Filed by:
G. Scott Shepherd, Site Development Specialist II - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3807 - gshepherd@sbasite.com

March 24, 2021

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

RE: Notice of Exempt Modification
97 Chaplin Rd.
Latitude: 41.864389
Longitude: -72.096222
Sprint, now a part of T-Mobile USA #: CTHA624A_Sprint Keep

Dear Ms. Bachman:

Sprint, now a part of T-Mobile USA #: CTHA624A_Sprint Keep, hereinafter referred to as "Sprint/T-Mobile" currently maintains six (6) antennas at the 145-foot level of the existing 148-foot Monopole Tower at 97 Chaplin Rd., Eastford, CT. The 147-foot tower is owned by SBA 2012 TC Assets, LLC. The property is owned by DeSation Sand & Gravel Corporation. Sprint/ T-Mobile now intends to remove six (6) antennas and replace with six (6) new L700/L600/1900/2100 MHz antennas and install three (3) new 2500 MHz antennas for a total of nine (9) antennas.

The new antennas support 5G services and would be installed at the 145-foot level of the tower.

Please note: Per the Connecticut Siting Council Website: CSC COVID 19 Guidelines. *In order to prevent the spread of Coronavirus and protect the health and safety of our members and staff, as of March 18, 2020, the Connecticut Siting Council shall convert to full remote operations until March 30, 2020. Please be advised that during this time period, all hard copy filing requirements will be waived in lieu of an electronic filing. Please also be advised that the March 26, 2020 regular meeting shall be held via teleconference. The Council's website is not equipped with an on-line filing fee receipt service. Therefore, filing fees and/or direct cost charges associated with matters received electronically during the above-mentioned time period will be directly invoiced at a later date.*

Planned Modifications:

TOWER

Remove:

- N/A

Remove and Replace:

- (3) Nokia AAHC antennas (remove) – (3) Ericsson AIR32 KRD901146-1_B66A_B2A 1900/2100 MHz antennas (replace)
- (3) Commscope NNVV-65B-R4 antennas (remove) – (3) RFS APXVAALL24_43-U-NA20 600/700/1900 MHz antennas (replace)
- (3) ALU TD-RRH8x20-25 RRU (remove) –(3) Ericsson 4449 B71 + B85 RRU (replace)
- (3) ALU 1900MHz RRH (remove) – (3) Ericsson 4415 B25 RRU (replace)

Install New:

- (3) Ericsson AIR6449 B41 2500 MHz antennas
- (3) 1-5/8" Hybrid (HCS)

Existing Equipment to Remain:

- Platform w/handrail Site Pro F4P-10W w/F4P-HRK10
- (6) ALU 800 MHz RRH

Entitlements:

- (4) 1-1/4" Fiber

GROUND

Install New:

- (3) 2" conduit
- (2) 1" conduit
- (1) AAV Cabinet on proposed H-Frame
- (1) T-Mobile 6160 Cabinet
- (1) T-Mobile B160 Battery Cabinet

Remove:

- (3) Existing Sprint Cabinet

This facility was approved by the Connecticut Siting Council buy its Decision and Order dated January 28, 2003. The Connecticut Siting Council granted a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at the DeSiato site located at 97 Chaplin Rd., Eastford, CT, to Sprint Spectrum, L.P. under Docket No. 232. The facility shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower shall not exceed a height of 150-feet above ground level including all appurtenances. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The primary purpose of the proposed facility to provide wireless telecommunicatins coverage to existing coverage gaps on Route 198 and to a lesser extent, on Route 44 in Eastford. Sprint proposes to construct a 150-foot monopole facility at Site A and a 130-foot monopole at Site B. The Council believes approving the height requested at either site would provide a greater opportunity for tower sharing, preventing the proliferation of tower structures in the area. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Eastford's Building Official, Joseph Pajak, First Selectman, Jacqueline Dubois and Town Clerk Melissa Vincent, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

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

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

Sincerely,

G. Scott Shepherd
Site Development Specialist II
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3807 + T
508.366.2610 + F
508.868.6000 + C
gshepherd@sbasite.com

Attachments
cc: Joseph Pajak, Building Oficial / with attachments
Town of Eastford, 16 Westford Rd., Eastford, CT 06242
Jacqueline Dubois, First Selectman / with attachments
Town of Eastford, 16 Westford Rd., Eastford, CT 06242
Melissa Vincent, Town Clerk / with attachments
Town of Eastford, 16 Westford Rd., Eastford, CT 06242
DeSatio Sand & Gravel Corporation

EXHIBIT LIST

Exhibit 1	Check Copy	To be invoiced at a later date per Covid guidelines
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	x
Exhibit 6	Construction Drawings	Centerline 2/25/21
Exhibit 7	Structural Analysis	TES 12/16/20
Exhibit 8	Mount Analysis	TES 3/18/21
Exhibit 10	EME Report	EBI Consulting 2/22/21

EXHIBIT 1

Normally, Exhibit 1 would contain a copy of the check for the filing fee.

