NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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

March 30, 2022

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

RE: Tower Share Application
188 Moody Road, Enfield CT 06082
Latitude: 42.002000
Longitude: -72.521694
Site# CT46124-A_BOBDL00134A_SBA_Dish

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless LLC. Dish Wireless LLC plans to install antennas and related equipment to the tower site located at 188 Moody Road in Enfield, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900 5G MHz antenna and six (6) RRUs, at the 177-foot level of the existing 188-foot monopole tower, one (1) Fiber cables will also be installed. Dish Wireless LLC equipment cabinets will be placed within 7x5 lease area. Included are plans by B+T Group, dated January 21, 2022 Exhibit C. Also included is a Post-Mod Structural Analysis report prepared by Tower Engineering Solutions, dated February 17, 2022, confirming that the existing tower is structurally capable of supporting the proposed equipment once the proposed modification has been completed. Attached as Exhibit D. This facility was approved by the Town of Enfield Planning and Zoning Commission on December 9, 1999. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish Wireless LLC intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Ellen Zoppo-Sassu, Town Manager, and Ben Winter, Assistant Town Planner for the Town of Enfield, as well as the tower owner (SBA) and property owner (Troiano Realty Corp)

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

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the tower is 188-feet; Dish Wireless LLC proposed antennas will be located at a center line height of 178-feet.

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

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

4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, the combined site operations will result in a total power density of 16.37% as evidenced by Exhibit F.

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

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting Dish Wireless LLC proposed loading. The post-mod structural analysis is included as Exhibit D.

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

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish Wireless LLC equipment at the 178-foot level of the existing 188-foot tower would have an insignificant visual impact on the area around the tower. Dish Wireless LLC ground equipment would be installed within the existing facility compound. Dish Wireless LLC shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

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

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

Sincerely,

Denise Sabo

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

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments cc:

Ellen Zoppo-Sassu, Town Manager
Town of Enfield
820 Enfield Street Enfield, CT 06082

Ben Winter, Assistant Town Planner
Town of Enfield
820 Enfield Street Enfield, CT 06082

Troiano Realty Corp, Property Owner
777 Enfield Street, Enfield CT 06082

SBA, Tower Owner

Exhibit A

Original Facility Approval

CT-0054
TAB 11

ZONING CERTIFICATE

- SPECIAL USE PERMIT -

Planning and Zoning File PH 2157

OWNERS OF RECORD (Grantors): - Troiano Realty Corp.

PREMISES: 188 Moody Road (Assessors Map 100, Lot #12), Enfield, CT

More particularly described on a Site Plan entitled: *

"CT-0054 Enfield Indust. Park Moody Road, Enfield, CT, Zoning Documents, Title Sheet & Index" Sheet T-1, Scale: "As noted" by Diversified Technology Consultants, dated 12/2/99.

"CT-0054 Enfield Indust. Park Moody Road, Enfield, CT, Zoning Documents, Plot Plan" Sheet A-1, Scale: "As noted" by Diversified Technology Consultants, dated 12/2/99.

"CT-0054 Enfield Indust. Park Moody Road, Enfield, CT, Zoning Documents, Proposed Site Plan & Elevations" Sheet Z-1, Scale: "As noted" by Diversified Technology Consultants, dated 11/2/99.

"CT-0054 Enfield Indust. Park Moody Road, Enfield, CT, Zoning Documents, Erosion & Sediment Control Plan" Sheet Z-2, Scale: "As noted" by Diversified Technology Consultants, dated 11/2/99 and revised to 1-20-00.

"CT-0054 Enfield Indust. Park Moody Road, Enfield, CT, Zoning Documents, Detailed Sections" Sheet Z-3, Scale: "As noted" by Diversified Technology Consultants, dated 12/2/99.

"CT-0054 Enfield Indust. Park Moody Road, Enfield, CT, Zoning Documents, Equipment Shelter Elevations & Notes" Sheet Z-4, Scale: "As noted" by Diversified Technology Consultants, dated 12/2/99.

*Revision dates subject to change with final mylar approval.

I, Elizabeth A. Ballard, Secretary, hereby certify that on February 3, 2000, the Planning and Zoning Commission of the Town of Enfield did approve PH # 2157 – Application of Nextel Communications of the Mid-Atlantic, Inc. for a Special Permit under Section 14 and Section 16 to allow the construction of a personal wireless telecommunications facility with a 180 foot high monopole tower to be located at 188 Moody Road (Assessors Map 100, Lot #12) on property zoned I-1, Troiano Realty Corp., owner. This approval is subject to conformance with the referenced plans, as may be required to be modified by this motion, and the following conditions:

Conditions to be Met Prior to Signing of Mylars:

1. All plans submitted for signature shall require the seal and live signature of the appropriate professional(s) responsible for the preparation of the plans.

2. The conditions of this approval shall be binding on the applicant, land owners, and their successors and assigns. A copy of this approval motion shall be filed on the land records prior to the signing of the plans.

Conditions to be met prior to the issuance of permits:

3. Two sets of final plans, with any required revisions incorporated on the sheets, shall be submitted to signature to the Commission.
4. An engineering bond for removal of the wireless telecommunications facility including the tower and base components in an amount to be determined by the Town Engineer shall be submitted to the Town. Any need to use the bond by the Town of Enfield shall be binding in the site regardless of the name of the bond obligee.
5. The applicant shall post a bond for any required Site improvements in an amount to be determined by the Town Engineer and with surety acceptable to the Town.
6. A Separate Erosion and Sediment Control passbook shall be submitted in an amount to be determined by the Town Engineer.
7. A landscaping bond, in an amount to be determined by the Planning Department shall be submitted to the Town.
8. A pre-construction meeting between the applicant, site contractors, project engineer and Town Staff shall be held.

Conditions which must be met prior to the Issuance of a Zoning Certificate of Compliance:

9. Complete as-built plans certified to Class A-2 accuracy shall be submitted prior to the issuance of any certificates of zoning compliance.

General Conditions:

10. This approval is for the specific use and structures identified in the application. Any changes or additions to the site and the structures will require new approvals from the Enfield Planning and Zoning Commission in addition to any other required State approvals.
11. The wireless communication facility shall not interfere with existing or proposed public safety communications, commercial television and radio signals or other forms of communication transmissions. Any such interference shall void the approval of the facility.
12. The wireless communication facility shall comply with the standards promulgated by the federal communication commission (FCC).
13. All generators installed in conjunction with the wireless communications facility shall comply with all state and local noise regulations.
14. On or before August 31 every year, the applicant or Wireless Telecommunications Service Provider shall submit information to the Planning and Zoning Commission file for annual review in support of the following:

A. Maintenance of facilities - A certified inspection report shall be filed to ensure the continuing structural integrity of the Tower and accessory structures. If the report recommends that repairs or maintenance are required, then a letter shall be submitted to the Town to verify that such repairs and/or maintenance have been completed. The Town of Enfield may require repair or removal of the Tower based on the inspection report. The Town shall have no responsibility regarding such repairs and/or maintenance. Existing non-conforming Towers shall be subject to current approval requirements if replacement is required.

B. Continued use - An affidavit of continuing use of the Wireless Communication Facility to establish renewal and continuation of the Special Use Permit.

C. Propagation Plan - A system wide plan showing a regional perspective of Wireless Communications Facilities, both existing and proposed accompanied by a narrative explanation of the service provider's strategic plan for the ensuing year.

D. Copies of all reports filed with the FCC or the Connecticut Siting Council on EMF emissions shall be filed with the Planning and Zoning Commission. Automatic revocation of any approval given under this Chapter shall result for any Wireless Communication Facility that reports EMF emissions exceeding FCC standards.

15. If the wireless communications facility is not in use for 12 consecutive months, it shall be removed within 90 days from the end of such 12 month period, including base components by the last service provider using the site or owner, whichever has a contractual obligation to perform the removal. The site shall be restored to an appearance that is compatible with the surrounding neighborhood and where appropriate, re-vegetated to blend with the surrounding area.
16. The special use permit for a commercial wireless telecommunication service shall be valid for a maximum period of 10 years (February 3, 2010) with a right of reapplication under regulations in effect at that time.
17. The applicant, and his successors and assigns shall maintain the antennae and related facilities in a manner to blend in with the tower so as to minimize any visual intrusion into the surrounding properties.
18. Arrangements shall be made with the Fire Department regarding emergency access to the compound.
19. The approval of an application for special use permit shall be void and of no effect unless construction of the project commences within one year from the date of the approval granted by the commission, (February 3, 2001) in accordance with section 14-10.2 of the zoning ordinance.
20. By acceptance of this permit and conditions, the applicant and owner acknowledge the right of Town staff to periodically enter upon the subject property for the purpose of determining compliance with the terms of this approval.

The reasons for approval of the use and the decision about the Site Plan, including any conditions relating to either, are part of the record of the February 3, 2000 meeting of the Planning and Zoning Commission.

In accordance with Section 8-3c and Section 8-3d of Connecticut General Statues as amended, the **effective date** of this approval shall the date of recording of this Certificate on the land records of the Enfield Town Clerk.

Dated at Enfield, Connecticut this 2 day of March, 2000.

ENFIELD PLANNING AND ZONING COMMISSION

Elizabeth A. Ballard

Elizabeth A. Ballard, Secretary

RECORDED IN
ENFIELD LAND RECORDS
2000 MAR -7 PM 3:12
SUZANNE F. OLECHNICKI
TOWN CLERK

4 I HEREBY CERTIFY A TRUE COPY OF A(N)
PAGE Zoning Certificate
AS RECORDED IN THE ENFIELD LAND RECORDS.
DATED AT ENFIELD, CT March 7, 2000
ATTEST: Kirsten G. Montemayor
KIRSTEN G. MONTEMAYOR, ASST TOWN CLERK

TOWN OF ENFIELD

WETLANDS PERMIT

CERTIFIED MAIL Z 022 035 532

December 9, 1999

John W. Knuff, Esq.
Hurwitz & Sagarin LLC
147 North Broad Street
Milford CT 06460

Dear Mr. Knuff:

At the December 7, 1999 Meeting of the Enfield Conservation Commission (Inland Wetland and Watercourses Agency), the following action was taken:

IW# 317 – Application of Nextel Communications of The Mid-Atlantic, Inc., for regulated activities associated with the construction of a wireless telecommunication monopole, equipment shed and yard to be located in the rear of the Troiano Industrial Park on Moody Road - **Approved with conditions:**

The permit is issued subject to the following conditions and/or modifications:

1. The permittee shall notify the Planning Department at 253-6358 immediately upon the commencement of work and upon its completion.

2. If the authorized activity has not been initiated before December 7, 2000 this permit shall be null and void if not previously revoked or specifically extended. The duration of the permit once initiated shall be 5 years from the date of approval.

3. All work and all regulated activities conducted pursuant to his authorization shall be consistent with these terms and conditions of this permit. Any structures, excavation, fill, obstruction, encroachments or regulated activities not specifically identified and authorized herein shall constitute a violation of this permit and may result in its modification, suspension, or revocation. Upon initiation of the activities authorized herein, the permittee thereby accepts and agrees to comply with the terms and conditions of this permit.

4. The authorization is not transferable without the written consent of the Enfield Conservation Commission.

5. In evaluating this application, the Commission has relied on information provided by the applicant and, if such information subsequently proves to be false, deceptive, incomplete and/or inaccurate this permit shall be modified, suspended or revoked.

6. This permittee shall employ best management practices, consistent with the terms and conditions of the permit, to control stormwater discharges and to prevent erosion and sedimentation and to otherwise prevent pollution of wetlands or watercourses. For information and technical assistance, contact the Town Planner. The permittee shall immediately inform the Planning Department of any problems involving wetlands or watercourses which have developed in the course of, or which are caused by, the authorized work.

7. No equipment or material including without limitation, fill, construction materials, or debris, shall be deposited, placed, or stored in any wetland or watercourse on or off site unless specifically authorized by this permit.

8. This permit is subject to and does not derogate any present or future property rights or other rights or powers of the Town of Enfield, and conveys no property rights or in real estate of material nor any exclusive privileges, and is further subject to any and all public and private rights and to any activity affected hereby.

9. Timely implementation and maintenance of sediment and erosion control measures are a condition of this permit. (All sediment and erosion control measures must be maintained until all disturbed areas are stabilized.)

10. A pre-construction meeting shall be held prior to the commencement of any construction activities on the site with the applicant, contractor, and Town staff.

11. A second sentence shall be added to note 9 of the Erosion and Sediment Control Narrative to read: "If weather, or other conditions, prevent seeding; hay will be spread over all exposed areas to a minimum of one inch in thickness".

12. A phrase shall be added to the end of note 13, of the Excavation and Grading Notes stating, "and shall not at any time in the future".

13. With the exception of the addition of the items stated in these conditions, this application is approved in accordance with the plans titled, "NEXTEL Communication of the Mid-Atlantic, Inc., 100 Corporate Place, Rocky Hill, CT 06067, Diversified Technology Consultants, 556 Washington Avenue, North Haven, CT 06473, Enfield, Troiano Industrial Park, Moody Road, Enfield, CT., Wetlands Documents, Erosion & Sedimentation Control Plan ... Sheet: W2". Any changes, such as enlargement or alteration to the building footprint, from the plans shall require the permittee to come before the Enfield Conservation Commission for a Determination of Permit Need (Jurisdictional Ruling).

This authorization constitutes the permit required by Section 22a-39 of the Connecticut General Statutes.

If you have any questions concerning this permit, please contact the Planning department at 253-6358.

Very truly yours,

Jay D. Northrup

Jay O Northrup
Assistant Town Planner

JOP/vch

cc: Applicant File
ECC Correspondence

Exhibit B

Property Card

188 MOODY RD

Location	188 MOODY RD	**Mblu**	100/ / 0012/ /
Acct#	001600020130	**Owner**	TROIANO REALTY CORP
Assessment	$1,062,940	**Appraisal**	$1,518,470
PID	2238	**Building Count**	1
Fire District	3		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$812,550	$705,920	$1,518,470
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$568,790	$494,150	$1,062,940

Owner of Record

Owner	TROIANO REALTY CORP	**Sale Price**	$0
Co-Owner		**Certificate**	1
Address	0777 ENFIELD ST ENFIELD, CT 06082	**Book & Page**	0305/0468
		Sale Date	

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
TROIANO REALTY CORP	$0	1	0305/0468	

Building Information

Building 1 : Section 1

Year Built:	1965
Living Area:	10,980
Replacement Cost:	$490,290
Building Percent Good:	37

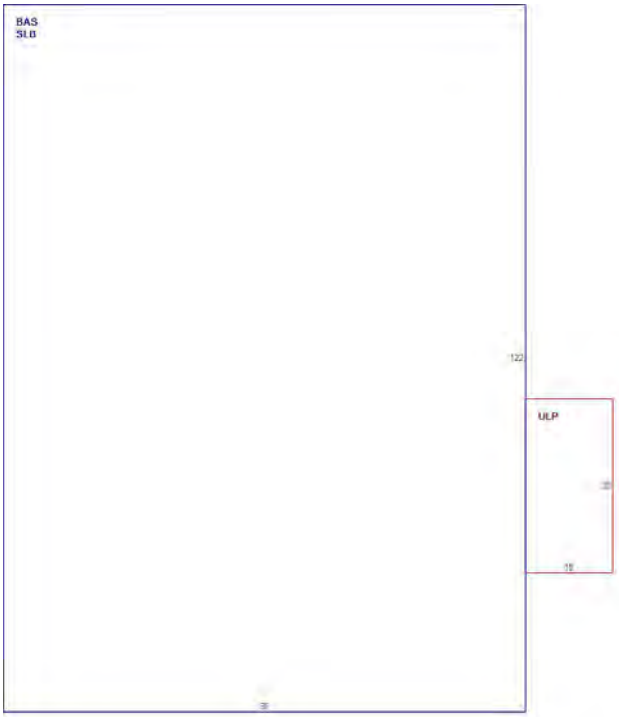
Replacement Cost
Less Depreciation: $181,410

Building Attributes	
Field	**Description**
Style:	Industrial Flex Bldg
Model	Ind/Comm
Grade	Average
Stories:	1
Occupancy	3.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Vinyl/Asphalt
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	None
Struct Class	2.51
Bldg Use	Industrial
Total Rooms	
Total Bedrms	
Total Baths	
Total H Bths	
Extra Fixtures	
1st Floor Use:	
Heat/AC	None
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Wall	None
Rooms/Prtns	Average
Wall Height	15.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos2/EnfieldCTPhotos//\00\01\95\47.JPG)

Building Layout



(ParcelSketch.ashx?pid=2238&bid=2238)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	10,980	10,980
SLB	Slab	10,980	0
ULP	Uncvrd Loading Platform	450	0
		22,410	10,980

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	301
Description	Industrial
Zone	I-1
Neighborhood	C500
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	15.10
Frontage	
Depth	
Assessed Value	$494,150
Appraised Value	$705,920

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	Paving	AS	Asphalt	32200.00 S.F.	$5,540	1
TNK2	Tank - Oil			500000.00 GALS	$240,000	1
FN2	FENCE-6' CHAIN			900.00 L.F.	$1,220	1
TWR3	Cell Twr3 Carriers			1.00 UNITS	$384,380	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$812,550	$705,920	$1,518,470
2019	$1,168,800	$705,920	$1,874,720
2018	$1,168,800	$705,920	$1,874,720

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$568,790	$494,150	$1,062,940
2019	$818,160	$494,150	$1,312,310
2018	$818,160	$494,150	$1,312,310

Exhibit C

Construction Drawings

DISH Wireless L.L.C. SITE ID:

BOBDL00134A

DISH Wireless L.L.C. SITE ADDRESS:

188 MOODY RD
ENFIELD, CT 06082

SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

TOWER SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED ICE BRIDGE
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
- INSTALL (1) PROPOSED METER SOCKET

SITE INFORMATION

PROPERTY OWNER:	TROIANO REALTY CORP
ADDRESS:	0777 ENFIELD ST ENFIELD, CT 06082
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	CT46124-A
TOWER APP NUMBER:	177000
COUNTY:	HARTFORD
LATITUDE (NAD 83):	42° 00' 07.2" N 42.002
LONGITUDE (NAD 83):	72° 31' 18.1" W -72.5217
ZONING JURISDICTION:	CONNECTICUT SITTING COUNCIL
ZONING DISTRICT:	RESIDENTIAL
PARCEL NUMBER:	09003049-100-12
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	EVERSOURCE CT ELECTRIC
TELEPHONE COMPANY:	CROWN CASTLE

PROJECT DIRECTORY

APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	SBA COMMUNICATAIONS CORP. 8051 CONGRESS AVENUE BOCA RATON, FL 33487 (800) 487-7483
SITE DESIGNER:	B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
SITE ACQUISITION:	APRIL PARROTT APRIL.PARROTT@DISH.COM
CONST. MANAGER:	CHAD WILCOX CHAD.WILCOX@DISH.COM
RF ENGINEER:	BOSSENER CHARLES BOSSENER.CHARLES@DISH.COM

CONNECTICUT CODE OF COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

SITE PHOTO

DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:

GET ON BRADLEY INTERNATIONAL AIRPORT CON IN EAST GRANBY FROM BRADLEY INTERNATIONAL AIRPORT, HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT. SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT, CONTINUE STRAIGHT. KEEP RIGHT TO CONTINUE TOWARD BRADLEY INTERNATIONAL AIRPORT CON, TAKE CT-20 E AND I-91 N TO CT-220 E/ELM ST IN ENFIELD. TAKE EXIT 48 FROM I-91 N, CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON. CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON. TAKE THE EXIT ON THE LEFT ONTO I-91 N TOWARD SPRINGFIELD. TAKE EXIT 48 FOR CT-220/ELM ST TOWARD THOMPSONVILLE, FOLLOW ELM ST AND MOODY RD TO YOUR DESTINATION. USE THE RIGHT 2 LANES TO TURN RIGHT AFTER FRIENDLY'S (ON THE RIGHT), TURN RIGHT ONTO ELM ST. CONTINUE ONTO MOODY RD, TURN RIGHT, ARRIVE AT BOBDL00134A.

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES
GN-5	GENERAL NOTES

UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 922-4455
WWW.CBYD.COM

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

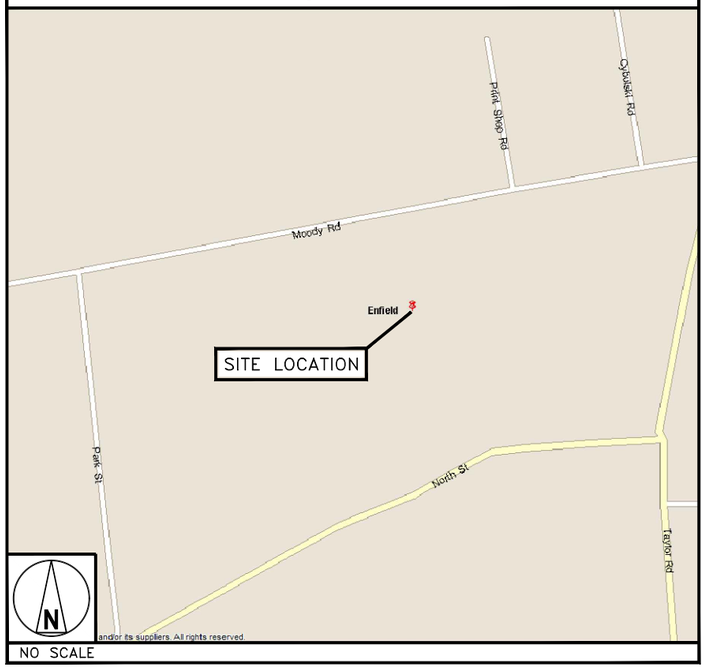
GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

VICINITY MAP



NO SCALE

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

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

STATE OF CONNECTICUT
CHAD WILCOX
No. 23924
LICENSED
PROFESSIONAL ENGINEER
1/21/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	MRE	GLS

RFDS REV #: 2.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	12/21/21	ISSUED FOR REVIEW
B	1/10/22	ISSUED FOR REVIEW
0	1/21/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

106084.003.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

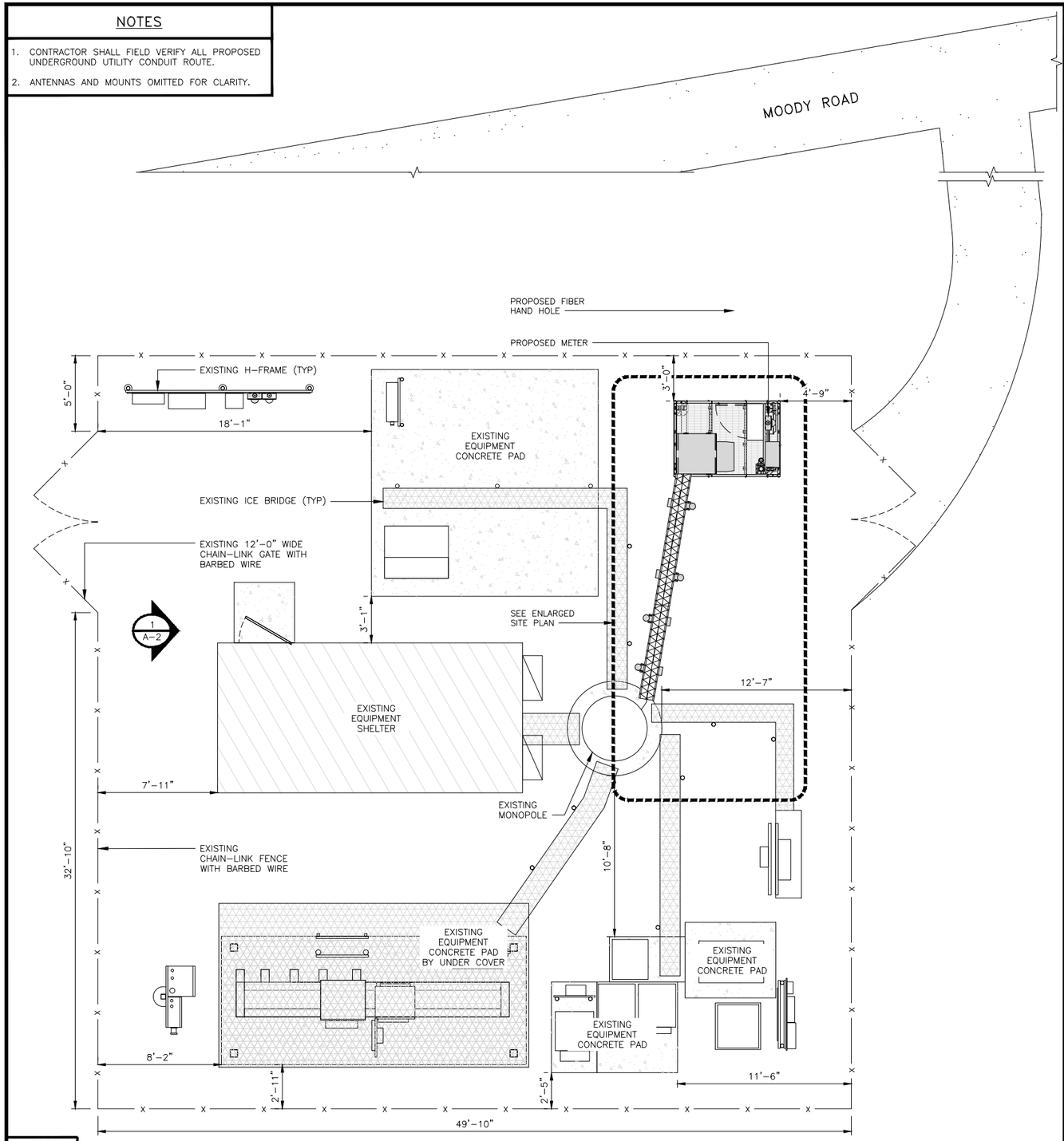
TITLE SHEET

SHEET NUMBER

T-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



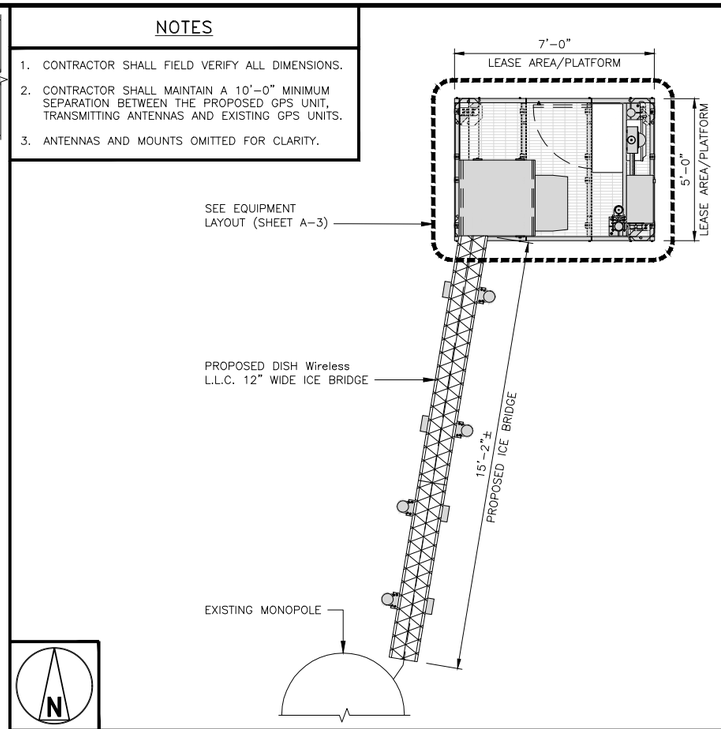
OVERALL SITE PLAN

4' 2' 0 4' 8'
1/4"=1'-0"

1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN

12" 6" 0 1' 2' 3' 4' 5' 6' 7'
3/8"=1'-0"

2

NOT USED

NO SCALE

3

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STATE OF CONNECTICUT
CHAD M. TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER
1/21/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	MRE	GLS

RFDS REV #: 2.0

CONSTRUCTION DOCUMENTS

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PROJECT INFORMATION

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188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

OVERALL AND ENLARGED SITE PLAN

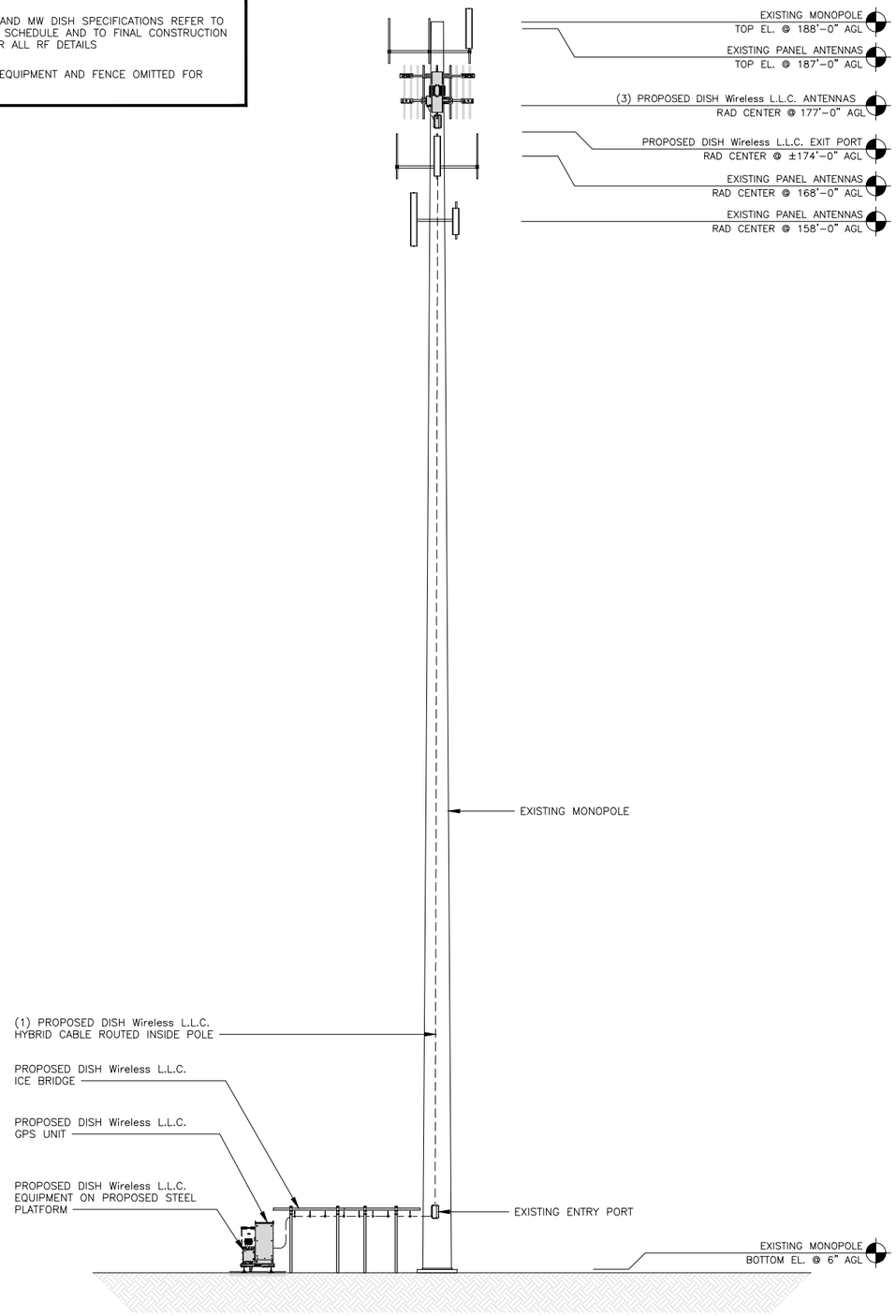
SHEET NUMBER

A-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.

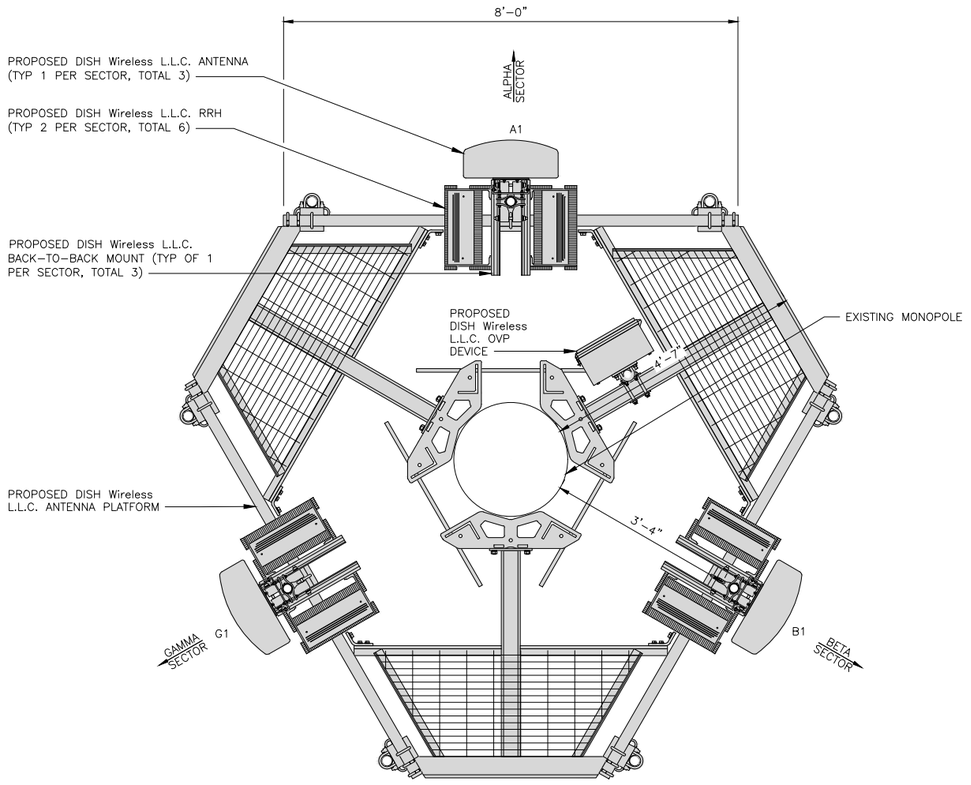
NOTE: STRUCTURAL ANALYSIS NOT AVAILABLE AT TIME OF THIS DRAWING'S CREATION



PROPOSED WEST ELEVATION

12' 8' 4' 0 10' 20'
3/32"=1'-0"

1



ANTENNA LAYOUT

12" 6" 0 1' 2' 3'
3/4"=1'-0"

2

SECTOR POS.	ANTENNA					TRANSMISSION CABLE	RRH			OVP
	EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECH	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH	MANUFACTURER – MODEL NUMBER	TECH	POS.	MANUFACTURER MODEL
A1	--	--	--	--	--	(1) HIGH-CAPACITY HYBRID CABLE (215' LONG)	FUJITSU – TA08025-B605	5G	A2	MANUF. XXXX
A2	PROPOSED	JMA WIRELESS MX08FRO665-21	5G	0°	177'-0"		FUJITSU – TA08025-B604	5G	A2	
A3	--	--	--	--	--		--	--	--	
B1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU – TA08025-B605	5G	B2	SHARED W/ALPHA
B2	PROPOSED	JMA WIRELESS MX08FRO665-21	5G	120°	177'-0"		FUJITSU – TA08025-B604	5G	B2	
B3	--	--	--	--	--		--	--	--	
C1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU – TA08025-B605	5G	C2	SHARED W/ALPHA
C2	PROPOSED	JMA WIRELESS MX08FRO665-21	5G	240°	177'-0"		FUJITSU – TA08025-B604	5G	C2	
C3	--	--	--	--	--		--	--	--	

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

ANTENNA SCHEDULE

NO SCALE

3

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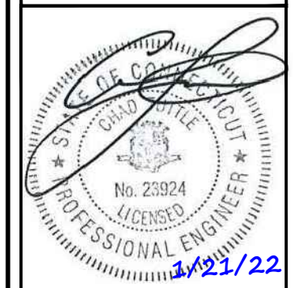

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RFDS REV #: 2.0

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DISH Wireless L.L.C.
PROJECT INFORMATION

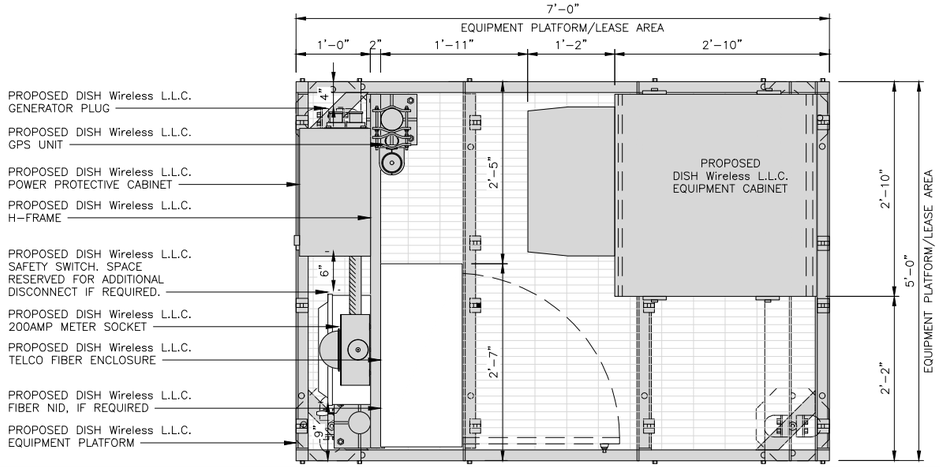
BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



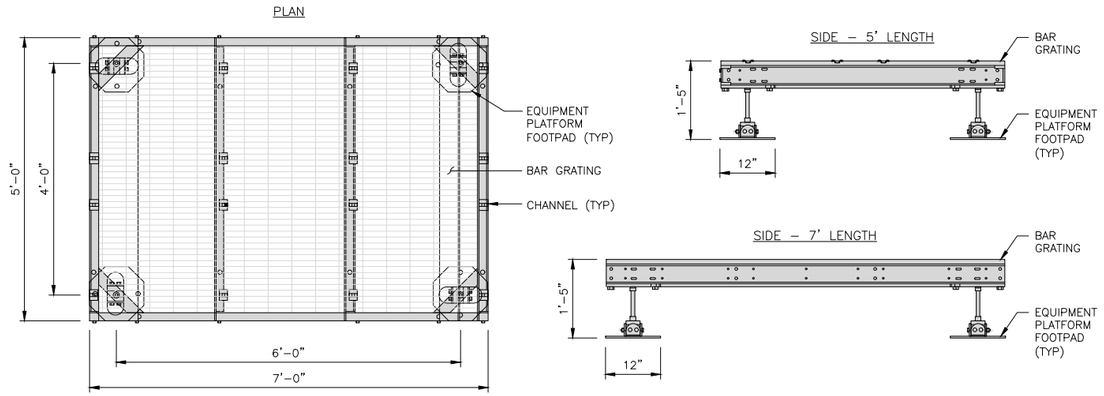
PLATFORM EQUIPMENT PLAN

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

1

COMMSCOPE MTC4045LP 5X7 PLATFORM	
DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

NOTE:
GC TO PROVIDE EXTENDED THREAD FOR PLATFORM IF REQUIRED HEIGHT EXCEEDS 17"

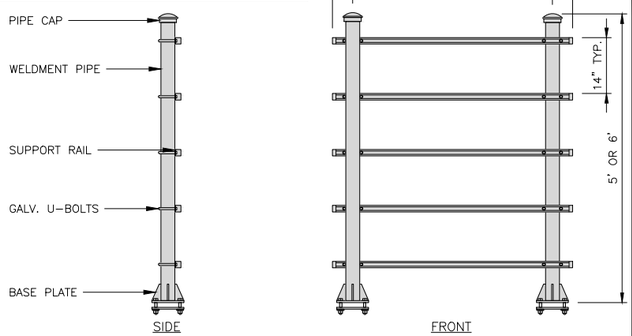


PLATFORM DETAIL

NO SCALE

2

COMMSCOPE MTC4045HFLD H-FRAME	
UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs



H-FRAME DETAIL

NO SCALE

3

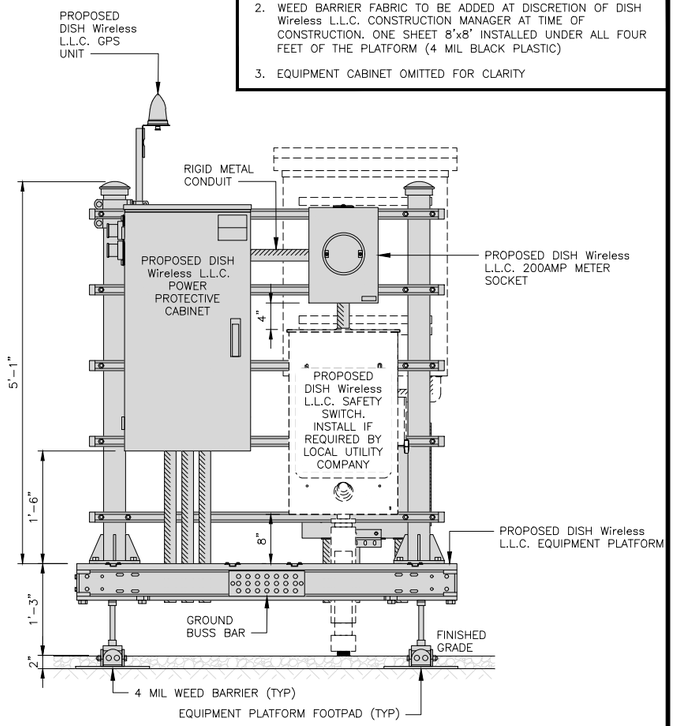
NOT USED

NO SCALE

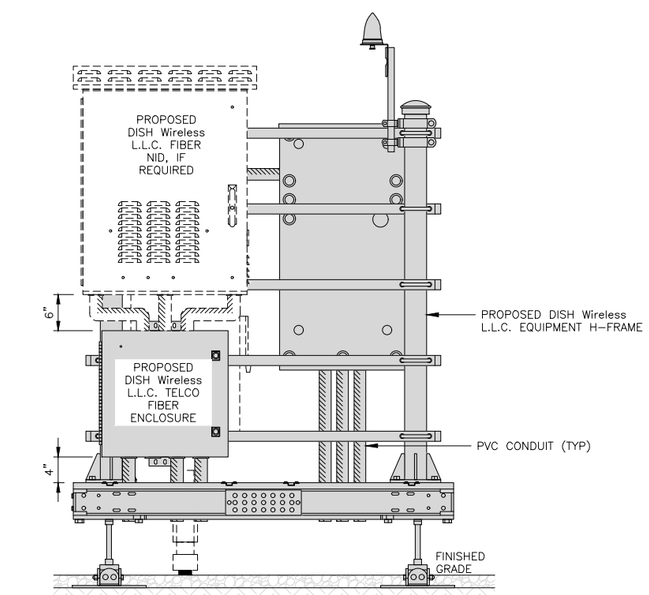
4

NOTES

1. CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
2. WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH Wireless L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
3. EQUIPMENT CABINET OMITTED FOR CLARITY



FRONT ELEVATION



BACK ELEVATION

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

5

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BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

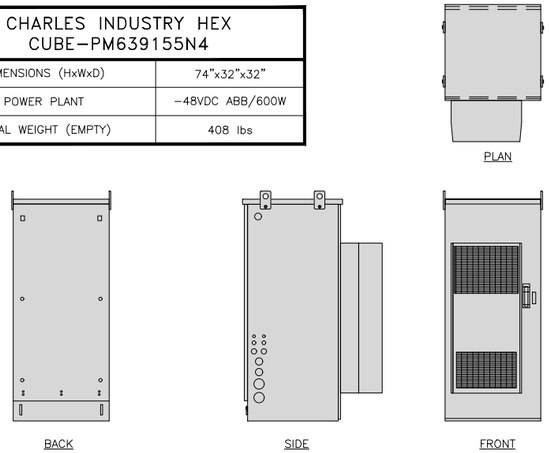
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER

A-3

CHARLES INDUSTRY HEX CUBE–PM639155N4

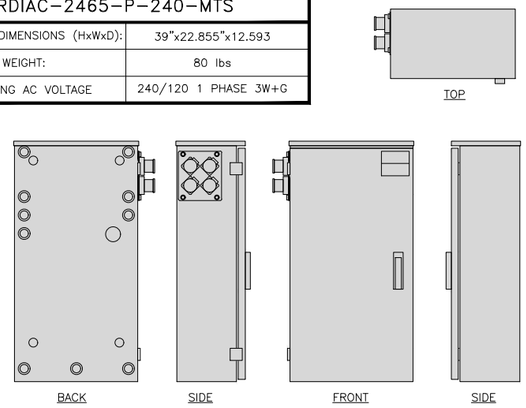
DIMENSIONS (HxWxD)	74"x32"x32"
POWER PLANT	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	408 lbs



CABINET DETAIL | NO SCALE | 1

RAYCAP PPC RDIAC–2465–P–240–MTS

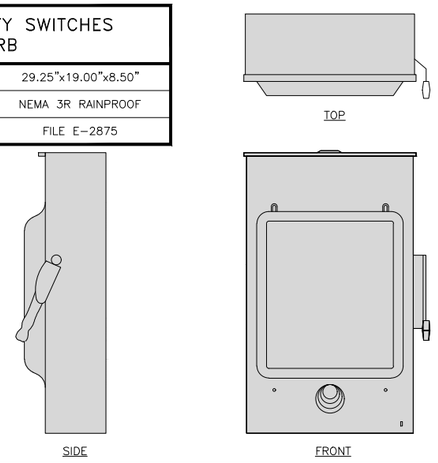
ENCLOSURE DIMENSIONS (HxWxD):	39"x22.855"x12.593
WEIGHT:	80 lbs
OPERATING AC VOLTAGE	240/120 1 PHASE 3W+G



POWER PROTECTION CABINET (PPC) DETAIL | NO SCALE | 2

SQUARE D SAFETY SWITCHES D224NRB

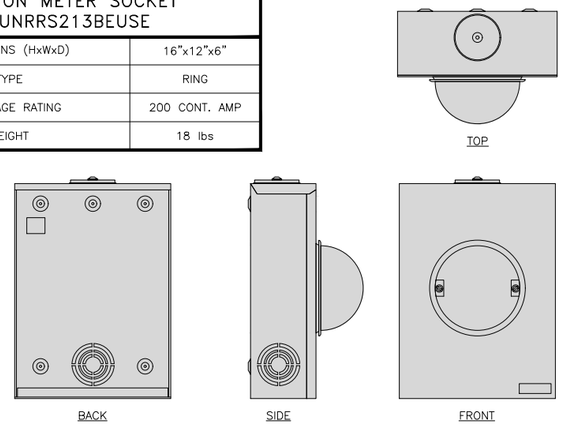
ENCLOSURE DIM (HxWxD)	29.25"x19.00"x8.50"
ENCLOSURE TYPE	NEMA 3R RAINPROOF
UL LISTED	FILE E–2875



SAFETY SWITCH DETAIL | NO SCALE | 3

EATON METER SOCKET UNRRS213BEUSE

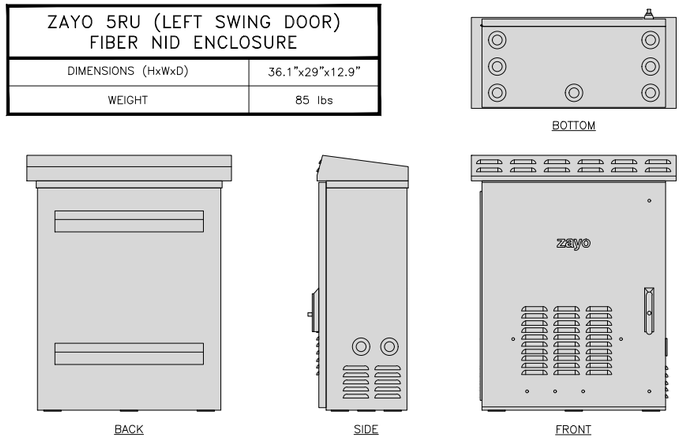
DIMENSIONS (HxWxD)	16"x12"x6"
TYPE	RING
AMPERAGE RATING	200 CONT. AMP
WEIGHT	18 lbs



METER BANK DETAIL | NO SCALE | 4

ZAYO 5RU (LEFT SWING DOOR) FIBER NID ENCLOSURE

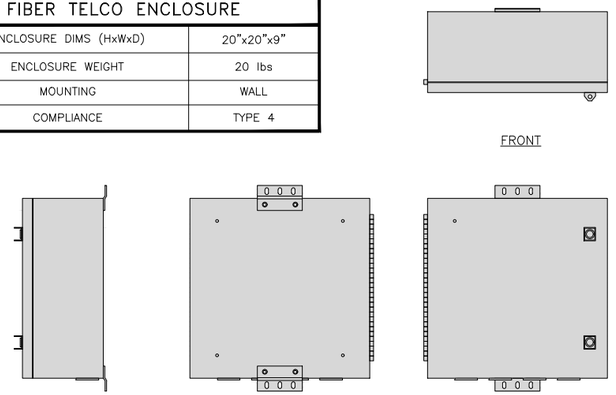
DIMENSIONS (HxWxD)	36.1"x29"x12.9"
WEIGHT	85 lbs



FIBER NID ENCLOSURE DETAIL | NO SCALE | 5

CHARLES CFIT–PF2020DSH1 FIBER TELCO ENCLOSURE

ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4

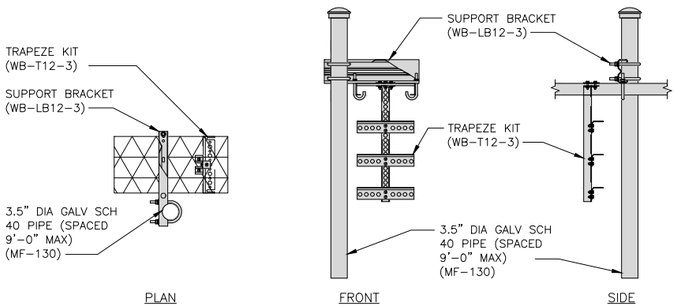


FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

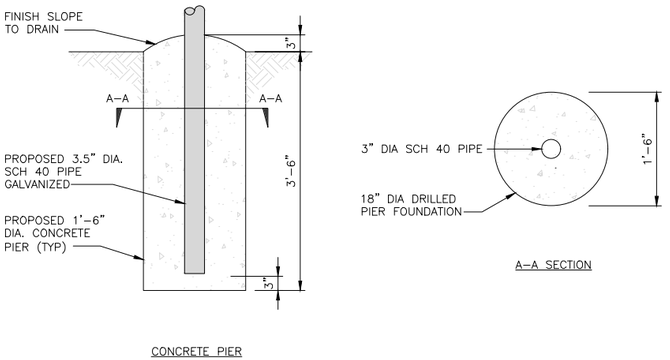
COMMSCOPE WB–K110–B WAVEGUIDE BRIDGE KIT

DIMENSIONS (HxL)	160"x10'
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

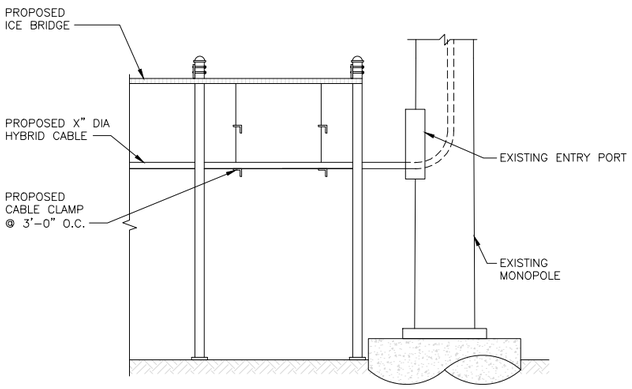
INCLUDED PRODUCTS:
- WB–T12–3 TRAPEZE KIT, 3 RUNGS
- WB–LB12–3 SUPPORT BRACKET
- MF–130 DIRECT BURIAL PIPE COLUMN, 13'–4"



ICE BRIDGE DETAIL | NO SCALE | 7



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

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188 MOODY RD
ENFIELD, CT 06082

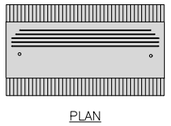
SHEET TITLE

EQUIPMENT DETAILS

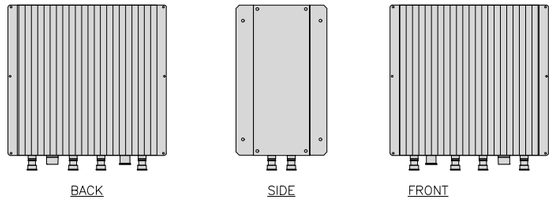
SHEET NUMBER

A-4

FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



PLAN

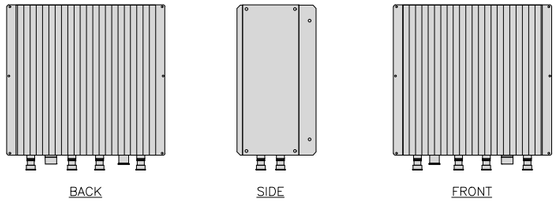


BACK SIDE FRONT

RRH DETAIL | NO SCALE | 1

FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V

PLAN

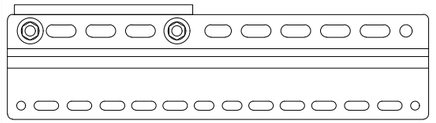


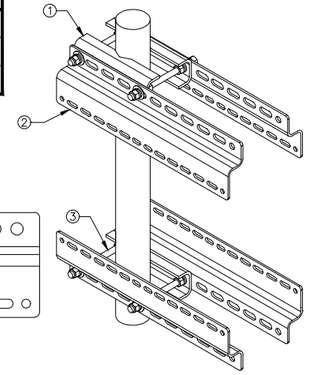
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

SABRE DOUBLE Z-BRACKET C10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

#	DESCRIPTION
1	PLATE, CHANNEL BRACKET
2	RRH Z BRACKET, 3/16"
3	THREADED ROD ASSEMBLY 1/2"x12"

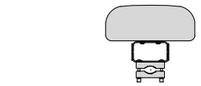




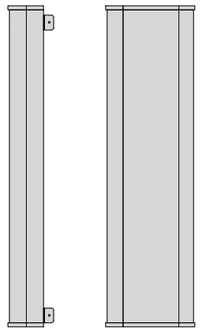
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH MOUNT DETAIL | NO SCALE | 3

JMA MX08FRO665-21	
DIMENSIONS (HxWxD)	72"x20.0"x8.0"
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE
WEIGHT	64.5 lbs
WEIGHT WITH BRACKETS	82.5 lbs



PLAN



SIDE FRONT

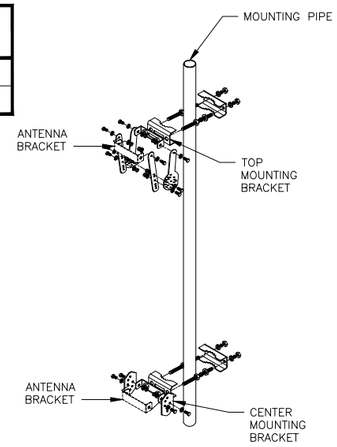
ANTENNA DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

JMA ANTENNA MOUNT BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS FOR 4-,6-, AND 8-FOOT ANTENNAS

ANTENNA BRACKET NOT PART OF KIT

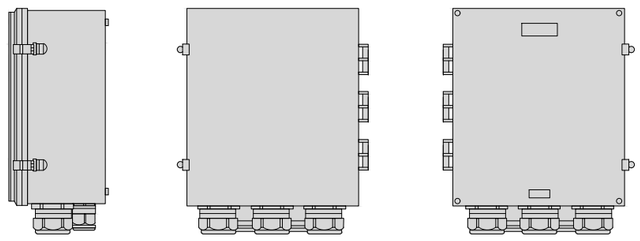


NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

ANTENNA BRACKET DETAIL | NO SCALE | 6

RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS

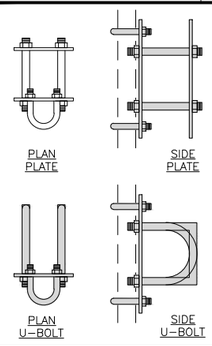
PLAN



SIDE BACK FRONT

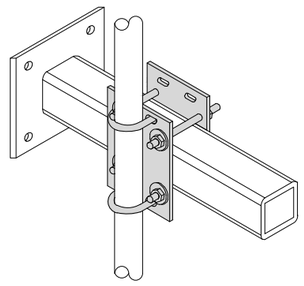
SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs



PLAN PLATE SIDE PLATE
PLAN U-BOLT SIDE U-BOLT

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT



RRH/OVP MOUNT DETAIL | NO SCALE | 8

COMMSCOPE MC-PK8-DSH	
FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	

NOTE:
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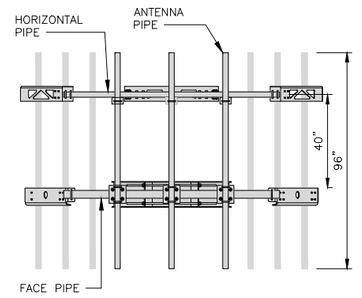
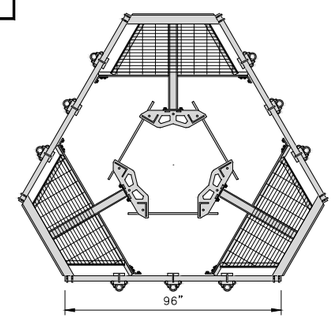
APPROVED EQUIVALENT





ANTENNA PLATFORM DETAIL | NO SCALE | 9

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1/21/22

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PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	MRE	GLS

RFDS REV #: 2.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

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B	1/10/22	ISSUED FOR REVIEW
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A&E PROJECT NUMBER

106084.003.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

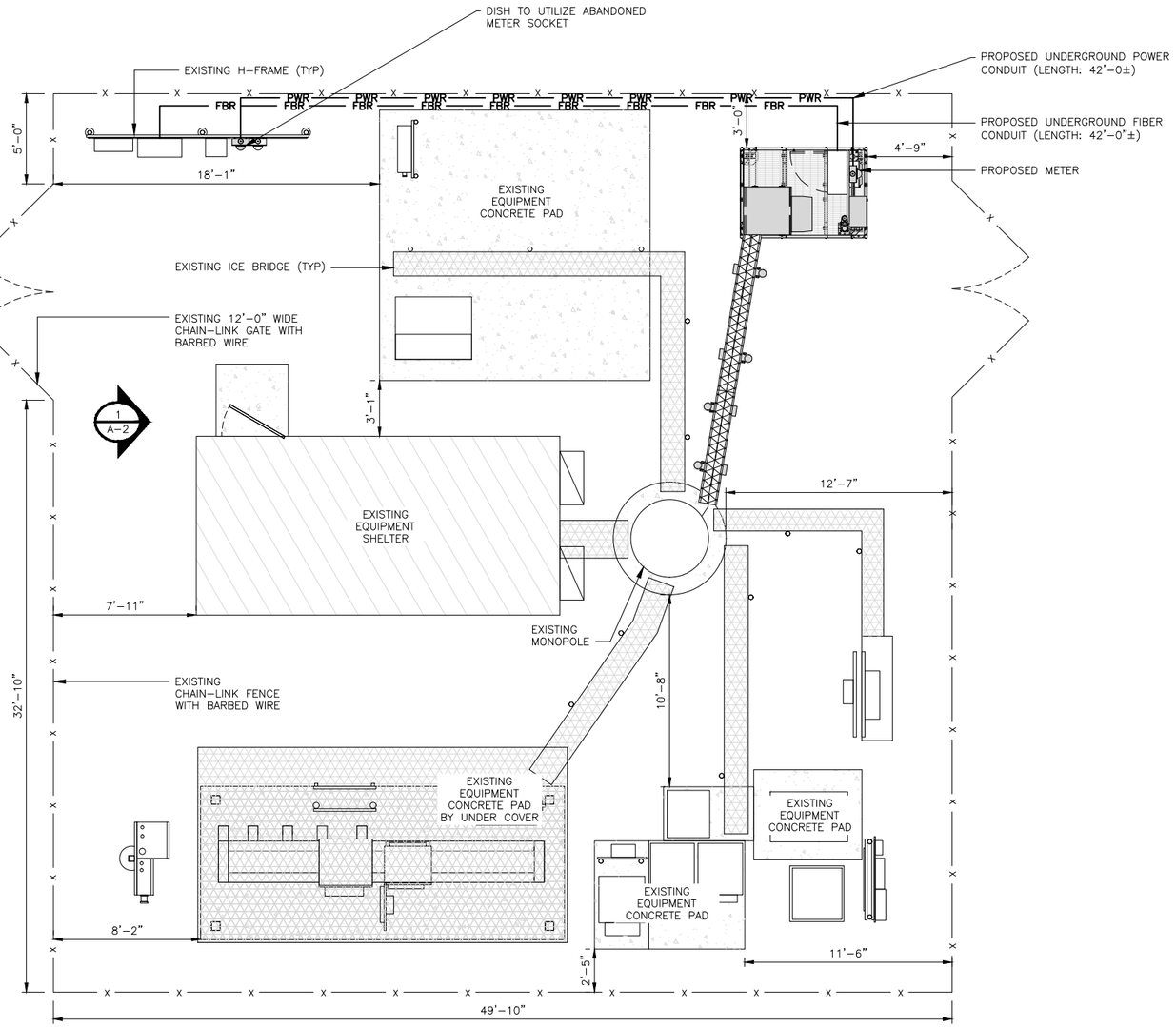
EQUIPMENT DETAILS

SHEET NUMBER

A-6

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. THE GROUND LEASE PROVIDES BROAD/BLANKET UTILITY RIGHTS. "PWR" AND "FBR" PATH DEPICTED ON A-1 AND E-1 ARE BASED ON BEST AVAILABLE INFORMATION INCLUDING BUT NOT LIMITED TO FIELD VERIFICATION. PRIOR PROJECT DOCUMENTATION AND OTHER REAL PROPERTY RIGHTS DOCUMENTS. WHEN INSTALLING THE UTILITIES PLEASE LOCATE AND FOLLOW EXISTING PATH. IF EXISTING PATH IS NOT AN OPTION, PLEASE NOTIFY TOWER OWNER AS FURTHER COORDINATION MAY BE NEEDED.



DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND -48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY -48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
13. ALL TRENCHES IN COMPOUND TO BE HAND DUG

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188 MOODY RD
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SHEET TITLE

ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER

E-1

UTILITY ROUTE PLAN

4' 2' 0 4' 8'
1/4"=1'-0"

1

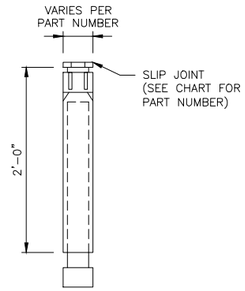
ELECTRICAL NOTES

NO SCALE

2

CARLON EXPANSION FITTINGS

COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"

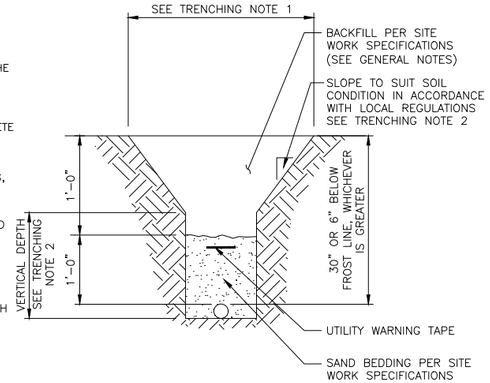


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

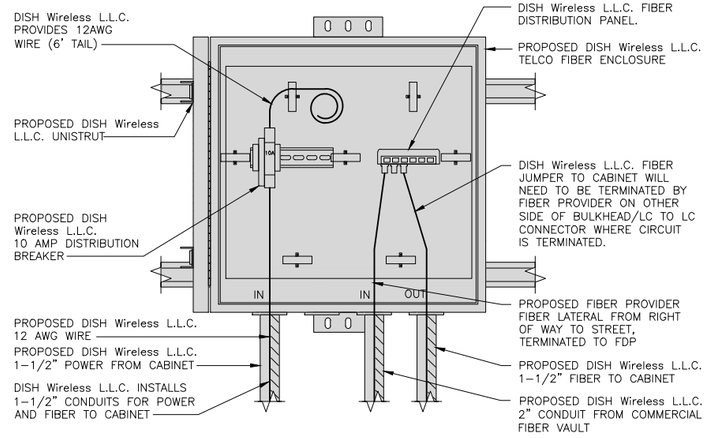
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

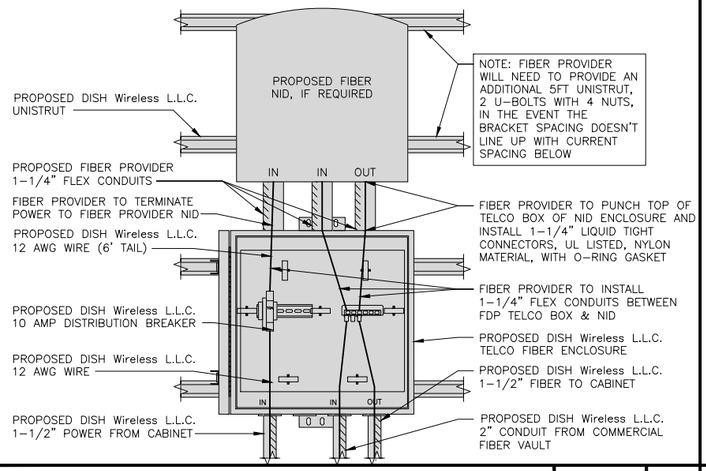
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
3. ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



DARK TELCO BOX – INTERIOR WIRING LAYOUT | NO SCALE | 3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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PROJECT INFORMATION

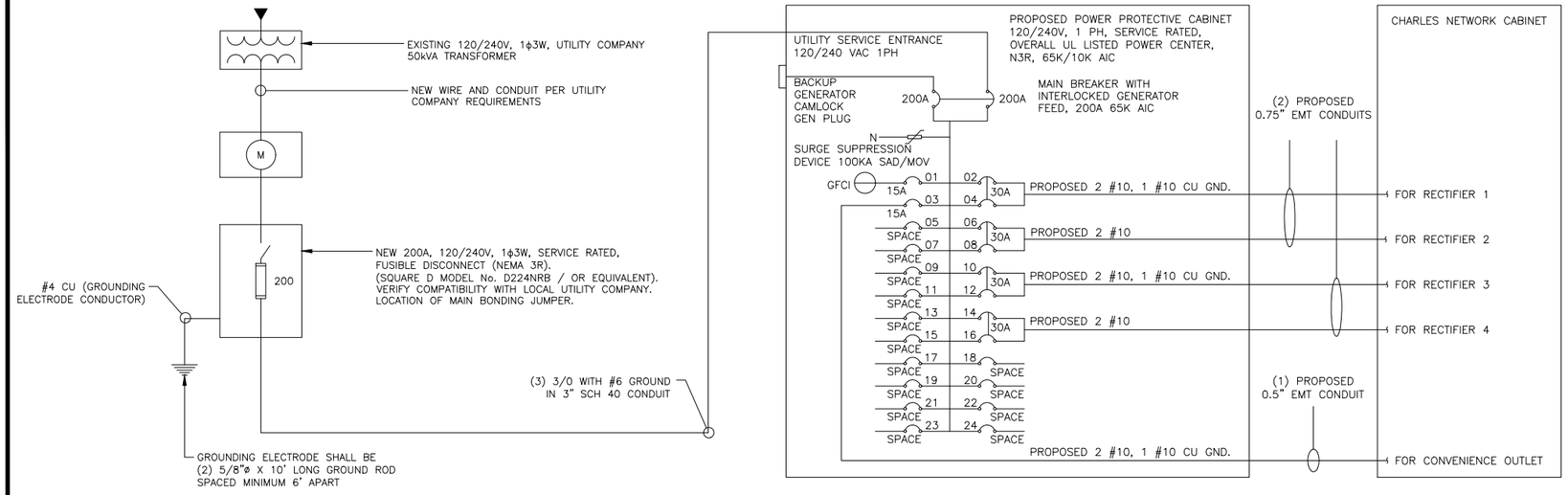
BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-2



NOTE:
BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

BREAKERS REQUIRED:
(4) 30A, 2P BREAKER – SQUARE D P/N:QO230
(1) 15A, 1P BREAKER – SQUARE D P/N:QO115

NOTES

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUIT AND FEEDERS COMPLY WITH THE NEC (LISTED ON T-1) ARTICLE 210.19(A)(1) FPN NO. 4.

THE (2) CONDUITS WITH (4) CURRENT CARRYING CONDUCTORS EACH, SHALL APPLY THE ADJUSTMENT FACTOR OF 80% PER 2014/17 NEC TABLE 310.15(B)(3)(a) OR 2020 NEC TABLE 310.15(C)(1) FOR UL1015 WIRE.

#12 FOR 15A-20A/1P BREAKER: 0.8 x 30A = 24.0A
#10 FOR 25A-30A/2P BREAKER: 0.8 x 40A = 32.0A
#8 FOR 35A-40A/2P BREAKER: 0.8 x 55A = 44.0A
#6 FOR 45A-60A/2P BREAKER: 0.8 x 75A = 60.0A

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.
0.5" CONDUIT – 0.122 SQ. IN AREA
0.75" CONDUIT – 0.213 SQ. IN AREA
2.0" CONDUIT – 1.316 SQ. IN AREA
3.0" CONDUIT – 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.

#10 – 0.0211 SQ. IN X 2 = 0.0422 SQ. IN
#10 – 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND
TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.

#10 – 0.0266 SQ. IN X 4 = 0.1064 SQ. IN
#10 – 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND
TOTAL = 0.1146 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (5) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.

3/0 – 0.2679 SQ. IN X 3 = 0.8037 SQ. IN
#6 – 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND
TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC ONE-LINE DIAGRAM | NO SCALE | 1

PROPOSED CHARLES PANEL SCHEDULE

LOAD SERVED	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	LOAD SERVED
PPC GFCI OUTLET	180		15A	1	A	2	30A	2880		ABB/GE INFINITY RECTIFIER 1
CHARLES GFCI OUTLET		180	15A	3	B	4			2880	
-SPACE-				5	A	6	30A	2880		ABB/GE INFINITY RECTIFIER 2
-SPACE-				7	B	8			2880	
-SPACE-				9	A	10	30A	2880		ABB/GE INFINITY RECTIFIER 3
-SPACE-				11	B	12			2880	
-SPACE-				13	A	14	30A	2880		ABB/GE INFINITY RECTIFIER 4
-SPACE-				15	B	16			2880	
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						11520	11520	
200A MCB, 1ϕ, 24 SPACE, 120/240V			L1 11700		L2 11700		VOLTAGE AMPS			
MB RATING: 65,000 AIC			98		98		AMPS			
			98				MAX AMPS			
			123				MAX 125%			

PANEL SCHEDULE | NO SCALE | 2

NOT USED | NO SCALE | 3

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DISH Wireless L.L.C.
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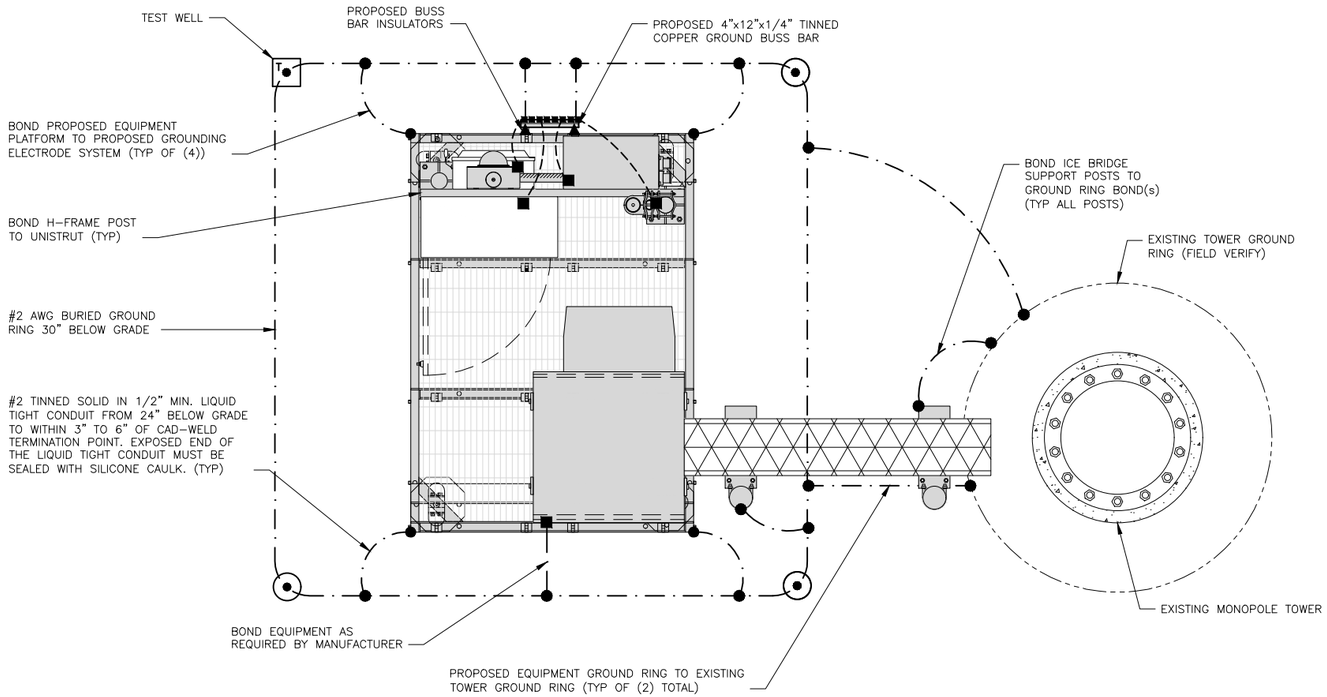
BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE
ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

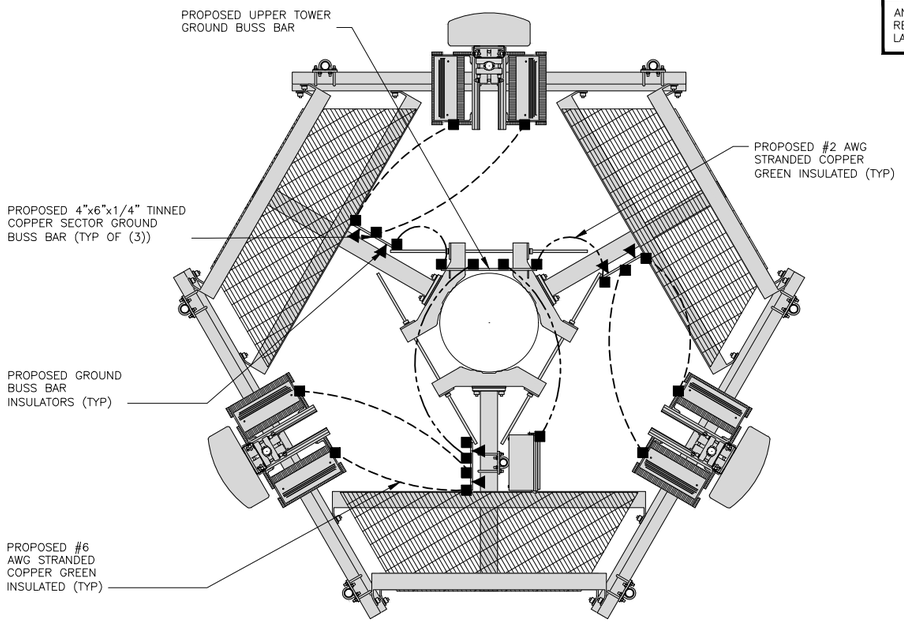
SHEET NUMBER
E-3



TYPICAL EQUIPMENT GROUNDING PLAN | NO SCALE | 1

NOTES

ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE PURPOSES ONLY



TYPICAL ANTENNA GROUNDING PLAN | NO SCALE | 2

EXOTHERMIC CONNECTION
MECHANICAL CONNECTION
GROUND BUS BAR
GROUND ROD
TEST GROUND ROD WITH INSPECTION SLEEVE
#6 AWG STRANDED & INSULATED
#2 AWG SOLID COPPER TINNED
#2 AWG STRANDED & INSULATED
BUSS BAR INSULATOR

GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

(A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.

(B) TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.

(C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.

(D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

(F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.

(G) HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.

(H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.

(I) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.

(J) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.

(K) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.

(L) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.

(M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE

(N) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.

(O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR

(P) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR.

REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES | NO SCALE | 3

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

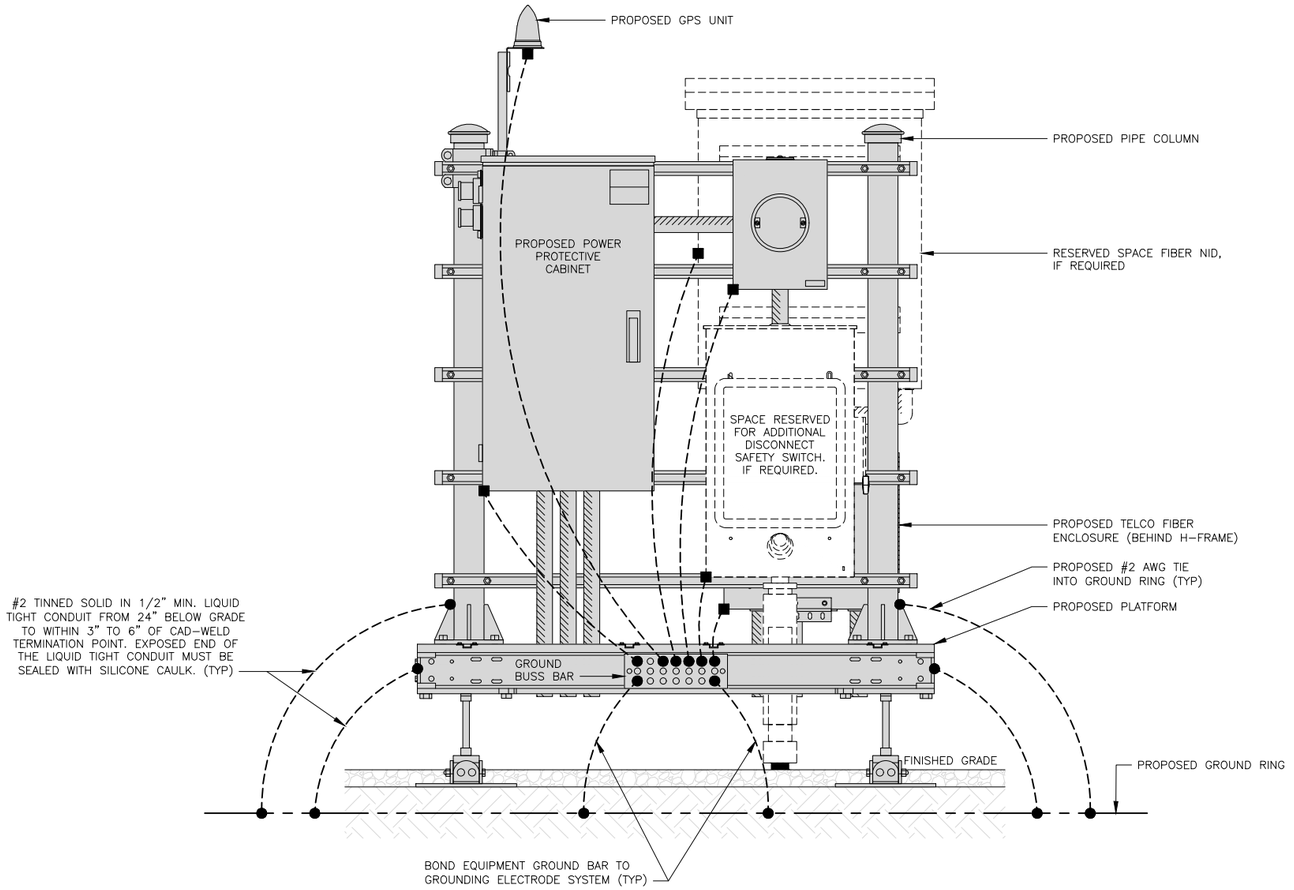
GROUNDING PLANS AND NOTES

SHEET NUMBER

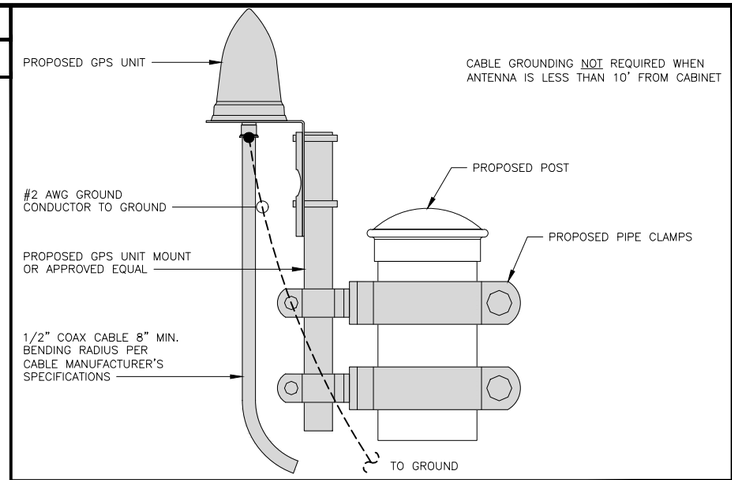
G-1

NOTES

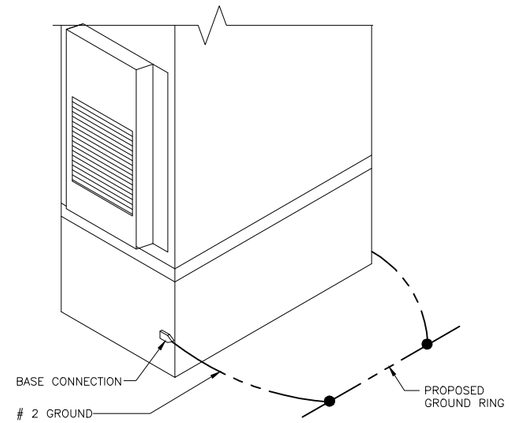
EQUIPMENT CABINET OMITTED FOR CLARITY



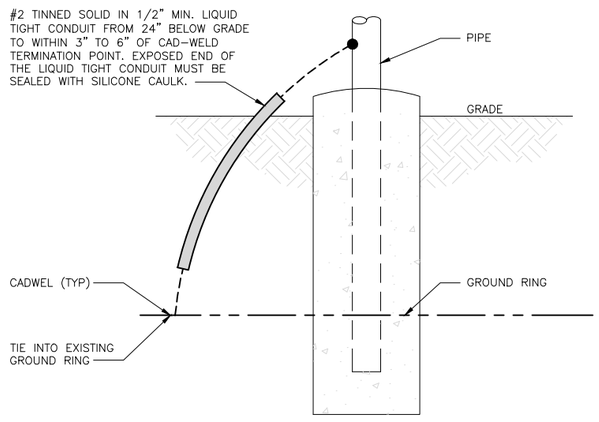
H-FRAME GROUNDING DETAIL | NO SCALE | 1



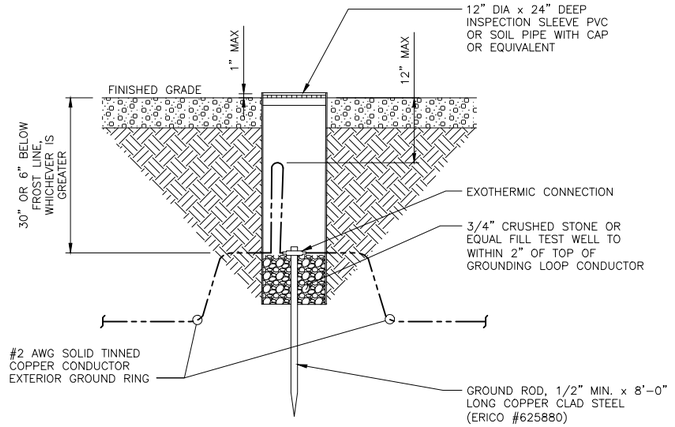
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



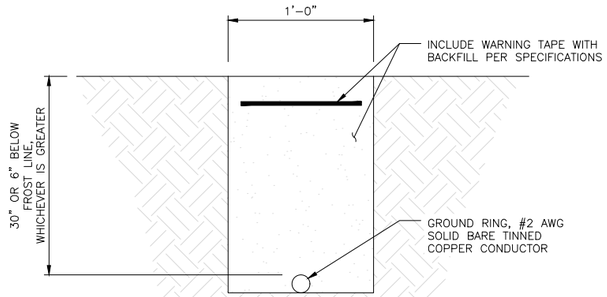
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE | NO SCALE | 5



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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LICENSED
PROFESSIONAL ENGINEER
1/21/22

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PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	MRE	GLS

RFDS REV #: 2.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

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B	1/10/22	ISSUED FOR REVIEW
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SHEET TITLE

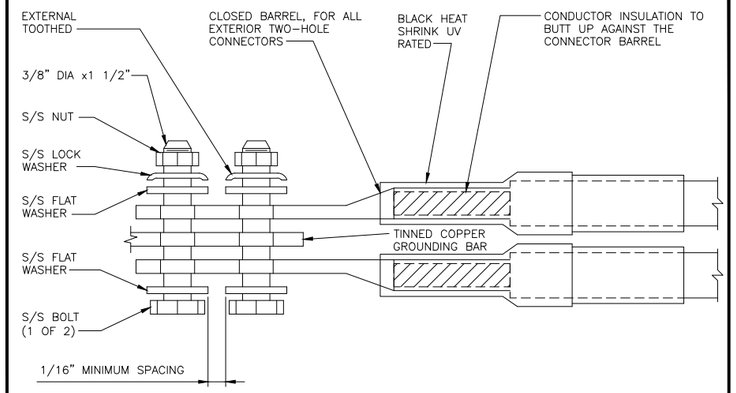
GROUNDING DETAILS

SHEET NUMBER

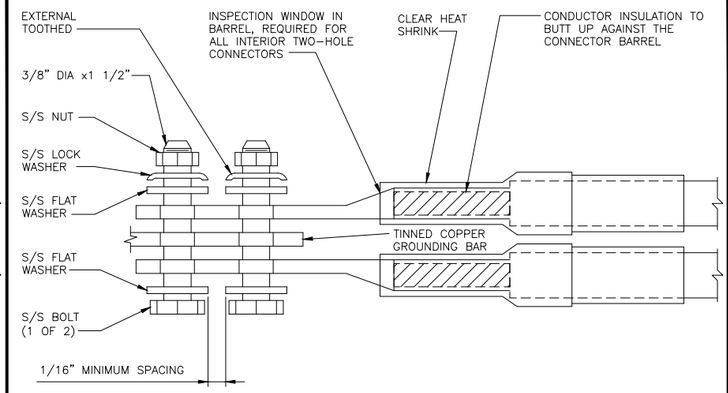
G-2

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR, ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).

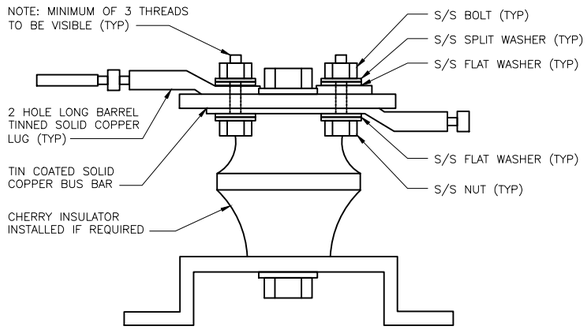
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

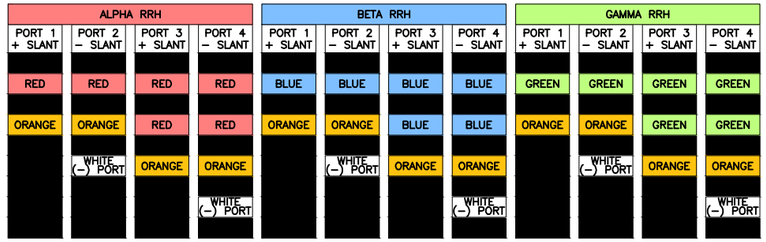
G-3

HYBRID/DISCREET CABLES

3/4" TAPE WIDTHS WITH 3/4" SPACING

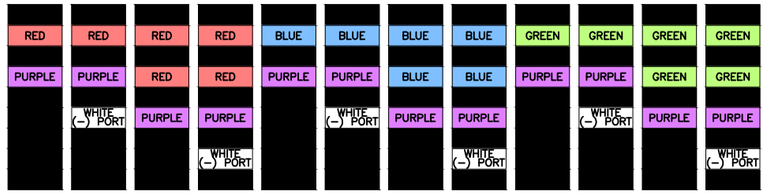
LOW–BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) – OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BAND)



MID–BAND RRH
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)



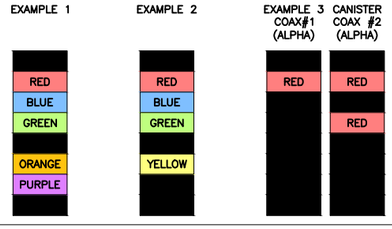
HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS.

EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS ALL SECTORS, BOTH LOW–BANDS AND MID–BANDS.

EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS.

EXAMPLE 3 – MAIN COAX WITH GROUND MOUNTED RRHs.



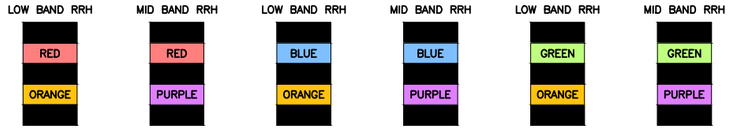
CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RD DETAILS. FINAL RFDS IS IN NEXSYSONE.

FIBER JUMPERS TO RRHs

LOW–BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.

POWER CABLES TO RRHs

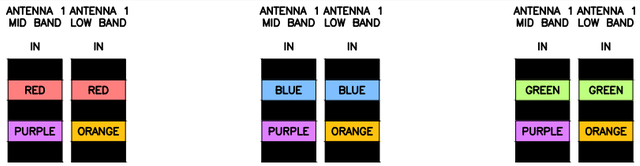
LOW–BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



RET MOTORS AT ANTENNAS

RET CONTROL IS HANDLED BY THE MID–BAND RRH WHEN ONE SET OF RET PORTS EXIST ON ANTENNA.

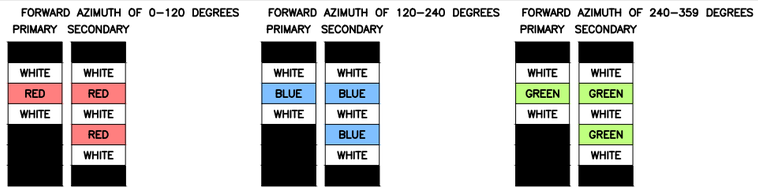
SEPARATE RET CABLES ARE USED WHEN ANTENNA PORTS PROVIDE INPUTS FOR BOTH LOW AND MID BANDS.



MICROWAVE RADIO LINKS

LINKS WILL HAVE A 1.5–2 INCH WHITE WRAP WITH THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE.
ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH ADDITIONAL MW RADIO.

MICROWAVE CABLES WILL REQUIRE P–TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID's.



RF CABLE COLOR CODES | NO SCALE | 1

LOW BANDS (N71+N26) OPTIONAL – (N29): ORANGE

AWS (N66+N70+H–BLOCK): PURPLE

CBRS TECH (3 GHz): YELLOW

NEGATIVE SLANT PORT ON ANT/RRH: WHITE

ALPHA SECTOR: RED

BETA SECTOR: BLUE

GAMMA SECTOR: GREEN

COLOR IDENTIFIER | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

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ENFIELD, CT 06082

SHEET TITLE

RF
CABLE COLOR CODES

SHEET NUMBER

RF-1

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

SINGLE POLE SWITCH

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED–1–25A400/51K–SR4–120–PE–DDBTXD

CHAIN LINK FENCE

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE

UNDERGROUND POWER

UNDERGROUND TELCO

OVERHEAD POWER

OVERHEAD TELCO

UNDERGROUND TELCO/POWER

ABOVE GROUND POWER

ABOVE GROUND TELCO

ABOVE GROUND TELCO/POWER

WORKPOINT

W.P.

SECTION REFERENCE

XX
X–X

DETAIL REFERENCE

XX
X–X

LEGEND

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON–CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

ABBREVIATIONS

dish wireless.

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SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SIGN TYPES		
TYPE	COLOR	COLOR CODE PURPOSE
INFORMATION	GREEN	**"INFORMATIONAL SIGN"** TO NOTIFY OTHERS OF SITE OWNERSHIP & CONTACT NUMBER AND POTENTIAL RF EXPOSURE.
NOTICE	BLUE	**"NOTICE BEYOND THIS POINT"** RF FIELDS BEYOND THIS POINT MAY EXCEED THE FCC GENERAL PUBLIC EXPOSURE LIMIT. OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN RF ENVIRONMENTS. IN ACCORDANCE WITH FEDERAL COMMUNICATIONS COMMISSION RULES ON RADIO FREQUENCY EMISSIONS 47 CFR–1.1307(b)
CAUTION	YELLOW	**"CAUTION BEYOND THIS POINT"** RF FIELDS BEYOND THIS POINT MAY EXCEED THE FCC GENERAL PUBLIC EXPOSURE LIMIT. OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN RF ENVIRONMENTS. IN ACCORDANCE WITH FEDERAL COMMUNICATIONS COMMISSION RULES ON RADIO FREQUENCY EMISSIONS 47 CFR–1.1307(b)
WARNING	ORANGE/RED	**"WARNING BEYOND THIS POINT"** RF FIELDS AT THIS SITE EXCEED FCC RULES FOR HUMAN EXPOSURE. FAILURE TO OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN RF ENVIRONMENTS COULD RESULT IN SERIOUS INJURY. IN ACCORDANCE WITH FEDERAL COMMUNICATIONS COMMISSION RULES ON RADIO FREQUENCY EMISSIONS 47 CFR–1.1307(b)

SIGN PLACEMENT:

- RF SIGNAGE PLACEMENT SHALL FOLLOW THE RECOMMENDATIONS OF AN EXISTING EME REPORT, CREATED BY A THIRD PARTY PREVIOUSLY AUTHORIZED BY DISH Wireless L.L.C.
- INFORMATION SIGN (GREEN) SHALL BE LOCATED ON EXISTING DISH Wireless L.L.C EQUIPMENT.
  A) IF THE INFORMATION SIGN IS A STICKER, IT SHALL BE PLACED ON EXISTING DISH Wireless L.L.C EQUIPMENT CABINET.
  B) IF THE INFORMATION SIGH IS A METAL SIGN IT SHALL BE PLACED ON EXISTING DISH Wireless L.L.C H–FRAME WITH A SECURE ATTACH METHOD.
- IF EME REPORT IS NOT AVAILABLE AT THE TIME OF CREATION OF CONSTRUCTION DOCUMENTS; PLEASE CONTACT DISH Wireless L.L.C. CONSTRUCTION MANAGER FOR FURTHER INSTRUCTION ON HOW TO PROCEED.

NOTES:

1. FOR DISH Wireless L.L.C. LOGO, SEE DISH Wireless L.L.C. DESIGN SPECIFICATIONS (PROVIDED BY DISH Wireless L.L.C.)
2. SITE ID SHALL BE APPLIED TO SIGNS USING "LASER ENGRAVING" OR ANY OTHER WEATHER RESISTANT METHOD (DISH Wireless L.L.C. APPROVAL REQUIRED)
3. TEXT FOR SIGNAGE SHALL INDICATE CORRECT SITE NAME AND NUMBER AS PER DISH Wireless L.L.C. CONSTRUCTION MANAGER RECOMMENDATIONS.
4. CABINET/SHELTER MOUNTING APPLICATION REQUIRES ANOTHER PLATE APPLIED TO THE FACE OF THE CABINET WITH WATER PROOF POLYURETHANE ADHESIVE
5. ALL SIGNS WILL BE SECURED WITH EITHER STAINLESS STEEL ZIP TIES OR STAINLESS STEEL TECH SCREWS
6. ALL SIGNS TO BE 8.5"x11" AND MADE WITH 0.04" OF ALUMINUM MATERIAL

INFORMATION

This is an access point to an area with transmitting antennas.

Obey all signs and barriers beyond this point.
Call the DISH Wireless L.L.C. NOC at 1-866-624-6874

Site ID: _____

THIS SIGN IS FOR REFERENCE PURPOSES ONLY

NOTICE

Transmitting Antenna(s)

Radio frequency fields beyond this point MAY *EXCEED* the FCC Occupational exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

Call the DISH Wireless L.L.C. NOC at 1-866-624-6874 prior to working beyond this point.

Site ID: _____

dish

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RF SIGNAGE

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A&E PROJECT NUMBER
106084.003.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE
RF SIGNAGE

SHEET NUMBER
GN-2

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.

4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).

5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."

6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

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

9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.

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

11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.

12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

13. 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 DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.

14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.

15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.

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

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

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

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

20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

22. 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.

GENERAL NOTES:

1.FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.

4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.

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

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

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

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

10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.

12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER

13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

dish wireless.

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STATE OF CONNECTICUT
CHAD GAILE
No. 23924
LICENSED
PROFESSIONAL ENGINEER
1/21/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	MRE	GLS

RFDS REV #: 2.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	12/21/21	ISSUED FOR REVIEW
B	1/10/22	ISSUED FOR REVIEW
0	1/21/22	ISSUED FOR CONSTRUCTION

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.

3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.

4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.

5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
- CONCRETE EXPOSED TO EARTH OR WEATHER:
- #6 BARS AND LARGER 2"
- #5 BARS AND SMALLER 1-1/2"
- CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLAB AND WALLS 3/4"
- BEAMS AND COLUMNS 1-1/2"

7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.

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

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

4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.

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

6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).

7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.

8. TIE WRAPS ARE NOT ALLOWED.

9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).

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

15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.

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

19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.

21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).

22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).

23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.

25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

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

29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".

30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

dish wireless.

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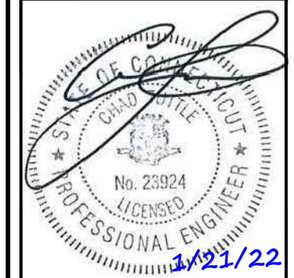

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	MRE	GLS

RFDS REV #: 2.0

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GENERAL NOTES

SHEET NUMBER

GN-4

GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.

4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.

7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.

8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.

11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.

13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.

14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.

17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.

19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

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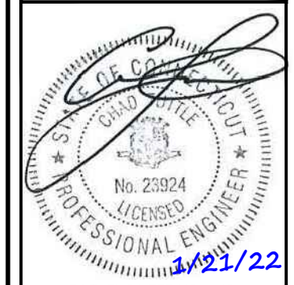

1/21/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	MRE	GLS

RFDS REV #: 2.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	12/21/21	ISSUED FOR REVIEW
B	1/10/22	ISSUED FOR REVIEW
0	1/21/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

106084.003.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00134A
188 MOODY RD
ENFIELD, CT 06082

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-5

Exhibit D

Structural Analysis Report

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

Post-Mod Structural Analysis Report

Existing 188 ft SUMMIT Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT46124-A
Customer Site Name: Enfield-Moody Rd.
Carrier Name: Dish Wireless (App#: 177000, V1)
Carrier Site ID / Name: BOBDL00134A / 0
Site Location: 188 Moody Rd
Enfield, Connecticut
Hartford County
Latitude: 42.002000
Longitude: -72.521694

Analysis Result:

Max Structural Usage: 99.8% [Pass]

Max Foundation Usage: 75.2% [Pass]

Report Prepared By: Sital Shrestha

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

Post-Mod Structural Analysis Report

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Customer Name: SBA Communications Corp

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Carrier Site ID / Name: BOBDL00134A / 0

Site Location: 188 Moody Rd

Enfield, Connecticut

Hartford County

Latitude: 42.002000

Longitude: -72.521694

Analysis Result:

Max Structural Usage: 99.8% [Pass]

Max Foundation Usage: 75.2% [Pass]

Report Prepared By: Sital Shrestha

Introduction

The purpose of this report is to summarize the analysis results on the 188 ft SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Summit, Job # 29200-155, dated 2/12/00
Foundation Drawing	Summit, Job # 29200-155, dated 2/12/00
Geotechnical Report	Tectonic, Project # 1170.C054, dated 9/17/98
Existing Modification	FDH Engineering, Project #1335291400 dated February 20, 2015 Tower Engineering Solutions, Job #19423 dated June 1, 2016 PCI by TES for Job No. 99869, dated 12/30/2020
Proposed Modification	TES Job # 120916

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} =125.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Basic Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	SS = 0.175, S1 = 0.064

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	187.0	3	Ericsson Air 32 KRD901146-1_B66A_B2A - Panel	Low Profile Platform w/Handrails with MODs [Kicker kit with collar mount]	(15) 1 1/4" Coax (3) 1-1/4" Hybrid	T-Mobile
2		3	RFS APXVAARR24_43-U-NA20 (Octa) - Panel			
4		3	Ericsson AIR6449 B41 - Panel			
5		12	Ericsson KRY 112 114-1 Double TMA			
6		3	Ericsson 4415 B25			
7		3	Ericsson 4449 B71 + B85			
8		3	Kathrein 782 11054 Smart Bias T			
13	168.0	1	RFS APXV9ERR18-C-A20 - Panel	Low Profile Platform	(3) 1-1/4" Fiber (1) 0.7" Fiber	Sprint
14		2	RFS APXVSPP18-C-A20 - Panel			
15		3	RFS APXVTM14-C-120 - Panel			
16		4	ACU-A20-N - RET			
17		3	Alcatel-Lucent 1900MHz RRU			
18		3	Alcatel-Lucent 800 MHz RRH			
19		3	Alcatel-Lucent TD-RRH8x20-25 - RRU			
20		3	Alcatel-Lucent 800 MHz Filter			
21	158.0	3	Kathrein 800 10121 - Panel	(1) Platform Mount [SitePro RMQP-12-H5]	(12) 1 5/8" (2) 3/8" Fiber (6) 5/8" DC	AT&T
22		3	CCI HPA-65R-BUU-H8 - Panel			
23		6	Kathrein 800 10966 - Panel			
24		6	Powerwave LGP21401 TMA			
25		6	Kathrein 860-10025 RET			
26		3	Ericsson RRUS 4415 B25 RRU			
27		3	Ericsson 8843 B2 B66A RRU			
28		3	Ericsson 4449 B5 B12 RRU			
29		3	Ericsson RRUS-A2 RRU			
30		2	Raycap DC6-48-60-18-8F COVP			
31		1	Raycap DC6-48-60-0-8C COVP			

* Low Profile platform at an elevation of 178.5 Ft is considered to be removed and not included in the analysis.

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
9	177.0	3	JMA Wireless MX08FRO665-21- Panel	(1) Commscope MC-PK8-DSH	(1) 1.75" Hybrid	Dish Wireless
10		3	Fujitsu TA08025-B605- RRH			
11		3	Fujitsu TA08025-B604- RRH			
12		1	Raycap RDIDC-9181-PF-48- OVP			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**99.8%**	**87.4%**	**85.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5341.7	37.9	98.2

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 2.2115 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222-G-2 Standard after the following proposed modification is successfully completed.

- Proposed modification design drawing by **TES** Job # 120916

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed Dish Wireless equipment loading can be installed prior to the completion of the required modifications. We ran a reduced wind loading case as required by TIA-322 considering a construction period of no more than 6 months.

The tower and foundations passed, so the Carrier can proceed and install their proposed loading prior to the mods completion. Please be aware that this approval is being provided and is based on the method outlined in TIA-322. This approval is not a blanket approval and there is still a risk that the tower will experience a wind event that cannot be predicted by TIA-322 or our Engineers. In the event of an unforeseen wind event, Tower Engineering Solutions will not be liable nor responsible for damage to the tower or the Carriers equipment. Additionally, the tower cannot go beyond the 6 month construction period without the modifications being completed. If the modifications cannot be completed within 6 months from the completed installation of the Carrier's proposed equipment, TES must be notified immediately for further review.

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 EIA/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 99.74% at 136.5ft

Structure:	CT46124-A-SBA	**Code:**	EIA/TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.	**Exposure:**	C	
Height:	188.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

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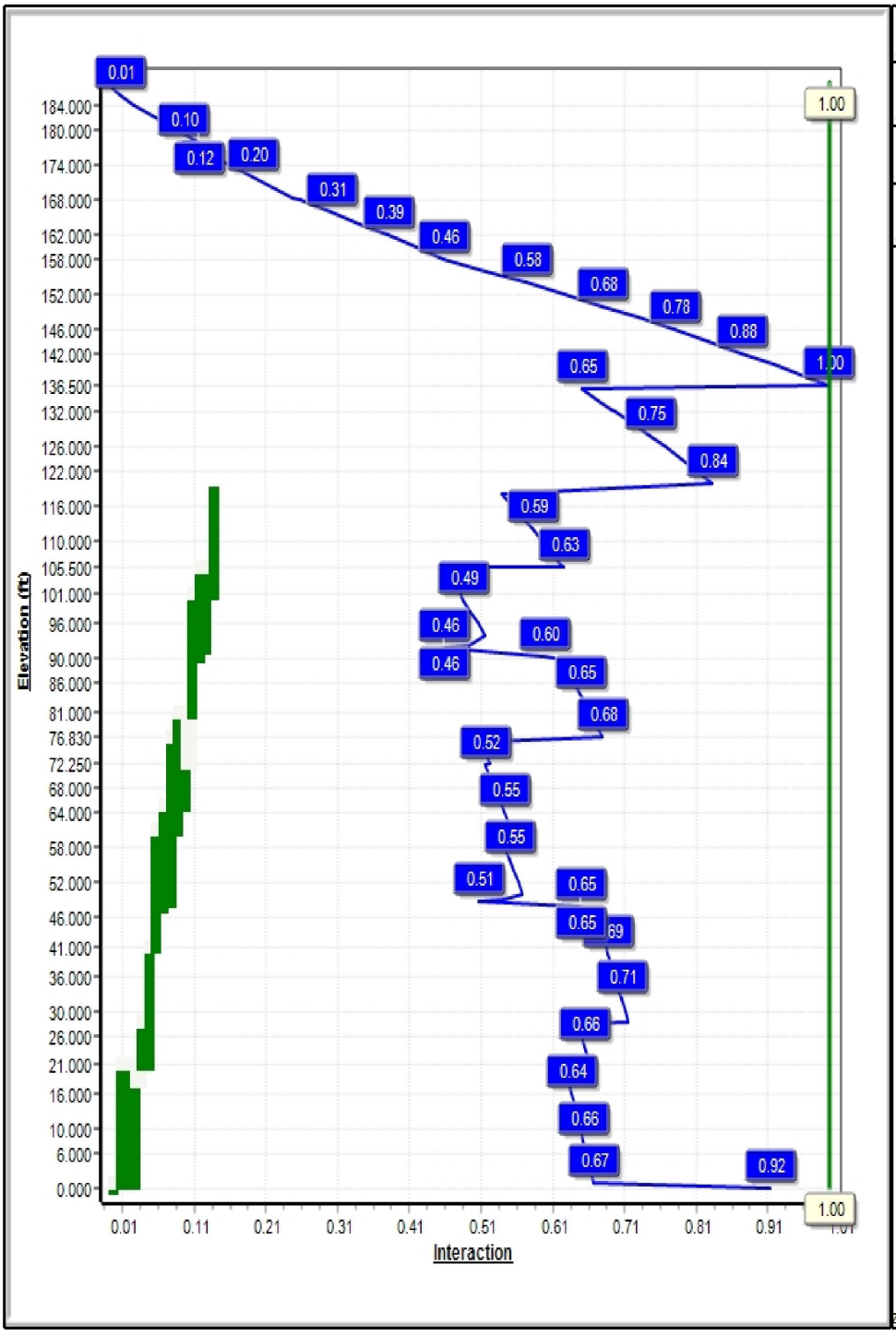
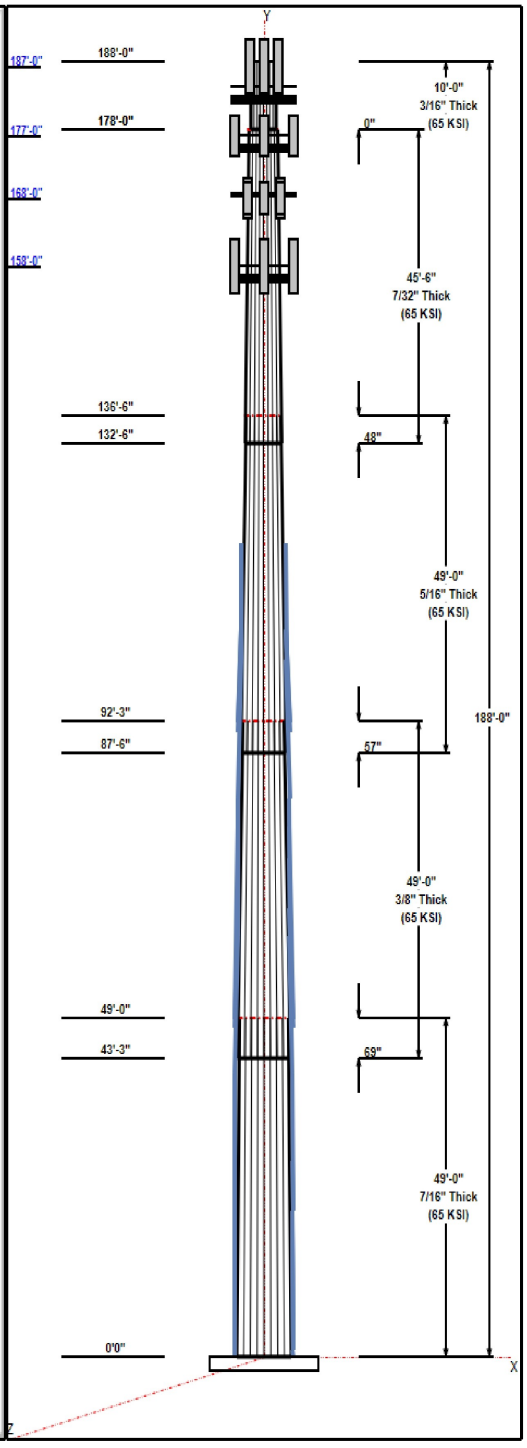
Dead Load Factor:	1.20	**Iterations:**	32
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 97 mph Wind





Structure: CT46124-A-SBA

Type: Custom
Site Name: Enfield-Moody Rd.
Height: 188.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.16603

2/17/2022

Tower Engineering Solutions

Shaft Properties

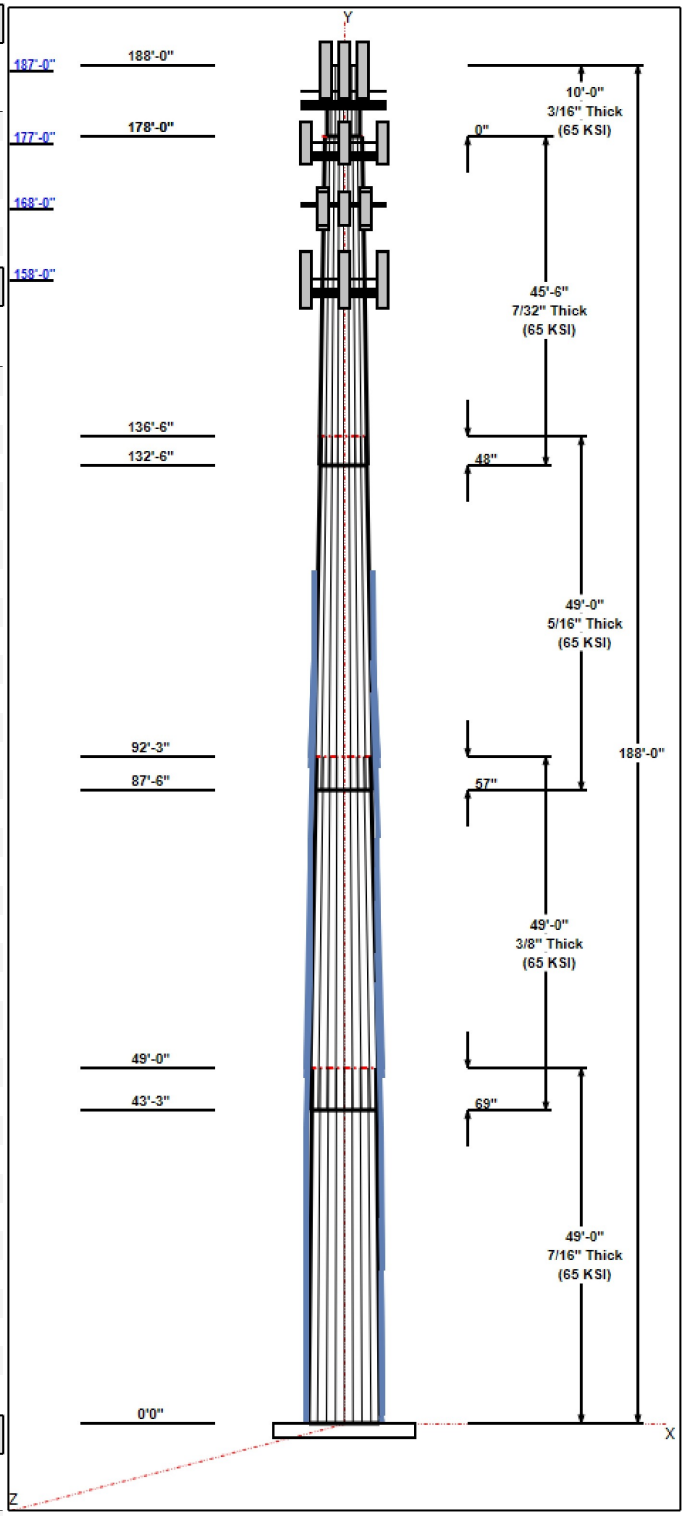
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	49.00	43.60	51.74	0.438		0.16603	65
2	49.00	37.17	45.31	0.375	Slip	0.16603	65
3	49.00	30.45	38.59	0.313	Slip	0.16603	65
4	45.50	24.00	31.55	0.219	Slip	0.16603	65
5	10.00	22.34	24.00	0.188	Butt	0.00000	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
187.00	187.00	3	AIR6449 B41	T-Mobile
187.00	187.00	3	RRUS 4415 B25	T-Mobile
187.00	187.00	1	PRK-1245 (kicker kit)	T-Mobile
187.00	187.00	1	Collar Mount (3-Sided)	T-Mobile
187.00	187.00	3	Ericsson Radio 4449 B71	T-Mobile
187.00	187.00	3	Kathrein 782 11054-Smart	T-Mobile
187.00	187.00	12	Ericsson KRY 112 114-1	T-Mobile
187.00	187.00	3	Ericsson	T-Mobile
187.00	187.00	3	RFS	T-Mobile
184.00	184.00	1	Platform w/ Hand Rail	T-Mobile
177.00	177.00	3	MX08FRO665-21	Dish Wireless
177.00	177.00	3	TA08025-B604	Dish Wireless
177.00	177.00	3	TA08025-B605	Dish Wireless
177.00	177.00	1	RDIDC-9181-OF-48	Dish Wireless
177.00	177.00	1	MC-PK8-DSH	Dish Wireless
168.50	168.50	1	Low Profile Platform	Sprint
168.00	168.00	2	APXVSPP18-C-A20	Sprint
168.00	168.00	3	800 MHz Filters	Sprint
168.00	168.00	3	APXVTM14-C-120	Sprint
168.00	168.00	3	1900 MHz RRH	Sprint
168.00	168.00	3	800 MHz RRH	Sprint
168.00	168.00	3	TD-RRH8x20-25	Sprint
168.00	168.00	4	ACU-A20-N	Sprint
168.00	168.00	1	APXV9ERR18-C-A20	Sprint
158.00	158.00	6	Powerwave LGP21401	AT&T
158.00	158.00	2	Raycap DC6-48-60-18-8F	AT&T
158.00	158.00	3	800 10121	AT&T
158.00	158.00	3	HPA-65R-BUU-H8	AT&T
158.00	158.00	6	Kathrein 860-10025 RET	AT&T
158.00	158.00	3	Ericsson RRUS-A2 RRU	AT&T
158.00	158.00	6	800 10966	AT&T
158.00	158.00	3	Ericsson RRUS 4415 B25	AT&T
158.00	158.00	3	Ericsson 8843 B2 B66A	AT&T
158.00	158.00	3	Ericsson 4449 B5 B12	AT&T
158.00	158.00	1	Raycap DC6-48-60-0-8C	AT&T
158.00	158.00	1	Plateform Mount	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	187.00	Inside	1 1/4" Coax	T-Mobile
0.00	187.00	Inside	1-1/4" Hybrid	T-Mobile
0.00	177.00	Inside	1.75" Hybrid	Dish Wireless
0.00	168.00	Inside	0.7" Fiber	Sprint
0.00	168.00	Inside	1-1/4" Fiber	Sprint



0.00	158.00	Inside	1 5/8" Coax	AT&T
0.00	158.00	Inside	3/8" Fiber	AT&T
0.00	158.00	Inside	5/8" DC	AT&T
107.25	121.25	Outside	1.25" Reinforcing plate	
90.25	107.25	Outside	1.25" Reinforcing plate	
43.25	100.00	Inside	1.25" Reinforcing plate	
46.50	79.25	Outside	1.25" Reinforcing plate	
0.00	35.50	Outside	1.25" Reinforcing plate	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
16	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.2500	57.0	50.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	5332.6	37.9	55.2
0.9D + 1.6W 97 mph Wind	5246.8	37.9	41.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1810.9	12.0	98.2
1.2D + 1.0E	370.0	2.4	55.3
0.9D + 1.0E	363.5	2.4	41.4
1.0D + 1.0W 60 mph Wind	1265.0	9.1	46.0

Structure: CT46124-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Enfield-Moody Rd.
Height: 188.00 (ft)

2/17/2022

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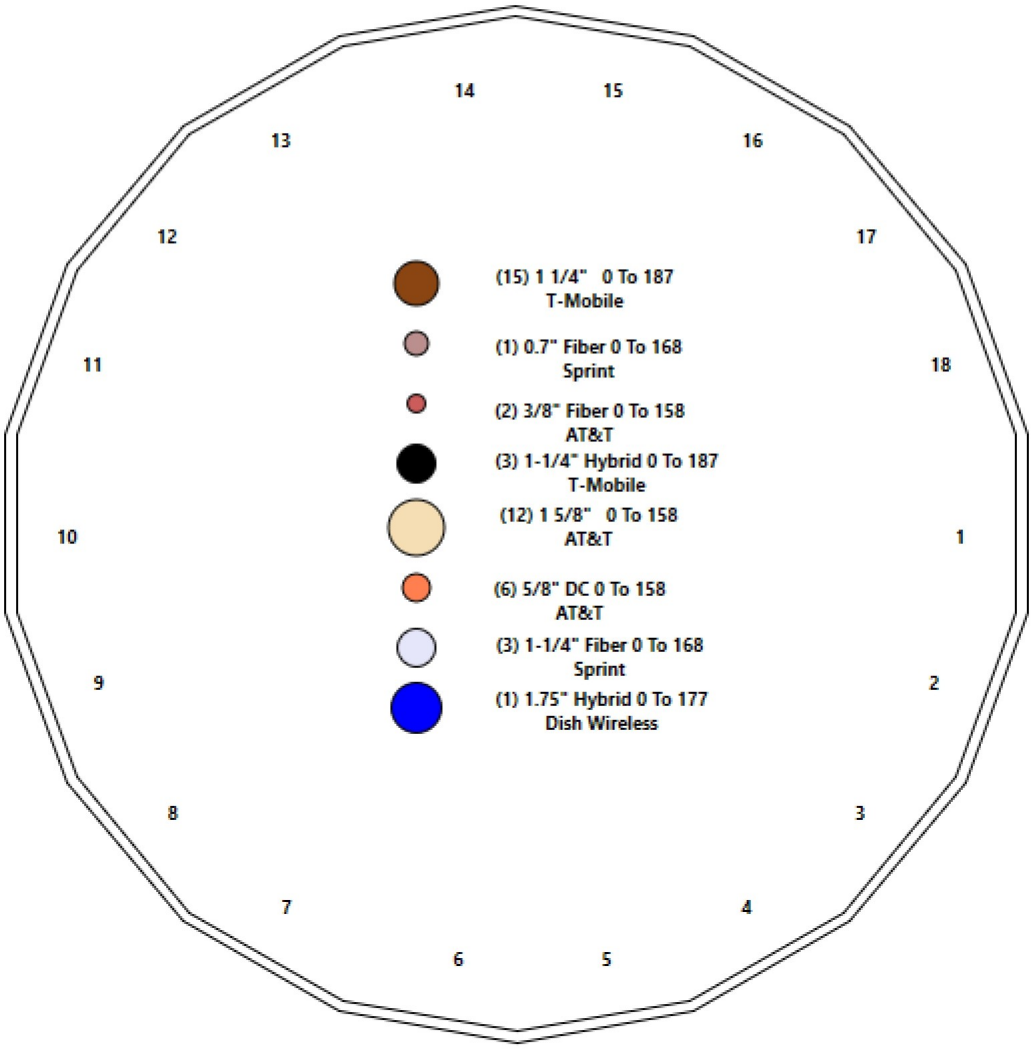


Shaft Properties

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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	

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	49.000	0.4375	65		0.00	10,936
2	18	49.000	0.3750	65	Slip	69.00	8,110
3	18	49.000	0.3125	65	Slip	57.00	5,657
4	18	45.500	0.2188	65	Slip	48.00	2,963
5	18	10.000	0.1875	65	Flange	0.00	482
					Total Shaft Weight:		**28,148**

	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
1	51.74	0.00	71.24	23688.52	19.44	118.26	43.60	49.00	59.94	14111.8	16.16	99.67	0.166026
2	45.31	43.25	53.48	13643.07	19.89	120.83	37.17	92.25	43.80	7493.55	16.07	99.13	0.166026
3	38.59	87.50	37.96	7026.65	20.36	123.48	30.45	136.50	29.89	3431.02	15.77	97.45	0.166026
4	31.55	132.5	21.76	2699.58	24.02	144.21	24.00	178.00	16.51	1180.03	17.93	109.6	0.166026
5	24.00	178.0	14.17	1015.22	21.16	128.00	22.34	188.00	14.17	1015.22	21.16	119.1	0.000000

Additional Steel

							Intermediate Connectors		Termination Connectors			
Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
0.00	1.00	3	SOL 2 1/4" William R71	128	150	0.00	5/8" Hollo Bolt	12.00	5/8" Hollo Bolt	3.00		
1.00	21.00	3	LNP LP7X125-B-20A	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
1.00	21.00	1	LNP LP6X125-B-20B	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
1.00	18.25	1	LNP LP6X125-B-20T	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		11
21.00	28.25	1	LNP LP6X125-B-20T	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		11
21.00	41.00	3	LNP LP7X125-G-20AA	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
41.00	61.00	3	LNP LP7X125-G-20AA	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
47.75	65.00	1	LNP LP6X100-G-20TC	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	8	
48.92	76.83	3	PLT 5.5"x1 1/4"(1.25"hol	65	80	0.00	AJM20&sleeve	21.00	AJM20&sleeve	3.00	10	10
61.00	81.00	3	LNP LP6X125-G-20AB	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
65.00	72.25	1	LNP LP6X100-G-10CT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		11
81.00	101.0	3	LNP LP6X125-G-20BB	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
90.50	105.5	1	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	10	10
91.92	105.5	3	PLT 4.5"x 1-1/4"(1.25"ho	65	80	0.00	AJM20&sleeve	24.00	AJM20&sleeve	3.00	7	7
101.0	118.0	3	LNP LP6X125-G-20BT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		12

Load Summary

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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	

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	187.00	AIR6449 B41	3	103.00	5.65	0.71	289.90	6.946	0.71	0.00	0.00
2	187.00	RRUS 4415 B25	3	46.00	1.64	0.50	102.03	2.342	0.50	0.00	0.00
3	187.00	PRK-1245 (kicker kit)	1	464.91	7.50	1.00	907.29	18.205	1.00	0.00	0.00
4	187.00	Collar Mount (3-Sided)	1	220.00	2.10	1.00	638.67	5.097	1.00	0.00	0.00
5	187.00	Ericsson Radio 4449 B71 + B85	3	74.00	2.50	0.50	175.96	2.412	0.50	0.00	0.00
6	187.00	Kathrein 782 11054-Smart Bias T	3	1.80	0.22	0.50	5.18	0.893	0.50	0.00	0.00
7	187.00	Ericsson KRY 112 114-1 Double	12	11.00	0.41	0.50	25.70	1.058	0.50	0.00	0.00
8	187.00	Ericsson KRD901146-1_B66A_B2A	3	132.20	6.51	0.86	398.86	8.075	0.86	0.00	0.00
9	187.00	RFS APXVAARR24_43-U-NA20	3	128.00	18.24	0.70	724.23	22.865	0.70	0.00	0.00
10	184.00	Platform w/ Hand Rail	1	1600.00	32.00	1.00	4457.58	70.000	1.00	0.00	0.00
11	177.00	MX08FRO665-21	3	64.50	12.49	0.74	458.80	14.476	0.74	0.00	0.00
12	177.00	TA08025-B604	3	63.90	1.96	0.50	132.53	2.720	0.50	0.00	0.00
13	177.00	TA08025-B605	3	75.00	1.96	0.50	145.90	2.720	0.50	0.00	0.00
14	177.00	RDIDC-9181-OF-48	1	21.90	2.01	0.50	94.08	2.780	0.50	0.00	0.00
15	177.00	MC-PK8-DSH	1	1727.00	32.00	1.00	4015.00	86.508	1.00	0.00	0.00
16	168.50	Low Profile Platform	1	1400.00	22.00	1.00	3047.92	45.824	1.00	0.00	0.00
17	168.00	APXVSPP18-C-A20	2	57.00	8.02	0.81	290.10	11.787	0.81	0.00	0.00
18	168.00	800 MHz Filters	3	54.00	2.50	0.50	155.87	3.893	0.50	0.00	0.00
19	168.00	APXVTM14-C-120	3	56.00	6.34	0.78	287.79	7.875	0.78	0.00	0.00
20	168.00	1900 MHz RRH	3	44.00	2.50	0.50	134.92	3.893	0.50	0.00	0.00
21	168.00	800 MHz RRH	3	54.00	2.50	0.50	155.87	3.893	0.50	0.00	0.00
22	168.00	TD-RRH8x20-25	3	70.00	3.05	0.50	230.02	5.176	0.50	0.00	0.00
23	168.00	ACU-A20-N	4	1.00	0.14	0.50	6.79	0.540	0.67	0.00	0.00
24	168.00	APXV9ERR18-C-A20	1	62.00	8.02	0.81	306.73	11.787	0.81	0.00	0.00
25	158.00	Powerwave LGP21401 TMA	6	17.50	1.26	0.50	48.20	2.369	0.50	0.00	0.00
26	158.00	Raycap DC6-48-60-18-8F COVP	2	31.80	1.47	0.50	114.66	2.408	0.50	0.00	0.00
27	158.00	800 10121	3	44.10	5.15	0.78	190.74	7.974	0.78	0.00	0.00
28	158.00	HPA-65R-BUU-H8	3	68.00	12.98	0.78	480.19	15.189	0.78	0.00	0.00
29	158.00	Kathrein 860-10025 RET	6	1.16	0.16	0.50	8.75	0.626	0.50	0.00	0.00
30	158.00	Ericsson RRUS-A2 RRU	3	21.10	1.86	0.50	69.27	3.165	0.50	0.00	0.00
31	158.00	800 10966	6	114.60	14.31	0.71	617.51	19.818	0.71	0.00	0.00
32	158.00	Ericsson RRUS 4415 B25 RRU	3	46.00	1.64	0.50	101.09	2.330	0.50	0.00	0.00
33	158.00	Ericsson 8843 B2 B66A RRU	3	72.00	1.64	0.50	134.78	2.306	0.50	0.00	0.00
34	158.00	Ericsson 4449 B5 B12 RRU	3	73.00	1.65	0.50	178.33	2.398	0.50	0.00	0.00
35	158.00	Raycap DC6-48-60-0-8C COVP	1	26.20	3.78	0.50	297.76	4.717	0.50	0.00	0.00
36	158.00	Plateform Mount [RMQP-12-H5]	1	2136.59	38.00	1.00	4935.27	01.997	1.00	0.00	0.00
		Totals:	**107**	**12,643.56**			**37,548.93**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	187.00	(15) 1 1/4" Coax	0.00	Inside
0.00	187.00	(3) 1-1/4" Hybrid	0.00	Inside
0.00	177.00	(1) 1.75" Hybrid	0.00	Inside
0.00	168.00	(1) 0.7" Fiber	0.00	Inside
0.00	168.00	(3) 1-1/4" Fiber	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
0.00	158.00	(12) 1 5/8" Coax			0.00	Inside					
0.00	158.00	(2) 3/8" Fiber			0.00	Inside					
0.00	158.00	(6) 5/8" DC			0.00	Inside					
107.2	121.25	(3) 1.25" Reinforcing plate			1.25	Outside					
90.25	107.25	(3) 1.25" Reinforcing plate			1.25	Outside					
43.25	100.00	(1) 1.25" Reinforcing plate			0.00	Inside					
46.50	79.25	(3) 1.25" Reinforcing plate			1.25	Outside					
0.00	35.50	(3) 1.25" Reinforcing plate			1.25	Outside					

Shaft Section Properties

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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	

Tower Engineering Solutions

Increment Length: **2 (ft)**

											Additional Reinforcing			
Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00	RB1	0.4375	51.740	71.237	23688.5	19.44	118.26	65	79	0.0	12.24	6312.6	2488.6	
1.00	RT1 RB2 RB3 RB4	0.4375	51.574	71.007	23459.3	19.38	117.88	65	79	242.0	41.25	15445.3	11389.0	140.4
2.00		0.4375	51.408	70.776	23231.5	19.31	117.50	65	79	241.2	41.25	15348.1	11315.4	140.4
4.00		0.4375	51.076	70.315	22780.4	19.17	116.74	65	79	480.1	41.25	15154.8	11168.9	280.7
6.00		0.4375	50.744	69.854	22335.2	19.04	115.99	65	79	477.0	41.25	14962.7	11023.5	280.7
8.00		0.4375	50.412	69.393	21895.9	18.91	115.23	65	79	473.8	41.25	14771.8	10879.0	280.7
10.00		0.4375	50.080	68.932	21462.3	18.77	114.47	65	79	470.7	41.25	14582.2	10735.5	280.7
12.00		0.4375	49.748	68.471	21034.5	18.64	113.71	65	79	467.6	41.25	14393.9	10593.0	280.7
14.00		0.4375	49.416	68.010	20612.4	18.51	112.95	65	80	464.4	41.25	14206.7	10451.4	280.7
16.00		0.4375	49.084	67.549	20196.0	18.37	112.19	65	80	461.3	41.25	14020.9	10310.9	280.7
18.00		0.4375	48.752	67.088	19785.3	18.24	111.43	65	80	458.1	41.25	13836.2	10171.4	280.7
18.25	RT4	0.4375	48.710	67.030	19734.3	18.22	111.34	65	80	57.0	33.75	11353.5	8930.5	28.7
20.00		0.4375	48.419	66.627	19380.1	18.10	110.67	65	80	398.0	33.75	11221.5	8825.9	201.0
21.00	RT2 RT3 RB5 RB6	0.4375	48.253	66.396	19179.7	18.04	110.29	65	80	226.3	33.75	11146.4	8766.4	114.8
22.00		0.4375	48.087	66.166	18980.6	17.97	109.91	65	80	225.5	33.75	11071.6	8707.2	114.8
24.00		0.4375	47.755	65.704	18586.5	17.84	109.16	65	80	448.7	33.75	10922.8	8589.2	229.7
26.00		0.4375	47.423	65.243	18198.0	17.70	108.40	65	81	445.6	33.75	10774.9	8472.1	229.7
28.00		0.4375	47.091	64.782	17814.9	17.57	107.64	65	81	442.4	33.75	10628.1	8355.8	229.7
28.25	RT5	0.4375	47.050	64.725	17767.4	17.55	107.54	65	81	55.1	26.25	9400.6	5918.1	22.3
30.00		0.4375	46.759	64.321	17437.2	17.43	106.88	65	81	384.2	26.25	9288.3	5847.6	156.3
32.00		0.4375	46.427	63.860	17064.9	17.30	106.12	65	81	436.2	26.25	9160.8	5767.6	178.6
34.00		0.4375	46.095	63.399	16697.9	17.17	105.36	65	81	433.0	26.25	9034.1	5688.2	178.6
36.00		0.4375	45.763	62.938	16336.2	17.03	104.60	65	81	429.9	26.25	8908.3	5609.3	178.6
38.00		0.4375	45.431	62.477	15979.8	16.90	103.84	65	82	426.8	26.25	8783.5	5531.0	178.6
40.00		0.4375	45.099	62.016	15628.6	16.77	103.08	65	82	423.6	26.25	8659.5	5453.2	178.6
41.00	RT6 RB7	0.4375	44.933	61.785	15455.0	16.70	102.70	65	82	210.6	26.25	8597.8	5414.5	89.3
42.00		0.4375	44.767	61.555	15282.6	16.63	102.32	65	82	209.8	26.25	8536.4	5376.0	89.3
43.25	Bot - Section 2	0.4375	44.559	61.267	15069.0	16.55	101.85	65	82	261.2	26.25	8459.9	5328.0	111.7
44.00		0.4375	44.435	61.094	14941.8	16.50	101.57	65	82	292.4	26.25	8691.0	5472.8	67.0
46.00		0.4375	44.103	60.633	14606.0	16.36	100.81	65	82	775.8	26.25	8567.7	5395.4	178.6
47.75	RB8	0.4375	43.812	60.229	14316.4	16.25	100.14	65	82	674.1	32.25	11227.7	5687.6	192.0
48.00		0.4375	43.771	60.171	14275.3	16.23	100.05	65	82	95.9	32.25	11207.4	5677.5	27.4
48.92	RB9	0.4375	43.618	59.959	14124.9	16.17	99.70	65	82	352.2	52.88	16549.1	11032.8	165.5
49.00	Top - Section 1	0.3750	44.355	52.345	12791.9	19.45	118.28	65	79	30.6	52.88	16539.5	11026.5	14.4
50.00		0.3750	44.189	52.147	12647.5	19.37	117.84	65	79	177.8	52.88	16416.0	10947.1	179.9
52.00		0.3750	43.857	51.752	12362.1	19.21	116.95	65	79	353.5	52.88	16177.7	10789.2	359.8
54.00		0.3750	43.525	51.357	12081.1	19.05	116.07	65	79	350.9	52.88	15941.1	10632.5	359.8
56.00		0.3750	43.193	50.962	11804.3	18.90	115.18	65	79	348.2	52.88	15706.3	10476.9	359.8
58.00		0.3750	42.861	50.567	11531.8	18.74	114.29	65	79	345.5	52.88	15473.2	10322.5	359.8
60.00		0.3750	42.528	50.171	11263.5	18.59	113.41	65	80	342.8	52.88	15241.8	10169.3	359.8
61.00	RT7 RB10	0.3750	42.362	49.974	11131.0	18.51	112.97	65	80	170.4	49.13	14012.9	9362.5	167.2
62.00		0.3750	42.196	49.776	10999.5	18.43	112.52	65	80	169.7	49.13	13906.6	9292.0	167.2
64.00		0.3750	41.864	49.381	10739.5	18.27	111.64	65	80	337.4	49.13	13695.3	9151.8	334.3
65.00	RT8 RB11	0.3750	41.698	49.183	10611.1	18.20	111.20	65	80	167.7	49.13	13590.3	9082.1	167.2
66.00		0.3750	41.532	48.986	10483.7	18.12	110.75	65	80	167.0	49.13	13485.6	9012.6	167.2
68.00		0.3750	41.200	48.590	10232.0	17.96	109.87	65	80	332.0	49.13	13277.5	8874.6	334.3
70.00		0.3750	40.868	48.195	9984.4	17.81	108.98	65	80	329.3	49.13	13071.1	8737.6	334.3
72.00		0.3750	40.536	47.800	9740.8	17.65	108.10	65	81	326.7	49.13	12866.3	8601.6	334.3
72.25	RT11	0.3750	40.495	47.751	9710.6	17.63	107.99	65	81	40.6	43.13	10546.3	8316.7	36.7
74.00		0.3750	40.204	47.405	9501.2	17.49	107.21	65	81	283.3	43.13	10400.8	8202.2	256.8

Increment Length: **2 (ft)**

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ixp (in^4)	Additional Reinforcing Iyp (in^4)	Additional Reinforcing Weight (lb)
76.00		0.3750	39.872	47.010	9265.5	17.34	106.33	65	81	321.3	43.13	10235.7	8072.3	293.5
76.83	RT9	0.3750	39.734	46.846	9168.9	17.27	105.96	65	81	132.5	22.50	5799.7	3650.3	63.5
78.00		0.3750	39.540	46.614	9033.8	17.18	105.44	65	81	186.0	22.50	5745.1	3616.0	89.6
80.00		0.3750	39.208	46.219	8805.9	17.03	104.55	65	81	315.9	22.50	5652.3	3557.8	153.1
81.00	RT10 RB12	0.3750	39.042	46.022	8693.5	16.95	104.11	65	81	156.9	22.50	5606.2	3528.9	76.6
82.00		0.3750	38.876	45.824	8582.0	16.87	103.67	65	82	156.3	22.50	5560.3	3500.1	76.6
84.00		0.3750	38.544	45.429	8361.8	16.71	102.78	65	82	310.5	22.50	5469.0	3442.9	153.1
86.00		0.3750	38.212	45.034	8145.5	16.56	101.90	65	82	307.8	22.50	5378.5	3386.2	153.1
87.50	Bot - Section 3	0.3750	37.963	44.737	7985.7	16.44	101.23	65	82	229.1	22.50	5311.1	3343.9	114.8
88.00		0.3750	37.880	44.638	7932.9	16.40	101.01	65	82	140.6	22.50	5458.0	3435.9	38.3
90.00		0.3750	37.548	44.243	7724.1	16.24	100.13	65	82	559.1	22.50	5367.6	3379.2	153.1
90.50	RB13	0.3750	37.465	44.144	7672.5	16.21	99.91	65	82	139.0	28.50	7357.6	3616.1	48.5
91.92	RB14	0.3750	37.229	43.864	7527.1	16.09	99.28	65	82	393.1	45.38	10537.9	6814.4	219.2
92.00		0.3750	37.216	43.848	7518.9	16.09	99.24	65	82	22.1	45.38	10530.7	6809.8	12.4
92.25	Top - Section 2	0.3125	37.799	37.181	6601.2	19.92	120.96	65	78	68.9	45.38	10508.4	6795.5	38.6
94.00		0.3125	37.509	36.893	6448.9	19.75	120.03	65	78	220.5	45.38	10348.8	6695.8	270.2
96.00		0.3125	37.177	36.563	6277.7	19.57	118.96	65	78	250.0	45.38	10172.6	6582.8	308.8
98.00		0.3125	36.844	36.234	6109.6	19.38	117.90	65	79	247.7	45.38	9998.0	6470.8	308.8
100.00		0.3125	36.512	35.904	5944.5	19.19	116.84	65	79	245.5	45.38	9824.8	6359.7	308.8
101.00	RT12 RB15	0.3125	36.346	35.740	5863.1	19.10	116.31	65	79	121.9	45.38	9738.8	6304.5	154.4
102.00		0.3125	36.180	35.575	5782.4	19.00	115.78	65	79	121.3	45.38	9653.2	6249.6	154.4
104.00		0.3125	35.848	35.246	5623.3	18.82	114.71	65	79	241.0	45.38	9483.1	6140.5	308.8
105.50	RT13	0.3125	35.599	34.999	5505.9	18.68	113.92	65	79	179.3	39.38	7579.2	5842.9	201.0
105.58	RT14	0.3125	35.586	34.986	5499.7	18.67	113.88	65	79	9.5	22.50	4687.0	2951.5	6.1
106.00		0.3125	35.516	34.916	5467.2	18.63	113.65	65	79	50.0	22.50	4669.4	2940.4	32.2
108.00		0.3125	35.184	34.587	5313.9	18.44	112.59	65	80	236.5	22.50	4585.9	2888.1	153.1
110.00		0.3125	34.852	34.258	5163.6	18.25	111.53	65	80	234.3	22.50	4503.1	2836.3	153.1
112.00		0.3125	34.520	33.928	5016.1	18.07	110.46	65	80	232.0	22.50	4421.1	2784.9	153.1
114.00		0.3125	34.188	33.599	4871.4	17.88	109.40	65	80	229.8	22.50	4339.9	2734.0	153.1
116.00		0.3125	33.856	33.270	4729.5	17.69	108.34	65	81	227.5	22.50	4259.4	2683.6	153.1
118.00	RT15	0.3125	33.524	32.940	4590.5	17.51	107.28	65	81	225.3	22.50	4179.7	2633.6	153.1
120.00		0.3125	33.192	32.611	4454.2	17.32	106.21	65	81	223.1				
122.00		0.3125	32.860	32.282	4320.6	17.13	105.15	65	81	220.8				
124.00		0.3125	32.528	31.952	4189.7	16.94	104.09	65	81	218.6				
126.00		0.3125	32.196	31.623	4061.5	16.76	103.03	65	82	216.3				
128.00		0.3125	31.864	31.294	3935.9	16.57	101.96	65	82	214.1				
130.00		0.3125	31.532	30.964	3812.9	16.38	100.90	65	82	211.9				
132.00		0.3125	31.200	30.635	3692.5	16.19	99.84	65	82	209.6				
132.50	Bot - Section 4	0.3125	31.117	30.553	3662.8	16.15	99.57	65	82	52.1				
134.00		0.3125	30.868	30.306	3574.7	16.01	98.78	65	83	265.9				
136.00		0.3125	30.535	29.976	3459.4	15.82	97.71	65	83	351.3				
136.50	Top - Section 3	0.2188	30.890	21.300	2531.6	23.48	141.18	65	74	87.2				
138.00		0.2188	30.641	21.127	2470.4	23.28	140.04	65	74	108.3				
140.00		0.2188	30.309	20.896	2390.4	23.01	138.52	65	74	143.0				
142.00		0.2188	29.977	20.665	2312.1	22.75	137.01	65	75	141.4				
144.00		0.2188	29.645	20.435	2235.6	22.48	135.49	65	75	139.9				
146.00		0.2188	29.313	20.204	2160.7	22.21	133.97	65	75	138.3				
148.00		0.2188	28.981	19.974	2087.6	21.94	132.45	65	76	136.7				
150.00		0.2188	28.649	19.743	2016.1	21.68	130.94	65	76	135.1				
152.00		0.2188	28.317	19.512	1946.3	21.41	129.42	65	76	133.6				
154.00		0.2188	27.985	19.282	1878.1	21.14	127.90	65	77	132.0				
156.00		0.2188	27.653	19.051	1811.5	20.87	126.38	65	77	130.4				
158.00		0.2188	27.321	18.821	1746.6	20.61	124.87	65	77	128.9				
160.00		0.2188	26.988	18.590	1683.1	20.34	123.35	65	77	127.3				
162.00		0.2188	26.656	18.359	1621.3	20.07	121.83	65	78	125.7				
164.00		0.2188	26.324	18.129	1561.0	19.80	120.31	65	78	124.2				
166.00		0.2188	25.992	17.898	1502.1	19.54	118.79	65	78	122.6				
168.00		0.2188	25.660	17.668	1444.8	19.27	117.28	65	79	121.0				
168.50		0.2188	25.577	17.610	1430.7	19.20	116.90	65	79	30.0				
170.00		0.2188	25.328	17.437	1389.0	19.00	115.76	65	79	89.4				

Increment Length: **2 (ft)**

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ixp (in^4)	Additional Reinforcing Iyp (in^4)	Additional Reinforcing Weight (lb)
172.00		0.2188	24.996	17.207	1334.6	18.73	114.24	65	79	117.9				
174.00		0.2188	24.664	16.976	1281.7	18.47	112.72	65	80	116.3				
176.00		0.2188	24.332	16.745	1230.2	18.20	111.21	65	80	114.7				
177.00		0.2188	24.166	16.630	1204.9	18.06	110.45	65	80	56.8				
178.00	Top - Section 4	0.2188	24.000	16.515	1180.0	17.93	109.69	65	80	56.4				
178.00	Bot - Section 5	0.1875	24.000	14.171	1015.2	20.92	128.00	65	77					
180.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	77	96.4				
182.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	77	96.4				
184.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	77	96.4				
186.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	77	96.4				
187.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	77	48.2				
188.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	77	48.2				
							Total Weight			**28148.4**				**14617.0**

Wind Loading - Shaft

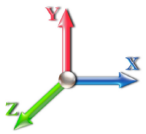
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 32

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	RB1	1.00	0.85	19.450	21.40	391.54	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RB2 RB3 RB4	1.00	0.85	19.450	21.40	390.28	0.650	0.000	1.00	4.371	2.84	97.3	0.0	290.4
2.00		1.00	0.85	19.450	21.40	389.03	0.650	0.000	1.00	4.357	2.83	97.0	0.0	289.5
4.00		1.00	0.85	19.450	21.40	386.51	0.650	0.000	2.00	8.672	5.64	193.0	0.0	576.1
6.00		1.00	0.85	19.450	21.40	384.00	0.650	0.000	2.00	8.616	5.60	191.7	0.0	572.4
8.00		1.00	0.85	19.450	21.40	381.49	0.650	0.000	2.00	8.560	5.56	190.5	0.0	568.6
10.00		1.00	0.85	19.450	21.40	378.98	0.650	0.000	2.00	8.503	5.53	189.2	0.0	564.8
12.00		1.00	0.85	19.450	21.40	376.46	0.650	0.000	2.00	8.447	5.49	188.0	0.0	561.1
14.00		1.00	0.85	19.450	21.40	373.95	0.650	0.000	2.00	8.391	5.45	186.7	0.0	557.3
16.00		1.00	0.86	19.690	21.66	373.72	0.650	0.000	2.00	8.335	5.42	187.8	0.0	553.5
18.00		1.00	0.88	20.185	22.20	375.83	0.650	0.000	2.00	8.279	5.38	191.2	0.0	549.8
18.25	RT4	1.00	0.88	20.244	22.27	376.05	0.650	0.000	0.25	1.031	0.67	23.9	0.0	68.5
20.00		1.00	0.90	20.638	22.70	377.43	0.650	0.000	1.75	7.192	4.67	169.8	0.0	477.5
21.00	RT2 RT3 RB5 RB6	1.00	0.91	20.851	22.94	378.07	0.650	0.000	1.00	4.090	2.66	97.6	0.0	271.6
22.00		1.00	0.92	21.056	23.16	378.62	0.650	0.000	1.00	4.076	2.65	98.2	0.0	270.6
24.00		1.00	0.94	21.445	23.59	379.47	0.650	0.000	2.00	8.110	5.27	199.0	0.0	538.5
26.00		1.00	0.95	21.810	23.99	380.02	0.650	0.000	2.00	8.054	5.24	200.9	0.0	534.7
28.00		1.00	0.97	22.152	24.37	380.31	0.650	0.000	2.00	7.998	5.20	202.7	0.0	530.9
28.25	RT5	1.00	0.97	22.194	24.41	380.33	0.650	0.000	0.25	0.996	0.65	25.3	0.0	66.1
30.00		1.00	0.98	22.477	24.72	380.38	0.650	0.000	1.75	6.946	4.51	178.6	0.0	461.1
32.00		1.00	1.00	22.784	25.06	380.25	0.650	0.000	2.00	7.885	5.13	205.5	0.0	523.4
34.00		1.00	1.01	23.077	25.38	379.95	0.650	0.000	2.00	7.829	5.09	206.7	0.0	519.6
36.00		1.00	1.02	23.356	25.69	379.49	0.650	0.000	2.00	7.773	5.05	207.7	0.0	515.9
38.00		1.00	1.03	23.623	25.99	378.89	0.650	0.000	2.00	7.717	5.02	208.5	0.0	512.1
40.00		1.00	1.04	23.880	26.27	378.15	0.650	0.000	2.00	7.661	4.98	209.3	0.0	508.3
41.00	RT6 RB7	1.00	1.05	24.004	26.40	377.74	0.650	0.000	1.00	3.809	2.48	104.6	0.0	252.8
42.00		1.00	1.05	24.126	26.54	377.30	0.650	0.000	1.00	3.795	2.47	104.7	0.0	251.8
43.25	Bot - Section 2	1.00	1.06	24.276	26.70	376.71	0.650	0.000	1.25	4.724	3.07	131.2	0.0	313.5
44.00		1.00	1.06	24.364	26.80	376.34	0.650	0.000	0.75	2.872	1.87	80.0	0.0	350.9
46.00		1.00	1.07	24.593	27.05	375.28	0.650	0.000	2.00	7.619	4.95	214.4	0.0	931.0
47.75	RB8	1.00	1.08	24.787	27.27	374.28	0.650	0.000	1.75	6.620	4.30	187.7	0.0	808.9
48.00		1.00	1.08	24.814	27.30	374.13	0.650	0.000	0.25	0.942	0.61	26.7	0.0	115.1
48.92	RB9	1.00	1.09	24.914	27.41	373.57	0.650	0.000	0.92	3.460	2.25	98.6	0.0	422.7
49.00	Top - Section 1	1.00	1.09	24.922	27.41	373.52	0.650	0.000	0.08	0.300	0.20	8.6	0.0	36.7
50.00		1.00	1.09	25.029	27.53	379.33	0.650	0.000	1.00	3.746	2.44	107.3	0.0	213.3
52.00		1.00	1.10	25.236	27.76	378.03	0.650	0.000	2.00	7.450	4.84	215.1	0.0	424.3
54.00		1.00	1.11	25.437	27.98	376.67	0.650	0.000	2.00	7.394	4.81	215.2	0.0	421.0
56.00		1.00	1.12	25.633	28.20	375.23	0.650	0.000	2.00	7.338	4.77	215.2	0.0	417.8
58.00		1.00	1.13	25.823	28.41	373.72	0.650	0.000	2.00	7.282	4.73	215.1	0.0	414.6
60.00		1.00	1.14	26.008	28.61	372.15	0.650	0.000	2.00	7.226	4.70	215.0	0.0	411.3
61.00	RT7 RB10	1.00	1.14	26.099	28.71	371.34	0.650	0.000	1.00	3.592	2.33	107.2	0.0	204.5
62.00		1.00	1.14	26.188	28.81	370.52	0.650	0.000	1.00	3.578	2.33	107.2	0.0	203.7
64.00		1.00	1.15	26.364	29.00	368.84	0.650	0.000	2.00	7.113	4.62	214.5	0.0	404.9
65.00	RT8 RB11	1.00	1.16	26.450	29.09	367.97	0.650	0.000	1.00	3.535	2.30	107.0	0.0	201.2
66.00		1.00	1.16	26.535	29.19	367.10	0.650	0.000	1.00	3.521	2.29	106.9	0.0	200.4
68.00		1.00	1.17	26.702	29.37	365.31	0.650	0.000	2.00	7.001	4.55	213.9	0.0	398.4
70.00		1.00	1.17	26.866	29.55	363.47	0.650	0.000	2.00	6.945	4.51	213.4	0.0	395.2

Wind Loading - Shaft

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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

