36.75	-21.29	-14.85	0.00	-996.04	0.00	996.04	3283.64	1641.82	5523.66	2765.94	4.10	-1.043	0.000	0.367
40.00	-19.96	-14.49	0.00	-947.76	0.00	947.76	3254.95	1627.48	5409.68	2708.86	4.84	-1.129	0.000	0.356
42.00	-19.14	-14.26	0.00	-918.79	0.00	918.79	2585.06	1292.53	4344.38	2175.42	5.32	-1.182	0.000	0.430
45.00	-18.51	-13.95	0.00	-876.00	0.00	876.00	2566.17	1283.08	4264.80	2135.57	6.09	-1.261	0.000	0.418
50.00	-17.48	-13.39	0.00	-806.27	0.00	806.27	2534.21	1267.10	4132.95	2069.55	7.49	-1.405	0.000	0.397
55.00	-16.47	-12.83	0.00	-739.30	0.00	739.30	2501.66	1250.83	4002.14	2004.05	9.03	-1.545	0.000	0.376
60.00	-15.48	-12.27	0.00	-675.13	0.00	675.13	2468.51	1234.26	3872.43	1939.09	10.73	-1.681	0.000	0.355
65.00	-14.51	-11.70	0.00	-613.79	0.00	613.79	2434.78	1217.39	3743.87	1874.72	12.56	-1.813	0.000	0.333
70.00	-13.56	-11.13	0.00	-555.29	0.00	555.29	2400.45	1200.23	3616.52	1810.95	14.52	-1.939	0.000	0.312
75.00	-12.63	-10.55	0.00	-499.64	0.00	499.64	2365.53	1182.77	3490.42	1747.80	16.62	-2.060	0.000	0.291
76.00	-12.44	-10.44	0.00	-489.09	0.00	489.09	2358.48	1179.24	3465.36	1735.25	17.05	-2.085	0.000	0.287
80.00	-11.25	-9.95	0.00	-447.33	0.00	447.33	2330.02	1165.01	3365.64	1685.32	18.84	-2.177	0.000	0.270
80.75	-11.02	-9.87	0.00	-439.86	0.00	439.86	1747.65	873.83	2561.44	1282.63	19.18	-2.195	0.000	0.349
85.00	-10.37	-9.38	0.00	-397.91	0.00	397.91	1728.11	864.05	2487.16	1245.43	21.18	-2.288	0.000	0.326
90.00	-9.62	-8.81	0.00	-350.99	0.00	350.99	1704.57	852.28	2400.33	1201.95	23.64	-2.412	0.000	0.298
95.00	-8.88	-8.25	0.00	-306.92	0.00	306.92	1680.44	840.22	2314.14	1158.79	26.23	-2.528	0.000	0.270
100.00	-8.16	-7.68	0.00	-265.69	0.00	265.69	1655.72	827.86	2228.66	1115.99	28.94	-2.637	0.000	0.243
105.00	-7.45	-7.12	0.00	-227.30	0.00	227.30	1630.40	815.20	2143.93	1073.56	31.75	-2.736	0.000	0.216
110.00	-6.76	-6.56	0.00	-191.71	0.00	191.71	1604.50	802.25	2060.02	1031.54	34.67	-2.827	0.000	0.190
115.00	-6.08	-6.01	0.00	-158.92	0.00	158.92	1578.00	789.00	1976.98	989.96	37.67	-2.908	0.000	0.164
120.00	-5.30	-5.45	0.00	-128.88	0.00	128.88	1550.91	775.46	1894.86	948.84	40.76	-2.980	0.000	0.139
120.00	-5.30	-5.45	0.00	-128.88	0.00	128.88	930.23	465.11	237.26	173.90	40.76	-2.980	0.000	0.747
125.00	-4.61	-4.85	0.00	-101.61	0.00	101.61	930.23	465.11	237.26	173.90	43.91	-3.042	0.000	0.589
126.00	-4.01	-4.73	0.00	-96.76	0.00	96.76	930.23	465.11	237.26	173.90	44.57	-3.252	0.000	0.561
129.75	-3.29	-4.27	0.00	-79.01	0.00	79.01	930.23	465.11	237.26	173.90	47.40	-3.947	0.000	0.458
130.00	-3.23	-4.26	0.00	-77.94	0.00	77.94	930.23	465.11	237.26	173.90	47.61	-3.989	0.000	0.452
135.00	-2.19	-3.62	0.00	-56.62	0.00	56.62	930.23	465.11	237.26	173.90	52.18	-4.699	0.000	0.328
139.50	-1.50	-3.03	0.00	-40.33	0.00	40.33	930.23	465.11	237.26	173.90	56.83	-5.159	0.000	0.234
139.50	-1.50	-3.03	0.00	-40.33	0.00	40.33	541.19	270.59	86.27	63.23	56.83	-5.159	0.000	0.641
140.00	-1.42	-3.00	0.00	-38.81	0.00	38.81	541.19	270.59	86.27	63.23	57.37	-5.201	0.000	0.617
145.00	-0.86	-2.36	0.00	-23.81	0.00	23.81	541.19	270.59	86.27	63.23	64.03	-7.366	0.000	0.378
147.00	-0.64	-2.10	0.00	-19.08	0.00	19.08	541.19	270.59	86.27	63.23	67.23	-7.960	0.000	0.303
149.37	-0.33	-1.77	0.00	-14.10	0.00	14.10	541.19	270.59	86.27	63.23	71.31	-8.503	0.000	0.224
150.00	-0.30	-1.69	0.00	-12.98	0.00	12.98	541.19	270.59	86.27	63.23	72.44	-8.621	0.000	0.206
155.00	-0.16	-1.06	0.00	-4.51	0.00	4.51	541.19	270.59	86.27	63.23	81.80	-9.226	0.000	0.072
159.25	0.00	-1.02	0.00	0.00	0.00	0.00	541.19	270.59	86.27	63.23	90.05	-9.359	0.000	0.000

Wind Loading - Shaft

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 12

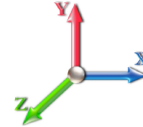


Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 28

Dead Load Factor 0.90

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	22.791	25.07	384.02	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	377.87	0.650	0.000	5.00	19.676	12.79	513.0	0.0	840.7
10.00		1.00	0.85	22.791	25.07	371.73	0.650	0.000	5.00	19.359	12.58	504.7	0.0	827.0
15.00		1.00	0.85	22.791	25.07	365.58	0.650	0.000	5.00	19.041	12.38	496.5	0.0	813.4
20.00		1.00	0.90	24.182	26.60	370.25	0.650	0.000	5.00	18.724	12.17	518.0	0.0	799.7
25.00		1.00	0.95	25.345	27.88	372.57	0.650	0.000	5.00	18.406	11.96	533.7	0.0	786.0
30.00		1.00	0.98	26.337	28.97	373.18	0.650	0.000	5.00	18.089	11.76	545.0	0.0	772.4
35.00		1.00	1.01	27.206	29.93	372.57	0.650	0.000	5.00	17.772	11.55	553.1	0.0	758.7
36.75	Bot - Section 2	1.00	1.03	27.487	30.24	372.13	0.650	0.000	1.75	6.145	3.99	193.2	0.0	262.3
40.00		1.00	1.04	27.981	30.78	371.03	0.650	0.000	3.25	11.481	7.46	367.5	0.0	891.7
42.00	Top - Section 1	1.00	1.05	28.270	31.10	370.21	0.650	0.000	2.00	6.999	4.55	226.3	0.0	543.5
45.00		1.00	1.07	28.684	31.55	374.51	0.650	0.000	3.00	10.403	6.76	341.4	0.0	370.6
50.00		1.00	1.09	29.327	32.26	371.72	0.650	0.000	5.00	17.084	11.10	573.2	0.0	608.5
55.00		1.00	1.12	29.922	32.91	368.42	0.650	0.000	5.00	16.766	10.90	573.9	0.0	597.1
60.00		1.00	1.14	30.475	33.52	364.71	0.650	0.000	5.00	16.449	10.69	573.5	0.0	585.7
65.00		1.00	1.16	30.993	34.09	360.63	0.650	0.000	5.00	16.131	10.49	572.0	0.0	574.3
70.00		1.00	1.17	31.480	34.63	356.23	0.650	0.000	5.00	15.814	10.28	569.5	0.0	562.9
75.00		1.00	1.19	31.941	35.13	351.55	0.650	0.000	5.00	15.497	10.07	566.2	0.0	551.5
76.00	Bot - Section 3	1.00	1.19	32.030	35.23	350.58	0.650	0.000	1.00	3.061	1.99	112.2	0.0	108.9
80.00		1.00	1.21	32.377	35.62	346.62	0.650	0.000	4.00	12.287	7.99	455.1	0.0	781.6
80.75	Top - Section 2	1.00	1.21	32.441	35.69	345.86	0.650	0.000	0.75	2.281	1.48	84.7	0.0	145.1
85.00		1.00	1.22	32.793	36.07	346.38	0.650	0.000	4.25	12.792	8.31	479.9	0.0	364.8
90.00		1.00	1.24	33.190	36.51	341.06	0.650	0.000	5.00	14.756	9.59	560.3	0.0	420.7
95.00		1.00	1.25	33.570	36.93	335.54	0.650	0.000	5.00	14.439	9.39	554.5	0.0	411.6
100.00		1.00	1.27	33.935	37.33	329.86	0.650	0.000	5.00	14.121	9.18	548.2	0.0	402.5
105.00		1.00	1.28	34.285	37.71	324.02	0.650	0.000	5.00	13.804	8.97	541.4	0.0	393.4
110.00		1.00	1.29	34.623	38.08	318.04	0.650	0.000	5.00	13.486	8.77	534.2	0.0	384.3
115.00		1.00	1.30	34.948	38.44	311.92	0.650	0.000	5.00	13.169	8.56	526.5	0.0	375.1
120.00	Top - Section 3	1.00	1.32	35.263	38.79	305.68	0.650	0.000	5.00	12.852	8.35	518.4	0.0	366.0
125.00		1.00	1.33	35.567	39.12	372.87	0.600	0.000	5.00	15.417	9.25	579.0	0.0	381.1
126.00	Appurtenance(s)	1.00	1.33	35.627	39.19	373.19	0.600	0.000	1.00	3.083	1.85	116.0	0.0	76.2
129.75	Appurtenance(s)	1.00	1.34	35.847	39.43	374.34	0.600	0.000	3.75	11.563	6.94	437.7	0.0	285.9
130.00		1.00	1.34	35.862	39.45	374.42	0.600	0.000	0.25	0.771	0.46	29.2	0.0	19.1
135.00	Appurtenance(s)	1.00	1.35	36.148	39.76	375.91	0.600	0.000	5.00	15.417	9.25	588.5	0.0	381.1
139.50	Top - Section 4	1.00	1.36	36.398	40.04	377.21	0.600	0.000	4.50	13.875	8.32	533.3	0.0	343.0
140.00		1.00	1.36	36.426	40.07	377.35	0.600	0.000	0.50	1.542	0.93	59.3	0.0	17.6
145.00	Appurtenance(s)	1.00	1.37	36.696	40.37	378.75	0.600	0.000	5.00	15.417	9.25	597.4	0.0	175.9
147.00	Appurtenance(s)	1.00	1.37	36.802	40.48	379.29	0.600	0.000	2.00	6.167	3.70	239.7	0.0	70.4
149.37	Appurtenance(s)	1.00	1.38	36.926	40.62	379.93	0.600	0.000	2.37	7.308	4.38	284.9	0.0	83.4
150.00		1.00	1.38	36.959	40.65	380.10	0.600	0.000	0.63	1.942	1.17	75.8	0.0	22.2
155.00		1.00	1.39	37.215	40.94	381.41	0.600	0.000	5.00	15.417	9.25	605.9	0.0	175.9
159.25	Appurtenance(s)	1.00	1.40	37.427	41.17	382.50	0.600	0.000	4.25	13.104	7.86	517.9	0.0	149.5
Totals:									159.25			17,800.7		17,481.5