EXHIBIT 2

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

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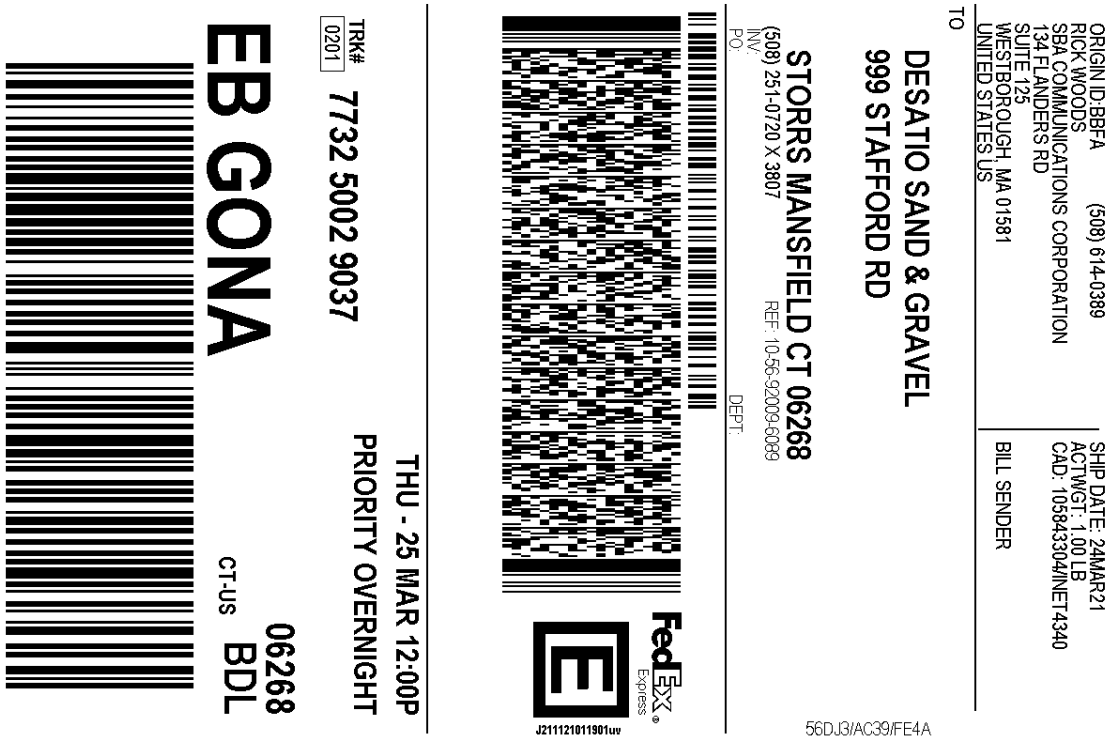

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EXHIBIT 3

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2016.

TOWN OF EASTFORD

Connecticut

Information on the Property Records for the Municipality of Eastford was last updated on 3/23/2021.

Parcel Information

Location:	97 CHAPLIN RD TOWER	Property Use:	Vacant Land	Primary Use:	Residential Vacant Land
Unique ID:	00026701	Map Block Lot:	35 25 6T	Acres:	0.00
490 Acres:	0.00	Zone:		Volume / Page:	0027/0002
Developers Map / Lot:		Census:	9022		

Value Information

	Appraised Value	Assessed Value
Land	0	0
Buildings	0	0
Detached Outbuildings	92,500	64,750
Total	92,500	64,750

Owner's Information

Owner's Data
DESIATO SAND AND GRAVEL C/O SBA 2012TC ASSETS 8051 CONGRESS AVENUE BOCA RATON, FL 33487-1307

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Shed w Loft	2003	0.00	0.00	120
Cell Tower	2003	0.00	0.00	1

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
DESIATO SAND AND GRAVEL	0027	0002	01/16/1987		No	$0

EXHIBIT 4

Neccog GIS Site

Legend

- Town
- Buildings 2012
- Parcels

Notes

Enter Map Description

0.3 0 0.14 0.3 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

EXHIBIT 5

DOCKET NO. 232 - Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at one of two sites located on Chaplin Road, Eastford, Connecticut.	}	Connecticut Siting Council January 28, 2003

Opinion

On August 22, 2002, Sprint Spectrum L.P., d/b/a Sprint PCS (Sprint) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, operation, and maintenance of a wireless telecommunications facility at the DeSiato property (Site A), 97 Chaplin Road in Eastford, Connecticut or at the Willis property (Site B) off of Chaplin Road in Eastford, Connecticut.