72.00		1.00	1.18	27.026	29.73	361.59	0.650	0.000	2.00	6.888	4.48	213.0	0.0	392.0
72.25	RT11	1.00	1.18	27.045	29.75	361.35	0.650	0.000	0.25	0.857	0.56	26.5	0.0	48.8
74.00		1.00	1.19	27.182	29.90	359.66	0.650	0.000	1.75	5.975	3.88	185.8	0.0	340.0
76.00		1.00	1.19	27.335	30.07	357.70	0.650	0.000	2.00	6.776	4.40	211.9	0.0	385.5
76.83	RT9	1.00	1.20	27.398	30.14	356.87	0.650	0.000	0.83	2.796	1.82	87.6	0.0	159.0
78.00		1.00	1.20	27.485	30.23	355.69	0.650	0.000	1.17	3.924	2.55	123.4	0.0	223.3
80.00		1.00	1.21	27.632	30.39	353.64	0.650	0.000	2.00	6.664	4.33	210.6	0.0	379.1
81.00	RT10 RB12	1.00	1.21	27.704	30.47	352.60	0.650	0.000	1.00	3.311	2.15	104.9	0.0	188.3
82.00		1.00	1.21	27.776	30.55	351.56	0.650	0.000	1.00	3.297	2.14	104.8	0.0	187.5
84.00		1.00	1.22	27.917	30.71	349.44	0.650	0.000	2.00	6.551	4.26	209.2	0.0	372.6
86.00		1.00	1.23	28.056	30.86	347.29	0.650	0.000	2.00	6.495	4.22	208.5	0.0	369.4
87.50	Bot - Section 3	1.00	1.23	28.158	30.97	345.66	0.650	0.000	1.50	4.834	3.14	155.7	0.0	274.9
88.00		1.00	1.23	28.192	31.01	345.11	0.650	0.000	0.50	1.631	1.06	52.6	0.0	168.7
90.00		1.00	1.24	28.325	31.16	342.89	0.650	0.000	2.00	6.488	4.22	210.3	0.0	670.9
90.50	RB13	1.00	1.24	28.359	31.19	342.33	0.650	0.000	0.50	1.613	1.05	52.3	0.0	166.8
91.92	RB14	1.00	1.24	28.452	31.30	340.74	0.650	0.000	1.42	4.563	2.97	148.5	0.0	471.7
92.00		1.00	1.24	28.457	31.30	340.65	0.650	0.000	0.08	0.256	0.17	8.3	0.0	26.5
92.25	Top - Section 2	1.00	1.24	28.473	31.32	340.36	0.650	0.000	0.25	0.800	0.52	26.1	0.0	82.7
94.00		1.00	1.25	28.586	31.44	344.11	0.650	0.000	1.75	5.576	3.62	182.3	0.0	264.7
96.00		1.00	1.25	28.713	31.58	341.82	0.650	0.000	2.00	6.320	4.11	207.6	0.0	299.9
98.00		1.00	1.26	28.838	31.72	339.50	0.650	0.000	2.00	6.264	4.07	206.6	0.0	297.3
100.00		1.00	1.27	28.961	31.86	337.16	0.650	0.000	2.00	6.207	4.03	205.7	0.0	294.6
101.00	RT12 RB15	1.00	1.27	29.021	31.92	335.97	0.650	0.000	1.00	3.083	2.00	102.3	0.0	146.3
102.00		1.00	1.27	29.082	31.99	334.79	0.650	0.000	1.00	3.069	1.99	102.1	0.0	145.6
104.00		1.00	1.28	29.201	32.12	332.39	0.650	0.000	2.00	6.095	3.96	203.6	0.0	289.2
105.50	RT13	1.00	1.28	29.289	32.22	330.58	0.650	0.000	1.50	4.534	2.95	151.9	0.0	215.1
105.58	RT14	1.00	1.28	29.294	32.22	330.49	0.650	0.000	0.08	0.241	0.16	8.1	0.0	11.4
106.00		1.00	1.28	29.318	32.25	329.98	0.650	0.000	0.42	1.263	0.82	42.4	0.0	59.9
108.00		1.00	1.29	29.434	32.38	327.53	0.650	0.000	2.00	5.983	3.89	201.4	0.0	283.8
110.00		1.00	1.29	29.548	32.50	325.07	0.650	0.000	2.00	5.926	3.85	200.3	0.0	281.1
112.00		1.00	1.30	29.660	32.63	322.58	0.650	0.000	2.00	5.870	3.82	199.2	0.0	278.4
114.00		1.00	1.30	29.771	32.75	320.08	0.650	0.000	2.00	5.814	3.78	198.0	0.0	275.7
116.00		1.00	1.31	29.880	32.87	317.55	0.650	0.000	2.00	5.758	3.74	196.8	0.0	273.0
118.00	RT15	1.00	1.31	29.988	32.99	315.00	0.650	0.000	2.00	5.702	3.71	195.6	0.0	270.4
120.00		1.00	1.32	30.094	33.10	312.43	0.650	0.000	2.00	5.645	3.67	194.4	0.0	267.7
122.00		1.00	1.32	30.199	33.22	309.85	0.650	0.000	2.00	5.589	3.63	193.1	0.0	265.0
124.00		1.00	1.32	30.302	33.33	307.24	0.650	0.000	2.00	5.533	3.60	191.8	0.0	262.3
126.00		1.00	1.33	30.405	33.45	304.62	0.650	0.000	2.00	5.477	3.56	190.5	0.0	259.6
128.00		1.00	1.33	30.506	33.56	301.98	0.650	0.000	2.00	5.421	3.52	189.2	0.0	256.9
130.00		1.00	1.34	30.605	33.67	299.32	0.650	0.000	2.00	5.364	3.49	187.8	0.0	254.2
132.00		1.00	1.34	30.704	33.77	296.64	0.650	0.000	2.00	5.308	3.45	186.5	0.0	251.5
132.50	Bot - Section 4	1.00	1.34	30.728	33.80	295.97	0.650	0.000	0.50	1.318	0.86	46.3	0.0	62.5
134.00		1.00	1.35	30.801	33.88	293.95	0.650	0.000	1.50	3.989	2.59	140.6	0.0	319.1
136.00		1.00	1.35	30.898	33.99	291.24	0.650	0.000	2.00	5.270	3.43	186.3	0.0	421.5
136.50	Top - Section 3	1.00	1.35	30.921	34.01	290.56	0.650	0.000	0.50	1.309	0.85	46.3	0.0	104.7
138.00		1.00	1.35	30.993	34.09	292.70	0.650	0.000	1.50	3.905	2.54	138.5	0.0	129.9
140.00		1.00	1.36	31.087	34.20	289.96	0.650	0.000	2.00	5.158	3.35	183.4	0.0	171.6
142.00		1.00	1.36	31.180	34.30	287.22	0.650	0.000	2.00	5.101	3.32	182.0	0.0	169.7
144.00		1.00	1.37	31.272	34.40	284.45	0.650	0.000	2.00	5.045	3.28	180.5	0.0	167.8
146.00		1.00	1.37	31.362	34.50	281.68	0.650	0.000	2.00	4.989	3.24	179.0	0.0	165.9
148.00		1.00	1.37	31.452	34.60	278.88	0.650	0.000	2.00	4.933	3.21	177.5	0.0	164.1
150.00		1.00	1.38	31.541	34.70	276.08	0.650	0.000	2.00	4.877	3.17	176.0	0.0	162.2
152.00		1.00	1.38	31.630	34.79	273.26	0.650	0.000	2.00	4.820	3.13	174.4	0.0	160.3
154.00		1.00	1.39	31.717	34.89	270.43	0.650	0.000	2.00	4.764	3.10	172.9	0.0	158.4
156.00		1.00	1.39	31.803	34.98	267.58	0.650	0.000	2.00	4.708	3.06	171.3	0.0	156.5
158.00	Appurtenance(s)	1.00	1.39	31.888	35.08	264.72	0.650	0.000	2.00	4.652	3.02	169.7	0.0	154.6
160.00		1.00	1.40	31.973	35.17	261.85	0.650	0.000	2.00	4.596	2.99	168.1	0.0	152.8

Wind Loading - Shaft

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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	

162.00		1.00	1.40	32.057	35.26	258.97	0.650	0.000	2.00	4.539	2.95	166.5	0.0	150.9
164.00		1.00	1.40	32.140	35.35	256.07	0.650	0.000	2.00	4.483	2.91	164.8	0.0	149.0
166.00		1.00	1.41	32.222	35.44	253.17	0.650	0.000	2.00	4.427	2.88	163.2	0.0	147.1
168.00	Appurtenance(s)	1.00	1.41	32.303	35.53	250.25	0.650	0.000	2.00	4.371	2.84	161.5	0.0	145.2
168.50	Appurtenance(s)	1.00	1.41	32.323	35.56	249.52	0.650	0.000	0.50	1.084	0.70	40.1	0.0	36.0
170.00		1.00	1.42	32.384	35.62	247.32	0.650	0.000	1.50	3.231	2.10	119.7	0.0	107.3
172.00		1.00	1.42	32.463	35.71	244.37	0.650	0.000	2.00	4.258	2.77	158.1	0.0	141.5
174.00		1.00	1.42	32.543	35.80	241.42	0.650	0.000	2.00	4.202	2.73	156.4	0.0	139.6
176.00		1.00	1.43	32.621	35.88	238.46	0.650	0.000	2.00	4.146	2.69	154.7	0.0	137.7
177.00	Appurtenance(s)	1.00	1.43	32.660	35.93	236.97	0.650	0.000	1.00	2.052	1.33	76.7	0.0	68.1
178.00	Top - Section 4	1.00	1.43	32.699	35.97	235.48	0.650	0.000	1.00	2.038	1.32	76.2	0.0	67.7
180.00		1.00	1.43	32.776	36.05	235.76	0.650	0.000	2.00	4.062	2.64	152.3	0.0	115.7
182.00		1.00	1.44	32.852	36.14	236.04	0.650	0.000	2.00	4.062	2.64	152.6	0.0	115.7
184.00	Appurtenance(s)	1.00	1.44	32.928	36.22	236.31	0.650	0.000	2.00	4.062	2.64	153.0	0.0	115.7
186.00		1.00	1.44	33.003	36.30	236.58	0.650	0.000	2.00	4.062	2.64	153.4	0.0	115.7
187.00	Appurtenance(s)	1.00	1.44	33.040	36.34	236.71	0.650	0.000	1.00	2.031	1.32	76.8	0.0	57.9
188.00		1.00	1.45	33.077	36.38	236.84	0.650	0.000	1.00	2.031	1.32	76.8	0.0	57.9
								Totals:	**188.00**			**18,128.1**		**33,778.1**

Discrete Appurtenance Forces

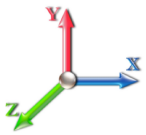
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 32

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	187.00	Collar Mount (3-Sided)	1	33.040	36.344	1.00	1.00	2.10	264.00	0.000	0.000	122.12	0.00	0.00
2	187.00	AIR6449 B41	3	33.040	36.344	0.53	0.75	9.03	370.80	0.000	0.000	524.86	0.00	0.00
3	187.00	RRUS 4415 B25	3	33.040	36.344	0.38	0.75	1.84	165.60	0.000	0.000	107.29	0.00	0.00
4	187.00	PRK-1245 (kicker kit)	1	33.040	36.344	0.75	0.75	5.63	557.89	0.000	0.000	327.10	0.00	0.00
5	187.00	RFS	3	33.040	36.344	0.52	0.75	28.73	460.80	0.000	0.000	1670.54	0.00	0.00
6	187.00	Kathrein 782 11054-Smart	3	33.040	36.344	0.38	0.75	0.25	6.48	0.000	0.000	14.39	0.00	0.00
7	187.00	Ericsson KRY 112 114-1	12	33.040	36.344	0.38	0.75	1.84	158.40	0.000	0.000	107.29	0.00	0.00
8	187.00	Ericsson	3	33.040	36.344	0.65	0.75	12.60	475.92	0.000	0.000	732.51	0.00	0.00
9	187.00	Ericsson Radio 4449 B71	3	33.040	36.344	0.38	0.75	2.81	266.40	0.000	0.000	163.55	0.00	0.00
10	184.00	Platform w/ Hand Rail	1	32.928	36.220	1.00	1.00	32.00	1920.00	0.000	0.000	1854.49	0.00	0.00
11	177.00	TA08025-B604	3	32.660	35.926	0.38	0.75	2.21	230.04	0.000	0.000	126.75	0.00	0.00
12	177.00	MX08FRO665-21	3	32.660	35.926	0.55	0.75	20.80	232.20	0.000	0.000	1195.38	0.00	0.00
13	177.00	RDIDC-9181-OF-48	1	32.660	35.926	0.38	0.75	0.75	26.28	0.000	0.000	43.33	0.00	0.00
14	177.00	TA08025-B605	3	32.660	35.926	0.38	0.75	2.21	270.00	0.000	0.000	126.75	0.00	0.00
15	177.00	MC-PK8-DSH	1	32.660	35.926	1.00	1.00	32.00	2072.40	0.000	0.000	1839.41	0.00	0.00
16	168.50	Low Profile Platform	1	32.323	35.556	1.00	1.00	22.00	1680.00	0.000	0.000	1251.56	0.00	0.00
17	168.00	APXV9ERR18-C-A20	1	32.303	35.533	0.65	0.80	5.20	74.40	0.000	0.000	295.46	0.00	0.00
18	168.00	ACU-A20-N	4	32.303	35.533	0.40	0.80	0.22	4.80	0.000	0.000	12.74	0.00	0.00
19	168.00	TD-RRH8x20-25	3	32.303	35.533	0.40	0.80	3.66	252.00	0.000	0.000	208.08	0.00	0.00
20	168.00	800 MHz RRH	3	32.303	35.533	0.40	0.80	3.00	194.40	0.000	0.000	170.56	0.00	0.00
21	168.00	1900 MHz RRH	3	32.303	35.533	0.40	0.80	3.00	158.40	0.000	0.000	170.56	0.00	0.00
22	168.00	APXVTM14-C-120	3	32.303	35.533	0.62	0.80	11.87	201.60	0.000	0.000	674.76	0.00	0.00
23	168.00	800 MHz Filters	3	32.303	35.533	0.40	0.80	3.00	194.40	0.000	0.000	170.56	0.00	0.00
24	168.00	APXVSPP18-C-A20	2	32.303	35.533	0.65	0.80	10.39	136.80	0.000	0.000	590.93	0.00	0.00
25	158.00	Kathrein 860-10025 RET	6	31.888	35.077	0.38	0.75	0.36	8.35	0.000	0.000	20.20	0.00	0.00
26	158.00	HPA-65R-BUU-H8	3	31.888	35.077	0.58	0.75	22.78	244.80	0.000	0.000	1278.49	0.00	0.00
27	158.00	Ericsson RRUS-A2 RRU	3	31.888	35.077	0.38	0.75	2.09	75.96	0.000	0.000	117.44	0.00	0.00
28	158.00	800 10121	3	31.888	35.077	0.58	0.75	9.04	158.76	0.000	0.000	507.26	0.00	0.00
29	158.00	Raycap DC6-48-60-18-8F	2	31.888	35.077	0.38	0.75	1.10	76.32	0.000	0.000	61.88	0.00	0.00
30	158.00	Powerwave LGP21401	6	31.888	35.077	0.38	0.75	2.83	126.00	0.000	0.000	159.11	0.00	0.00
31	158.00	Ericsson 8843 B2 B66A	3	31.888	35.077	0.38	0.75	1.84	259.20	0.000	0.000	103.55	0.00	0.00
32	158.00	800 10966	6	31.888	35.077	0.53	0.75	45.72	825.12	0.000	0.000	2565.99	0.00	0.00
33	158.00	Ericsson RRUS 4415 B25	3	31.888	35.077	0.38	0.75	1.84	165.60	0.000	0.000	103.55	0.00	0.00
34	158.00	Ericsson 4449 B5 B12	3	31.888	35.077	0.38	0.75	1.86	262.80	0.000	0.000	104.18	0.00	0.00
35	158.00	Raycap DC6-48-60-0-8C	1	31.888	35.077	0.38	0.75	1.42	31.44	0.000	0.000	79.56	0.00	0.00
36	158.00	Plateform Mount	1	31.888	35.077	1.00	1.00	38.00	2563.91	0.000	0.000	2132.69	0.00	0.00
							Totals:		**15,172.27**			**19,734.83**		

Total Applied Force Summary

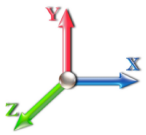
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 32

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
1.00		97.26	327.03	0.00	0.00
2.00		96.95	326.09	0.00	0.00
4.00		192.96	649.35	0.00	0.00
6.00		191.71	645.59	0.00	0.00
8.00		190.46	641.82	0.00	0.00
10.00		189.21	638.06	0.00	0.00
12.00		187.96	634.29	0.00	0.00
14.00		186.71	630.53	0.00	0.00
16.00		187.75	626.76	0.00	0.00
18.00		191.17	623.00	0.00	0.00
18.25		23.87	77.61	0.00	0.00
20.00		169.79	541.62	0.00	0.00
21.00		97.56	308.20	0.00	0.00
22.00		98.19	307.26	0.00	0.00
24.00		198.97	611.70	0.00	0.00
26.00		200.95	607.93	0.00	0.00
28.00		202.68	604.17	0.00	0.00
28.25		25.28	75.26	0.00	0.00
30.00		178.60	525.15	0.00	0.00
32.00		205.53	596.64	0.00	0.00
34.00		206.69	592.87	0.00	0.00
36.00		207.69	589.11	0.00	0.00
38.00		208.55	585.34	0.00	0.00
40.00		209.28	581.58	0.00	0.00
41.00		104.60	289.38	0.00	0.00
42.00		104.75	288.43	0.00	0.00
43.25		131.20	359.22	0.00	0.00
44.00		80.04	378.39	0.00	0.00
46.00		214.35	1004.22	0.00	0.00
47.75		187.73	872.96	0.00	0.00
48.00		26.75	124.27	0.00	0.00
48.92		98.61	456.38	0.00	0.00
49.00		8.56	39.61	0.00	0.00
50.00		107.26	249.95	0.00	0.00
52.00		215.09	497.49	0.00	0.00
54.00		215.17	494.26	0.00	0.00
56.00		215.18	491.03	0.00	0.00
58.00		215.11	487.81	0.00	0.00
60.00		214.98	484.58	0.00	0.00
61.00		107.24	241.08	0.00	0.00
62.00		107.18	240.27	0.00	0.00
64.00		214.53	478.12	0.00	0.00
65.00		106.98	237.85	0.00	0.00
66.00		106.90	237.04	0.00	0.00
68.00		213.85	471.67	0.00	0.00
70.00		213.44	468.44	0.00	0.00

Total Applied Force Summary

Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (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

Tower Engineering Solutions

72.00		212.97	465.21	0.00	0.00
72.25		26.52	57.92	0.00	0.00
74.00		185.80	404.06	0.00	0.00
76.00		211.89	458.76	0.00	0.00
76.83		87.62	189.44	0.00	0.00
78.00		123.39	266.09	0.00	0.00
80.00		210.64	452.30	0.00	0.00
81.00		104.93	224.94	0.00	0.00
82.00		104.75	224.13	0.00	0.00
84.00		209.23	445.85	0.00	0.00
86.00		208.46	442.62	0.00	0.00
87.50		155.73	329.85	0.00	0.00
88.00		52.60	186.97	0.00	0.00
90.00		210.25	744.18	0.00	0.00
90.50		52.34	185.12	0.00	0.00
91.92		148.51	523.72	0.00	0.00
92.00		8.34	29.42	0.00	0.00
92.25		26.06	91.87	0.00	0.00
94.00		182.34	328.73	0.00	0.00
96.00		207.59	373.18	0.00	0.00
98.00		206.64	370.49	0.00	0.00
100.00		205.66	367.80	0.00	0.00
101.00		102.34	182.89	0.00	0.00
102.00		102.09	182.22	0.00	0.00
104.00		203.61	362.42	0.00	0.00
105.50		151.93	270.05	0.00	0.00
105.58		8.07	14.36	0.00	0.00
106.00		42.38	75.32	0.00	0.00
108.00		201.45	357.04	0.00	0.00
110.00		200.33	354.35	0.00	0.00
112.00		199.18	351.66	0.00	0.00
114.00		198.01	348.97	0.00	0.00
116.00		196.82	346.28	0.00	0.00
118.00		195.60	343.59	0.00	0.00
120.00		194.36	340.90	0.00	0.00
122.00		193.09	338.21	0.00	0.00
124.00		191.81	335.52	0.00	0.00
126.00		190.50	332.83	0.00	0.00
128.00		189.17	330.14	0.00	0.00
130.00		187.82	327.45	0.00	0.00
132.00		186.45	324.76	0.00	0.00
132.50		46.34	80.77	0.00	0.00
134.00		140.57	374.06	0.00	0.00
136.00		186.27	494.74	0.00	0.00
136.50		46.29	122.97	0.00	0.00
138.00		138.45	184.85	0.00	0.00
140.00		183.42	244.82	0.00	0.00
142.00		181.96	242.94	0.00	0.00
144.00		180.49	241.06	0.00	0.00
146.00		179.00	239.17	0.00	0.00
148.00		177.49	237.29	0.00	0.00
150.00		175.96	235.41	0.00	0.00
152.00		174.42	233.52	0.00	0.00
154.00		172.86	231.64	0.00	0.00
156.00		171.29	229.76	0.00	0.00
158.00	(40) attachments	7403.59	5026.14	0.00	0.00
160.00		168.09	193.50	0.00	0.00

Total Applied Force Summary

Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (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

Tower Engineering Solutions

162.00		166.47	191.61	0.00	0.00
164.00		164.84	189.73	0.00	0.00
166.00		163.19	187.85	0.00	0.00
168.00	(22) attachments	2455.18	1402.76	0.00	0.00
168.50	(1) attachments	1291.64	1724.86	0.00	0.00
170.00		119.69	133.89	0.00	0.00
172.00		158.15	176.87	0.00	0.00
174.00		156.44	174.99	0.00	0.00
176.00		154.72	173.10	0.00	0.00
177.00	(11) attachments	3408.27	2916.77	0.00	0.00
178.00		76.23	82.99	0.00	0.00
180.00		152.30	146.36	0.00	0.00
182.00		152.65	146.36	0.00	0.00
184.00	(1) attachments	2007.49	2066.36	0.00	0.00
186.00		153.35	146.36	0.00	0.00
187.00	(32) attachments	3846.40	2799.47	0.00	0.00
188.00		76.85	57.86	0.00	0.00
	Totals:	**37,862.89**	**55,251.81**	**0.00**	**0.00**

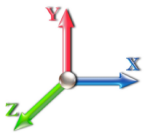
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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 + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.024	0.000	19.450	0.00	0.00
2.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.024	0.000	19.450	0.00	0.00
4.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	19.450	0.00	0.00
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	19.450	0.00	0.00
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	19.450	0.00	0.00
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	19.450	0.00	0.00
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	19.450	0.00	0.00
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	19.450	0.00	0.00
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	19.690	0.00	0.00
18.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	20.185	0.00	0.00
18.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.025	0.000	20.244	0.00	0.00
20.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.025	0.000	20.638	0.00	0.00
21.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.025	0.000	20.851	0.00	0.00
22.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.026	0.000	21.056	0.00	0.00
24.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	21.445	0.00	0.00
26.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	21.810	0.00	0.00
28.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	22.152	0.00	0.00
28.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.026	0.000	22.194	0.00	0.00
30.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.026	0.000	22.477	0.00	0.00
32.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	22.784	0.00	0.00
34.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.027	0.000	23.077	0.00	0.00
36.00	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.020	0.000	23.356	0.00	0.00
47.75	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.020	0.000	24.787	0.00	0.00
48.00	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.028	0.000	24.814	0.00	0.00
48.92	1.25" Reinforcing	Yes	0.92	0.000	1.25	0.10	0.00	0.028	0.000	24.914	0.00	0.00
49.00	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.028	0.000	24.922	0.00	0.00
50.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.028	0.000	25.029	0.00	0.00
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	25.236	0.00	0.00
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	25.437	0.00	0.00
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	25.633	0.00	0.00
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	25.823	0.00	0.00
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	26.008	0.00	0.00
61.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	26.099	0.00	0.00
62.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	26.188	0.00	0.00
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	26.364	0.00	0.00
65.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	26.450	0.00	0.00
66.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.030	0.000	26.535	0.00	0.00
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	26.702	0.00	0.00
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	26.866	0.00	0.00
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	27.026	0.00	0.00
72.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.030	0.000	27.045	0.00	0.00
74.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.031	0.000	27.182	0.00	0.00
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	27.335	0.00	0.00
76.83	1.25" Reinforcing	Yes	0.83	0.000	1.25	0.09	0.00	0.031	0.000	27.398	0.00	0.00
78.00	1.25" Reinforcing	Yes	1.17	0.000	1.25	0.12	0.00	0.031	0.000	27.485	0.00	0.00
80.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.020	0.000	27.632	0.00	0.00
90.50	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.016	0.000	28.359	0.00	0.00

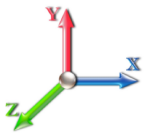
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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 + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
91.92	1.25" Reinforcing	Yes	1.42	0.000	1.25	0.15	0.00	0.033	0.000	28.452	0.00	0.00
92.00	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.033	0.000	28.457	0.00	0.00
92.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.033	0.000	28.473	0.00	0.00
94.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.033	0.000	28.586	0.00	0.00
96.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	28.713	0.00	0.00
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	28.838	0.00	0.00
100.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	28.961	0.00	0.00
101.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.034	0.000	29.021	0.00	0.00
102.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.034	0.000	29.082	0.00	0.00
104.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	29.201	0.00	0.00
105.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.034	0.000	29.289	0.00	0.00
105.58	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.035	0.000	29.294	0.00	0.00
106.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.035	0.000	29.318	0.00	0.00
108.00	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.035	0.000	29.434	0.00	0.00
108.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.035	0.000	29.434	0.00	0.00
110.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	29.548	0.00	0.00
112.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	29.660	0.00	0.00
114.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.036	0.000	29.771	0.00	0.00
116.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.036	0.000	29.880	0.00	0.00
118.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.037	0.000	29.988	0.00	0.00
120.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.037	0.000	30.094	0.00	0.00
122.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.023	0.000	30.199	0.00	0.00
										Totals:	**0.0**	**0.0**

Calculated Forces

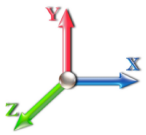
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 32

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	-55.23	-37.89	0.00	-5332.5	0.00	5332.57	5035.03	2517.52	10606.9	5311.37	0.00	0.000	0.000	0.917
1.00	-54.87	-37.84	0.00	-5294.6	0.00	5294.68	5023.77	2511.88	10548.7	5282.19	0.01	-0.058	0.000	0.671
2.00	-54.50	-37.80	0.00	-5256.8	0.00	5256.84	5012.47	2506.24	10490.5	5253.05	0.02	-0.100	0.000	0.669
4.00	-53.80	-37.69	0.00	-5181.2	0.00	5181.23	4989.78	2494.89	10374.4	5194.91	0.08	-0.185	0.000	0.665
6.00	-53.10	-37.57	0.00	-5105.8	0.00	5105.85	4966.95	2483.48	10258.6	5136.95	0.18	-0.269	0.000	0.661
8.00	-52.40	-37.46	0.00	-5030.7	0.00	5030.70	4944.00	2472.00	10143.2	5079.17	0.31	-0.354	0.000	0.657
10.00	-51.71	-37.34	0.00	-4955.7	0.00	4955.79	4920.91	2460.46	10028.2	5021.57	0.48	-0.439	0.000	0.653
12.00	-51.02	-37.22	0.00	-4881.1	0.00	4881.11	4897.70	2448.85	9913.58	4964.16	0.68	-0.525	0.000	0.649
14.00	-50.34	-37.11	0.00	-4806.6	0.00	4806.66	4874.35	2437.18	9799.30	4906.94	0.92	-0.611	0.000	0.645
16.00	-49.66	-36.99	0.00	-4732.4	0.00	4732.45	4850.88	2425.44	9685.41	4849.90	1.19	-0.696	0.000	0.641
18.00	-49.01	-36.83	0.00	-4658.4	0.00	4658.48	4827.27	2413.63	9571.89	4793.06	1.50	-0.782	0.000	0.637
18.25	-48.90	-36.84	0.00	-4649.2	0.00	4649.27	4824.31	2412.15	9557.73	4785.97	1.54	-0.793	0.000	0.671
20.00	-48.32	-36.72	0.00	-4584.8	0.00	4584.80	4803.53	2401.76	9458.77	4736.42	1.85	-0.873	0.000	0.667
21.00	-47.99	-36.65	0.00	-4548.0	0.00	4548.08	4791.61	2395.81	9402.36	4708.17	2.04	-0.919	0.000	0.665
22.00	-47.64	-36.61	0.00	-4511.4	0.00	4511.43	4779.66	2389.83	9346.05	4679.97	2.24	-0.964	0.000	0.663
24.00	-46.97	-36.47	0.00	-4438.2	0.00	4438.21	4755.66	2377.83	9233.73	4623.73	2.66	-1.056	0.000	0.658
26.00	-46.31	-36.33	0.00	-4365.2	0.00	4365.27	4731.53	2365.77	9121.82	4567.69	3.12	-1.147	0.000	0.654
28.00	-45.68	-36.16	0.00	-4292.6	0.00	4292.60	4707.27	2353.63	9010.32	4511.86	3.62	-1.239	0.000	0.649
28.25	-45.57	-36.17	0.00	-4283.5	0.00	4283.57	4704.23	2352.11	8996.42	4504.89	3.69	-1.250	0.000	0.720
30.00	-44.99	-36.06	0.00	-4220.2	0.00	4220.26	4682.88	2341.44	8899.25	4456.24	4.16	-1.340	0.000	0.716
32.00	-44.33	-35.92	0.00	-4148.1	0.00	4148.15	4658.36	2329.18	8788.59	4400.83	4.75	-1.442	0.000	0.711
34.00	-43.68	-35.77	0.00	-4076.3	0.00	4076.32	4633.70	2316.85	8678.37	4345.63	5.37	-1.544	0.000	0.706
36.00	-43.03	-35.63	0.00	-4004.7	0.00	4004.77	4608.92	2304.46	8568.58	4290.66	6.04	-1.647	0.000	0.701
38.00	-42.39	-35.48	0.00	-3933.5	0.00	3933.52	4584.01	2292.00	8459.23	4235.90	6.75	-1.750	0.000	0.696
40.00	-41.77	-35.31	0.00	-3862.5	0.00	3862.57	4558.96	2279.48	8350.33	4181.37	7.51	-1.853	0.000	0.691
41.00	-41.45	-35.23	0.00	-3827.2	0.00	3827.26	4546.39	2273.19	8296.04	4154.19	7.90	-1.904	0.000	0.688
42.00	-41.13	-35.16	0.00	-3792.0	0.00	3792.03	4533.79	2266.89	8241.87	4127.06	8.31	-1.956	0.000	0.686
43.25	-40.74	-35.05	0.00	-3748.0	0.00	3748.09	4517.98	2258.99	8174.32	4093.24	8.83	-2.021	0.000	0.682
44.00	-40.33	-35.01	0.00	-3721.8	0.00	3721.80	4508.48	2254.24	8133.88	4072.99	9.15	-2.060	0.000	0.675
46.00	-39.27	-34.82	0.00	-3651.7	0.00	3651.79	4483.04	2241.52	8026.35	4019.14	10.03	-2.163	0.000	0.669
47.75	-38.38	-34.63	0.00	-3590.8	0.00	3590.85	4460.68	2230.34	7932.64	3972.22	10.84	-2.253	0.000	0.653
48.00	-38.23	-34.62	0.00	-3582.1	0.00	3582.19	4457.48	2228.74	7919.28	3965.53	10.96	-2.266	0.000	0.652
48.92	-37.77	-34.52	0.00	-3550.3	0.00	3550.34	4445.67	2222.84	7870.19	3940.94	11.40	-2.312	0.000	0.511
49.00	-37.72	-34.53	0.00	-3547.5	0.00	3547.58	3699.57	1849.78	6681.20	3345.56	11.44	-2.316	0.000	0.545
50.00	-37.43	-34.45	0.00	-3513.0	0.00	3513.05	3689.91	1844.95	6638.39	3324.13	11.93	-2.356	0.000	0.572
52.00	-36.89	-34.27	0.00	-3444.1	0.00	3444.16	3670.50	1835.25	6553.00	3281.37	12.93	-2.440	0.000	0.566
54.00	-36.36	-34.08	0.00	-3375.6	0.00	3375.62	3650.96	1825.48	6467.90	3238.76	13.97	-2.523	0.000	0.560
56.00	-35.83	-33.90	0.00	-3307.4	0.00	3307.45	3631.28	1815.64	6383.12	3196.30	15.05	-2.607	0.000	0.553
58.00	-35.30	-33.71	0.00	-3239.6	0.00	3239.65	3611.48	1805.74	6298.65	3154.01	16.16	-2.691	0.000	0.547
60.00	-34.79	-33.51	0.00	-3172.2	0.00	3172.23	3591.55	1795.77	6214.50	3111.87	17.30	-2.774	0.000	0.541
61.00	-34.53	-33.42	0.00	-3138.7	0.00	3138.71	3581.53	1790.76	6172.55	3090.86	17.89	-2.816	0.000	0.557
62.00	-34.26	-33.34	0.00	-3105.2	0.00	3105.29	3571.48	1785.74	6130.67	3069.89	18.48	-2.859	0.000	0.553
64.00	-33.76	-33.14	0.00	-3038.6	0.00	3038.61	3551.28	1775.64	6047.18	3028.08	19.70	-2.946	0.000	0.547
65.00	-33.50	-33.05	0.00	-3005.4	0.00	3005.47	3541.14	1770.57	6005.55	3007.24	20.32	-2.989	0.000	0.544
66.00	-33.23	-32.96	0.00	-2972.4	0.00	2972.42	3530.96	1765.48	5964.01	2986.44	20.95	-3.032	0.000	0.540
68.00	-32.72	-32.78	0.00	-2906.5	0.00	2906.50	3510.50	1755.25	5881.19	2944.97	22.24	-3.118	0.000	0.534
70.00	-32.22	-32.58	0.00	-2840.9	0.00	2840.95	3489.91	1744.96	5798.71	2903.67	23.56	-3.203	0.000	0.527
72.00	-31.74	-32.37	0.00	-2775.7	0.00	2775.78	3469.20	1734.60	5716.59	2862.54	24.92	-3.289	0.000	0.520

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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

Tower Engineering Solutions

72.25	-31.66	-32.37	0.00	-2767.6	0.00	2767.69	3466.60	1733.30	5706.35	2857.41	25.09	-3.299	0.000	0.527
74.00	-31.22	-32.20	0.00	-2711.0	0.00	2711.05	3448.35	1724.17	5634.82	2821.60	26.32	-3.375	0.000	0.520
76.00	-30.74	-31.99	0.00	-2646.6	0.00	2646.64	3427.37	1713.68	5553.41	2780.83	27.75	-3.461	0.000	0.513
76.83	-30.53	-31.92	0.00	-2620.0	0.00	2620.09	3418.62	1709.31	5519.73	2763.97	28.35	-3.497	0.000	0.684
78.00	-30.22	-31.83	0.00	-2582.7	0.00	2582.74	3406.26	1703.13	5472.37	2740.25	29.22	-3.564	0.000	0.679
80.00	-29.73	-31.64	0.00	-2519.0	0.00	2519.08	3385.02	1692.51	5391.70	2699.86	30.74	-3.679	0.000	0.670
81.00	-29.48	-31.55	0.00	-2487.4	0.00	2487.44	3374.35	1687.17	5351.51	2679.73	31.51	-3.737	0.000	0.666
82.00	-29.22	-31.47	0.00	-2455.8	0.00	2455.89	3363.65	1681.82	5311.41	2659.65	32.30	-3.794	0.000	0.661
84.00	-28.73	-31.29	0.00	-2392.9	0.00	2392.95	3342.15	1671.07	5231.50	2619.64	33.91	-3.908	0.000	0.652
86.00	-28.25	-31.10	0.00	-2330.3	0.00	2330.36	3320.51	1660.26	5151.98	2579.82	35.57	-4.022	0.000	0.643
87.50	-27.90	-30.95	0.00	-2283.7	0.00	2283.71	3304.20	1652.10	5092.60	2550.09	36.85	-4.107	0.000	0.636
88.00	-27.68	-30.92	0.00	-2268.2	0.00	2268.24	3298.75	1649.38	5072.86	2540.20	37.28	-4.136	0.000	0.628
90.00	-26.91	-30.69	0.00	-2206.4	0.00	2206.40	3276.86	1638.43	4994.13	2500.78	39.04	-4.247	0.000	0.619
90.50	-26.70	-30.65	0.00	-2191.0	0.00	2191.06	3271.36	1635.68	4974.52	2490.96	39.48	-4.276	0.000	0.603
91.92	-26.17	-30.48	0.00	-2147.5	0.00	2147.54	3255.72	1627.86	4918.94	2463.13	40.76	-4.353	0.000	0.462
92.00	-26.14	-30.47	0.00	-2145.1	0.00	2145.10	3254.83	1627.42	4915.81	2461.56	40.84	-4.357	0.000	0.462
92.25	-26.03	-30.46	0.00	-2137.4	0.00	2137.48	2609.22	1304.61	4017.17	2011.57	41.07	-4.367	0.000	0.496
94.00	-25.67	-30.29	0.00	-2084.1	0.00	2084.18	2595.40	1297.70	3964.66	1985.28	42.68	-4.441	0.000	0.520
96.00	-25.27	-30.09	0.00	-2023.6	0.00	2023.61	2579.48	1289.74	3904.88	1955.34	44.56	-4.530	0.000	0.510
98.00	-24.87	-29.89	0.00	-1963.4	0.00	1963.44	2563.43	1281.72	3845.34	1925.53	46.47	-4.618	0.000	0.500
100.00	-24.49	-29.68	0.00	-1903.6	0.00	1903.66	2547.26	1273.63	3786.04	1895.83	48.42	-4.705	0.000	0.490
101.00	-24.29	-29.59	0.00	-1873.9	0.00	1873.97	2539.12	1269.56	3756.49	1881.04	49.41	-4.749	0.000	0.485
102.00	-24.08	-29.50	0.00	-1844.3	0.00	1844.39	2530.95	1265.47	3727.00	1866.27	50.41	-4.792	0.000	0.480
104.00	-23.70	-29.29	0.00	-1785.4	0.00	1785.40	2514.51	1257.25	3668.21	1836.83	52.43	-4.878	0.000	0.469
105.50	-23.43	-29.13	0.00	-1741.4	0.00	1741.46	2502.09	1251.04	3624.30	1814.84	53.97	-4.942	0.000	0.470
105.58	-23.41	-29.13	0.00	-1739.1	0.00	1739.13	2501.42	1250.71	3621.96	1813.67	54.06	-4.946	0.000	0.629
106.00	-23.30	-29.11	0.00	-1726.8	0.00	1726.89	2497.93	1248.97	3609.69	1807.53	54.49	-4.970	0.000	0.627
108.00	-22.90	-28.92	0.00	-1668.6	0.00	1668.67	2481.23	1240.62	3551.44	1778.36	56.60	-5.085	0.000	0.613
110.00	-22.51	-28.74	0.00	-1610.8	0.00	1610.83	2464.40	1232.20	3493.46	1749.33	58.75	-5.199	0.000	0.600
112.00	-22.13	-28.55	0.00	-1553.3	0.00	1553.36	2447.44	1223.72	3435.76	1720.43	60.95	-5.311	0.000	0.586
114.00	-21.74	-28.36	0.00	-1496.2	0.00	1496.26	2430.34	1215.17	3378.35	1691.68	63.19	-5.422	0.000	0.572
116.00	-21.36	-28.17	0.00	-1439.5	0.00	1439.54	2413.12	1206.56	3321.22	1663.08	65.48	-5.532	0.000	0.557
118.00	-20.99	-27.98	0.00	-1383.2	0.00	1383.20	2395.76	1197.88	3264.40	1634.62	67.82	-5.640	0.000	0.543
120.00	-20.60	-27.81	0.00	-1327.2	0.00	1327.23	2378.28	1189.14	3207.87	1606.32	70.20	-5.746	0.000	0.835
122.00	-20.20	-27.64	0.00	-1271.6	0.00	1271.62	2360.66	1180.33	3151.65	1578.17	72.64	-5.912	0.000	0.815
124.00	-19.81	-27.47	0.00	-1216.3	0.00	1216.34	2342.92	1171.46	3095.74	1550.17	75.15	-6.076	0.000	0.794
126.00	-19.43	-27.30	0.00	-1161.4	0.00	1161.41	2325.04	1162.52	3040.15	1522.33	77.73	-6.238	0.000	0.772
128.00	-19.04	-27.13	0.00	-1106.8	0.00	1106.81	2307.03	1153.52	2984.88	1494.66	80.37	-6.397	0.000	0.749
130.00	-18.67	-26.95	0.00	-1052.5	0.00	1052.56	2288.89	1144.45	2929.94	1467.15	83.08	-6.553	0.000	0.726
132.00	-18.32	-26.76	0.00	-998.66	0.00	998.66	2270.62	1135.31	2875.33	1439.80	85.85	-6.706	0.000	0.702
132.50	-18.21	-26.73	0.00	-985.28	0.00	985.28	2266.03	1133.02	2861.73	1432.99	86.55	-6.744	0.000	0.696
134.00	-17.80	-26.59	0.00	-945.18	0.00	945.18	2251.56	1125.78	2820.24	1412.21	88.68	-6.856	0.000	0.678
136.00	-17.29	-26.37	0.00	-892.01	0.00	892.01	2227.09	1113.55	2758.97	1381.53	91.58	-7.003	0.000	0.654
136.50	-17.14	-26.33	0.00	-878.83	0.00	878.83	1414.34	707.17	1783.76	893.21	92.32	-7.039	0.000	0.997
138.00	-16.90	-26.21	0.00	-839.34	0.00	839.34	1407.34	703.67	1760.42	881.52	94.54	-7.146	0.000	0.966
140.00	-16.60	-26.05	0.00	-786.91	0.00	786.91	1397.90	698.95	1729.39	865.98	97.57	-7.333	0.000	0.922
142.00	-16.30	-25.89	0.00	-734.81	0.00	734.81	1388.33	694.16	1698.46	850.49	100.67	-7.514	0.000	0.877
144.00	-16.01	-25.73	0.00	-683.02	0.00	683.02	1378.63	689.31	1667.63	835.05	103.85	-7.689	0.000	0.831
146.00	-15.72	-25.56	0.00	-631.56	0.00	631.56	1368.79	684.40	1636.91	819.67	107.09	-7.856	0.000	0.783
148.00	-15.44	-25.40	0.00	-580.44	0.00	580.44	1358.83	679.41	1606.31	804.35	110.41	-8.016	0.000	0.734
150.00	-15.17	-25.23	0.00	-529.64	0.00	529.64	1348.73	674.37	1575.83	789.09	113.79	-8.167	0.000	0.684
152.00	-14.91	-25.06	0.00	-479.18	0.00	479.18	1338.51	669.25	1545.48	773.89	117.23	-8.309	0.000	0.632
154.00	-14.65	-24.89	0.00	-429.06	0.00	429.06	1328.15	664.08	1515.26	758.76	120.73	-8.442	0.000	0.578
156.00	-14.39	-24.71	0.00	-379.29	0.00	379.29	1317.66	658.83	1485.18	743.69	124.28	-8.564	0.000	0.522
158.00	-10.50	-16.66	0.00	-329.86	0.00	329.86	1307.05	653.52	1455.24	728.70	127.88	-8.676	0.000	0.461
160.00	-10.31	-16.48	0.00	-296.55	0.00	296.55	1296.30	648.15	1425.45	713.78	131.52	-8.778	0.000	0.424
162.00	-10.12	-16.30	0.00	-263.58	0.00	263.58	1285.42	642.71	1395.81	698.94	135.21	-8.873	0.000	0.386

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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

Tower Engineering Solutions

164.00	-9.94	-16.13	0.00	-230.98	0.00	230.98	1274.41	637.21	1366.33	684.18	138.93	-8.959	0.000	0.346
166.00	-9.76	-15.95	0.00	-198.73	0.00	198.73	1263.27	631.63	1337.02	669.50	142.69	-9.038	0.000	0.305
168.00	-8.75	-13.31	0.00	-166.83	0.00	166.83	1252.00	626.00	1307.87	654.91	146.47	-9.107	0.000	0.262
168.50	-7.24	-11.76	0.00	-160.18	0.00	160.18	1249.16	624.58	1300.61	651.27	147.42	-9.123	0.000	0.252
170.00	-7.12	-11.63	0.00	-142.53	0.00	142.53	1240.60	620.30	1278.90	640.40	150.28	-9.168	0.000	0.229
172.00	-6.96	-11.45	0.00	-119.27	0.00	119.27	1229.07	614.53	1250.12	625.99	154.12	-9.222	0.000	0.197
174.00	-6.80	-11.27	0.00	-96.37	0.00	96.37	1217.40	608.70	1221.51	611.66	157.98	-9.268	0.000	0.163
176.00	-6.65	-11.10	0.00	-73.82	0.00	73.82	1205.61	602.80	1193.10	597.44	161.85	-9.305	0.000	0.129
177.00	-4.33	-7.26	0.00	-62.72	0.00	62.72	1199.66	599.83	1178.97	590.36	163.79	-9.321	0.000	0.110
178.00	-4.25	-7.18	0.00	-55.46	0.00	55.46	1193.69	596.84	1164.89	583.31	165.74	-9.335	0.000	0.099
178.00	-4.25	-7.18	0.00	-55.46	0.00	55.46	975.84	487.92	954.81	478.11	165.74	-9.335	0.000	0.121
180.00	-4.13	-7.00	0.00	-41.11	0.00	41.11	975.84	487.92	954.81	478.11	169.64	-9.359	0.000	0.090
182.00	-4.01	-6.83	0.00	-27.11	0.00	27.11	975.84	487.92	954.81	478.11	173.55	-9.378	0.000	0.061
184.00	-2.30	-4.51	0.00	-13.45	0.00	13.45	975.84	487.92	954.81	478.11	177.46	-9.389	0.000	0.031
186.00	-2.18	-4.34	0.00	-4.42	0.00	4.42	975.84	487.92	954.81	478.11	181.38	-9.394	0.000	0.012
187.00	-0.04	-0.09	0.00	-0.09	0.00	0.09	975.84	487.92	954.81	478.11	183.34	-9.395	0.000	0.000
188.00	0.00	-0.08	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	185.30	-9.395	0.000	0.000

Wind Loading - Shaft

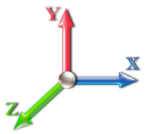
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

TES Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 32

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	RB1	1.00	0.85	19.450	21.40	391.54	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RB2 RB3 RB4	1.00	0.85	19.450	21.40	390.28	0.650	0.000	1.00	4.371	2.84	97.3	0.0	217.8
2.00		1.00	0.85	19.450	21.40	389.03	0.650	0.000	1.00	4.357	2.83	97.0	0.0	217.1
4.00		1.00	0.85	19.450	21.40	386.51	0.650	0.000	2.00	8.672	5.64	193.0	0.0	432.1
6.00		1.00	0.85	19.450	21.40	384.00	0.650	0.000	2.00	8.616	5.60	191.7	0.0	429.3
8.00		1.00	0.85	19.450	21.40	381.49	0.650	0.000	2.00	8.560	5.56	190.5	0.0	426.4
10.00		1.00	0.85	19.450	21.40	378.98	0.650	0.000	2.00	8.503	5.53	189.2	0.0	423.6
12.00		1.00	0.85	19.450	21.40	376.46	0.650	0.000	2.00	8.447	5.49	188.0	0.0	420.8
14.00		1.00	0.85	19.450	21.40	373.95	0.650	0.000	2.00	8.391	5.45	186.7	0.0	418.0
16.00		1.00	0.86	19.690	21.66	373.72	0.650	0.000	2.00	8.335	5.42	187.8	0.0	415.1
18.00		1.00	0.88	20.185	22.20	375.83	0.650	0.000	2.00	8.279	5.38	191.2	0.0	412.3
18.25	RT4	1.00	0.88	20.244	22.27	376.05	0.650	0.000	0.25	1.031	0.67	23.9	0.0	51.3
20.00		1.00	0.90	20.638	22.70	377.43	0.650	0.000	1.75	7.192	4.67	169.8	0.0	358.2
21.00	RT2 RT3 RB5 RB6	1.00	0.91	20.851	22.94	378.07	0.650	0.000	1.00	4.090	2.66	97.6	0.0	203.7
22.00		1.00	0.92	21.056	23.16	378.62	0.650	0.000	1.00	4.076	2.65	98.2	0.0	203.0
24.00		1.00	0.94	21.445	23.59	379.47	0.650	0.000	2.00	8.110	5.27	199.0	0.0	403.9
26.00		1.00	0.95	21.810	23.99	380.02	0.650	0.000	2.00	8.054	5.24	200.9	0.0	401.0
28.00		1.00	0.97	22.152	24.37	380.31	0.650	0.000	2.00	7.998	5.20	202.7	0.0	398.2
28.25	RT5	1.00	0.97	22.194	24.41	380.33	0.650	0.000	0.25	0.996	0.65	25.3	0.0	49.6
30.00		1.00	0.98	22.477	24.72	380.38	0.650	0.000	1.75	6.946	4.51	178.6	0.0	345.8
32.00		1.00	1.00	22.784	25.06	380.25	0.650	0.000	2.00	7.885	5.13	205.5	0.0	392.6
34.00		1.00	1.01	23.077	25.38	379.95	0.650	0.000	2.00	7.829	5.09	206.7	0.0	389.7
36.00		1.00	1.02	23.356	25.69	379.49	0.650	0.000	2.00	7.773	5.05	207.7	0.0	386.9
38.00		1.00	1.03	23.623	25.99	378.89	0.650	0.000	2.00	7.717	5.02	208.5	0.0	384.1
40.00		1.00	1.04	23.880	26.27	378.15	0.650	0.000	2.00	7.661	4.98	209.3	0.0	381.3
41.00	RT6 RB7	1.00	1.05	24.004	26.40	377.74	0.650	0.000	1.00	3.809	2.48	104.6	0.0	189.6
42.00		1.00	1.05	24.126	26.54	377.30	0.650	0.000	1.00	3.795	2.47	104.7	0.0	188.9
43.25	Bot - Section 2	1.00	1.06	24.276	26.70	376.71	0.650	0.000	1.25	4.724	3.07	131.2	0.0	235.1
44.00		1.00	1.06	24.364	26.80	376.34	0.650	0.000	0.75	2.872	1.87	80.0	0.0	263.2
46.00		1.00	1.07	24.593	27.05	375.28	0.650	0.000	2.00	7.619	4.95	214.4	0.0	698.2
47.75	RB8	1.00	1.08	24.787	27.27	374.28	0.650	0.000	1.75	6.620	4.30	187.7	0.0	606.7
48.00		1.00	1.08	24.814	27.30	374.13	0.650	0.000	0.25	0.942	0.61	26.7	0.0	86.3
48.92	RB9	1.00	1.09	24.914	27.41	373.57	0.650	0.000	0.92	3.460	2.25	98.6	0.0	317.0
49.00	Top - Section 1	1.00	1.09	24.922	27.41	373.52	0.650	0.000	0.08	0.300	0.20	8.6	0.0	27.5
50.00		1.00	1.09	25.029	27.53	379.33	0.650	0.000	1.00	3.746	2.44	107.3	0.0	160.0
52.00		1.00	1.10	25.236	27.76	378.03	0.650	0.000	2.00	7.450	4.84	215.1	0.0	318.2
54.00		1.00	1.11	25.437	27.98	376.67	0.650	0.000	2.00	7.394	4.81	215.2	0.0	315.8
56.00		1.00	1.12	25.633	28.20	375.23	0.650	0.000	2.00	7.338	4.77	215.2	0.0	313.4
58.00		1.00	1.13	25.823	28.41	373.72	0.650	0.000	2.00	7.282	4.73	215.1	0.0	310.9
60.00		1.00	1.14	26.008	28.61	372.15	0.650	0.000	2.00	7.226	4.70	215.0	0.0	308.5
61.00	RT7 RB10	1.00	1.14	26.099	28.71	371.34	0.650	0.000	1.00	3.592	2.33	107.2	0.0	153.3
62.00		1.00	1.14	26.188	28.81	370.52	0.650	0.000	1.00	3.578	2.33	107.2	0.0	152.7
64.00		1.00	1.15	26.364	29.00	368.84	0.650	0.000	2.00	7.113	4.62	214.5	0.0	303.7
65.00	RT8 RB11	1.00	1.16	26.450	29.09	367.97	0.650	0.000	1.00	3.535	2.30	107.0	0.0	150.9
66.00		1.00	1.16	26.535	29.19	367.10	0.650	0.000	1.00	3.521	2.29	106.9	0.0	150.3
68.00		1.00	1.17	26.702	29.37	365.31	0.650	0.000	2.00	7.001	4.55	213.9	0.0	298.8
70.00		1.00	1.17	26.866	29.55	363.47	0.650	0.000	2.00	6.945	4.51	213.4	0.0	296.4

Wind Loading - Shaft

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (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

72.00		1.00	1.18	27.026	29.73	361.59	0.650	0.000	2.00	6.888	4.48	213.0	0.0	294.0
72.25	RT11	1.00	1.18	27.045	29.75	361.35	0.650	0.000	0.25	0.857	0.56	26.5	0.0	36.6
74.00		1.00	1.19	27.182	29.90	359.66	0.650	0.000	1.75	5.975	3.88	185.8	0.0	255.0
76.00		1.00	1.19	27.335	30.07	357.70	0.650	0.000	2.00	6.776	4.40	211.9	0.0	289.1
76.83	RT9	1.00	1.20	27.398	30.14	356.87	0.650	0.000	0.83	2.796	1.82	87.6	0.0	119.3
78.00		1.00	1.20	27.485	30.23	355.69	0.650	0.000	1.17	3.924	2.55	123.4	0.0	167.4
80.00		1.00	1.21	27.632	30.39	353.64	0.650	0.000	2.00	6.664	4.33	210.6	0.0	284.3
81.00	RT10 RB12	1.00	1.21	27.704	30.47	352.60	0.650	0.000	1.00	3.311	2.15	104.9	0.0	141.2
82.00		1.00	1.21	27.776	30.55	351.56	0.650	0.000	1.00	3.297	2.14	104.8	0.0	140.6
84.00		1.00	1.22	27.917	30.71	349.44	0.650	0.000	2.00	6.551	4.26	209.2	0.0	279.5
86.00		1.00	1.23	28.056	30.86	347.29	0.650	0.000	2.00	6.495	4.22	208.5	0.0	277.0
87.50	Bot - Section 3	1.00	1.23	28.158	30.97	345.66	0.650	0.000	1.50	4.834	3.14	155.7	0.0	206.2
88.00		1.00	1.23	28.192	31.01	345.11	0.650	0.000	0.50	1.631	1.06	52.6	0.0	126.5
90.00		1.00	1.24	28.325	31.16	342.89	0.650	0.000	2.00	6.488	4.22	210.3	0.0	503.2
90.50	RB13	1.00	1.24	28.359	31.19	342.33	0.650	0.000	0.50	1.613	1.05	52.3	0.0	125.1
91.92	RB14	1.00	1.24	28.452	31.30	340.74	0.650	0.000	1.42	4.563	2.97	148.5	0.0	353.8
92.00		1.00	1.24	28.457	31.30	340.65	0.650	0.000	0.08	0.256	0.17	8.3	0.0	19.9
92.25	Top - Section 2	1.00	1.24	28.473	31.32	340.36	0.650	0.000	0.25	0.800	0.52	26.1	0.0	62.0
94.00		1.00	1.25	28.586	31.44	344.11	0.650	0.000	1.75	5.576	3.62	182.3	0.0	198.5
96.00		1.00	1.25	28.713	31.58	341.82	0.650	0.000	2.00	6.320	4.11	207.6	0.0	225.0
98.00		1.00	1.26	28.838	31.72	339.50	0.650	0.000	2.00	6.264	4.07	206.6	0.0	222.9
100.00		1.00	1.27	28.961	31.86	337.16	0.650	0.000	2.00	6.207	4.03	205.7	0.0	220.9
101.00	RT12 RB15	1.00	1.27	29.021	31.92	335.97	0.650	0.000	1.00	3.083	2.00	102.3	0.0	109.7
102.00		1.00	1.27	29.082	31.99	334.79	0.650	0.000	1.00	3.069	1.99	102.1	0.0	109.2
104.00		1.00	1.28	29.201	32.12	332.39	0.650	0.000	2.00	6.095	3.96	203.6	0.0	216.9
105.50	RT13	1.00	1.28	29.289	32.22	330.58	0.650	0.000	1.50	4.534	2.95	151.9	0.0	161.3
105.58	RT14	1.00	1.28	29.294	32.22	330.49	0.650	0.000	0.08	0.241	0.16	8.1	0.0	8.6
106.00		1.00	1.28	29.318	32.25	329.98	0.650	0.000	0.42	1.263	0.82	42.4	0.0	45.0
108.00		1.00	1.29	29.434	32.38	327.53	0.650	0.000	2.00	5.983	3.89	201.4	0.0	212.9
110.00		1.00	1.29	29.548	32.50	325.07	0.650	0.000	2.00	5.926	3.85	200.3	0.0	210.8
112.00		1.00	1.30	29.660	32.63	322.58	0.650	0.000	2.00	5.870	3.82	199.2	0.0	208.8
114.00		1.00	1.30	29.771	32.75	320.08	0.650	0.000	2.00	5.814	3.78	198.0	0.0	206.8
116.00		1.00	1.31	29.880	32.87	317.55	0.650	0.000	2.00	5.758	3.74	196.8	0.0	204.8
118.00	RT15	1.00	1.31	29.988	32.99	315.00	0.650	0.000	2.00	5.702	3.71	195.6	0.0	202.8
120.00		1.00	1.32	30.094	33.10	312.43	0.650	0.000	2.00	5.645	3.67	194.4	0.0	200.8
122.00		1.00	1.32	30.199	33.22	309.85	0.650	0.000	2.00	5.589	3.63	193.1	0.0	198.7
124.00		1.00	1.32	30.302	33.33	307.24	0.650	0.000	2.00	5.533	3.60	191.8	0.0	196.7
126.00		1.00	1.33	30.405	33.45	304.62	0.650	0.000	2.00	5.477	3.56	190.5	0.0	194.7
128.00		1.00	1.33	30.506	33.56	301.98	0.650	0.000	2.00	5.421	3.52	189.2	0.0	192.7
130.00		1.00	1.34	30.605	33.67	299.32	0.650	0.000	2.00	5.364	3.49	187.8	0.0	190.7
132.00		1.00	1.34	30.704	33.77	296.64	0.650	0.000	2.00	5.308	3.45	186.5	0.0	188.6
132.50	Bot - Section 4	1.00	1.34	30.728	33.80	295.97	0.650	0.000	0.50	1.318	0.86	46.3	0.0	46.8
134.00		1.00	1.35	30.801	33.88	293.95	0.650	0.000	1.50	3.989	2.59	140.6	0.0	239.4
136.00		1.00	1.35	30.898	33.99	291.24	0.650	0.000	2.00	5.270	3.43	186.3	0.0	316.1
136.50	Top - Section 3	1.00	1.35	30.921	34.01	290.56	0.650	0.000	0.50	1.309	0.85	46.3	0.0	78.5
138.00		1.00	1.35	30.993	34.09	292.70	0.650	0.000	1.50	3.905	2.54	138.5	0.0	97.4
140.00		1.00	1.36	31.087	34.20	289.96	0.650	0.000	2.00	5.158	3.35	183.4	0.0	128.7
142.00		1.00	1.36	31.180	34.30	287.22	0.650	0.000	2.00	5.101	3.32	182.0	0.0	127.3
144.00		1.00	1.37	31.272	34.40	284.45	0.650	0.000	2.00	5.045	3.28	180.5	0.0	125.9
146.00		1.00	1.37	31.362	34.50	281.68	0.650	0.000	2.00	4.989	3.24	179.0	0.0	124.5
148.00		1.00	1.37	31.452	34.60	278.88	0.650	0.000	2.00	4.933	3.21	177.5	0.0	123.0
150.00		1.00	1.38	31.541	34.70	276.08	0.650	0.000	2.00	4.877	3.17	176.0	0.0	121.6
152.00		1.00	1.38	31.630	34.79	273.26	0.650	0.000	2.00	4.820	3.13	174.4	0.0	120.2
154.00		1.00	1.39	31.717	34.89	270.43	0.650	0.000	2.00	4.764	3.10	172.9	0.0	118.8
156.00		1.00	1.39	31.803	34.98	267.58	0.650	0.000	2.00	4.708	3.06	171.3	0.0	117.4
158.00	Appurtenance(s)	1.00	1.39	31.888	35.08	264.72	0.650	0.000	2.00	4.652	3.02	169.7	0.0	116.0
160.00		1.00	1.40	31.973	35.17	261.85	0.650	0.000	2.00	4.596	2.99	168.1	0.0	114.6

Wind Loading - Shaft

Structure: CT46124-A-SBA
Site Name: Enfield-Moody Rd.
Height: 188.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1
Code: TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II
2/17/2022

162.00		1.00	1.40	32.057	35.26	258.97	0.650	0.000	2.00	4.539	2.95	166.5	0.0	113.2
164.00		1.00	1.40	32.140	35.35	256.07	0.650	0.000	2.00	4.483	2.91	164.8	0.0	111.7
166.00		1.00	1.41	32.222	35.44	253.17	0.650	0.000	2.00	4.427	2.88	163.2	0.0	110.3
168.00	Appurtenance(s)	1.00	1.41	32.303	35.53	250.25	0.650	0.000	2.00	4.371	2.84	161.5	0.0	108.9
168.50	Appurtenance(s)	1.00	1.41	32.323	35.56	249.52	0.650	0.000	0.50	1.084	0.70	40.1	0.0	27.0
170.00		1.00	1.42	32.384	35.62	247.32	0.650	0.000	1.50	3.231	2.10	119.7	0.0	80.5
172.00		1.00	1.42	32.463	35.71	244.37	0.650	0.000	2.00	4.258	2.77	158.1	0.0	106.1
174.00		1.00	1.42	32.543	35.80	241.42	0.650	0.000	2.00	4.202	2.73	156.4	0.0	104.7
176.00		1.00	1.43	32.621	35.88	238.46	0.650	0.000	2.00	4.146	2.69	154.7	0.0	103.3
177.00	Appurtenance(s)	1.00	1.43	32.660	35.93	236.97	0.650	0.000	1.00	2.052	1.33	76.7	0.0	51.1
178.00	Top - Section 4	1.00	1.43	32.699	35.97	235.48	0.650	0.000	1.00	2.038	1.32	76.2	0.0	50.8
180.00		1.00	1.43	32.776	36.05	235.76	0.650	0.000	2.00	4.062	2.64	152.3	0.0	86.8
182.00		1.00	1.44	32.852	36.14	236.04	0.650	0.000	2.00	4.062	2.64	152.6	0.0	86.8
184.00	Appurtenance(s)	1.00	1.44	32.928	36.22	236.31	0.650	0.000	2.00	4.062	2.64	153.0	0.0	86.8
186.00		1.00	1.44	33.003	36.30	236.58	0.650	0.000	2.00	4.062	2.64	153.4	0.0	86.8
187.00	Appurtenance(s)	1.00	1.44	33.040	36.34	236.71	0.650	0.000	1.00	2.031	1.32	76.8	0.0	43.4
188.00		1.00	1.45	33.077	36.38	236.84	0.650	0.000	1.00	2.031	1.32	76.8	0.0	43.4
								Totals:	**188.00**			**18,128.1**		**25,333.6**

Discrete Appurtenance Forces

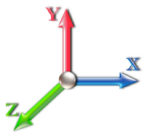
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 32

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	187.00	Collar Mount (3-Sided)	1	33.040	36.344	1.00	1.00	2.10	198.00	0.000	0.000	122.12	0.00	0.00
2	187.00	AIR6449 B41	3	33.040	36.344	0.53	0.75	9.03	278.10	0.000	0.000	524.86	0.00	0.00
3	187.00	RRUS 4415 B25	3	33.040	36.344	0.38	0.75	1.84	124.20	0.000	0.000	107.29	0.00	0.00
4	187.00	PRK-1245 (kicker kit)	1	33.040	36.344	0.75	0.75	5.63	418.42	0.000	0.000	327.10	0.00	0.00
5	187.00	RFS	3	33.040	36.344	0.52	0.75	28.73	345.60	0.000	0.000	1670.54	0.00	0.00
6	187.00	Kathrein 782 11054-Smart	3	33.040	36.344	0.38	0.75	0.25	4.86	0.000	0.000	14.39	0.00	0.00
7	187.00	Ericsson KRY 112 114-1	12	33.040	36.344	0.38	0.75	1.84	118.80	0.000	0.000	107.29	0.00	0.00
8	187.00	Ericsson	3	33.040	36.344	0.65	0.75	12.60	356.94	0.000	0.000	732.51	0.00	0.00
9	187.00	Ericsson Radio 4449 B71	3	33.040	36.344	0.38	0.75	2.81	199.80	0.000	0.000	163.55	0.00	0.00
10	184.00	Platform w/ Hand Rail	1	32.928	36.220	1.00	1.00	32.00	1440.00	0.000	0.000	1854.49	0.00	0.00
11	177.00	TA08025-B604	3	32.660	35.926	0.38	0.75	2.21	172.53	0.000	0.000	126.75	0.00	0.00
12	177.00	MX08FRO665-21	3	32.660	35.926	0.55	0.75	20.80	174.15	0.000	0.000	1195.38	0.00	0.00
13	177.00	RDIDC-9181-OF-48	1	32.660	35.926	0.38	0.75	0.75	19.71	0.000	0.000	43.33	0.00	0.00
14	177.00	TA08025-B605	3	32.660	35.926	0.38	0.75	2.21	202.50	0.000	0.000	126.75	0.00	0.00
15	177.00	MC-PK8-DSH	1	32.660	35.926	1.00	1.00	32.00	1554.30	0.000	0.000	1839.41	0.00	0.00
16	168.50	Low Profile Platform	1	32.323	35.556	1.00	1.00	22.00	1260.00	0.000	0.000	1251.56	0.00	0.00
17	168.00	APXV9ERR18-C-A20	1	32.303	35.533	0.65	0.80	5.20	55.80	0.000	0.000	295.46	0.00	0.00
18	168.00	ACU-A20-N	4	32.303	35.533	0.40	0.80	0.22	3.60	0.000	0.000	12.74	0.00	0.00
19	168.00	TD-RRH8x20-25	3	32.303	35.533	0.40	0.80	3.66	189.00	0.000	0.000	208.08	0.00	0.00
20	168.00	800 MHz RRH	3	32.303	35.533	0.40	0.80	3.00	145.80	0.000	0.000	170.56	0.00	0.00
21	168.00	1900 MHz RRH	3	32.303	35.533	0.40	0.80	3.00	118.80	0.000	0.000	170.56	0.00	0.00
22	168.00	APXVTM14-C-120	3	32.303	35.533	0.62	0.80	11.87	151.20	0.000	0.000	674.76	0.00	0.00
23	168.00	800 MHz Filters	3	32.303	35.533	0.40	0.80	3.00	145.80	0.000	0.000	170.56	0.00	0.00
24	168.00	APXVSPP18-C-A20	2	32.303	35.533	0.65	0.80	10.39	102.60	0.000	0.000	590.93	0.00	0.00
25	158.00	Kathrein 860-10025 RET	6	31.888	35.077	0.38	0.75	0.36	6.26	0.000	0.000	20.20	0.00	0.00
26	158.00	HPA-65R-BUU-H8	3	31.888	35.077	0.58	0.75	22.78	183.60	0.000	0.000	1278.49	0.00	0.00
27	158.00	Ericsson RRUS-A2 RRU	3	31.888	35.077	0.38	0.75	2.09	56.97	0.000	0.000	117.44	0.00	0.00
28	158.00	800 10121	3	31.888	35.077	0.58	0.75	9.04	119.07	0.000	0.000	507.26	0.00	0.00
29	158.00	Raycap DC6-48-60-18-8F	2	31.888	35.077	0.38	0.75	1.10	57.24	0.000	0.000	61.88	0.00	0.00
30	158.00	Powerwave LGP21401	6	31.888	35.077	0.38	0.75	2.83	94.50	0.000	0.000	159.11	0.00	0.00
31	158.00	Ericsson 8843 B2 B66A	3	31.888	35.077	0.38	0.75	1.84	194.40	0.000	0.000	103.55	0.00	0.00
32	158.00	800 10966	6	31.888	35.077	0.53	0.75	45.72	618.84	0.000	0.000	2565.99	0.00	0.00
33	158.00	Ericsson RRUS 4415 B25	3	31.888	35.077	0.38	0.75	1.84	124.20	0.000	0.000	103.55	0.00	0.00
34	158.00	Ericsson 4449 B5 B12	3	31.888	35.077	0.38	0.75	1.86	197.10	0.000	0.000	104.18	0.00	0.00
35	158.00	Raycap DC6-48-60-0-8C	1	31.888	35.077	0.38	0.75	1.42	23.58	0.000	0.000	79.56	0.00	0.00
36	158.00	Plateform Mount	1	31.888	35.077	1.00	1.00	38.00	1922.93	0.000	0.000	2132.69	0.00	0.00
							Totals:		**11,379.20**			**19,734.83**		

Total Applied Force Summary

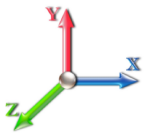
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

TES Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 32

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
1.00		97.26	245.27	0.00	0.00
2.00		96.95	244.57	0.00	0.00
4.00		192.96	487.02	0.00	0.00
6.00		191.71	484.19	0.00	0.00
8.00		190.46	481.37	0.00	0.00
10.00		189.21	478.54	0.00	0.00
12.00		187.96	475.72	0.00	0.00
14.00		186.71	472.90	0.00	0.00
16.00		187.75	470.07	0.00	0.00
18.00		191.17	467.25	0.00	0.00
18.25		23.87	58.21	0.00	0.00
20.00		169.79	406.22	0.00	0.00
21.00		97.56	231.15	0.00	0.00
22.00		98.19	230.45	0.00	0.00
24.00		198.97	458.78	0.00	0.00
26.00		200.95	455.95	0.00	0.00
28.00		202.68	453.13	0.00	0.00
28.25		25.28	56.44	0.00	0.00
30.00		178.60	393.86	0.00	0.00
32.00		205.53	447.48	0.00	0.00
34.00		206.69	444.65	0.00	0.00
36.00		207.69	441.83	0.00	0.00
38.00		208.55	439.01	0.00	0.00
40.00		209.28	436.18	0.00	0.00
41.00		104.60	217.03	0.00	0.00
42.00		104.75	216.33	0.00	0.00
43.25		131.20	269.41	0.00	0.00
44.00		80.04	283.79	0.00	0.00
46.00		214.35	753.16	0.00	0.00
47.75		187.73	654.72	0.00	0.00
48.00		26.75	93.20	0.00	0.00
48.92		98.61	342.28	0.00	0.00
49.00		8.56	29.71	0.00	0.00
50.00		107.26	187.47	0.00	0.00
52.00		215.09	373.12	0.00	0.00
54.00		215.17	370.70	0.00	0.00
56.00		215.18	368.27	0.00	0.00
58.00		215.11	365.85	0.00	0.00
60.00		214.98	363.43	0.00	0.00
61.00		107.24	180.81	0.00	0.00
62.00		107.18	180.20	0.00	0.00
64.00		214.53	358.59	0.00	0.00
65.00		106.98	178.39	0.00	0.00
66.00		106.90	177.78	0.00	0.00
68.00		213.85	353.75	0.00	0.00
70.00		213.44	351.33	0.00	0.00

Total Applied Force Summary

Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (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

72.00		212.97	348.91	0.00	0.00
72.25		26.52	43.44	0.00	0.00
74.00		185.80	303.05	0.00	0.00
76.00		211.89	344.07	0.00	0.00
76.83		87.62	142.08	0.00	0.00
78.00		123.39	199.57	0.00	0.00
80.00		210.64	339.23	0.00	0.00
81.00		104.93	168.71	0.00	0.00
82.00		104.75	168.10	0.00	0.00
84.00		209.23	334.39	0.00	0.00
86.00		208.46	331.96	0.00	0.00
87.50		155.73	247.38	0.00	0.00
88.00		52.60	140.23	0.00	0.00
90.00		210.25	558.13	0.00	0.00
90.50		52.34	138.84	0.00	0.00
91.92		148.51	392.79	0.00	0.00
92.00		8.34	22.06	0.00	0.00
92.25		26.06	68.90	0.00	0.00
94.00		182.34	246.55	0.00	0.00
96.00		207.59	279.88	0.00	0.00
98.00		206.64	277.86	0.00	0.00
100.00		205.66	275.85	0.00	0.00
101.00		102.34	137.17	0.00	0.00
102.00		102.09	136.66	0.00	0.00
104.00		203.61	271.81	0.00	0.00
105.50		151.93	202.54	0.00	0.00
105.58		8.07	10.77	0.00	0.00
106.00		42.38	56.49	0.00	0.00
108.00		201.45	267.78	0.00	0.00
110.00		200.33	265.76	0.00	0.00
112.00		199.18	263.74	0.00	0.00
114.00		198.01	261.73	0.00	0.00
116.00		196.82	259.71	0.00	0.00
118.00		195.60	257.69	0.00	0.00
120.00		194.36	255.67	0.00	0.00
122.00		193.09	253.66	0.00	0.00
124.00		191.81	251.64	0.00	0.00
126.00		190.50	249.62	0.00	0.00
128.00		189.17	247.61	0.00	0.00
130.00		187.82	245.59	0.00	0.00
132.00		186.45	243.57	0.00	0.00
132.50		46.34	60.58	0.00	0.00
134.00		140.57	280.54	0.00	0.00
136.00		186.27	371.06	0.00	0.00
136.50		46.29	92.23	0.00	0.00
138.00		138.45	138.64	0.00	0.00
140.00		183.42	183.62	0.00	0.00
142.00		181.96	182.21	0.00	0.00
144.00		180.49	180.79	0.00	0.00
146.00		179.00	179.38	0.00	0.00
148.00		177.49	177.97	0.00	0.00
150.00		175.96	176.56	0.00	0.00
152.00		174.42	175.14	0.00	0.00
154.00		172.86	173.73	0.00	0.00
156.00		171.29	172.32	0.00	0.00
158.00	(40) attachments	7403.59	3769.60	0.00	0.00
160.00		168.09	145.12	0.00	0.00

Total Applied Force Summary

Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (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

Tower Engineering Solutions

162.00		166.47	143.71	0.00	0.00
164.00		164.84	142.30	0.00	0.00
166.00		163.19	140.88	0.00	0.00
168.00	(22) attachments	2455.18	1052.07	0.00	0.00
168.50	(1) attachments	1291.64	1293.65	0.00	0.00
170.00		119.69	100.42	0.00	0.00
172.00		158.15	132.65	0.00	0.00
174.00		156.44	131.24	0.00	0.00
176.00		154.72	129.83	0.00	0.00
177.00	(11) attachments	3408.27	2187.57	0.00	0.00
178.00		76.23	62.24	0.00	0.00
180.00		152.30	109.77	0.00	0.00
182.00		152.65	109.77	0.00	0.00
184.00	(1) attachments	2007.49	1549.77	0.00	0.00
186.00		153.35	109.77	0.00	0.00
187.00	(32) attachments	3846.40	2099.60	0.00	0.00
188.00		76.85	43.40	0.00	0.00
	Totals:	**37,862.89**	**41,438.86**	**0.00**	**0.00**

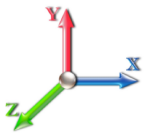
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.024	0.000	19.450	0.00	0.00
2.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.024	0.000	19.450	0.00	0.00
4.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	19.450	0.00	0.00
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	19.450	0.00	0.00
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	19.450	0.00	0.00
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	19.450	0.00	0.00
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	19.450	0.00	0.00
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	19.450	0.00	0.00
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	19.690	0.00	0.00
18.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	20.185	0.00	0.00
18.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.025	0.000	20.244	0.00	0.00
20.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.025	0.000	20.638	0.00	0.00
21.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.025	0.000	20.851	0.00	0.00
22.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.026	0.000	21.056	0.00	0.00
24.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	21.445	0.00	0.00
26.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	21.810	0.00	0.00
28.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	22.152	0.00	0.00
28.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.026	0.000	22.194	0.00	0.00
30.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.026	0.000	22.477	0.00	0.00
32.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	22.784	0.00	0.00
34.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.027	0.000	23.077	0.00	0.00
36.00	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.020	0.000	23.356	0.00	0.00
47.75	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.020	0.000	24.787	0.00	0.00
48.00	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.028	0.000	24.814	0.00	0.00
48.92	1.25" Reinforcing	Yes	0.92	0.000	1.25	0.10	0.00	0.028	0.000	24.914	0.00	0.00
49.00	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.028	0.000	24.922	0.00	0.00
50.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.028	0.000	25.029	0.00	0.00
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	25.236	0.00	0.00
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	25.437	0.00	0.00
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	25.633	0.00	0.00
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	25.823	0.00	0.00
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	26.008	0.00	0.00
61.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	26.099	0.00	0.00
62.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	26.188	0.00	0.00
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	26.364	0.00	0.00
65.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	26.450	0.00	0.00
66.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.030	0.000	26.535	0.00	0.00
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	26.702	0.00	0.00
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	26.866	0.00	0.00
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	27.026	0.00	0.00
72.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.030	0.000	27.045	0.00	0.00
74.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.031	0.000	27.182	0.00	0.00
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	27.335	0.00	0.00
76.83	1.25" Reinforcing	Yes	0.83	0.000	1.25	0.09	0.00	0.031	0.000	27.398	0.00	0.00
78.00	1.25" Reinforcing	Yes	1.17	0.000	1.25	0.12	0.00	0.031	0.000	27.485	0.00	0.00
80.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.020	0.000	27.632	0.00	0.00
90.50	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.016	0.000	28.359	0.00	0.00

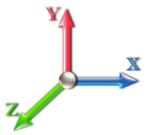
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
91.92	1.25" Reinforcing	Yes	1.42	0.000	1.25	0.15	0.00	0.033	0.000	28.452	0.00	0.00
92.00	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.033	0.000	28.457	0.00	0.00
92.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.033	0.000	28.473	0.00	0.00
94.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.033	0.000	28.586	0.00	0.00
96.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	28.713	0.00	0.00
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	28.838	0.00	0.00
100.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	28.961	0.00	0.00
101.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.034	0.000	29.021	0.00	0.00
102.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.034	0.000	29.082	0.00	0.00
104.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	29.201	0.00	0.00
105.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.034	0.000	29.289	0.00	0.00
105.58	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.035	0.000	29.294	0.00	0.00
106.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.035	0.000	29.318	0.00	0.00
108.00	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.035	0.000	29.434	0.00	0.00
108.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.035	0.000	29.434	0.00	0.00
110.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	29.548	0.00	0.00
112.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	29.660	0.00	0.00
114.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.036	0.000	29.771	0.00	0.00
116.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.036	0.000	29.880	0.00	0.00
118.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.037	0.000	29.988	0.00	0.00
120.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.037	0.000	30.094	0.00	0.00
122.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.023	0.000	30.199	0.00	0.00
										Totals:	**0.0**	**0.0**