Discrete Appurtenance Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

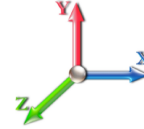
Page: 13



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 28

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	159.25	Flag	1	37.427	41.170	1.00	1.00	7.27	0.00	0.000	0.000	478.89	0.00	0.00
2	159.25	6' Lightning rod	1	37.427	41.170	1.00	1.00	0.38	5.85	0.000	0.000	25.03	0.00	0.00
3	159.25	37" Canister	1	37.427	41.170	1.00	1.00	0.00	88.37	0.000	0.000	0.00	0.00	0.00
4	149.37	37" Canister	1	36.926	40.619	1.00	1.00	0.00	176.66	0.000	0.000	0.00	0.00	0.00
5	147.00	BPD7823VG12A	6	36.802	40.482	0.00	1.00	0.00	103.68	0.000	0.000	0.00	0.00	0.00
6	145.00	Flush Mount	1	36.696	40.365	1.00	1.00	0.00	135.00	0.000	0.000	0.00	0.00	0.00
7	145.00	SBNHH-1D65A	3	36.696	40.365	1.00	1.00	0.00	90.45	0.000	0.000	0.00	0.00	0.00
8	139.50	37" Canister	1	36.398	40.038	1.00	1.00	0.00	175.50	0.000	0.000	0.00	0.00	0.00
9	135.00	Flush Mount	1	36.148	39.763	1.00	1.00	0.00	135.00	0.000	0.000	0.00	0.00	0.00
10	135.00	KRY 112 144/1	6	36.148	39.763	1.00	1.00	0.00	59.40	0.000	0.000	0.00	0.00	0.00
11	135.00	ATSBT-TOP-FM	3	36.148	39.763	0.00	1.00	0.00	4.86	0.000	0.000	0.00	0.00	0.00
12	135.00	FVV-65B-R3	3	36.148	39.763	0.00	1.00	0.00	117.99	0.000	0.000	0.00	0.00	0.00
13	129.75	37" Canister	1	35.847	39.432	1.00	1.00	0.00	174.42	0.000	0.000	0.00	0.00	0.00
14	126.00	Flush Mount	1	35.627	39.189	1.00	1.00	0.00	135.00	0.000	0.000	0.00	0.00	0.00
15	126.00	DTMABP7819VG12A	3	35.627	39.189	1.00	1.00	0.00	51.84	0.000	0.000	0.00	0.00	0.00
16	126.00	LGP21401	3	35.627	39.189	1.00	1.00	0.00	38.07	0.000	0.000	0.00	0.00	0.00
17	126.00	AM-X-CD-14-65-00T	3	35.627	39.189	1.00	1.00	0.00	98.28	0.000	0.000	0.00	0.00	0.00
18	120.00	37" Canister	1	35.263	38.789	1.00	1.00	0.00	87.21	0.000	0.000	0.00	0.00	0.00
Totals:									1,677.58			503.92		

Total Applied Force Summary

Structure: CT00799-S-SBA	Code: TIA-222-G	4/8/2022
Site Name: Mystic	Exposure: C	
Height: 159.25 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

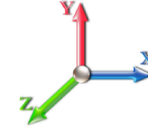


Page: 14

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 28

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		513.01	988.68	0.00	0.00
10.00		504.73	975.01	0.00	0.00
15.00		496.46	961.33	0.00	0.00
20.00		517.98	947.66	0.00	0.00
25.00		533.69	933.99	0.00	0.00
30.00		545.01	920.32	0.00	0.00
35.00		553.11	906.64	0.00	0.00
36.75		193.23	314.10	0.00	0.00
40.00		367.51	987.91	0.00	0.00
42.00		226.34	602.68	0.00	0.00
45.00		341.35	459.34	0.00	0.00
50.00		573.16	756.46	0.00	0.00
55.00		573.92	745.06	0.00	0.00
60.00		573.46	733.67	0.00	0.00
65.00		571.95	722.28	0.00	0.00
70.00		569.51	710.88	0.00	0.00
75.00		566.25	699.49	0.00	0.00
76.00		112.17	138.53	0.00	0.00
80.00		455.12	899.99	0.00	0.00
80.75		84.66	167.29	0.00	0.00
85.00		479.91	490.54	0.00	0.00
90.00		560.28	568.67	0.00	0.00
95.00		554.51	559.56	0.00	0.00
100.00		548.20	550.44	0.00	0.00
105.00		541.41	541.33	0.00	0.00
110.00		534.17	532.21	0.00	0.00
115.00		526.50	523.10	0.00	0.00
120.00	(1) attachments	518.44	601.19	0.00	0.00
125.00		579.03	529.10	0.00	0.00
126.00	(10) attachments	116.00	429.01	0.00	0.00
129.75	(1) attachments	437.70	540.36	0.00	0.00
130.00		29.19	23.65	0.00	0.00
135.00	(13) attachments	588.49	790.19	0.00	0.00
139.50	(1) attachments	533.31	543.80	0.00	0.00
140.00		59.30	20.40	0.00	0.00
145.00	(4) attachments	597.41	429.47	0.00	0.00
147.00	(6) attachments	239.65	174.06	0.00	0.00
149.37	(1) attachments	284.95	260.06	0.00	0.00
150.00		75.81	22.17	0.00	0.00
155.00		605.86	175.94	0.00	0.00
159.25	(3) attachments	1021.84	243.77	0.00	0.00
Totals:		18,304.57	23,120.29	0.00	0.00

Calculated Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 15

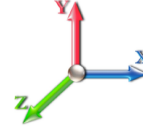


Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 28

Dead Load Factor 0.90

Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-23.10	-18.33	0.00	-1603.6	0.00	1603.68	3590.63	1795.31	6859.94	3435.07	0.00	0.000	0.000	0.473
5.00	-22.06	-17.88	0.00	-1512.0	0.00	1512.01	3550.74	1775.37	6673.42	3341.67	0.08	-0.147	0.000	0.459
10.00	-21.05	-17.42	0.00	-1422.6	0.00	1422.64	3510.26	1755.13	6488.29	3248.97	0.31	-0.291	0.000	0.444
15.00	-20.05	-16.97	0.00	-1335.5	0.00	1335.53	3469.19	1734.59	6304.60	3156.98	0.69	-0.435	0.000	0.429
20.00	-19.06	-16.49	0.00	-1250.7	0.00	1250.70	3427.52	1713.76	6122.40	3065.75	1.22	-0.576	0.000	0.414
25.00	-18.10	-15.99	0.00	-1168.2	0.00	1168.26	3385.27	1692.63	5941.76	2975.29	1.90	-0.715	0.000	0.398
30.00	-17.15	-15.47	0.00	-1088.3	0.00	1088.32	3342.42	1671.21	5762.72	2885.64	2.72	-0.851	0.000	0.382
35.00	-16.23	-14.93	0.00	-1010.9	0.00	1010.97	3298.98	1649.49	5585.34	2796.82	3.69	-0.985	0.000	0.366
36.75	-15.90	-14.75	0.00	-984.85	0.00	984.85	3283.64	1641.82	5523.66	2765.94	4.06	-1.032	0.000	0.361
40.00	-14.90	-14.38	0.00	-936.92	0.00	936.92	3254.95	1627.48	5409.68	2708.86	4.79	-1.118	0.000	0.351
42.00	-14.29	-14.16	0.00	-908.16	0.00	908.16	2585.06	1292.53	4344.38	2175.42	5.27	-1.171	0.000	0.423
45.00	-13.81	-13.83	0.00	-865.68	0.00	865.68	2566.17	1283.08	4264.80	2135.57	6.03	-1.248	0.000	0.411
50.00	-13.03	-13.28	0.00	-796.52	0.00	796.52	2534.21	1267.10	4132.95	2069.55	7.41	-1.391	0.000	0.390
55.00	-12.27	-12.71	0.00	-730.14	0.00	730.14	2501.66	1250.83	4002.14	2004.05	8.95	-1.529	0.000	0.369
60.00	-11.53	-12.14	0.00	-666.59	0.00	666.59	2468.51	1234.26	3872.43	1939.09	10.62	-1.664	0.000	0.349
65.00	-10.80	-11.58	0.00	-605.86	0.00	605.86	2434.78	1217.39	3743.87	1874.72	12.43	-1.793	0.000	0.328
70.00	-10.08	-11.00	0.00	-547.99	0.00	547.99	2400.45	1200.23	3616.52	1810.95	14.38	-1.918	0.000	0.307
75.00	-9.39	-10.43	0.00	-492.97	0.00	492.97	2365.53	1182.77	3490.42	1747.80	16.45	-2.038	0.000	0.286
76.00	-9.24	-10.32	0.00	-482.54	0.00	482.54	2358.48	1179.24	3465.36	1735.25	16.88	-2.061	0.000	0.282
80.00	-8.35	-9.84	0.00	-441.27	0.00	441.27	2330.02	1165.01	3365.64	1685.32	18.65	-2.153	0.000	0.265
80.75	-8.18	-9.76	0.00	-433.89	0.00	433.89	1747.65	873.83	2561.44	1282.63	18.99	-2.170	0.000	0.343
85.00	-7.69	-9.27	0.00	-392.43	0.00	392.43	1728.11	864.05	2487.16	1245.43	20.96	-2.262	0.000	0.320
90.00	-7.13	-8.70	0.00	-346.08	0.00	346.08	1704.57	852.28	2400.33	1201.95	23.39	-2.385	0.000	0.292
95.00	-6.57	-8.14	0.00	-302.56	0.00	302.56	1680.44	840.22	2314.14	1158.79	25.95	-2.499	0.000	0.265
100.00	-6.04	-7.58	0.00	-261.87	0.00	261.87	1655.72	827.86	2228.66	1115.99	28.63	-2.606	0.000	0.238
105.00	-5.51	-7.02	0.00	-223.99	0.00	223.99	1630.40	815.20	2143.93	1073.56	31.41	-2.704	0.000	0.212
110.00	-4.99	-6.47	0.00	-188.90	0.00	188.90	1604.50	802.25	2060.02	1031.54	34.29	-2.793	0.000	0.186
115.00	-4.49	-5.92	0.00	-156.56	0.00	156.56	1578.00	789.00	1976.98	989.96	37.26	-2.874	0.000	0.161
120.00	-3.91	-5.38	0.00	-126.95	0.00	126.95	1550.91	775.46	1894.86	948.84	40.31	-2.944	0.000	0.136
120.00	-3.91	-5.38	0.00	-126.95	0.00	126.95	930.23	465.11	237.26	173.90	40.31	-2.944	0.000	0.734
125.00	-3.40	-4.78	0.00	-100.06	0.00	100.06	930.23	465.11	237.26	173.90	43.42	-3.006	0.000	0.579
126.00	-2.94	-4.66	0.00	-95.28	0.00	95.28	930.23	465.11	237.26	173.90	44.07	-3.212	0.000	0.551
129.75	-2.40	-4.21	0.00	-77.78	0.00	77.78	930.23	465.11	237.26	173.90	46.87	-3.897	0.000	0.450
130.00	-2.35	-4.19	0.00	-76.73	0.00	76.73	930.23	465.11	237.26	173.90	47.08	-3.937	0.000	0.444
135.00	-1.57	-3.56	0.00	-55.76	0.00	55.76	930.23	465.11	237.26	173.90	51.58	-4.636	0.000	0.322
139.50	-1.06	-2.99	0.00	-39.72	0.00	39.72	930.23	465.11	237.26	173.90	56.17	-5.090	0.000	0.230
139.50	-1.06	-2.99	0.00	-39.72	0.00	39.72	541.19	270.59	86.27	63.23	56.17	-5.090	0.000	0.630
140.00	-0.99	-2.95	0.00	-38.22	0.00	38.22	541.19	270.59	86.27	63.23	56.71	-5.131	0.000	0.606
145.00	-0.57	-2.32	0.00	-23.47	0.00	23.47	541.19	270.59	86.27	63.23	63.27	-7.264	0.000	0.372
147.00	-0.41	-2.07	0.00	-18.82	0.00	18.82	541.19	270.59	86.27	63.23	66.43	-7.849	0.000	0.298
149.37	-0.19	-1.75	0.00	-13.92	0.00	13.92	541.19	270.59	86.27	63.23	70.46	-8.385	0.000	0.221
150.00	-0.16	-1.67	0.00	-12.82	0.00	12.82	541.19	270.59	86.27	63.23	71.57	-8.502	0.000	0.203
155.00	-0.08	-1.05	0.00	-4.45	0.00	4.45	541.19	270.59	86.27	63.23	80.80	-9.099	0.000	0.071
159.25	0.00	-1.02	0.00	0.00	0.00	0.00	541.19	270.59	86.27	63.23	88.94	-9.230	0.000	0.000