The primary purpose of the proposed facility is to provide wireless telecommunications coverage to existing coverage gaps on Route 198, and to a lesser extent, on Route 44 in Eastford. Sprint proposes to construct a 150-foot monopole facility at Site A and a 130-foot monopole facility at Site B. Although a 130-foot facility at Site A or a 110-foot facility at Site B would provide adequate coverage to the targeted service area, the Council believes approving the height requested at either site would provide a greater opportunity for tower sharing, preventing the proliferation of tower structures in the area.

Both proposed sites are in wooded areas on properties that have been previously disturbed by sand and gravel extraction activities. The Site A parcel is still used as an extraction area. The Site B parcel is used to process earthen materials such as soil and wood products. The parcels, located in the rural Natchaug River valley, abut each other. Neither site development area contains wetlands or watercourses or any known populations of federal or state endangered threatened or special concern species. Although development of both sites would require the removal of a similar amount of trees over 6 inches in diameter, development of Site B would require the removal of a greater amount of vegetation and would result in more land disturbance to accommodate the access road. The access road to Site B would extend 1,180 feet, would require a three quarter acre area of grading, and would require 740 feet of rip rap lined drainage ditches, whereas the access road to Site A would only be 740 feet long, require 2,300 square feet of grading and would not need rip rap lined drainage features. In addition, utilities for Site A would be installed underground along the access road whereas utilities at Site B would be routed aboveground through an easement north of the access road. Due to a lesser amount of land disturbance and a shorter access road, we find proposed Site A preferable.

Sensitive visual receptors in the vicinity of both sites are the Charlie Brown Campground, Peppertree Campground, and motorists along Route 198. Although the visual impact of either tower is similar, the Council believes a tower at Site B would be visible from both campground areas whereas a tower at Site A would only affect the Charlie Brown Campground; therefore we find proposed Site A preferable. The visual impact to motorists along Route 198 from either site would not be great since the road is bordered by woodlands and contains many curves that direct views away from the towers.

Development of either site would have no effect on historic, architectural or archeological resources listed on or eligible for the National Register of Historic Places. Construction of compound and drainage features at Site A would result in the disturbance of 180 feet of a substantial stone wall. The Council recognizes stone walls as historical and cultural features unique to the region that should be preserved if possible. The Council will condition the approval of Site A to preserve this cultural resource.

Radio frequency power density levels at the base of the proposed tower would be well below federal and state standards for the frequencies used by wireless companies. If federal or state standards change, the Council will require that the facility be brought into compliance with such standards. The Council will require that the power densities be remodeled in the event other carriers locate at this facility.

Based on the record in this proceeding, we find that the effects associated with the construction, operation, and maintenance of the telecommunications facility at proposed Site A, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with policies of the State concerning such effects, and are not sufficient reason to deny this application. Therefore, we will issue a Certificate for the construction, operation, and maintenance of a 150-foot monopole telecommunications facility at proposed Site A located at 97 Chaplin Road in Eastford, Connecticut. The Council will condition the approval in order to preserve a substantial stone wall located in the Site A development area. The Council will deny certification of the proposed Site B.

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

January 31, 2003

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **DOCKET NO. 232** - Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at one of two sites located on Chaplin Road, Eastford, Connecticut.

By its Decision and Order dated January 28, 2003, the Connecticut Siting Council granted a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at the DeSiato site located at 97 Chaplin Road, Eastford, Connecticut, to Sprint Spectrum, L.P.

Enclosed are the Council's Findings of Fact, Opinion, and Decision and Order.

SDP/laf

Enclosures (3)

c: Albert Palko, State Documents Librarian
Council Members

DOCKET NO. 232 - Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at one of two sites located on Chaplin Road, Eastford, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	January 28, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum L. P. (Sprint) for the construction, maintenance and operation of a wireless telecommunications facility at proposed Site A (DeSiato Site) located at 97 Chaplin Road, Eastford, Connecticut. We deny certification of proposed Site B (Willis Site) located off of Chaplin Road, Eastford, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level including all appurtenances.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
   a) a detailed site development plan that depicts the location of the access road, compound, tower, and utility line. Site development must avoid disturbing the stone walls south and west of the proposed tower site;
   b) specifications for the tower, tower foundation, antennas, equipment building, and security fence; and
   c) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power densities of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and ceases to function.

8. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, The Norwich Bulletin, and The Chronicle.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant
Sprint Spectrum, L.P.
d/b/a Sprint PCS

Its Representative
Thomas J. Regan, Esquire
Brown Rudnick Berlack Israels LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402
(860) 509-6522

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in Docket No. 232 - Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at one of two sites located on Chaplin Road, Eastford, Connecticut, and voted as follows to approve the proposed Site A (DeSiato Site) facility:

Council Members	Vote Cast
Mortimer A. Gelston, Chairman	Yes
Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Yes
Commissioner Arthur J. Rocque, Jr. Designee: Brian J. Emerick	Yes
Philip Ashton	Absent
Pamela B. Katz	Absent
Daniel P. Lynch, Jr.	Yes
Brian O'Neill	Yes
Colin C. Tait	Yes
Edward S. Wilensky	Yes

Dated at New Britain, Connecticut January 28, 2003.

STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

S. Derek Phelps
Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 232 has been forwarded by Certified First Class Return Receipt Requested mail on January 31, 2003, to all parties and intervenors of record as listed on the attached service list, dated September 19, 2002.

ATTEST:

Lisa A. Fontaine
Administrative Assistant
Connecticut Siting Council

EXHIBIT 6

PROJECT INFORMATION

TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
SBA TOWER ID:	CT46145-A
SBA SITE NAME:	EASTFORD-DESIATO/SSUSA
T-MOBILE SITE NAME:	CTHA624A
T-MOBILE SITE NUMBER:	CTHA624A
SBA SITE ADDRESS:	97 CHAPLIN ROAD EASTFORD, CT 06242
LATITUDE:	42.86417000
LONGITUDE:	-72.0961000
TOWER HEIGHT:	148'-0"± AGL
RAD CENTER:	145'-0"± AGL
ZONING JURISDICTION:	TOWN OF EASTFORD
COUNTY:	WINDHAM/EASTFORD

DESCRIPTION OF WORK:

TELECOMMUNICATIONS FACILITY UPGRADE (SPRINT RETAIN):

MONOPOLE

COMPLIANCE CODES:

1.	BUILDING CODE: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
2.	ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
3.	CONCRETE CODE: AMERICAN CONCRETE INSTITUTE (ACI) 318
4.	STEEL CODE: AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 14TH EDITION
5.	TELECOMMUNICATIONS CODE: EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL

BASED ON INFORMATION PROVIDED BY T-MOBILE, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS AN ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW).

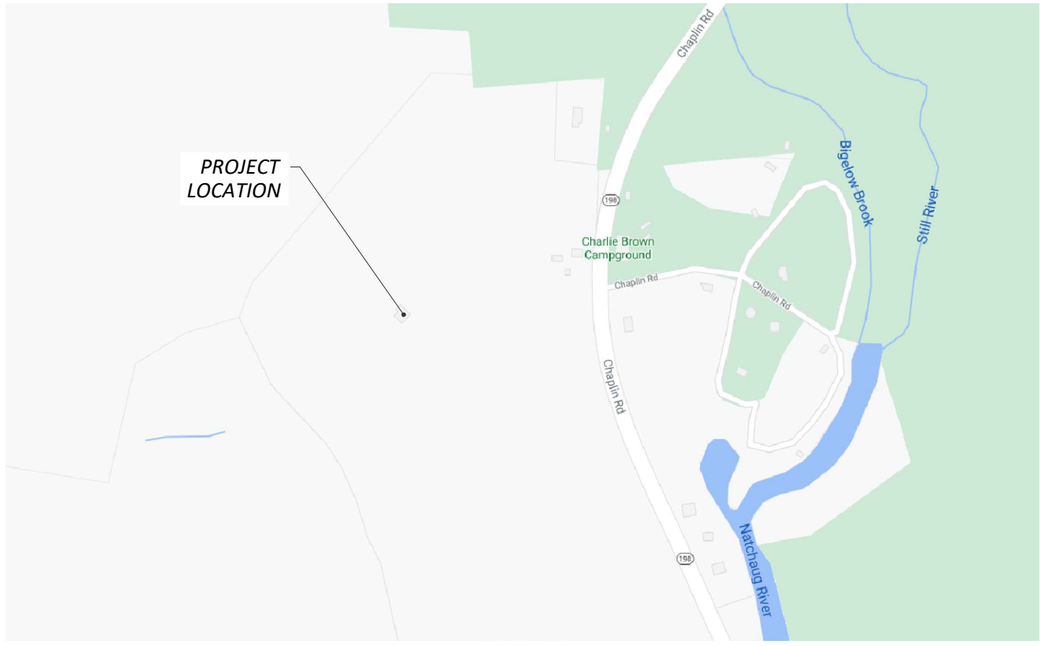
PROJECT DIRECTORY

A&E / PROJECT MANAGER:
CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE 781.713.4725

APPLICANT:
T-MOBILE NORTHEAST, LLC.
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
PHONE: (508) 286-2700
FAX: (508) 286-2893