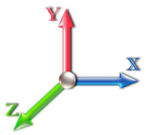
Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 32

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	-41.42	-37.88	0.00	-5246.8	0.00	5246.83	5035.03	2517.52	10606.9	5311.37	0.00	0.000	0.000	0.900
1.00	-41.14	-37.82	0.00	-5208.9	0.00	5208.95	5023.77	2511.88	10548.7	5282.19	0.01	-0.057	0.000	0.658
2.00	-40.86	-37.77	0.00	-5171.1	0.00	5171.13	5012.47	2506.24	10490.5	5253.05	0.02	-0.098	0.000	0.656
4.00	-40.31	-37.63	0.00	-5095.5	0.00	5095.59	4989.78	2494.89	10374.4	5194.91	0.08	-0.182	0.000	0.652
6.00	-39.78	-37.50	0.00	-5020.3	0.00	5020.32	4966.95	2483.48	10258.6	5136.95	0.18	-0.265	0.000	0.648
8.00	-39.24	-37.36	0.00	-4945.3	0.00	4945.33	4944.00	2472.00	10143.2	5079.17	0.31	-0.348	0.000	0.645
10.00	-38.71	-37.23	0.00	-4870.6	0.00	4870.61	4920.91	2460.46	10028.2	5021.57	0.47	-0.432	0.000	0.641
12.00	-38.18	-37.09	0.00	-4796.1	0.00	4796.16	4897.70	2448.85	9913.58	4964.16	0.67	-0.516	0.000	0.636
14.00	-37.66	-36.95	0.00	-4721.9	0.00	4721.98	4874.35	2437.18	9799.30	4906.94	0.90	-0.600	0.000	0.632
16.00	-37.13	-36.82	0.00	-4648.0	0.00	4648.07	4850.88	2425.44	9685.41	4849.90	1.17	-0.685	0.000	0.628
18.00	-36.64	-36.65	0.00	-4574.4	0.00	4574.44	4827.27	2413.63	9571.89	4793.06	1.48	-0.769	0.000	0.624
18.25	-36.55	-36.65	0.00	-4565.2	0.00	4565.27	4824.31	2412.15	9557.73	4785.97	1.52	-0.780	0.000	0.657
20.00	-36.11	-36.52	0.00	-4501.1	0.00	4501.13	4803.53	2401.76	9458.77	4736.42	1.82	-0.858	0.000	0.653
21.00	-35.85	-36.44	0.00	-4464.6	0.00	4464.62	4791.61	2395.81	9402.36	4708.17	2.00	-0.903	0.000	0.651
22.00	-35.58	-36.38	0.00	-4428.1	0.00	4428.17	4779.66	2389.83	9346.05	4679.97	2.20	-0.948	0.000	0.649
24.00	-35.07	-36.23	0.00	-4355.4	0.00	4355.41	4755.66	2377.83	9233.73	4623.73	2.61	-1.037	0.000	0.645
26.00	-34.56	-36.08	0.00	-4282.9	0.00	4282.95	4731.53	2365.77	9121.82	4567.69	3.07	-1.127	0.000	0.640
28.00	-34.08	-35.89	0.00	-4210.7	0.00	4210.79	4707.27	2353.63	9010.32	4511.86	3.56	-1.217	0.000	0.636
28.25	-33.99	-35.90	0.00	-4201.8	0.00	4201.82	4704.23	2352.11	8996.42	4504.89	3.62	-1.228	0.000	0.704
30.00	-33.54	-35.76	0.00	-4139.0	0.00	4139.00	4682.88	2341.44	8899.25	4456.24	4.09	-1.316	0.000	0.700
32.00	-33.04	-35.61	0.00	-4067.4	0.00	4067.47	4658.36	2329.18	8788.59	4400.83	4.66	-1.416	0.000	0.695
34.00	-32.54	-35.45	0.00	-3996.2	0.00	3996.26	4633.70	2316.85	8678.37	4345.63	5.28	-1.516	0.000	0.690
36.00	-32.04	-35.28	0.00	-3925.3	0.00	3925.37	4608.92	2304.46	8568.58	4290.66	5.94	-1.617	0.000	0.686
38.00	-31.55	-35.12	0.00	-3854.8	0.00	3854.81	4584.01	2292.00	8459.23	4235.90	6.63	-1.718	0.000	0.680
40.00	-31.07	-34.94	0.00	-3784.5	0.00	3784.57	4558.96	2279.48	8350.33	4181.37	7.38	-1.819	0.000	0.675
41.00	-30.83	-34.85	0.00	-3749.6	0.00	3749.64	4546.39	2273.19	8296.04	4154.19	7.76	-1.870	0.000	0.673
42.00	-30.58	-34.77	0.00	-3714.7	0.00	3714.79	4533.79	2266.89	8241.87	4127.06	8.16	-1.920	0.000	0.670
43.25	-30.28	-34.66	0.00	-3671.3	0.00	3671.33	4517.98	2258.99	8174.32	4093.24	8.67	-1.984	0.000	0.667
44.00	-29.96	-34.60	0.00	-3645.3	0.00	3645.33	4508.48	2254.24	8133.88	4072.99	8.99	-2.022	0.000	0.659
46.00	-29.16	-34.41	0.00	-3576.1	0.00	3576.13	4483.04	2241.52	8026.35	4019.14	9.85	-2.123	0.000	0.654
47.75	-28.48	-34.22	0.00	-3515.9	0.00	3515.91	4460.68	2230.34	7932.64	3972.22	10.65	-2.211	0.000	0.638
48.00	-28.37	-34.21	0.00	-3507.3	0.00	3507.36	4457.48	2228.74	7919.28	3965.53	10.76	-2.223	0.000	0.637
48.92	-28.02	-34.11	0.00	-3475.8	0.00	3475.89	4445.67	2222.84	7870.19	3940.94	11.20	-2.269	0.000	0.499
49.00	-27.98	-34.11	0.00	-3473.1	0.00	3473.16	3699.57	1849.78	6681.20	3345.56	11.24	-2.272	0.000	0.532
50.00	-27.76	-34.02	0.00	-3439.0	0.00	3439.05	3689.91	1844.95	6638.39	3324.13	11.72	-2.311	0.000	0.559
52.00	-27.35	-33.83	0.00	-3371.0	0.00	3371.01	3670.50	1835.25	6553.00	3281.37	12.70	-2.394	0.000	0.553
54.00	-26.94	-33.64	0.00	-3303.3	0.00	3303.35	3650.96	1825.48	6467.90	3238.76	13.72	-2.476	0.000	0.546
56.00	-26.53	-33.44	0.00	-3236.0	0.00	3236.08	3631.28	1815.64	6383.12	3196.30	14.78	-2.557	0.000	0.540
58.00	-26.13	-33.25	0.00	-3169.1	0.00	3169.19	3611.48	1805.74	6298.65	3154.01	15.86	-2.639	0.000	0.534
60.00	-25.74	-33.05	0.00	-3102.6	0.00	3102.69	3591.55	1795.77	6214.50	3111.87	16.99	-2.721	0.000	0.528
61.00	-25.54	-32.95	0.00	-3069.6	0.00	3069.64	3581.53	1790.76	6172.55	3090.86	17.56	-2.762	0.000	0.543
62.00	-25.33	-32.86	0.00	-3036.6	0.00	3036.69	3571.48	1785.74	6130.67	3069.89	18.14	-2.804	0.000	0.540
64.00	-24.94	-32.66	0.00	-2970.9	0.00	2970.97	3551.28	1775.64	6047.18	3028.08	19.34	-2.888	0.000	0.534
65.00	-24.75	-32.56	0.00	-2938.3	0.00	2938.31	3541.14	1770.57	6005.55	3007.24	19.95	-2.931	0.000	0.530
66.00	-24.54	-32.47	0.00	-2905.7	0.00	2905.75	3530.96	1765.48	5964.01	2986.44	20.56	-2.973	0.000	0.527
68.00	-24.15	-32.27	0.00	-2840.8	0.00	2840.81	3510.50	1755.25	5881.19	2944.97	21.83	-3.057	0.000	0.520
70.00	-23.76	-32.08	0.00	-2776.2	0.00	2776.27	3489.91	1744.96	5798.71	2903.67	23.13	-3.140	0.000	0.514
72.00	-23.40	-31.86	0.00	-2712.1	0.00	2712.11	3469.20	1734.60	5716.59	2862.54	24.46	-3.224	0.000	0.507

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

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72.25	-23.34	-31.85	0.00	-2704.1	0.00	2704.15	3466.60	1733.30	5706.35	2857.41	24.63	-3.234	0.000	0.513
74.00	-23.00	-31.68	0.00	-2648.4	0.00	2648.41	3448.35	1724.17	5634.82	2821.60	25.83	-3.308	0.000	0.507
76.00	-22.64	-31.47	0.00	-2585.0	0.00	2585.05	3427.37	1713.68	5553.41	2780.83	27.23	-3.392	0.000	0.500
76.83	-22.47	-31.40	0.00	-2558.9	0.00	2558.93	3418.62	1709.31	5519.73	2763.97	27.82	-3.427	0.000	0.666
78.00	-22.23	-31.30	0.00	-2522.1	0.00	2522.19	3406.26	1703.13	5472.37	2740.25	28.67	-3.493	0.000	0.661
80.00	-21.86	-31.10	0.00	-2459.6	0.00	2459.60	3385.02	1692.51	5391.70	2699.86	30.16	-3.605	0.000	0.653
81.00	-21.67	-31.00	0.00	-2428.5	0.00	2428.50	3374.35	1687.17	5351.51	2679.73	30.92	-3.661	0.000	0.649
82.00	-21.46	-30.92	0.00	-2397.5	0.00	2397.50	3363.65	1681.82	5311.41	2659.65	31.69	-3.717	0.000	0.644
84.00	-21.08	-30.73	0.00	-2335.6	0.00	2335.67	3342.15	1671.07	5231.50	2619.64	33.27	-3.829	0.000	0.635
86.00	-20.71	-30.53	0.00	-2274.2	0.00	2274.21	3320.51	1660.26	5151.98	2579.82	34.90	-3.940	0.000	0.626
87.50	-20.45	-30.38	0.00	-2228.4	0.00	2228.41	3304.20	1652.10	5092.60	2550.09	36.15	-4.023	0.000	0.620
88.00	-20.28	-30.34	0.00	-2213.2	0.00	2213.22	3298.75	1649.38	5072.86	2540.20	36.57	-4.051	0.000	0.612
90.00	-19.70	-30.12	0.00	-2152.5	0.00	2152.53	3276.86	1638.43	4994.13	2500.78	38.29	-4.160	0.000	0.602
90.50	-19.54	-30.07	0.00	-2137.4	0.00	2137.48	3271.36	1635.68	4974.52	2490.96	38.73	-4.187	0.000	0.587
91.92	-19.14	-29.91	0.00	-2094.7	0.00	2094.78	3255.72	1627.86	4918.94	2463.13	39.98	-4.263	0.000	0.450
92.00	-19.11	-29.90	0.00	-2092.3	0.00	2092.38	3254.83	1627.42	4915.81	2461.56	40.05	-4.266	0.000	0.449
92.25	-19.02	-29.88	0.00	-2084.9	0.00	2084.91	2609.22	1304.61	4017.17	2011.57	40.28	-4.277	0.000	0.482
94.00	-18.75	-29.71	0.00	-2032.6	0.00	2032.61	2595.40	1297.70	3964.66	1985.28	41.86	-4.349	0.000	0.506
96.00	-18.44	-29.51	0.00	-1973.2	0.00	1973.20	2579.48	1289.74	3904.88	1955.34	43.69	-4.435	0.000	0.496
98.00	-18.14	-29.31	0.00	-1914.1	0.00	1914.18	2563.43	1281.72	3845.34	1925.53	45.57	-4.521	0.000	0.486
100.00	-17.85	-29.10	0.00	-1855.5	0.00	1855.57	2547.26	1273.63	3786.04	1895.83	47.48	-4.606	0.000	0.476
101.00	-17.70	-29.00	0.00	-1826.4	0.00	1826.47	2539.12	1269.56	3756.49	1881.04	48.45	-4.649	0.000	0.471
102.00	-17.54	-28.91	0.00	-1797.4	0.00	1797.47	2530.95	1265.47	3727.00	1866.27	49.43	-4.691	0.000	0.466
104.00	-17.25	-28.70	0.00	-1739.6	0.00	1739.66	2514.51	1257.25	3668.21	1836.83	51.41	-4.775	0.000	0.456
105.50	-17.04	-28.54	0.00	-1696.6	0.00	1696.60	2502.09	1251.04	3624.30	1814.84	52.91	-4.837	0.000	0.457
105.58	-17.02	-28.54	0.00	-1694.3	0.00	1694.32	2501.42	1250.71	3621.96	1813.67	53.00	-4.841	0.000	0.612
106.00	-16.94	-28.51	0.00	-1682.3	0.00	1682.33	2497.93	1248.97	3609.69	1807.53	53.42	-4.865	0.000	0.609
108.00	-16.63	-28.32	0.00	-1625.3	0.00	1625.31	2481.23	1240.62	3551.44	1778.36	55.48	-4.976	0.000	0.596
110.00	-16.33	-28.13	0.00	-1568.6	0.00	1568.66	2464.40	1232.20	3493.46	1749.33	57.59	-5.087	0.000	0.582
112.00	-16.03	-27.94	0.00	-1512.4	0.00	1512.40	2447.44	1223.72	3435.76	1720.43	59.74	-5.196	0.000	0.569
114.00	-15.74	-27.75	0.00	-1456.5	0.00	1456.53	2430.34	1215.17	3378.35	1691.68	61.94	-5.305	0.000	0.555
116.00	-15.45	-27.56	0.00	-1401.0	0.00	1401.03	2413.12	1206.56	3321.22	1663.08	64.18	-5.411	0.000	0.541
118.00	-15.16	-27.36	0.00	-1345.9	0.00	1345.92	2395.76	1197.88	3264.40	1634.62	66.46	-5.516	0.000	0.527
120.00	-14.86	-27.18	0.00	-1291.2	0.00	1291.20	2378.28	1189.14	3207.87	1606.32	68.79	-5.620	0.000	0.811
122.00	-14.55	-27.00	0.00	-1236.8	0.00	1236.84	2360.66	1180.33	3151.65	1578.17	71.18	-5.782	0.000	0.790
124.00	-14.25	-26.83	0.00	-1182.8	0.00	1182.83	2342.92	1171.46	3095.74	1550.17	73.63	-5.941	0.000	0.770
126.00	-13.95	-26.65	0.00	-1129.1	0.00	1129.17	2325.04	1162.52	3040.15	1522.33	76.15	-6.098	0.000	0.748
128.00	-13.65	-26.47	0.00	-1075.8	0.00	1075.88	2307.03	1153.52	2984.88	1494.66	78.73	-6.252	0.000	0.726
130.00	-13.36	-26.29	0.00	-1022.9	0.00	1022.94	2288.89	1144.45	2929.94	1467.15	81.38	-6.404	0.000	0.704
132.00	-13.10	-26.10	0.00	-970.35	0.00	970.35	2270.62	1135.31	2875.33	1439.80	84.09	-6.553	0.000	0.680
132.50	-13.01	-26.06	0.00	-957.30	0.00	957.30	2266.03	1133.02	2861.73	1432.99	84.78	-6.590	0.000	0.674
134.00	-12.69	-25.92	0.00	-918.20	0.00	918.20	2251.56	1125.78	2820.24	1412.21	86.86	-6.699	0.000	0.656
136.00	-12.30	-25.71	0.00	-866.36	0.00	866.36	2227.09	1113.55	2758.97	1381.53	89.69	-6.841	0.000	0.633
136.50	-12.18	-25.67	0.00	-853.51	0.00	853.51	1414.34	707.17	1783.76	893.21	90.41	-6.877	0.000	0.965
138.00	-12.00	-25.54	0.00	-815.01	0.00	815.01	1407.34	703.67	1760.42	881.52	92.58	-6.980	0.000	0.934
140.00	-11.76	-25.38	0.00	-763.92	0.00	763.92	1397.90	698.95	1729.39	865.98	95.54	-7.162	0.000	0.892
142.00	-11.53	-25.21	0.00	-713.16	0.00	713.16	1388.33	694.16	1698.46	850.49	98.57	-7.338	0.000	0.848
144.00	-11.30	-25.04	0.00	-662.75	0.00	662.75	1378.63	689.31	1667.63	835.05	101.67	-7.507	0.000	0.803
146.00	-11.08	-24.87	0.00	-612.67	0.00	612.67	1368.79	684.40	1636.91	819.67	104.85	-7.670	0.000	0.757
148.00	-10.86	-24.70	0.00	-562.93	0.00	562.93	1358.83	679.41	1606.31	804.35	108.08	-7.824	0.000	0.709
150.00	-10.65	-24.53	0.00	-513.54	0.00	513.54	1348.73	674.37	1575.83	789.09	111.38	-7.971	0.000	0.660
152.00	-10.44	-24.35	0.00	-464.49	0.00	464.49	1338.51	669.25	1545.48	773.89	114.74	-8.109	0.000	0.609
154.00	-10.24	-24.18	0.00	-415.79	0.00	415.79	1328.15	664.08	1515.26	758.76	118.16	-8.238	0.000	0.557
156.00	-10.05	-24.00	0.00	-367.43	0.00	367.43	1317.66	658.83	1485.18	743.69	121.62	-8.357	0.000	0.503
158.00	-7.37	-16.14	0.00	-319.42	0.00	319.42	1307.05	653.52	1455.24	728.70	125.14	-8.464	0.000	0.445
160.00	-7.23	-15.97	0.00	-287.14	0.00	287.14	1296.30	648.15	1425.45	713.78	128.69	-8.563	0.000	0.408
162.00	-7.09	-15.79	0.00	-255.21	0.00	255.21	1285.42	642.71	1395.81	698.94	132.28	-8.655	0.000	0.371

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 34

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164.00	-6.95	-15.62	0.00	-223.62	0.00	223.62	1274.41	637.21	1366.33	684.18	135.92	-8.739	0.000	0.333
166.00	-6.82	-15.44	0.00	-192.39	0.00	192.39	1263.27	631.63	1337.02	669.50	139.58	-8.815	0.000	0.293
168.00	-6.15	-12.86	0.00	-161.51	0.00	161.51	1252.00	626.00	1307.87	654.91	143.27	-8.882	0.000	0.252
168.50	-5.06	-11.39	0.00	-155.08	0.00	155.08	1249.16	624.58	1300.61	651.27	144.20	-8.897	0.000	0.243
170.00	-4.97	-11.26	0.00	-138.00	0.00	138.00	1240.60	620.30	1278.90	640.40	146.99	-8.941	0.000	0.220
172.00	-4.86	-11.08	0.00	-115.49	0.00	115.49	1229.07	614.53	1250.12	625.99	150.73	-8.993	0.000	0.189
174.00	-4.74	-10.91	0.00	-93.33	0.00	93.33	1217.40	608.70	1221.51	611.66	154.50	-9.037	0.000	0.157
176.00	-4.63	-10.74	0.00	-71.50	0.00	71.50	1205.61	602.80	1193.10	597.44	158.27	-9.074	0.000	0.124
177.00	-3.01	-7.03	0.00	-60.76	0.00	60.76	1199.66	599.83	1178.97	590.36	160.17	-9.089	0.000	0.106
178.00	-2.96	-6.95	0.00	-53.73	0.00	53.73	1193.69	596.84	1164.89	583.31	162.07	-9.103	0.000	0.095
178.00	-2.96	-6.95	0.00	-53.73	0.00	53.73	975.84	487.92	954.81	478.11	162.07	-9.103	0.000	0.116
180.00	-2.87	-6.78	0.00	-39.84	0.00	39.84	975.84	487.92	954.81	478.11	165.87	-9.125	0.000	0.086
182.00	-2.79	-6.61	0.00	-26.29	0.00	26.29	975.84	487.92	954.81	478.11	169.68	-9.144	0.000	0.058
184.00	-1.58	-4.38	0.00	-13.06	0.00	13.06	975.84	487.92	954.81	478.11	173.50	-9.155	0.000	0.029
186.00	-1.49	-4.21	0.00	-4.30	0.00	4.30	975.84	487.92	954.81	478.11	177.32	-9.160	0.000	0.011
187.00	-0.03	-0.08	0.00	-0.08	0.00	0.08	975.84	487.92	954.81	478.11	179.23	-9.160	0.000	0.000
188.00	0.00	-0.08	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	181.14	-9.160	0.000	0.000

Wind Loading - Shaft

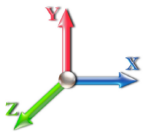
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

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	RB1	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
1.00	RT1 RB2 RB3 RB4	1.00	0.85	5.168	5.68	0.00	1.200	1.410	1.00	4.606	5.53	31.4	93.6	384.0
2.00		1.00	0.85	5.168	5.68	0.00	1.200	1.511	1.00	4.609	5.53	31.4	100.2	389.7
4.00		1.00	0.85	5.168	5.68	0.00	1.200	1.620	2.00	9.212	11.05	62.8	213.8	789.9
6.00		1.00	0.85	5.168	5.68	0.00	1.200	1.687	2.00	9.178	11.01	62.6	221.5	793.9
8.00		1.00	0.85	5.168	5.68	0.00	1.200	1.736	2.00	9.138	10.97	62.3	226.8	795.4
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	2.00	9.095	10.91	62.0	230.6	795.4
12.00		1.00	0.85	5.168	5.68	0.00	1.200	1.808	2.00	9.050	10.86	61.7	233.5	794.5
14.00		1.00	0.85	5.168	5.68	0.00	1.200	1.836	2.00	9.003	10.80	61.4	235.7	793.0
16.00		1.00	0.86	5.232	5.76	0.00	1.200	1.860	2.00	8.955	10.75	61.8	237.4	791.0
18.00		1.00	0.88	5.363	5.90	0.00	1.200	1.882	2.00	8.906	10.69	63.1	238.8	788.5
18.25	RT4	1.00	0.88	5.379	5.92	0.00	1.200	1.885	0.25	1.109	1.33	7.9	29.9	98.3
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	1.75	7.746	9.30	56.1	209.8	687.4
21.00	RT2 RT3 RB5 RB6	1.00	0.91	5.540	6.09	0.00	1.200	1.912	1.00	4.409	5.29	32.2	120.1	391.7
22.00		1.00	0.92	5.595	6.15	0.00	1.200	1.921	1.00	4.396	5.28	32.5	120.3	390.9
24.00		1.00	0.94	5.698	6.27	0.00	1.200	1.937	2.00	8.756	10.51	65.9	241.2	779.6
26.00		1.00	0.95	5.795	6.37	0.00	1.200	1.953	2.00	8.705	10.45	66.6	241.6	776.3
28.00		1.00	0.97	5.886	6.47	0.00	1.200	1.967	2.00	8.654	10.38	67.2	241.8	772.7
28.25	RT5	1.00	0.97	5.897	6.49	0.00	1.200	1.969	0.25	1.078	1.29	8.4	30.2	96.3
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	1.75	7.524	9.03	59.3	211.6	672.7
32.00		1.00	1.00	6.054	6.66	0.00	1.200	1.994	2.00	8.550	10.26	68.3	241.9	765.3
34.00		1.00	1.01	6.132	6.74	0.00	1.200	2.006	2.00	8.498	10.20	68.8	241.7	761.4
36.00		1.00	1.02	6.206	6.83	0.00	1.200	2.017	2.00	8.445	10.13	69.2	241.5	757.4
38.00		1.00	1.03	6.277	6.90	0.00	1.200	2.028	2.00	8.393	10.07	69.5	241.2	753.3
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	2.00	8.340	10.01	69.9	240.7	749.1
41.00	RT6 RB7	1.00	1.05	6.378	7.02	0.00	1.200	2.044	1.00	4.150	4.98	34.9	120.3	373.0
42.00		1.00	1.05	6.410	7.05	0.00	1.200	2.049	1.00	4.137	4.96	35.0	120.1	372.0
43.25	Bot - Section 2	1.00	1.06	6.450	7.10	0.00	1.200	2.055	1.25	5.152	6.18	43.9	150.0	463.4
44.00		1.00	1.06	6.474	7.12	0.00	1.200	2.058	0.75	3.129	3.75	26.7	91.3	442.3
46.00		1.00	1.07	6.534	7.19	0.00	1.200	2.068	2.00	8.308	9.97	71.7	243.0	1174.0
47.75	RB8	1.00	1.08	6.586	7.24	0.00	1.200	2.075	1.75	7.226	8.67	62.8	212.1	1021.0
48.00		1.00	1.08	6.593	7.25	0.00	1.200	2.076	0.25	1.029	1.23	9.0	30.3	145.4
48.92	RB9	1.00	1.09	6.620	7.28	0.00	1.200	2.080	0.92	3.779	4.53	33.0	111.3	534.0
49.00	Top - Section 1	1.00	1.09	6.622	7.28	0.00	1.200	2.081	0.08	0.328	0.39	2.9	9.7	46.4
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	1.00	4.094	4.91	35.9	120.8	334.2
52.00		1.00	1.10	6.705	7.38	0.00	1.200	2.093	2.00	8.148	9.78	72.1	240.9	665.2
54.00		1.00	1.11	6.759	7.43	0.00	1.200	2.101	2.00	8.094	9.71	72.2	240.1	661.1
56.00		1.00	1.12	6.811	7.49	0.00	1.200	2.109	2.00	8.041	9.65	72.3	239.3	657.1
58.00		1.00	1.13	6.861	7.55	0.00	1.200	2.116	2.00	7.987	9.58	72.3	238.4	653.0
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	2.00	7.933	9.52	72.4	237.5	648.8
61.00	RT7 RB10	1.00	1.14	6.934	7.63	0.00	1.200	2.127	1.00	3.946	4.74	36.1	118.5	323.0
62.00		1.00	1.14	6.958	7.65	0.00	1.200	2.130	1.00	3.933	4.72	36.1	118.3	321.9
64.00		1.00	1.15	7.005	7.71	0.00	1.200	2.137	2.00	7.825	9.39	72.4	235.5	640.4
65.00	RT8 RB11	1.00	1.16	7.028	7.73	0.00	1.200	2.140	1.00	3.892	4.67	36.1	117.5	318.7
66.00		1.00	1.16	7.050	7.76	0.00	1.200	2.144	1.00	3.879	4.65	36.1	117.3	317.7
68.00		1.00	1.17	7.095	7.80	0.00	1.200	2.150	2.00	7.717	9.26	72.3	233.4	631.9
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	2.00	7.663	9.20	72.2	232.4	627.6

Wind Loading - Shaft

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 36

72.00		1.00	1.18	7.181	7.90	0.00	1.200	2.162	2.00	7.609	9.13	72.1	231.3	623.2
72.25	RT11	1.00	1.18	7.186	7.90	0.00	1.200	2.163	0.25	0.947	1.14	9.0	28.9	77.7
74.00		1.00	1.19	7.222	7.94	0.00	1.200	2.168	1.75	6.607	7.93	63.0	201.3	541.3
76.00		1.00	1.19	7.263	7.99	0.00	1.200	2.174	2.00	7.501	9.00	71.9	228.9	614.5
76.83	RT9	1.00	1.20	7.280	8.01	0.00	1.200	2.176	0.83	3.097	3.72	29.8	94.8	253.9
78.00		1.00	1.20	7.303	8.03	0.00	1.200	2.180	1.17	4.349	5.22	41.9	133.2	356.5
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	2.00	7.392	8.87	71.6	226.5	605.6
81.00	RT10 RB12	1.00	1.21	7.361	8.10	0.00	1.200	2.188	1.00	3.675	4.41	35.7	113.0	301.3
82.00		1.00	1.21	7.380	8.12	0.00	1.200	2.191	1.00	3.662	4.39	35.7	112.7	300.2
84.00		1.00	1.22	7.418	8.16	0.00	1.200	2.196	2.00	7.283	8.74	71.3	224.1	596.7
86.00		1.00	1.23	7.454	8.20	0.00	1.200	2.201	2.00	7.229	8.67	71.1	222.8	592.2
87.50	Bot - Section 3	1.00	1.23	7.482	8.23	0.00	1.200	2.205	1.50	5.386	6.46	53.2	166.4	441.3
88.00		1.00	1.23	7.491	8.24	0.00	1.200	2.206	0.50	1.815	2.18	17.9	56.2	224.9
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	2.00	7.225	8.67	71.8	223.6	894.6
90.50	RB13	1.00	1.24	7.535	8.29	0.00	1.200	2.212	0.50	1.798	2.16	17.9	55.8	222.6
91.92	RB14	1.00	1.24	7.560	8.32	0.00	1.200	2.216	1.42	5.087	6.10	50.8	157.9	629.6
92.00		1.00	1.24	7.561	8.32	0.00	1.200	2.216	0.08	0.286	0.34	2.9	8.9	35.4
92.25	Top - Section 2	1.00	1.24	7.565	8.32	0.00	1.200	2.217	0.25	0.892	1.07	8.9	27.8	110.5
94.00		1.00	1.25	7.595	8.35	0.00	1.200	2.221	1.75	6.224	7.47	62.4	193.3	458.0
96.00		1.00	1.25	7.629	8.39	0.00	1.200	2.225	2.00	7.062	8.47	71.1	219.6	519.6
98.00		1.00	1.26	7.662	8.43	0.00	1.200	2.230	2.00	7.007	8.41	70.9	218.2	515.5
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	2.00	6.952	8.34	70.6	216.8	511.4
101.00	RT12 RB15	1.00	1.27	7.711	8.48	0.00	1.200	2.237	1.00	3.455	4.15	35.2	108.1	254.3
102.00		1.00	1.27	7.727	8.50	0.00	1.200	2.239	1.00	3.442	4.13	35.1	107.7	253.3
104.00		1.00	1.28	7.759	8.53	0.00	1.200	2.243	2.00	6.843	8.21	70.1	214.0	503.2
105.50	RT13	1.00	1.28	7.782	8.56	0.00	1.200	2.246	1.50	5.096	6.12	52.3	159.7	374.8
105.58	RT14	1.00	1.28	7.783	8.56	0.00	1.200	2.247	0.08	0.271	0.33	2.8	8.5	19.9
106.00		1.00	1.28	7.790	8.57	0.00	1.200	2.248	0.42	1.421	1.70	14.6	44.6	104.6
108.00		1.00	1.29	7.821	8.60	0.00	1.200	2.252	2.00	6.733	8.08	69.5	211.1	494.9
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	2.00	6.678	8.01	69.2	209.6	490.8
112.00		1.00	1.30	7.881	8.67	0.00	1.200	2.260	2.00	6.624	7.95	68.9	208.2	486.6
114.00		1.00	1.30	7.910	8.70	0.00	1.200	2.264	2.00	6.569	7.88	68.6	206.7	482.4
116.00		1.00	1.31	7.939	8.73	0.00	1.200	2.268	2.00	6.514	7.82	68.3	205.2	478.2
118.00	RT15	1.00	1.31	7.968	8.76	0.00	1.200	2.272	2.00	6.459	7.75	67.9	203.6	474.0
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	2.00	6.404	7.68	67.6	202.1	469.8
122.00		1.00	1.32	8.024	8.83	0.00	1.200	2.279	2.00	6.349	7.62	67.2	200.6	465.6
124.00		1.00	1.32	8.051	8.86	0.00	1.200	2.283	2.00	6.294	7.55	66.9	199.0	461.3
126.00		1.00	1.33	8.079	8.89	0.00	1.200	2.287	2.00	6.239	7.49	66.5	197.5	457.1
128.00		1.00	1.33	8.105	8.92	0.00	1.200	2.290	2.00	6.184	7.42	66.2	195.9	452.8
130.00		1.00	1.34	8.132	8.95	0.00	1.200	2.294	2.00	6.129	7.35	65.8	194.3	448.5
132.00		1.00	1.34	8.158	8.97	0.00	1.200	2.297	2.00	6.074	7.29	65.4	192.7	444.2
132.50	Bot - Section 4	1.00	1.34	8.165	8.98	0.00	1.200	2.298	0.50	1.510	1.81	16.3	48.1	110.5
134.00		1.00	1.35	8.184	9.00	0.00	1.200	2.301	1.50	4.565	5.48	49.3	145.2	464.3
136.00		1.00	1.35	8.210	9.03	0.00	1.200	2.304	2.00	6.038	7.25	65.4	192.0	613.5
136.50	Top - Section 3	1.00	1.35	8.216	9.04	0.00	1.200	2.305	0.50	1.501	1.80	16.3	47.9	152.6
138.00		1.00	1.35	8.235	9.06	0.00	1.200	2.308	1.50	4.482	5.38	48.7	142.8	272.7
140.00		1.00	1.36	8.260	9.09	0.00	1.200	2.311	2.00	5.928	7.11	64.6	188.8	360.3
142.00		1.00	1.36	8.285	9.11	0.00	1.200	2.314	2.00	5.873	7.05	64.2	187.1	356.8
144.00		1.00	1.37	8.309	9.14	0.00	1.200	2.317	2.00	5.818	6.98	63.8	185.5	353.3
146.00		1.00	1.37	8.333	9.17	0.00	1.200	2.321	2.00	5.762	6.91	63.4	183.8	349.8
148.00		1.00	1.37	8.357	9.19	0.00	1.200	2.324	2.00	5.707	6.85	63.0	182.1	346.2
150.00		1.00	1.38	8.381	9.22	0.00	1.200	2.327	2.00	5.652	6.78	62.5	180.5	342.6
152.00		1.00	1.38	8.404	9.24	0.00	1.200	2.330	2.00	5.597	6.72	62.1	178.8	339.1
154.00		1.00	1.39	8.427	9.27	0.00	1.200	2.333	2.00	5.542	6.65	61.6	177.1	335.5
156.00		1.00	1.39	8.450	9.30	0.00	1.200	2.336	2.00	5.487	6.58	61.2	175.4	331.9
158.00	Appurtenance(s)	1.00	1.39	8.473	9.32	0.00	1.200	2.339	2.00	5.431	6.52	60.7	173.7	328.3
160.00		1.00	1.40	8.495	9.34	0.00	1.200	2.342	2.00	5.376	6.45	60.3	172.0	324.7

Wind Loading - Shaft

Structure: CT46124-A-SBA
Site Name: Enfield-Moody Rd.
Height: 188.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1
Code: TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II
2/17/2022

162.00		1.00	1.40	8.518	9.37	0.00	1.200	2.345	2.00	5.321	6.39	59.8	170.3	321.1
164.00		1.00	1.40	8.540	9.39	0.00	1.200	2.348	2.00	5.266	6.32	59.4	168.5	317.5
166.00		1.00	1.41	8.561	9.42	0.00	1.200	2.351	2.00	5.211	6.25	58.9	166.8	313.9
168.00	Appurtenance(s)	1.00	1.41	8.583	9.44	0.00	1.200	2.353	2.00	5.155	6.19	58.4	165.1	310.3
168.50	Appurtenance(s)	1.00	1.41	8.588	9.45	0.00	1.200	2.354	0.50	1.280	1.54	14.5	41.2	77.2
170.00		1.00	1.42	8.604	9.46	0.00	1.200	2.356	1.50	3.820	4.58	43.4	122.5	229.8
172.00		1.00	1.42	8.626	9.49	0.00	1.200	2.359	2.00	5.045	6.05	57.4	161.5	303.0
174.00		1.00	1.42	8.647	9.51	0.00	1.200	2.362	2.00	4.989	5.99	56.9	159.8	299.4
176.00		1.00	1.43	8.667	9.53	0.00	1.200	2.364	2.00	4.934	5.92	56.5	158.0	295.7
177.00	Appurtenance(s)	1.00	1.43	8.678	9.55	0.00	1.200	2.366	1.00	2.446	2.94	28.0	78.6	146.7
178.00	Top - Section 4	1.00	1.43	8.688	9.56	0.00	1.200	2.367	1.00	2.432	2.92	27.9	78.1	145.8
180.00		1.00	1.43	8.709	9.58	0.00	1.200	2.370	2.00	4.852	5.82	55.8	156.4	272.2
182.00		1.00	1.44	8.729	9.60	0.00	1.200	2.372	2.00	4.853	5.82	55.9	156.6	272.3
184.00	Appurtenance(s)	1.00	1.44	8.749	9.62	0.00	1.200	2.375	2.00	4.853	5.82	56.0	156.8	272.5
186.00		1.00	1.44	8.769	9.65	0.00	1.200	2.378	2.00	4.854	5.83	56.2	157.0	272.7
187.00	Appurtenance(s)	1.00	1.44	8.779	9.66	0.00	1.200	2.379	1.00	2.427	2.91	28.1	78.5	136.4
188.00		1.00	1.45	8.789	9.67	0.00	1.200	2.380	1.00	2.428	2.91	28.2	78.6	136.4
								Totals:	**188.00**			**6,225.3**		**53,487.6**

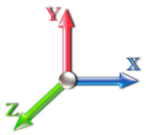
Discrete Appurtenance Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 38	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

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	187.00	Collar Mount (3-Sided)	1	8.779	9.657	1.00	1.00	5.10	585.67	0.000	0.000	49.22	0.00	0.00
2	187.00	AIR6449 B41	3	8.779	9.657	0.53	0.75	11.10	836.40	0.000	0.000	107.15	0.00	0.00
3	187.00	RRUS 4415 B25	3	8.779	9.657	0.38	0.75	2.64	305.48	0.000	0.000	25.45	0.00	0.00
4	187.00	PRK-1245 (kicker kit)	1	8.779	9.657	0.75	0.75	13.65	905.18	0.000	0.000	131.85	0.00	0.00
5	187.00	RFS	3	8.779	9.657	0.52	0.75	36.01	2249.48	0.000	0.000	347.76	0.00	0.00
6	187.00	Kathrein 782 11054-Smart	3	8.779	9.657	0.38	0.75	1.01	10.02	0.000	0.000	9.71	0.00	0.00
7	187.00	Ericsson KRY 112 114-1	12	8.779	9.657	0.38	0.75	4.76	297.55	0.000	0.000	45.96	0.00	0.00
8	187.00	Ericsson	3	8.779	9.657	0.65	0.75	15.62	1275.89	0.000	0.000	150.88	0.00	0.00
9	187.00	Ericsson Radio 4449 B71	3	8.779	9.657	0.38	0.75	2.71	572.29	0.000	0.000	26.21	0.00	0.00
10	184.00	Platform w/ Hand Rail	1	8.749	9.624	1.00	1.00	70.00	4177.58	0.000	0.000	673.67	0.00	0.00
11	177.00	TA08025-B604	3	8.678	9.546	0.38	0.75	3.06	399.64	0.000	0.000	29.21	0.00	0.00
12	177.00	MX08FRO665-21	3	8.678	9.546	0.55	0.75	24.10	1213.50	0.000	0.000	230.07	0.00	0.00
13	177.00	RDIDC-9181-OF-48	1	8.678	9.546	0.38	0.75	1.04	85.76	0.000	0.000	9.95	0.00	0.00
14	177.00	TA08025-B605	3	8.678	9.546	0.38	0.75	3.06	444.91	0.000	0.000	29.21	0.00	0.00
15	177.00	MC-PK8-DSH	1	8.678	9.546	1.00	1.00	86.51	3987.40	0.000	0.000	825.77	0.00	0.00
16	168.50	Low Profile Platform	1	8.588	9.447	1.00	1.00	45.82	2927.92	0.000	0.000	432.91	0.00	0.00
17	168.00	APXV9ERR18-C-A20	1	8.583	9.441	0.65	0.80	7.64	267.23	0.000	0.000	72.12	0.00	0.00
18	168.00	ACU-A20-N	4	8.583	9.441	0.54	0.80	1.16	22.77	0.000	0.000	10.93	0.00	0.00
19	168.00	TD-RRH8x20-25	3	8.583	9.441	0.40	0.80	6.21	732.06	0.000	0.000	58.64	0.00	0.00
20	168.00	800 MHz RRH	3	8.583	9.441	0.40	0.80	4.67	435.22	0.000	0.000	44.11	0.00	0.00
21	168.00	1900 MHz RRH	3	8.583	9.441	0.40	0.80	4.67	373.26	0.000	0.000	44.11	0.00	0.00
22	168.00	APXVTM14-C-120	3	8.583	9.441	0.62	0.80	14.74	896.98	0.000	0.000	139.18	0.00	0.00
23	168.00	800 MHz Filters	3	8.583	9.441	0.40	0.80	4.67	435.22	0.000	0.000	44.11	0.00	0.00
24	168.00	APXVSPP18-C-A20	2	8.583	9.441	0.65	0.80	15.28	503.99	0.000	0.000	144.23	0.00	0.00
25	158.00	Kathrein 860-10025 RET	6	8.473	9.320	0.38	0.75	1.41	45.24	0.000	0.000	13.12	0.00	0.00
26	158.00	HPA-65R-BUU-H8	3	8.473	9.320	0.58	0.75	26.66	1481.37	0.000	0.000	248.45	0.00	0.00
27	158.00	Ericsson RRUS-A2 RRU	3	8.473	9.320	0.38	0.75	3.56	189.57	0.000	0.000	33.19	0.00	0.00
28	158.00	800 10121	3	8.473	9.320	0.58	0.75	13.99	493.39	0.000	0.000	130.42	0.00	0.00
29	158.00	Raycap DC6-48-60-18-8F	2	8.473	9.320	0.38	0.75	1.81	206.64	0.000	0.000	16.83	0.00	0.00
30	158.00	Powerwave LGP21401	6	8.473	9.320	0.38	0.75	5.33	258.60	0.000	0.000	49.69	0.00	0.00
31	158.00	Ericsson 8843 B2 B66A	3	8.473	9.320	0.38	0.75	2.59	411.55	0.000	0.000	24.18	0.00	0.00
32	158.00	800 10966	6	8.473	9.320	0.53	0.75	63.32	3842.61	0.000	0.000	590.14	0.00	0.00
33	158.00	Ericsson RRUS 4415 B25	3	8.473	9.320	0.38	0.75	2.62	302.67	0.000	0.000	24.44	0.00	0.00
34	158.00	Ericsson 4449 B5 B12	3	8.473	9.320	0.38	0.75	2.70	578.78	0.000	0.000	25.14	0.00	0.00
35	158.00	Raycap DC6-48-60-0-8C	1	8.473	9.320	0.38	0.75	1.77	283.40	0.000	0.000	16.49	0.00	0.00
36	158.00	Plateform Mount	1	8.473	9.320	1.00	1.00	102.00	5241.18	0.000	0.000	950.63	0.00	0.00
							Totals:		**37,276.40**			**5,805.11**		

Total Applied Force Summary

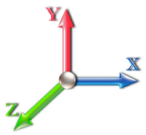
Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 39

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

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
1.00		31.42	427.55	0.00	0.00
2.00		31.44	433.86	0.00	0.00
4.00		62.84	879.81	0.00	0.00
6.00		62.61	884.70	0.00	0.00
8.00		62.34	886.87	0.00	0.00
10.00		62.04	887.48	0.00	0.00
12.00		61.74	887.07	0.00	0.00
14.00		61.42	885.95	0.00	0.00
16.00		61.84	884.28	0.00	0.00
18.00		63.05	882.20	0.00	0.00
18.25		7.88	110.03	0.00	0.00
20.00		56.07	769.59	0.00	0.00
21.00		32.24	438.75	0.00	0.00
22.00		32.47	438.06	0.00	0.00
24.00		65.86	874.13	0.00	0.00
26.00		66.59	870.99	0.00	0.00
28.00		67.23	867.68	0.00	0.00
28.25		8.39	108.20	0.00	0.00
30.00		59.31	755.98	0.00	0.00
32.00		68.32	860.62	0.00	0.00
34.00		68.78	856.90	0.00	0.00
36.00		69.18	847.46	0.00	0.00
38.00		69.54	826.49	0.00	0.00
40.00		69.85	822.32	0.00	0.00
41.00		34.94	409.64	0.00	0.00
42.00		35.00	408.57	0.00	0.00
43.25		43.87	509.18	0.00	0.00
44.00		26.74	469.73	0.00	0.00
46.00		71.66	1247.23	0.00	0.00
47.75		62.82	1099.73	0.00	0.00
48.00		8.95	157.49	0.00	0.00
48.92		33.02	578.52	0.00	0.00
49.00		2.87	50.24	0.00	0.00
50.00		35.94	382.57	0.00	0.00
52.00		72.12	762.09	0.00	0.00
54.00		72.22	758.20	0.00	0.00
56.00		72.29	754.25	0.00	0.00
58.00		72.34	750.26	0.00	0.00
60.00		72.36	746.23	0.00	0.00
61.00		36.12	371.70	0.00	0.00
62.00		36.12	370.68	0.00	0.00
64.00		72.36	738.05	0.00	0.00
65.00		36.11	367.59	0.00	0.00
66.00		36.10	366.55	0.00	0.00
68.00		72.28	729.73	0.00	0.00
70.00		72.21	725.52	0.00	0.00

Total Applied Force Summary

Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 40

72.00		72.12	721.28	0.00	0.00
72.25		8.98	89.92	0.00	0.00
74.00		62.99	627.21	0.00	0.00
76.00		71.91	712.72	0.00	0.00
76.83		29.76	294.64	0.00	0.00
78.00		41.93	414.02	0.00	0.00
80.00		71.64	694.60	0.00	0.00
81.00		35.71	337.91	0.00	0.00
82.00		35.67	336.79	0.00	0.00
84.00		71.31	669.91	0.00	0.00
86.00		71.13	665.40	0.00	0.00
87.50		53.19	496.21	0.00	0.00
88.00		17.94	243.20	0.00	0.00
90.00		71.78	967.81	0.00	0.00
90.50		17.88	244.15	0.00	0.00
91.92		50.76	699.85	0.00	0.00
92.00		2.85	39.34	0.00	0.00
92.25		8.91	122.85	0.00	0.00
94.00		62.40	544.64	0.00	0.00
96.00		71.11	618.65	0.00	0.00
98.00		70.87	614.66	0.00	0.00
100.00		70.62	610.65	0.00	0.00
101.00		35.17	303.98	0.00	0.00
102.00		35.10	302.98	0.00	0.00
104.00		70.08	602.58	0.00	0.00
105.50		52.35	449.40	0.00	0.00
105.58		2.78	23.92	0.00	0.00
106.00		14.61	125.47	0.00	0.00
108.00		69.51	594.45	0.00	0.00
110.00		69.21	590.37	0.00	0.00
112.00		68.90	586.27	0.00	0.00
114.00		68.59	582.15	0.00	0.00
116.00		68.26	578.02	0.00	0.00
118.00		67.93	573.88	0.00	0.00
120.00		67.59	569.73	0.00	0.00
122.00		67.25	555.52	0.00	0.00
124.00		66.89	534.54	0.00	0.00
126.00		66.53	530.29	0.00	0.00
128.00		66.16	526.02	0.00	0.00
130.00		65.79	521.75	0.00	0.00
132.00		65.41	517.46	0.00	0.00
132.50		16.27	128.85	0.00	0.00
134.00		49.31	519.27	0.00	0.00
136.00		65.43	686.75	0.00	0.00
136.50		16.28	170.87	0.00	0.00
138.00		48.72	327.64	0.00	0.00
140.00		64.63	433.58	0.00	0.00
142.00		64.22	430.06	0.00	0.00
144.00		63.81	426.53	0.00	0.00
146.00		63.39	422.99	0.00	0.00
148.00		62.96	419.44	0.00	0.00
150.00		62.53	415.88	0.00	0.00
152.00		62.09	412.31	0.00	0.00
154.00		61.65	408.74	0.00	0.00
156.00		61.20	405.16	0.00	0.00
158.00	(40) attachments	2183.45	13736.56	0.00	0.00
160.00		60.29	365.48	0.00	0.00

Total Applied Force Summary

Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 41

Tower Engineering Solutions

162.00		59.83	361.87	0.00	0.00
164.00		59.36	358.26	0.00	0.00
166.00		58.88	354.64	0.00	0.00
168.00	(22) attachments	615.84	4017.76	0.00	0.00
168.50	(1) attachments	447.42	3013.94	0.00	0.00
170.00		43.38	256.36	0.00	0.00
172.00		57.44	338.42	0.00	0.00
174.00		56.95	334.77	0.00	0.00
176.00		56.45	331.12	0.00	0.00
177.00	(11) attachments	1152.24	6295.62	0.00	0.00
178.00		27.90	161.10	0.00	0.00
180.00		55.77	302.79	0.00	0.00
182.00		55.91	302.97	0.00	0.00
184.00	(1) attachments	729.72	4480.74	0.00	0.00
186.00		56.19	303.35	0.00	0.00
187.00	(32) attachments	922.31	7189.67	0.00	0.00
188.00		28.16	136.45	0.00	0.00
	Totals:	**12,030.40**	**98,225.88**	**0.00**	**0.00**

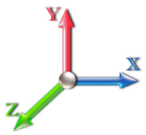
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 42	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.34	0.00	0.024	0.000	5.168	0.00	6.93
2.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.36	0.00	0.024	0.000	5.168	0.00	7.59
4.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.75	0.00	0.024	0.000	5.168	0.00	16.64
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.77	0.00	0.024	0.000	5.168	0.00	17.57
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.79	0.00	0.024	0.000	5.168	0.00	18.27
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.80	0.00	0.024	0.000	5.168	0.00	18.83
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.81	0.00	0.025	0.000	5.168	0.00	19.31
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.025	0.000	5.168	0.00	19.72
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.83	0.00	0.025	0.000	5.232	0.00	20.09
18.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.84	0.00	0.025	0.000	5.363	0.00	20.42
18.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.10	0.00	0.025	0.000	5.379	0.00	2.56
20.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.74	0.00	0.025	0.000	5.483	0.00	18.13
21.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.42	0.00	0.025	0.000	5.540	0.00	10.43
22.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.42	0.00	0.026	0.000	5.595	0.00	10.50
24.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.85	0.00	0.026	0.000	5.698	0.00	21.25
26.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.86	0.00	0.026	0.000	5.795	0.00	21.49
28.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.86	0.00	0.026	0.000	5.886	0.00	21.72
28.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.11	0.00	0.026	0.000	5.897	0.00	2.72
30.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.76	0.00	0.026	0.000	5.972	0.00	19.19
32.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.87	0.00	0.026	0.000	6.054	0.00	22.13
34.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.88	0.00	0.027	0.000	6.132	0.00	22.32
36.00	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.66	0.00	0.020	0.000	6.206	0.00	16.87
47.75	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.56	0.00	0.020	0.000	6.586	0.00	14.63
48.00	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.11	0.00	0.028	0.000	6.593	0.00	2.93
48.92	1.25" Reinforcing	Yes	0.92	0.000	1.25	0.41	0.00	0.028	0.000	6.620	0.00	10.81
49.00	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.04	0.00	0.028	0.000	6.622	0.00	0.94
50.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.45	0.00	0.028	0.000	6.650	0.00	11.78
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.91	0.00	0.028	0.000	6.705	0.00	23.70
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.91	0.00	0.028	0.000	6.759	0.00	23.82
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.91	0.00	0.028	0.000	6.811	0.00	23.95
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.91	0.00	0.029	0.000	6.861	0.00	24.07
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.92	0.00	0.029	0.000	6.910	0.00	24.18
61.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.46	0.00	0.029	0.000	6.934	0.00	12.12
62.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.46	0.00	0.029	0.000	6.958	0.00	12.15
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.92	0.00	0.029	0.000	7.005	0.00	24.41
65.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.46	0.00	0.029	0.000	7.028	0.00	12.23
66.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.46	0.00	0.030	0.000	7.050	0.00	12.26
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.92	0.00	0.030	0.000	7.095	0.00	24.62
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.93	0.00	0.030	0.000	7.138	0.00	24.72
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.93	0.00	0.030	0.000	7.181	0.00	24.82
72.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.12	0.00	0.030	0.000	7.186	0.00	3.10
74.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.81	0.00	0.031	0.000	7.222	0.00	21.80
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.93	0.00	0.031	0.000	7.263	0.00	25.01
76.83	1.25" Reinforcing	Yes	0.83	0.000	1.25	0.39	0.00	0.031	0.000	7.280	0.00	10.40
78.00	1.25" Reinforcing	Yes	1.17	0.000	1.25	0.55	0.00	0.031	0.000	7.303	0.00	14.69
80.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.59	0.00	0.020	0.000	7.342	0.00	15.75
90.50	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.12	0.00	0.016	0.000	7.535	0.00	3.21

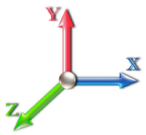
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 43	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
91.92	1.25" Reinforcing	Yes	1.42	0.000	1.25	0.67	0.00	0.033	0.000	7.560	0.00	18.25
92.00	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.04	0.00	0.033	0.000	7.561	0.00	1.03
92.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.12	0.00	0.033	0.000	7.565	0.00	3.21
94.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.83	0.00	0.033	0.000	7.595	0.00	22.56
96.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.95	0.00	0.033	0.000	7.629	0.00	25.86
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.95	0.00	0.033	0.000	7.662	0.00	25.94
100.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.95	0.00	0.034	0.000	7.695	0.00	26.02
101.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.48	0.00	0.034	0.000	7.711	0.00	13.03
102.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.48	0.00	0.034	0.000	7.727	0.00	13.05
104.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.96	0.00	0.034	0.000	7.759	0.00	26.16
105.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.72	0.00	0.034	0.000	7.782	0.00	19.66
105.58	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.04	0.00	0.035	0.000	7.783	0.00	1.05
106.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.20	0.00	0.035	0.000	7.790	0.00	5.51
108.00	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.36	0.00	0.035	0.000	7.821	0.00	9.87
108.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.60	0.00	0.035	0.000	7.821	0.00	16.44
110.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.96	0.00	0.035	0.000	7.851	0.00	26.38
112.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.96	0.00	0.035	0.000	7.881	0.00	26.45
114.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.96	0.00	0.036	0.000	7.910	0.00	26.51
116.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.96	0.00	0.036	0.000	7.939	0.00	26.58
118.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.97	0.00	0.037	0.000	7.968	0.00	26.65
120.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.97	0.00	0.037	0.000	7.996	0.00	26.71
122.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.61	0.00	0.023	0.000	8.024	0.00	16.73
									Totals:		**0.0**	**1,160.4**

Calculated Forces

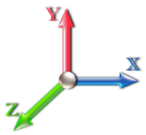
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 44	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

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	-98.22	-12.05	0.00	-1810.8	0.00	1810.86	5035.03	2517.52	10606.9	5311.37	0.00	0.000	0.000	0.325
1.00	-97.79	-12.04	0.00	-1798.8	0.00	1798.82	5023.77	2511.88	10548.7	5282.19	0.00	-0.020	0.000	0.238
2.00	-97.35	-12.05	0.00	-1786.7	0.00	1786.77	5012.47	2506.24	10490.5	5253.05	0.01	-0.034	0.000	0.237
4.00	-96.47	-12.03	0.00	-1762.6	0.00	1762.67	4989.78	2494.89	10374.4	5194.91	0.03	-0.063	0.000	0.236
6.00	-95.58	-12.02	0.00	-1738.6	0.00	1738.60	4966.95	2483.48	10258.6	5136.95	0.06	-0.092	0.000	0.235
8.00	-94.68	-12.00	0.00	-1714.5	0.00	1714.57	4944.00	2472.00	10143.2	5079.17	0.11	-0.121	0.000	0.234
10.00	-93.79	-11.99	0.00	-1690.5	0.00	1690.56	4920.91	2460.46	10028.2	5021.57	0.16	-0.150	0.000	0.232
12.00	-92.90	-11.97	0.00	-1666.5	0.00	1666.59	4897.70	2448.85	9913.58	4964.16	0.23	-0.179	0.000	0.231
14.00	-92.01	-11.95	0.00	-1642.6	0.00	1642.65	4874.35	2437.18	9799.30	4906.94	0.31	-0.208	0.000	0.230
16.00	-91.12	-11.93	0.00	-1618.7	0.00	1618.74	4850.88	2425.44	9685.41	4849.90	0.41	-0.237	0.000	0.229
18.00	-90.23	-11.89	0.00	-1594.8	0.00	1594.88	4827.27	2413.63	9571.89	4793.06	0.51	-0.267	0.000	0.227
18.25	-90.12	-11.91	0.00	-1591.9	0.00	1591.90	4824.31	2412.15	9557.73	4785.97	0.53	-0.270	0.000	0.240
20.00	-89.34	-11.88	0.00	-1571.0	0.00	1571.06	4803.53	2401.76	9458.77	4736.42	0.63	-0.298	0.000	0.239
21.00	-88.90	-11.87	0.00	-1559.1	0.00	1559.18	4791.61	2395.81	9402.36	4708.17	0.69	-0.313	0.000	0.238
22.00	-88.46	-11.87	0.00	-1547.3	0.00	1547.31	4779.66	2389.83	9346.05	4679.97	0.76	-0.329	0.000	0.237
24.00	-87.58	-11.85	0.00	-1523.5	0.00	1523.56	4755.66	2377.83	9233.73	4623.73	0.91	-0.360	0.000	0.236
26.00	-86.70	-11.83	0.00	-1499.8	0.00	1499.86	4731.53	2365.77	9121.82	4567.69	1.06	-0.392	0.000	0.234
28.00	-85.83	-11.78	0.00	-1476.2	0.00	1476.21	4707.27	2353.63	9010.32	4511.86	1.23	-0.423	0.000	0.233
28.25	-85.72	-11.80	0.00	-1473.2	0.00	1473.27	4704.23	2352.11	8996.42	4504.89	1.26	-0.427	0.000	0.258
30.00	-84.96	-11.78	0.00	-1452.6	0.00	1452.63	4682.88	2341.44	8899.25	4456.24	1.42	-0.458	0.000	0.257
32.00	-84.09	-11.76	0.00	-1429.0	0.00	1429.07	4658.36	2329.18	8788.59	4400.83	1.62	-0.493	0.000	0.255
34.00	-83.23	-11.73	0.00	-1405.5	0.00	1405.56	4633.70	2316.85	8678.37	4345.63	1.83	-0.529	0.000	0.254
36.00	-82.37	-11.70	0.00	-1382.1	0.00	1382.10	4608.92	2304.46	8568.58	4290.66	2.06	-0.564	0.000	0.252
38.00	-81.54	-11.68	0.00	-1358.6	0.00	1358.69	4584.01	2292.00	8459.23	4235.90	2.31	-0.599	0.000	0.251
40.00	-80.71	-11.64	0.00	-1335.3	0.00	1335.33	4558.96	2279.48	8350.33	4181.37	2.56	-0.635	0.000	0.249
41.00	-80.30	-11.62	0.00	-1323.7	0.00	1323.70	4546.39	2273.19	8296.04	4154.19	2.70	-0.653	0.000	0.248
42.00	-79.89	-11.61	0.00	-1312.0	0.00	1312.08	4533.79	2266.89	8241.87	4127.06	2.84	-0.671	0.000	0.247
43.25	-79.38	-11.59	0.00	-1297.5	0.00	1297.57	4517.98	2258.99	8174.32	4093.24	3.02	-0.693	0.000	0.246
44.00	-78.90	-11.59	0.00	-1288.8	0.00	1288.88	4508.48	2254.24	8133.88	4072.99	3.13	-0.707	0.000	0.244
46.00	-77.65	-11.54	0.00	-1265.7	0.00	1265.70	4483.04	2241.52	8026.35	4019.14	3.43	-0.742	0.000	0.242
47.75	-76.55	-11.49	0.00	-1245.5	0.00	1245.50	4460.68	2230.34	7932.64	3972.22	3.71	-0.774	0.000	0.236
48.00	-76.39	-11.49	0.00	-1242.6	0.00	1242.63	4457.48	2228.74	7919.28	3965.53	3.75	-0.778	0.000	0.235
48.92	-75.81	-11.46	0.00	-1232.0	0.00	1232.06	4445.67	2222.84	7870.19	3940.94	3.90	-0.794	0.000	0.185
49.00	-75.76	-11.47	0.00	-1231.1	0.00	1231.14	3699.57	1849.78	6681.20	3345.56	3.91	-0.795	0.000	0.197
50.00	-75.37	-11.46	0.00	-1219.6	0.00	1219.67	3689.91	1844.95	6638.39	3324.13	4.08	-0.809	0.000	0.207
52.00	-74.60	-11.41	0.00	-1196.7	0.00	1196.76	3670.50	1835.25	6553.00	3281.37	4.43	-0.838	0.000	0.205
54.00	-73.84	-11.37	0.00	-1173.9	0.00	1173.93	3650.96	1825.48	6467.90	3238.76	4.79	-0.868	0.000	0.203
56.00	-73.08	-11.32	0.00	-1151.2	0.00	1151.20	3631.28	1815.64	6383.12	3196.30	5.16	-0.897	0.000	0.201
58.00	-72.33	-11.27	0.00	-1128.5	0.00	1128.56	3611.48	1805.74	6298.65	3154.01	5.54	-0.926	0.000	0.199
60.00	-71.58	-11.21	0.00	-1106.0	0.00	1106.02	3591.55	1795.77	6214.50	3111.87	5.93	-0.955	0.000	0.197
61.00	-71.20	-11.19	0.00	-1094.8	0.00	1094.81	3581.53	1790.76	6172.55	3090.86	6.13	-0.969	0.000	0.202
62.00	-70.83	-11.18	0.00	-1083.6	0.00	1083.62	3571.48	1785.74	6130.67	3069.89	6.34	-0.985	0.000	0.201
64.00	-70.09	-11.12	0.00	-1061.2	0.00	1061.27	3551.28	1775.64	6047.18	3028.08	6.76	-1.015	0.000	0.199
65.00	-69.72	-11.09	0.00	-1050.1	0.00	1050.15	3541.14	1770.57	6005.55	3007.24	6.97	-1.030	0.000	0.198
66.00	-69.35	-11.08	0.00	-1039.0	0.00	1039.05	3530.96	1765.48	5964.01	2986.44	7.19	-1.045	0.000	0.197
68.00	-68.61	-11.03	0.00	-1016.9	0.00	1016.90	3510.50	1755.25	5881.19	2944.97	7.63	-1.075	0.000	0.195
70.00	-67.88	-10.98	0.00	-994.84	0.00	994.84	3489.91	1744.96	5798.71	2903.67	8.09	-1.105	0.000	0.192
72.00	-67.16	-10.91	0.00	-972.88	0.00	972.88	3469.20	1734.60	5716.59	2862.54	8.56	-1.135	0.000	0.190

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 45	

72.25	-67.07	-10.92	0.00	-970.16	0.00	970.16	3466.60	1733.30	5706.35	2857.41	8.62	-1.138	0.000	0.193
74.00	-66.44	-10.88	0.00	-951.05	0.00	951.05	3448.35	1724.17	5634.82	2821.60	9.04	-1.165	0.000	0.191
76.00	-65.72	-10.81	0.00	-929.30	0.00	929.30	3427.37	1713.68	5553.41	2780.83	9.53	-1.195	0.000	0.189
76.83	-65.42	-10.80	0.00	-920.32	0.00	920.32	3418.62	1709.31	5519.73	2763.97	9.74	-1.208	0.000	0.251
78.00	-65.01	-10.78	0.00	-907.69	0.00	907.69	3406.26	1703.13	5472.37	2740.25	10.04	-1.232	0.000	0.249
80.00	-64.31	-10.73	0.00	-886.12	0.00	886.12	3385.02	1692.51	5391.70	2699.86	10.57	-1.272	0.000	0.246
81.00	-63.97	-10.71	0.00	-875.39	0.00	875.39	3374.35	1687.17	5351.51	2679.73	10.84	-1.292	0.000	0.245
82.00	-63.62	-10.70	0.00	-864.68	0.00	864.68	3363.65	1681.82	5311.41	2659.65	11.11	-1.312	0.000	0.243
84.00	-62.95	-10.66	0.00	-843.28	0.00	843.28	3342.15	1671.07	5231.50	2619.64	11.67	-1.352	0.000	0.240
86.00	-62.28	-10.61	0.00	-821.96	0.00	821.96	3320.51	1660.26	5151.98	2579.82	12.24	-1.393	0.000	0.237
87.50	-61.78	-10.57	0.00	-806.04	0.00	806.04	3304.20	1652.10	5092.60	2550.09	12.68	-1.423	0.000	0.235
88.00	-61.53	-10.57	0.00	-800.76	0.00	800.76	3298.75	1649.38	5072.86	2540.20	12.83	-1.433	0.000	0.232
90.00	-60.56	-10.50	0.00	-779.63	0.00	779.63	3276.86	1638.43	4994.13	2500.78	13.44	-1.472	0.000	0.229
90.50	-60.32	-10.49	0.00	-774.38	0.00	774.38	3271.36	1635.68	4974.52	2490.96	13.60	-1.482	0.000	0.223
91.92	-59.61	-10.44	0.00	-759.48	0.00	759.48	3255.72	1627.86	4918.94	2463.13	14.04	-1.510	0.000	0.171
92.00	-59.58	-10.44	0.00	-758.64	0.00	758.64	3254.83	1627.42	4915.81	2461.56	14.07	-1.511	0.000	0.171
92.25	-59.45	-10.44	0.00	-756.03	0.00	756.03	2609.22	1304.61	4017.17	2011.57	14.15	-1.515	0.000	0.183
94.00	-58.90	-10.39	0.00	-737.76	0.00	737.76	2595.40	1297.70	3964.66	1985.28	14.71	-1.541	0.000	0.193
96.00	-58.28	-10.34	0.00	-716.97	0.00	716.97	2579.48	1289.74	3904.88	1955.34	15.36	-1.572	0.000	0.189
98.00	-57.66	-10.28	0.00	-696.29	0.00	696.29	2563.43	1281.72	3845.34	1925.53	16.02	-1.603	0.000	0.186
100.00	-57.05	-10.22	0.00	-675.73	0.00	675.73	2547.26	1273.63	3786.04	1895.83	16.70	-1.634	0.000	0.182
101.00	-56.74	-10.19	0.00	-665.51	0.00	665.51	2539.12	1269.56	3756.49	1881.04	17.05	-1.650	0.000	0.180
102.00	-56.44	-10.17	0.00	-655.33	0.00	655.33	2530.95	1265.47	3727.00	1866.27	17.39	-1.665	0.000	0.179
104.00	-55.83	-10.11	0.00	-634.99	0.00	634.99	2514.51	1257.25	3668.21	1836.83	18.10	-1.696	0.000	0.175
105.50	-55.38	-10.05	0.00	-619.83	0.00	619.83	2502.09	1251.04	3624.30	1814.84	18.63	-1.719	0.000	0.176
105.58	-55.36	-10.05	0.00	-619.03	0.00	619.03	2501.42	1250.71	3621.96	1813.67	18.66	-1.720	0.000	0.235
106.00	-55.23	-10.06	0.00	-614.81	0.00	614.81	2497.93	1248.97	3609.69	1807.53	18.81	-1.729	0.000	0.234
108.00	-54.63	-10.01	0.00	-594.69	0.00	594.69	2481.23	1240.62	3551.44	1778.36	19.55	-1.769	0.000	0.230
110.00	-54.03	-9.96	0.00	-574.67	0.00	574.67	2464.40	1232.20	3493.46	1749.33	20.30	-1.810	0.000	0.225
112.00	-53.44	-9.91	0.00	-554.75	0.00	554.75	2447.44	1223.72	3435.76	1720.43	21.06	-1.850	0.000	0.220
114.00	-52.86	-9.86	0.00	-534.93	0.00	534.93	2430.34	1215.17	3378.35	1691.68	21.85	-1.890	0.000	0.215
116.00	-52.28	-9.81	0.00	-515.22	0.00	515.22	2413.12	1206.56	3321.22	1663.08	22.65	-1.929	0.000	0.210
118.00	-51.70	-9.75	0.00	-495.60	0.00	495.60	2395.76	1197.88	3264.40	1634.62	23.46	-1.968	0.000	0.205
120.00	-51.12	-9.71	0.00	-476.10	0.00	476.10	2378.28	1189.14	3207.87	1606.32	24.30	-2.006	0.000	0.318
122.00	-50.56	-9.68	0.00	-456.68	0.00	456.68	2360.66	1180.33	3151.65	1578.17	25.15	-2.065	0.000	0.311
124.00	-50.02	-9.64	0.00	-437.32	0.00	437.32	2342.92	1171.46	3095.74	1550.17	26.03	-2.124	0.000	0.304
126.00	-49.48	-9.60	0.00	-418.04	0.00	418.04	2325.04	1162.52	3040.15	1522.33	26.93	-2.182	0.000	0.296
128.00	-48.95	-9.57	0.00	-398.84	0.00	398.84	2307.03	1153.52	2984.88	1494.66	27.86	-2.240	0.000	0.288
130.00	-48.42	-9.53	0.00	-379.70	0.00	379.70	2288.89	1144.45	2929.94	1467.15	28.81	-2.296	0.000	0.280
132.00	-47.90	-9.47	0.00	-360.65	0.00	360.65	2270.62	1135.31	2875.33	1439.80	29.78	-2.351	0.000	0.272
132.50	-47.77	-9.47	0.00	-355.92	0.00	355.92	2266.03	1133.02	2861.73	1432.99	30.03	-2.365	0.000	0.270
134.00	-47.24	-9.44	0.00	-341.71	0.00	341.71	2251.56	1125.78	2820.24	1412.21	30.78	-2.406	0.000	0.263
136.00	-46.55	-9.37	0.00	-322.84	0.00	322.84	2227.09	1113.55	2758.97	1381.53	31.79	-2.458	0.000	0.255
136.50	-46.38	-9.37	0.00	-318.15	0.00	318.15	1414.34	707.17	1783.76	893.21	32.05	-2.472	0.000	0.389
138.00	-46.05	-9.35	0.00	-304.10	0.00	304.10	1407.34	703.67	1760.42	881.52	32.84	-2.510	0.000	0.378
140.00	-45.61	-9.32	0.00	-285.40	0.00	285.40	1397.90	698.95	1729.39	865.98	33.90	-2.578	0.000	0.362
142.00	-45.17	-9.29	0.00	-266.77	0.00	266.77	1388.33	694.16	1698.46	850.49	35.00	-2.644	0.000	0.346
144.00	-44.74	-9.25	0.00	-248.20	0.00	248.20	1378.63	689.31	1667.63	835.05	36.12	-2.707	0.000	0.330
146.00	-44.31	-9.21	0.00	-229.70	0.00	229.70	1368.79	684.40	1636.91	819.67	37.26	-2.768	0.000	0.313
148.00	-43.88	-9.17	0.00	-211.28	0.00	211.28	1358.83	679.41	1606.31	804.35	38.44	-2.826	0.000	0.295
150.00	-43.46	-9.13	0.00	-192.93	0.00	192.93	1348.73	674.37	1575.83	789.09	39.63	-2.881	0.000	0.277
152.00	-43.04	-9.08	0.00	-174.68	0.00	174.68	1338.51	669.25	1545.48	773.89	40.85	-2.933	0.000	0.258
154.00	-42.63	-9.04	0.00	-156.51	0.00	156.51	1328.15	664.08	1515.26	758.76	42.09	-2.982	0.000	0.239
156.00	-42.22	-8.99	0.00	-138.44	0.00	138.44	1317.66	658.83	1485.18	743.69	43.35	-3.026	0.000	0.218
158.00	-28.62	-6.09	0.00	-120.47	0.00	120.47	1307.05	653.52	1455.24	728.70	44.62	-3.067	0.000	0.187
160.00	-28.25	-6.03	0.00	-108.28	0.00	108.28	1296.30	648.15	1425.45	713.78	45.92	-3.104	0.000	0.174
162.00	-27.89	-5.97	0.00	-96.22	0.00	96.22	1285.42	642.71	1395.81	698.94	47.22	-3.139	0.000	0.159

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 46

164.00	-27.53	-5.90	0.00	-84.28	0.00	84.28	1274.41	637.21	1366.33	684.18	48.55	-3.170	0.000	0.145
166.00	-27.18	-5.84	0.00	-72.47	0.00	72.47	1263.27	631.63	1337.02	669.50	49.88	-3.199	0.000	0.130
168.00	-23.20	-5.00	0.00	-60.80	0.00	60.80	1252.00	626.00	1307.87	654.91	51.22	-3.224	0.000	0.111
168.50	-20.22	-4.39	0.00	-58.30	0.00	58.30	1249.16	624.58	1300.61	651.27	51.56	-3.230	0.000	0.106
170.00	-19.96	-4.34	0.00	-51.71	0.00	51.71	1240.60	620.30	1278.90	640.40	52.58	-3.246	0.000	0.097
172.00	-19.63	-4.27	0.00	-43.03	0.00	43.03	1229.07	614.53	1250.12	625.99	53.94	-3.266	0.000	0.085
174.00	-19.29	-4.20	0.00	-34.49	0.00	34.49	1217.40	608.70	1221.51	611.66	55.31	-3.282	0.000	0.072
176.00	-18.97	-4.13	0.00	-26.09	0.00	26.09	1205.61	602.80	1193.10	597.44	56.69	-3.296	0.000	0.059
177.00	-12.75	-2.62	0.00	-21.96	0.00	21.96	1199.66	599.83	1178.97	590.36	57.38	-3.301	0.000	0.048
178.00	-12.59	-2.58	0.00	-19.35	0.00	19.35	1193.69	596.84	1164.89	583.31	58.07	-3.306	0.000	0.044
178.00	-12.59	-2.58	0.00	-19.35	0.00	19.35	975.84	487.92	954.81	478.11	58.07	-3.306	0.000	0.053
180.00	-12.29	-2.51	0.00	-14.19	0.00	14.19	975.84	487.92	954.81	478.11	59.46	-3.314	0.000	0.042
182.00	-11.99	-2.44	0.00	-9.18	0.00	9.18	975.84	487.92	954.81	478.11	60.85	-3.321	0.000	0.032
184.00	-7.56	-1.45	0.00	-4.31	0.00	4.31	975.84	487.92	954.81	478.11	62.24	-3.325	0.000	0.017
186.00	-7.26	-1.37	0.00	-1.41	0.00	1.41	975.84	487.92	954.81	478.11	63.63	-3.326	0.000	0.010
187.00	-0.13	-0.04	0.00	-0.04	0.00	0.04	975.84	487.92	954.81	478.11	64.33	-3.327	0.000	0.000
188.00	0.00	-0.03	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	65.03	-3.327	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 47	

IES Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	28
Gust Response Factor	1.10				**Sds**	0.19		**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.22		**SA**	0.02	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1	0.00	0.00	0.00	0.00	0.00	
1.00	RT1 RB2 RB3 RB4	242.01	0.00	0.01	0.00	1.43	
2.00		241.23	0.00	0.01	0.01	2.53	
4.00		480.10	0.00	0.02	0.01	8.28	
6.00		476.97	0.00	0.03	0.02	10.53	
8.00		473.83	0.00	0.04	0.02	12.16	
10.00		470.69	0.01	0.05	0.03	13.37	
12.00		467.55	0.01	0.05	0.03	14.27	
14.00		464.41	0.01	0.06	0.03	14.95	
16.00		461.28	0.01	0.06	0.03	15.45	
18.00		458.14	0.02	0.06	0.04	15.82	
18.25	RT4	57.05	0.02	0.06	0.04	1.98	
20.00		397.95	0.02	0.06	0.04	14.07	
21.00	RT2 RT3 RB5 RB6	226.32	0.02	0.07	0.04	8.08	
22.00		225.54	0.03	0.07	0.04	8.12	
24.00		448.72	0.03	0.07	0.04	16.40	
26.00		445.59	0.04	0.07	0.04	16.48	
28.00		442.45	0.04	0.07	0.04	16.53	
28.25	RT5	55.09	0.04	0.07	0.04	2.06	
30.00		384.22	0.05	0.07	0.04	14.49	
32.00		436.17	0.05	0.07	0.04	16.58	
34.00		433.03	0.06	0.07	0.04	16.59	
36.00		429.90	0.07	0.07	0.04	16.60	
38.00		426.76	0.08	0.07	0.04	16.61	
40.00		423.62	0.09	0.07	0.04	16.61	
41.00	RT6 RB7	210.63	0.09	0.07	0.04	8.29	
42.00		209.85	0.09	0.07	0.04	8.30	
43.25	Bot - Section 2	261.21	0.10	0.07	0.04	10.38	
44.00		292.44	0.10	0.07	0.04	11.66	
46.00		775.82	0.11	0.07	0.04	31.20	
47.75	RB8	674.06	0.12	0.07	0.03	27.31	
48.00		95.93	0.12	0.07	0.03	3.89	
48.92	RB9	352.24	0.13	0.07	0.03	14.34	
49.00	Top - Section 1	30.57	0.13	0.07	0.03	1.25	
50.00		177.78	0.13	0.07	0.03	7.27	
52.00		353.55	0.14	0.07	0.03	14.58	
54.00		350.86	0.16	0.07	0.03	14.58	
56.00		348.17	0.17	0.07	0.03	14.56	
58.00		345.48	0.18	0.07	0.03	14.53	
60.00		342.79	0.19	0.06	0.02	14.46	
61.00	RT7 RB10	170.39	0.20	0.06	0.02	7.19	
62.00		169.71	0.21	0.06	0.02	7.17	
64.00		337.41	0.22	0.06	0.02	14.22	
65.00	RT8 RB11	167.70	0.23	0.06	0.02	7.05	
66.00		167.02	0.23	0.06	0.02	7.00	
68.00		332.03	0.25	0.06	0.02	13.77	