Wind Loading - Shaft

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 16

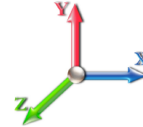


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	20.711	24.85	141.3	364.8	1485.8
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	20.468	24.56	139.6	385.5	1488.3
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	20.196	24.24	137.8	395.5	1480.0
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	19.913	23.90	144.1	400.8	1467.0
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	19.622	23.55	148.9	403.3	1451.3
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	19.327	23.19	152.4	404.1	1433.9
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	19.029	22.83	155.0	403.5	1415.1
36.75	Bot - Section 2	1.00	1.03	6.233	6.86	0.00	1.200	1.516	1.75	6.587	7.90	54.2	141.1	490.8
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	3.25	12.309	14.77	103.1	265.2	1454.2
42.00	Top - Section 1	1.00	1.05	6.410	7.05	0.00	1.200	1.537	2.00	7.511	9.01	63.6	162.9	887.5
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	3.00	11.176	13.41	96.0	243.4	737.5
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	5.00	18.387	22.06	161.4	402.9	1214.3
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	5.00	18.082	21.70	161.9	399.6	1195.7
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	17.776	21.33	162.1	395.8	1176.7
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	17.469	20.96	162.1	391.6	1157.4
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	17.162	20.59	161.7	387.1	1137.7
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	16.854	20.22	161.1	382.4	1117.7
76.00	Bot - Section 3	1.00	1.19	7.263	7.99	0.00	1.200	1.631	1.00	3.333	4.00	32.0	76.3	221.5
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	4.00	13.380	16.06	129.7	305.9	1348.1
80.75	Top - Section 2	1.00	1.21	7.356	8.09	0.00	1.200	1.640	0.75	2.486	2.98	24.1	57.2	250.7
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	4.25	13.960	16.75	137.0	320.6	806.9
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	16.138	19.37	160.3	371.7	932.6
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	15.828	18.99	159.0	366.0	914.8
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	5.00	15.518	18.62	157.6	360.2	896.8
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	15.207	18.25	156.1	354.2	878.7
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	14.896	17.88	154.4	348.1	860.4
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	14.585	17.50	152.6	341.8	842.0
120.00	Top - Section 3	1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	14.274	17.13	150.7	335.4	823.4
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	15.417	18.50	164.1	292.5	800.7
126.00	Appurtenance(s)	1.00	1.33	8.079	8.89	0.00	1.200	1.715	1.00	3.083	3.70	32.9	58.5	160.2
129.75	Appurtenance(s)	1.00	1.34	8.129	8.94	0.00	1.200	1.720	3.75	11.563	13.88	124.1	219.7	600.8
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	0.25	0.771	0.93	8.3	14.6	40.1
135.00	Appurtenance(s)	1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	15.417	18.50	166.8	293.4	801.6
139.50	Top - Section 4	1.00	1.36	8.254	9.08	0.00	1.200	1.733	4.50	13.875	16.65	151.2	264.4	721.8
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	0.50	1.542	1.85	16.8	26.2	49.7
145.00	Appurtenance(s)	1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	15.417	18.50	169.3	262.4	497.0
147.00	Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	1.742	2.00	6.167	7.40	67.9	105.0	198.8
149.37	Appurtenance(s)	1.00	1.38	8.373	9.21	0.00	1.200	1.744	2.37	7.308	8.77	80.8	124.5	235.7
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	0.63	1.942	2.33	21.5	33.1	62.7
155.00		1.00	1.39	8.439	9.28	0.00	1.200	1.751	5.00	15.417	18.50	171.7	263.0	497.6
159.25	Appurtenance(s)	1.00	1.40	8.487	9.34	0.00	1.200	1.756	4.25	13.104	15.72	146.8	223.8	423.2
Totals:									159.25			5,041.8		34,656.8

Discrete Appurtenance Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

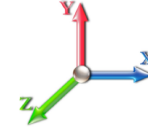
Page: 17



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	159.25	Flag	1	8.487	9.336	1.00	1.00	7.78	0.00	0.000	0.000	72.64	0.00	0.00
2	159.25	6' Lightning rod	1	8.487	9.336	1.00	1.00	1.47	39.02	0.000	0.000	13.76	0.00	0.00
3	159.25	37" Canister	1	8.487	9.336	1.00	1.00	0.00	222.91	0.000	0.000	0.00	0.00	0.00
4	149.37	37" Canister	1	8.373	9.211	1.00	1.00	0.00	445.53	0.000	0.000	0.00	0.00	0.00
5	147.00	BPD7823VG12A	6	8.345	9.180	0.00	1.00	0.00	247.25	0.000	0.000	0.00	0.00	0.00
6	145.00	Flush Mount	1	8.321	9.153	1.00	1.00	0.00	5.23	0.000	0.000	0.00	0.00	0.00
7	145.00	SBNHH-1D65A	3	8.321	9.153	1.00	1.00	20.87	593.74	0.000	0.000	191.03	0.00	0.00
8	139.50	37" Canister	1	8.254	9.079	1.00	1.00	0.00	442.51	0.000	0.000	0.00	0.00	0.00
9	135.00	Flush Mount	1	8.197	9.016	1.00	1.00	0.00	4.34	0.000	0.000	0.00	0.00	0.00
10	135.00	KRY 112 144/1	6	8.197	9.016	1.00	1.00	0.00	124.61	0.000	0.000	0.00	0.00	0.00
11	135.00	ATSBT-TOP-FM	3	8.197	9.016	0.00	1.00	0.00	18.71	0.000	0.000	0.00	0.00	0.00
12	135.00	FVV-65B-R3	3	8.197	9.016	0.00	1.00	28.07	754.60	0.000	0.000	253.12	0.00	0.00
13	129.75	37" Canister	1	8.129	8.942	1.00	1.00	0.00	439.69	0.000	0.000	0.00	0.00	0.00
14	126.00	Flush Mount	1	8.079	8.886	1.00	1.00	0.00	3.48	0.000	0.000	0.00	0.00	0.00
15	126.00	DTMABP7819VG12A	3	8.079	8.886	1.00	1.00	0.00	122.46	0.000	0.000	0.00	0.00	0.00
16	126.00	LGP21401	3	8.079	8.886	1.00	1.00	0.00	103.17	0.000	0.000	0.00	0.00	0.00
17	126.00	AM-X-CD-14-65-00T	3	8.079	8.886	1.00	1.00	0.00	364.13	0.000	0.000	0.00	0.00	0.00
18	120.00	37" Canister	1	7.996	8.796	1.00	1.00	0.00	219.80	0.000	0.000	0.00	0.00	0.00

Totals: 4,151.20

530.54

Total Applied Force Summary

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 18

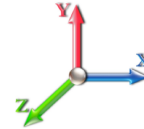


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		141.29	1683.06	0.00	0.00
10.00		139.63	1685.54	0.00	0.00
15.00		137.77	1677.28	0.00	0.00
20.00		144.13	1664.31	0.00	0.00
25.00		148.86	1648.62	0.00	0.00
30.00		152.36	1631.14	0.00	0.00
35.00		154.96	1612.38	0.00	0.00
36.75		54.20	559.88	0.00	0.00
40.00		103.09	1582.38	0.00	0.00
42.00		63.55	966.44	0.00	0.00
45.00		95.95	855.91	0.00	0.00
50.00		161.40	1411.54	0.00	0.00
55.00		161.94	1393.00	0.00	0.00
60.00		162.15	1374.03	0.00	0.00
65.00		162.06	1354.67	0.00	0.00
70.00		161.71	1334.98	0.00	0.00
75.00		161.13	1315.01	0.00	0.00
76.00		31.95	260.98	0.00	0.00
80.00		129.67	1505.90	0.00	0.00
80.75		24.14	280.29	0.00	0.00
85.00		137.03	974.62	0.00	0.00
90.00		160.32	1129.92	0.00	0.00
95.00		159.04	1112.11	0.00	0.00
100.00		157.62	1094.13	0.00	0.00
105.00		156.06	1075.98	0.00	0.00
110.00		154.37	1057.69	0.00	0.00
115.00		152.57	1039.26	0.00	0.00
120.00	(1) attachments	150.66	1240.49	0.00	0.00
125.00		164.12	997.95	0.00	0.00
126.00	(10) attachments	32.88	792.85	0.00	0.00
129.75	(1) attachments	124.06	1147.31	0.00	0.00
130.00		8.27	46.18	0.00	0.00
135.00	(13) attachments	419.92	1826.26	0.00	0.00
139.50	(1) attachments	151.16	1198.01	0.00	0.00
140.00		16.81	53.41	0.00	0.00
145.00	(4) attachments	360.36	1133.41	0.00	0.00
147.00	(6) attachments	67.93	446.10	0.00	0.00
149.37	(1) attachments	80.77	681.24	0.00	0.00
150.00		21.49	62.66	0.00	0.00
155.00		171.73	497.60	0.00	0.00
159.25	(3) attachments	233.20	685.10	0.00	0.00
Totals:		5,572.32	44,089.60	0.00	0.00