SITE NAME: CTHA624A
97 CHAPLIN ROAD
EASTFORD, CT 06242

SITE NUMBER: CTHA624A
SBA SITE #: CT46145-A
PROJECT: SPRINT RETAIN
CONFIGURATION: 67D5A997DB 6160 (GSM ONLY)



VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSE OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DRAWING INDEX

NO.	DESCRIPTION	REV.	DATE
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GN-1	GENERAL NOTES	1	02/25/21
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SN-1	STRUCTURAL NOTES	1	02/25/21
RF-1	RF PLUMBING DIAGRAM	1	02/25/21
G-1	GROUNDING DETAILS	1	02/25/21

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REVISIONS		
1	02/25/21	ISSUED FOR CONSTRUCTION
0	12/11/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION
DESIGNED BY: AG		APPROVED BY: DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 02/25/21

CBYD.COM 811
Call Before You Dig, Inc.

SITE NAME:	CTHA624A
SITE NUMBER:	CTHA624A
SITE ADDRESS:	97 CHAPLIN ROAD EASTFORD, CT 06242
PROJECT TYPE:	SPRINT RETAIN
SHEET TITLE:	TITLE SHEET
DRAWING #:	T-1
REVISION:	1

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – CENTERLINE COMMUNICATIONS
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – T–MOBILE

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

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

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

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

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

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

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

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

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

11. SUBCONTRACTOR 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.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR–ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T–MOBILE SITES."

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

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

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

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
LIGHTING CODE: NFPA 70–2017

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222–G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

RF NOTES

1. ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR

2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.

3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.

4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS–OCCUPIED, INDOORS–UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.

5. RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.

6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.

7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.

8. ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.

9. 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.

10. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.

11. ANTENNAS SHALL BE PAINTED,WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.

12. CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE AND SCHEDULING NOTES

1. SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.

2. TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER T–MOBILE ANTENNA CABLE MARKING STANDARD:

- TOP OF TOWER END OF MAIN COAX
- BOTTOM OF TOWER END OF MAIN COAX
- DIRECTLY BEFORE AND AFTER RF EQUIPMENT
- END OF JUMPERS AT BTS EQUIPMENT

3. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.

4. PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

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NO.	DATE	DESCRIPTION
DESIGNED BY: AG		APPROVED BY: DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 02/25/21