Seismic Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 48	

70.00		329.34	0.26	0.05	0.02	13.44
72.00		326.65	0.28	0.05	0.01	13.03
72.25	RT11	40.64	0.28	0.05	0.01	1.62
74.00		283.32	0.29	0.05	0.01	10.94
76.00		321.27	0.31	0.04	0.01	11.88
76.83	RT9	132.54	0.32	0.04	0.01	4.79
78.00		186.04	0.33	0.04	0.01	6.50
80.00		315.89	0.34	0.03	0.01	10.23
81.00	RT10 RB12	156.94	0.35	0.03	0.01	4.85
82.00		156.27	0.36	0.03	0.01	4.59
84.00		310.51	0.38	0.03	0.01	8.00
86.00		307.82	0.40	0.02	0.01	6.66
87.50	Bot - Section 3	229.10	0.41	0.02	0.01	4.17
88.00		140.55	0.41	0.01	0.01	2.39
90.00		559.12	0.43	0.01	0.01	6.61
90.50	RB13	139.01	0.44	0.01	0.01	1.45
91.92	RB14	393.11	0.45	0.00	0.01	2.55
92.00		22.07	0.45	0.00	0.01	0.14
92.25	Top - Section 2	68.93	0.46	0.00	0.01	0.38
94.00		220.55	0.47	-0.01	0.01	0.09
96.00		249.95	0.49	-0.01	0.01	-1.40
98.00		247.71	0.51	-0.02	0.01	-2.88
100.00		245.47	0.53	-0.03	0.01	-4.29
101.00	RT12 RB15	121.89	0.55	-0.03	0.01	-2.47
102.00		121.33	0.56	-0.04	0.01	-2.79
104.00		240.99	0.58	-0.05	0.01	-6.78
105.50	RT13	179.27	0.60	-0.05	0.01	-5.68
105.58	RT14	9.53	0.60	-0.05	0.01	-0.30
106.00		49.95	0.60	-0.05	0.01	-1.64
108.00		236.51	0.62	-0.06	0.02	-8.71
110.00		234.26	0.65	-0.07	0.02	-9.43
112.00		232.02	0.67	-0.08	0.02	-9.99
114.00		229.78	0.69	-0.09	0.03	-10.40
116.00		227.54	0.72	-0.09	0.03	-10.65
118.00	RT15	225.30	0.74	-0.10	0.04	-10.77
120.00		223.06	0.77	-0.11	0.05	-10.75
122.00		220.82	0.80	-0.11	0.05	-10.61
124.00		218.57	0.82	-0.12	0.06	-10.35
126.00		216.33	0.85	-0.12	0.07	-9.99
128.00		214.09	0.88	-0.12	0.08	-9.51
130.00		211.85	0.90	-0.12	0.09	-8.95
132.00		209.61	0.93	-0.12	0.10	-8.29
132.50	Bot - Section 4	52.05	0.94	-0.12	0.10	-2.02
134.00		265.94	0.96	-0.12	0.11	-9.67
136.00		351.26	0.99	-0.11	0.13	-11.49
136.50	Top - Section 3	87.22	1.00	-0.11	0.13	-2.77
138.00		108.28	1.02	-0.10	0.14	-3.10
140.00		142.99	1.05	-0.09	0.16	-3.43
142.00		141.42	1.08	-0.08	0.17	-2.68
144.00		139.86	1.11	-0.06	0.19	-1.88
146.00		138.29	1.14	-0.04	0.21	-1.03
148.00		136.72	1.17	-0.02	0.23	-0.14
150.00		135.15	1.20	0.01	0.26	0.80
152.00		133.58	1.24	0.04	0.28	1.78
154.00		132.01	1.27	0.08	0.31	2.80
156.00		130.44	1.30	0.12	0.34	3.86
158.00	Appurtenance(s)	4127.4	1.33	0.17	0.37	158.56

Seismic Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 49	

160.00		127.30	1.37	0.23	0.40	6.08		
162.00		125.73	1.40	0.29	0.44	7.24		
164.00		124.16	1.44	0.36	0.47	8.43		
166.00		122.59	1.47	0.44	0.51	9.65		
168.00	Appurtenance(s)	1135.0	1.51	0.52	0.55	102.25		
168.50	Appurtenance(s)	1430.0	1.52	0.55	0.56	132.99		
170.00		89.44	1.55	0.62	0.60	9.12		
172.00		117.88	1.58	0.72	0.65	13.48		
174.00		116.32	1.62	0.84	0.70	14.80		
176.00		114.75	1.66	0.96	0.75	16.14		
177.00	Appurtenance(s)	2415.8	1.68	1.03	0.78	356.41		
178.00	Top - Section 4	56.39	1.69	1.10	0.81	8.72		
180.00		96.44	1.73	1.25	0.87	16.30		
182.00		96.44	1.77	1.41	0.93	17.75		
184.00	Appurtenance(s)	1696.4	1.81	1.59	1.00	338.71		
186.00		96.44	1.85	1.78	1.07	20.81		
187.00	Appurtenance(s)	2320.1	1.87	1.88	1.10	519.83		
188.00		48.22	1.89	1.98	1.14	11.21		
	Totals:	**40,792.0**				**2,240.2**	**Total Wind:**	**37,862.9**

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 50	

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Load Case:	1.2D + 1.0E							**Iterations**	28
Gust Response Factor	1.10			**Sds**	0.19			**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.22	**SA**	0.02	**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	-55.25	-2.43	0.00	-370.02	0.00	370.02	5035.03	2517.52	10606.9	5311.37		0.00	0.00	0.072
1.00	-54.92	-2.44	0.00	-367.59	0.00	367.59	5023.77	2511.88	10548.7	5282.19		0.00	0.00	0.053
2.00	-54.60	-2.44	0.00	-365.15	0.00	365.15	5012.47	2506.24	10490.5	5253.05		0.00	-0.01	0.053
4.00	-53.95	-2.43	0.00	-360.28	0.00	360.28	4989.78	2494.89	10374.4	5194.91		0.01	-0.01	0.053
6.00	-53.30	-2.43	0.00	-355.41	0.00	355.41	4966.95	2483.48	10258.6	5136.95		0.01	-0.02	0.052
8.00	-52.66	-2.42	0.00	-350.55	0.00	350.55	4944.00	2472.00	10143.2	5079.17		0.02	-0.02	0.052
10.00	-52.02	-2.41	0.00	-345.70	0.00	345.70	4920.91	2460.46	10028.2	5021.57		0.03	-0.03	0.052
12.00	-51.39	-2.41	0.00	-340.87	0.00	340.87	4897.70	2448.85	9913.58	4964.16		0.05	-0.04	0.051
14.00	-50.76	-2.39	0.00	-336.06	0.00	336.06	4874.35	2437.18	9799.30	4906.94		0.06	-0.04	0.051
16.00	-50.13	-2.38	0.00	-331.27	0.00	331.27	4850.88	2425.44	9685.41	4849.90		0.08	-0.05	0.051
18.00	-49.51	-2.37	0.00	-326.51	0.00	326.51	4827.27	2413.63	9571.89	4793.06		0.10	-0.05	0.051
18.25	-49.43	-2.37	0.00	-325.91	0.00	325.91	4824.31	2412.15	9557.73	4785.97		0.11	-0.06	0.053
20.00	-48.89	-2.36	0.00	-321.76	0.00	321.76	4803.53	2401.76	9458.77	4736.42		0.13	-0.06	0.053
21.00	-48.58	-2.35	0.00	-319.40	0.00	319.40	4791.61	2395.81	9402.36	4708.17		0.14	-0.06	0.053
22.00	-48.27	-2.35	0.00	-317.05	0.00	317.05	4779.66	2389.83	9346.05	4679.97		0.16	-0.07	0.053
24.00	-47.66	-2.34	0.00	-312.35	0.00	312.35	4755.66	2377.83	9233.73	4623.73		0.19	-0.07	0.052
26.00	-47.05	-2.33	0.00	-307.67	0.00	307.67	4731.53	2365.77	9121.82	4567.69		0.22	-0.08	0.052
28.00	-46.45	-2.31	0.00	-303.02	0.00	303.02	4707.27	2353.63	9010.32	4511.86		0.25	-0.09	0.052
28.25	-46.37	-2.31	0.00	-302.44	0.00	302.44	4704.23	2352.11	8996.42	4504.89		0.26	-0.09	0.057
30.00	-45.85	-2.30	0.00	-298.39	0.00	298.39	4682.88	2341.44	8899.25	4456.24		0.29	-0.09	0.057
32.00	-45.25	-2.29	0.00	-293.78	0.00	293.78	4658.36	2329.18	8788.59	4400.83		0.33	-0.10	0.057
34.00	-44.66	-2.28	0.00	-289.20	0.00	289.20	4633.70	2316.85	8678.37	4345.63		0.38	-0.11	0.056
36.00	-44.07	-2.27	0.00	-284.64	0.00	284.64	4608.92	2304.46	8568.58	4290.66		0.42	-0.12	0.056
38.00	-43.48	-2.25	0.00	-280.11	0.00	280.11	4584.01	2292.00	8459.23	4235.90		0.47	-0.12	0.056
40.00	-42.90	-2.24	0.00	-275.60	0.00	275.60	4558.96	2279.48	8350.33	4181.37		0.53	-0.13	0.055
41.00	-42.61	-2.23	0.00	-273.36	0.00	273.36	4546.39	2273.19	8296.04	4154.19		0.55	-0.13	0.055
42.00	-42.32	-2.23	0.00	-271.12	0.00	271.12	4533.79	2266.89	8241.87	4127.06		0.58	-0.14	0.055
43.25	-41.96	-2.22	0.00	-268.34	0.00	268.34	4517.98	2258.99	8174.32	4093.24		0.62	-0.14	0.055
44.00	-41.58	-2.21	0.00	-266.67	0.00	266.67	4508.48	2254.24	8133.88	4072.99		0.64	-0.15	0.054
46.00	-40.58	-2.18	0.00	-262.25	0.00	262.25	4483.04	2241.52	8026.35	4019.14		0.70	-0.15	0.054
47.75	-39.71	-2.16	0.00	-258.43	0.00	258.43	4460.68	2230.34	7932.64	3972.22		0.76	-0.16	0.052
48.00	-39.58	-2.15	0.00	-257.89	0.00	257.89	4457.48	2228.74	7919.28	3965.53		0.77	-0.16	0.052
48.92	-39.13	-2.14	0.00	-255.91	0.00	255.91	4445.67	2222.84	7870.19	3940.94		0.80	-0.16	0.041
49.00	-39.09	-2.14	0.00	-255.74	0.00	255.74	3699.57	1849.78	6681.20	3345.56		0.80	-0.16	0.044
50.00	-38.84	-2.13	0.00	-253.60	0.00	253.60	3689.91	1844.95	6638.39	3324.13		0.84	-0.17	0.046
52.00	-38.34	-2.12	0.00	-249.34	0.00	249.34	3670.50	1835.25	6553.00	3281.37		0.91	-0.17	0.046
54.00	-37.84	-2.11	0.00	-245.09	0.00	245.09	3650.96	1825.48	6467.90	3238.76		0.98	-0.18	0.045
56.00	-37.35	-2.10	0.00	-240.88	0.00	240.88	3631.28	1815.64	6383.12	3196.30		1.06	-0.18	0.045
58.00	-36.86	-2.08	0.00	-236.68	0.00	236.68	3611.48	1805.74	6298.65	3154.01		1.14	-0.19	0.045
60.00	-36.38	-2.07	0.00	-232.51	0.00	232.51	3591.55	1795.77	6214.50	3111.87		1.22	-0.20	0.044
61.00	-36.14	-2.07	0.00	-230.44	0.00	230.44	3581.53	1790.76	6172.55	3090.86		1.26	-0.20	0.046
62.00	-35.90	-2.06	0.00	-228.38	0.00	228.38	3571.48	1785.74	6130.67	3069.89		1.30	-0.20	0.045
64.00	-35.42	-2.05	0.00	-224.25	0.00	224.25	3551.28	1775.64	6047.18	3028.08		1.39	-0.21	0.045
65.00	-35.18	-2.04	0.00	-222.21	0.00	222.21	3541.14	1770.57	6005.55	3007.24		1.43	-0.21	0.045
66.00	-34.94	-2.04	0.00	-220.17	0.00	220.17	3530.96	1765.48	5964.01	2986.44		1.48	-0.22	0.045
68.00	-34.47	-2.02	0.00	-216.09	0.00	216.09	3510.50	1755.25	5881.19	2944.97		1.57	-0.22	0.044
70.00	-34.00	-2.01	0.00	-212.04	0.00	212.04	3489.91	1744.96	5798.71	2903.67		1.66	-0.23	0.044

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 51

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72.00	-33.54	-2.00	0.00	-208.02	0.00	208.02	3469.20	1734.60	5716.59	2862.54	1.76	-0.23	0.043
72.25	-33.48	-2.00	0.00	-207.52	0.00	207.52	3466.60	1733.30	5706.35	2857.41	1.77	-0.24	0.044
74.00	-33.08	-1.99	0.00	-204.02	0.00	204.02	3448.35	1724.17	5634.82	2821.60	1.86	-0.24	0.044
76.00	-32.62	-1.98	0.00	-200.03	0.00	200.03	3427.37	1713.68	5553.41	2780.83	1.96	-0.25	0.043
76.83	-32.43	-1.98	0.00	-198.39	0.00	198.39	3418.62	1709.31	5519.73	2763.97	2.00	-0.25	0.058
78.00	-32.16	-1.97	0.00	-196.08	0.00	196.08	3406.26	1703.13	5472.37	2740.25	2.07	-0.26	0.057
80.00	-31.71	-1.96	0.00	-192.13	0.00	192.13	3385.02	1692.51	5391.70	2699.86	2.18	-0.26	0.057
81.00	-31.48	-1.96	0.00	-190.16	0.00	190.16	3374.35	1687.17	5351.51	2679.73	2.23	-0.27	0.057
82.00	-31.26	-1.96	0.00	-188.20	0.00	188.20	3363.65	1681.82	5311.41	2659.65	2.29	-0.27	0.056
84.00	-30.81	-1.95	0.00	-184.29	0.00	184.29	3342.15	1671.07	5231.50	2619.64	2.40	-0.28	0.056
86.00	-30.37	-1.95	0.00	-180.38	0.00	180.38	3320.51	1660.26	5151.98	2579.82	2.52	-0.29	0.055
87.50	-30.04	-1.95	0.00	-177.46	0.00	177.46	3304.20	1652.10	5092.60	2550.09	2.62	-0.30	0.055
88.00	-29.85	-1.94	0.00	-176.48	0.00	176.48	3298.75	1649.38	5072.86	2540.20	2.65	-0.30	0.054
90.00	-29.11	-1.94	0.00	-172.59	0.00	172.59	3276.86	1638.43	4994.13	2500.78	2.78	-0.31	0.054
90.50	-28.92	-1.94	0.00	-171.63	0.00	171.63	3271.36	1635.68	4974.52	2490.96	2.81	-0.31	0.052
91.92	-28.40	-1.93	0.00	-168.88	0.00	168.88	3255.72	1627.86	4918.94	2463.13	2.90	-0.32	0.040
92.00	-28.37	-1.93	0.00	-168.72	0.00	168.72	3254.83	1627.42	4915.81	2461.56	2.91	-0.32	0.040
92.25	-28.28	-1.93	0.00	-168.24	0.00	168.24	2609.22	1304.61	4017.17	2011.57	2.92	-0.32	0.043
94.00	-27.95	-1.93	0.00	-164.85	0.00	164.85	2595.40	1297.70	3964.66	1985.28	3.04	-0.32	0.046
96.00	-27.58	-1.94	0.00	-160.98	0.00	160.98	2579.48	1289.74	3904.88	1955.34	3.18	-0.33	0.045
98.00	-27.21	-1.94	0.00	-157.11	0.00	157.11	2563.43	1281.72	3845.34	1925.53	3.32	-0.34	0.044
100.00	-26.84	-1.94	0.00	-153.24	0.00	153.24	2547.26	1273.63	3786.04	1895.83	3.46	-0.34	0.044
101.00	-26.66	-1.94	0.00	-151.30	0.00	151.30	2539.12	1269.56	3756.49	1881.04	3.53	-0.35	0.043
102.00	-26.47	-1.94	0.00	-149.36	0.00	149.36	2530.95	1265.47	3727.00	1866.27	3.61	-0.35	0.043
104.00	-26.11	-1.94	0.00	-145.48	0.00	145.48	2514.51	1257.25	3668.21	1836.83	3.76	-0.36	0.042
105.50	-25.84	-1.94	0.00	-142.57	0.00	142.57	2502.09	1251.04	3624.30	1814.84	3.87	-0.36	0.043
105.58	-25.83	-1.94	0.00	-142.42	0.00	142.42	2501.42	1250.71	3621.96	1813.67	3.87	-0.36	0.057
106.00	-25.75	-1.94	0.00	-141.60	0.00	141.60	2497.93	1248.97	3609.69	1807.53	3.91	-0.37	0.057
108.00	-25.39	-1.94	0.00	-137.72	0.00	137.72	2481.23	1240.62	3551.44	1778.36	4.06	-0.38	0.056
110.00	-25.04	-1.95	0.00	-133.83	0.00	133.83	2464.40	1232.20	3493.46	1749.33	4.22	-0.38	0.055
112.00	-24.69	-1.95	0.00	-129.94	0.00	129.94	2447.44	1223.72	3435.76	1720.43	4.39	-0.39	0.055
114.00	-24.34	-1.95	0.00	-126.04	0.00	126.04	2430.34	1215.17	3378.35	1691.68	4.55	-0.40	0.054
116.00	-23.99	-1.95	0.00	-122.15	0.00	122.15	2413.12	1206.56	3321.22	1663.08	4.72	-0.41	0.053
118.00	-23.65	-1.95	0.00	-118.25	0.00	118.25	2395.76	1197.88	3264.40	1634.62	4.90	-0.42	0.052
120.00	-23.31	-1.95	0.00	-114.34	0.00	114.34	2378.28	1189.14	3207.87	1606.32	5.08	-0.43	0.081
122.00	-22.97	-1.96	0.00	-110.43	0.00	110.43	2360.66	1180.33	3151.65	1578.17	5.26	-0.45	0.080
124.00	-22.63	-1.96	0.00	-106.52	0.00	106.52	2342.92	1171.46	3095.74	1550.17	5.45	-0.46	0.078
126.00	-22.30	-1.96	0.00	-102.60	0.00	102.60	2325.04	1162.52	3040.15	1522.33	5.65	-0.47	0.077
128.00	-21.97	-1.97	0.00	-98.67	0.00	98.67	2307.03	1153.52	2984.88	1494.66	5.85	-0.49	0.076
130.00	-21.64	-1.97	0.00	-94.74	0.00	94.74	2288.89	1144.45	2929.94	1467.15	6.06	-0.50	0.074
132.00	-21.31	-1.97	0.00	-90.80	0.00	90.80	2270.62	1135.31	2875.33	1439.80	6.27	-0.52	0.072
132.50	-21.23	-1.97	0.00	-89.82	0.00	89.82	2266.03	1133.02	2861.73	1432.99	6.32	-0.52	0.072
134.00	-20.86	-1.97	0.00	-86.86	0.00	86.86	2251.56	1125.78	2820.24	1412.21	6.49	-0.53	0.071
136.00	-20.36	-1.97	0.00	-82.92	0.00	82.92	2227.09	1113.55	2758.97	1381.53	6.71	-0.54	0.069
136.50	-20.24	-1.97	0.00	-81.94	0.00	81.94	1414.34	707.17	1783.76	893.21	6.77	-0.55	0.106
138.00	-20.05	-1.97	0.00	-78.98	0.00	78.98	1407.34	703.67	1760.42	881.52	6.94	-0.56	0.104
140.00	-19.81	-1.98	0.00	-75.03	0.00	75.03	1397.90	698.95	1729.39	865.98	7.18	-0.57	0.101
142.00	-19.57	-1.98	0.00	-71.08	0.00	71.08	1388.33	694.16	1698.46	850.49	7.42	-0.59	0.098
144.00	-19.32	-1.98	0.00	-67.11	0.00	67.11	1378.63	689.31	1667.63	835.05	7.68	-0.61	0.094
146.00	-19.08	-1.99	0.00	-63.14	0.00	63.14	1368.79	684.40	1636.91	819.67	7.94	-0.63	0.091
148.00	-18.85	-1.99	0.00	-59.17	0.00	59.17	1358.83	679.41	1606.31	804.35	8.20	-0.64	0.087
150.00	-18.61	-1.99	0.00	-55.19	0.00	55.19	1348.73	674.37	1575.83	789.09	8.47	-0.66	0.084
152.00	-18.38	-1.99	0.00	-51.21	0.00	51.21	1338.51	669.25	1545.48	773.89	8.75	-0.67	0.080
154.00	-18.14	-1.99	0.00	-47.22	0.00	47.22	1328.15	664.08	1515.26	758.76	9.04	-0.69	0.076
156.00	-17.91	-1.99	0.00	-43.24	0.00	43.24	1317.66	658.83	1485.18	743.69	9.33	-0.70	0.072
158.00	-12.89	-1.77	0.00	-39.26	0.00	39.26	1307.05	653.52	1455.24	728.70	9.62	-0.71	0.064
160.00	-12.70	-1.77	0.00	-35.72	0.00	35.72	1296.30	648.15	1425.45	713.78	9.92	-0.73	0.060

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 52

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162.00	-12.50	-1.76	0.00	-32.19	0.00	32.19	1285.42	642.71	1395.81	698.94	10.23	-0.74	0.056
164.00	-12.31	-1.75	0.00	-28.68	0.00	28.68	1274.41	637.21	1366.33	684.18	10.54	-0.75	0.052
166.00	-12.13	-1.74	0.00	-25.18	0.00	25.18	1263.27	631.63	1337.02	669.50	10.86	-0.76	0.047
168.00	-10.73	-1.62	0.00	-21.70	0.00	21.70	1252.00	626.00	1307.87	654.91	11.18	-0.77	0.042
168.50	-9.00	-1.46	0.00	-20.89	0.00	20.89	1249.16	624.58	1300.61	651.27	11.26	-0.77	0.039
170.00	-8.87	-1.45	0.00	-18.70	0.00	18.70	1240.60	620.30	1278.90	640.40	11.50	-0.77	0.036
172.00	-8.69	-1.44	0.00	-15.79	0.00	15.79	1229.07	614.53	1250.12	625.99	11.83	-0.78	0.032
174.00	-8.52	-1.42	0.00	-12.91	0.00	12.91	1217.40	608.70	1221.51	611.66	12.15	-0.79	0.028
176.00	-8.34	-1.40	0.00	-10.07	0.00	10.07	1205.61	602.80	1193.10	597.44	12.49	-0.79	0.024
177.00	-5.43	-1.01	0.00	-8.66	0.00	8.66	1199.66	599.83	1178.97	590.36	12.65	-0.79	0.019
178.00	-5.35	-1.00	0.00	-7.65	0.00	7.65	1193.69	596.84	1164.89	583.31	12.82	-0.80	0.018
178.00	-5.35	-1.00	0.00	-7.65	0.00	7.65	975.84	487.92	954.81	478.11	12.82	-0.80	0.021
180.00	-5.20	-0.98	0.00	-5.65	0.00	5.65	975.84	487.92	954.81	478.11	13.15	-0.80	0.017
182.00	-5.06	-0.96	0.00	-3.69	0.00	3.69	975.84	487.92	954.81	478.11	13.49	-0.80	0.013
184.00	-3.00	-0.59	0.00	-1.77	0.00	1.77	975.84	487.92	954.81	478.11	13.82	-0.80	0.007
186.00	-2.85	-0.57	0.00	-0.58	0.00	0.58	975.84	487.92	954.81	478.11	14.16	-0.80	0.004
187.00	-0.06	-0.01	0.00	-0.01	0.00	0.01	975.84	487.92	954.81	478.11	14.33	-0.80	0.000
188.00	0.00	-0.01	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	14.50	-0.80	0.000

Seismic Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 53	

IES Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	28
Gust Response Factor	1.10				**Sds**	0.19		**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.22		**SA**	0.02	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1	0.00	0.00	0.00	0.00	0.00	
1.00	RT1 RB2 RB3 RB4	242.01	0.00	0.01	0.00	1.43	
2.00		241.23	0.00	0.01	0.01	2.53	
4.00		480.10	0.00	0.02	0.01	8.28	
6.00		476.97	0.00	0.03	0.02	10.53	
8.00		473.83	0.00	0.04	0.02	12.16	
10.00		470.69	0.01	0.05	0.03	13.37	
12.00		467.55	0.01	0.05	0.03	14.27	
14.00		464.41	0.01	0.06	0.03	14.95	
16.00		461.28	0.01	0.06	0.03	15.45	
18.00		458.14	0.02	0.06	0.04	15.82	
18.25	RT4	57.05	0.02	0.06	0.04	1.98	
20.00		397.95	0.02	0.06	0.04	14.07	
21.00	RT2 RT3 RB5 RB6	226.32	0.02	0.07	0.04	8.08	
22.00		225.54	0.03	0.07	0.04	8.12	
24.00		448.72	0.03	0.07	0.04	16.40	
26.00		445.59	0.04	0.07	0.04	16.48	
28.00		442.45	0.04	0.07	0.04	16.53	
28.25	RT5	55.09	0.04	0.07	0.04	2.06	
30.00		384.22	0.05	0.07	0.04	14.49	
32.00		436.17	0.05	0.07	0.04	16.58	
34.00		433.03	0.06	0.07	0.04	16.59	
36.00		429.90	0.07	0.07	0.04	16.60	
38.00		426.76	0.08	0.07	0.04	16.61	
40.00		423.62	0.09	0.07	0.04	16.61	
41.00	RT6 RB7	210.63	0.09	0.07	0.04	8.29	
42.00		209.85	0.09	0.07	0.04	8.30	
43.25	Bot - Section 2	261.21	0.10	0.07	0.04	10.38	
44.00		292.44	0.10	0.07	0.04	11.66	
46.00		775.82	0.11	0.07	0.04	31.20	
47.75	RB8	674.06	0.12	0.07	0.03	27.31	
48.00		95.93	0.12	0.07	0.03	3.89	
48.92	RB9	352.24	0.13	0.07	0.03	14.34	
49.00	Top - Section 1	30.57	0.13	0.07	0.03	1.25	
50.00		177.78	0.13	0.07	0.03	7.27	
52.00		353.55	0.14	0.07	0.03	14.58	
54.00		350.86	0.16	0.07	0.03	14.58	
56.00		348.17	0.17	0.07	0.03	14.56	
58.00		345.48	0.18	0.07	0.03	14.53	
60.00		342.79	0.19	0.06	0.02	14.46	
61.00	RT7 RB10	170.39	0.20	0.06	0.02	7.19	
62.00		169.71	0.21	0.06	0.02	7.17	
64.00		337.41	0.22	0.06	0.02	14.22	
65.00	RT8 RB11	167.70	0.23	0.06	0.02	7.05	
66.00		167.02	0.23	0.06	0.02	7.00	
68.00		332.03	0.25	0.06	0.02	13.77	

Seismic Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 54	

70.00		329.34	0.26	0.05	0.02	13.44
72.00		326.65	0.28	0.05	0.01	13.03
72.25	RT11	40.64	0.28	0.05	0.01	1.62
74.00		283.32	0.29	0.05	0.01	10.94
76.00		321.27	0.31	0.04	0.01	11.88
76.83	RT9	132.54	0.32	0.04	0.01	4.79
78.00		186.04	0.33	0.04	0.01	6.50
80.00		315.89	0.34	0.03	0.01	10.23
81.00	RT10 RB12	156.94	0.35	0.03	0.01	4.85
82.00		156.27	0.36	0.03	0.01	4.59
84.00		310.51	0.38	0.03	0.01	8.00
86.00		307.82	0.40	0.02	0.01	6.66
87.50	Bot - Section 3	229.10	0.41	0.02	0.01	4.17
88.00		140.55	0.41	0.01	0.01	2.39
90.00		559.12	0.43	0.01	0.01	6.61
90.50	RB13	139.01	0.44	0.01	0.01	1.45
91.92	RB14	393.11	0.45	0.00	0.01	2.55
92.00		22.07	0.45	0.00	0.01	0.14
92.25	Top - Section 2	68.93	0.46	0.00	0.01	0.38
94.00		220.55	0.47	-0.01	0.01	0.09
96.00		249.95	0.49	-0.01	0.01	-1.40
98.00		247.71	0.51	-0.02	0.01	-2.88
100.00		245.47	0.53	-0.03	0.01	-4.29
101.00	RT12 RB15	121.89	0.55	-0.03	0.01	-2.47
102.00		121.33	0.56	-0.04	0.01	-2.79
104.00		240.99	0.58	-0.05	0.01	-6.78
105.50	RT13	179.27	0.60	-0.05	0.01	-5.68
105.58	RT14	9.53	0.60	-0.05	0.01	-0.30
106.00		49.95	0.60	-0.05	0.01	-1.64
108.00		236.51	0.62	-0.06	0.02	-8.71
110.00		234.26	0.65	-0.07	0.02	-9.43
112.00		232.02	0.67	-0.08	0.02	-9.99
114.00		229.78	0.69	-0.09	0.03	-10.40
116.00		227.54	0.72	-0.09	0.03	-10.65
118.00	RT15	225.30	0.74	-0.10	0.04	-10.77
120.00		223.06	0.77	-0.11	0.05	-10.75
122.00		220.82	0.80	-0.11	0.05	-10.61
124.00		218.57	0.82	-0.12	0.06	-10.35
126.00		216.33	0.85	-0.12	0.07	-9.99
128.00		214.09	0.88	-0.12	0.08	-9.51
130.00		211.85	0.90	-0.12	0.09	-8.95
132.00		209.61	0.93	-0.12	0.10	-8.29
132.50	Bot - Section 4	52.05	0.94	-0.12	0.10	-2.02
134.00		265.94	0.96	-0.12	0.11	-9.67
136.00		351.26	0.99	-0.11	0.13	-11.49
136.50	Top - Section 3	87.22	1.00	-0.11	0.13	-2.77
138.00		108.28	1.02	-0.10	0.14	-3.10
140.00		142.99	1.05	-0.09	0.16	-3.43
142.00		141.42	1.08	-0.08	0.17	-2.68
144.00		139.86	1.11	-0.06	0.19	-1.88
146.00		138.29	1.14	-0.04	0.21	-1.03
148.00		136.72	1.17	-0.02	0.23	-0.14
150.00		135.15	1.20	0.01	0.26	0.80
152.00		133.58	1.24	0.04	0.28	1.78
154.00		132.01	1.27	0.08	0.31	2.80
156.00		130.44	1.30	0.12	0.34	3.86
158.00	Appurtenance(s)	4127.4	1.33	0.17	0.37	158.56

Seismic Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 55	

160.00			127.30	1.37	0.23	0.40	6.08		
162.00			125.73	1.40	0.29	0.44	7.24		
164.00			124.16	1.44	0.36	0.47	8.43		
166.00			122.59	1.47	0.44	0.51	9.65		
168.00	Appurtenance(s)		1135.0	1.51	0.52	0.55	102.25		
168.50	Appurtenance(s)		1430.0	1.52	0.55	0.56	132.99		
170.00			89.44	1.55	0.62	0.60	9.12		
172.00			117.88	1.58	0.72	0.65	13.48		
174.00			116.32	1.62	0.84	0.70	14.80		
176.00			114.75	1.66	0.96	0.75	16.14		
177.00	Appurtenance(s)		2415.8	1.68	1.03	0.78	356.41		
178.00	Top - Section 4		56.39	1.69	1.10	0.81	8.72		
180.00			96.44	1.73	1.25	0.87	16.30		
182.00			96.44	1.77	1.41	0.93	17.75		
184.00	Appurtenance(s)		1696.4	1.81	1.59	1.00	338.71		
186.00			96.44	1.85	1.78	1.07	20.81		
187.00	Appurtenance(s)		2320.1	1.87	1.88	1.10	519.83		
188.00			48.22	1.89	1.98	1.14	11.21		
		Totals:	**40,792.0**				**2,240.2**	**Total Wind:**	**37,862.9**

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 56	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	28
Gust Response Factor	1.10			**Sds**	0.19			**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.22	**SA**	0.02	**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	-41.44	-2.43	0.00	-363.52	0.00	363.52	5035.03	2517.52	10606.9	5311.37		0.00	0.00	0.069
1.00	-41.19	-2.43	0.00	-361.09	0.00	361.09	5023.77	2511.88	10548.7	5282.19		0.00	0.00	0.050
2.00	-40.95	-2.44	0.00	-358.65	0.00	358.65	5012.47	2506.24	10490.5	5253.05		0.00	-0.01	0.050
4.00	-40.46	-2.43	0.00	-353.78	0.00	353.78	4989.78	2494.89	10374.4	5194.91		0.01	-0.01	0.050
6.00	-39.98	-2.42	0.00	-348.92	0.00	348.92	4966.95	2483.48	10258.6	5136.95		0.01	-0.02	0.050
8.00	-39.50	-2.42	0.00	-344.07	0.00	344.07	4944.00	2472.00	10143.2	5079.17		0.02	-0.02	0.049
10.00	-39.02	-2.41	0.00	-339.24	0.00	339.24	4920.91	2460.46	10028.2	5021.57		0.03	-0.03	0.049
12.00	-38.54	-2.40	0.00	-334.43	0.00	334.43	4897.70	2448.85	9913.58	4964.16		0.05	-0.04	0.049
14.00	-38.07	-2.38	0.00	-329.63	0.00	329.63	4874.35	2437.18	9799.30	4906.94		0.06	-0.04	0.049
16.00	-37.60	-2.37	0.00	-324.87	0.00	324.87	4850.88	2425.44	9685.41	4849.90		0.08	-0.05	0.048
18.00	-37.13	-2.36	0.00	-320.12	0.00	320.12	4827.27	2413.63	9571.89	4793.06		0.10	-0.05	0.048
18.25	-37.07	-2.36	0.00	-319.53	0.00	319.53	4824.31	2412.15	9557.73	4785.97		0.11	-0.05	0.051
20.00	-36.67	-2.35	0.00	-315.40	0.00	315.40	4803.53	2401.76	9458.77	4736.42		0.13	-0.06	0.050
21.00	-36.43	-2.34	0.00	-313.06	0.00	313.06	4791.61	2395.81	9402.36	4708.17		0.14	-0.06	0.050
22.00	-36.20	-2.34	0.00	-310.72	0.00	310.72	4779.66	2389.83	9346.05	4679.97		0.15	-0.07	0.050
24.00	-35.74	-2.32	0.00	-306.05	0.00	306.05	4755.66	2377.83	9233.73	4623.73		0.18	-0.07	0.050
26.00	-35.29	-2.31	0.00	-301.40	0.00	301.40	4731.53	2365.77	9121.82	4567.69		0.21	-0.08	0.050
28.00	-34.83	-2.29	0.00	-296.78	0.00	296.78	4707.27	2353.63	9010.32	4511.86		0.25	-0.08	0.049
28.25	-34.78	-2.29	0.00	-296.21	0.00	296.21	4704.23	2352.11	8996.42	4504.89		0.25	-0.09	0.055
30.00	-34.38	-2.28	0.00	-292.20	0.00	292.20	4682.88	2341.44	8899.25	4456.24		0.28	-0.09	0.054
32.00	-33.94	-2.27	0.00	-287.63	0.00	287.63	4658.36	2329.18	8788.59	4400.83		0.32	-0.10	0.054
34.00	-33.49	-2.26	0.00	-283.09	0.00	283.09	4633.70	2316.85	8678.37	4345.63		0.37	-0.11	0.054
36.00	-33.05	-2.24	0.00	-278.58	0.00	278.58	4608.92	2304.46	8568.58	4290.66		0.41	-0.11	0.053
38.00	-32.61	-2.23	0.00	-274.09	0.00	274.09	4584.01	2292.00	8459.23	4235.90		0.46	-0.12	0.053
40.00	-32.17	-2.22	0.00	-269.63	0.00	269.63	4558.96	2279.48	8350.33	4181.37		0.52	-0.13	0.053
41.00	-31.96	-2.21	0.00	-267.42	0.00	267.42	4546.39	2273.19	8296.04	4154.19		0.54	-0.13	0.053
42.00	-31.74	-2.20	0.00	-265.21	0.00	265.21	4533.79	2266.89	8241.87	4127.06		0.57	-0.13	0.052
43.25	-31.47	-2.19	0.00	-262.46	0.00	262.46	4517.98	2258.99	8174.32	4093.24		0.61	-0.14	0.052
44.00	-31.19	-2.18	0.00	-260.81	0.00	260.81	4508.48	2254.24	8133.88	4072.99		0.63	-0.14	0.052
46.00	-30.43	-2.15	0.00	-256.45	0.00	256.45	4483.04	2241.52	8026.35	4019.14		0.69	-0.15	0.051
47.75	-29.78	-2.13	0.00	-252.68	0.00	252.68	4460.68	2230.34	7932.64	3972.22		0.75	-0.16	0.050
48.00	-29.69	-2.12	0.00	-252.15	0.00	252.15	4457.48	2228.74	7919.28	3965.53		0.75	-0.16	0.050
48.92	-29.34	-2.11	0.00	-250.19	0.00	250.19	4445.67	2222.84	7870.19	3940.94		0.78	-0.16	0.039
49.00	-29.31	-2.11	0.00	-250.02	0.00	250.02	3699.57	1849.78	6681.20	3345.56		0.79	-0.16	0.042
50.00	-29.13	-2.10	0.00	-247.91	0.00	247.91	3689.91	1844.95	6638.39	3324.13		0.82	-0.16	0.044
52.00	-28.75	-2.09	0.00	-243.71	0.00	243.71	3670.50	1835.25	6553.00	3281.37		0.89	-0.17	0.044
54.00	-28.38	-2.08	0.00	-239.53	0.00	239.53	3650.96	1825.48	6467.90	3238.76		0.96	-0.17	0.043
56.00	-28.01	-2.06	0.00	-235.37	0.00	235.37	3631.28	1815.64	6383.12	3196.30		1.04	-0.18	0.043
58.00	-27.65	-2.05	0.00	-231.24	0.00	231.24	3611.48	1805.74	6298.65	3154.01		1.11	-0.19	0.042
60.00	-27.28	-2.04	0.00	-227.14	0.00	227.14	3591.55	1795.77	6214.50	3111.87		1.19	-0.19	0.042
61.00	-27.10	-2.03	0.00	-225.10	0.00	225.10	3581.53	1790.76	6172.55	3090.86		1.23	-0.20	0.043
62.00	-26.92	-2.03	0.00	-223.07	0.00	223.07	3571.48	1785.74	6130.67	3069.89		1.27	-0.20	0.043
64.00	-26.56	-2.01	0.00	-219.02	0.00	219.02	3551.28	1775.64	6047.18	3028.08		1.36	-0.20	0.043
65.00	-26.38	-2.01	0.00	-217.00	0.00	217.00	3541.14	1770.57	6005.55	3007.24		1.40	-0.21	0.043
66.00	-26.21	-2.00	0.00	-215.00	0.00	215.00	3530.96	1765.48	5964.01	2986.44		1.45	-0.21	0.042
68.00	-25.85	-1.99	0.00	-210.99	0.00	210.99	3510.50	1755.25	5881.19	2944.97		1.54	-0.22	0.042
70.00	-25.50	-1.98	0.00	-207.02	0.00	207.02	3489.91	1744.96	5798.71	2903.67		1.63	-0.22	0.042

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 57

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72.00	-25.15	-1.96	0.00	-203.06	0.00	203.06	3469.20	1734.60	5716.59	2862.54	1.72	-0.23	0.041
72.25	-25.11	-1.96	0.00	-202.57	0.00	202.57	3466.60	1733.30	5706.35	2857.41	1.74	-0.23	0.042
74.00	-24.81	-1.95	0.00	-199.13	0.00	199.13	3448.35	1724.17	5634.82	2821.60	1.82	-0.24	0.042
76.00	-24.46	-1.94	0.00	-195.23	0.00	195.23	3427.37	1713.68	5553.41	2780.83	1.92	-0.24	0.041
76.83	-24.32	-1.94	0.00	-193.61	0.00	193.61	3418.62	1709.31	5519.73	2763.97	1.96	-0.25	0.055
78.00	-24.12	-1.93	0.00	-191.34	0.00	191.34	3406.26	1703.13	5472.37	2740.25	2.02	-0.25	0.055
80.00	-23.78	-1.93	0.00	-187.47	0.00	187.47	3385.02	1692.51	5391.70	2699.86	2.13	-0.26	0.054
81.00	-23.61	-1.92	0.00	-185.55	0.00	185.55	3374.35	1687.17	5351.51	2679.73	2.19	-0.26	0.054
82.00	-23.44	-1.92	0.00	-183.63	0.00	183.63	3363.65	1681.82	5311.41	2659.65	2.24	-0.27	0.054
84.00	-23.11	-1.91	0.00	-179.79	0.00	179.79	3342.15	1671.07	5231.50	2619.64	2.36	-0.28	0.053
86.00	-22.78	-1.91	0.00	-175.96	0.00	175.96	3320.51	1660.26	5151.98	2579.82	2.47	-0.28	0.053
87.50	-22.53	-1.90	0.00	-173.10	0.00	173.10	3304.20	1652.10	5092.60	2550.09	2.56	-0.29	0.052
88.00	-22.39	-1.90	0.00	-172.15	0.00	172.15	3298.75	1649.38	5072.86	2540.20	2.59	-0.29	0.052
90.00	-21.83	-1.90	0.00	-168.35	0.00	168.35	3276.86	1638.43	4994.13	2500.78	2.72	-0.30	0.051
90.50	-21.69	-1.89	0.00	-167.40	0.00	167.40	3271.36	1635.68	4974.52	2490.96	2.75	-0.30	0.050
91.92	-21.30	-1.89	0.00	-164.71	0.00	164.71	3255.72	1627.86	4918.94	2463.13	2.84	-0.31	0.038
92.00	-21.28	-1.89	0.00	-164.56	0.00	164.56	3254.83	1627.42	4915.81	2461.56	2.85	-0.31	0.038
92.25	-21.21	-1.89	0.00	-164.08	0.00	164.08	2609.22	1304.61	4017.17	2011.57	2.86	-0.31	0.041
94.00	-20.96	-1.89	0.00	-160.77	0.00	160.77	2595.40	1297.70	3964.66	1985.28	2.98	-0.32	0.043
96.00	-20.68	-1.89	0.00	-156.99	0.00	156.99	2579.48	1289.74	3904.88	1955.34	3.11	-0.32	0.043
98.00	-20.40	-1.89	0.00	-153.20	0.00	153.20	2563.43	1281.72	3845.34	1925.53	3.25	-0.33	0.042
100.00	-20.13	-1.89	0.00	-149.41	0.00	149.41	2547.26	1273.63	3786.04	1895.83	3.39	-0.34	0.042
101.00	-19.99	-1.90	0.00	-147.52	0.00	147.52	2539.12	1269.56	3756.49	1881.04	3.46	-0.34	0.041
102.00	-19.85	-1.90	0.00	-145.62	0.00	145.62	2530.95	1265.47	3727.00	1866.27	3.53	-0.34	0.041
104.00	-19.58	-1.90	0.00	-141.83	0.00	141.83	2514.51	1257.25	3668.21	1836.83	3.68	-0.35	0.040
105.50	-19.38	-1.90	0.00	-138.99	0.00	138.99	2502.09	1251.04	3624.30	1814.84	3.79	-0.36	0.041
105.58	-19.37	-1.90	0.00	-138.83	0.00	138.83	2501.42	1250.71	3621.96	1813.67	3.79	-0.36	0.054
106.00	-19.31	-1.90	0.00	-138.04	0.00	138.04	2497.93	1248.97	3609.69	1807.53	3.82	-0.36	0.054
108.00	-19.04	-1.90	0.00	-134.24	0.00	134.24	2481.23	1240.62	3551.44	1778.36	3.98	-0.37	0.053
110.00	-18.78	-1.90	0.00	-130.44	0.00	130.44	2464.40	1232.20	3493.46	1749.33	4.13	-0.38	0.053
112.00	-18.51	-1.90	0.00	-126.64	0.00	126.64	2447.44	1223.72	3435.76	1720.43	4.29	-0.39	0.052
114.00	-18.25	-1.90	0.00	-122.84	0.00	122.84	2430.34	1215.17	3378.35	1691.68	4.46	-0.39	0.051
116.00	-17.99	-1.90	0.00	-119.03	0.00	119.03	2413.12	1206.56	3321.22	1663.08	4.62	-0.40	0.050
118.00	-17.73	-1.91	0.00	-115.22	0.00	115.22	2395.76	1197.88	3264.40	1634.62	4.79	-0.41	0.049
120.00	-17.48	-1.91	0.00	-111.42	0.00	111.42	2378.28	1189.14	3207.87	1606.32	4.97	-0.42	0.077
122.00	-17.22	-1.91	0.00	-107.60	0.00	107.60	2360.66	1180.33	3151.65	1578.17	5.15	-0.44	0.075
124.00	-16.97	-1.91	0.00	-103.78	0.00	103.78	2342.92	1171.46	3095.74	1550.17	5.33	-0.45	0.074
126.00	-16.72	-1.91	0.00	-99.96	0.00	99.96	2325.04	1162.52	3040.15	1522.33	5.52	-0.46	0.073
128.00	-16.47	-1.92	0.00	-96.14	0.00	96.14	2307.03	1153.52	2984.88	1494.66	5.72	-0.48	0.071
130.00	-16.23	-1.92	0.00	-92.31	0.00	92.31	2288.89	1144.45	2929.94	1467.15	5.92	-0.49	0.070
132.00	-15.98	-1.92	0.00	-88.47	0.00	88.47	2270.62	1135.31	2875.33	1439.80	6.13	-0.50	0.068
132.50	-15.92	-1.92	0.00	-87.51	0.00	87.51	2266.03	1133.02	2861.73	1432.99	6.19	-0.51	0.068
134.00	-15.64	-1.92	0.00	-84.63	0.00	84.63	2251.56	1125.78	2820.24	1412.21	6.35	-0.52	0.067
136.00	-15.27	-1.92	0.00	-80.80	0.00	80.80	2227.09	1113.55	2758.97	1381.53	6.57	-0.53	0.065
136.50	-15.18	-1.92	0.00	-79.84	0.00	79.84	1414.34	707.17	1783.76	893.21	6.62	-0.53	0.100
138.00	-15.04	-1.92	0.00	-76.96	0.00	76.96	1407.34	703.67	1760.42	881.52	6.79	-0.54	0.098
140.00	-14.85	-1.92	0.00	-73.12	0.00	73.12	1397.90	698.95	1729.39	865.98	7.02	-0.56	0.095
142.00	-14.67	-1.93	0.00	-69.27	0.00	69.27	1388.33	694.16	1698.46	850.49	7.26	-0.58	0.092
144.00	-14.49	-1.93	0.00	-65.42	0.00	65.42	1378.63	689.31	1667.63	835.05	7.51	-0.59	0.089
146.00	-14.31	-1.93	0.00	-61.56	0.00	61.56	1368.79	684.40	1636.91	819.67	7.76	-0.61	0.086
148.00	-14.13	-1.93	0.00	-57.70	0.00	57.70	1358.83	679.41	1606.31	804.35	8.02	-0.63	0.082
150.00	-13.95	-1.93	0.00	-53.83	0.00	53.83	1348.73	674.37	1575.83	789.09	8.28	-0.64	0.079
152.00	-13.78	-1.93	0.00	-49.96	0.00	49.96	1338.51	669.25	1545.48	773.89	8.56	-0.66	0.075
154.00	-13.60	-1.93	0.00	-46.09	0.00	46.09	1328.15	664.08	1515.26	758.76	8.83	-0.67	0.071
156.00	-13.43	-1.93	0.00	-42.23	0.00	42.23	1317.66	658.83	1485.18	743.69	9.12	-0.68	0.067
158.00	-9.66	-1.73	0.00	-38.37	0.00	38.37	1307.05	653.52	1455.24	728.70	9.41	-0.70	0.060
160.00	-9.52	-1.72	0.00	-34.92	0.00	34.92	1296.30	648.15	1425.45	713.78	9.70	-0.71	0.056

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 58

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162.00	-9.37	-1.71	0.00	-31.47	0.00	31.47	1285.42	642.71	1395.81	698.94	10.00	-0.72	0.052
164.00	-9.23	-1.71	0.00	-28.05	0.00	28.05	1274.41	637.21	1366.33	684.18	10.30	-0.73	0.048
166.00	-9.09	-1.70	0.00	-24.63	0.00	24.63	1263.27	631.63	1337.02	669.50	10.61	-0.74	0.044
168.00	-8.04	-1.58	0.00	-21.24	0.00	21.24	1252.00	626.00	1307.87	654.91	10.92	-0.75	0.039
168.50	-6.75	-1.43	0.00	-20.45	0.00	20.45	1249.16	624.58	1300.61	651.27	11.00	-0.75	0.037
170.00	-6.65	-1.42	0.00	-18.30	0.00	18.30	1240.60	620.30	1278.90	640.40	11.24	-0.76	0.034
172.00	-6.51	-1.41	0.00	-15.46	0.00	15.46	1229.07	614.53	1250.12	625.99	11.56	-0.76	0.030
174.00	-6.38	-1.39	0.00	-12.65	0.00	12.65	1217.40	608.70	1221.51	611.66	11.88	-0.77	0.026
176.00	-6.25	-1.37	0.00	-9.86	0.00	9.86	1205.61	602.80	1193.10	597.44	12.20	-0.77	0.022
177.00	-4.07	-0.99	0.00	-8.49	0.00	8.49	1199.66	599.83	1178.97	590.36	12.36	-0.78	0.018
178.00	-4.01	-0.98	0.00	-7.50	0.00	7.50	1193.69	596.84	1164.89	583.31	12.53	-0.78	0.016
178.00	-4.01	-0.98	0.00	-7.50	0.00	7.50	975.84	487.92	954.81	478.11	12.53	-0.78	0.020
180.00	-3.90	-0.96	0.00	-5.54	0.00	5.54	975.84	487.92	954.81	478.11	12.85	-0.78	0.016
182.00	-3.79	-0.94	0.00	-3.62	0.00	3.62	975.84	487.92	954.81	478.11	13.18	-0.78	0.011
184.00	-2.24	-0.58	0.00	-1.74	0.00	1.74	975.84	487.92	954.81	478.11	13.51	-0.79	0.006
186.00	-2.14	-0.56	0.00	-0.57	0.00	0.57	975.84	487.92	954.81	478.11	13.84	-0.79	0.003
187.00	-0.04	-0.01	0.00	-0.01	0.00	0.01	975.84	487.92	954.81	478.11	14.00	-0.79	0.000
188.00	0.00	-0.01	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	14.17	-0.79	0.000

Wind Loading - Shaft

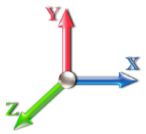
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 59	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

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	RB1	1.00	0.85	7.442	8.19	242.19	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RB2 RB3 RB4	1.00	0.85	7.442	8.19	241.41	0.650	0.000	1.00	4.371	2.84	23.3	0.0	242.0
2.00		1.00	0.85	7.442	8.19	240.63	0.650	0.000	1.00	4.357	2.83	23.2	0.0	241.2
4.00		1.00	0.85	7.442	8.19	239.08	0.650	0.000	2.00	8.672	5.64	46.1	0.0	480.1
6.00		1.00	0.85	7.442	8.19	237.53	0.650	0.000	2.00	8.616	5.60	45.8	0.0	477.0
8.00		1.00	0.85	7.442	8.19	235.97	0.650	0.000	2.00	8.560	5.56	45.5	0.0	473.8
10.00		1.00	0.85	7.442	8.19	234.42	0.650	0.000	2.00	8.503	5.53	45.2	0.0	470.7
12.00		1.00	0.85	7.442	8.19	232.86	0.650	0.000	2.00	8.447	5.49	44.9	0.0	467.6
14.00		1.00	0.85	7.442	8.19	231.31	0.650	0.000	2.00	8.391	5.45	44.6	0.0	464.4
16.00		1.00	0.86	7.534	8.29	231.17	0.650	0.000	2.00	8.335	5.42	44.9	0.0	461.3
18.00		1.00	0.88	7.723	8.50	232.47	0.650	0.000	2.00	8.279	5.38	45.7	0.0	458.1
18.25	RT4	1.00	0.88	7.745	8.52	232.61	0.650	0.000	0.25	1.031	0.67	5.7	0.0	57.0
20.00		1.00	0.90	7.896	8.69	233.46	0.650	0.000	1.75	7.192	4.67	40.6	0.0	398.0
21.00	RT2 RT3 RB5 RB6	1.00	0.91	7.978	8.78	233.86	0.650	0.000	1.00	4.090	2.66	23.3	0.0	226.3
22.00		1.00	0.92	8.056	8.86	234.20	0.650	0.000	1.00	4.076	2.65	23.5	0.0	225.5
24.00		1.00	0.94	8.205	9.03	234.72	0.650	0.000	2.00	8.110	5.27	47.6	0.0	448.7
26.00		1.00	0.95	8.345	9.18	235.06	0.650	0.000	2.00	8.054	5.24	48.1	0.0	445.6
28.00		1.00	0.97	8.476	9.32	235.24	0.650	0.000	2.00	7.998	5.20	48.5	0.0	442.4
28.25	RT5	1.00	0.97	8.492	9.34	235.26	0.650	0.000	0.25	0.996	0.65	6.0	0.0	55.1
30.00		1.00	0.98	8.600	9.46	235.29	0.650	0.000	1.75	6.946	4.51	42.7	0.0	384.2
32.00		1.00	1.00	8.717	9.59	235.21	0.650	0.000	2.00	7.885	5.13	49.1	0.0	436.2
34.00		1.00	1.01	8.829	9.71	235.02	0.650	0.000	2.00	7.829	5.09	49.4	0.0	433.0
36.00		1.00	1.02	8.936	9.83	234.74	0.650	0.000	2.00	7.773	5.05	49.7	0.0	429.9
38.00		1.00	1.03	9.039	9.94	234.36	0.650	0.000	2.00	7.717	5.02	49.9	0.0	426.8
40.00		1.00	1.04	9.137	10.05	233.91	0.650	0.000	2.00	7.661	4.98	50.0	0.0	423.6
41.00	RT6 RB7	1.00	1.05	9.184	10.10	233.66	0.650	0.000	1.00	3.809	2.48	25.0	0.0	210.6
42.00		1.00	1.05	9.231	10.15	233.38	0.650	0.000	1.00	3.795	2.47	25.0	0.0	209.8
43.25	Bot - Section 2	1.00	1.06	9.288	10.22	233.02	0.650	0.000	1.25	4.724	3.07	31.4	0.0	261.2
44.00		1.00	1.06	9.322	10.25	232.79	0.650	0.000	0.75	2.872	1.87	19.1	0.0	292.4
46.00		1.00	1.07	9.410	10.35	232.13	0.650	0.000	2.00	7.619	4.95	51.3	0.0	775.8
47.75	RB8	1.00	1.08	9.484	10.43	231.51	0.650	0.000	1.75	6.620	4.30	44.9	0.0	674.1
48.00		1.00	1.08	9.494	10.44	231.42	0.650	0.000	0.25	0.942	0.61	6.4	0.0	95.9
48.92	RB9	1.00	1.09	9.532	10.49	231.07	0.650	0.000	0.92	3.460	2.25	23.6	0.0	352.2
49.00	Top - Section 1	1.00	1.09	9.536	10.49	231.04	0.650	0.000	0.08	0.300	0.20	2.0	0.0	30.6
50.00		1.00	1.09	9.576	10.53	234.64	0.650	0.000	1.00	3.746	2.44	25.7	0.0	177.8
52.00		1.00	1.10	9.656	10.62	233.84	0.650	0.000	2.00	7.450	4.84	51.4	0.0	353.5
54.00		1.00	1.11	9.733	10.71	232.99	0.650	0.000	2.00	7.394	4.81	51.5	0.0	350.9
56.00		1.00	1.12	9.807	10.79	232.10	0.650	0.000	2.00	7.338	4.77	51.5	0.0	348.2
58.00		1.00	1.13	9.880	10.87	231.17	0.650	0.000	2.00	7.282	4.73	51.4	0.0	345.5
60.00		1.00	1.14	9.951	10.95	230.20	0.650	0.000	2.00	7.226	4.70	51.4	0.0	342.8
61.00	RT7 RB10	1.00	1.14	9.986	10.98	229.70	0.650	0.000	1.00	3.592	2.33	25.6	0.0	170.4
62.00		1.00	1.14	10.020	11.02	229.19	0.650	0.000	1.00	3.578	2.33	25.6	0.0	169.7
64.00		1.00	1.15	10.087	11.10	228.15	0.650	0.000	2.00	7.113	4.62	51.3	0.0	337.4
65.00	RT8 RB11	1.00	1.16	10.120	11.13	227.61	0.650	0.000	1.00	3.535	2.30	25.6	0.0	167.7
66.00		1.00	1.16	10.153	11.17	227.07	0.650	0.000	1.00	3.521	2.29	25.6	0.0	167.0
68.00		1.00	1.17	10.217	11.24	225.96	0.650	0.000	2.00	7.001	4.55	51.1	0.0	332.0
70.00		1.00	1.17	10.279	11.31	224.83	0.650	0.000	2.00	6.945	4.51	51.0	0.0	329.3

Wind Loading - Shaft

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G		2/17/2022
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 60

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72.00		1.00	1.18	10.340	11.37	223.66	0.650	0.000	2.00	6.888	4.48	50.9	0.0	326.7
72.25	RT11	1.00	1.18	10.348	11.38	223.52	0.650	0.000	0.25	0.857	0.56	6.3	0.0	40.6
74.00		1.00	1.19	10.400	11.44	222.47	0.650	0.000	1.75	5.975	3.88	44.4	0.0	283.3
76.00		1.00	1.19	10.459	11.50	221.25	0.650	0.000	2.00	6.776	4.40	50.7	0.0	321.3
76.83	RT9	1.00	1.20	10.483	11.53	220.74	0.650	0.000	0.83	2.796	1.82	21.0	0.0	132.5
78.00		1.00	1.20	10.516	11.57	220.01	0.650	0.000	1.17	3.924	2.55	29.5	0.0	186.0
80.00		1.00	1.21	10.572	11.63	218.75	0.650	0.000	2.00	6.664	4.33	50.4	0.0	315.9
81.00	RT10 RB12	1.00	1.21	10.600	11.66	218.11	0.650	0.000	1.00	3.311	2.15	25.1	0.0	156.9
82.00		1.00	1.21	10.627	11.69	217.46	0.650	0.000	1.00	3.297	2.14	25.0	0.0	156.3
84.00		1.00	1.22	10.681	11.75	216.15	0.650	0.000	2.00	6.551	4.26	50.0	0.0	310.5
86.00		1.00	1.23	10.734	11.81	214.82	0.650	0.000	2.00	6.495	4.22	49.8	0.0	307.8
87.50	Bot - Section 3	1.00	1.23	10.774	11.85	213.81	0.650	0.000	1.50	4.834	3.14	37.2	0.0	229.1
88.00		1.00	1.23	10.787	11.87	213.47	0.650	0.000	0.50	1.631	1.06	12.6	0.0	140.6
90.00		1.00	1.24	10.838	11.92	212.10	0.650	0.000	2.00	6.488	4.22	50.3	0.0	559.1
90.50	RB13	1.00	1.24	10.850	11.94	211.75	0.650	0.000	0.50	1.613	1.05	12.5	0.0	139.0
91.92	RB14	1.00	1.24	10.886	11.97	210.77	0.650	0.000	1.42	4.563	2.97	35.5	0.0	393.1
92.00		1.00	1.24	10.888	11.98	210.71	0.650	0.000	0.08	0.256	0.17	2.0	0.0	22.1
92.25	Top - Section 2	1.00	1.24	10.894	11.98	210.53	0.650	0.000	0.25	0.800	0.52	6.2	0.0	68.9
94.00		1.00	1.25	10.937	12.03	212.85	0.650	0.000	1.75	5.576	3.62	43.6	0.0	220.5
96.00		1.00	1.25	10.986	12.08	211.43	0.650	0.000	2.00	6.320	4.11	49.6	0.0	250.0
98.00		1.00	1.26	11.034	12.14	210.00	0.650	0.000	2.00	6.264	4.07	49.4	0.0	247.7
100.00		1.00	1.27	11.081	12.19	208.55	0.650	0.000	2.00	6.207	4.03	49.2	0.0	245.5
101.00	RT12 RB15	1.00	1.27	11.104	12.21	207.82	0.650	0.000	1.00	3.083	2.00	24.5	0.0	121.9
102.00		1.00	1.27	11.127	12.24	207.08	0.650	0.000	1.00	3.069	1.99	24.4	0.0	121.3
104.00		1.00	1.28	11.173	12.29	205.60	0.650	0.000	2.00	6.095	3.96	48.7	0.0	241.0
105.50	RT13	1.00	1.28	11.206	12.33	204.48	0.650	0.000	1.50	4.534	2.95	36.3	0.0	179.3
105.58	RT14	1.00	1.28	11.208	12.33	204.42	0.650	0.000	0.08	0.241	0.16	1.9	0.0	9.5
106.00		1.00	1.28	11.218	12.34	204.11	0.650	0.000	0.42	1.263	0.82	10.1	0.0	50.0
108.00		1.00	1.29	11.262	12.39	202.60	0.650	0.000	2.00	5.983	3.89	48.2	0.0	236.5
110.00		1.00	1.29	11.305	12.44	201.07	0.650	0.000	2.00	5.926	3.85	47.9	0.0	234.3
112.00		1.00	1.30	11.348	12.48	199.54	0.650	0.000	2.00	5.870	3.82	47.6	0.0	232.0
114.00		1.00	1.30	11.391	12.53	197.99	0.650	0.000	2.00	5.814	3.78	47.4	0.0	229.8
116.00		1.00	1.31	11.432	12.58	196.42	0.650	0.000	2.00	5.758	3.74	47.1	0.0	227.5
118.00	RT15	1.00	1.31	11.474	12.62	194.85	0.650	0.000	2.00	5.702	3.71	46.8	0.0	225.3
120.00		1.00	1.32	11.514	12.67	193.26	0.650	0.000	2.00	5.645	3.67	46.5	0.0	223.1
122.00		1.00	1.32	11.554	12.71	191.66	0.650	0.000	2.00	5.589	3.63	46.2	0.0	220.8
124.00		1.00	1.32	11.594	12.75	190.05	0.650	0.000	2.00	5.533	3.60	45.9	0.0	218.6
126.00		1.00	1.33	11.633	12.80	188.42	0.650	0.000	2.00	5.477	3.56	45.6	0.0	216.3
128.00		1.00	1.33	11.672	12.84	186.79	0.650	0.000	2.00	5.421	3.52	45.2	0.0	214.1
130.00		1.00	1.34	11.710	12.88	185.14	0.650	0.000	2.00	5.364	3.49	44.9	0.0	211.9
132.00		1.00	1.34	11.748	12.92	183.49	0.650	0.000	2.00	5.308	3.45	44.6	0.0	209.6
132.50	Bot - Section 4	1.00	1.34	11.757	12.93	183.07	0.650	0.000	0.50	1.318	0.86	11.1	0.0	52.1
134.00		1.00	1.35	11.785	12.96	181.82	0.650	0.000	1.50	3.989	2.59	33.6	0.0	265.9
136.00		1.00	1.35	11.822	13.00	180.15	0.650	0.000	2.00	5.270	3.43	44.5	0.0	351.3
136.50	Top - Section 3	1.00	1.35	11.831	13.01	179.73	0.650	0.000	0.50	1.309	0.85	11.1	0.0	87.2
138.00		1.00	1.35	11.858	13.04	181.05	0.650	0.000	1.50	3.905	2.54	33.1	0.0	108.3
140.00		1.00	1.36	11.894	13.08	179.36	0.650	0.000	2.00	5.158	3.35	43.9	0.0	143.0
142.00		1.00	1.36	11.930	13.12	177.66	0.650	0.000	2.00	5.101	3.32	43.5	0.0	141.4
144.00		1.00	1.37	11.965	13.16	175.95	0.650	0.000	2.00	5.045	3.28	43.2	0.0	139.9
146.00		1.00	1.37	12.000	13.20	174.23	0.650	0.000	2.00	4.989	3.24	42.8	0.0	138.3
148.00		1.00	1.37	12.034	13.24	172.51	0.650	0.000	2.00	4.933	3.21	42.4	0.0	136.7
150.00		1.00	1.38	12.068	13.27	170.77	0.650	0.000	2.00	4.877	3.17	42.1	0.0	135.1
152.00		1.00	1.38	12.102	13.31	169.03	0.650	0.000	2.00	4.820	3.13	41.7	0.0	133.6
154.00		1.00	1.39	12.135	13.35	167.27	0.650	0.000	2.00	4.764	3.10	41.3	0.0	132.0
156.00		1.00	1.39	12.168	13.39	165.51	0.650	0.000	2.00	4.708	3.06	41.0	0.0	130.4
158.00	Appurtenance(s)	1.00	1.39	12.201	13.42	163.75	0.650	0.000	2.00	4.652	3.02	40.6	0.0	128.9
160.00		1.00	1.40	12.233	13.46	161.97	0.650	0.000	2.00	4.596	2.99	40.2	0.0	127.3

Wind Loading - Shaft

Structure: CT46124-A-SBA
Site Name: Enfield-Moody Rd.
Height: 188.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1
Code: TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II
2/17/2022

162.00		1.00	1.40	12.265	13.49	160.19	0.650	0.000	2.00	4.539	2.95	39.8	0.0	125.7
164.00		1.00	1.40	12.297	13.53	158.40	0.650	0.000	2.00	4.483	2.91	39.4	0.0	124.2
166.00		1.00	1.41	12.328	13.56	156.60	0.650	0.000	2.00	4.427	2.88	39.0	0.0	122.6
168.00	Appurtenance(s)	1.00	1.41	12.360	13.60	154.79	0.650	0.000	2.00	4.371	2.84	38.6	0.0	121.0
168.50	Appurtenance(s)	1.00	1.41	12.367	13.60	154.34	0.650	0.000	0.50	1.084	0.70	9.6	0.0	30.0
170.00		1.00	1.42	12.390	13.63	152.98	0.650	0.000	1.50	3.231	2.10	28.6	0.0	89.4
172.00		1.00	1.42	12.421	13.66	151.16	0.650	0.000	2.00	4.258	2.77	37.8	0.0	117.9
174.00		1.00	1.42	12.451	13.70	149.33	0.650	0.000	2.00	4.202	2.73	37.4	0.0	116.3
176.00		1.00	1.43	12.481	13.73	147.50	0.650	0.000	2.00	4.146	2.69	37.0	0.0	114.7
177.00	Appurtenance(s)	1.00	1.43	12.496	13.75	146.58	0.650	0.000	1.00	2.052	1.33	18.3	0.0	56.8
178.00	Top - Section 4	1.00	1.43	12.511	13.76	145.66	0.650	0.000	1.00	2.038	1.32	18.2	0.0	56.4
180.00		1.00	1.43	12.540	13.79	145.83	0.650	0.000	2.00	4.062	2.64	36.4	0.0	96.4
182.00		1.00	1.44	12.570	13.83	146.00	0.650	0.000	2.00	4.062	2.64	36.5	0.0	96.4
184.00	Appurtenance(s)	1.00	1.44	12.599	13.86	146.17	0.650	0.000	2.00	4.062	2.64	36.6	0.0	96.4
186.00		1.00	1.44	12.627	13.89	146.34	0.650	0.000	2.00	4.062	2.64	36.7	0.0	96.4
187.00	Appurtenance(s)	1.00	1.44	12.642	13.91	146.42	0.650	0.000	1.00	2.031	1.32	18.4	0.0	48.2
188.00		1.00	1.45	12.656	13.92	146.50	0.650	0.000	1.00	2.031	1.32	18.4	0.0	48.2
								Totals:	**188.00**			**4,335.0**		**28,148.4**

Discrete Appurtenance Forces

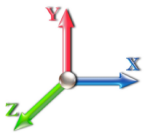
Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 62	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

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	187.00	Collar Mount (3-Sided)	1	12.642	13.906	1.00	1.00	2.10	220.00	0.000	0.000	29.20	0.00	0.00
2	187.00	AIR6449 B41	3	12.642	13.906	0.53	0.75	9.03	309.00	0.000	0.000	125.51	0.00	0.00
3	187.00	RRUS 4415 B25	3	12.642	13.906	0.38	0.75	1.84	138.00	0.000	0.000	25.66	0.00	0.00
4	187.00	PRK-1245 (kicker kit)	1	12.642	13.906	0.75	0.75	5.63	464.91	0.000	0.000	78.22	0.00	0.00
5	187.00	RFS	3	12.642	13.906	0.52	0.75	28.73	384.00	0.000	0.000	399.48	0.00	0.00
6	187.00	Kathrein 782 11054-Smart	3	12.642	13.906	0.38	0.75	0.25	5.40	0.000	0.000	3.44	0.00	0.00
7	187.00	Ericsson KRY 112 114-1	12	12.642	13.906	0.38	0.75	1.84	132.00	0.000	0.000	25.66	0.00	0.00
8	187.00	Ericsson	3	12.642	13.906	0.65	0.75	12.60	396.60	0.000	0.000	175.17	0.00	0.00
9	187.00	Ericsson Radio 4449 B71	3	12.642	13.906	0.38	0.75	2.81	222.00	0.000	0.000	39.11	0.00	0.00
10	184.00	Platform w/ Hand Rail	1	12.599	13.858	1.00	1.00	32.00	1600.00	0.000	0.000	443.47	0.00	0.00
11	177.00	TA08025-B604	3	12.496	13.746	0.38	0.75	2.21	191.70	0.000	0.000	30.31	0.00	0.00
12	177.00	MX08FRO665-21	3	12.496	13.746	0.55	0.75	20.80	193.50	0.000	0.000	285.85	0.00	0.00
13	177.00	RDIDC-9181-OF-48	1	12.496	13.746	0.38	0.75	0.75	21.90	0.000	0.000	10.36	0.00	0.00
14	177.00	TA08025-B605	3	12.496	13.746	0.38	0.75	2.21	225.00	0.000	0.000	30.31	0.00	0.00
15	177.00	MC-PK8-DSH	1	12.496	13.746	1.00	1.00	32.00	1727.00	0.000	0.000	439.86	0.00	0.00
16	168.50	Low Profile Platform	1	12.367	13.604	1.00	1.00	22.00	1400.00	0.000	0.000	299.29	0.00	0.00
17	168.00	APXV9ERR18-C-A20	1	12.360	13.596	0.65	0.80	5.20	62.00	0.000	0.000	70.66	0.00	0.00
18	168.00	ACU-A20-N	4	12.360	13.596	0.40	0.80	0.22	4.00	0.000	0.000	3.05	0.00	0.00
19	168.00	TD-RRH8x20-25	3	12.360	13.596	0.40	0.80	3.66	210.00	0.000	0.000	49.76	0.00	0.00
20	168.00	800 MHz RRH	3	12.360	13.596	0.40	0.80	3.00	162.00	0.000	0.000	40.79	0.00	0.00
21	168.00	1900 MHz RRH	3	12.360	13.596	0.40	0.80	3.00	132.00	0.000	0.000	40.79	0.00	0.00
22	168.00	APXVTM14-C-120	3	12.360	13.596	0.62	0.80	11.87	168.00	0.000	0.000	161.36	0.00	0.00
23	168.00	800 MHz Filters	3	12.360	13.596	0.40	0.80	3.00	162.00	0.000	0.000	40.79	0.00	0.00
24	168.00	APXVSPP18-C-A20	2	12.360	13.596	0.65	0.80	10.39	114.00	0.000	0.000	141.31	0.00	0.00
25	158.00	Kathrein 860-10025 RET	6	12.201	13.421	0.38	0.75	0.36	6.96	0.000	0.000	4.83	0.00	0.00
26	158.00	HPA-65R-BUU-H8	3	12.201	13.421	0.58	0.75	22.78	204.00	0.000	0.000	305.73	0.00	0.00
27	158.00	Ericsson RRUS-A2 RRU	3	12.201	13.421	0.38	0.75	2.09	63.30	0.000	0.000	28.08	0.00	0.00
28	158.00	800 10121	3	12.201	13.421	0.58	0.75	9.04	132.30	0.000	0.000	121.30	0.00	0.00
29	158.00	Raycap DC6-48-60-18-8F	2	12.201	13.421	0.38	0.75	1.10	63.60	0.000	0.000	14.80	0.00	0.00
30	158.00	Powerwave LGP21401	6	12.201	13.421	0.38	0.75	2.83	105.00	0.000	0.000	38.05	0.00	0.00
31	158.00	Ericsson 8843 B2 B66A	3	12.201	13.421	0.38	0.75	1.84	216.00	0.000	0.000	24.76	0.00	0.00
32	158.00	800 10966	6	12.201	13.421	0.53	0.75	45.72	687.60	0.000	0.000	613.61	0.00	0.00
33	158.00	Ericsson RRUS 4415 B25	3	12.201	13.421	0.38	0.75	1.84	138.00	0.000	0.000	24.76	0.00	0.00
34	158.00	Ericsson 4449 B5 B12	3	12.201	13.421	0.38	0.75	1.86	219.00	0.000	0.000	24.91	0.00	0.00
35	158.00	Raycap DC6-48-60-0-8C	1	12.201	13.421	0.38	0.75	1.42	26.20	0.000	0.000	19.02	0.00	0.00
36	158.00	Plateform Mount	1	12.201	13.421	1.00	1.00	38.00	2136.59	0.000	0.000	510.00	0.00	0.00
							Totals:		**12,643.56**			**4,719.25**		

Total Applied Force Summary

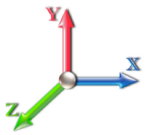
Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 63

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

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
1.00		23.26	272.53	0.00	0.00
2.00		23.18	271.74	0.00	0.00
4.00		46.14	541.13	0.00	0.00
6.00		45.84	537.99	0.00	0.00
8.00		45.55	534.85	0.00	0.00
10.00		45.25	531.72	0.00	0.00
12.00		44.95	528.58	0.00	0.00
14.00		44.65	525.44	0.00	0.00
16.00		44.90	522.30	0.00	0.00
18.00		45.71	519.16	0.00	0.00
18.25		5.71	64.67	0.00	0.00
20.00		40.60	451.35	0.00	0.00
21.00		23.33	256.84	0.00	0.00
22.00		23.48	256.05	0.00	0.00
24.00		47.58	509.75	0.00	0.00
26.00		48.05	506.61	0.00	0.00
28.00		48.47	503.47	0.00	0.00
28.25		6.05	62.71	0.00	0.00
30.00		42.71	437.62	0.00	0.00
32.00		49.15	497.20	0.00	0.00
34.00		49.43	494.06	0.00	0.00
36.00		49.66	490.92	0.00	0.00
38.00		49.87	487.78	0.00	0.00
40.00		50.04	484.65	0.00	0.00
41.00		25.01	241.15	0.00	0.00
42.00		25.05	240.36	0.00	0.00
43.25		31.37	299.35	0.00	0.00
44.00		19.14	315.32	0.00	0.00
46.00		51.26	836.85	0.00	0.00
47.75		44.89	727.46	0.00	0.00
48.00		6.40	103.56	0.00	0.00
48.92		23.58	380.31	0.00	0.00
49.00		2.05	33.01	0.00	0.00
50.00		25.65	208.30	0.00	0.00
52.00		51.44	414.57	0.00	0.00
54.00		51.45	411.88	0.00	0.00
56.00		51.46	409.19	0.00	0.00
58.00		51.44	406.50	0.00	0.00
60.00		51.41	403.81	0.00	0.00
61.00		25.64	200.90	0.00	0.00
62.00		25.63	200.23	0.00	0.00
64.00		51.30	398.44	0.00	0.00
65.00		25.58	198.21	0.00	0.00
66.00		25.56	197.54	0.00	0.00
68.00		51.14	393.06	0.00	0.00
70.00		51.04	390.37	0.00	0.00