Calculated Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 19

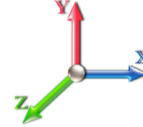


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-44.09	-5.59	0.00	-526.23	0.00	526.23	3590.63	1795.31	6859.94	3435.07	0.00	0.000	0.000	0.165
5.00	-42.40	-5.48	0.00	-498.28	0.00	498.28	3550.74	1775.37	6673.42	3341.67	0.03	-0.048	0.000	0.161
10.00	-40.71	-5.38	0.00	-470.86	0.00	470.86	3510.26	1755.13	6488.29	3248.97	0.10	-0.096	0.000	0.157
15.00	-39.03	-5.27	0.00	-443.98	0.00	443.98	3469.19	1734.59	6304.60	3156.98	0.23	-0.144	0.000	0.152
20.00	-37.36	-5.15	0.00	-417.64	0.00	417.64	3427.52	1713.76	6122.40	3065.75	0.40	-0.191	0.000	0.147
25.00	-35.71	-5.02	0.00	-391.90	0.00	391.90	3385.27	1692.63	5941.76	2975.29	0.63	-0.237	0.000	0.142
30.00	-34.07	-4.89	0.00	-366.79	0.00	366.79	3342.42	1671.21	5762.72	2885.64	0.90	-0.283	0.000	0.137
35.00	-32.46	-4.74	0.00	-342.34	0.00	342.34	3298.98	1649.49	5585.34	2796.82	1.22	-0.328	0.000	0.132
36.75	-31.90	-4.70	0.00	-334.04	0.00	334.04	3283.64	1641.82	5523.66	2765.94	1.35	-0.344	0.000	0.130
40.00	-30.31	-4.60	0.00	-318.77	0.00	318.77	3254.95	1627.48	5409.68	2708.86	1.59	-0.373	0.000	0.127
42.00	-29.35	-4.54	0.00	-309.57	0.00	309.57	2585.06	1292.53	4344.38	2175.42	1.75	-0.391	0.000	0.154
45.00	-28.49	-4.46	0.00	-295.96	0.00	295.96	2566.17	1283.08	4264.80	2135.57	2.00	-0.418	0.000	0.150
50.00	-27.08	-4.31	0.00	-273.68	0.00	273.68	2534.21	1267.10	4132.95	2069.55	2.47	-0.467	0.000	0.143
55.00	-25.68	-4.15	0.00	-252.14	0.00	252.14	2501.66	1250.83	4002.14	2004.05	2.98	-0.514	0.000	0.136
60.00	-24.30	-4.00	0.00	-231.37	0.00	231.37	2468.51	1234.26	3872.43	1939.09	3.55	-0.561	0.000	0.129
65.00	-22.95	-3.84	0.00	-211.38	0.00	211.38	2434.78	1217.39	3743.87	1874.72	4.16	-0.606	0.000	0.122
70.00	-21.61	-3.68	0.00	-192.18	0.00	192.18	2400.45	1200.23	3616.52	1810.95	4.82	-0.649	0.000	0.115
75.00	-20.30	-3.51	0.00	-173.78	0.00	173.78	2365.53	1182.77	3490.42	1747.80	5.52	-0.692	0.000	0.108
76.00	-20.04	-3.48	0.00	-170.27	0.00	170.27	2358.48	1179.24	3465.36	1735.25	5.66	-0.700	0.000	0.107
80.00	-18.53	-3.34	0.00	-156.33	0.00	156.33	2330.02	1165.01	3365.64	1685.32	6.26	-0.732	0.000	0.101
80.75	-18.25	-3.32	0.00	-153.83	0.00	153.83	1747.65	873.83	2561.44	1282.63	6.38	-0.738	0.000	0.130
85.00	-17.28	-3.18	0.00	-139.71	0.00	139.71	1728.11	864.05	2487.16	1245.43	7.05	-0.771	0.000	0.122
90.00	-16.15	-3.02	0.00	-123.80	0.00	123.80	1704.57	852.28	2400.33	1201.95	7.88	-0.815	0.000	0.112
95.00	-15.03	-2.85	0.00	-108.71	0.00	108.71	1680.44	840.22	2314.14	1158.79	8.76	-0.856	0.000	0.103
100.00	-13.94	-2.69	0.00	-94.44	0.00	94.44	1655.72	827.86	2228.66	1115.99	9.68	-0.894	0.000	0.093
105.00	-12.87	-2.52	0.00	-81.00	0.00	81.00	1630.40	815.20	2143.93	1073.56	10.63	-0.930	0.000	0.083
110.00	-11.81	-2.36	0.00	-68.39	0.00	68.39	1604.50	802.25	2060.02	1031.54	11.62	-0.962	0.000	0.074
115.00	-10.77	-2.19	0.00	-56.60	0.00	56.60	1578.00	789.00	1976.98	989.96	12.65	-0.991	0.000	0.064
120.00	-9.53	-2.02	0.00	-45.64	0.00	45.64	1550.91	775.46	1894.86	948.84	13.70	-1.017	0.000	0.054
120.00	-9.53	-2.02	0.00	-45.64	0.00	45.64	930.23	465.11	237.26	173.90	13.70	-1.017	0.000	0.273
125.00	-8.54	-1.85	0.00	-35.53	0.00	35.53	930.23	465.11	237.26	173.90	14.78	-1.038	0.000	0.213
126.00	-7.74	-1.82	0.00	-33.68	0.00	33.68	930.23	465.11	237.26	173.90	15.00	-1.111	0.000	0.202
129.75	-6.59	-1.69	0.00	-26.84	0.00	26.84	930.23	465.11	237.26	173.90	15.97	-1.351	0.000	0.161
130.00	-6.54	-1.69	0.00	-26.42	0.00	26.42	930.23	465.11	237.26	173.90	16.04	-1.365	0.000	0.159
135.00	-4.72	-1.24	0.00	-17.95	0.00	17.95	930.23	465.11	237.26	173.90	17.60	-1.599	0.000	0.108
139.50	-3.53	-1.06	0.00	-12.37	0.00	12.37	930.23	465.11	237.26	173.90	19.18	-1.743	0.000	0.075
139.50	-3.53	-1.06	0.00	-12.37	0.00	12.37	541.19	270.59	86.27	63.23	19.18	-1.743	0.000	0.202
140.00	-3.47	-1.06	0.00	-11.84	0.00	11.84	541.19	270.59	86.27	63.23	19.37	-1.756	0.000	0.194
145.00	-2.35	-0.68	0.00	-6.52	0.00	6.52	541.19	270.59	86.27	63.23	21.57	-2.391	0.000	0.107
147.00	-1.90	-0.59	0.00	-5.17	0.00	5.17	541.19	270.59	86.27	63.23	22.61	-2.552	0.000	0.085
149.37	-1.22	-0.48	0.00	-3.76	0.00	3.76	541.19	270.59	86.27	63.23	23.91	-2.698	0.000	0.062
150.00	-1.16	-0.46	0.00	-3.45	0.00	3.45	541.19	270.59	86.27	63.23	24.27	-2.730	0.000	0.057
155.00	-0.67	-0.27	0.00	-1.14	0.00	1.14	541.19	270.59	86.27	63.23	27.22	-2.888	0.000	0.019
159.25	0.00	-0.23	0.00	0.00	0.00	0.00	541.19	270.59	86.27	63.23	29.81	-2.922	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 20



Load Case: 1.2D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 1.20 **Seismic Load Factor** 1.00

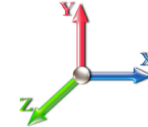
Sd1 0.09

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.38

SA 0.04

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		934.13	0.00	0.03	0.02	13.68	
10.00		918.94	0.01	0.05	0.03	20.06	
15.00		903.75	0.02	0.06	0.04	23.12	
20.00		888.56	0.03	0.07	0.04	24.53	
25.00		873.37	0.05	0.07	0.04	25.14	
30.00		858.17	0.07	0.07	0.04	25.41	
35.00		842.98	0.09	0.07	0.04	25.57	
36.75	Bot - Section 2	291.45	0.10	0.07	0.04	8.91	
40.00		990.82	0.12	0.07	0.03	30.74	
42.00	Top - Section 1	603.89	0.13	0.07	0.03	18.89	
45.00		411.74	0.15	0.07	0.03	13.02	
50.00		676.11	0.19	0.06	0.03	21.58	
55.00		663.45	0.23	0.06	0.02	20.96	
60.00		650.79	0.27	0.05	0.02	19.68	
65.00		638.13	0.31	0.04	0.01	17.45	
70.00		625.47	0.37	0.03	0.01	14.07	
75.00		612.81	0.42	0.01	0.01	9.46	
76.00	Bot - Section 3	121.04	0.43	0.01	0.01	1.67	
80.00		868.47	0.48	-0.01	0.01	5.54	
80.75	Top - Section 2	161.21	0.49	-0.01	0.01	0.79	
85.00		405.30	0.54	-0.03	0.01	-1.55	
90.00		467.46	0.60	-0.05	0.01	-6.45	
95.00		457.33	0.67	-0.08	0.02	-10.08	
100.00		447.20	0.75	-0.10	0.04	-12.22	
105.00		437.07	0.82	-0.12	0.06	-12.65	
110.00		426.95	0.90	-0.12	0.09	-11.34	
115.00		416.82	0.99	-0.11	0.12	-8.38	
120.00	Top - Section 3	503.59	1.07	-0.08	0.17	-4.81	
125.00		374.15	1.16	-0.03	0.23	1.89	
126.00	Appurtenance(s)	433.93	1.18	-0.01	0.24	3.66	
129.75	Appurtenance(s)	474.42	1.25	0.06	0.30	10.75	
130.00		18.71	1.26	0.07	0.30	0.44	
135.00	Appurtenance(s)	726.65	1.36	0.21	0.39	33.75	
139.50	Top - Section 4	531.74	1.45	0.39	0.49	37.47	
140.00		14.62	1.46	0.41	0.50	1.07	
145.00	Appurtenance(s)	396.65	1.57	0.68	0.63	41.43	
147.00	Appurtenance(s)	173.66	1.61	0.81	0.68	20.50	
149.37	Appurtenance(s)	265.57	1.66	0.99	0.76	35.89	
150.00		18.42	1.68	1.04	0.78	2.57	
155.00		146.15	1.79	1.50	0.96	26.25	
159.25	Appurtenance(s)	228.92	1.89	1.98	1.14	49.65	
Totals:		20,900.6				538.1	
						Total Wind:	18,304.6

Calculated Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 21



Load Case: 1.2D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 1.20

Seismic Load Factor 1.00

Sd1 0.09

S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.38

SA 0.04

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-30.83	-0.61	0.00	-53.77	0.00	53.77	3590.63	1795.31	6859.94	3435.07	0.00	0.00	0.00	0.024
5.00	-29.51	-0.59	0.00	-50.74	0.00	50.74	3550.74	1775.37	6673.42	3341.67	0.00	0.00	0.00	0.023
10.00	-28.21	-0.58	0.00	-47.77	0.00	47.77	3510.26	1755.13	6488.29	3248.97	0.01	-0.01	0.00	0.023
15.00	-26.93	-0.56	0.00	-44.88	0.00	44.88	3469.19	1734.59	6304.60	3156.98	0.02	-0.01	0.00	0.022
20.00	-25.66	-0.53	0.00	-42.11	0.00	42.11	3427.52	1713.76	6122.40	3065.75	0.04	-0.02	0.00	0.021
25.00	-24.42	-0.51	0.00	-39.44	0.00	39.44	3385.27	1692.63	5941.76	2975.29	0.06	-0.02	0.00	0.020
30.00	-23.19	-0.49	0.00	-36.90	0.00	36.90	3342.42	1671.21	5762.72	2885.64	0.09	-0.03	0.00	0.020
35.00	-21.98	-0.46	0.00	-34.47	0.00	34.47	3298.98	1649.49	5585.34	2796.82	0.12	-0.03	0.00	0.019
36.75	-21.56	-0.45	0.00	-33.67	0.00	33.67	3283.64	1641.82	5523.66	2765.94	0.14	-0.03	0.00	0.019
40.00	-20.25	-0.42	0.00	-32.20	0.00	32.20	3254.95	1627.48	5409.68	2708.86	0.16	-0.04	0.00	0.018
42.00	-19.44	-0.40	0.00	-31.36	0.00	31.36	2585.06	1292.53	4344.38	2175.42	0.18	-0.04	0.00	0.022
45.00	-18.83	-0.39	0.00	-30.15	0.00	30.15	2566.17	1283.08	4264.80	2135.57	0.20	-0.04	0.00	0.021
50.00	-17.82	-0.37	0.00	-28.20	0.00	28.20	2534.21	1267.10	4132.95	2069.55	0.25	-0.05	0.00	0.021
55.00	-16.83	-0.35	0.00	-26.35	0.00	26.35	2501.66	1250.83	4002.14	2004.05	0.30	-0.05	0.00	0.020
60.00	-15.85	-0.33	0.00	-24.61	0.00	24.61	2468.51	1234.26	3872.43	1939.09	0.36	-0.06	0.00	0.019
65.00	-14.89	-0.31	0.00	-22.96	0.00	22.96	2434.78	1217.39	3743.87	1874.72	0.42	-0.06	0.00	0.018
70.00	-13.94	-0.30	0.00	-21.40	0.00	21.40	2400.45	1200.23	3616.52	1810.95	0.49	-0.07	0.00	0.018
75.00	-13.01	-0.29	0.00	-19.90	0.00	19.90	2365.53	1182.77	3490.42	1747.80	0.56	-0.07	0.00	0.017
76.00	-12.82	-0.29	0.00	-19.61	0.00	19.61	2358.48	1179.24	3465.36	1735.25	0.58	-0.07	0.00	0.017
80.00	-11.62	-0.28	0.00	-18.46	0.00	18.46	2330.02	1165.01	3365.64	1685.32	0.64	-0.08	0.00	0.016
80.75	-11.40	-0.28	0.00	-18.25	0.00	18.25	1747.65	873.83	2561.44	1282.63	0.65	-0.08	0.00	0.021
85.00	-10.74	-0.28	0.00	-17.06	0.00	17.06	1728.11	864.05	2487.16	1245.43	0.72	-0.08	0.00	0.020
90.00	-9.99	-0.28	0.00	-15.66	0.00	15.66	1704.57	852.28	2400.33	1201.95	0.81	-0.09	0.00	0.019
95.00	-9.24	-0.28	0.00	-14.26	0.00	14.26	1680.44	840.22	2314.14	1158.79	0.90	-0.09	0.00	0.018
100.00	-8.51	-0.28	0.00	-12.87	0.00	12.87	1655.72	827.86	2228.66	1115.99	1.00	-0.10	0.00	0.017
105.00	-7.78	-0.28	0.00	-11.47	0.00	11.47	1630.40	815.20	2143.93	1073.56	1.10	-0.10	0.00	0.015
110.00	-7.07	-0.28	0.00	-10.08	0.00	10.08	1604.50	802.25	2060.02	1031.54	1.21	-0.11	0.00	0.014
115.00	-6.38	-0.28	0.00	-8.69	0.00	8.69	1578.00	789.00	1976.98	989.96	1.33	-0.11	0.00	0.013
120.00	-5.58	-0.28	0.00	-7.30	0.00	7.30	1550.91	775.46	1894.86	948.84	1.45	-0.11	0.00	0.011
120.00	-5.58	-0.28	0.00	-7.30	0.00	7.30	930.23	465.11	237.26	173.90	1.45	-0.11	0.00	0.048
125.00	-4.87	-0.27	0.00	-5.92	0.00	5.92	930.23	465.11	237.26	173.90	1.57	-0.12	0.00	0.039
126.00	-4.30	-0.27	0.00	-5.65	0.00	5.65	930.23	465.11	237.26	173.90	1.59	-0.13	0.00	0.037
129.75	-3.58	-0.26	0.00	-4.64	0.00	4.64	930.23	465.11	237.26	173.90	1.71	-0.17	0.00	0.031
130.00	-3.55	-0.26	0.00	-4.57	0.00	4.57	930.23	465.11	237.26	173.90	1.72	-0.17	0.00	0.030
135.00	-2.49	-0.22	0.00	-3.27	0.00	3.27	930.23	465.11	237.26	173.90	1.93	-0.21	0.00	0.021
139.50	-1.77	-0.18	0.00	-2.26	0.00	2.26	930.23	465.11	237.26	173.90	2.14	-0.24	0.00	0.015
139.50	-1.77	-0.18	0.00	-2.26	0.00	2.26	541.19	270.59	86.27	63.23	2.14	-0.24	0.00	0.039
140.00	-1.74	-0.19	0.00	-2.17	0.00	2.17	541.19	270.59	86.27	63.23	2.17	-0.24	0.00	0.038
145.00	-1.17	-0.14	0.00	-1.24	0.00	1.24	541.19	270.59	86.27	63.23	2.49	-0.36	0.00	0.022
147.00	-0.94	-0.12	0.00	-0.96	0.00	0.96	541.19	270.59	86.27	63.23	2.65	-0.39	0.00	0.017
149.37	-0.59	-0.08	0.00	-0.67	0.00	0.67	541.19	270.59	86.27	63.23	2.85	-0.42	0.00	0.012
150.00	-0.56	-0.08	0.00	-0.62	0.00	0.62	541.19	270.59	86.27	63.23	2.91	-0.42	0.00	0.011
155.00	-0.32	-0.05	0.00	-0.22	0.00	0.22	541.19	270.59	86.27	63.23	3.37	-0.45	0.00	0.004
159.25	0.00	-0.05	0.00	0.00	0.00	0.00	541.19	270.59	86.27	63.23	3.78	-0.46	0.00	0.000