SITE NAME: CTHA624A

SITE NUMBER: CTHA624A

SITE ADDRESS: 97 CHAPLIN ROAD
EASTFORD, CT 06242

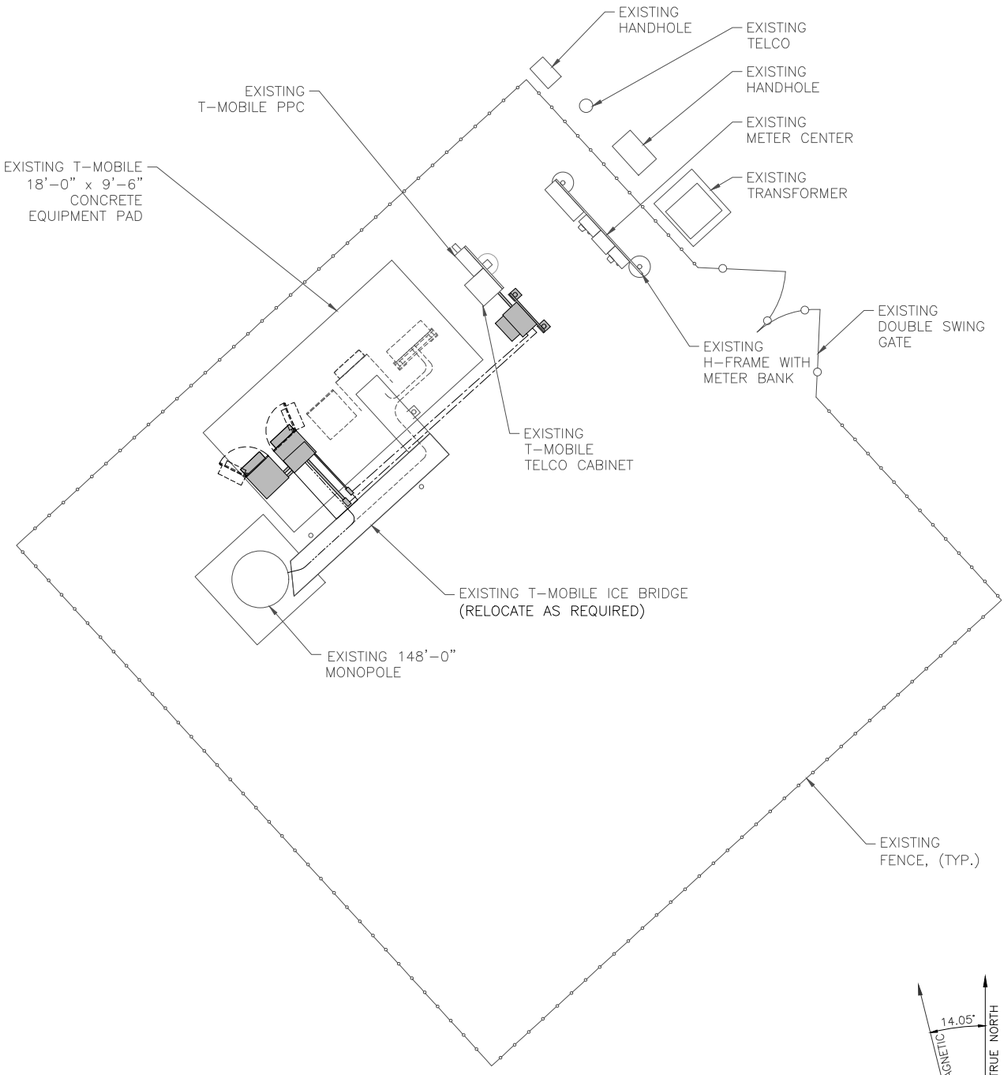
PROJECT TYPE: SPRINT RETAIN

SHEET TITLE: GENERAL NOTES

DRAWING #: GN–1 | REVISION: 1

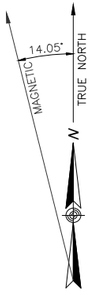
NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



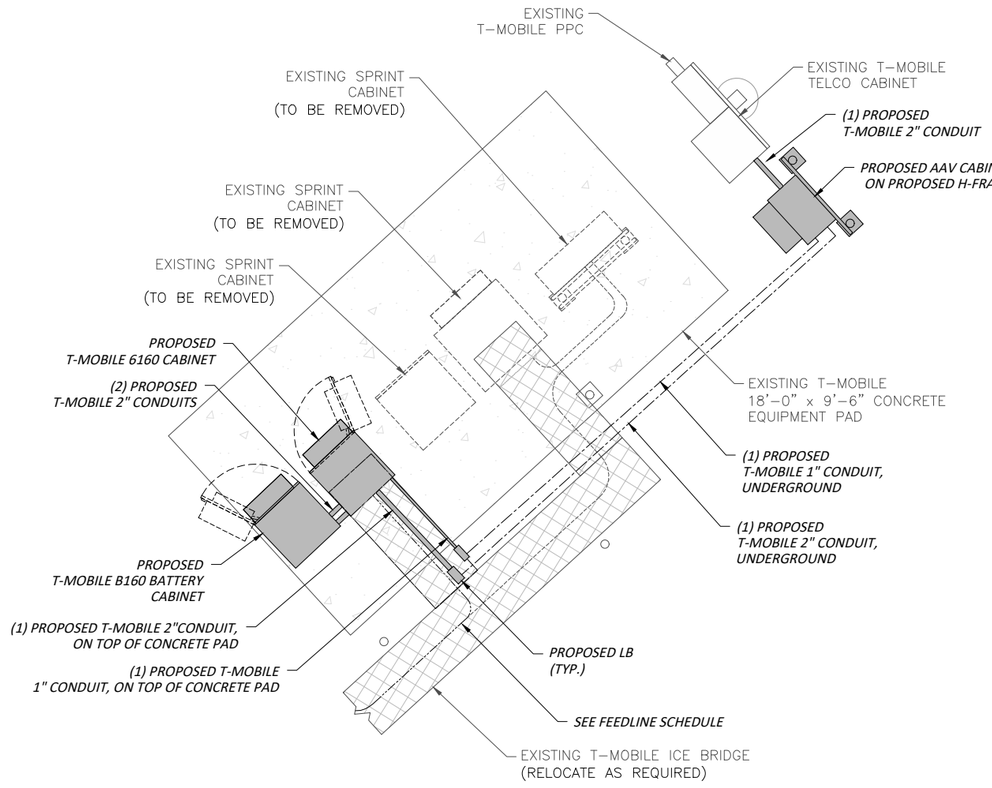
COMPOUND PLAN

SCALE: 3/16" = 1'–0" (22"X34")
3/32" = 1'–0" (11"X17")



FEEDLINE SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO BE REMOVED: (4) HYBRID	UP INSIDE MONOPOLE TO RAD
B	PROPOSED: (3) 6x12 (1-5/8") HYBRID FIBER	UP INSIDE MONOPOLE TO RAD

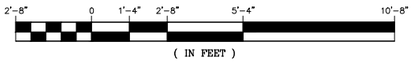
NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON COLLOCATION APPLICATION AND SBA RECORD, NOT FIELD OBSERVATIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.
SEE STRUCTURAL ANALYSIS FOR FEEDLINE INSTALLATION.