Total Applied Force Summary

Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 64

72.00		50.93	387.68	0.00	0.00
72.25		6.34	48.27	0.00	0.00
74.00		44.43	336.72	0.00	0.00
76.00		50.67	382.30	0.00	0.00
76.83		20.95	157.86	0.00	0.00
78.00		29.51	221.74	0.00	0.00
80.00		50.37	376.92	0.00	0.00
81.00		25.09	187.45	0.00	0.00
82.00		25.05	186.78	0.00	0.00
84.00		50.03	371.54	0.00	0.00
86.00		49.85	368.85	0.00	0.00
87.50		37.24	274.87	0.00	0.00
88.00		12.58	155.81	0.00	0.00
90.00		50.28	620.15	0.00	0.00
90.50		12.52	154.27	0.00	0.00
91.92		35.51	436.44	0.00	0.00
92.00		1.99	24.51	0.00	0.00
92.25		6.23	76.56	0.00	0.00
94.00		43.60	273.95	0.00	0.00
96.00		49.64	310.98	0.00	0.00
98.00		49.41	308.74	0.00	0.00
100.00		49.18	306.50	0.00	0.00
101.00		24.47	152.41	0.00	0.00
102.00		24.41	151.85	0.00	0.00
104.00		48.69	302.01	0.00	0.00
105.50		36.33	225.04	0.00	0.00
105.58		1.93	11.97	0.00	0.00
106.00		10.13	62.77	0.00	0.00
108.00		48.17	297.53	0.00	0.00
110.00		47.90	295.29	0.00	0.00
112.00		47.63	293.05	0.00	0.00
114.00		47.35	290.81	0.00	0.00
116.00		47.07	288.57	0.00	0.00
118.00		46.77	286.32	0.00	0.00
120.00		46.48	284.08	0.00	0.00
122.00		46.18	281.84	0.00	0.00
124.00		45.87	279.60	0.00	0.00
126.00		45.55	277.36	0.00	0.00
128.00		45.24	275.12	0.00	0.00
130.00		44.91	272.88	0.00	0.00
132.00		44.59	270.64	0.00	0.00
132.50		11.08	67.31	0.00	0.00
134.00		33.61	311.71	0.00	0.00
136.00		44.54	412.28	0.00	0.00
136.50		11.07	102.48	0.00	0.00
138.00		33.11	154.04	0.00	0.00
140.00		43.86	204.02	0.00	0.00
142.00		43.51	202.45	0.00	0.00
144.00		43.16	200.88	0.00	0.00
146.00		42.80	199.31	0.00	0.00
148.00		42.44	197.74	0.00	0.00
150.00		42.08	196.17	0.00	0.00
152.00		41.71	194.60	0.00	0.00
154.00		41.34	193.03	0.00	0.00
156.00		40.96	191.47	0.00	0.00
158.00	(40) attachments	1770.44	4188.45	0.00	0.00
160.00		40.20	161.25	0.00	0.00

Total Applied Force Summary

Structure:	CT46124-A-SBA		**Code:**	TIA-222-G	2/17/2022
Site Name:	Enfield-Moody Rd.		**Exposure:**	C	
Height:	188.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 65

162.00		39.81	159.68	0.00	0.00
164.00		39.42	158.11	0.00	0.00
166.00		39.02	156.54	0.00	0.00
168.00	(22) attachments	587.11	1168.97	0.00	0.00
168.50	(1) attachments	308.87	1437.39	0.00	0.00
170.00		28.62	111.57	0.00	0.00
172.00		37.82	147.39	0.00	0.00
174.00		37.41	145.82	0.00	0.00
176.00		37.00	144.25	0.00	0.00
177.00	(11) attachments	815.03	2430.64	0.00	0.00
178.00		18.23	69.15	0.00	0.00
180.00		36.42	121.96	0.00	0.00
182.00		36.50	121.96	0.00	0.00
184.00	(1) attachments	480.06	1721.96	0.00	0.00
186.00		36.67	121.96	0.00	0.00
187.00	(32) attachments	919.80	2332.89	0.00	0.00
188.00		18.38	48.22	0.00	0.00
	Totals:	**9,054.26**	**46,043.18**	**0.00**	**0.00**

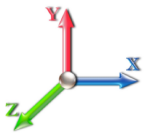
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 66	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.024	0.000	7.442	0.00	0.00
2.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.024	0.000	7.442	0.00	0.00
4.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	7.442	0.00	0.00
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	7.442	0.00	0.00
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	7.442	0.00	0.00
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.024	0.000	7.442	0.00	0.00
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	7.442	0.00	0.00
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	7.442	0.00	0.00
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	7.534	0.00	0.00
18.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.025	0.000	7.723	0.00	0.00
18.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.025	0.000	7.745	0.00	0.00
20.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.025	0.000	7.896	0.00	0.00
21.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.025	0.000	7.978	0.00	0.00
22.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.026	0.000	8.056	0.00	0.00
24.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	8.205	0.00	0.00
26.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	8.345	0.00	0.00
28.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	8.476	0.00	0.00
28.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.026	0.000	8.492	0.00	0.00
30.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.026	0.000	8.600	0.00	0.00
32.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.026	0.000	8.717	0.00	0.00
34.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.027	0.000	8.829	0.00	0.00
36.00	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.020	0.000	8.936	0.00	0.00
47.75	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.020	0.000	9.484	0.00	0.00
48.00	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.028	0.000	9.494	0.00	0.00
48.92	1.25" Reinforcing	Yes	0.92	0.000	1.25	0.10	0.00	0.028	0.000	9.532	0.00	0.00
49.00	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.028	0.000	9.536	0.00	0.00
50.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.028	0.000	9.576	0.00	0.00
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	9.656	0.00	0.00
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	9.733	0.00	0.00
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	9.807	0.00	0.00
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	9.880	0.00	0.00
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	9.951	0.00	0.00
61.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	9.986	0.00	0.00
62.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	10.020	0.00	0.00
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	10.087	0.00	0.00
65.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.029	0.000	10.120	0.00	0.00
66.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.030	0.000	10.153	0.00	0.00
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	10.217	0.00	0.00
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	10.279	0.00	0.00
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	10.340	0.00	0.00
72.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.030	0.000	10.348	0.00	0.00
74.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.031	0.000	10.400	0.00	0.00
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	10.459	0.00	0.00
76.83	1.25" Reinforcing	Yes	0.83	0.000	1.25	0.09	0.00	0.031	0.000	10.483	0.00	0.00
78.00	1.25" Reinforcing	Yes	1.17	0.000	1.25	0.12	0.00	0.031	0.000	10.516	0.00	0.00
80.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.020	0.000	10.572	0.00	0.00
90.50	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.016	0.000	10.850	0.00	0.00

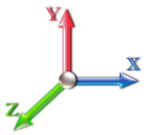
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 67	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
91.92	1.25" Reinforcing	Yes	1.42	0.000	1.25	0.15	0.00	0.033	0.000	10.886	0.00	0.00
92.00	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.033	0.000	10.888	0.00	0.00
92.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.033	0.000	10.894	0.00	0.00
94.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.033	0.000	10.937	0.00	0.00
96.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	10.986	0.00	0.00
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	11.034	0.00	0.00
100.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	11.081	0.00	0.00
101.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.034	0.000	11.104	0.00	0.00
102.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.034	0.000	11.127	0.00	0.00
104.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	11.173	0.00	0.00
105.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.034	0.000	11.206	0.00	0.00
105.58	1.25" Reinforcing	Yes	0.08	0.000	1.25	0.01	0.00	0.035	0.000	11.208	0.00	0.00
106.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.035	0.000	11.218	0.00	0.00
108.00	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.035	0.000	11.262	0.00	0.00
108.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.035	0.000	11.262	0.00	0.00
110.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	11.305	0.00	0.00
112.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	11.348	0.00	0.00
114.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.036	0.000	11.391	0.00	0.00
116.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.036	0.000	11.432	0.00	0.00
118.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.037	0.000	11.474	0.00	0.00
120.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.037	0.000	11.514	0.00	0.00
122.00	1.25" Reinforcing	Yes	1.25	0.000	1.25	0.13	0.00	0.023	0.000	11.554	0.00	0.00
										Totals:	**0.0**	**0.0**

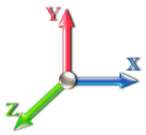
Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 68	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

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	-46.04	-9.06	0.00	-1264.9	0.00	1264.96	5035.03	2517.52	10606.9	5311.37	0.00	0.000	0.000	0.223
1.00	-45.77	-9.04	0.00	-1255.9	0.00	1255.90	5023.77	2511.88	10548.7	5282.19	0.00	-0.014	0.000	0.163
2.00	-45.49	-9.03	0.00	-1246.8	0.00	1246.86	5012.47	2506.24	10490.5	5253.05	0.01	-0.024	0.000	0.163
4.00	-44.95	-9.00	0.00	-1228.8	0.00	1228.80	4989.78	2494.89	10374.4	5194.91	0.02	-0.044	0.000	0.162
6.00	-44.41	-8.97	0.00	-1210.8	0.00	1210.80	4966.95	2483.48	10258.6	5136.95	0.04	-0.064	0.000	0.161
8.00	-43.87	-8.94	0.00	-1192.8	0.00	1192.86	4944.00	2472.00	10143.2	5079.17	0.07	-0.084	0.000	0.160
10.00	-43.34	-8.91	0.00	-1174.9	0.00	1174.98	4920.91	2460.46	10028.2	5021.57	0.11	-0.104	0.000	0.159
12.00	-42.80	-8.88	0.00	-1157.1	0.00	1157.17	4897.70	2448.85	9913.58	4964.16	0.16	-0.124	0.000	0.158
14.00	-42.28	-8.85	0.00	-1139.4	0.00	1139.41	4874.35	2437.18	9799.30	4906.94	0.22	-0.145	0.000	0.157
16.00	-41.75	-8.81	0.00	-1121.7	0.00	1121.72	4850.88	2425.44	9685.41	4849.90	0.28	-0.165	0.000	0.156
18.00	-41.23	-8.78	0.00	-1104.0	0.00	1104.09	4827.27	2413.63	9571.89	4793.06	0.36	-0.186	0.000	0.155
18.25	-41.16	-8.78	0.00	-1101.9	0.00	1101.90	4824.31	2412.15	9557.73	4785.97	0.37	-0.188	0.000	0.163
20.00	-40.71	-8.75	0.00	-1086.5	0.00	1086.54	4803.53	2401.76	9458.77	4736.42	0.44	-0.207	0.000	0.162
21.00	-40.45	-8.73	0.00	-1077.7	0.00	1077.79	4791.61	2395.81	9402.36	4708.17	0.48	-0.218	0.000	0.162
22.00	-40.19	-8.72	0.00	-1069.0	0.00	1069.06	4779.66	2389.83	9346.05	4679.97	0.53	-0.229	0.000	0.161
24.00	-39.68	-8.68	0.00	-1051.6	0.00	1051.63	4755.66	2377.83	9233.73	4623.73	0.63	-0.250	0.000	0.160
26.00	-39.17	-8.65	0.00	-1034.2	0.00	1034.27	4731.53	2365.77	9121.82	4567.69	0.74	-0.272	0.000	0.159
28.00	-38.67	-8.60	0.00	-1016.9	0.00	1016.97	4707.27	2353.63	9010.32	4511.86	0.86	-0.294	0.000	0.158
28.25	-38.60	-8.61	0.00	-1014.8	0.00	1014.82	4704.23	2352.11	8996.42	4504.89	0.87	-0.296	0.000	0.175
30.00	-38.16	-8.58	0.00	-999.76	0.00	999.76	4682.88	2341.44	8899.25	4456.24	0.99	-0.318	0.000	0.174
32.00	-37.66	-8.54	0.00	-982.61	0.00	982.61	4658.36	2329.18	8788.59	4400.83	1.13	-0.342	0.000	0.172
34.00	-37.16	-8.50	0.00	-965.54	0.00	965.54	4633.70	2316.85	8678.37	4345.63	1.27	-0.366	0.000	0.171
36.00	-36.67	-8.47	0.00	-948.53	0.00	948.53	4608.92	2304.46	8568.58	4290.66	1.43	-0.390	0.000	0.170
38.00	-36.18	-8.43	0.00	-931.60	0.00	931.60	4584.01	2292.00	8459.23	4235.90	1.60	-0.415	0.000	0.169
40.00	-35.69	-8.38	0.00	-914.75	0.00	914.75	4558.96	2279.48	8350.33	4181.37	1.78	-0.439	0.000	0.168
41.00	-35.45	-8.37	0.00	-906.36	0.00	906.36	4546.39	2273.19	8296.04	4154.19	1.87	-0.451	0.000	0.167
42.00	-35.20	-8.35	0.00	-898.00	0.00	898.00	4533.79	2266.89	8241.87	4127.06	1.97	-0.464	0.000	0.166
43.25	-34.90	-8.32	0.00	-887.56	0.00	887.56	4517.98	2258.99	8174.32	4093.24	2.09	-0.479	0.000	0.165
44.00	-34.59	-8.31	0.00	-881.32	0.00	881.32	4508.48	2254.24	8133.88	4072.99	2.17	-0.488	0.000	0.164
46.00	-33.75	-8.26	0.00	-864.71	0.00	864.71	4483.04	2241.52	8026.35	4019.14	2.38	-0.513	0.000	0.162
47.75	-33.02	-8.22	0.00	-850.24	0.00	850.24	4460.68	2230.34	7932.64	3972.22	2.57	-0.534	0.000	0.158
48.00	-32.91	-8.22	0.00	-848.19	0.00	848.19	4457.48	2228.74	7919.28	3965.53	2.60	-0.537	0.000	0.158
48.92	-32.53	-8.19	0.00	-840.63	0.00	840.63	4445.67	2222.84	7870.19	3940.94	2.70	-0.548	0.000	0.124
49.00	-32.50	-8.19	0.00	-839.98	0.00	839.98	3699.57	1849.78	6681.20	3345.56	2.71	-0.549	0.000	0.132
50.00	-32.29	-8.17	0.00	-831.78	0.00	831.78	3689.91	1844.95	6638.39	3324.13	2.83	-0.558	0.000	0.138
52.00	-31.87	-8.13	0.00	-815.44	0.00	815.44	3670.50	1835.25	6553.00	3281.37	3.07	-0.578	0.000	0.137
54.00	-31.46	-8.08	0.00	-799.18	0.00	799.18	3650.96	1825.48	6467.90	3238.76	3.31	-0.598	0.000	0.136
56.00	-31.05	-8.04	0.00	-783.01	0.00	783.01	3631.28	1815.64	6383.12	3196.30	3.57	-0.618	0.000	0.134
58.00	-30.64	-7.99	0.00	-766.93	0.00	766.93	3611.48	1805.74	6298.65	3154.01	3.83	-0.637	0.000	0.132
60.00	-30.23	-7.95	0.00	-750.95	0.00	750.95	3591.55	1795.77	6214.50	3111.87	4.10	-0.657	0.000	0.131
61.00	-30.03	-7.92	0.00	-743.00	0.00	743.00	3581.53	1790.76	6172.55	3090.86	4.24	-0.667	0.000	0.135
62.00	-29.83	-7.90	0.00	-735.08	0.00	735.08	3571.48	1785.74	6130.67	3069.89	4.38	-0.677	0.000	0.134
64.00	-29.43	-7.85	0.00	-719.27	0.00	719.27	3551.28	1775.64	6047.18	3028.08	4.67	-0.698	0.000	0.132
65.00	-29.23	-7.83	0.00	-711.42	0.00	711.42	3541.14	1770.57	6005.55	3007.24	4.82	-0.708	0.000	0.132
66.00	-29.03	-7.81	0.00	-703.58	0.00	703.58	3530.96	1765.48	5964.01	2986.44	4.97	-0.718	0.000	0.131
68.00	-28.63	-7.77	0.00	-687.96	0.00	687.96	3510.50	1755.25	5881.19	2944.97	5.27	-0.739	0.000	0.129
70.00	-28.24	-7.72	0.00	-672.43	0.00	672.43	3489.91	1744.96	5798.71	2903.67	5.59	-0.759	0.000	0.128
72.00	-27.85	-7.67	0.00	-656.99	0.00	656.99	3469.20	1734.60	5716.59	2862.54	5.91	-0.779	0.000	0.126

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 69	

72.25	-27.80	-7.67	0.00	-655.07	0.00	655.07	3466.60	1733.30	5706.35	2857.41	5.95	-0.782	0.000	0.128
74.00	-27.47	-7.63	0.00	-641.66	0.00	641.66	3448.35	1724.17	5634.82	2821.60	6.24	-0.799	0.000	0.126
76.00	-27.08	-7.58	0.00	-626.40	0.00	626.40	3427.37	1713.68	5553.41	2780.83	6.58	-0.820	0.000	0.124
76.83	-26.92	-7.56	0.00	-620.11	0.00	620.11	3418.62	1709.31	5519.73	2763.97	6.72	-0.828	0.000	0.166
78.00	-26.70	-7.54	0.00	-611.27	0.00	611.27	3406.26	1703.13	5472.37	2740.25	6.93	-0.844	0.000	0.164
80.00	-26.32	-7.49	0.00	-596.19	0.00	596.19	3385.02	1692.51	5391.70	2699.86	7.29	-0.871	0.000	0.162
81.00	-26.13	-7.47	0.00	-588.70	0.00	588.70	3374.35	1687.17	5351.51	2679.73	7.47	-0.885	0.000	0.161
82.00	-25.94	-7.45	0.00	-581.23	0.00	581.23	3363.65	1681.82	5311.41	2659.65	7.66	-0.899	0.000	0.160
84.00	-25.57	-7.41	0.00	-566.33	0.00	566.33	3342.15	1671.07	5231.50	2619.64	8.04	-0.926	0.000	0.158
86.00	-25.20	-7.36	0.00	-551.52	0.00	551.52	3320.51	1660.26	5151.98	2579.82	8.43	-0.953	0.000	0.156
87.50	-24.92	-7.33	0.00	-540.48	0.00	540.48	3304.20	1652.10	5092.60	2550.09	8.73	-0.973	0.000	0.154
88.00	-24.76	-7.32	0.00	-536.81	0.00	536.81	3298.75	1649.38	5072.86	2540.20	8.84	-0.979	0.000	0.152
90.00	-24.14	-7.26	0.00	-522.18	0.00	522.18	3276.86	1638.43	4994.13	2500.78	9.25	-1.006	0.000	0.150
90.50	-23.99	-7.25	0.00	-518.55	0.00	518.55	3271.36	1635.68	4974.52	2490.96	9.36	-1.013	0.000	0.146
91.92	-23.55	-7.21	0.00	-508.25	0.00	508.25	3255.72	1627.86	4918.94	2463.13	9.66	-1.031	0.000	0.112
92.00	-23.53	-7.21	0.00	-507.67	0.00	507.67	3254.83	1627.42	4915.81	2461.56	9.68	-1.032	0.000	0.112
92.25	-23.45	-7.21	0.00	-505.87	0.00	505.87	2609.22	1304.61	4017.17	2011.57	9.73	-1.034	0.000	0.120
94.00	-23.17	-7.17	0.00	-493.25	0.00	493.25	2595.40	1297.70	3964.66	1985.28	10.12	-1.052	0.000	0.126
96.00	-22.86	-7.12	0.00	-478.92	0.00	478.92	2579.48	1289.74	3904.88	1955.34	10.56	-1.073	0.000	0.124
98.00	-22.55	-7.07	0.00	-464.68	0.00	464.68	2563.43	1281.72	3845.34	1925.53	11.02	-1.094	0.000	0.121
100.00	-22.24	-7.02	0.00	-450.53	0.00	450.53	2547.26	1273.63	3786.04	1895.83	11.48	-1.114	0.000	0.119
101.00	-22.09	-7.00	0.00	-443.50	0.00	443.50	2539.12	1269.56	3756.49	1881.04	11.71	-1.125	0.000	0.117
102.00	-21.94	-6.98	0.00	-436.50	0.00	436.50	2530.95	1265.47	3727.00	1866.27	11.95	-1.135	0.000	0.116
104.00	-21.63	-6.93	0.00	-422.54	0.00	422.54	2514.51	1257.25	3668.21	1836.83	12.43	-1.155	0.000	0.114
105.50	-21.41	-6.89	0.00	-412.14	0.00	412.14	2502.09	1251.04	3624.30	1814.84	12.79	-1.170	0.000	0.114
105.58	-21.39	-6.89	0.00	-411.59	0.00	411.59	2501.42	1250.71	3621.96	1813.67	12.81	-1.171	0.000	0.153
106.00	-21.33	-6.89	0.00	-408.70	0.00	408.70	2497.93	1248.97	3609.69	1807.53	12.92	-1.177	0.000	0.152
108.00	-21.03	-6.84	0.00	-394.92	0.00	394.92	2481.23	1240.62	3551.44	1778.36	13.42	-1.204	0.000	0.149
110.00	-20.73	-6.80	0.00	-381.24	0.00	381.24	2464.40	1232.20	3493.46	1749.33	13.93	-1.231	0.000	0.146
112.00	-20.44	-6.75	0.00	-367.64	0.00	367.64	2447.44	1223.72	3435.76	1720.43	14.45	-1.258	0.000	0.142
114.00	-20.15	-6.71	0.00	-354.13	0.00	354.13	2430.34	1215.17	3378.35	1691.68	14.98	-1.284	0.000	0.139
116.00	-19.85	-6.67	0.00	-340.71	0.00	340.71	2413.12	1206.56	3321.22	1663.08	15.52	-1.310	0.000	0.135
118.00	-19.57	-6.62	0.00	-327.38	0.00	327.38	2395.76	1197.88	3264.40	1634.62	16.08	-1.335	0.000	0.132
120.00	-19.28	-6.58	0.00	-314.14	0.00	314.14	2378.28	1189.14	3207.87	1606.32	16.64	-1.361	0.000	0.204
122.00	-18.99	-6.54	0.00	-300.98	0.00	300.98	2360.66	1180.33	3151.65	1578.17	17.22	-1.400	0.000	0.199
124.00	-18.71	-6.50	0.00	-287.91	0.00	287.91	2342.92	1171.46	3095.74	1550.17	17.82	-1.439	0.000	0.194
126.00	-18.43	-6.46	0.00	-274.91	0.00	274.91	2325.04	1162.52	3040.15	1522.33	18.43	-1.477	0.000	0.189
128.00	-18.15	-6.42	0.00	-261.99	0.00	261.99	2307.03	1153.52	2984.88	1494.66	19.05	-1.515	0.000	0.183
130.00	-17.88	-6.38	0.00	-249.16	0.00	249.16	2288.89	1144.45	2929.94	1467.15	19.70	-1.552	0.000	0.178
132.00	-17.61	-6.33	0.00	-236.41	0.00	236.41	2270.62	1135.31	2875.33	1439.80	20.35	-1.588	0.000	0.172
132.50	-17.54	-6.32	0.00	-233.24	0.00	233.24	2266.03	1133.02	2861.73	1432.99	20.52	-1.597	0.000	0.171
134.00	-17.22	-6.29	0.00	-223.75	0.00	223.75	2251.56	1125.78	2820.24	1412.21	21.03	-1.623	0.000	0.166
136.00	-16.81	-6.24	0.00	-211.17	0.00	211.17	2227.09	1113.55	2758.97	1381.53	21.71	-1.658	0.000	0.160
136.50	-16.71	-6.23	0.00	-208.05	0.00	208.05	1414.34	707.17	1783.76	893.21	21.89	-1.667	0.000	0.245
138.00	-16.55	-6.20	0.00	-198.70	0.00	198.70	1407.34	703.67	1760.42	881.52	22.42	-1.692	0.000	0.237
140.00	-16.34	-6.17	0.00	-186.29	0.00	186.29	1397.90	698.95	1729.39	865.98	23.13	-1.736	0.000	0.227
142.00	-16.14	-6.13	0.00	-173.96	0.00	173.96	1388.33	694.16	1698.46	850.49	23.87	-1.779	0.000	0.216
144.00	-15.93	-6.09	0.00	-161.70	0.00	161.70	1378.63	689.31	1667.63	835.05	24.63	-1.820	0.000	0.205
146.00	-15.73	-6.05	0.00	-149.52	0.00	149.52	1368.79	684.40	1636.91	819.67	25.40	-1.860	0.000	0.194
148.00	-15.53	-6.01	0.00	-137.41	0.00	137.41	1358.83	679.41	1606.31	804.35	26.18	-1.898	0.000	0.182
150.00	-15.33	-5.97	0.00	-125.38	0.00	125.38	1348.73	674.37	1575.83	789.09	26.99	-1.934	0.000	0.170
152.00	-15.14	-5.94	0.00	-113.44	0.00	113.44	1338.51	669.25	1545.48	773.89	27.81	-1.967	0.000	0.158
154.00	-14.94	-5.90	0.00	-101.57	0.00	101.57	1328.15	664.08	1515.26	758.76	28.64	-1.999	0.000	0.145
156.00	-14.75	-5.85	0.00	-89.78	0.00	89.78	1317.66	658.83	1485.18	743.69	29.48	-2.028	0.000	0.132
158.00	-10.62	-3.94	0.00	-78.07	0.00	78.07	1307.05	653.52	1455.24	728.70	30.34	-2.054	0.000	0.115
160.00	-10.46	-3.90	0.00	-70.19	0.00	70.19	1296.30	648.15	1425.45	713.78	31.20	-2.078	0.000	0.106
162.00	-10.30	-3.86	0.00	-62.39	0.00	62.39	1285.42	642.71	1395.81	698.94	32.08	-2.101	0.000	0.097

Calculated Forces

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 70

Tower Engineering Solutions

164.00	-10.15	-3.82	0.00	-54.67	0.00	54.67	1274.41	637.21	1366.33	684.18	32.96	-2.121	0.000	0.088
166.00	-9.99	-3.77	0.00	-47.04	0.00	47.04	1263.27	631.63	1337.02	669.50	33.85	-2.140	0.000	0.078
168.00	-8.84	-3.15	0.00	-39.49	0.00	39.49	1252.00	626.00	1307.87	654.91	34.75	-2.156	0.000	0.067
168.50	-7.42	-2.78	0.00	-37.92	0.00	37.92	1249.16	624.58	1300.61	651.27	34.98	-2.160	0.000	0.064
170.00	-7.31	-2.75	0.00	-33.75	0.00	33.75	1240.60	620.30	1278.90	640.40	35.66	-2.171	0.000	0.059
172.00	-7.16	-2.71	0.00	-28.24	0.00	28.24	1229.07	614.53	1250.12	625.99	36.57	-2.183	0.000	0.051
174.00	-7.02	-2.67	0.00	-22.82	0.00	22.82	1217.40	608.70	1221.51	611.66	37.49	-2.194	0.000	0.043
176.00	-6.87	-2.63	0.00	-17.49	0.00	17.49	1205.61	602.80	1193.10	597.44	38.41	-2.203	0.000	0.035
177.00	-4.48	-1.72	0.00	-14.86	0.00	14.86	1199.66	599.83	1178.97	590.36	38.87	-2.207	0.000	0.029
178.00	-4.41	-1.70	0.00	-13.14	0.00	13.14	1193.69	596.84	1164.89	583.31	39.33	-2.210	0.000	0.026
178.00	-4.41	-1.70	0.00	-13.14	0.00	13.14	975.84	487.92	954.81	478.11	39.33	-2.210	0.000	0.032
180.00	-4.29	-1.66	0.00	-9.74	0.00	9.74	975.84	487.92	954.81	478.11	40.26	-2.216	0.000	0.025
182.00	-4.17	-1.62	0.00	-6.43	0.00	6.43	975.84	487.92	954.81	478.11	41.19	-2.220	0.000	0.018
184.00	-2.46	-1.07	0.00	-3.19	0.00	3.19	975.84	487.92	954.81	478.11	42.12	-2.223	0.000	0.009
186.00	-2.34	-1.03	0.00	-1.05	0.00	1.05	975.84	487.92	954.81	478.11	43.05	-2.224	0.000	0.005
187.00	-0.05	-0.02	0.00	-0.02	0.00	0.02	975.84	487.92	954.81	478.11	43.52	-2.224	0.000	0.000
188.00	0.00	-0.02	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	43.98	-2.224	0.000	0.000

Final Analysis Summary

Structure:	CT46124-A-SBA	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 71	

Tower Engineering Solutions

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 97 mph Wind	37.9	0.00	55.23	0.00	0.00	5332.57
0.9D + 1.6W 97 mph Wind	37.9	0.00	41.42	0.00	0.00	5246.83
1.2D + 1.0Di + 1.0Wi 50 mph Wind	12.0	0.00	98.22	0.00	0.00	1810.86
1.2D + 1.0E	2.4	0.00	55.25	0.00	0.00	370.02
0.9D + 1.0E	2.4	0.00	41.44	0.00	0.00	363.52
1.0D + 1.0W 60 mph Wind	9.1	0.00	46.04	0.00	0.00	1264.96

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 97 mph Wind	-17.14	-26.33	0.00	-878.83	0.00	-878.83	1414.34	707.17	1783.76	893.21	136.50	0.997
0.9D + 1.6W 97 mph Wind	-12.18	-25.67	0.00	-853.51	0.00	-853.51	1414.34	707.17	1783.76	893.21	136.50	0.965
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-46.38	-9.37	0.00	-318.15	0.00	-318.15	1414.34	707.17	1783.76	893.21	136.50	0.389
1.2D + 1.0E	-20.24	-1.97	0.00	-81.94	0.00	-81.94	1414.34	707.17	1783.76	893.21	136.50	0.106
0.9D + 1.0E	-15.18	-1.92	0.00	-79.84	0.00	-79.84	1414.34	707.17	1783.76	893.21	136.50	0.100
1.0D + 1.0W 60 mph Wind	-16.71	-6.23	0.00	-208.05	0.00	-208.05	1414.34	707.17	1783.76	893.21	136.50	0.245

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	Lower Termination MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Upper Termination MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Max Member Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
0.0	1.0	(3) SOL-2 1/4" William R71	148.8	1.79	25.3	250.1	25.3	10	0	249.9	25.3	10	0	250.13	459.1	468.91	0.545
1.0	21.0	(3) LNP-LP7X125-B-20A	-278.2	-6.68	25.3	405.2	25.3	17	0	414.2	25.3			416.66	460.8	435.94	0.956
1.0	21.0	(1) LNP-LP6X125-B-20B	207.9	4.99	25.3	321.1	25.3	13	0	309.5	25.3			321.11	395.0	360.94	0.890
1.0	18.3	(1) LNP-LP6X125-B-20T	185.2	4.45	25.3	292.3	25.3	12	0	280.5	25.3	12	11	292.29	395.0	360.94	0.810
21.0	28.3	(1) LNP-LP6X125-B-20T	213.6	5.13	25.3	309.5	25.3			303.6	25.3	13	11	309.50	395.0	360.94	0.857
21.0	41.0	(3) LNP-LP7X125-G-20AA	323.1	7.75	25.3	414.2	25.3			421.2	25.3			435.11	460.8	435.94	0.998
41.0	61.0	(3) LNP-LP7X125-G-20AA	334.3	8.02	25.3	421.2	25.3			319.8	25.3			421.17	460.8	435.94	0.966
47.8	65.0	(1) LNP-LP6X100-G-20TC	-182.4	-4.38	25.3	226.1	25.3	9	8	185.9	25.3			226.12	297.8	288.75	0.783
48.9	76.8	(3) PLT-5.5"x1 1/4"(1.25"hol	-267.1	-5.61	37.1	260.9	37.1	8	10	263.1	37.1	8	10	273.97	371.1	314.06	0.872
61.0	81.0	(3) LNP-LP6X125-G-20AB	367.5	8.82	25.3	284.8	25.3			347.7	25.3			355.44	395.0	360.94	0.985
65.0	72.3	(1) LNP-LP6X100-G-10CT	-173.9	-4.17	25.3	185.9	25.3			178.4	25.3	8	11	185.86	297.8	288.75	0.644
81.0	101.0	(3) LNP-LP6X125-G-20BB	385.2	9.24	25.3	347.7	25.3			244.4	25.3			347.72	395.0	360.94	0.963
90.5	105.5	(1) LNP-LP6X100-G-20TT	-231.8	-5.56	25.3	198.1	25.3	8	10	149.5	25.3	6	10	198.05	297.8	288.75	0.686
91.9	105.6	(3) PLT-4.5"x 1-1/4"(1.25"ho	-272.9	-6.55	37.1	192.8	37.1	6	7	195.5	37.1	6	7	202.07	296.2	239.06	0.845
101.0	118.0	(3) LNP-LP6X125-G-20BT	470.0	11.28	25.3	244.4	25.3			278.8	25.3	12	12	318.10	395.0	360.94	0.881

Base Plate Summary

Structure:	CT46124-A-SB	**Code:**	TIA-222-G	2/17/2022	
Site Name:	Enfield-Moody Rd.	**Exposure:**	C		
Height:	188.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 72	

Tower Engineering Solutions

Reactions	
Original Design	
Moment (kip-ft):	3850.00
Axial (kip):	34.00
Shear (kip):	30.00
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	5332.57
Axial (kip):	55.23
Shear (kip):	37.89

Base Plate	
Yield (ksi):	50.00
Width (in):	57.00
Style:	Clipped
Polygon Sides:	0.00
Clip Length (in):	8.00
Effective Len (in):	8.17
Moment (kip-in):	825.37
Allow Stress (ksi):	67.50
Applied Stress (ksi):	57.38
Stress Ratio:	0.85

Anchor Bolts	
Bolt Circle:	59.00
Number Bolts:	16.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Clustered
Cluster Dist (in):	6.00
Start Angle (deg):	45.00
Compression	
Force (kip):	216.69
Allowable (kip):	260.00
Ratio:	0.85
Tension	
Force (kip):	204.41
Allowable (kip):	260.00
Ratio:	0.80

PER THE INTERNATIONAL BUILDING CODE THIS STRUCTURE IS CLASSIFIED AS:

1. CONSTRUCTION TYPE II-B (TABLE 601)
2. GROUP U OCCUPANCY (SECTION 312.1 UNOCCUPIED TOWER SITE)

MODIFICATION AND DESIGN DRAWINGS FOR AN EXISTING 188' SUMMIT MONOPOLE TOWER

PROPOSED CARRIER: DISH WIRELESS

SITE: CT46124-A-SBA / ENFIELD-MOODY RD.

COORDINATES (LATITUDE: 42.002000°, LONGITUDE: -72.521694°)

CONSTRUCTION CLASS

THE RIGGING PLAN FOR THIS SITE WOULD BE A MINIMUM OF A CLASS III AND THE CONTRACTOR SHALL MAKE FINAL DETERMINATION

PLEASE NOTE THIS SET OF DRAWINGS IS FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	TOWER PROFILE	0
A-2	INSTALLATION OF NEW ANCHOR ROD DETAILS	0
A-3	REINFORCEMENT ASSEMBLY	0
A-4	REINFORCEMENT ASSEMBLY	0
A-5	REINFORCEMENT ASSEMBLY	0
A-6	REINFORCEMENT ASSEMBLY	0
A-7	REINFORCEMENT ASSEMBLY	0
A-8	REINFORCEMENT ASSEMBLY	0
A-LP-AA	SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE AA)	0
A-LP-AB	SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE AB)	0
A-LP-BB	SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE BB)	0
SPEC-1	NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE	0
SPEC-2	NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE	0

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE **TES** PROJECT NO. 120568, DATED 12/17/2021.

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
120916

CUSTOMER SITE NO:
CT46124-A-SBA

CUSTOMER SITE NAME:
ENFIELD-MOODY RD.

188 MOODY RD
ENFIELD, CT 06082

STATE OF CONNECTICUT
JARRYD TIBBETTS
No. 24170
LICENSED
PROFESSIONAL ENGINEER

DRAWN BY: MN | CHECKED BY: SS/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	02/17/22

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: T-1

REV #: 0

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	LENGTH	SHEET LIST (INSTALLATION)	SHEET LIST (FABRICATE)	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE						
1	1	LP7X125-B-20A	7" x 1.25" Flat Bar, 20 ft. Long, Base Section with 6.75" offset, Connection Type A	20'-0"	A-3	LP7X125-B-20A	734.4	734.4	Galvanized
2	2	LP7X125-BL4.75-20A	7" x 1.25" Flat Bar with Left Bolt Bracket, Base Section with 4.75" Offset, 20 ft. Long. Connection Type A	20'-0"	A-3	LP7X125-BL4.75-20A	752.3	1504.6	Galvanized
4	4	LP7X125-G-20AA	7" x 1.25" Flat Bar, 20 ft. Long, Standard, Connection Type AA	20'-0"	A-4, A-5	LP7X125-G-20AA	787.5	3150.0	Galvanized
2	2	LP7X125-S-20AA	7" x 1.25" Flat Bar, 20 ft. Long with Step Bolt Brackets, Connection Type AA	20'-0"	A-4, A-5	LP7X125-S-20AA	797.1	1594.2	Galvanized
2	2	LP6X125-G-20AB	6" x 1.25" Flat Bar, 20 ft. Long, Standard, Connection Type AB	20'-0"	A-6	LP6X125-G-20AB	709.2	1418.4	Galvanized
1	1	LP6X125-S-20AB	6" x 1.25" Flat Bar, 20 ft. Long with Step Bolt Brackets, Connection Type AB	20'-0"	A-6	LP6X125-S-20AB	718.8	718.8	Galvanized
2	2	LP6X125-G-20BB	6" x 1.25" Flat Bar, 20 ft. Long, Standard, Connection Type BB	20'-0"	A-7	LP6X125-G-20BB	671.6	1343.2	Galvanized
1	1	LP6X125-S-20BB	6" x 1.25" Flat Bar, 20 ft. Long with Step Bolt Brackets, Connection Type BB	20'-0"	A-7	LP6X125-S-20BB	681.2	681.2	Galvanized
2	2	LP6X125-G-20BT	6" x 1.25" Flat Bar, 20 ft. Long, Standard, Connection Type B with Termination at top	20'-0"	A-8	LP6X125-G-20BT	658.0	1316.0	Galvanized
1	1	LP6X125-S-20BT	6" x 1.25" Flat Bar, 20 ft. Long with Step Bolt Brackets, Connection Type B with Termination at top	20'-0"	A-8	LP6X125-S-20BT	667.6	667.6	Galvanized
9	9	CPL-A	Link Plate Cover, PL 3/8" x 4 1/4" x 2'-1", A572, Grade 50	---	A-4, A-5, A-6	F-C	11.5	103.5	Galvanized
6	6	CPL-B	Link Plate Cover, PL 3/8" x 3 3/4" x 1'- 8 1/2", A572, Grade 50	---	A-7, A-8	F-C	8.3	49.8	Galvanized
3	3	R71-18	Williams 2 1/4" Dia. All-thread Rod (150 ksi) X 12.5 Ft. Long	12.50	A-2	---	176.3	528.8	Galvanized
6	6	R73-18	Williams 2 1/4" Dia. R73 Hex Nuts	---	A-2	---	---		Galvanized
6	6	PLW-1	PL 1 1/4" X 4 1/2" FLAT WASHER, A572 Grade 65	---	A-2	F-A	3.7	22.2	Galvanized
80	84	STEP BOLT	Step Bolt 5/8" Dia x 8 1/4" Long	---	A-5, A-6, A-7, A-8	F-A	0.75	63.0	Galvanized
198	208	HB16-2	Lindapter 5/8" Type HB Hollo-Bolt (HCF, M16x100)	---	A-4, A-5, A-6, A-7	---	---	---	Galvanized
30	33	HB20-3	Lindapter 3/4" Type HB Hollo-Bolt (HCF, M20x150)	---	4, A-5, A-6, A-7, A	---	---	---	Galvanized
3	6	SHIM-M20-1	1/4" Thick Shim For HB20-3 Hollo-Bolt	---	A-1	F-C	0.6	1.9	Galvanized
3	6	SHIM-M20-2	3/16" Thick Shim For HB20-3 Hollo-Bolt	---	A-1	F-C	0.5	2.9	Galvanized
6	9	SHIM-M20-3	1/8" Thick Shim For HB20-3 Hollo-Bolt	---	A-1	F-C	0.3	2.9	Galvanized
6	9	SHIM-M16-1	1/4" Thick Shim For HB16-2 Hollo-Bolt	---	A-1	F-C	0.3	2.5	Galvanized
6	9	SHIM-M16-2	3/16" Thick Shim For HB16-2 Hollo-Bolt	---	A-1	F-C	0.2	1.9	Galvanized
3	6	SHIM-M16-3	1/8" Thick Shim For HB16-2 Hollo-Bolt	---	A-1	F-C	0.2	0.9	Galvanized
20	22	2NG2048	M20x95 NEXGEN2 BLIND Bolt Assembly	---	A-3	F-C	---	---	Galvanized
			Following Items are Non-standard Parts						
6	6	---	LANCO /HENRY 287 WHITE ACRYLIC ELASTOMERIC COATING AND SEALER OR EQUIV (GALLON)	---	A-1	---	---	---	PROVIDED BY CONTRACTOR
			ALL APLXXXX, LPXXXX AND RLPXXXX ARE PATENTED PRODUCTS AND CANNOT BE FABRICATED BY THIRD PARTIES. THESE PARTS ARE AVAILABLE FROM: **METROSITE, LLC.** **180 IND PARK BLVD COMMERCE, GA 30529** **OFFICE: (706) 335-7045** **FAX: (706) 335-7056**						
			NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.						
						TOTAL WEIGHT (LBS) =		**13908.6**	

TES
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1320 GREENWAY DRIVE, SUITE 600
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PHONE: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
120916

CUSTOMER SITE NO:
CT46124-A-SBA

CUSTOMER SITE NAME:
ENFIELD-MOODY RD.

188 MOODY RD
ENFIELD, CT 06082

JARRYD TIBBETTS
No. 34170

3/31/22

DRAWN BY: MN | CHECKED BY: SS/AD

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	02/17/22

SHEET TITLE:

BILL OF MATERIALS

SHEET NUMBER: BOM
REV #: 0

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, 2018 CONNECTICUT STATE BUILDING CODE AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 - FOR STEEL CONSTRUCTION & TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING [a,b]

BOLT LENGTH[c]	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 [d]	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS [d]
NOT MORE THAN $4d_b$	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN $4d_b$ BUT NOT MORE THAN $8d_b$	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN $8d_b$ BUT NOT MORE THAN $12d_b$	2/3 TURN	5/6 TURN	1 TURN

[a] NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

[b] APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

[c] WHEN THE BOLT LENGTH EXCEEDS $12d_b$, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

[d] BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.

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TES JOB NO:
120916

CUSTOMER SITE NO:
CT46124-A-SBA

CUSTOMER SITE NAME:
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STATE OF CONNECTICUT ★ JARRYD TIBBETTS ★ No. 34170 ★ LICENSED PROFESSIONAL ENGINEER ★
3/31/22

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SHEET TITLE:

GENERAL NOTES

SHEET NUMBER: GN-1

REV #: 0

NOTES:

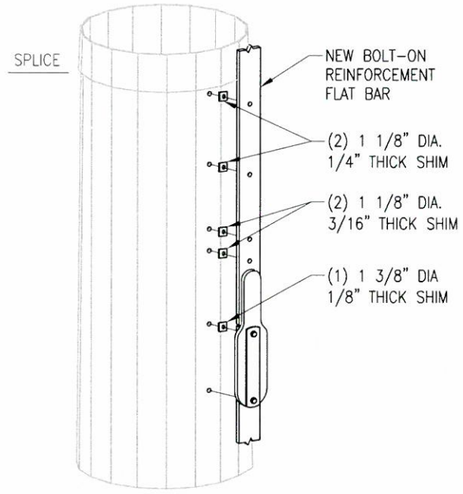
1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE MONOPOLE AND ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
2. TEMPORARY RELOCATION OF EXISTING EQUIPMENT AROUND THE FOUNDATION MAY BE REQUIRED DURING CONSTRUCTION.

SCOPE OF WORK

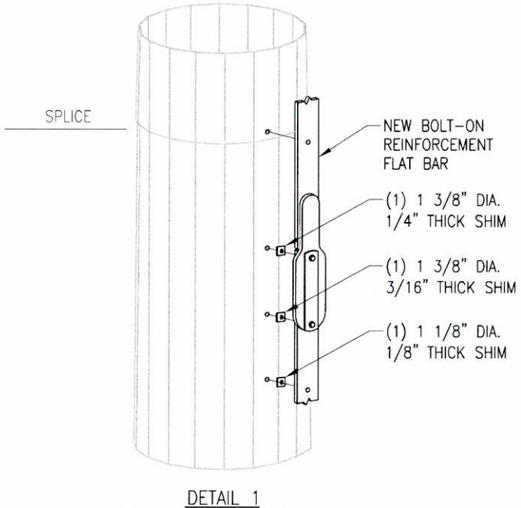
1. INSTALL NEW (3) ANCHOR ROD REINFORCEMENTS. SEE SHEET A-2 FOR DETAILS.
2. INSTALL NEW (1) LP7X125-B-20A AND (2) LP7X125-BL4.75-20A FLAT BAR REINFORCEMENTS FROM ±1'-0" TO ±21'-0" ELEV. SEE SHEET A-3 FOR DETAILS.
3. INSTALL NEW (2) LP7X125-G-20AA AND (1) LP7X125-S-20AA FLAT BAR REINFORCEMENTS FROM ±21'-0" TO ±41'-0" ELEV. SEE SHEET A-4 FOR DETAILS.
4. INSTALL NEW (2) LP7X125-G-20AA AND (1) LP7X125-S-20AA FLAT BAR REINFORCEMENTS FROM ±41'-0" TO ±61'-0" ELEV. SEE SHEET A-5 FOR DETAILS.
5. INSTALL NEW (2) LP6X125-G-20AB AND (1) LP6X125-S-20AB FLAT BAR REINFORCEMENTS FROM ±61'-0" TO ±81'-0" ELEV. SEE SHEET A-6 FOR DETAILS.
6. INSTALL NEW (2) LP6X125-G-20BB AND (1) LP6X125-S-20BB FLAT BAR REINFORCEMENTS FROM ±81'-0" TO ±101'-0" ELEV. SEE SHEET A-7 FOR DETAILS.
7. INSTALL NEW (2) LP6X125-G-20BT AND (1) LP6X125-S-20BT FLAT BAR REINFORCEMENTS FROM ±101'-0" TO ±121'-0" ELEV. SEE SHEET A-8 FOR DETAILS.
8. APPLY FOUNDATION COATING.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.

FOUNDATION COATING NOTES:

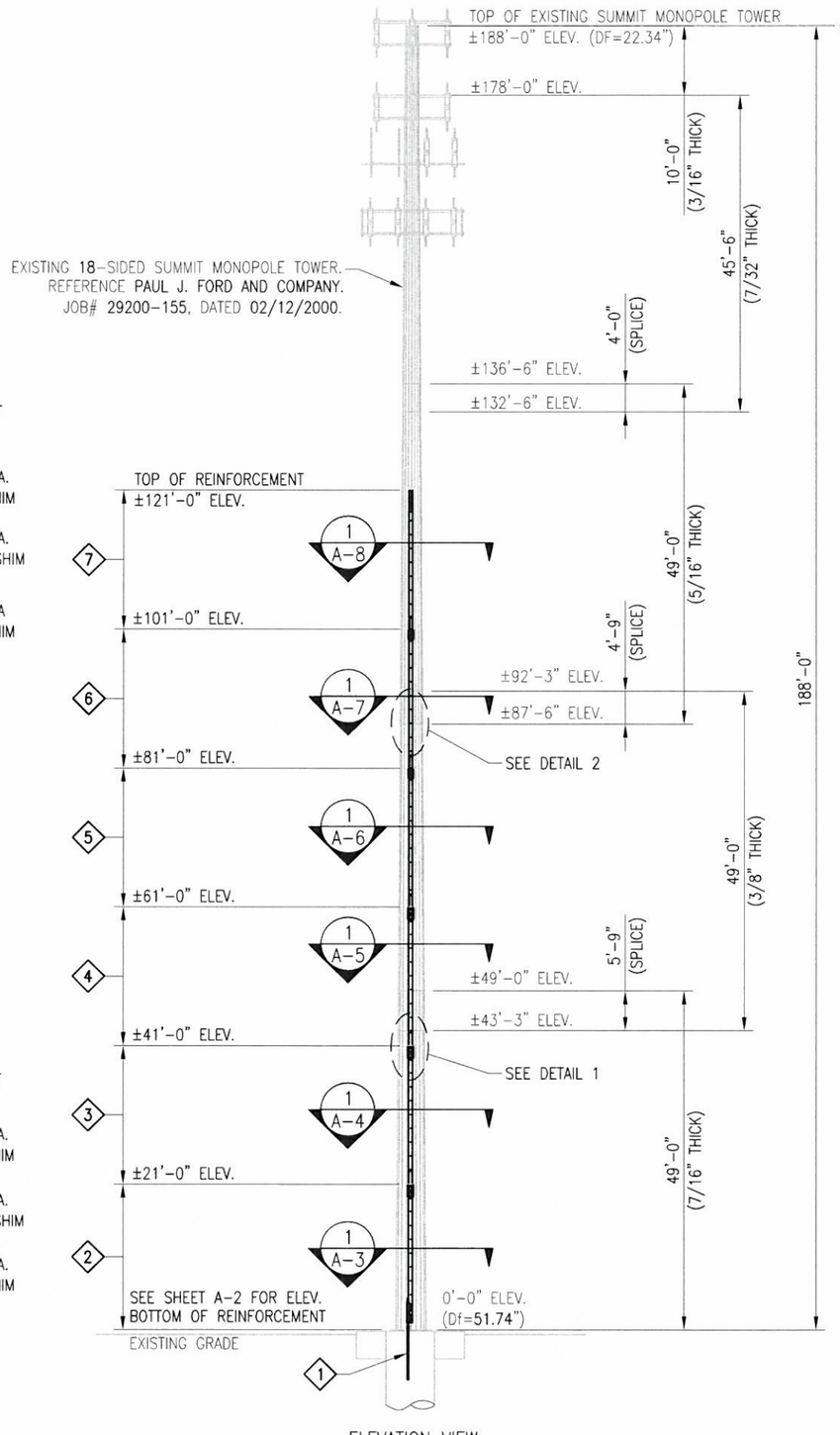
1. THE COATING MATERIALS SHALL BE LANCO WHITE ACRYLIC ELASTOMERIC COATING AND SEALER, OR HYDRO ARMOR COATING.
2. THE COATING CAN BE PLACED AT LEAST (2) DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR FOUNDATION REINFORCEMENT, AND MINIMUM (4) DAYS FOR NEW FOUNDATION CONSTRUCTION.
3. THE CONCRETE SURFACE SHALL BE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE COATING.
4. THE COATING SHALL BE APPLIED TO ALL THE SURFACES OF THE CONCRETE ABOVE THE GROUND AND 6" BELOW THE GRADE SURFACE IF APPLICABLE.
5. MINIMUM 30 MILS COATING IS REQUIRED.
6. APPLY COLD GALVANIZE AT LEAST 2'-3' ABOVE FOUNDATION.



DETAIL 2
SHIMS INSTALLATION DETAIL



DETAIL 1
SHIMS INSTALLATION DETAIL



ELEVATION VIEW

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STATE OF CONNECTICUT ★ JARRYD TIBBETTS ★ No. 34710 LICENSED PROFESSIONAL ENGINEER
3/31/22

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1	FIRST ISSUE	MN	02/17/22

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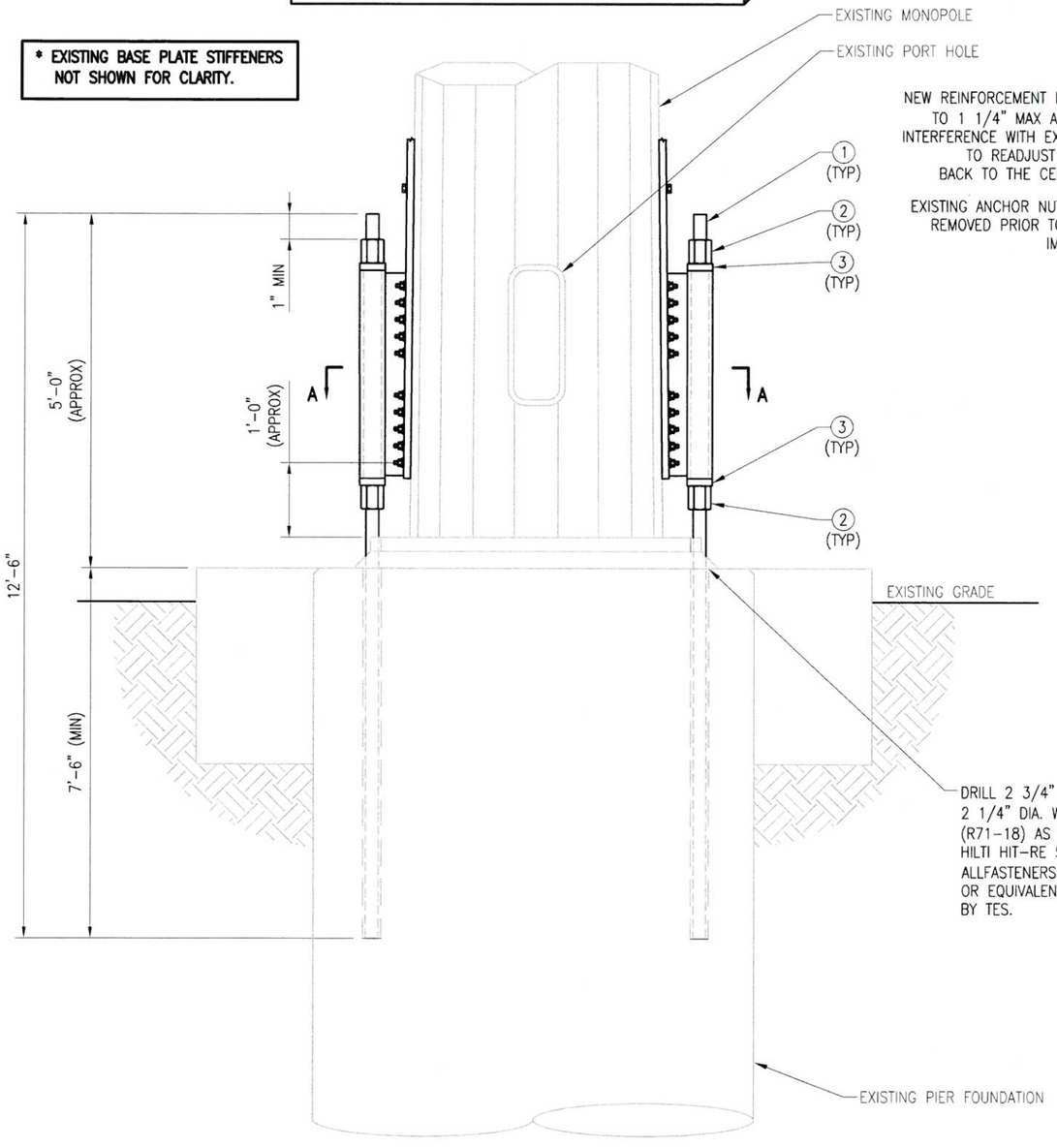
TOWER PROFILE

SHEET NUMBER:	REV #:
A-1	0

US PATENT 9,714,520 B1

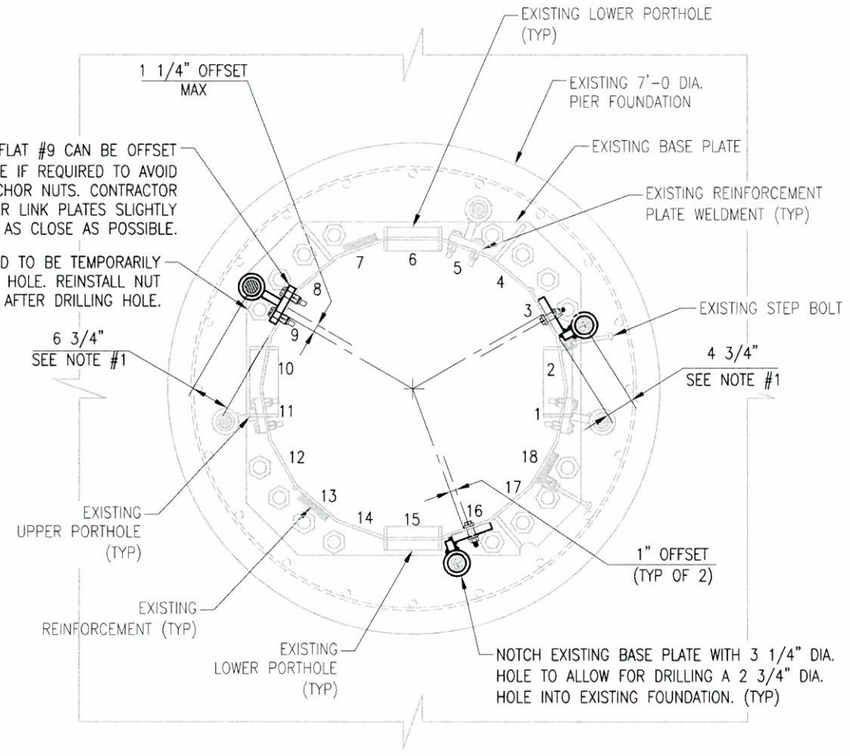
*** EXISTING BASE PLATE STIFFENERS NOT SHOWN FOR CLARITY.**



ELEVATION

NEW REINFORCEMENT PLATE ON FLAT #9 CAN BE OFFSET TO 1 1/4" MAX AT THE BASE IF REQUIRED TO AVOID INTERFERENCE WITH EXISTING ANCHOR NUTS. CONTRACTOR TO READJUST THE UPPER LINK PLATES SLIGHTLY BACK TO THE CENTER FLAT AS CLOSE AS POSSIBLE.

EXISTING ANCHOR NUT MAY NEED TO BE TEMPORARILY REMOVED PRIOR TO DRILLING HOLE. REINSTALL NUT IMMEDIATELY AFTER DRILLING HOLE.



SECTION A-A

INSTALLATION NOTES:

1. USE WELDED REINFORCEMENT BRACKET ASSEMBLY TO SET THE POSITION OF THE ALL-THREAD ROD.
2. DRILL NEW 2 3/4" DIA. HOLES INTO EXISTING FOUNDATION FOR ALL-THREAD ROD.
3. INSTALL REINFORCEMENT BRACKET AND CONFIRM FIT WITH MONOPOLE REINFORCEMENT PLATES.
4. TIGHTEN NUTS ON THE ALL-THREAD ROD LOCKING IT INTO POSITION.
5. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD CUT AND EXPOSED AREAS.
6. DRILLING CONTRACTOR TO EXERCISE EXTREME CARE TO AVOID DAMAGING THE EXISTING REINFORCING TIES IN THE CONCRETE PIER. IF REBAR IS ENCOUNTERED IN THE CONCRETE WHILE DRILLING, CONTRACTOR TO STOP DRILLING AND INFORM **TES** FOR SOLUTION.
7. CONTRACTOR PLEASE NOTE-WHILE DRILLING PREPARE TO DRILL THROUGH ANCHOR BOLT TEMPLATE.
8. SEE SHEETS SPEC-1 & 2 FOR NEXGEN2 BLIND BOLT INSTALLATION. IT IS REQUIRED THAT THE CONTRACTOR TAKE PHOTOS OF THE INSTALLED BOLT FOR VERIFICATION OF PROPER INSTALLATION.

NOTE:
SEE NOTES ON SHEET GN-1 FOR POST-INSTALLED EPOXY INJECTED ANCHOR BOLTS

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	3	R71-18	12'-6" WILLIAMS 2 1/4" DIA. ALL-THREAD ROD (150 KSI)
2	6	R73-18	2 1/4" NUT (WILLIAMS R73-18) (TYP)
3	6	PLW-1	PL 1 1/4" X 4 1/2" FLAT WASHER, A572-65

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3/3/22

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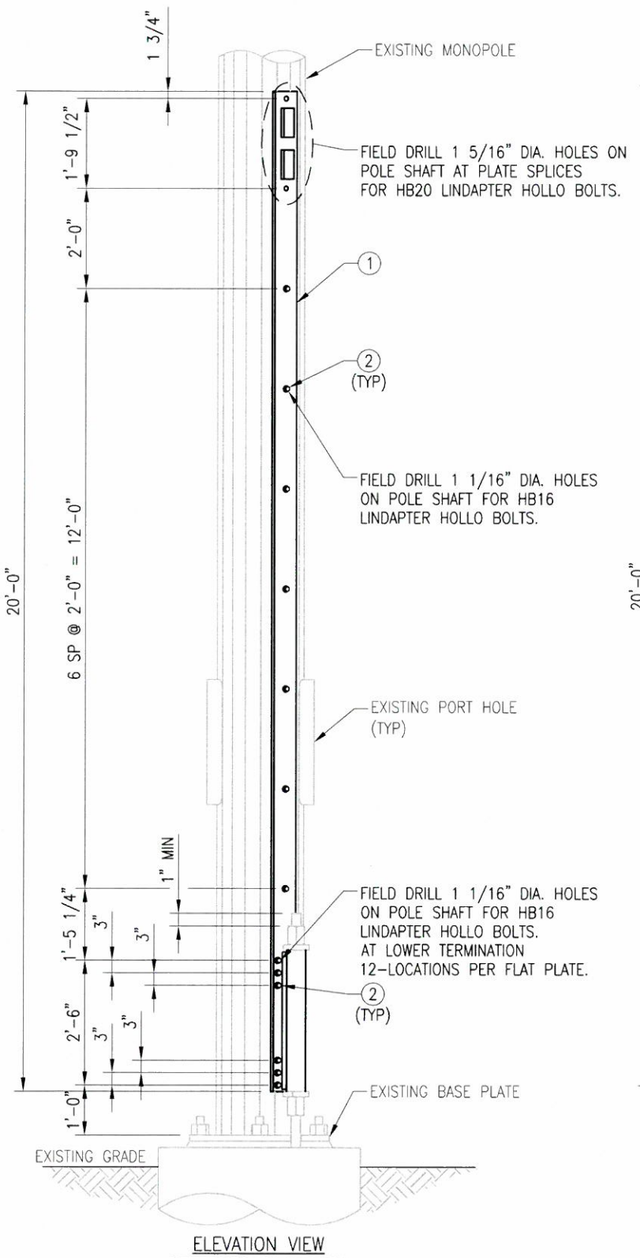
SHEET TITLE:

INSTALLATION OF NEW ANCHOR ROD DETAILS

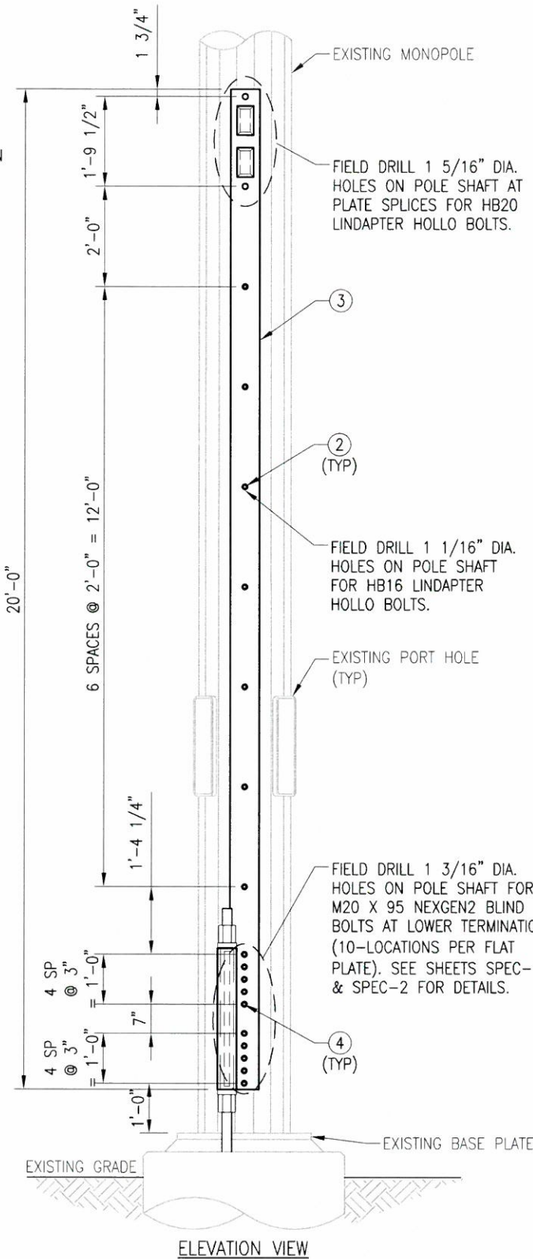
SHEET NUMBER: A-2

REV #: 0

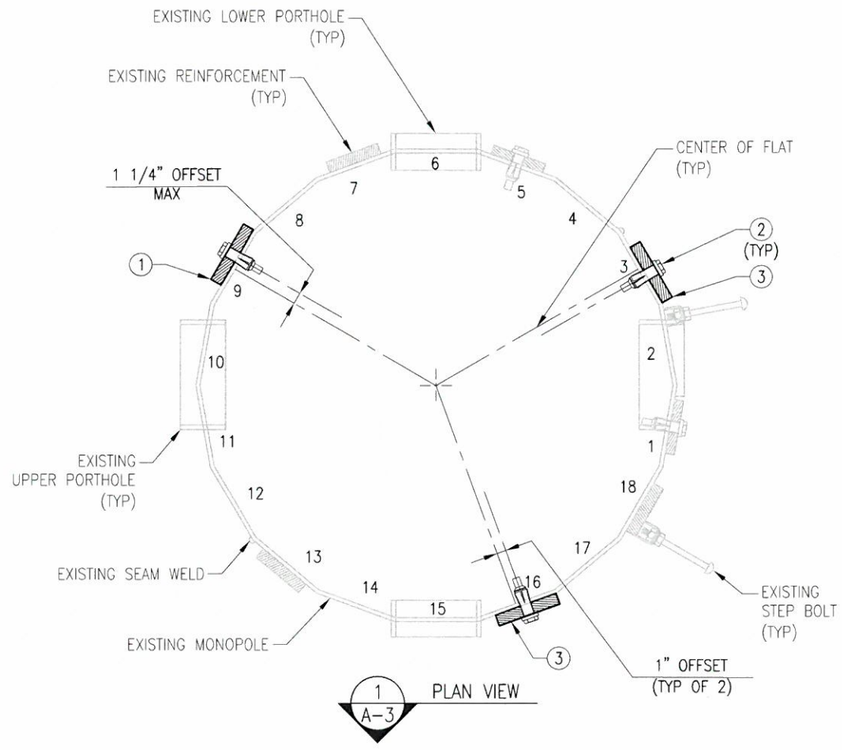
US PATENT 9,546,497 B2



ELEVATION VIEW
REFER TO PLAN VIEW
(±1'-0" TO ±21'-0" ELEV.)
(ON FLAT #9)



ELEVATION VIEW
REFER TO PLAN VIEW
(±1'-0" TO ±21'-0" ELEV.)
(ON FLAT #3 AND #16)



1 / A-3 PLAN VIEW

NOTES:
1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
2. INSTALLATION TORQUE FOR HOLLO/AJAX-BOLTS: SEE SHEET GN-1.
3. REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
4. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION (BASE SECTION)
1	1	LP7X125-B-20A	PL 1 1/4" X 7" X 20'-0" A572-65 WELDMENT
2	33	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
3	2	LP7X125-BL4.75-20A	PL 7" X 1 1/4" X 20'-0" A572-65 WELDMENT
4	20	2NG2048	M20 X 95 NEXGEN2 BLIND BOLT ASSEMBLY

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3/31/22

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SHEET TITLE:
REINFORCEMENT ASSEMBLY

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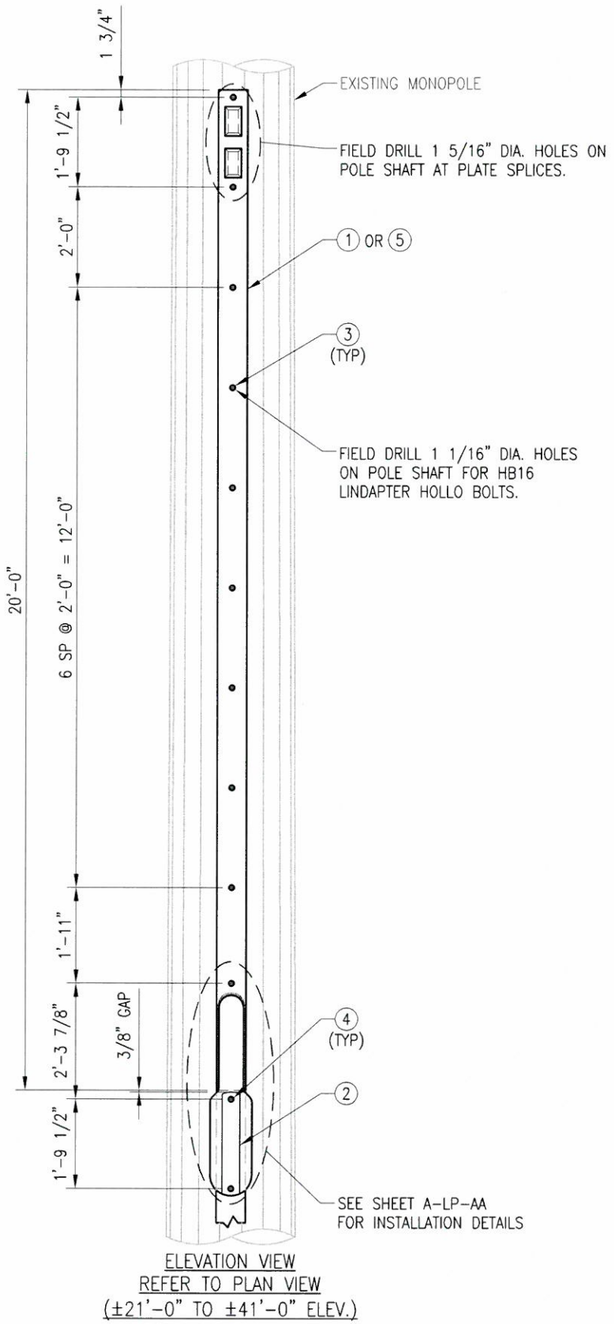
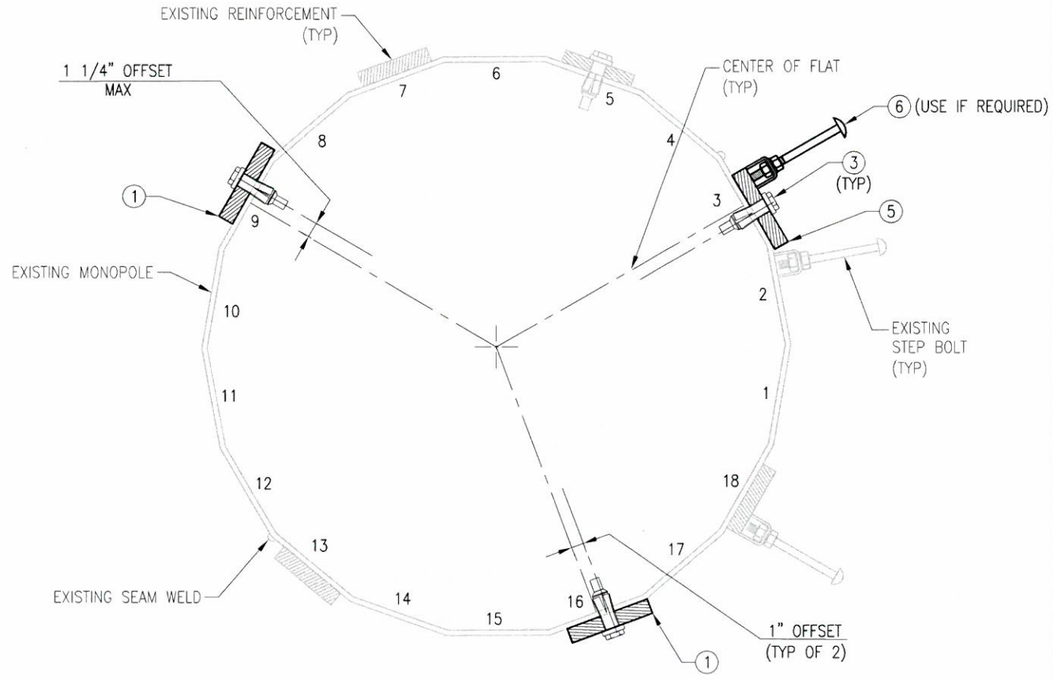
REV #: 0

US PATENT 9,546,497 B2



ELEVATION VIEW
REFER TO PLAN VIEW
(±21'-0" TO ±41'-0" ELEV.)



1 / A-4 PLAN VIEW

NOTES:
1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
2. REFER TO SHEET A-1 FOR SHIM IF REQUIRED.
3. INSTALLATION TORQUE FOR HOLLO/AJAX-BOLTS: SEE SHEET GN-1.
4. REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
5. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION (PER SECTION)
1	2	LP7X125-G-20AA	PL 1 1/4" X 7" X 20'-0" A572-65 WELDMENT
2	3	CPL-A	SPLICE CONNECTION COVER PLATE
3	24	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	6	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	1	LP7X125-S-20AA	PL 1 1/4" X 7" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
6	16	STEP BOLTS	STEP BOLT 5/8" X 8 1/4" W/ (2) NUT-LKW EA.

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TES JOB NO: 120916

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STATE OF CONNECTICUT ★ JARRYD TIBBETTS ★ No. 34470 LICENSED PROFESSIONAL ENGINEER
3/31/22

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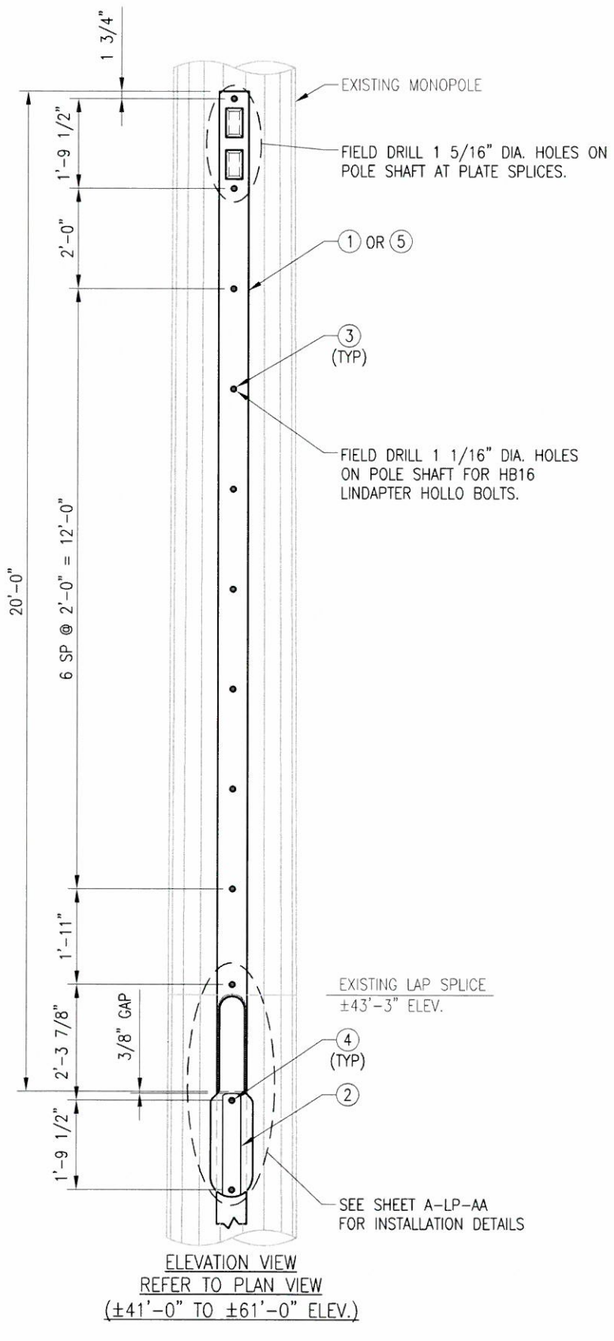
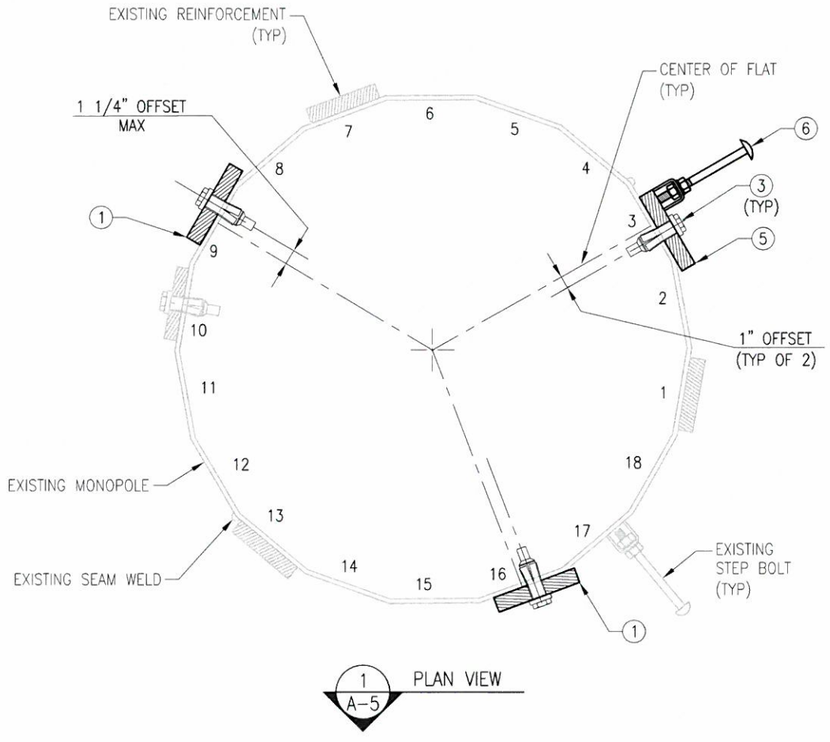
US PATENT 9,546,497 B2



ELEVATION VIEW
REFER TO PLAN VIEW
(±41'-0" TO ±61'-0" ELEV.)