Seismic Segment Forces (Factored)

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 22



Load Case: 0.9D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 0.90 **Seismic Load Factor** 1.00

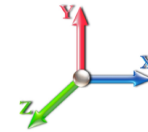
Sd1 0.09

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.38

SA 0.04

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		934.13	0.00	0.03	0.02	13.68	
10.00		918.94	0.01	0.05	0.03	20.06	
15.00		903.75	0.02	0.06	0.04	23.12	
20.00		888.56	0.03	0.07	0.04	24.53	
25.00		873.37	0.05	0.07	0.04	25.14	
30.00		858.17	0.07	0.07	0.04	25.41	
35.00		842.98	0.09	0.07	0.04	25.57	
36.75	Bot - Section 2	291.45	0.10	0.07	0.04	8.91	
40.00		990.82	0.12	0.07	0.03	30.74	
42.00	Top - Section 1	603.89	0.13	0.07	0.03	18.89	
45.00		411.74	0.15	0.07	0.03	13.02	
50.00		676.11	0.19	0.06	0.03	21.58	
55.00		663.45	0.23	0.06	0.02	20.96	
60.00		650.79	0.27	0.05	0.02	19.68	
65.00		638.13	0.31	0.04	0.01	17.45	
70.00		625.47	0.37	0.03	0.01	14.07	
75.00		612.81	0.42	0.01	0.01	9.46	
76.00	Bot - Section 3	121.04	0.43	0.01	0.01	1.67	
80.00		868.47	0.48	-0.01	0.01	5.54	
80.75	Top - Section 2	161.21	0.49	-0.01	0.01	0.79	
85.00		405.30	0.54	-0.03	0.01	-1.55	
90.00		467.46	0.60	-0.05	0.01	-6.45	
95.00		457.33	0.67	-0.08	0.02	-10.08	
100.00		447.20	0.75	-0.10	0.04	-12.22	
105.00		437.07	0.82	-0.12	0.06	-12.65	
110.00		426.95	0.90	-0.12	0.09	-11.34	
115.00		416.82	0.99	-0.11	0.12	-8.38	
120.00	Top - Section 3	503.59	1.07	-0.08	0.17	-4.81	
125.00		374.15	1.16	-0.03	0.23	1.89	
126.00	Appurtenance(s)	433.93	1.18	-0.01	0.24	3.66	
129.75	Appurtenance(s)	474.42	1.25	0.06	0.30	10.75	
130.00		18.71	1.26	0.07	0.30	0.44	
135.00	Appurtenance(s)	726.65	1.36	0.21	0.39	33.75	
139.50	Top - Section 4	531.74	1.45	0.39	0.49	37.47	
140.00		14.62	1.46	0.41	0.50	1.07	
145.00	Appurtenance(s)	396.65	1.57	0.68	0.63	41.43	
147.00	Appurtenance(s)	173.66	1.61	0.81	0.68	20.50	
149.37	Appurtenance(s)	265.57	1.66	0.99	0.76	35.89	
150.00		18.42	1.68	1.04	0.78	2.57	
155.00		146.15	1.79	1.50	0.96	26.25	
159.25	Appurtenance(s)	228.92	1.89	1.98	1.14	49.65	
Totals:		20,900.6				538.1	
						Total Wind:	18,304.6

Calculated Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 23



Load Case: 0.9D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 0.90

Seismic Load Factor 1.00

Sd1 0.09

S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.38

SA 0.04

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-23.12	-0.61	0.00	-53.29	0.00	53.29	3590.63	1795.31	6859.94	3435.07	0.00	0.00	0.00	0.022
5.00	-22.13	-0.59	0.00	-50.26	0.00	50.26	3550.74	1775.37	6673.42	3341.67	0.00	0.00	0.00	0.021
10.00	-21.16	-0.58	0.00	-47.29	0.00	47.29	3510.26	1755.13	6488.29	3248.97	0.01	-0.01	0.00	0.021
15.00	-20.20	-0.55	0.00	-44.42	0.00	44.42	3469.19	1734.59	6304.60	3156.98	0.02	-0.01	0.00	0.020
20.00	-19.25	-0.53	0.00	-41.65	0.00	41.65	3427.52	1713.76	6122.40	3065.75	0.04	-0.02	0.00	0.019
25.00	-18.31	-0.51	0.00	-39.00	0.00	39.00	3385.27	1692.63	5941.76	2975.29	0.06	-0.02	0.00	0.019
30.00	-17.39	-0.48	0.00	-36.47	0.00	36.47	3342.42	1671.21	5762.72	2885.64	0.09	-0.03	0.00	0.018
35.00	-16.49	-0.46	0.00	-34.06	0.00	34.06	3298.98	1649.49	5585.34	2796.82	0.12	-0.03	0.00	0.017
36.75	-16.17	-0.45	0.00	-33.26	0.00	33.26	3283.64	1641.82	5523.66	2765.94	0.14	-0.03	0.00	0.017
40.00	-15.18	-0.42	0.00	-31.80	0.00	31.80	3254.95	1627.48	5409.68	2708.86	0.16	-0.04	0.00	0.016
42.00	-14.58	-0.40	0.00	-30.97	0.00	30.97	2585.06	1292.53	4344.38	2175.42	0.18	-0.04	0.00	0.020
45.00	-14.12	-0.39	0.00	-29.77	0.00	29.77	2566.17	1283.08	4264.80	2135.57	0.20	-0.04	0.00	0.019
50.00	-13.37	-0.37	0.00	-27.84	0.00	27.84	2534.21	1267.10	4132.95	2069.55	0.25	-0.05	0.00	0.019
55.00	-12.62	-0.34	0.00	-26.01	0.00	26.01	2501.66	1250.83	4002.14	2004.05	0.30	-0.05	0.00	0.018
60.00	-11.89	-0.33	0.00	-24.29	0.00	24.29	2468.51	1234.26	3872.43	1939.09	0.36	-0.06	0.00	0.017
65.00	-11.16	-0.31	0.00	-22.66	0.00	22.66	2434.78	1217.39	3743.87	1874.72	0.42	-0.06	0.00	0.017
70.00	-10.45	-0.29	0.00	-21.12	0.00	21.12	2400.45	1200.23	3616.52	1810.95	0.48	-0.07	0.00	0.016
75.00	-9.75	-0.28	0.00	-19.65	0.00	19.65	2365.53	1182.77	3490.42	1747.80	0.56	-0.07	0.00	0.015
76.00	-9.62	-0.28	0.00	-19.36	0.00	19.36	2358.48	1179.24	3465.36	1735.25	0.57	-0.07	0.00	0.015
80.00	-8.72	-0.28	0.00	-18.23	0.00	18.23	2330.02	1165.01	3365.64	1685.32	0.63	-0.08	0.00	0.015
80.75	-8.55	-0.28	0.00	-18.02	0.00	18.02	1747.65	873.83	2561.44	1282.63	0.64	-0.08	0.00	0.019
85.00	-8.06	-0.28	0.00	-16.85	0.00	16.85	1728.11	864.05	2487.16	1245.43	0.71	-0.08	0.00	0.018
90.00	-7.49	-0.28	0.00	-15.47	0.00	15.47	1704.57	852.28	2400.33	1201.95	0.80	-0.09	0.00	0.017
95.00	-6.93	-0.28	0.00	-14.09	0.00	14.09	1680.44	840.22	2314.14	1158.79	0.89	-0.09	0.00	0.016
100.00	-6.38	-0.28	0.00	-12.71	0.00	12.71	1655.72	827.86	2228.66	1115.99	0.99	-0.10	0.00	0.015
105.00	-5.84	-0.27	0.00	-11.33	0.00	11.33	1630.40	815.20	2143.93	1073.56	1.09	-0.10	0.00	0.014
110.00	-5.31	-0.27	0.00	-9.96	0.00	9.96	1604.50	802.25	2060.02	1031.54	1.20	-0.11	0.00	0.013
115.00	-4.78	-0.27	0.00	-8.59	0.00	8.59	1578.00	789.00	1976.98	989.96	1.31	-0.11	0.00	0.012
120.00	-4.18	-0.27	0.00	-7.22	0.00	7.22	1550.91	775.46	1894.86	948.84	1.43	-0.11	0.00	0.010
120.00	-4.18	-0.27	0.00	-7.22	0.00	7.22	930.23	465.11	237.26	173.90	1.43	-0.11	0.00	0.046
125.00	-3.65	-0.27	0.00	-5.85	0.00	5.85	930.23	465.11	237.26	173.90	1.55	-0.12	0.00	0.038
126.00	-3.22	-0.27	0.00	-5.58	0.00	5.58	930.23	465.11	237.26	173.90	1.58	-0.13	0.00	0.036
129.75	-2.68	-0.26	0.00	-4.58	0.00	4.58	930.23	465.11	237.26	173.90	1.69	-0.17	0.00	0.029
130.00	-2.66	-0.26	0.00	-4.51	0.00	4.51	930.23	465.11	237.26	173.90	1.70	-0.17	0.00	0.029
135.00	-1.87	-0.22	0.00	-3.23	0.00	3.23	930.23	465.11	237.26	173.90	1.90	-0.21	0.00	0.021
139.50	-1.33	-0.18	0.00	-2.23	0.00	2.23	930.23	465.11	237.26	173.90	2.12	-0.24	0.00	0.014
139.50	-1.33	-0.18	0.00	-2.23	0.00	2.23	541.19	270.59	86.27	63.23	2.12	-0.24	0.00	0.038
140.00	-1.30	-0.18	0.00	-2.14	0.00	2.14	541.19	270.59	86.27	63.23	2.14	-0.24	0.00	0.036
145.00	-0.88	-0.14	0.00	-1.23	0.00	1.23	541.19	270.59	86.27	63.23	2.46	-0.36	0.00	0.021
147.00	-0.70	-0.12	0.00	-0.95	0.00	0.95	541.19	270.59	86.27	63.23	2.62	-0.39	0.00	0.016
149.37	-0.44	-0.08	0.00	-0.66	0.00	0.66	541.19	270.59	86.27	63.23	2.82	-0.41	0.00	0.011
150.00	-0.42	-0.08	0.00	-0.61	0.00	0.61	541.19	270.59	86.27	63.23	2.87	-0.42	0.00	0.010
155.00	-0.24	-0.05	0.00	-0.22	0.00	0.22	541.19	270.59	86.27	63.23	3.33	-0.45	0.00	0.004
159.25	0.00	-0.05	0.00	0.00	0.00	0.00	541.19	270.59	86.27	63.23	3.73	-0.45	0.00	0.000

Wind Loading - Shaft

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

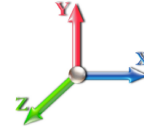
Page: 24



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	219.44	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	215.93	0.650	0.000	5.00	19.676	12.79	104.7	0.0	934.1
10.00		1.00	0.85	7.442	8.19	212.42	0.650	0.000	5.00	19.359	12.58	103.0	0.0	918.9
15.00		1.00	0.85	7.442	8.19	208.90	0.650	0.000	5.00	19.041	12.38	101.3	0.0	903.7
20.00		1.00	0.90	7.896	8.69	211.57	0.650	0.000	5.00	18.724	12.17	105.7	0.0	888.6
25.00		1.00	0.95	8.276	9.10	212.89	0.650	0.000	5.00	18.406	11.96	108.9	0.0	873.4
30.00		1.00	0.98	8.600	9.46	213.24	0.650	0.000	5.00	18.089	11.76	111.2	0.0	858.2
35.00		1.00	1.01	8.883	9.77	212.90	0.650	0.000	5.00	17.772	11.55	112.9	0.0	843.0
36.75	Bot - Section 2	1.00	1.03	8.975	9.87	212.64	0.650	0.000	1.75	6.145	3.99	39.4	0.0	291.5
40.00		1.00	1.04	9.137	10.05	212.02	0.650	0.000	3.25	11.481	7.46	75.0	0.0	990.8
42.00	Top - Section 1	1.00	1.05	9.231	10.15	211.55	0.650	0.000	2.00	6.999	4.55	46.2	0.0	603.9
45.00		1.00	1.07	9.366	10.30	214.01	0.650	0.000	3.00	10.403	6.76	69.7	0.0	411.7
50.00		1.00	1.09	9.576	10.53	212.41	0.650	0.000	5.00	17.084	11.10	117.0	0.0	676.1
55.00		1.00	1.12	9.770	10.75	210.53	0.650	0.000	5.00	16.766	10.90	117.1	0.0	663.4
60.00		1.00	1.14	9.951	10.95	208.40	0.650	0.000	5.00	16.449	10.69	117.0	0.0	650.8
65.00		1.00	1.16	10.120	11.13	206.07	0.650	0.000	5.00	16.131	10.49	116.7	0.0	638.1
70.00		1.00	1.17	10.279	11.31	203.56	0.650	0.000	5.00	15.814	10.28	116.2	0.0	625.5
75.00		1.00	1.19	10.430	11.47	200.89	0.650	0.000	5.00	15.497	10.07	115.6	0.0	612.8
76.00	Bot - Section 3	1.00	1.19	10.459	11.50	200.33	0.650	0.000	1.00	3.061	1.99	22.9	0.0	121.0
80.00		1.00	1.21	10.572	11.63	198.07	0.650	0.000	4.00	12.287	7.99	92.9	0.0	868.5
80.75	Top - Section 2	1.00	1.21	10.593	11.65	197.64	0.650	0.000	0.75	2.281	1.48	17.3	0.0	161.2
85.00		1.00	1.22	10.708	11.78	197.93	0.650	0.000	4.25	12.792	8.31	97.9	0.0	405.3
90.00		1.00	1.24	10.838	11.92	194.89	0.650	0.000	5.00	14.756	9.59	114.3	0.0	467.5
95.00		1.00	1.25	10.962	12.06	191.74	0.650	0.000	5.00	14.439	9.39	113.2	0.0	457.3
100.00		1.00	1.27	11.081	12.19	188.49	0.650	0.000	5.00	14.121	9.18	111.9	0.0	447.2
105.00		1.00	1.28	11.195	12.31	185.16	0.650	0.000	5.00	13.804	8.97	110.5	0.0	437.1
110.00		1.00	1.29	11.305	12.44	181.74	0.650	0.000	5.00	13.486	8.77	109.0	0.0	426.9
115.00		1.00	1.30	11.412	12.55	178.24	0.650	0.000	5.00	13.169	8.56	107.4	0.0	416.8
120.00	Top - Section 3	1.00	1.32	11.514	12.67	174.67	0.650	0.000	5.00	12.852	8.35	105.8	0.0	406.7
125.00		1.00	1.33	11.614	12.78	173.07	0.600	0.000	5.00	15.417	9.25	118.2	0.0	423.5
126.00	Appurtenance(s)	1.00	1.33	11.633	12.80	213.25	0.600	0.000	1.00	3.083	1.85	23.7	0.0	84.7
129.75	Appurtenance(s)	1.00	1.34	11.705	12.88	213.91	0.600	0.000	3.75	11.563	6.94	89.3	0.0	317.6
130.00		1.00	1.34	11.710	12.88	213.95	0.600	0.000	0.25	0.771	0.46	6.0	0.0	21.2
135.00	Appurtenance(s)	1.00	1.35	11.803	12.98	214.80	0.600	0.000	5.00	15.417	9.25	120.1	0.0	423.5
139.50	Top - Section 4	1.00	1.36	11.885	13.07	215.55	0.600	0.000	4.50	13.875	8.32	108.8	0.0	381.1
140.00		1.00	1.36	11.894	13.08	215.63	0.600	0.000	0.50	1.542	0.93	12.1	0.0	19.5
145.00	Appurtenance(s)	1.00	1.37	11.982	13.18	216.43	0.600	0.000	5.00	15.417	9.25	121.9	0.0	195.5
147.00	Appurtenance(s)	1.00	1.37	12.017	13.22	216.74	0.600	0.000	2.00	6.167	3.70	48.9	0.0	78.2
149.37	Appurtenance(s)	1.00	1.38	12.057	13.26	217.10	0.600	0.000	2.37	7.308	4.38	58.2	0.0	92.7
150.00		1.00	1.38	12.068	13.27	217.20	0.600	0.000	0.63	1.942	1.17	15.5	0.0	24.6
155.00		1.00	1.39	12.152	13.37	217.95	0.600	0.000	5.00	15.417	9.25	123.6	0.0	195.5
159.25	Appurtenance(s)	1.00	1.40	12.221	13.44	218.57	0.600	0.000	4.25	13.104	7.86	105.7	0.0	166.2
Totals:									159.25			3,632.8		19,423.9

Discrete Appurtenance Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

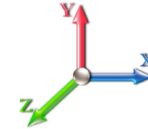
Page: 25



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	159.25	Flag	1	12.221	13.443	1.00	1.00	7.27	0.00	0.000	0.000	97.73	0.00	0.00
2	159.25	6' Lightning rod	1	12.221	13.443	1.00	1.00	0.38	6.50	0.000	0.000	5.11	0.00	0.00
3	159.25	37" Canister	1	12.221	13.443	1.00	1.00	0.00	98.19	0.000	0.000	0.00	0.00	0.00
4	149.37	37" Canister	1	12.057	13.263	1.00	1.00	0.00	196.29	0.000	0.000	0.00	0.00	0.00
5	147.00	BPD7823VG12A	6	12.017	13.219	0.00	1.00	0.00	115.20	0.000	0.000	0.00	0.00	0.00
6	145.00	Flush Mount	1	11.982	13.181	1.00	1.00	0.00	150.00	0.000	0.000	0.00	0.00	0.00
7	145.00	SBNHH-1D65A	3	11.982	13.181	1.00	1.00	0.00	100.50	0.000	0.000	0.00	0.00	0.00
8	139.50	37" Canister	1	11.885	13.074	1.00	1.00	0.00	195.00	0.000	0.000	0.00	0.00	0.00
9	135.00	Flush Mount	1	11.803	12.984	1.00	1.00	0.00	150.00	0.000	0.000	0.00	0.00	0.00
10	135.00	KRY 112 144/1	6	11.803	12.984	1.00	1.00	0.00	66.00	0.000	0.000	0.00	0.00	0.00
11	135.00	ATSBT-TOP-FM	3	11.803	12.984	0.00	1.00	0.00	5.40	0.000	0.000	0.00	0.00	0.00
12	135.00	FVV-65B-R3	3	11.803	12.984	0.00	1.00	0.00	131.10	0.000	0.000	0.00	0.00	0.00
13	129.75	37" Canister	1	11.705	12.876	1.00	1.00	0.00	193.80	0.000	0.000	0.00	0.00	0.00
14	126.00	Flush Mount	1	11.633	12.797	1.00	1.00	0.00	150.00	0.000	0.000	0.00	0.00	0.00
15	126.00	DTMABP7819VG12A	3	11.633	12.797	1.00	1.00	0.00	57.60	0.000	0.000	0.00	0.00	0.00
16	126.00	LGP21401	3	11.633	12.797	1.00	1.00	0.00	42.30	0.000	0.000	0.00	0.00	0.00
17	126.00	AM-X-CD-14-65-00T	3	11.633	12.797	1.00	1.00	0.00	109.20	0.000	0.000	0.00	0.00	0.00
18	120.00	37" Canister	1	11.514	12.666	1.00	1.00	0.00	96.90	0.000	0.000	0.00	0.00	0.00

Totals: 1,863.98

102.84

Total Applied Force Summary

Structure: CT00799-S-SBA	Code: TIA-222-G	4/8/2022
Site Name: Mystic	Exposure: C	
Height: 159.25 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



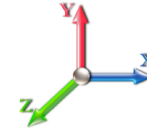
Page: 26

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 26



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		104.70	1098.53	0.00	0.00
10.00		103.01	1083.34	0.00	0.00
15.00		101.32	1068.15	0.00	0.00
20.00		105.71	1052.96	0.00	0.00
25.00		108.92	1037.77	0.00	0.00
30.00		111.23	1022.57	0.00	0.00
35.00		112.88	1007.38	0.00	0.00
36.75		39.43	348.99	0.00	0.00
40.00		75.00	1097.68	0.00	0.00
42.00		46.19	669.65	0.00	0.00
45.00		69.66	510.38	0.00	0.00
50.00		116.97	840.51	0.00	0.00
55.00		117.13	827.85	0.00	0.00
60.00		117.03	815.19	0.00	0.00
65.00		116.72	802.53	0.00	0.00
70.00		116.23	789.87	0.00	0.00
75.00		115.56	777.21	0.00	0.00
76.00		22.89	153.92	0.00	0.00
80.00		92.88	999.99	0.00	0.00
80.75		17.28	185.87	0.00	0.00
85.00		97.94	545.04	0.00	0.00
90.00		114.34	631.86	0.00	0.00
95.00		113.16	621.73	0.00	0.00
100.00		111.88	611.60	0.00	0.00
105.00		110.49	601.47	0.00	0.00
110.00		109.01	591.35	0.00	0.00
115.00		107.45	581.22	0.00	0.00
120.00	(1) attachments	105.80	667.99	0.00	0.00
125.00		118.17	587.89	0.00	0.00
126.00	(10) attachments	23.67	476.68	0.00	0.00
129.75	(1) attachments	89.33	600.40	0.00	0.00
130.00		5.96	26.27	0.00	0.00
135.00	(13) attachments	120.10	877.99	0.00	0.00
139.50	(1) attachments	108.84	604.22	0.00	0.00
140.00		12.10	22.67	0.00	0.00
145.00	(4) attachments	121.92	477.19	0.00	0.00
147.00	(6) attachments	48.91	193.40	0.00	0.00
149.37	(1) attachments	58.15	288.95	0.00	0.00
150.00		15.47	24.63	0.00	0.00
155.00		123.64	195.49	0.00	0.00
159.25	(3) attachments	208.54	270.85	0.00	0.00
Totals:		3,735.63	25,689.22	0.00	0.00