1 A-5 PLAN VIEW

NOTES:
1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
2. REFER TO SHEET A-1 FOR SHIM IF REQUIRED.
3. INSTALLATION TORQUE FOR HOLLO/AJAX-BOLTS: SEE SHEET GN-1.
4. REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
5. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION (PER SECTION)
1	2	LP7X125-G-20AA	PL 1 1/4" X 7" X 20'-0" A572-65 WELDMENT
2	3	CPL-A	SPLICE CONNECTION COVER PLATE
3	24	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	6	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	1	LP7X125-S-20AA	PL 1 1/4" X 7" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
6	16	STEP BOLTS	STEP BOLT 5/8" X 8 1/4" W/ (2) NUT-LKW EA.

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TES JOB NO:
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No. 34770
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3/31/22

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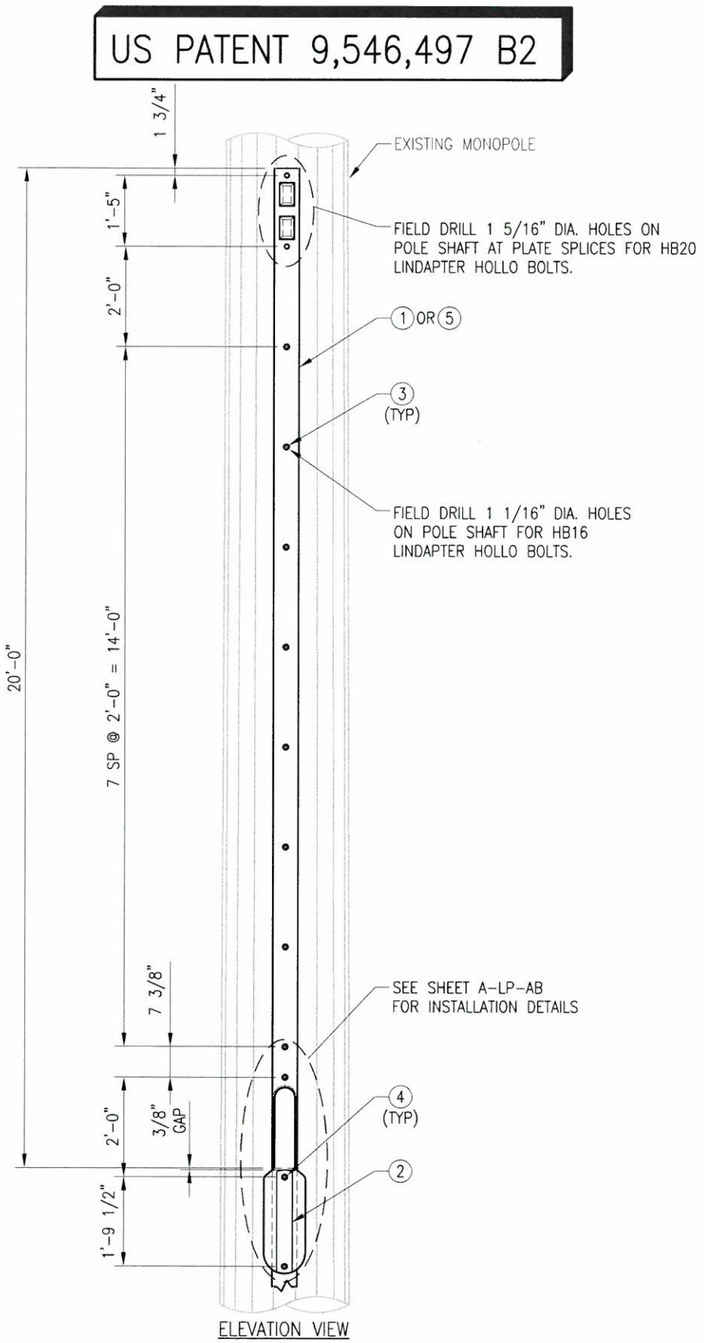
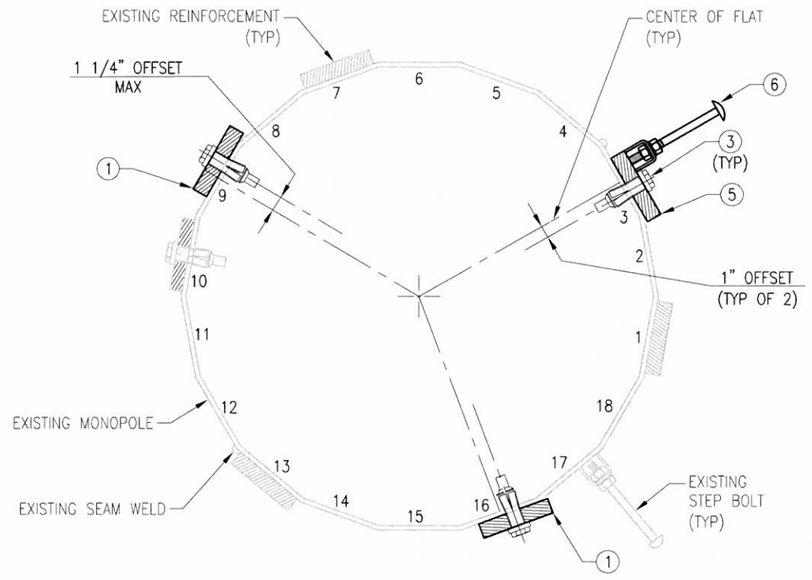
US PATENT 9,546,497 B2



ELEVATION VIEW
REFER TO PLAN VIEW
(±61'-0" TO ±81'-0" ELEV.)



1 / A-6 PLAN VIEW

NOTES:
1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
2. INSTALLATION TORQUE FOR HOLLO/AJAX-BOLTS: SEE SHEET GN-1.
3. REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
4. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION (PER SECTION)
1	2	LP6X125-G-20AB	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT
2	3	CPL-A	SPLICE CONNECTION COVER PLATE
3	27	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	6	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	1	LP6X125-S-20AB	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
6	16	STEP BOLTS	STEP BOLT 5/8" X 8 1/4" W/ (2) NUT-LKW EA.

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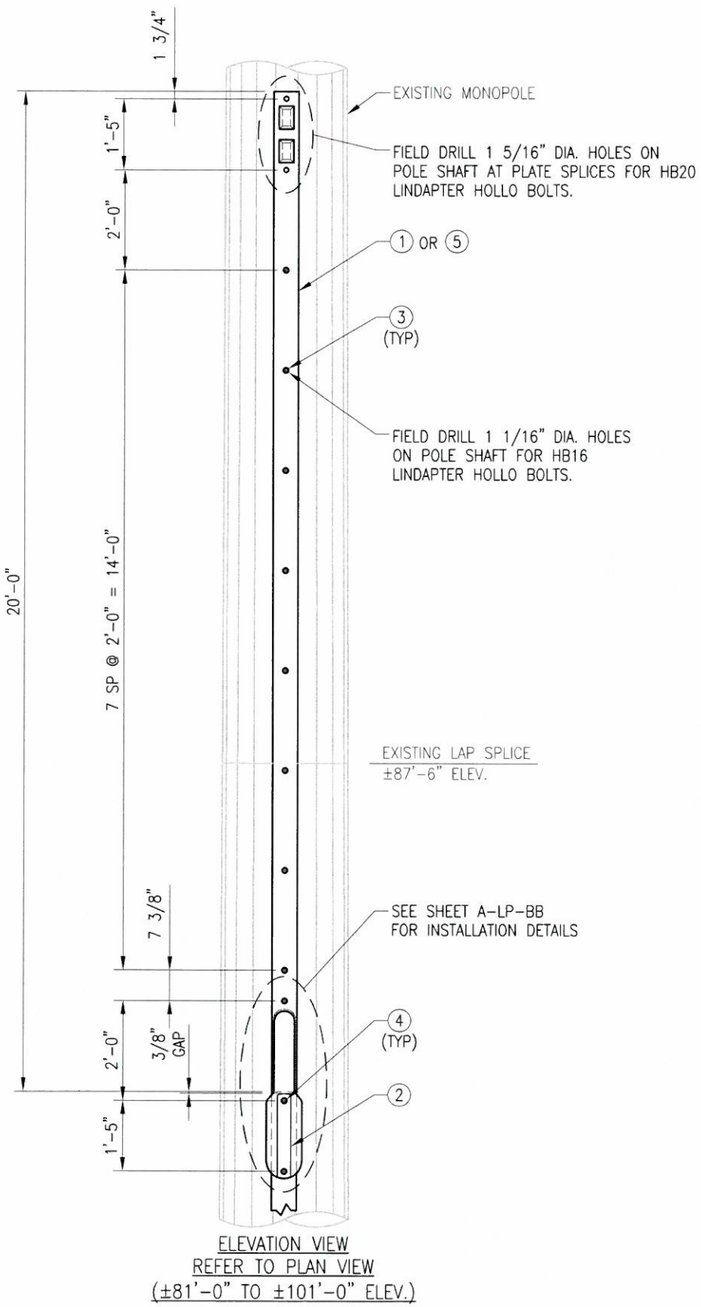
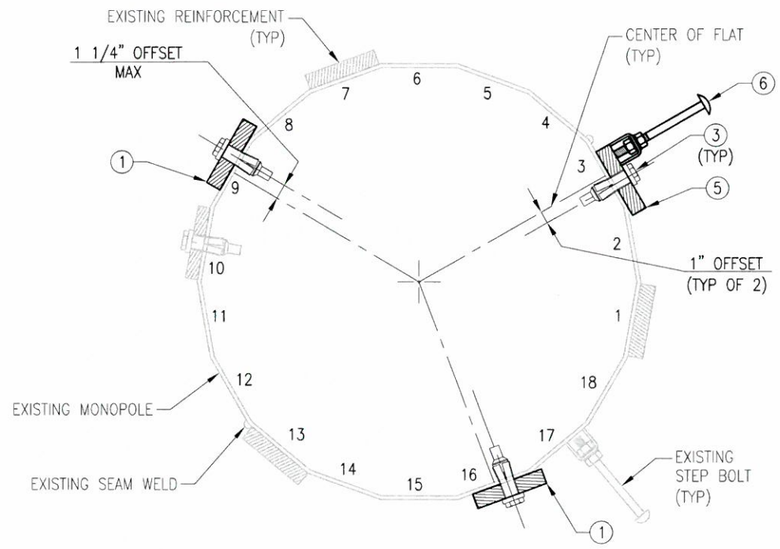
REV #: 0

US PATENT 9,546,497 B2



ELEVATION VIEW
REFER TO PLAN VIEW
(±81'-0" TO ±101'-0" ELEV.)



1 / A-7 PLAN VIEW

NOTES:
1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
2. REFER TO SHEET A-1 FOR SHIM IF REQUIRED.
3. INSTALLATION TORQUE FOR HOLLO/AJAX-BOLTS: SEE SHEET GN-1.
4. REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
5. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION (PER SECTION)
1	2	LP6X125-G-20BB	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT
2	3	CPL-B	SPLICE CONNECTION COVER PLATE
3	27	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	6	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	1	LP6X125-S-20BB	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
6	16	STEP BOLTS	STEP BOLT 5/8" X 8 1/4" X W/ (2) NUT-LKW EA.

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IRVING, TX 75038
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BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO: 120916

CUSTOMER SITE NO: CT46124-A-SBA

CUSTOMER SITE NAME: ENFIELD-MOODY RD.

188 MOODY RD
ENFIELD, CT 06082

STATE OF CONNECTICUT
JARRYD TIBBETTS
No. 34170
LICENSED
PROFESSIONAL ENGINEER
3/3/22

DRAWN BY: MN | CHECKED BY: SS/AD

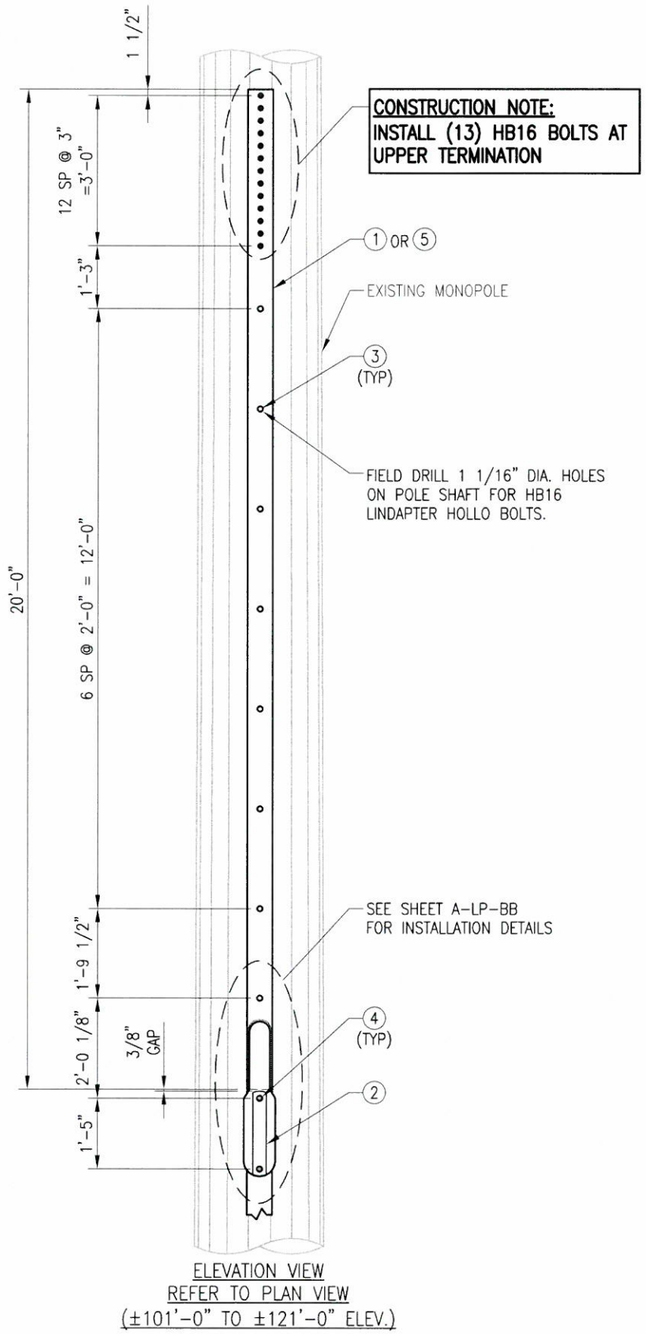
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	02/17/22

SHEET TITLE:
REINFORCEMENT ASSEMBLY

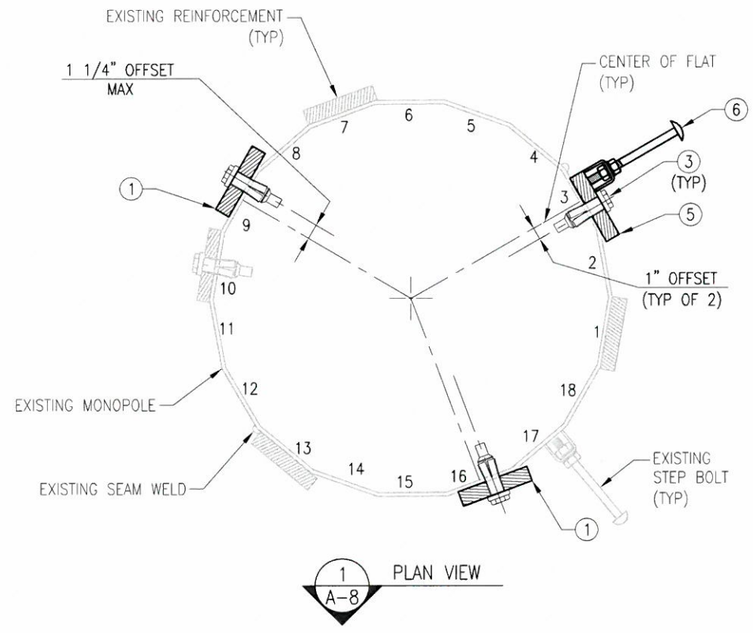
SHEET NUMBER: A-7

REV #: 0

US PATENT 9,546,497 B2



ELEVATION VIEW
REFER TO PLAN VIEW
(±101'-0" TO ±121'-0" ELEV.)



NOTES:
1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
2. INSTALLATION TORQUE FOR HOLLO/AJAX-BOLTS: SEE SHEET GN-1.
3. REMOVE EXISTING STEP BOLTS THAT INTERFERE WITH NEW REINFORCEMENT PLATES PRIOR TO INSTALLATION.
4. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.

ITEM NO.	QTY.	PART NO.	DESCRIPTION (PER SECTION)
1	2	LP6X125-G-20BT	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT
2	3	CPL-B	SPLICE CONNECTION COVER PLATE
3	63	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)
4	6	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)
5	1	LP6X125-S-20BT	PL 1 1/4" X 6" X 20'-0" A572-65 WELDMENT WITH STEP BOLT
6	16	STEP BOLTS	STEP BOLT 5/8" X 8 1/4" W/ (2) NUT-LKW EA.

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STATE OF CONNECTICUT
JARRYD TIBBETTS
No. 34178
LICENSED PROFESSIONAL ENGINEER
3/31/22

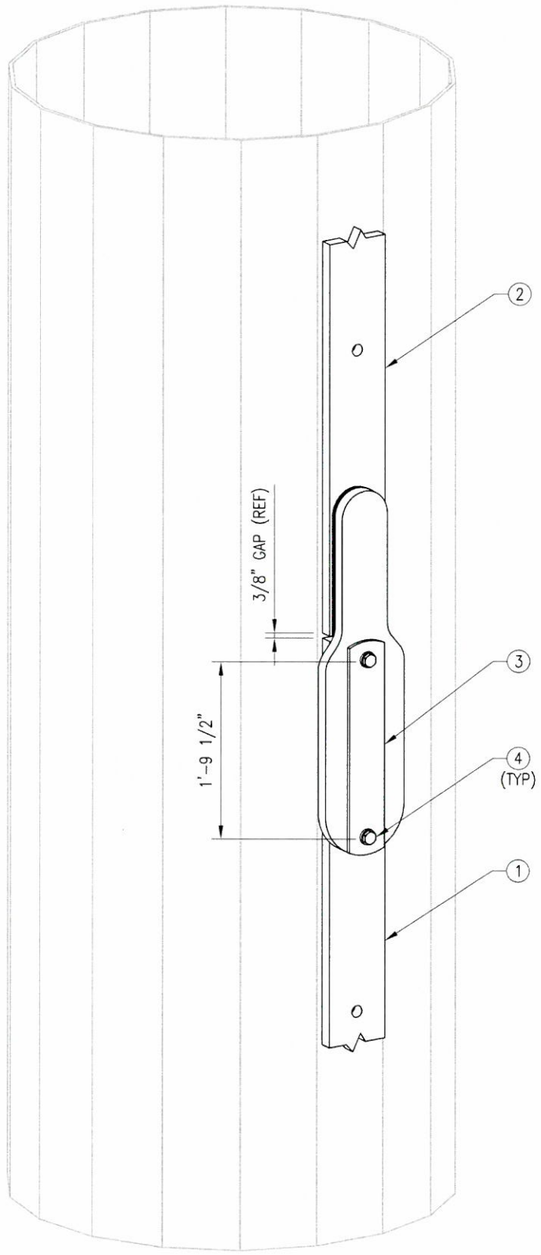
DRAWN BY: MN | CHECKED BY: SS/AD

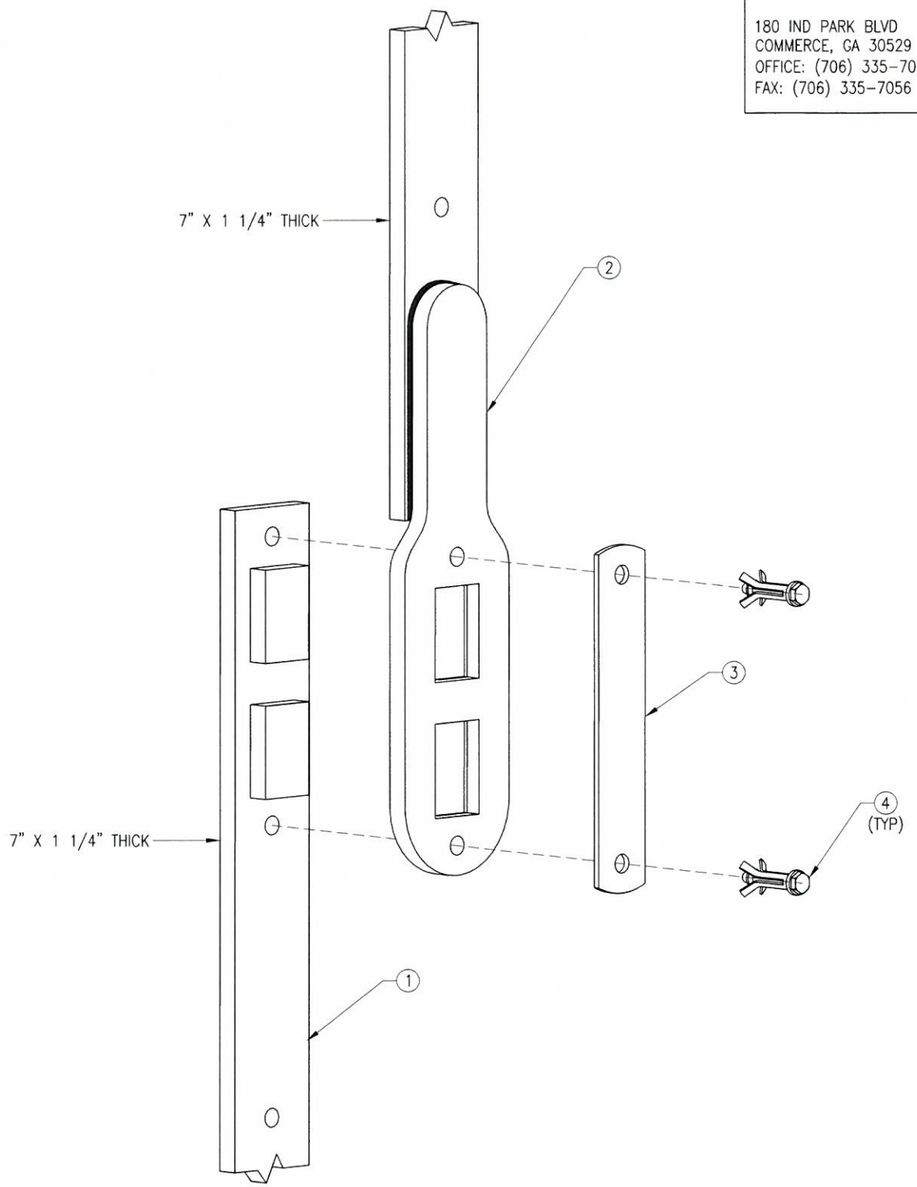
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	02/17/22

SHEET TITLE:
REINFORCEMENT ASSEMBLY

SHEET NUMBER: A-8
REV #: 0

US PATENT 9,546,497 B2





ALL LPXXXX PARTS ARE PATENTED AND ARE AVAILABLE FROM METROSITE, LLC

180 IND PARK BLVD
COMMERCE, GA 30529
OFFICE: (706) 335-7045
FAX: (706) 335-7056

FIELD NOTE:
INSTALLATION TORQUE FOR THE (2) HB20-3 BOLTS AT SPLICE: 221 FT-LBS.

ITEM NO.	QTY.	MATERIAL PART NO.	DESCRIPTION
1	–	LP7X125-X-XXX	PL 1 1/4" X 7" PLATE WELDMENT
2	–	LP7X125-X-XXX	PL 1 1/4" X 7" PLATE WELDMENT
3	1	CPL-A	KEY PLATE COVER PLATE
4	2	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)

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TES JOB NO:
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3/31/22

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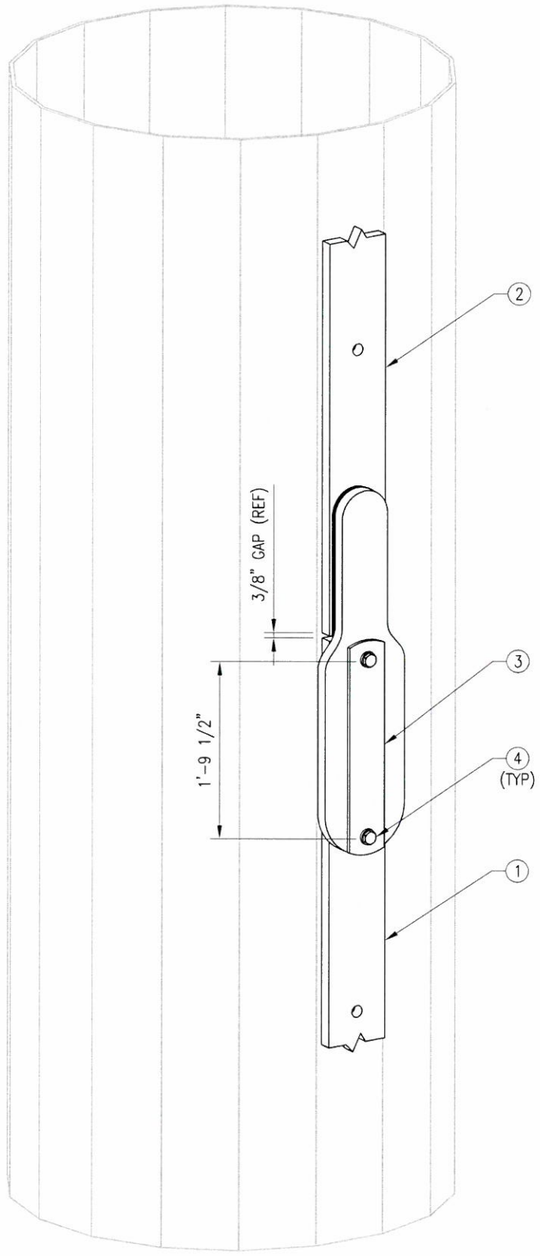
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	02/17/22

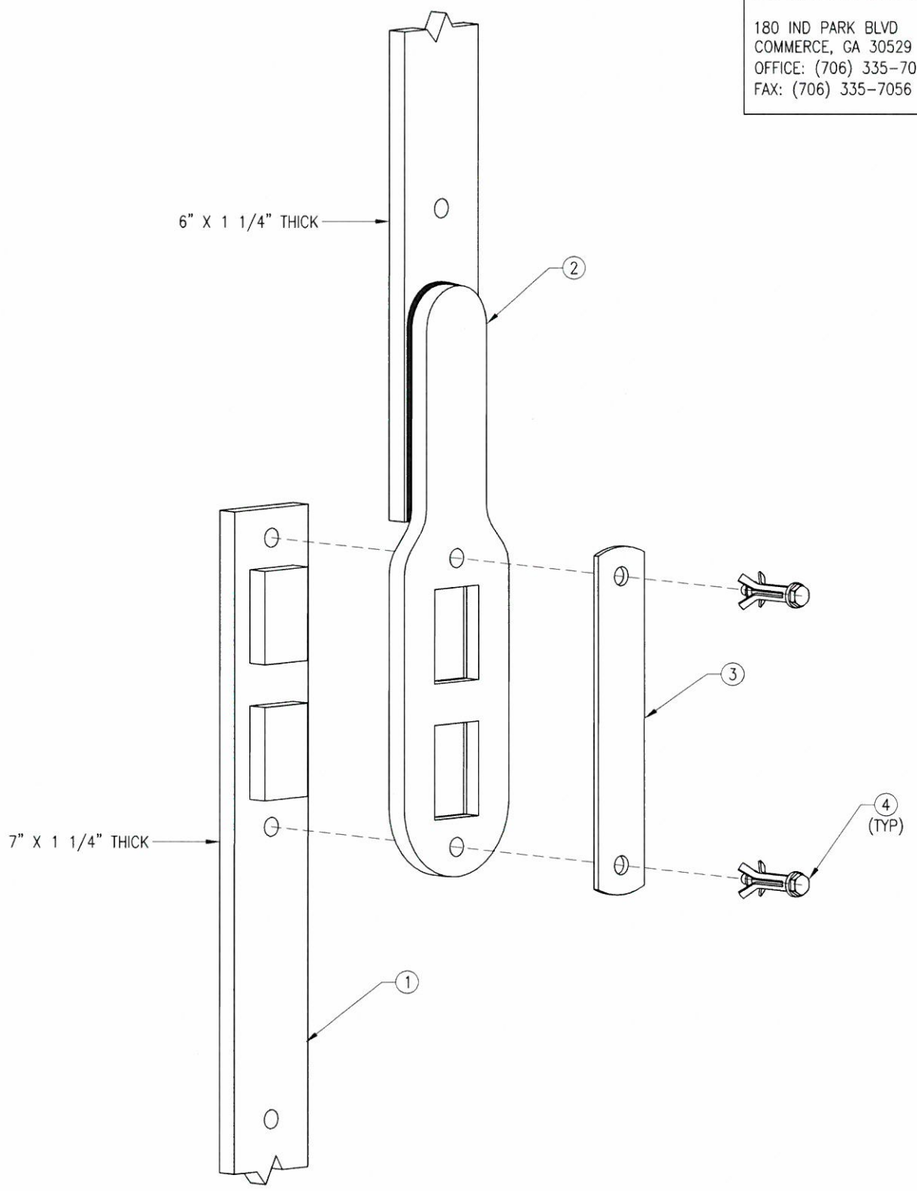
SHEET TITLE:
SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE AA)

SHEET NUMBER: A-LP-AA

REV #: 0

US PATENT 9,546,497 B2





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COMMERCE, GA 30529
OFFICE: (706) 335-7045
FAX: (706) 335-7056

FIELD NOTE:
INSTALLATION TORQUE FOR THE (2) HB20-3 BOLTS AT SPLICE: 221 FT-LBS.

ITEM NO.	QTY.	MATERIAL PART NO.	DESCRIPTION
1	–	LP7X125-X-XXX	PL 1 1/4" X 7" PLATE WELDMENT
2	–	LP6X125-X-XXX	PL 1 1/4" X 6" PLATE WELDMENT
3	1	CPL-A	KEY PLATE COVER PLATE
4	2	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)

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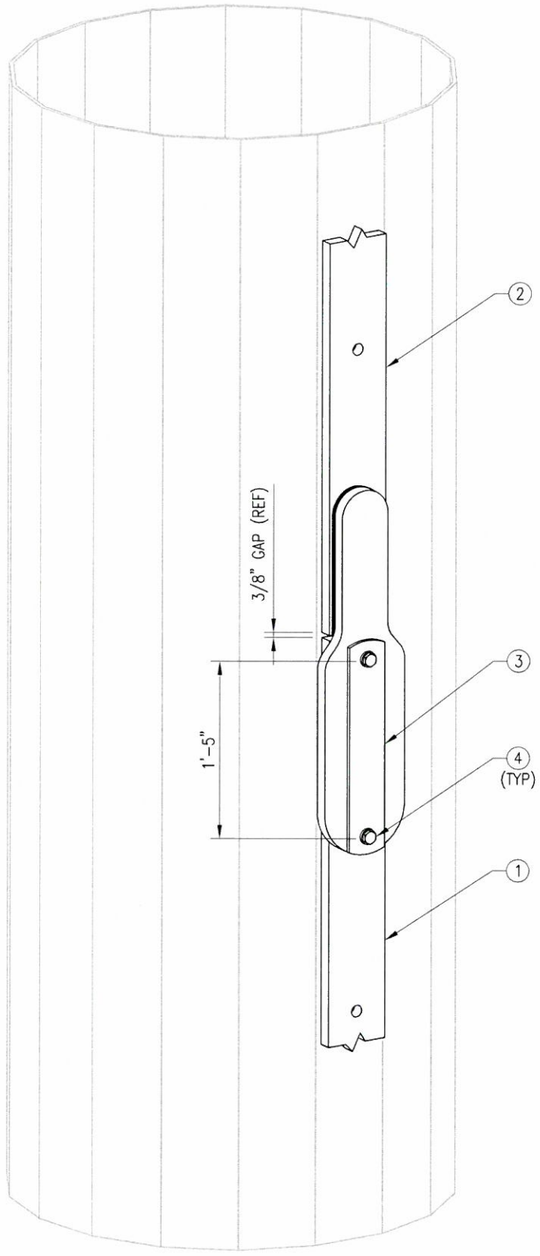
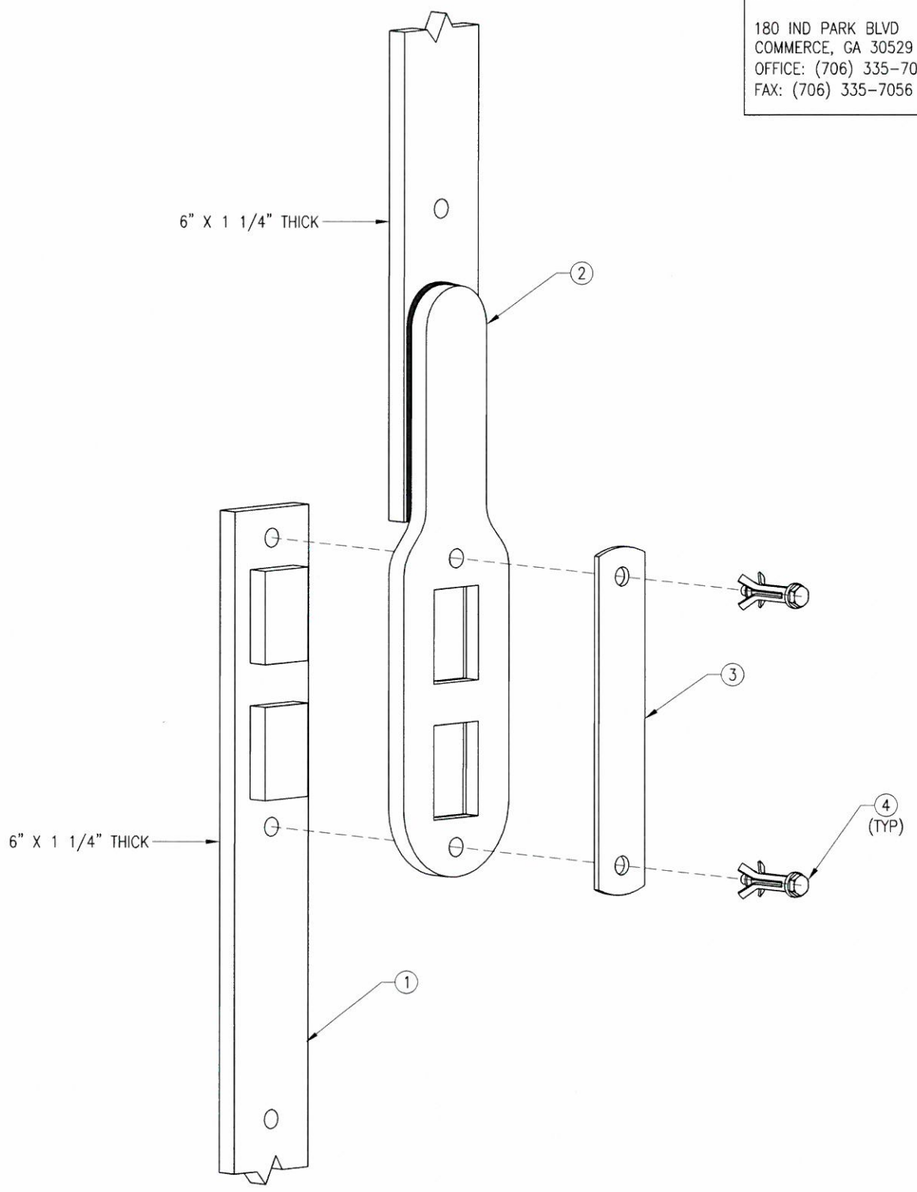
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	02/17/22

SHEET TITLE:
SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE AB)

SHEET NUMBER: A-LP-AB
REV #: 0

US PATENT 9,546,497 B2





ALL LPXXXX PARTS ARE PATENTED AND ARE AVAILABLE FROM METROSITE, LLC

180 IND PARK BLVD
COMMERCE, GA 30529
OFFICE: (706) 335-7045
FAX: (706) 335-7056

FIELD NOTE:
INSTALLATION TORQUE FOR THE (2) HB20-3 BOLTS AT SPLICE: 221 FT-LBS.

ITEM NO.	QTY.	MATERIAL PART NO.	DESCRIPTION
1	–	LP6X125-X-XXX	PL 1 1/4" X 6" PLATE WELDMENT
2	–	LP6X125-X-XXX	PL 1 1/4" X 6" PLATE WELDMENT
3	1	CPL-B	KEY PLATE COVER PLATE
4	2	HB20-3	LINDAPTER 3/4" TYPE HB HOLLO-BOLT (HCF)

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BOCA RATON, FL 33487
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TES JOB NO:
120916

CUSTOMER SITE NO:
CT46124-A-SBA

CUSTOMER SITE NAME:
ENFIELD-MOODY RD.

188 MOODY RD
ENFIELD, CT 06082

STATE OF CONNECTICUT
JARRYD TIBBETTS
No. 34176
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PROFESSIONAL ENGINEER
3/31/22

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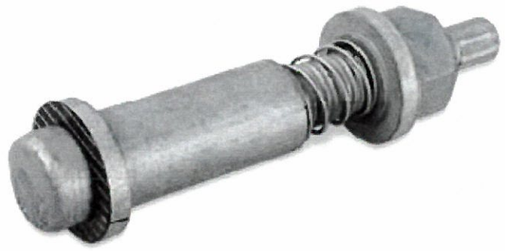
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	02/17/22

SHEET TITLE:
SPLICE CONNECTION PLATE INSTALLATION DETAILS (TYPE BB)

SHEET NUMBER: A-LP-BB

REV #: 0



NEXGEN2 BLIND BOLT ASSEMBLY

INSTALLATION GUIDE

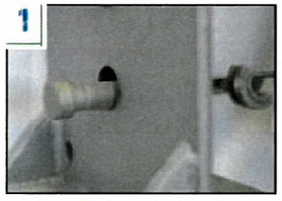
PRE-INSTALL BOLT ON INSTALL TOOL:

1 Thread the installation tool tip into the splined end of the bolt.

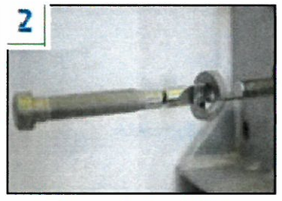
2 Remove the nut, the face washer and the spring shear sleeve and slide along the handle of the tool.

3 Move the collapsible washer to the correct location on the tool and fold in place.

INSTALLATION:

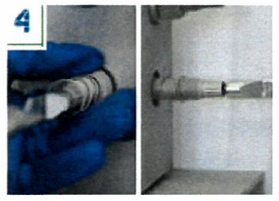


1 Install the bolt into the hole followed by the collapsible washer.

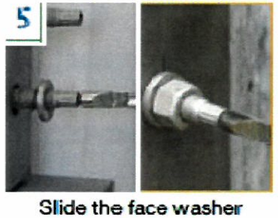


2 Rotate the tool 180°.

3 Pulling back, rock the tool side-to-side to engage the collapsible washer.

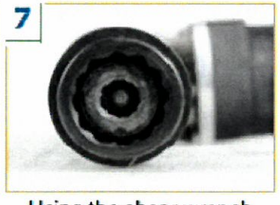


4 Engage the spring shear sleeve into the shear plane.



5 Slide the face washer forward and move the nut up to fasten to the bolt. Tighten the nut snug tight at this point.

6 Remove the tool by unscrewing it from bolt (counterclockwise).



7 Using the shear wrench engage the outer socket with the splined end of the bolt. Press the trigger until correct tension has been achieved (the bolt spline separates from the bolt).

8 Press the small trigger on the shear wrench to eject the bolt spline. The application is now complete.

THIS INSTALLATION GUIDE WAS CREATED BY ALLFASTENERS. IT WAS ATTACHED FOR REFERENCE ONLY.

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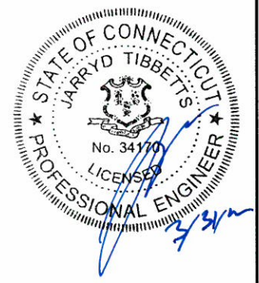
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
120916

CUSTOMER SITE NO:
CT46124-A-SBA

CUSTOMER SITE NAME:
ENFIELD-MOODY RD.

188 MOODY RD
ENFIELD, CT 06082



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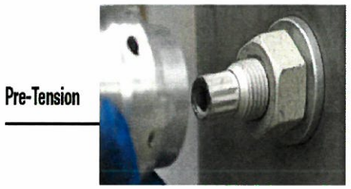
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	02/17/22

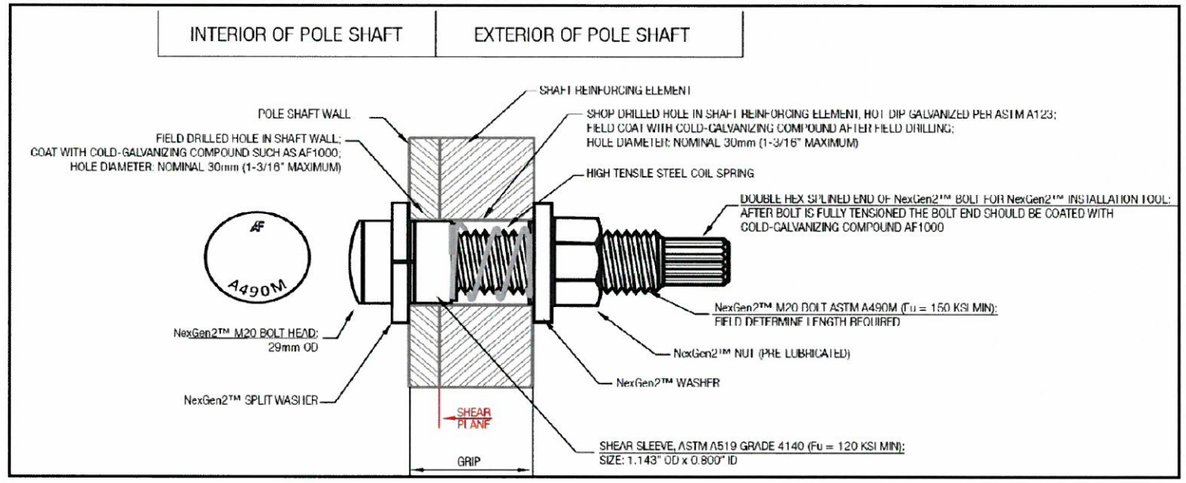
SHEET TITLE:
NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE

SHEET NUMBER: SPEC-1

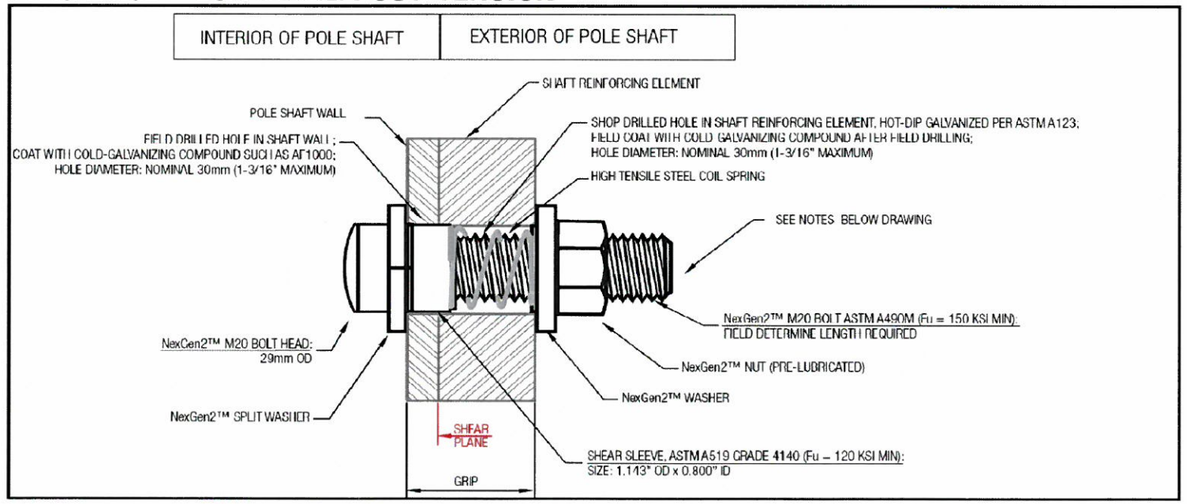
REV #: 0



TYPICAL NG2™ BOLT DETAIL: ***PRE-TENSION***



TYPICAL NG2™ BOLT DETAIL: ***POST-TENSION***



THIS INSTALLATION GUIDE WAS CREATED BY ALLFASTENERS.
IT WAS ATTACHED FOR REFERENCE ONLY.

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JARRYD TIBBETTS
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LICENSED
PROFESSIONAL ENGINEER

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	02/17/22

SHEET TITLE:
NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE

SHEET NUMBER: SPEC-2

REV #: 0

Exhibit E

Mount Analysis

December 27, 2021

Sherri Knapik
SBA Network Services, LLC.
134 Flanders Road, Suite 125
Westborough, MA 01581
(508) 251-0720 x 3805

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

Subject:	**Appurtenance Mount Analysis Report**	
Carrier Designation:	***Dish Wireless* Co-Locate**	
	Site Number:	BOBDL00134A
	Site Name:	N/A
***SBA Network Services Designation*:**	**Site Number:**	CT46124-A
	Site Name:	Enfield-Moody Rd.
	Application Number:	177000, v1
Engineering Firm Designation:	**B+T Group Project Number:**	106084.005.01
Site Data:	**188 Moody Rd, Enfield, CT, 06082, Hartford County**	
	Latitude *42.00200*°, Longitude *-72.52169*°	
	Monopole	
	8' Platform Mount	

Dear Ms. Knapik,

B+T Group is pleased to submit this **"Appurtenance Mount Analysis Report"** to determine the structural integrity of the antenna mount on the above-mentioned structure.

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

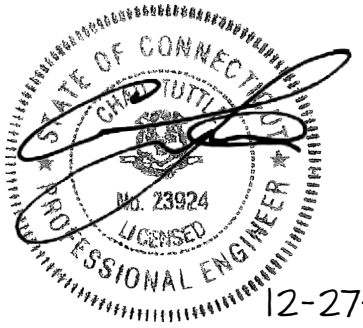
Proposed Equipment Note: See Table 1 for the final loading configuration	**Sufficient Capacity** **(Passing at 58.1%)**

This analysis utilizes an ultimate 3-second gust wind speed of 116 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

We at *B+T Group* appreciate the opportunity of providing our continuing professional services to you and *SBA Network Services, LLC.* If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by: Massood Sattari

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



12-27-21

Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

The appurtenance mount consists of Commscope platform mount (Part #MC-PK8-DSH) at 178 ft., attached to monopole at 188 Moody Rd, Enfield, CT, 06082, Hartford County. The proposed antenna loading information was obtained from SBA Network Services, LLC. All information provided to B+T Group was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this mount in accordance with the ANSI/TIA-222-H-2017 Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures using a 3-second gust wind speed of 116 mph with no ice and 50 mph with 1.5 inch escalated ice thickness. Exposure Category C, Topographic Category 1 and Risk Category II were used in this analysis. In addition, the platform mount has been analyzed for various live loading conditions consisting of a 250-lb man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust of 30 mph. The mount was analyzed under 30º increments in the wind direction. The analyzed loading is detailed in Table 1.

Table 1 – Proposed Equipment Information

Loading	RAD Center Elev. (ft.)	Position	Qty.	Description	Note
Proposed	178	1	3	JMA Wireless MX08FRO665-21	1
			3	Fujitsu TA08025-B605	2
			3	Fujitsu TA08025-B604	
		--	1	Raycap RDIDC-9181-PF-48	3

Note:
(1) Proposed Antenna to be installed on the Mount Pipe.
(2) Proposed Equipment to be installed directly behind the Antenna.
(3) Proposed Equipment to be installed on the Mount.

Table 2 - Documents Provided

Documents	Remarks	Reference	Source
Collo App	Proposed Loading	Date: 10/22/2021	SBA Network Services, LLC.
RFDS		Date: 09/07/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses and deflections for various loading cases. Selected output from the analysis is included in Appendix A.

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The mount was built in accordance with the manufacturer's specifications.
2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas and other appurtenances are as specified in Table 1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.
5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.

6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The following material grades were assumed (Unless Noted Otherwise):
   a) Connection Bolts : ASTM A325
   b) Steel Pipe : ASTM A53 (GR. 35)
   c) HSS (Round) : ASTM 500 (GR. B-42)
   d) HSS (Rectangular) : ASTM 500 (GR. B-46)
   e) Channel : ASTM A36 (GR. 36)
   f) Steel Solid Rod : ASTM A36 (GR. 36)
   g) Steel Plate : ASTM A36 (GR. 36)
   h) Steel Angle : ASTM A36 (GR. 36)
   i) UNISTRUT : ASTM A570 (GR. 33)

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

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

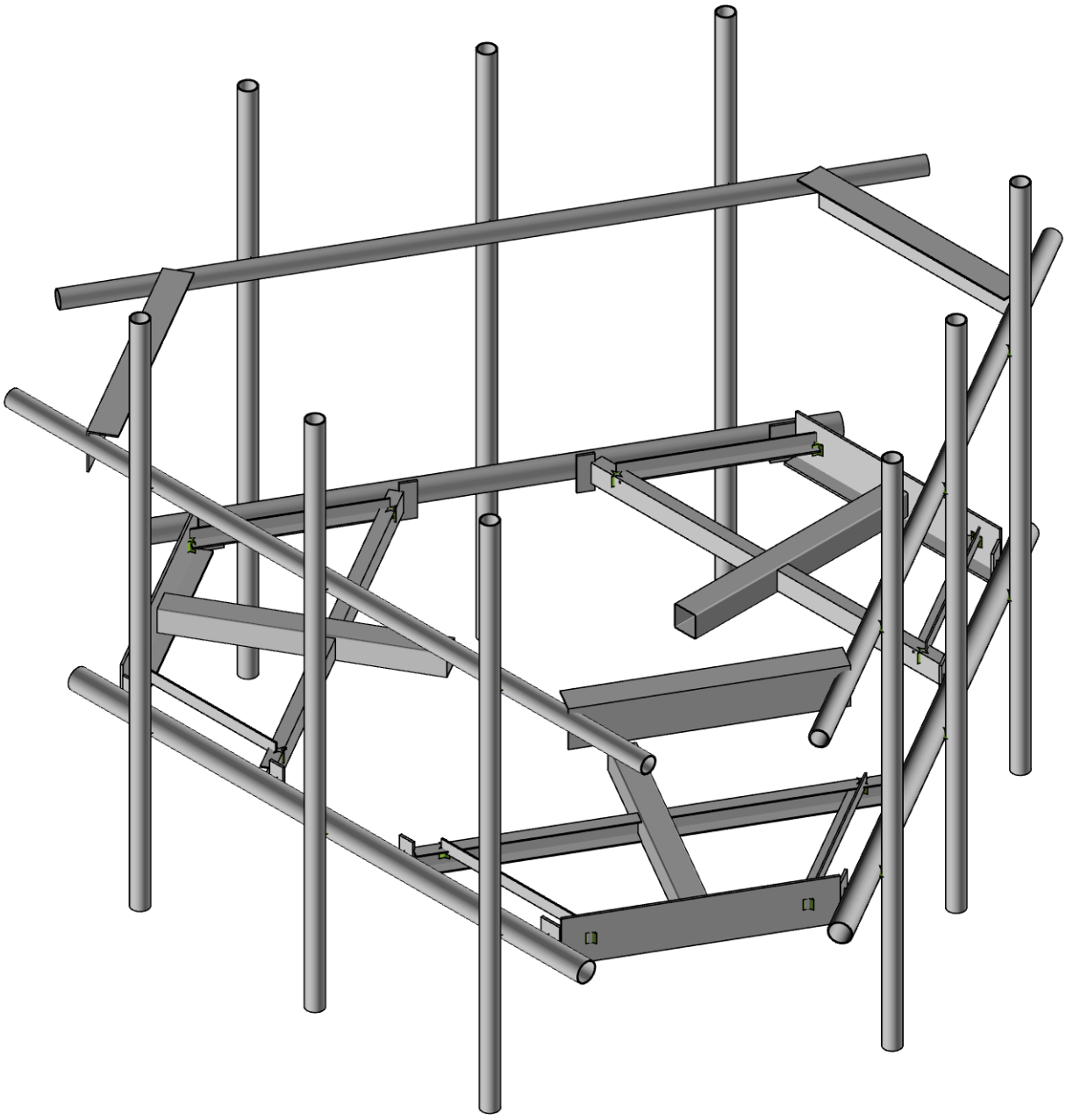
Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
-	Main Horizontals	178	8.8	Pass
-	Support Rails	178	15.1	Pass
-	Support Tubes	178	58.1	Pass
-	Support Channels	178	43.9	Pass
-	Support Angles	178	37.2	Pass
-	Mount Pipes	178	16.9	Pass
-	Connection Plates	178	24.4	Pass
	Connection Angles	178	25.9	Pass
-	Connection Bolts	178	31.55	Pass

5) RECOMMENDATIONS

The Commscope platform mount (Part #MC-PK8-DSH) has sufficient capacity to carry the proposed loads and is in compliance with the ANSI/TIA-222-H-2018 standard for the proposed loading. (Refer to the RISA output for the specific members).

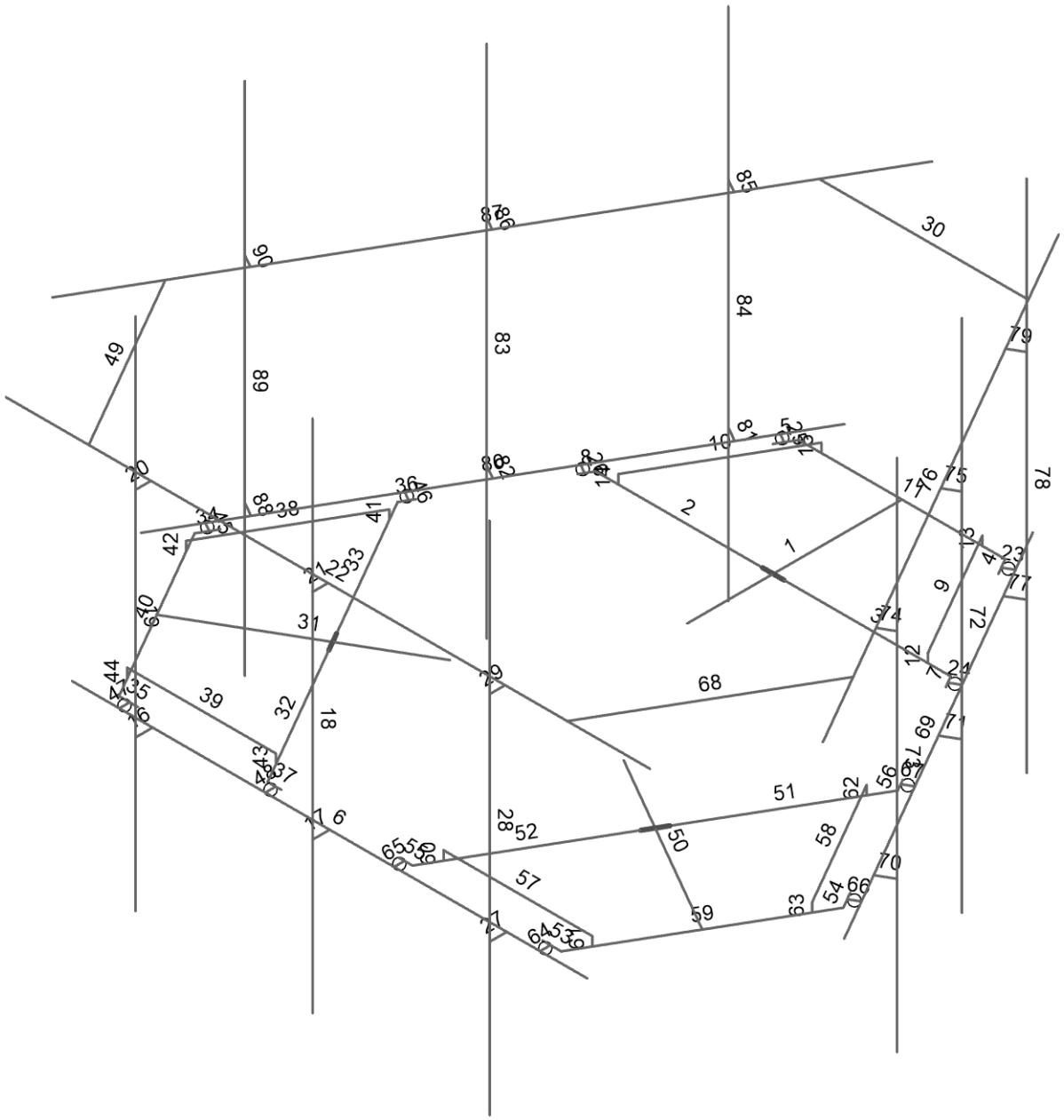
APPENDIX A

(RISA-3D Output)



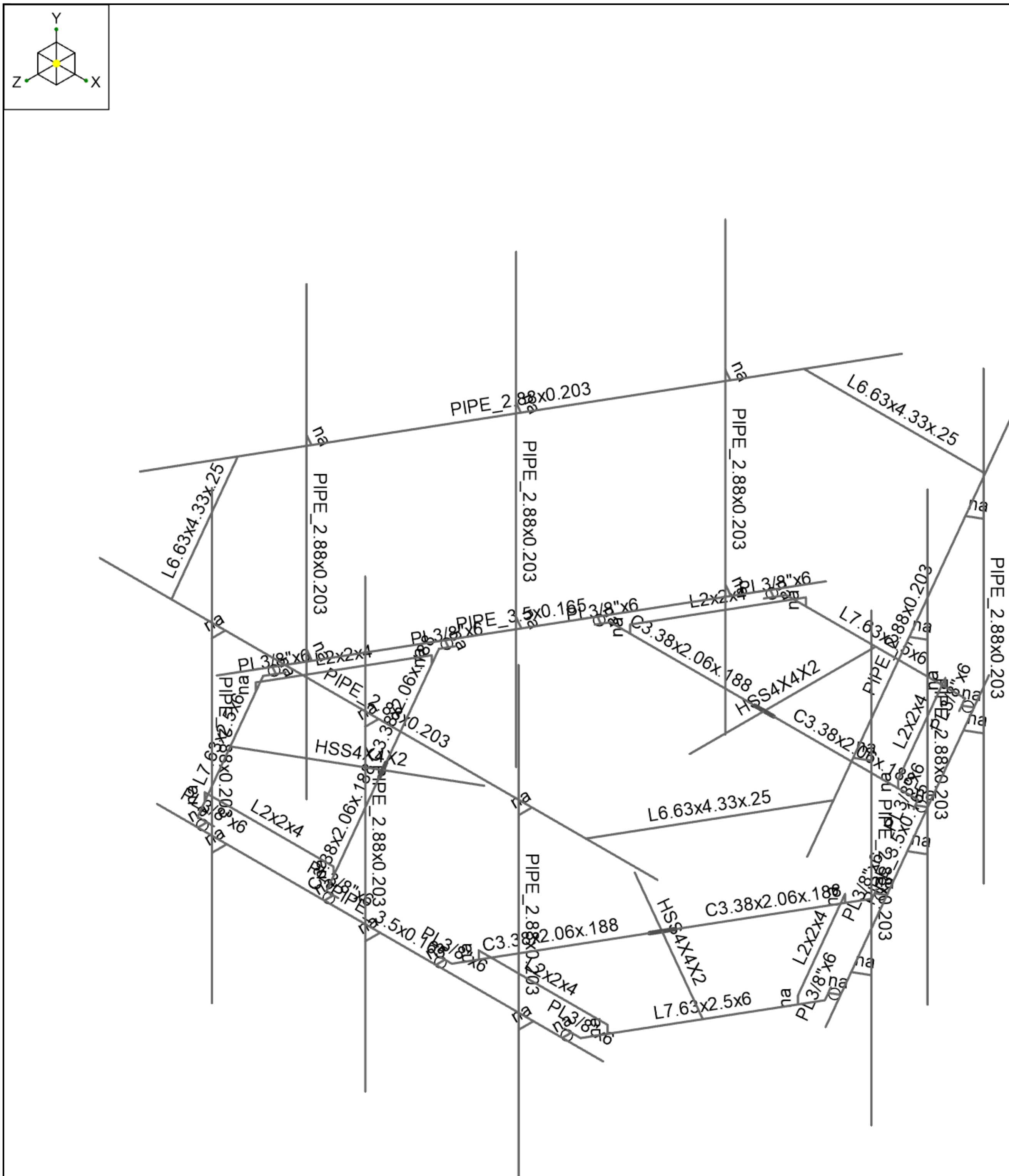
Envelope Only Solution

B+T Group	CT46124-A - Enfield-Moody Rd	GRG-1
GRG		Dec 26, 2021
106084.005.01		106084_005_01_Enfield-Moody R…



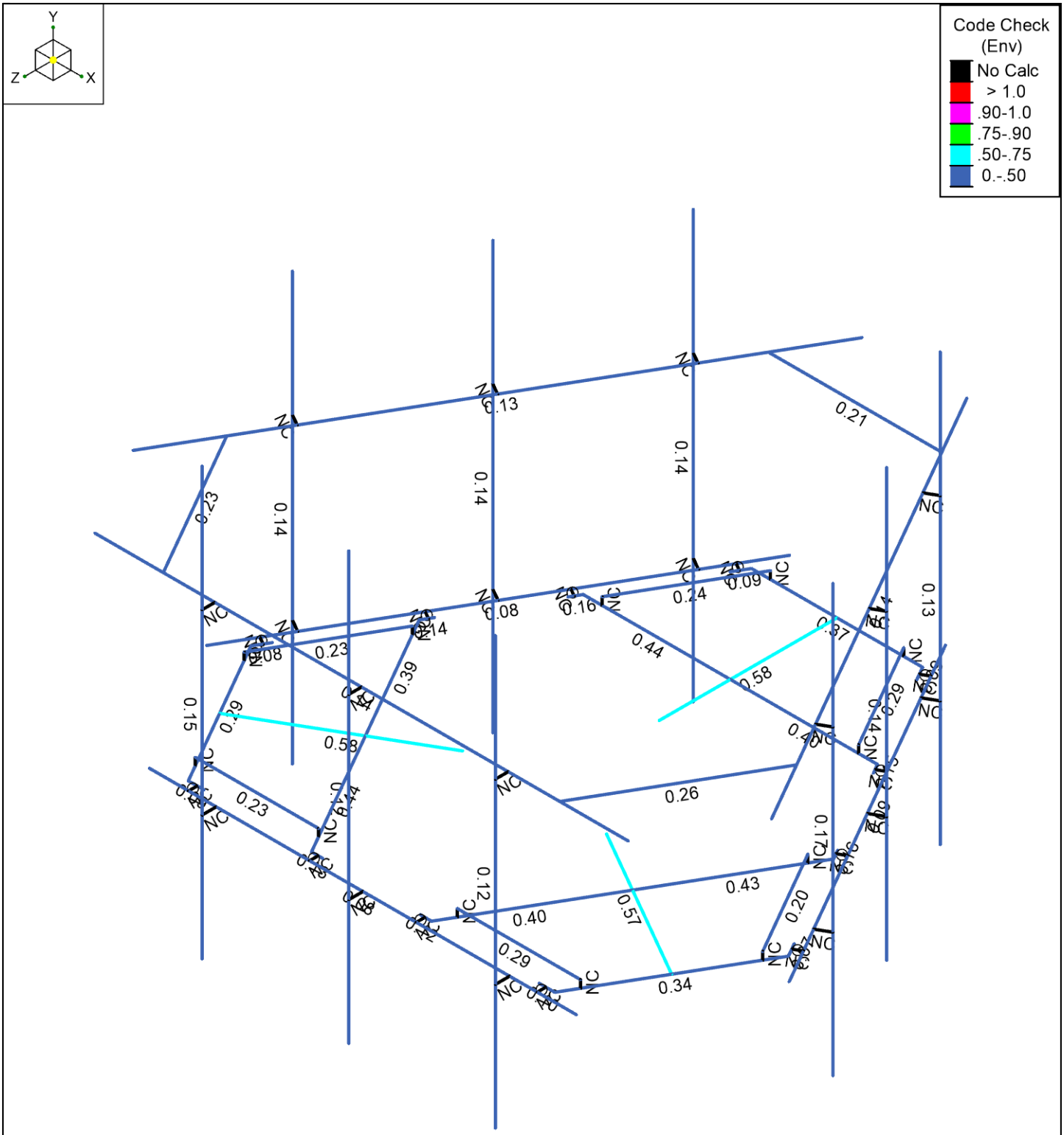
Envelope Only Solution

B+T Group	CT46124-A - Enfield-Moody Rd	GRG-2
GRG		Dec 26, 2021
106084.005.01		106084_005_01_Enfield-Moody R…



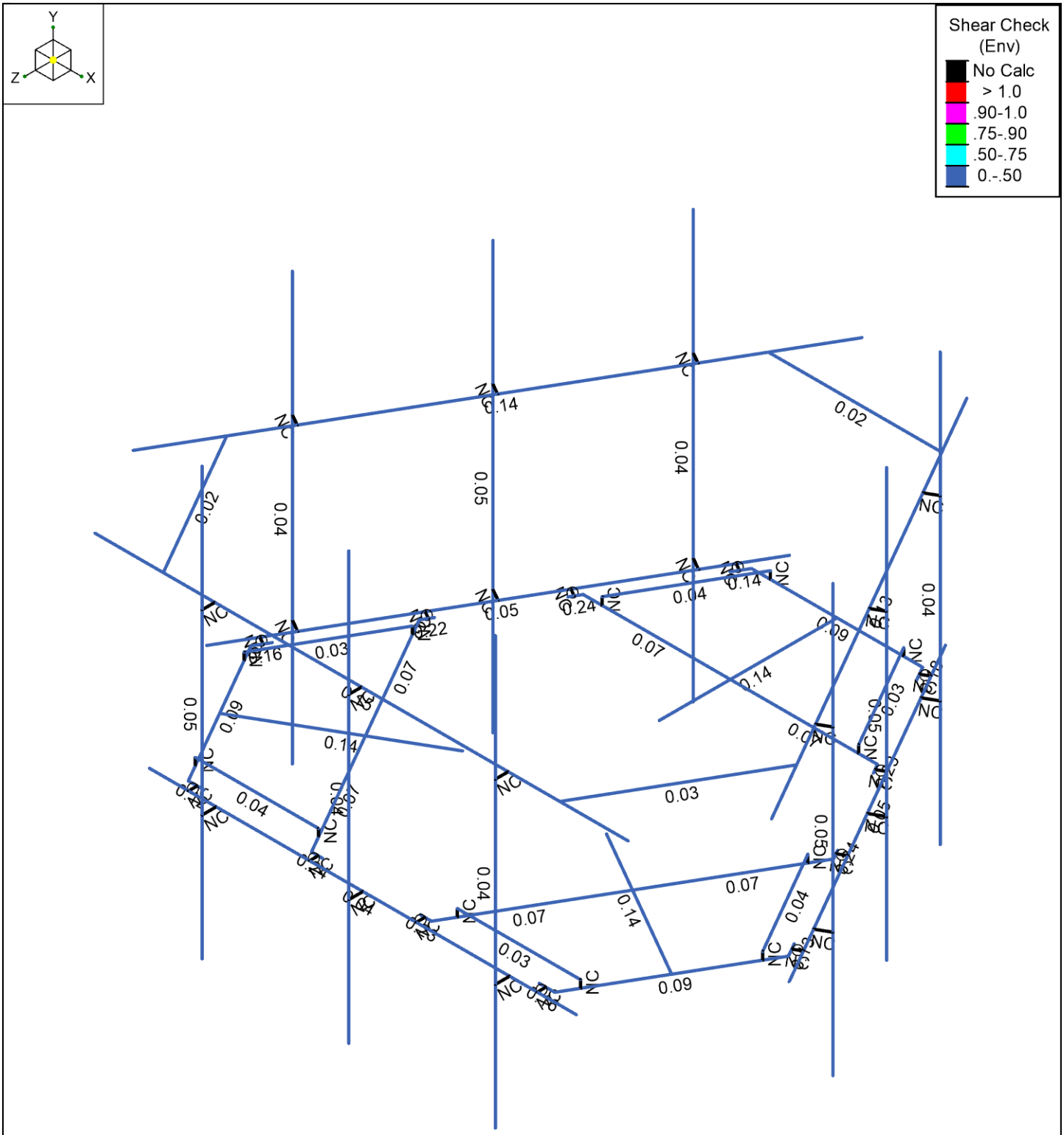
Envelope Only Solution

B+T Group	CT46124-A - Enfield-Moody Rd	GRG-3
GRG		Dec 26, 2021
106084.005.01		106084_005_01_Enfield-Moody R...