Calculated Forces

Structure: CT00799-S-SBA

Code: TIA-222-G

4/8/2022

Site Name: Mystic

Exposure: C

Height: 159.25 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 27

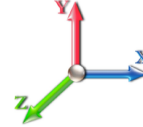


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 26

Dead Load Factor 1.00

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-25.69	-3.74	0.00	-328.31	0.00	328.31	3590.63	1795.31	6859.94	3435.07	0.00	0.000	0.000	0.103
5.00	-24.59	-3.65	0.00	-309.60	0.00	309.60	3550.74	1775.37	6673.42	3341.67	0.02	-0.030	0.000	0.100
10.00	-23.50	-3.56	0.00	-291.35	0.00	291.35	3510.26	1755.13	6488.29	3248.97	0.06	-0.060	0.000	0.096
15.00	-22.43	-3.47	0.00	-273.57	0.00	273.57	3469.19	1734.59	6304.60	3156.98	0.14	-0.089	0.000	0.093
20.00	-21.38	-3.37	0.00	-256.24	0.00	256.24	3427.52	1713.76	6122.40	3065.75	0.25	-0.118	0.000	0.090
25.00	-20.34	-3.27	0.00	-239.39	0.00	239.39	3385.27	1692.63	5941.76	2975.29	0.39	-0.146	0.000	0.086
30.00	-19.32	-3.16	0.00	-223.05	0.00	223.05	3342.42	1671.21	5762.72	2885.64	0.56	-0.174	0.000	0.083
35.00	-18.31	-3.05	0.00	-207.23	0.00	207.23	3298.98	1649.49	5585.34	2796.82	0.76	-0.202	0.000	0.080
36.75	-17.96	-3.02	0.00	-201.89	0.00	201.89	3283.64	1641.82	5523.66	2765.94	0.83	-0.211	0.000	0.078
40.00	-16.86	-2.94	0.00	-192.09	0.00	192.09	3254.95	1627.48	5409.68	2708.86	0.98	-0.229	0.000	0.076
42.00	-16.19	-2.90	0.00	-186.20	0.00	186.20	2585.06	1292.53	4344.38	2175.42	1.08	-0.240	0.000	0.092
45.00	-15.68	-2.83	0.00	-177.51	0.00	177.51	2566.17	1283.08	4264.80	2135.57	1.24	-0.256	0.000	0.089
50.00	-14.84	-2.72	0.00	-163.36	0.00	163.36	2534.21	1267.10	4132.95	2069.55	1.52	-0.285	0.000	0.085
55.00	-14.01	-2.60	0.00	-149.77	0.00	149.77	2501.66	1250.83	4002.14	2004.05	1.83	-0.313	0.000	0.080
60.00	-13.19	-2.49	0.00	-136.76	0.00	136.76	2468.51	1234.26	3872.43	1939.09	2.18	-0.341	0.000	0.076
65.00	-12.39	-2.37	0.00	-124.32	0.00	124.32	2434.78	1217.39	3743.87	1874.72	2.55	-0.368	0.000	0.071
70.00	-11.60	-2.25	0.00	-112.47	0.00	112.47	2400.45	1200.23	3616.52	1810.95	2.95	-0.393	0.000	0.067
75.00	-10.82	-2.14	0.00	-101.19	0.00	101.19	2365.53	1182.77	3490.42	1747.80	3.37	-0.418	0.000	0.062
76.00	-10.67	-2.11	0.00	-99.06	0.00	99.06	2358.48	1179.24	3465.36	1735.25	3.46	-0.423	0.000	0.062
80.00	-9.67	-2.02	0.00	-90.60	0.00	90.60	2330.02	1165.01	3365.64	1685.32	3.82	-0.441	0.000	0.058
80.75	-9.48	-2.00	0.00	-89.09	0.00	89.09	1747.65	873.83	2561.44	1282.63	3.89	-0.445	0.000	0.075
85.00	-8.94	-1.90	0.00	-80.59	0.00	80.59	1728.11	864.05	2487.16	1245.43	4.30	-0.464	0.000	0.070
90.00	-8.31	-1.78	0.00	-71.09	0.00	71.09	1704.57	852.28	2400.33	1201.95	4.80	-0.489	0.000	0.064
95.00	-7.69	-1.67	0.00	-62.16	0.00	62.16	1680.44	840.22	2314.14	1158.79	5.32	-0.512	0.000	0.058
100.00	-7.07	-1.55	0.00	-53.82	0.00	53.82	1655.72	827.86	2228.66	1115.99	5.87	-0.534	0.000	0.053
105.00	-6.47	-1.44	0.00	-46.05	0.00	46.05	1630.40	815.20	2143.93	1073.56	6.44	-0.555	0.000	0.047
110.00	-5.88	-1.33	0.00	-38.85	0.00	38.85	1604.50	802.25	2060.02	1031.54	7.03	-0.573	0.000	0.041
115.00	-5.30	-1.22	0.00	-32.21	0.00	32.21	1578.00	789.00	1976.98	989.96	7.64	-0.589	0.000	0.036
120.00	-4.64	-1.10	0.00	-26.14	0.00	26.14	1550.91	775.46	1894.86	948.84	8.26	-0.604	0.000	0.031
120.00	-4.64	-1.10	0.00	-26.14	0.00	26.14	930.23	465.11	237.26	173.90	8.26	-0.604	0.000	0.155
125.00	-4.05	-0.98	0.00	-20.62	0.00	20.62	930.23	465.11	237.26	173.90	8.90	-0.617	0.000	0.123
126.00	-3.57	-0.96	0.00	-19.64	0.00	19.64	930.23	465.11	237.26	173.90	9.04	-0.659	0.000	0.117
129.75	-2.97	-0.86	0.00	-16.04	0.00	16.04	930.23	465.11	237.26	173.90	9.61	-0.800	0.000	0.095
130.00	-2.94	-0.86	0.00	-15.83	0.00	15.83	930.23	465.11	237.26	173.90	9.66	-0.809	0.000	0.094
135.00	-2.06	-0.73	0.00	-11.51	0.00	11.51	930.23	465.11	237.26	173.90	10.58	-0.953	0.000	0.068
139.50	-1.46	-0.62	0.00	-8.21	0.00	8.21	930.23	465.11	237.26	173.90	11.53	-1.047	0.000	0.049
139.50	-1.46	-0.62	0.00	-8.21	0.00	8.21	541.19	270.59	86.27	63.23	11.53	-1.047	0.000	0.133
140.00	-1.44	-0.61	0.00	-7.91	0.00	7.91	541.19	270.59	86.27	63.23	11.64	-1.055	0.000	0.128
145.00	-0.96	-0.48	0.00	-4.86	0.00	4.86	541.19	270.59	86.27	63.23	12.99	-1.497	0.000	0.079
147.00	-0.77	-0.43	0.00	-3.90	0.00	3.90	541.19	270.59	86.27	63.23	13.64	-1.618	0.000	0.063
149.37	-0.48	-0.36	0.00	-2.89	0.00	2.89	541.19	270.59	86.27	63.23	14.48	-1.729	0.000	0.047
150.00	-0.46	-0.35	0.00	-2.66	0.00	2.66	541.19	270.59	86.27	63.23	14.71	-1.753	0.000	0.043
155.00	-0.26	-0.22	0.00	-0.92	0.00	0.92	541.19	270.59	86.27	63.23	16.62	-1.877	0.000	0.015
159.25	0.00	-0.21	0.00	0.00	0.00	0.00	541.19	270.59	86.27	63.23	18.30	-1.904	0.000	0.000

Final Analysis Summary

Structure: CT00799-S-SBA	Code: TIA-222-G	4/8/2022
Site Name: Mystic	Exposure: C	
Height: 159.25 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 28

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 105 mph Wind	18.3	0.00	30.80	0.00	0.00	1617.08
0.9D + 1.6W 105 mph Wind	18.3	0.00	23.10	0.00	0.00	1603.68
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.6	0.00	44.09	0.00	0.00	526.23
1.2D + 1.0E	0.6	0.00	30.83	0.00	0.00	53.77
0.9D + 1.0E	0.6	0.00	23.12	0.00	0.00	53.29
1.0D + 1.0W 60 mph Wind	3.7	0.00	25.69	0.00	0.00	328.31

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 105 mph Wind	-5.30	-5.45	0.00	-128.88	0.00	-128.88	1550.91	775.46	1894.86	948.84	120.00	0.747
0.9D + 1.6W 105 mph Wind	-3.91	-5.38	0.00	-126.95	0.00	-126.95	1550.91	775.46	1894.86	948.84	120.00	0.734
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-9.53	-2.02	0.00	-45.64	0.00	-45.64	1550.91	775.46	1894.86	948.84	120.00	0.273
1.2D + 1.0E	-5.58	-0.28	0.00	-7.30	0.00	-7.30	1550.91	775.46	1894.86	948.84	120.00	0.048
0.9D + 1.0E	-4.18	-0.27	0.00	-7.22	0.00	-7.22	1550.91	775.46	1894.86	948.84	120.00	0.046
1.0D + 1.0W 60 mph Wind	-4.64	-1.10	0.00	-26.14	0.00	-26.14	1550.91	775.46	1894.86	948.84	120.00	0.155

Base Plate Summary

Structure: CT00799-S-SB	Code: TIA-222-G	4/8/2022
Site Name: Mystic	Exposure: C	
Height: 159.25 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 29



Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 54.00
Moment (kip-ft): 1602.00	Width (in): 52.00	Number Bolts: 8.00
Axial (kip): 19.80	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 17.00	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 10.00	Yield (ksi): 75.00
Moment (kip-ft): 1617.08	Effective Len (in): 14.62	Ultimate (ksi): 100.00
Axial (kip): 30.80	Moment (kip-in): 659.26	Arrangement: Clustered
Shear (kip): 18.34	Allow Stress (ksi): 67.50	Cluster Dist (in): 6.00
	Applied Stress (ksi): 35.77	Start Angle (deg): 45.00
	Stress Ratio: 0.53	Compression
		Force (kip): 185.19
		Allowable (kip): 260.00
		Ratio: 0.73
		Tension
		Force (kip): 174.16
		Allowable (kip): 260.00
		Ratio: 0.69



Pier Foundation Design For Monopole			Date
			4/8/2022
Customer Name:	T-Mobile	EIA/TIA Standard:	TIA-222-G
Site Name:	Mystic	Structure Height (Ft.):	159.25
Site Number:	CT00799-S-SBA	Engineer Name:	S. Hesselbein
Engr. Number:	127328	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Acceptable overstress () 5.0%

Structure Type:

Monopole

Analysis or Design?

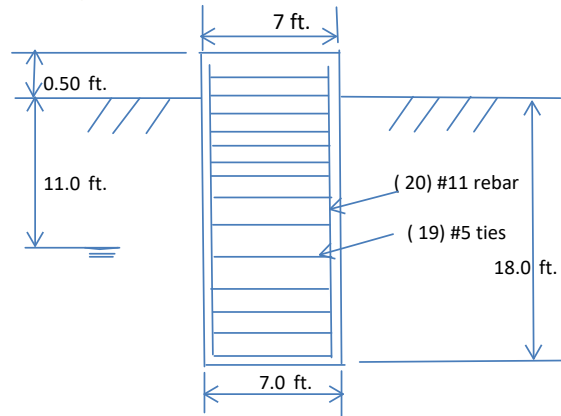
Analysis

Base Reactions (Factored):

Axial Load (Kips):	30.8	Shear Force (Kips):	18.3
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1617.1

Foundation Geometries:

Diameter of Pier (ft.):	7.0	Depth of Base B. G. S. :	18.0 ft.
Pier Height A. G. (ft.):	0.50		



Monopole Pier Foundation

Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	40	ksi
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	20	Tie Spacing:	18.0	in.
Concrete Cover (in.):	4	Concrete unit weight:	150.0	pcf

Soil Design Parameters:

Water Table B.G.S. (ft):	11.0	Unit weight of water:	62.4	psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30	(°)
Skin Frictions are to be obtained from:		Soil Report		

Clay

5000

Depth of Layers (ft)		γ_{soil}	ϕ	Cohesion	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types					
Top	Bottom	(pcf)	(°)	(psf)								
0.0	4.0	120	33	0	0		Sand					
4.0	6.0	130	37	0	410		Sand					
6.0	10.0	130	40	0	590		Sand					
10.0	18.0	130	40	0	250		Sand					
18.0	25.0	130	40	0	920							
25.0	30.0											

Soil weight Increase Factor for bouyant soils (1.0 to 1.15):

1.1

Foundation Analysis and Design:

Uplift Strength Reduction Factor:

0.75

Soil Bearing Strength Reduction Factor:

0.75

Total Dry Soil Volume from Conical Failure (cu. Ft.):

3643

Dry Soil Weight from Conical Failure:

460 Kips

Total Buoyant Soil Volume from Conical Failure (cu. Ft.):

431

Buoyant Soil Weight from Conical Failure (Kips)

21 Kips

Total Dry Concrete Volume (cu. Ft.):

443

Total Dry Concrete Weight:

66.4 Kips

Total Buoyant Concrete Volume (cu. Ft.):

269.4

Total Buoyant Concrete Weight:

23.60 Kips

Total Effective Concrete Weight (Kips):

90.0

Total Effective Soil Weight:

480.9 Kips

Total Effective Vertical Load on Base (Kips):

54.4

Check Soil Capacities:

Allowable Foundation Overturning Resistance (kips-ft.):	3828.3	>	Design Factored Moment (kips-ft):	1846	Usage	0.48	OK!
Factor of Safety of Passive Soil Resistance against Moment:	2.07	OK!					

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75				
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00				
Reinforcing Concrete Pier:					Usage		
Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.31				
Calculated Moment Capacity (Mn, Kips-Ft):	5187.3	>	Design Factored Moment (Mu, K-Ft):	1664.5	0.32	OK!	
Calculated Shear Capacity (Kips):	970.0	>	Design Factored Shear (Kips):	234.3	0.24	OK!	
Calculated Tension Capacity (Tn, Kips):	1684.8	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!	
Calculated Compression Capacity (Pn, Kips):	7307	>	Design Factored Axial Load (Pu Kips):	30.8	0.00	OK!	
Moment & Axial Strength Combination:	0.32	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.		
Pier Reinforcement Ratio:	0.006	Reinforcement Ratio is satisfied per ACI					

Exhibit E

Power Density/RF Emissions Report



EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11045D

Stonington/ I-95/ X90/ Je
72 Jerry Brown Road
Stonington, Connecticut 06355

April 22, 2022

EBI Project Number: 6222002867

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	7.61%



April 22, 2022

T-Mobile

Attn: Jason Overbey, RF Manager

35 Griffin Road South

Bloomfield, Connecticut 06002

Emissions Analysis for Site: CT11045D - Stonington/ I-95/ X90/ Je

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **72 Jerry Brown Road in Stonington, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 72 Jerry Brown Road in Stonington, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.



- 7) 2 LTE BRS channels (2500 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 8) 2 NR BRS channels (2500 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 11) The antennas used in this modeling are the Commscope FVV-65B-R3 for the 600 MHz / 600 MHz / 700 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2500 MHz / 2500 MHz channel(s) in Sector A, the Commscope FVV-65B-R3 for the 600 MHz / 600 MHz / 700 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2500 MHz / 2500 MHz channel(s) in Sector B, the Commscope FVV-65B-R3 for the 600 MHz / 600 MHz / 700 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antenna mounting height centerline of the proposed antennas is 135 feet above ground level (AGL).
- 13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 14) All calculations were done with respect to uncontrolled / general population threshold limits.



T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	I	Antenna #:	I	Antenna #:	I
Make / Model:	Commscope FVV-65B-R3	Make / Model:	Commscope FVV-65B-R3	Make / Model:	Commscope FVV-65B-R3
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2500 MHz / 2500 MHz
Gain:	11.48 dBd / 11.48 dBd / 11.9 dBd / 15.17 dBd / 15.17 dBd / 16.12 dBd / 16.36 dBd / 16.36 dBd	Gain:	11.48 dBd / 11.48 dBd / 11.9 dBd / 15.17 dBd / 15.17 dBd / 16.12 dBd / 16.36 dBd / 16.36 dBd	Gain:	11.48 dBd / 11.48 dBd / 11.9 dBd / 15.17 dBd / 15.17 dBd / 16.12 dBd / 16.36 dBd / 16.36 dBd
Height (AGL):	135 feet	Height (AGL):	135 feet	Height (AGL):	135 feet
Channel Count:	16	Channel Count:	16	Channel Count:	16
Total TX Power (W):	480.00 Watts	Total TX Power (W):	480.00 Watts	Total TX Power (W):	480.00 Watts
ERP (W):	14,208.50	ERP (W):	14,208.50	ERP (W):	14,208.50
Antenna A I MPE %:	3.85%	Antenna B I MPE %:	3.85%	Antenna C I MPE %:	3.85%



Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	3.85%
AT&T	3.21%
Nextel	0.55%
Site Total MPE % :	7.61%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	3.85%
T-Mobile Sector B Total:	3.85%
T-Mobile Sector C Total:	3.85%
Site Total MPE % :	7.61%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE	2	421.81	135.0	1.82	600 MHz LTE	400	0.46%
T-Mobile 600 MHz NR	2	421.81	135.0	1.82	600 MHz NR	400	0.46%
T-Mobile 700 MHz LTE	2	464.64	135.0	2.01	700 MHz LTE	467	0.43%
T-Mobile 1900 MHz GSM	2	986.55	135.0	4.26	1900 MHz GSM	1000	0.43%
T-Mobile 1900 MHz LTE	2	986.55	135.0	4.26	1900 MHz LTE	1000	0.43%
T-Mobile 2100 MHz LTE	2	1227.78	135.0	5.31	2100 MHz LTE	1000	0.53%
T-Mobile 2500 MHz LTE	2	1297.54	135.0	5.61	2500 MHz LTE	1000	0.56%
T-Mobile 2500 MHz NR	2	1297.54	135.0	5.61	2500 MHz NR	1000	0.56%
Total:							3.85%

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

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

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

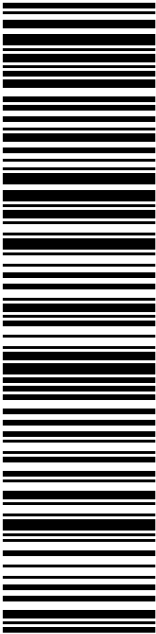
T-Mobile Sector	Power Density Value (%)
Sector A:	3.85%
Sector B:	3.85%
Sector C:	3.85%
T-Mobile Maximum MPE % (Sector A):	3.85%
Site Total:	7.61%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **7.61%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Exhibit F

Recipient Mailings

 Click-N-Ship®	
P	usps.com US POSTAGE Flat Rate Env 04/27/2022 Mailed from 01566
9405 5036 9930 0234 4994 33 0089 5000 0010 1581	
U.S. POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 1-DAY™	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Expected Delivery Date: 04/28/22 Ref#: SBCT-045D 0006
R005	
SHIP TO: KRI PELLETIER SBA COMMUNICATIONS CORPORATION 13 FLANDERS RD STE 125 WESTBOROUGH MA 01581	
USPS TRACKING #	
	
9405 5036 9930 0234 4994 33	
Electronic Rate Approved #038555749	

✂ ————— Cut on dotted line.

Instructions

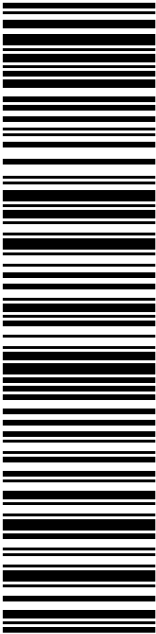
- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- 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.
- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0234 4994 33	
Trans. #: 562279296 Print Date: 04/27/2022 Ship Date: 04/27/2022 Expected Delivery Date: 04/28/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: KRI PELLETIER SBA COMMUNICATIONS CORPORATION 13 FLANDERS RD STE 125 WESTBOROUGH MA 01581	
Ref#: SBCT-045D	
* 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

 Click-N-Ship®	
P	usps.com US POSTAGE Flat Rate Env 04/27/2022 Mailed from 01566
9405 5036 9930 0234 4994 40 0089 5000 0010 6378	
U.S. POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
Expected Delivery Date: 04/30/22 Ref#: SBCT-045D 0006	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
SHIP TO: DANIELLE CHESEBROUGH FIRST SELECTMAN- TOWN OF STONINGTON 152 ELM ST STONINGTON CT 06378-1139	
USPS TRACKING #  9405 5036 9930 0234 4994 40	
Electronic Rate Approved #038555749	

Cut on dotted line.

Instructions

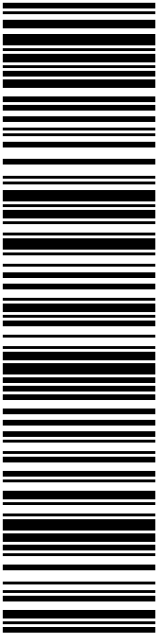
- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- 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.
- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0234 4994 40	
Trans. #: 562279296 Print Date: 04/27/2022 Ship Date: 04/27/2022 Expected Delivery Date: 04/30/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: DANIELLE CHESEBROUGH FIRST SELECTMAN- TOWN OF STONINGTON 152 ELM ST STONINGTON CT 06378-1139	
Ref#: SBCT-045D	
* 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

 Click-N-Ship®		P
USPS.com 9405 5036 9930 0234 4994 57 0089 5000 0010 6378 US POSTAGE Flat Rate Env		04/27/2022 Mailed from 01566
U.S. POSTAGE PAID Click-N-Ship®		
PRIORITY MAIL 2-DAY™		
Expected Delivery Date: 04/30/22 Ref#: SBCT-045D 0006		
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359		
SHIP TO: KEITH BYRNES TOWN PLANNER- STONINGTON 152 ELM ST STONINGTON CT 06378-1139		
USPS TRACKING # 		
9405 5036 9930 0234 4994 57		
Electronic Rate Approved #038555749		

✂ ————— Cut on dotted line.

Instructions

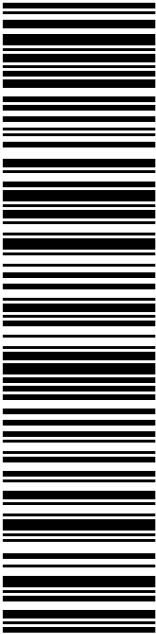
- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- 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.
- Mail your package on the "Ship Date" you selected when creating this label.

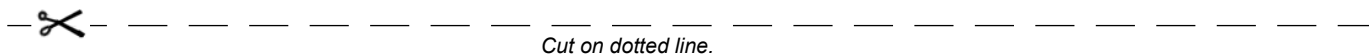
Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0234 4994 57	
Trans. #: 562279296 Print Date: 04/27/2022 Ship Date: 04/27/2022 Expected Delivery Date: 04/30/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: KEITH BYRNES TOWN PLANNER- STONINGTON 152 ELM ST STONINGTON CT 06378-1139	
Ref#: SBCT-045D	
* 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

 Click-N-Ship®	
P	usps.com US POSTAGE Flat Rate Env 04/27/2022 Mailed from 01566
9405 5036 9930 0234 4994 64 0089 5000 0010 6355	
U.S. POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Expected Delivery Date: 04/30/22 Ref#: SBCT-045D 0006
SHIP TO: JBRV, LLC PO BOX 10 MYSTIC CT 06355-0010	B001
USPS TRACKING #	
	
9405 5036 9930 0234 4994 64	
Electronic Rate Approved #038555749	



Instructions

- 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.
- Place your label so it does not wrap around the edge of the package.
- 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.
- 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.
- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0234 4994 64	
Trans. #: 562279296 Print Date: 04/27/2022 Ship Date: 04/27/2022 Expected Delivery Date: 04/30/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: JBRV, LLC PO BOX 10 MYSTIC CT 06355-0010	
Ref#: SBCT-045D	
* 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

CT11045D SBA
TMM



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

04/27/2022

04:41 PM

Product	Qty	Unit Price	Price
---------	-----	------------	-------

Prepaid Mail	1		\$0.00
Westborough, MA 01581			
Weight: 0 lb 1.90 oz			
Acceptance Date:			
Wed 04/27/2022			
Tracking #:			
9405 5036 9930 0234 4994 33			

Prepaid Mail	1		\$0.00
Stonington, CT 06378			
Weight: 0 lb 7.10 oz			
Acceptance Date:			
Wed 04/27/2022			
Tracking #:			
9405 5036 9930 0234 4994 40			

Prepaid Mail	1		\$0.00
Stonington, CT 06378			
Weight: 0 lb 7.10 oz			
Acceptance Date:			
Wed 04/27/2022			
Tracking #:			
9405 5036 9930 0234 4994 57			

Prepaid Mail	1		\$0.00
Mystic, CT 06355			
Weight: 0 lb 7.10 oz			
Acceptance Date:			
Wed 04/27/2022			
Tracking #:			
9405 5036 9930 0234 4994 64			

Grand Total:			\$0.00
--------------	--	--	--------