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT46124-A - Enfield-Moody Rd	GRG-4
GRG		Dec 26, 2021
106084.005.01		106084_005_01_Enfield-Moody R…



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT46124-A - Enfield-Moody Rd	GRG-5
GRG		Dec 26, 2021
106084.005.01		106084_005_01_Enfield-Moody R…

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	-1.558332	
2	2	0	0	-4.891665	
3	3	0	0	-2.891665	
4	4	2.758333	0	-2.891665	
5	5	-2.758333	0	-2.891665	
6	6	-1.603633	0	-4.891665	
7	7	1.603633	0	-4.891665	
8	8	1.749466	0	-4.639074	
9	9	-1.749466	0	-4.639074	
10	10	1.686966	0	-4.747327	
11	11	1.826823	0	-4.828074	
12	12	-1.686966	0	-4.747327	
13	13	-1.826823	0	-4.828074	
14	14	-3.999998	0	3.996112	
15	15	3.999998	0	3.996112	
16	16	2.8625	0	-2.711243	
17	17	2.820833	0	-2.783413	
18	18	2.960689	0	-2.864159	
19	19	-2.8625	0	-2.711243	
20	20	-2.820833	0	-2.783413	
21	21	-2.960689	0	-2.864159	
22	22	-1.25	0.140833	-4.891665	
23	23	-2.404701	0.140833	-2.891665	
24	24	2.404701	0.140833	-2.891665	
25	25	1.25	0.140833	-4.891665	
26	26	-1.25	0	-4.891665	
27	27	-2.404701	0	-2.891665	
28	28	2.404701	0	-2.891665	
29	29	1.25	0	-4.891665	
30	30	-2.749998	0	3.996112	
31	31	0.000002	0	3.996112	
32	32	-2.749998	0	4.261737	
33	33	0.000002	0	4.261737	
34	34	-2.749998	-2.333667	4.261737	
35	35	0.000002	-2.333667	4.261737	
36	36	-2.749998	5.666335	4.261737	
37	37	0.000002	5.666335	4.261737	
38	38	-2.749998	3.333337	4.261737	
39	39	0.000002	3.333337	4.261737	
40	40	-2.749998	3.333337	4.022153	
41	41	0.000002	3.333337	4.022153	
42	42	-5	3.333337	4.022153	
43	43	5	3.333337	4.022153	
44	44	2.749998	0	3.996112	
45	45	2.749998	0	4.261737	
46	46	2.749998	-2.333667	4.261737	
47	47	2.749998	5.666335	4.261737	
48	48	2.749998	3.333337	4.261737	
49	49	2.749998	3.333337	4.022153	
50	50	0	0	0	
51	51	1.62504	3.333337	-5.229654	
52	52	-1.62504	3.333337	-5.229654	
53	53	-1.349555	0	0.779166	
54	54	-4.236306	0	2.445832	
55	55	-2.504255	0	1.445832	
56	56	-3.883422	0	-0.942954	
57	57	-1.125089	0	3.834619	
58	58	-3.43449	0	3.834619	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
59	59	-5.038122	0	1.057046	
60	60	-4.892289	0	0.804455	
61	61	-3.142823	0	3.834619	
62	62	-4.954789	0	0.912708	
63	63	-5.094646	0	0.831962	
64	64	-3.267823	0	3.834619	
65	65	-3.267823	0	3.996112	
66	66	-3.779255	0	-1.123376	
67	67	-3.820922	0	-1.051207	
68	68	-3.960779	0	-1.131953	
69	69	-0.916755	0	3.834619	
70	70	-1.00009	0	3.834619	
71	71	-1.00009	0	3.996112	
72	72	-3.611306	0.140833	3.528364	
73	73	-1.301905	0.140833	3.528364	
74	74	-3.706606	0.140833	-0.636699	
75	75	-4.861306	0.140833	1.363301	
76	76	-3.611306	0	3.528364	
77	77	-1.301905	0	3.528364	
78	78	-3.706606	0	-0.636699	
79	79	-4.861306	0	1.363301	
80	80	-5.341534	3.333337	1.207501	
81	81	-3.716493	3.333337	4.022153	
82	82	1.349555	0	0.779166	
83	83	4.236306	0	2.445832	
84	84	2.504255	0	1.445832	
85	85	1.125089	0	3.834619	
86	86	3.883422	0	-0.942954	
87	87	5.038122	0	1.057046	
88	88	3.43449	0	3.834619	
89	89	3.142823	0	3.834619	
90	90	4.892289	0	0.804455	
91	91	3.267823	0	3.834619	
92	92	3.267823	0	3.996112	
93	93	4.954789	0	0.912708	
94	94	5.094646	0	0.831962	
95	95	0.916755	0	3.834619	
96	96	1.00009	0	3.834619	
97	97	1.00009	0	3.996112	
98	98	3.779255	0	-1.123376	
99	99	3.820922	0	-1.051207	
100	100	3.960779	0	-1.131953	
101	101	4.861306	0.140833	1.363301	
102	102	3.706606	0.140833	-0.636699	
103	103	1.301905	0.140833	3.528364	
104	104	3.611306	0.140833	3.528364	
105	105	4.861306	0	1.363301	
106	106	3.706606	0	-0.636699	
107	107	1.301905	0	3.528364	
108	108	3.611306	0	3.528364	
109	109	3.716493	3.333337	4.022153	
110	110	5.341534	3.333337	1.207501	
111	111	5.460733	0	1.466044	
112	112	1.460735	0	-5.462156	
113	113	4.835733	0	0.383512	
114	114	3.460733	0	-1.998058	
115	115	5.065771	0	0.2507	
116	116	3.690771	0	-2.13087	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
117	117	5.065771	-2.333667	0.2507	
118	118	3.690771	-2.333667	-2.13087	
119	119	5.065771	5.666335	0.2507	
120	120	3.690771	5.666335	-2.13087	
121	121	5.065771	3.333337	0.2507	
122	122	3.690771	3.333337	-2.13087	
123	123	4.858286	3.333337	0.370491	
124	124	3.483286	3.333337	-2.011078	
125	125	5.983287	3.333337	2.31905	
126	126	0.983287	3.333337	-6.341204	
127	127	2.085735	0	-4.379624	
128	128	2.315773	0	-4.512437	
129	129	2.315773	-2.333667	-4.512437	
130	130	2.315773	5.666335	-4.512437	
131	131	2.315773	3.333337	-4.512437	
132	132	2.108288	3.333337	-4.392645	
133	133	-1.460735	0	-5.462156	
134	134	-5.460733	0	1.466044	
135	135	-2.085735	0	-4.379624	
136	136	-3.460735	0	-1.998054	
137	137	-2.315773	0	-4.512437	
138	138	-3.690773	0	-2.130867	
139	139	-2.315773	-2.333667	-4.512437	
140	140	-3.690773	-2.333667	-2.130867	
141	141	-2.315773	5.666335	-4.512437	
142	142	-3.690773	5.666335	-2.130867	
143	143	-2.315773	3.333337	-4.512437	
144	144	-3.690773	3.333337	-2.130867	
145	145	-2.108288	3.333337	-4.392645	
146	146	-3.483288	3.333337	-2.011075	
147	147	-0.983287	3.333337	-6.341204	
148	148	-5.983287	3.333337	2.31905	
149	149	-4.835733	0	0.383512	
150	150	-5.065771	0	0.2507	
151	151	-5.065771	-2.333667	0.2507	
152	152	-5.065771	5.666335	0.2507	
153	153	-5.065771	3.333337	0.2507	
154	154	-4.858286	3.333337	0.370491	

Node Boundary Conditions

	Y [k/in]	X Rot [k-ft/rad]	X [k/in]	Z Rot [k-ft/rad]	Z [k/in]	Node Label	Y Rot [k-ft/rad]
1	Reaction	Reaction	Reaction	Reaction	Reaction	1	Reaction
2						2	
3						3	
4						4	
5						5	
6						16	
7						17	
8						19	
9						20	
10						22	
11						25	
12						26	
13						29	
14	Reaction	Reaction	Reaction	Reaction	Reaction	53	Reaction
15						54	
16						55	
17						56	

Node Boundary Conditions (Continued)

	Y [k/in]	X Rot [k-ft/rad]	X [k/in]	Z Rot [k-ft/rad]	Z [k/in]	Node Label	Y Rot [k-ft/rad]
18						57	
19						66	
20						67	
21						69	
22						70	
23						72	
24						75	
25						76	
26						79	
27	Reaction	Reaction	Reaction	Reaction	Reaction	82	Reaction
28						83	
29						84	
30						85	
31						86	
32						95	
33						96	
34						98	
35						99	
36						101	
37						104	
38						105	
39						108	

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	A500 Gr.C	29000	11154	0.3	0.65	0.49	46	1.4	62	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Fu [ksi]
1	A653 SS Gr33	29500	11346	0.3	0.65	0.49	33	45
2	A653 SS Gr50/1	29500	11346	0.3	0.65	0.49	50	65

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	MF-H1	PIPE_3.5x0.165	Beam	Pipe	A500 Gr.C	Typical	1.729	2.409	2.409	4.819
2	MF-H2	PIPE_2.88x0.203	Beam	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
3	SF-H1	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91
4	SF-H2	C3.38x2.06x.188	Beam	Channel	A36 Gr.36	Typical	1.339	0.562	2.4	0.015
5	SF-H3	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
6	SF-H4	L7.63x2.5x6	Beam	Single Angle	A36 Gr.36	Typical	3.658	1.307	22.092	0.163
7	MF-P1	PIPE_2.88x0.203	Column	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
8	MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
9	MF-H3	L6.63x4.33x.25	Beam	Single Angle	A36 Gr.36	Typical	2.678	4.383	12.502	0.054

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	CF1	8CU1.25X057	Beam	None	A653 SS Gr33	Typical	0.581	0.057	4.41	0.00063

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	1	2		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
2	2	5	3	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	3	4	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
4	4	7	8		MF-CP1	Beam	RECT	A36 Gr.36	Typical
5	5	6	9		MF-CP1	Beam	RECT	A36 Gr.36	Typical
6	6	14	15		MF-H1	Beam	Pipe	A500 Gr.C	Typical
7	7	16	4		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	8	5	19		MF-CP1	Beam	RECT	A36 Gr.36	Typical
9	9	25	24		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
10	10	23	22		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
11	11	6	7		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
12	12	28	24		RIGID	None	None	RIGID	Typical
13	13	29	25		RIGID	None	None	RIGID	Typical
14	14	27	23		RIGID	None	None	RIGID	Typical
15	15	26	22		RIGID	None	None	RIGID	Typical
16	16	32	30		RIGID	None	None	RIGID	Typical
17	17	33	31		RIGID	None	None	RIGID	Typical
18	18	37	35		MF-P1	Column	Pipe	A500 Gr.C	Typical
19	19	36	34		MF-P1	Column	Pipe	A500 Gr.C	Typical
20	20	38	40		RIGID	None	None	RIGID	Typical
21	21	39	41		RIGID	None	None	RIGID	Typical
22	22	42	43		MF-H2	Beam	Pipe	A500 Gr.C	Typical
23	23	11	10		RIGID	None	None	RIGID	Typical
24	24	18	17		RIGID	None	None	RIGID	Typical
25	25	13	12		RIGID	None	None	RIGID	Typical
26	26	21	20		RIGID	None	None	RIGID	Typical
27	27	45	44		RIGID	None	None	RIGID	Typical
28	28	47	46		MF-P1	Column	Pipe	A500 Gr.C	Typical
29	29	48	49		RIGID	None	None	RIGID	Typical
30	30	51	52	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
31	31	53	54		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
32	32	57	55	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
33	33	55	56	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
34	34	59	60		MF-CP1	Beam	RECT	A36 Gr.36	Typical
35	35	58	61		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	36	66	56		MF-CP1	Beam	RECT	A36 Gr.36	Typical
37	37	57	69		MF-CP1	Beam	RECT	A36 Gr.36	Typical
38	38	75	74		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
39	39	73	72		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
40	40	58	59		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
41	41	78	74		RIGID	None	None	RIGID	Typical
42	42	79	75		RIGID	None	None	RIGID	Typical
43	43	77	73		RIGID	None	None	RIGID	Typical
44	44	76	72		RIGID	None	None	RIGID	Typical
45	45	63	62		RIGID	None	None	RIGID	Typical
46	46	68	67		RIGID	None	None	RIGID	Typical
47	47	65	64		RIGID	None	None	RIGID	Typical
48	48	71	70		RIGID	None	None	RIGID	Typical
49	49	80	81	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
50	50	82	83		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
51	51	86	84	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
52	52	84	85	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
53	53	88	89		MF-CP1	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
54	54	87	90		MF-CP1	Beam	RECT	A36 Gr.36	Typical
55	55	95	85		MF-CP1	Beam	RECT	A36 Gr.36	Typical
56	56	86	98		MF-CP1	Beam	RECT	A36 Gr.36	Typical
57	57	104	103		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
58	58	102	101		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
59	59	87	88		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
60	60	107	103		RIGID	None	None	RIGID	Typical
61	61	108	104		RIGID	None	None	RIGID	Typical
62	62	106	102		RIGID	None	None	RIGID	Typical
63	63	105	101		RIGID	None	None	RIGID	Typical
64	64	92	91		RIGID	None	None	RIGID	Typical
65	65	97	96		RIGID	None	None	RIGID	Typical
66	66	94	93		RIGID	None	None	RIGID	Typical
67	67	100	99		RIGID	None	None	RIGID	Typical
68	68	109	110	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
69	69	111	112		MF-H1	Beam	Pipe	A500 Gr.C	Typical
70	70	115	113		RIGID	None	None	RIGID	Typical
71	71	116	114		RIGID	None	None	RIGID	Typical
72	72	120	118		MF-P1	Column	Pipe	A500 Gr.C	Typical
73	73	119	117		MF-P1	Column	Pipe	A500 Gr.C	Typical
74	74	121	123		RIGID	None	None	RIGID	Typical
75	75	122	124		RIGID	None	None	RIGID	Typical
76	76	125	126		MF-H2	Beam	Pipe	A500 Gr.C	Typical
77	77	128	127		RIGID	None	None	RIGID	Typical
78	78	130	129		MF-P1	Column	Pipe	A500 Gr.C	Typical
79	79	131	132		RIGID	None	None	RIGID	Typical
80	80	133	134		MF-H1	Beam	Pipe	A500 Gr.C	Typical
81	81	137	135		RIGID	None	None	RIGID	Typical
82	82	138	136		RIGID	None	None	RIGID	Typical
83	83	142	140		MF-P1	Column	Pipe	A500 Gr.C	Typical
84	84	141	139		MF-P1	Column	Pipe	A500 Gr.C	Typical
85	85	143	145		RIGID	None	None	RIGID	Typical
86	86	144	146		RIGID	None	None	RIGID	Typical
87	87	147	148		MF-H2	Beam	Pipe	A500 Gr.C	Typical
88	88	150	149		RIGID	None	None	RIGID	Typical
89	89	152	151		MF-P1	Column	Pipe	A500 Gr.C	Typical
90	90	153	154		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	1				Yes		None
2	2			2	Yes		None
3	3		2		Yes		None
4	4				Yes		None
5	5				Yes		None
6	6				Yes	Default	None
7	7				Yes		None
8	8				Yes		None
9	9				Yes		None
10	10				Yes		None
11	11				Yes		None
12	12				Yes	** NA **	None
13	13				Yes	** NA **	None
14	14				Yes	** NA **	None
15	15				Yes	** NA **	None
16	16				Yes	** NA **	None
17	17				Yes	** NA **	None
18	18				Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
19	19				Yes	** NA **	None
20	20				Yes	** NA **	None
21	21				Yes	** NA **	None
22	22				Yes		None
23	23	OOOOOX			Yes	** NA **	None
24	24	OOOOOX			Yes	** NA **	None
25	25	OOOOOX			Yes	** NA **	None
26	26	OOOOOX			Yes	** NA **	None
27	27				Yes	** NA **	None
28	28				Yes	** NA **	None
29	29				Yes	** NA **	None
30	30				Yes		None
31	31				Yes		None
32	32			2	Yes		None
33	33		2		Yes		None
34	34				Yes		None
35	35				Yes		None
36	36				Yes		None
37	37				Yes		None
38	38				Yes		None
39	39				Yes		None
40	40				Yes		None
41	41				Yes	** NA **	None
42	42				Yes	** NA **	None
43	43				Yes	** NA **	None
44	44				Yes	** NA **	None
45	45	OOOOOX			Yes	** NA **	None
46	46	OOOOOX			Yes	** NA **	None
47	47	OOOOOX			Yes	** NA **	None
48	48	OOOOOX			Yes	** NA **	None
49	49				Yes		None
50	50				Yes		None
51	51			2	Yes		None
52	52		2		Yes		None
53	53				Yes		None
54	54				Yes		None
55	55				Yes		None
56	56				Yes		None
57	57				Yes		None
58	58				Yes		None
59	59				Yes		None
60	60				Yes	** NA **	None
61	61				Yes	** NA **	None
62	62				Yes	** NA **	None
63	63				Yes	** NA **	None
64	64	OOOOOX			Yes	** NA **	None
65	65	OOOOOX			Yes	** NA **	None
66	66	OOOOOX			Yes	** NA **	None
67	67	OOOOOX			Yes	** NA **	None
68	68				Yes		None
69	69				Yes		None
70	70				Yes	** NA **	None
71	71				Yes	** NA **	None
72	72				Yes	** NA **	None
73	73				Yes	** NA **	None
74	74				Yes	** NA **	None
75	75				Yes	** NA **	None
76	76				Yes		None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
77	77				Yes	** NA **	None
78	78				Yes	** NA **	None
79	79				Yes	** NA **	None
80	80				Yes		None
81	81				Yes	** NA **	None
82	82				Yes	** NA **	None
83	83				Yes	** NA **	None
84	84				Yes	** NA **	None
85	85				Yes	** NA **	None
86	86				Yes	** NA **	None
87	87				Yes		None
88	88				Yes	** NA **	None
89	89				Yes	** NA **	None
90	90				Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	SF-H1	3.333	Lbyy	Lateral
2	2	SF-H2	2.758	Lbyy	Lateral
3	3	SF-H2	2.758	Lbyy	Lateral
4	4	MF-CP1	0.292	Lbyy	Lateral
5	5	MF-CP1	0.292	Lbyy	Lateral
6	6	MF-H1	8	Lbyy	Lateral
7	7	MF-CP1	0.208	Lbyy	Lateral
8	8	MF-CP1	0.208	Lbyy	Lateral
9	9	SF-H3	2.309	Lbyy	Lateral
10	10	SF-H3	2.309	Lbyy	Lateral
11	11	SF-H4	3.207	Lbyy	Lateral
12	18	MF-P1	8	Lbyy	Lateral
13	19	MF-P1	8	Lbyy	Lateral
14	22	MF-H2	10	Lbyy	Lateral
15	28	MF-P1	8	Lbyy	Lateral
16	30	MF-H3	3.25	Lbyy	Lateral
17	31	SF-H1	3.333	Lbyy	Lateral
18	32	SF-H2	2.758	Lbyy	Lateral
19	33	SF-H2	2.758	Lbyy	Lateral
20	34	MF-CP1	0.292	Lbyy	Lateral
21	35	MF-CP1	0.292	Lbyy	Lateral
22	36	MF-CP1	0.208	Lbyy	Lateral
23	37	MF-CP1	0.208	Lbyy	Lateral
24	38	SF-H3	2.309	Lbyy	Lateral
25	39	SF-H3	2.309	Lbyy	Lateral
26	40	SF-H4	3.207	Lbyy	Lateral
27	49	MF-H3	3.25	Lbyy	Lateral
28	50	SF-H1	3.333	Lbyy	Lateral
29	51	SF-H2	2.758	Lbyy	Lateral
30	52	SF-H2	2.758	Lbyy	Lateral
31	53	MF-CP1	0.292	Lbyy	Lateral
32	54	MF-CP1	0.292	Lbyy	Lateral
33	55	MF-CP1	0.208	Lbyy	Lateral
34	56	MF-CP1	0.208	Lbyy	Lateral
35	57	SF-H3	2.309	Lbyy	Lateral
36	58	SF-H3	2.309	Lbyy	Lateral
37	59	SF-H4	3.207	Lbyy	Lateral
38	68	MF-H3	3.25	Lbyy	Lateral
39	69	MF-H1	8	Lbyy	Lateral
40	72	MF-P1	8	Lbyy	Lateral
41	73	MF-P1	8	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
42	76	MF-H2	10	Lbyy	Lateral
43	78	MF-P1	8	Lbyy	Lateral
44	80	MF-H1	8	Lbyy	Lateral
45	83	MF-P1	8	Lbyy	Lateral
46	84	MF-P1	8	Lbyy	Lateral
47	87	MF-H2	10	Lbyy	Lateral
48	89	MF-P1	8	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Y	-0.041	%15
2	28	Y	-0.041	%85
3	28	Y	-0.075	%20
4	28	Y	-0.064	%50
5	28	Y	0	0
6	89	Y	-0.041	%15
7	89	Y	-0.041	%85
8	89	Y	-0.075	%20
9	89	Y	-0.064	%50
10	89	Y	0	0
11	78	Y	-0.041	%15
12	78	Y	-0.041	%85
13	78	Y	-0.075	%20
14	78	Y	-0.064	%50
15	78	Y	0	0
16	31	Y	-0.022	%20
17	31	Y	0	0
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.186	%15
2	28	Z	-0.186	%85
3	28	Z	-0.082	%20
4	28	Z	-0.082	%50
5	28	Z	0	0
6	89	Z	-0.186	%15
7	89	Z	-0.186	%85
8	89	Z	-0.082	%20
9	89	Z	-0.082	%50
10	89	Z	0	0
11	78	Z	-0.186	%15
12	78	Z	-0.186	%85
13	78	Z	-0.082	%20
14	78	Z	-0.082	%50
15	78	Z	0	0
16	31	Z	-0.084	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.075	%15
2	28	X	-0.075	%85
3	28	X	-0.05	%20
4	28	X	-0.043	%50
5	28	X	0	0
6	89	X	-0.075	%15
7	89	X	-0.075	%85
8	89	X	-0.05	%20
9	89	X	-0.043	%50
10	89	X	0	0
11	78	X	-0.075	%15
12	78	X	-0.075	%85
13	78	X	-0.05	%20
14	78	X	-0.043	%50
15	78	X	0	0
16	31	X	-0.049	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.041	%15
2	28	Z	-0.041	%85
3	28	Z	-0.015	%20
4	28	Z	-0.015	%50
5	28	Z	0	0
6	89	Z	-0.041	%15
7	89	Z	-0.041	%85
8	89	Z	-0.015	%20
9	89	Z	-0.015	%50
10	89	Z	0	0
11	78	Z	-0.041	%15
12	78	Z	-0.041	%85
13	78	Z	-0.015	%20
14	78	Z	-0.015	%50
15	78	Z	0	0
16	31	Z	-0.016	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.02	%15
2	28	X	-0.02	%85
3	28	X	-0.009	%20
4	28	X	-0.008	%50
5	28	X	0	0
6	89	X	-0.02	%15
7	89	X	-0.02	%85
8	89	X	-0.009	%20
9	89	X	-0.008	%50

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
10	89	X	0	0
11	78	X	-0.02	%15
12	78	X	-0.02	%85
13	78	X	-0.009	%20
14	78	X	-0.008	%50
15	78	X	0	0
16	31	X	-0.009	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.012	%15
2	28	Z	-0.012	%85
3	28	Z	-0.006	%20
4	28	Z	-0.006	%50
5	28	Z	0	0
6	89	Z	-0.012	%15
7	89	Z	-0.012	%85
8	89	Z	-0.006	%20
9	89	Z	-0.006	%50
10	89	Z	0	0
11	78	Z	-0.012	%15
12	78	Z	-0.012	%85
13	78	Z	-0.006	%20
14	78	Z	-0.006	%50
15	78	Z	0	0
16	31	Z	-0.006	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.005	%15
2	28	X	-0.005	%85
3	28	X	-0.003	%20
4	28	X	-0.003	%50
5	28	X	0	0
6	89	X	-0.005	%15
7	89	X	-0.005	%85
8	89	X	-0.003	%20
9	89	X	-0.003	%50
10	89	X	0	0
11	78	X	-0.005	%15
12	78	X	-0.005	%85
13	78	X	-0.003	%20
14	78	X	-0.003	%50
15	78	X	0	0
16	31	X	-0.003	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
20	31	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Y	-0.164	%15
2	28	Y	-0.164	%85
3	28	Y	-0.055	%20
4	28	Y	-0.053	%50
5	28	Y	0	0
6	89	Y	-0.164	%15
7	89	Y	-0.164	%85
8	89	Y	-0.055	%20
9	89	Y	-0.053	%50
10	89	Y	0	0
11	78	Y	-0.164	%15
12	78	Y	-0.164	%85
13	78	Y	-0.055	%20
14	78	Y	-0.053	%50
15	78	Y	0	0
16	31	Y	-0.056	%20
17	31	Y	0	0
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.021	%15
2	28	Z	-0.021	%85
3	28	Z	-0.019	%20
4	28	Z	-0.016	%50
5	28	Z	0	0
6	89	Z	-0.021	%15
7	89	Z	-0.021	%85
8	89	Z	-0.019	%20
9	89	Z	-0.016	%50
10	89	Z	0	0
11	78	Z	-0.021	%15
12	78	Z	-0.021	%85
13	78	Z	-0.019	%20
14	78	Z	-0.016	%50
15	78	Z	0	0
16	31	Z	-0.006	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.021	%15
2	28	X	-0.021	%85
3	28	X	-0.019	%20
4	28	X	-0.016	%50
5	28	X	0	0

Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
6	89	X	-0.021	%15
7	89	X	-0.021	%85
8	89	X	-0.019	%20
9	89	X	-0.016	%50
10	89	X	0	0
11	78	X	-0.021	%15
12	78	X	-0.021	%85
13	78	X	-0.019	%20
14	78	X	-0.016	%50
15	78	X	0	0
16	31	X	-0.006	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	31	Y	-0.25	%95

Member Point Loads (BLC 28 : Maint LL 14)

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

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	50	Y	-0.25	%95

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.02	-0.02	0	%100
2	2	Z	-0.017	-0.017	0	%100
3	3	Z	-0.017	-0.017	0	%100
4	4	Z	-0.025	-0.025	0	%100
5	5	Z	-0.025	-0.025	0	%100
6	6	Z	-0.014	-0.014	0	%100
7	7	Z	-0.025	-0.025	0	%100
8	8	Z	-0.025	-0.025	0	%100
9	9	Z	-0.011	-0.011	0	%100
10	10	Z	-0.011	-0.011	0	%100
11	11	Z	-0.034	-0.034	0	%100
12	18	Z	-0.012	-0.012	0	%100
13	19	Z	-0.012	-0.012	0	%100
14	22	Z	-0.012	-0.012	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
15	28	Z	-0.012	-0.012	0	%100
16	30	Z	-0.031	-0.031	0	%100
17	31	Z	-0.02	-0.02	0	%100
18	32	Z	-0.017	-0.017	0	%100
19	33	Z	-0.017	-0.017	0	%100
20	34	Z	-0.025	-0.025	0	%100
21	35	Z	-0.025	-0.025	0	%100
22	36	Z	-0.025	-0.025	0	%100
23	37	Z	-0.025	-0.025	0	%100
24	38	Z	-0.011	-0.011	0	%100
25	39	Z	-0.011	-0.011	0	%100
26	40	Z	-0.034	-0.034	0	%100
27	49	Z	-0.031	-0.031	0	%100
28	50	Z	-0.02	-0.02	0	%100
29	51	Z	-0.017	-0.017	0	%100
30	52	Z	-0.017	-0.017	0	%100
31	53	Z	-0.025	-0.025	0	%100
32	54	Z	-0.025	-0.025	0	%100
33	55	Z	-0.025	-0.025	0	%100
34	56	Z	-0.025	-0.025	0	%100
35	57	Z	-0.011	-0.011	0	%100
36	58	Z	-0.011	-0.011	0	%100
37	59	Z	-0.034	-0.034	0	%100
38	68	Z	-0.031	-0.031	0	%100
39	69	Z	-0.014	-0.014	0	%100
40	72	Z	-0.012	-0.012	0	%100
41	73	Z	-0.012	-0.012	0	%100
42	76	Z	-0.012	-0.012	0	%100
43	78	Z	-0.012	-0.012	0	%100
44	80	Z	-0.014	-0.014	0	%100
45	83	Z	-0.012	-0.012	0	%100
46	84	Z	-0.012	-0.012	0	%100
47	87	Z	-0.012	-0.012	0	%100
48	89	Z	-0.012	-0.012	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.02	-0.02	0	%100
2	2	X	-0.017	-0.017	0	%100
3	3	X	-0.017	-0.017	0	%100
4	4	X	-0.025	-0.025	0	%100
5	5	X	-0.025	-0.025	0	%100
6	6	X	-0.014	-0.014	0	%100
7	7	X	-0.025	-0.025	0	%100
8	8	X	-0.025	-0.025	0	%100
9	9	X	-0.011	-0.011	0	%100
10	10	X	-0.011	-0.011	0	%100
11	11	X	-0.034	-0.034	0	%100
12	18	X	-0.012	-0.012	0	%100
13	19	X	-0.012	-0.012	0	%100
14	22	X	-0.012	-0.012	0	%100
15	28	X	-0.012	-0.012	0	%100
16	30	X	-0.031	-0.031	0	%100
17	31	X	-0.02	-0.02	0	%100
18	32	X	-0.017	-0.017	0	%100
19	33	X	-0.017	-0.017	0	%100
20	34	X	-0.025	-0.025	0	%100
21	35	X	-0.025	-0.025	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
22	36	X	-0.025	-0.025	0	%100
23	37	X	-0.025	-0.025	0	%100
24	38	X	-0.011	-0.011	0	%100
25	39	X	-0.011	-0.011	0	%100
26	40	X	-0.034	-0.034	0	%100
27	49	X	-0.031	-0.031	0	%100
28	50	X	-0.02	-0.02	0	%100
29	51	X	-0.017	-0.017	0	%100
30	52	X	-0.017	-0.017	0	%100
31	53	X	-0.025	-0.025	0	%100
32	54	X	-0.025	-0.025	0	%100
33	55	X	-0.025	-0.025	0	%100
34	56	X	-0.025	-0.025	0	%100
35	57	X	-0.011	-0.011	0	%100
36	58	X	-0.011	-0.011	0	%100
37	59	X	-0.034	-0.034	0	%100
38	68	X	-0.031	-0.031	0	%100
39	69	X	-0.014	-0.014	0	%100
40	72	X	-0.012	-0.012	0	%100
41	73	X	-0.012	-0.012	0	%100
42	76	X	-0.012	-0.012	0	%100
43	78	X	-0.012	-0.012	0	%100
44	80	X	-0.014	-0.014	0	%100
45	83	X	-0.012	-0.012	0	%100
46	84	X	-0.012	-0.012	0	%100
47	87	X	-0.012	-0.012	0	%100
48	89	X	-0.012	-0.012	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.008	-0.008	0	%100
2	2	Z	-0.007	-0.007	0	%100
3	3	Z	-0.007	-0.007	0	%100
4	4	Z	-0.015	-0.015	0	%100
5	5	Z	-0.015	-0.015	0	%100
6	6	Z	-0.003	-0.003	0	%100
7	7	Z	-0.018	-0.018	0	%100
8	8	Z	-0.018	-0.018	0	%100
9	9	Z	-0.007	-0.007	0	%100
10	10	Z	-0.007	-0.007	0	%100
11	11	Z	-0.01	-0.01	0	%100
12	18	Z	-0.003	-0.003	0	%100
13	19	Z	-0.003	-0.003	0	%100
14	22	Z	-0.003	-0.003	0	%100
15	28	Z	-0.003	-0.003	0	%100
16	30	Z	-0.01	-0.01	0	%100
17	31	Z	-0.008	-0.008	0	%100
18	32	Z	-0.007	-0.007	0	%100
19	33	Z	-0.007	-0.007	0	%100
20	34	Z	-0.015	-0.015	0	%100
21	35	Z	-0.015	-0.015	0	%100
22	36	Z	-0.018	-0.018	0	%100
23	37	Z	-0.018	-0.018	0	%100
24	38	Z	-0.007	-0.007	0	%100
25	39	Z	-0.007	-0.007	0	%100
26	40	Z	-0.01	-0.01	0	%100
27	49	Z	-0.01	-0.01	0	%100
28	50	Z	-0.008	-0.008	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
29	51	Z	-0.007	-0.007	0	%100
30	52	Z	-0.007	-0.007	0	%100
31	53	Z	-0.015	-0.015	0	%100
32	54	Z	-0.015	-0.015	0	%100
33	55	Z	-0.018	-0.018	0	%100
34	56	Z	-0.018	-0.018	0	%100
35	57	Z	-0.007	-0.007	0	%100
36	58	Z	-0.007	-0.007	0	%100
37	59	Z	-0.01	-0.01	0	%100
38	68	Z	-0.01	-0.01	0	%100
39	69	Z	-0.003	-0.003	0	%100
40	72	Z	-0.003	-0.003	0	%100
41	73	Z	-0.003	-0.003	0	%100
42	76	Z	-0.003	-0.003	0	%100
43	78	Z	-0.003	-0.003	0	%100
44	80	Z	-0.003	-0.003	0	%100
45	83	Z	-0.003	-0.003	0	%100
46	84	Z	-0.003	-0.003	0	%100
47	87	Z	-0.003	-0.003	0	%100
48	89	Z	-0.003	-0.003	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.008	-0.008	0	%100
2	2	X	-0.007	-0.007	0	%100
3	3	X	-0.007	-0.007	0	%100
4	4	X	-0.015	-0.015	0	%100
5	5	X	-0.015	-0.015	0	%100
6	6	X	-0.003	-0.003	0	%100
7	7	X	-0.018	-0.018	0	%100
8	8	X	-0.018	-0.018	0	%100
9	9	X	-0.007	-0.007	0	%100
10	10	X	-0.007	-0.007	0	%100
11	11	X	-0.01	-0.01	0	%100
12	18	X	-0.003	-0.003	0	%100
13	19	X	-0.003	-0.003	0	%100
14	22	X	-0.003	-0.003	0	%100
15	28	X	-0.003	-0.003	0	%100
16	30	X	-0.01	-0.01	0	%100
17	31	X	-0.008	-0.008	0	%100
18	32	X	-0.007	-0.007	0	%100
19	33	X	-0.007	-0.007	0	%100
20	34	X	-0.015	-0.015	0	%100
21	35	X	-0.015	-0.015	0	%100
22	36	X	-0.018	-0.018	0	%100
23	37	X	-0.018	-0.018	0	%100
24	38	X	-0.007	-0.007	0	%100
25	39	X	-0.007	-0.007	0	%100
26	40	X	-0.01	-0.01	0	%100
27	49	X	-0.01	-0.01	0	%100
28	50	X	-0.008	-0.008	0	%100
29	51	X	-0.007	-0.007	0	%100
30	52	X	-0.007	-0.007	0	%100
31	53	X	-0.015	-0.015	0	%100
32	54	X	-0.015	-0.015	0	%100
33	55	X	-0.018	-0.018	0	%100
34	56	X	-0.018	-0.018	0	%100
35	57	X	-0.007	-0.007	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
36	58	X	-0.007	-0.007	0	%100
37	59	X	-0.01	-0.01	0	%100
38	68	X	-0.01	-0.01	0	%100
39	69	X	-0.003	-0.003	0	%100
40	72	X	-0.003	-0.003	0	%100
41	73	X	-0.003	-0.003	0	%100
42	76	X	-0.003	-0.003	0	%100
43	78	X	-0.003	-0.003	0	%100
44	80	X	-0.003	-0.003	0	%100
45	83	X	-0.003	-0.003	0	%100
46	84	X	-0.003	-0.003	0	%100
47	87	X	-0.003	-0.003	0	%100
48	89	X	-0.003	-0.003	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.001	-0.001	0	%100
2	2	Z	-0.001	-0.001	0	%100
3	3	Z	-0.001	-0.001	0	%100
4	4	Z	-0.002	-0.002	0	%100
5	5	Z	-0.002	-0.002	0	%100
6	6	Z	-0.0005	-0.0005	0	%100
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-0.002	-0.002	0	%100
9	9	Z	-0.0007	-0.0007	0	%100
10	10	Z	-0.0007	-0.0007	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	18	Z	-0.0004	-0.0004	0	%100
13	19	Z	-0.0004	-0.0004	0	%100
14	22	Z	-0.0004	-0.0004	0	%100
15	28	Z	-0.0004	-0.0004	0	%100
16	30	Z	-0.002	-0.002	0	%100
17	31	Z	-0.001	-0.001	0	%100
18	32	Z	-0.001	-0.001	0	%100
19	33	Z	-0.001	-0.001	0	%100
20	34	Z	-0.002	-0.002	0	%100
21	35	Z	-0.002	-0.002	0	%100
22	36	Z	-0.002	-0.002	0	%100
23	37	Z	-0.002	-0.002	0	%100
24	38	Z	-0.0007	-0.0007	0	%100
25	39	Z	-0.0007	-0.0007	0	%100
26	40	Z	-0.002	-0.002	0	%100
27	49	Z	-0.002	-0.002	0	%100
28	50	Z	-0.001	-0.001	0	%100
29	51	Z	-0.001	-0.001	0	%100
30	52	Z	-0.001	-0.001	0	%100
31	53	Z	-0.002	-0.002	0	%100
32	54	Z	-0.002	-0.002	0	%100
33	55	Z	-0.002	-0.002	0	%100
34	56	Z	-0.002	-0.002	0	%100
35	57	Z	-0.0007	-0.0007	0	%100
36	58	Z	-0.0007	-0.0007	0	%100
37	59	Z	-0.002	-0.002	0	%100
38	68	Z	-0.002	-0.002	0	%100
39	69	Z	-0.0005	-0.0005	0	%100
40	72	Z	-0.0004	-0.0004	0	%100
41	73	Z	-0.0004	-0.0004	0	%100
42	76	Z	-0.0004	-0.0004	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
43	78	Z	-0.0004	-0.0004	0	%100
44	80	Z	-0.0005	-0.0005	0	%100
45	83	Z	-0.0004	-0.0004	0	%100
46	84	Z	-0.0004	-0.0004	0	%100
47	87	Z	-0.0004	-0.0004	0	%100
48	89	Z	-0.0004	-0.0004	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.001	-0.001	0	%100
2	2	X	-0.001	-0.001	0	%100
3	3	X	-0.001	-0.001	0	%100
4	4	X	-0.002	-0.002	0	%100
5	5	X	-0.002	-0.002	0	%100
6	6	X	-0.0005	-0.0005	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.002	-0.002	0	%100
9	9	X	-0.0007	-0.0007	0	%100
10	10	X	-0.0007	-0.0007	0	%100
11	11	X	-0.002	-0.002	0	%100
12	18	X	-0.0004	-0.0004	0	%100
13	19	X	-0.0004	-0.0004	0	%100
14	22	X	-0.0004	-0.0004	0	%100
15	28	X	-0.0004	-0.0004	0	%100
16	30	X	-0.002	-0.002	0	%100
17	31	X	-0.001	-0.001	0	%100
18	32	X	-0.001	-0.001	0	%100
19	33	X	-0.001	-0.001	0	%100
20	34	X	-0.002	-0.002	0	%100
21	35	X	-0.002	-0.002	0	%100
22	36	X	-0.002	-0.002	0	%100
23	37	X	-0.002	-0.002	0	%100
24	38	X	-0.0007	-0.0007	0	%100
25	39	X	-0.0007	-0.0007	0	%100
26	40	X	-0.002	-0.002	0	%100
27	49	X	-0.002	-0.002	0	%100
28	50	X	-0.001	-0.001	0	%100
29	51	X	-0.001	-0.001	0	%100
30	52	X	-0.001	-0.001	0	%100
31	53	X	-0.002	-0.002	0	%100
32	54	X	-0.002	-0.002	0	%100
33	55	X	-0.002	-0.002	0	%100
34	56	X	-0.002	-0.002	0	%100
35	57	X	-0.0007	-0.0007	0	%100
36	58	X	-0.0007	-0.0007	0	%100
37	59	X	-0.002	-0.002	0	%100
38	68	X	-0.002	-0.002	0	%100
39	69	X	-0.0005	-0.0005	0	%100
40	72	X	-0.0004	-0.0004	0	%100
41	73	X	-0.0004	-0.0004	0	%100
42	76	X	-0.0004	-0.0004	0	%100
43	78	X	-0.0004	-0.0004	0	%100
44	80	X	-0.0005	-0.0005	0	%100
45	83	X	-0.0004	-0.0004	0	%100
46	84	X	-0.0004	-0.0004	0	%100
47	87	X	-0.0004	-0.0004	0	%100
48	89	X	-0.0004	-0.0004	0	%100

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.016	-0.016	0	%100
2	2	Y	-0.012	-0.012	0	%100
3	3	Y	-0.012	-0.012	0	%100
4	4	Y	-0.017	-0.017	0	%100
5	5	Y	-0.017	-0.017	0	%100
6	6	Y	-0.011	-0.011	0	%100
7	7	Y	-0.017	-0.017	0	%100
8	8	Y	-0.017	-0.017	0	%100
9	9	Y	-0.01	-0.01	0	%100
10	10	Y	-0.01	-0.01	0	%100
11	11	Y	-0.021	-0.021	0	%100
12	18	Y	-0.01	-0.01	0	%100
13	19	Y	-0.01	-0.01	0	%100
14	22	Y	-0.01	-0.01	0	%100
15	28	Y	-0.01	-0.01	0	%100
16	30	Y	-0.021	-0.021	0	%100
17	31	Y	-0.016	-0.016	0	%100
18	32	Y	-0.012	-0.012	0	%100
19	33	Y	-0.012	-0.012	0	%100
20	34	Y	-0.017	-0.017	0	%100
21	35	Y	-0.017	-0.017	0	%100
22	36	Y	-0.017	-0.017	0	%100
23	37	Y	-0.017	-0.017	0	%100
24	38	Y	-0.01	-0.01	0	%100
25	39	Y	-0.01	-0.01	0	%100
26	40	Y	-0.021	-0.021	0	%100
27	49	Y	-0.021	-0.021	0	%100
28	50	Y	-0.016	-0.016	0	%100
29	51	Y	-0.012	-0.012	0	%100
30	52	Y	-0.012	-0.012	0	%100
31	53	Y	-0.017	-0.017	0	%100
32	54	Y	-0.017	-0.017	0	%100
33	55	Y	-0.017	-0.017	0	%100
34	56	Y	-0.017	-0.017	0	%100
35	57	Y	-0.01	-0.01	0	%100
36	58	Y	-0.01	-0.01	0	%100
37	59	Y	-0.021	-0.021	0	%100
38	68	Y	-0.021	-0.021	0	%100
39	69	Y	-0.011	-0.011	0	%100
40	72	Y	-0.01	-0.01	0	%100
41	73	Y	-0.01	-0.01	0	%100
42	76	Y	-0.01	-0.01	0	%100
43	78	Y	-0.01	-0.01	0	%100
44	80	Y	-0.011	-0.011	0	%100
45	83	Y	-0.01	-0.01	0	%100
46	84	Y	-0.01	-0.01	0	%100
47	87	Y	-0.01	-0.01	0	%100
48	89	Y	-0.01	-0.01	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.001	-0.001	0	%100
3	3	Z	-0.001	-0.001	0	%100
4	4	Z	-0.002	-0.002	0	%100
5	5	Z	-0.002	-0.002	0	%100
6	6	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-0.002	-0.002	0	%100
9	9	Z	-0.0008	-0.0008	0	%100
10	10	Z	-0.0008	-0.0008	0	%100
11	11	Z	-0.003	-0.003	0	%100
12	18	Z	-0.002	-0.002	0	%100
13	19	Z	-0.002	-0.002	0	%100
14	22	Z	-0.002	-0.002	0	%100
15	28	Z	-0.002	-0.002	0	%100
16	30	Z	-0.002	-0.002	0	%100
17	31	Z	-0.002	-0.002	0	%100
18	32	Z	-0.001	-0.001	0	%100
19	33	Z	-0.001	-0.001	0	%100
20	34	Z	-0.002	-0.002	0	%100
21	35	Z	-0.002	-0.002	0	%100
22	36	Z	-0.002	-0.002	0	%100
23	37	Z	-0.002	-0.002	0	%100
24	38	Z	-0.0008	-0.0008	0	%100
25	39	Z	-0.0008	-0.0008	0	%100
26	40	Z	-0.003	-0.003	0	%100
27	49	Z	-0.002	-0.002	0	%100
28	50	Z	-0.002	-0.002	0	%100
29	51	Z	-0.001	-0.001	0	%100
30	52	Z	-0.001	-0.001	0	%100
31	53	Z	-0.002	-0.002	0	%100
32	54	Z	-0.002	-0.002	0	%100
33	55	Z	-0.002	-0.002	0	%100
34	56	Z	-0.002	-0.002	0	%100
35	57	Z	-0.0008	-0.0008	0	%100
36	58	Z	-0.0008	-0.0008	0	%100
37	59	Z	-0.003	-0.003	0	%100
38	68	Z	-0.002	-0.002	0	%100
39	69	Z	-0.002	-0.002	0	%100
40	72	Z	-0.002	-0.002	0	%100
41	73	Z	-0.002	-0.002	0	%100
42	76	Z	-0.002	-0.002	0	%100
43	78	Z	-0.002	-0.002	0	%100
44	80	Z	-0.002	-0.002	0	%100
45	83	Z	-0.002	-0.002	0	%100
46	84	Z	-0.002	-0.002	0	%100
47	87	Z	-0.002	-0.002	0	%100
48	89	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.001	-0.001	0	%100
3	3	X	-0.001	-0.001	0	%100
4	4	X	-0.002	-0.002	0	%100
5	5	X	-0.002	-0.002	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.002	-0.002	0	%100
9	9	X	-0.0008	-0.0008	0	%100
10	10	X	-0.0008	-0.0008	0	%100
11	11	X	-0.003	-0.003	0	%100
12	18	X	-0.002	-0.002	0	%100
13	19	X	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
14	22	X	-0.002	-0.002	0	%100
15	28	X	-0.002	-0.002	0	%100
16	30	X	-0.002	-0.002	0	%100
17	31	X	-0.002	-0.002	0	%100
18	32	X	-0.001	-0.001	0	%100
19	33	X	-0.001	-0.001	0	%100
20	34	X	-0.002	-0.002	0	%100
21	35	X	-0.002	-0.002	0	%100
22	36	X	-0.002	-0.002	0	%100
23	37	X	-0.002	-0.002	0	%100
24	38	X	-0.0008	-0.0008	0	%100
25	39	X	-0.0008	-0.0008	0	%100
26	40	X	-0.003	-0.003	0	%100
27	49	X	-0.002	-0.002	0	%100
28	50	X	-0.002	-0.002	0	%100
29	51	X	-0.001	-0.001	0	%100
30	52	X	-0.001	-0.001	0	%100
31	53	X	-0.002	-0.002	0	%100
32	54	X	-0.002	-0.002	0	%100
33	55	X	-0.002	-0.002	0	%100
34	56	X	-0.002	-0.002	0	%100
35	57	X	-0.0008	-0.0008	0	%100
36	58	X	-0.0008	-0.0008	0	%100
37	59	X	-0.003	-0.003	0	%100
38	68	X	-0.002	-0.002	0	%100
39	69	X	-0.002	-0.002	0	%100
40	72	X	-0.002	-0.002	0	%100
41	73	X	-0.002	-0.002	0	%100
42	76	X	-0.002	-0.002	0	%100
43	78	X	-0.002	-0.002	0	%100
44	80	X	-0.002	-0.002	0	%100
45	83	X	-0.002	-0.002	0	%100
46	84	X	-0.002	-0.002	0	%100
47	87	X	-0.002	-0.002	0	%100
48	89	X	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.015	-0.015	0	2.078
2	10	Y	-0.014	-0.02	0.231	1.27
3	10	Y	-0.02	-0.026	1.27	2.309
4	38	Y	-0.014	-0.02	0	2.078
5	39	Y	0.0006164	-0.016	0	1.155
6	39	Y	-0.016	-0.035	1.155	2.309
7	57	Y	-0.035	-0.016	0	1.155
8	57	Y	-0.016	0.0006163	1.155	2.309
9	58	Y	-0.018	-0.016	0.231	2.309

Member Distributed Loads (BLC 31 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.013	-0.013	0	2.078
2	10	Y	-0.012	-0.017	0.231	1.27
3	10	Y	-0.017	-0.022	1.27	2.309
4	38	Y	-0.01	-0.017	0	2.078
5	39	Y	0.0004931	-0.013	0	1.155
6	39	Y	-0.013	-0.028	1.155	2.309

Member Distributed Loads (BLC 31 : BLC 8 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
7	57	Y	-0.028	-0.013	0	1.155
8	57	Y	-0.013	0.0004931	1.155	2.309
9	58	Y	-0.014	-0.013	0.231	2.309

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		20		3
2	0 Wind - No Ice	WLZ			20	48	
3	90 Wind - No Ice	WLX			20	48	
4	0 Wind - Ice	WLZ			20	48	
5	90 Wind - Ice	WLX			20	48	
6	0 Wind - Service	WLZ			20	48	
7	90 Wind - Service	WLX			20	48	
8	Ice	OL1			20	48	3
9	0 Seismic	ELZ			20	48	
10	90 Seismic	ELX			20	48	
11	Live Load a	LL		3			
12	Live Load b	LL		3			
13	Live Load c	LL		3			
14	Live Load d	LL					
15	Maint LL 1	LL			1		
16	Maint LL 2	LL			1		
17	Maint LL 3	LL			1		
18	Maint LL 4	LL			1		
19	Maint LL 5	LL			1		
20	Maint LL 6	LL			1		
21	Maint LL 7	LL			1		
22	Maint LL 8	LL			1		
23	Maint LL 9	LL			1		
24	Maint LL 10	LL			1		
25	Maint LL 11	LL			1		
26	Maint LL 12	LL			1		
27	Maint LL 13	LL			1		
28	Maint LL 14	LL			1		
29	Maint LL 15	LL			1		
30	BLC 1 Transient Area Loads	None				9	
31	BLC 8 Transient Area Loads	None				9	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	1	max	1.282	5	2.28	14	1.329	2	4.634	14	1.289	11	0.37	11
2		min	-1.288	11	-0.195	8	-1.459	8	-1.028	8	-1.296	5	-0.248	5
3	53	max	1.196	5	2.326	18	1.59	2	0.409	13	1.562	3	0.406	12
4		min	-1.305	11	0.02	12	-1.52	8	-2.155	19	-1.57	9	-4.067	18
5	82	max	1.189	5	2.238	22	1.667	2	0.396	3	1.559	7	3.825	22
6		min	-1.074	11	-0.013	4	-1.606	8	-2.461	21	-1.567	13	-0.479	4
7	Totals:	max	3.667	5	6.23	16	4.585	2						
8		min	-3.667	11	2.461	10	-4.585	8						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	HSS4X4X2	0.577	0	25	0.136	0	y	25	70.173	73.278	8.24	8.24	2.157	H1-1b
2	2	C3.38x2.06x.188	0.439	2.592	15	0.072	0.351	y	16	35.676	43.394	1.694	4.483	1.631	H1-1b
3	3	C3.38x2.06x.188	0.402	0	25	0.07	2.241	z	8	35.676	43.394	1.694	4.483	1.632	H1-1b
4	4	PL3/8"x6	0.09	0.164	7	0.185	0	y	2	68.943	72.9	0.57	9.113	2.108	H1-1b
5	5	PL3/8"x6	0.088	0	3	0.145	0	y	2	68.943	72.9	0.57	9.113	2.04	H1-1b
6	6	PIPE_3.5x0.165	0.08	6.75	7	0.042	3		5	45.872	71.57	6.336	6.336	1.875	H1-1b
7	7	PL3/8"x6	0.154	0.208	8	0.226	0.208	y	25	70.854	72.9	0.57	9.113	1.437	H1-1b
8	8	PL3/8"x6	0.155	0	13	0.241	0	y	15	70.854	72.9	0.57	9.113	2.957	H1-1b
9	9	L2x2x4	0.287	0	7	0.03	2.309	y	48	23.349	30.586	0.691	1.577	1.5	H2-1
10	10	L2x2x4	0.241	2.309	8	0.042	0	y	16	23.349	30.586	0.691	1.577	1.5	H2-1
11	11	L7.63x2.5x6	0.373	1.604	8	0.086	0.334	y	14	75.414	118.523	1.798	13.786	1.251	H2-1
12	18	PIPE_2.88x0.203	0.119	5.583	5	0.041	5.583		6	35.519	70.68	5.029	5.029	3	H1-1b
13	19	PIPE_2.88x0.203	0.147	2.333	9	0.046	5.583		9	35.519	70.68	5.029	5.029	3	H1-1b
14	22	PIPE_2.88x0.203	0.141	7.812	13	0.151	8.646		2	24.131	70.68	5.029	5.029	2.432	H1-1b
15	28	PIPE_2.88x0.203	0.121	2.333	7	0.041	5.583		8	35.519	70.68	5.029	5.029	3	H1-1b
16	30	L6.63x4.33x.25	0.213	3.25	6	0.022	3.25	z	12	51.794	86.751	2.311	6.976	1.5	H2-1

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
17	31	HSS4X4X2	0.581	0	19	0.141	0	y	16	70.173	73.278	8.24	8.24	2.179	H1-1b
18	32	C3.38x2.06x.188	0.438	2.592	19	0.072	0.351	y	21	35.676	43.394	1.694	4.483	1.628	H1-1b
19	33	C3.38x2.06x.188	0.394	0	17	0.07	2.241	y	24	35.676	43.394	1.694	4.483	1.634	H1-1b
20	34	PL3/8"x6	0.077	0.164	10	0.158	0	y	6	68.943	72.9	0.57	9.113	1.554	H1-1b
21	35	PL3/8"x6	0.09	0	7	0.125	0	y	42	68.943	72.9	0.57	9.113	1.961	H1-1b
22	36	PL3/8"x6	0.136	0.208	13	0.222	0.208	y	17	70.854	72.9	0.57	9.113	1.944	H1-1b
23	37	PL3/8"x6	0.129	0	5	0.244	0	y	19	70.854	72.9	0.57	9.113	3	H1-1b
24	38	L2x2x4	0.232	0	11	0.03	2.309	y	39	23.349	30.586	0.691	1.577	1.5	H2-1
25	39	L2x2x4	0.226	2.309	13	0.042	2.309	y	20	23.349	30.586	0.691	1.577	1.5	H2-1
26	40	L7.63x2.5x6	0.293	1.604	12	0.086	0.334	y	19	75.414	118.523	1.798	13.869	1.269	H2-1
27	49	L6.63x4.33x.25	0.233	0	3	0.025	3.25	y	9	51.794	86.751	2.311	6.976	1.5	H2-1
28	50	HSS4X4X2	0.574	0	21	0.14	0	y	20	70.173	73.278	8.24	8.24	2.16	H1-1b
29	51	C3.38x2.06x.188	0.43	2.592	23	0.071	0.351	y	25	35.676	43.394	1.694	4.483	1.631	H1-1b
30	52	C3.38x2.06x.188	0.401	0	21	0.07	2.241	y	16	35.676	43.394	1.694	4.483	1.631	H1-1b
31	53	PL3/8"x6	0.101	0.164	2	0.158	0	y	10	68.943	72.9	0.57	9.113	1.593	H1-1b
32	54	PL3/8"x6	0.073	0	11	0.127	0	y	46	68.943	72.9	0.57	9.113	1.945	H1-1b
33	55	PL3/8"x6	0.124	0.208	4	0.226	0.208	y	21	70.854	72.9	0.57	9.113	1.614	H1-1b
34	56	PL3/8"x6	0.157	0	9	0.238	0	y	23	70.854	72.9	0.57	9.113	2.977	H1-1b
35	57	L2x2x4	0.287	0	3	0.03	2.309	y	43	23.349	30.586	0.691	1.577	1.5	H2-1
36	58	L2x2x4	0.202	2.309	4	0.041	0	y	25	23.349	30.586	0.691	1.577	1.5	H2-1
37	59	L7.63x2.5x6	0.342	1.604	3	0.087	0.334	y	22	75.414	118.523	1.798	14.084	1.319	H2-1
38	68	L6.63x4.33x.25	0.259	3.25	2	0.027	3.25	y	13	51.794	86.751	2.311	6.976	1.5	H2-1
39	69	PIPE_3.5x0.165	0.088	1.25	2	0.053	4		9	45.872	71.57	6.336	6.336	1.736	H1-1b
40	72	PIPE_2.88x0.203	0.144	5.583	9	0.047	5.583		9	35.519	70.68	5.029	5.029	3	H1-1b
41	73	PIPE_2.88x0.203	0.169	2.333	2	0.047	5.583		13	35.519	70.68	5.029	5.029	2.981	H1-1b
42	76	PIPE_2.88x0.203	0.137	2.188	13	0.13	2.188		13	24.131	70.68	5.029	5.029	2.257	H1-1b
43	78	PIPE_2.88x0.203	0.125	5.583	9	0.036	5.583		2	35.519	70.68	5.029	5.029	3	H1-1b
44	80	PIPE_3.5x0.165	0.08	6.75	2	0.051	3		13	45.872	71.57	6.336	6.336	1.509	H1-1b
45	83	PIPE_2.88x0.203	0.143	5.583	13	0.052	5.583		13	35.519	70.68	5.029	5.029	3	H1-1b
46	84	PIPE_2.88x0.203	0.139	2.333	6	0.037	5.583		5	35.519	70.68	5.029	5.029	3	H1-1b
47	87	PIPE_2.88x0.203	0.133	7.813	9	0.142	8.646		9	24.131	70.68	5.029	5.029	2.477	H1-1b
48	89	PIPE_2.88x0.203	0.142	5.583	2	0.036	5.583		3	35.519	70.68	5.029	5.029	3	H1-1b

APPENDIX B

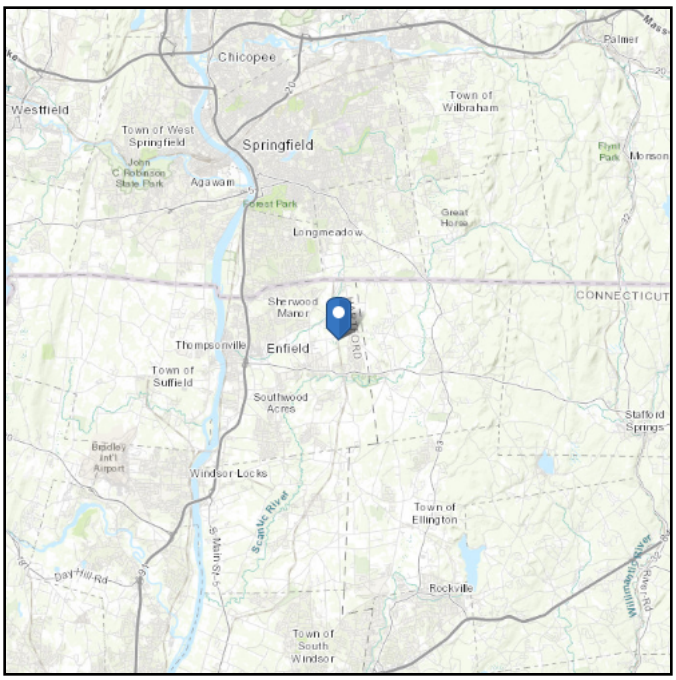
(Additional Calculations)

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 170.07 ft (NAVD 88)
Latitude: 42.002
Longitude: -72.521694



Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	83 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Fri Dec 17 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

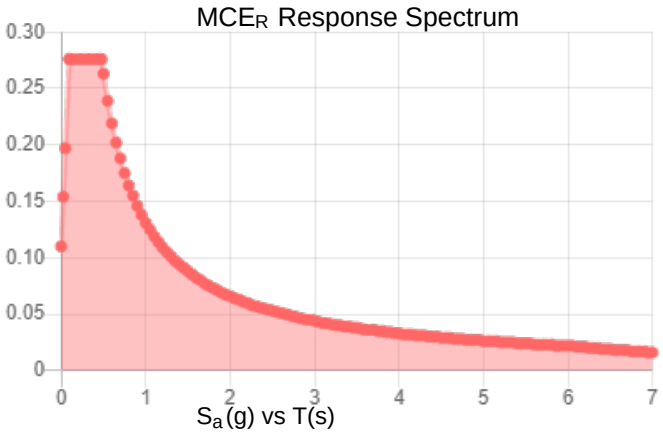
Seismic

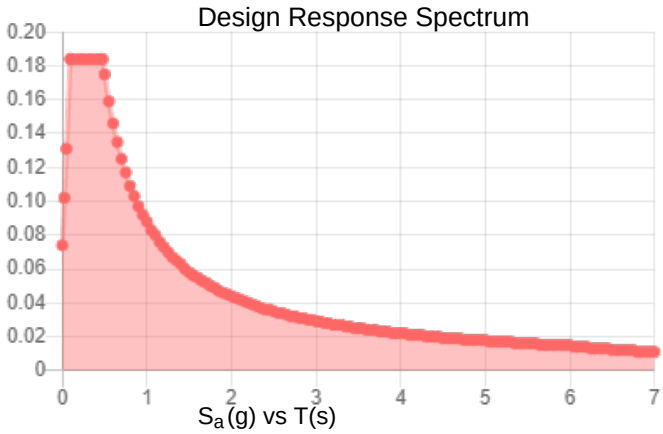
Site Soil Class: D - Default (see Section 11.4.3)

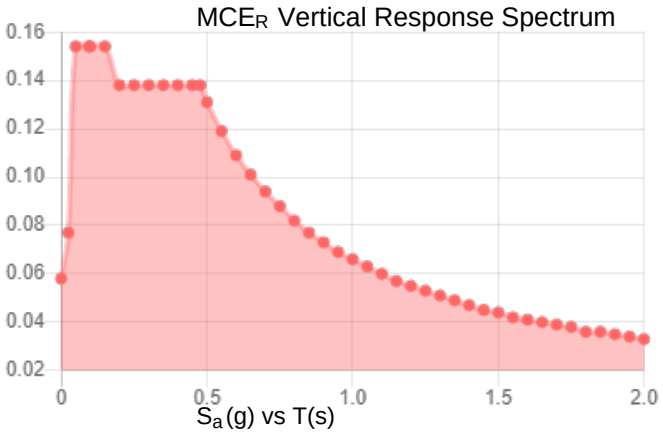
Results:

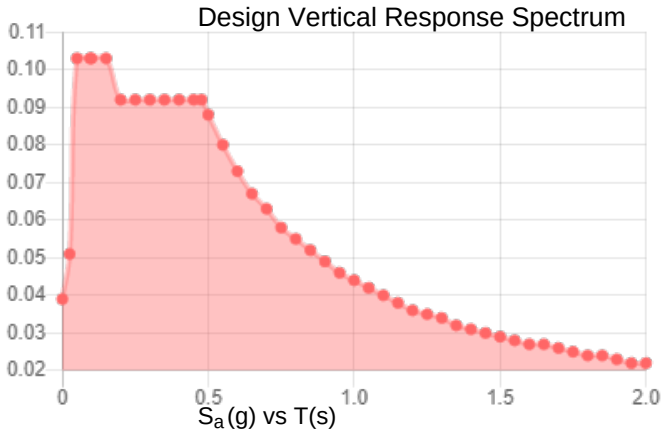
S_S :	0.172	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.09
F_v :	2.4	PGA_M :	0.144
S_{MS} :	0.276	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.184	C_v :	0.7

Seismic Design Category B









Data Accessed: **Fri Dec 17 2021**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.50 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Dec 17 2021

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

PROJECT	**106084.005.01 - Enfield-Mooc**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**12/27/21**	PAGE	OF

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

Tower Type		:	Monopole		
Ground Elevation	z_s	:	170	ft	[ASCE7 Hazard Tool]
Tower Height		:	188.00	ft	
Mount Elevation		:	178.00	ft	
Antenna Elevation		:	178.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	C		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	116	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.50	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]
	S_S	:	0.17		
	S_1	:	0.06		
	S_{DS}	:	0.18		
	S_{D1}	:	0.09		

Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.43		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	0.99		[Sec. 2.6.8]
Directionality Factor	K_d	:	0.95		[Sec. 16.6]
Shielding Factor	K_a	:	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	:	1.78	in	[Sec. 2.6.10]

Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.092		[Sec. 2.7.7.1]
Amplification	A_s	:	2.787234		[Sec. 16.7]

	q_z	:	46.48	psf

PROJECT	106084.005.01 - Enfield-Mooc	KSC
SUBJECT	Platform Mount Analysis	
DATE	12/27/21	PAGE OF

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

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	EPA_{N-Ice} (ft^2)	EPA_{T-Ice} (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.80	2.30	0.19	0.07	0.04	0.02
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.80	2.30	0.19	0.07	0.04	0.02
Fujitsu	TA08025-B605	1	1.05	1.20	1.64	0.99	2.48	1.69	0.08	0.05	0.02	0.01
Fujitsu	TA08025-B604	1	1.05	1.20	1.64	0.86	2.48	1.53	0.08	0.04	0.02	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.80	2.30	0.19	0.07	0.04	0.02
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.80	2.30	0.19	0.07	0.04	0.02
Fujitsu	TA08025-B605	1	1.05	1.20	1.64	0.99	2.48	1.69	0.08	0.05	0.02	0.01
Fujitsu	TA08025-B604	1	1.05	1.20	1.64	0.86	2.48	1.53	0.08	0.04	0.02	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.80	2.30	0.19	0.07	0.04	0.02
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.80	2.30	0.19	0.07	0.04	0.02
Fujitsu	TA08025-B605	1	1.05	1.20	1.64	0.99	2.48	1.69	0.08	0.05	0.02	0.01
Fujitsu	TA08025-B604	1	1.05	1.20	1.64	0.86	2.48	1.53	0.08	0.04	0.02	0.01
RAYCAP	RDIDC-9181-PF-48	1	1.14	1.20	1.68	0.97	2.53	1.68	0.08	0.05	0.02	0.01

PROJECT	**106084.005.01 - Enfield-Moody Rd, CT KSC**				
SUBJECT	**Platform Mount Analysis**				
DATE	**12/27/21**	PAGE	1	OF	1

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Tulsa, OK 74119
(918) 587-4630

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	1.329	k
Vertical Shear	:	2.28	k
Horizontal Shear	:	1.282	k
Torsion	:	0.37	k.ft
Moment from Horizontal Forces	:	1.289	k.ft
Moment from Vertical Forces	:	4.634	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in^2
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	2.62	k
Force from Horz. Moment	:	2.33	k
Force from Vert. Moment	:	8.39	k
Shear Load / Bolt	:	0.65	k
Tension Load / Bolt	:	0.33	k
Resultant from Moments / Bolt	:	4.36	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**22.62%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**8.92%**		**OKAY**
Unity Check, Combined	:	**31.55%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**1.89%**		**OKAY**

Exhibit F

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

Dish Wireless Existing Facility

Site ID: BOBDL00134A

BOBDL00134A
188 Moody Road
Enfield, Connecticut 06082

March 21, 2022

EBI Project Number: 6222001621

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**16.37%**

March 21, 2022

Dish Wireless

Emissions Analysis for Site: BOBDL00134A - BOBDL00134A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **188 Moody Road** in **Enfield, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. 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 Dish Wireless antenna facility located at 188 Moody Road in Enfield, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Dish Wireless 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 20 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) 4 n71 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) 4 n70 channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) 4 n66 channels (AWS Band - 2190 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) 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.

5) 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 20 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.

6) The antennas used in this modeling are the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 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 20 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.

7) The antenna mounting height centerline of the proposed antennas is 177 feet above ground level (AGL).

8) 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.

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

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	177 feet	Height (AGL):	177 feet	Height (AGL):	177 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna A1 MPE %:	**0.81%**	Antenna B1 MPE %:	**0.81%**	Antenna C1 MPE %:	**0.81%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	0.81%
AT&T	8.35%
Metro PCS	0.34%
Nextel	0.19%
Sprint	2.02%
Clearwire	0.07%
T-Mobile	4.59%
Site Total MPE % :	16.37%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	0.81%
Dish Wireless Sector B Total:	0.81%
Dish Wireless Sector C Total:	0.81%
Site Total MPE % :	16.37%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	223.68	177.0	1.10	600 MHz n71	400	0.28%
Dish Wireless 1900 MHz n70	4	542.70	177.0	2.67	1900 MHz n70	1000	0.27%
Dish Wireless 2190 MHz n66	4	542.70	177.0	2.67	2190 MHz n66	1000	0.27%
						Total:	**0.81%**

• 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 Dish Wireless 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:

Dish Wireless Sector	Power Density Value (%)
Sector A:	0.81%
Sector B:	0.81%
Sector C:	0.81%
Dish Wireless Maximum MPE % (Sector A):	0.81%
Site Total:	16.37%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **16.37%** 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 G

Letter of Authorization

SBA Letter of Authorization

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

Re: Tower Share Application

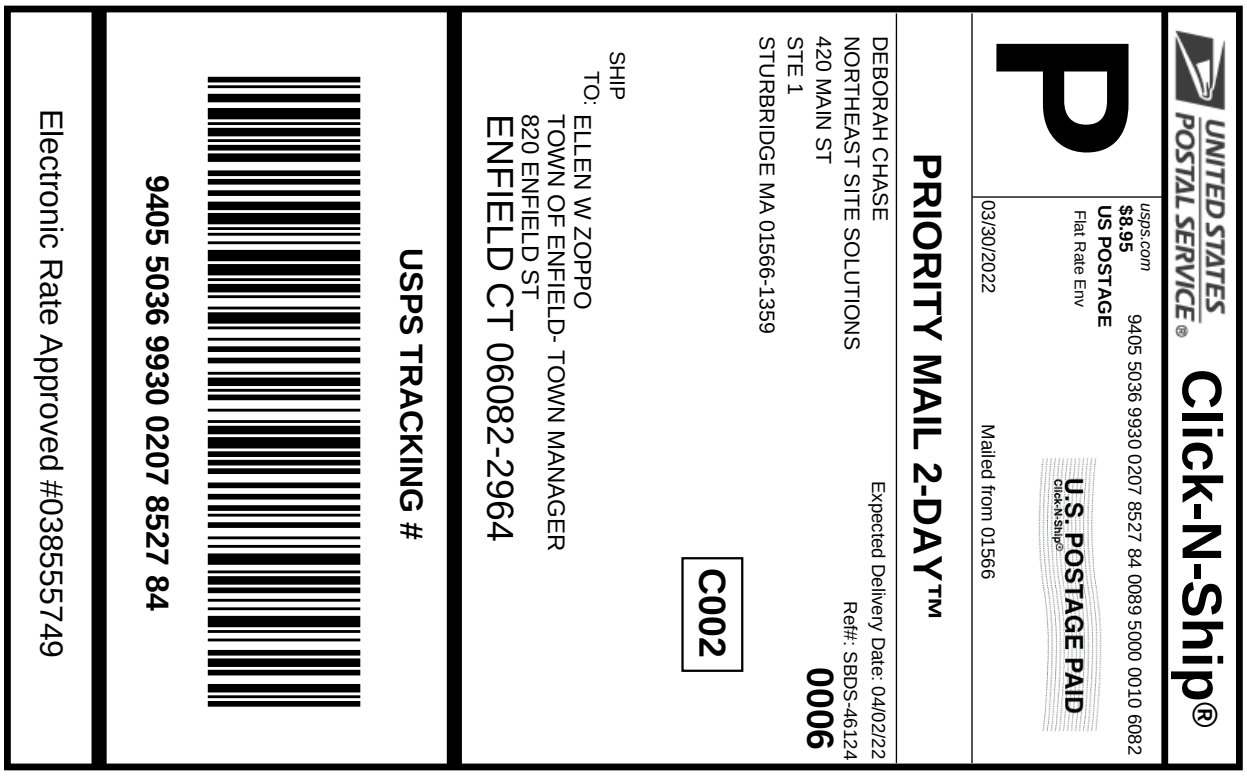
SBA COMMUNICATIONS CORPORATION hereby authorizes DISH Wireless LLC, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CONNECTICUT SITING COUNCIL for existing wireless communications towers.

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

SBA
By: _____ Date: 3-30-22

Exhibit H

Recipient Mailings



Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0207 8527 84

Trans. #:	560073749
Print Date:	03/30/2022
Ship Date:	03/30/2022
Expected Delivery Date:	04/02/2022

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

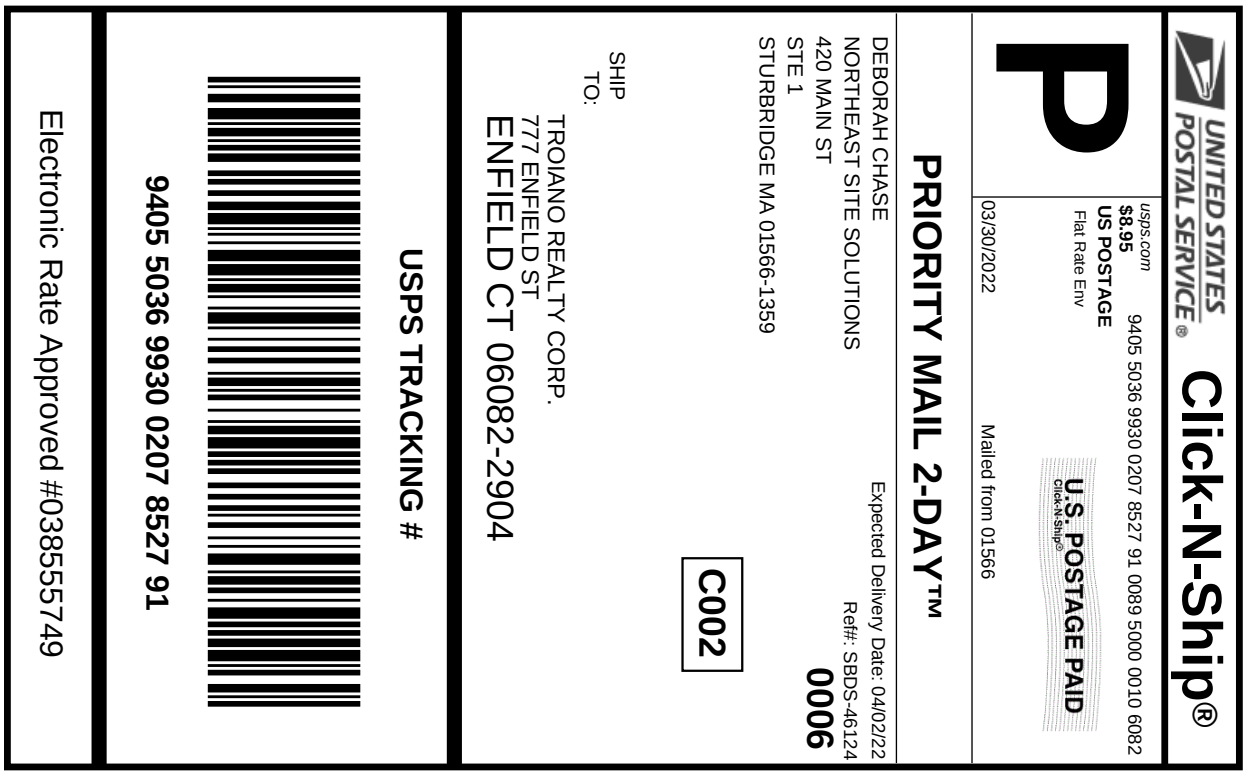
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: SBDS-46124

To: ELLEN W ZOPPO
TOWN OF ENFIELD- TOWN MANAGER
820 ENFIELD ST
ENFIELD CT 06082-2964

* 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



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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0207 8527 91

Trans. #:	560073749
Print Date:	03/30/2022
Ship Date:	03/30/2022
Expected Delivery Date:	04/02/2022

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

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

Ref#: SBDS-46124

To: TROIANO REALTY CORP.
777 ENFIELD ST
ENFIELD CT 06082-2904

* 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.

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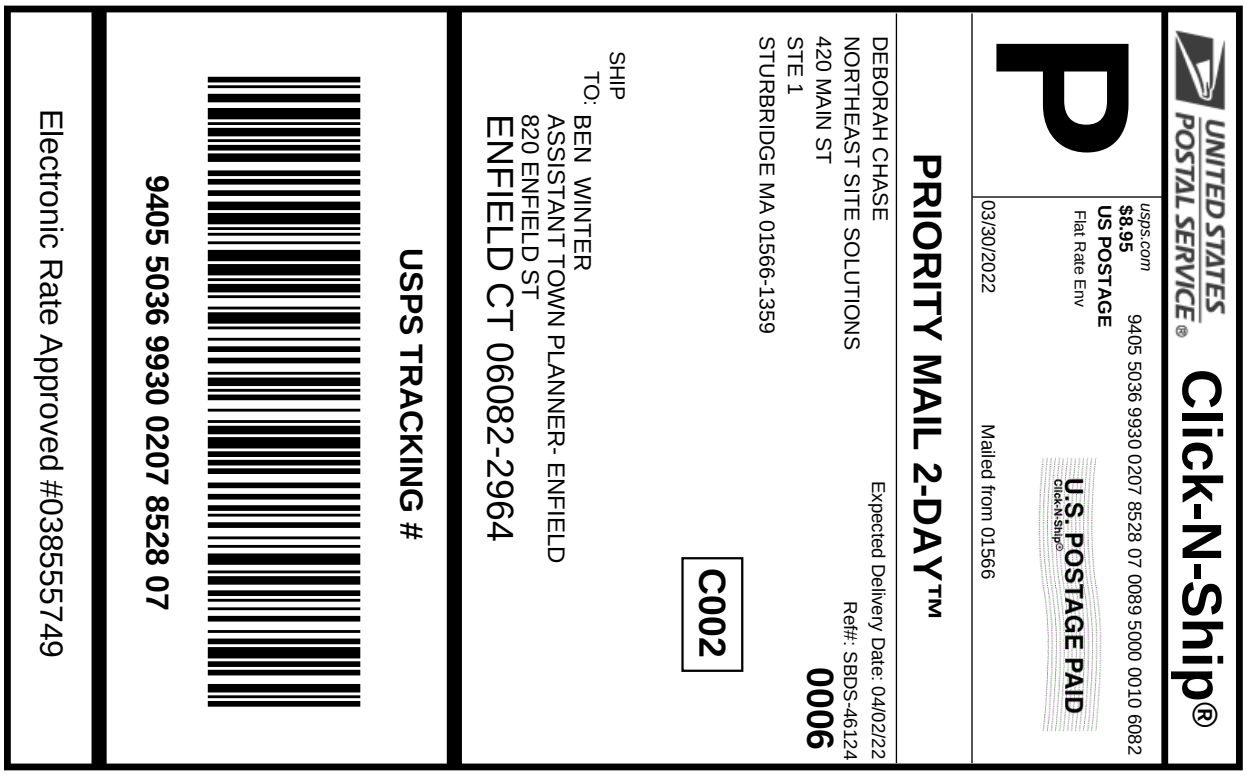

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0207 8528 07

Trans. #:	560073749
Print Date:	03/30/2022
Ship Date:	03/30/2022
Expected Delivery Date:	04/02/2022

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

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

Ref#: SBDS-46124

To: BEN WINTER
ASSISTANT TOWN PLANNER- ENFIELD
820 ENFIELD ST
ENFIELD CT 06082-2964

* 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!
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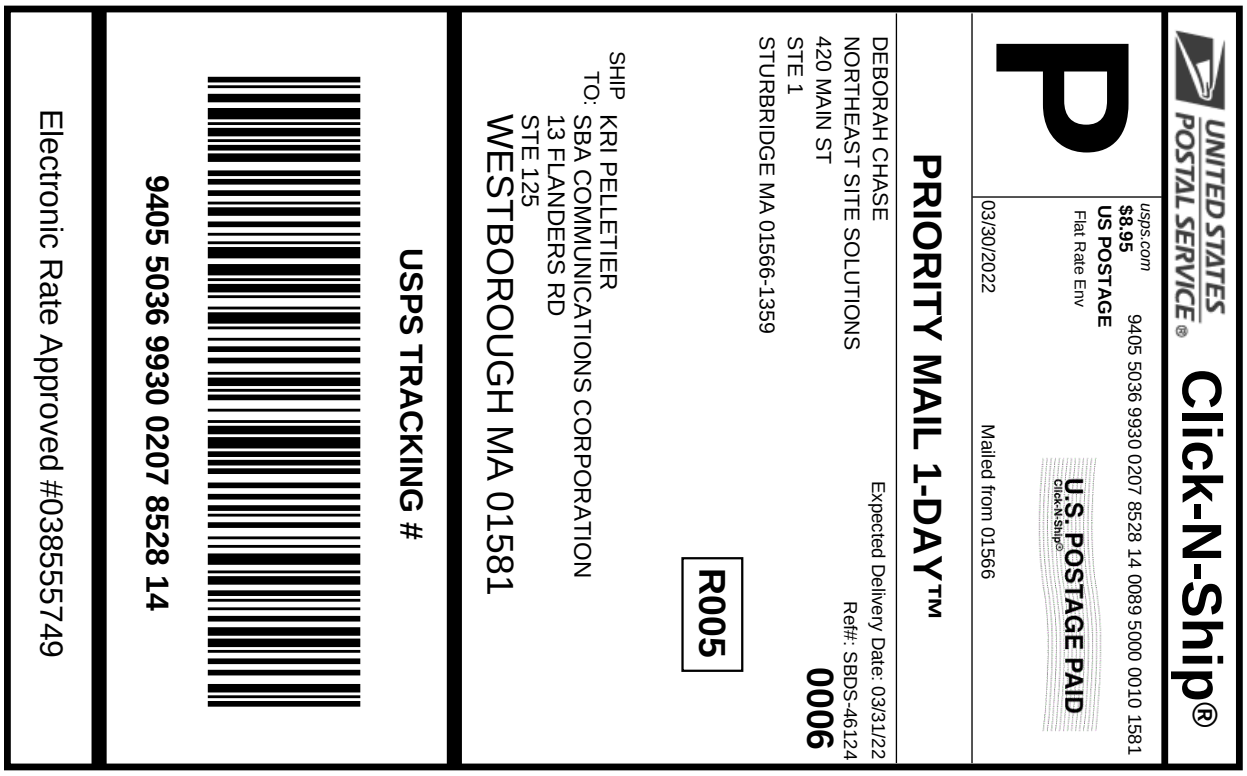

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0207 8528 14

Trans. #:	560073749
Print Date:	03/30/2022
Ship Date:	03/30/2022
Expected Delivery Date:	03/31/2022

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

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

Ref#: SBDS-46124

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

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

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BOB DL 00134A

SBA DISH

UNITED STATES POSTAL SERVICE.

UNIONVILLE
24 MILL ST
UNIONVILLE, CT 06085-9998
(800)275-8777

04/01/2022 12:54 PM

Product	Qty	Unit Price	Price
Prepaid Mail Enfield, CT 06082 Weight: 0 lb 8.80 oz Acceptance Date: Fri 04/01/2022 Tracking #: 9405 5036 9930 0207 8528 07	1		$0.00
Prepaid Mail Westborough, MA 01581 Weight: 0 lb 2.00 oz Acceptance Date: Fri 04/01/2022 Tracking #: 9405 5036 9930 0207 8528 14	1		$0.00
Prepaid Mail Enfield, CT 06082 Weight: 0 lb 8.80 oz Acceptance Date: Fri 04/01/2022 Tracking #: 9405 5036 9930 0207 8527 84	1		$0.00
Prepaid Mail Enfield, CT 06082 Weight: 0 lb 8.70 oz Acceptance Date: Fri 04/01/2022 Tracking #: 9405 5036 9930 0207 8527 91	1		$0.00
Grand Total:			$0.00

****