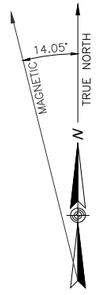
EQUIPMENT PLAN

SCALE: 3/8" = 1'–0" (22"X34")
3/16" = 1'–0" (11"X17")

GRAPHIC SCALE



(IN FEET)



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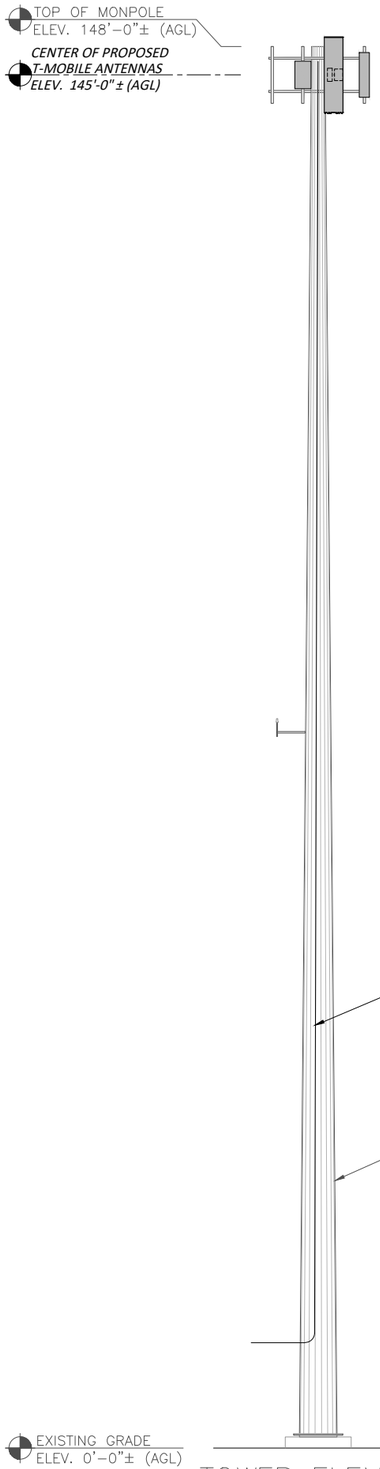
STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 02/25/21

SITE NAME: CTHA624A
SITE NUMBER: CTHA624A
SITE ADDRESS: 97 CHAPLIN ROAD EASTFORD, CT 06242
PROJECT TYPE: SPRINT RETAIN
SHEET TITLE: COMPOUND & EQUIPMENT PLANS
DRAWING #: A–1
REVISION: 1

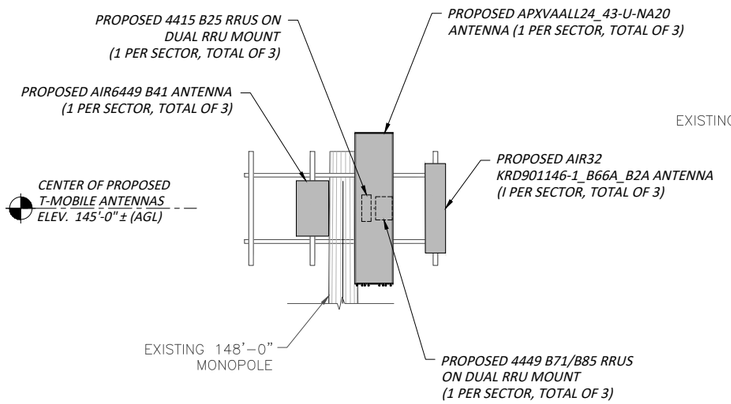


TOWER ELEVATION

SCALE: 1/8" = 1'-0" (22"X34")
1/16" = 1'-0" (11"X17")

NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



ENLARGED ANTENNA ELEVATION

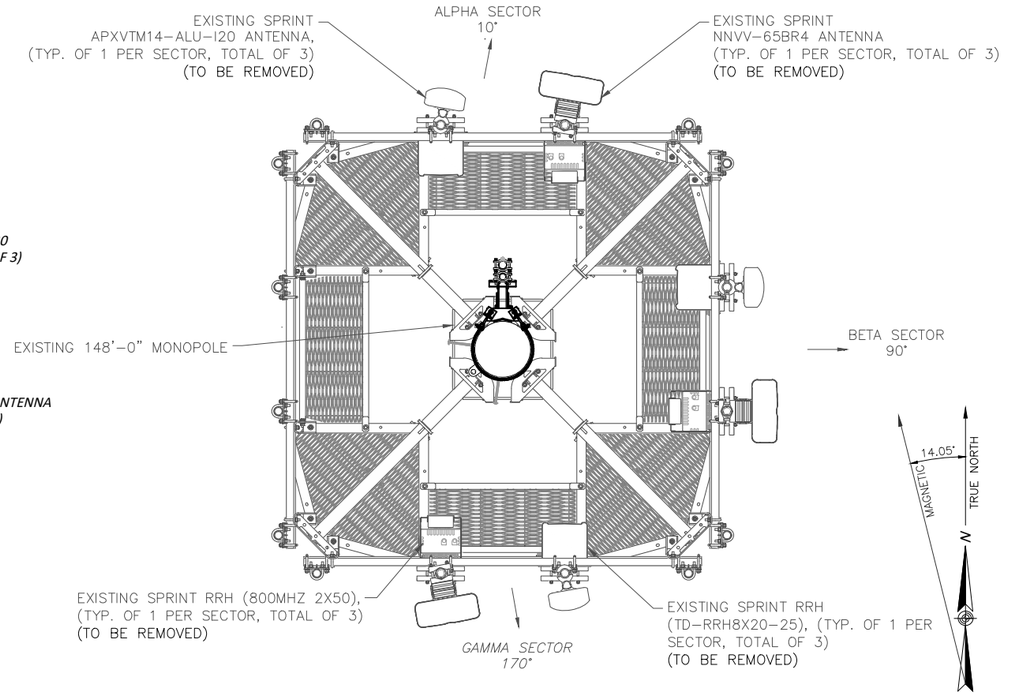
SCALE: N.T.S

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

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

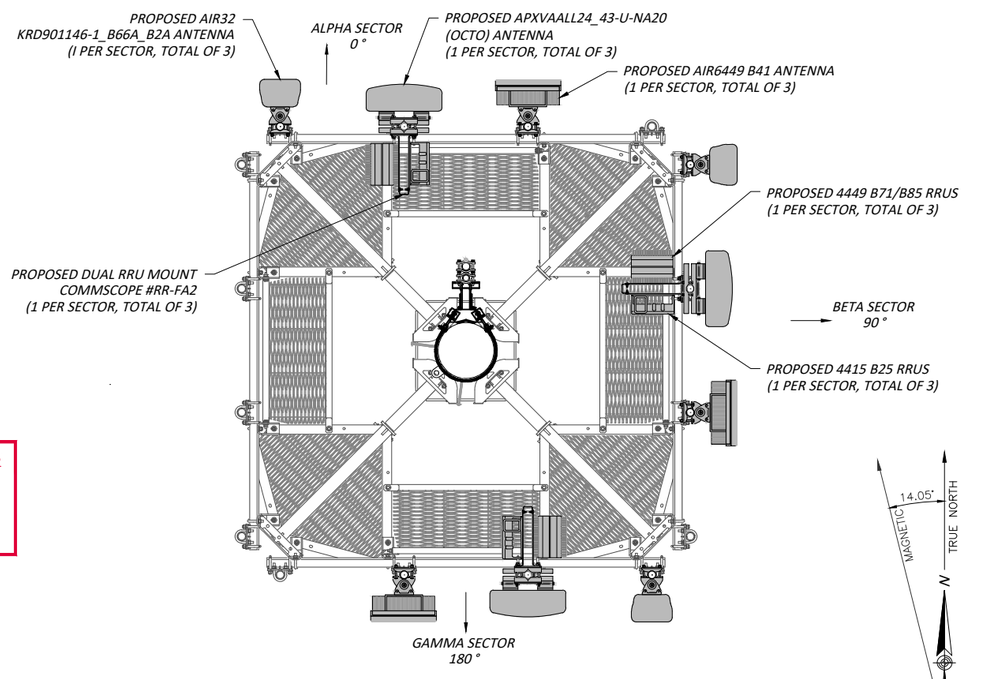
GRAPHIC SCALE

8 0 4 8 16 32
(IN FEET)



EXISTING ANTENNA CONFIGURATION

SCALE: N.T.S



PROPOSED ANTENNA CONFIGURATION

SCALE: N.T.S

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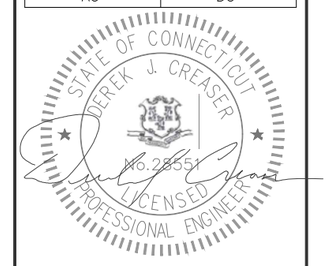


DATE: 02/25/21

SITE NAME:	CTHA624A
SITE NUMBER:	CTHA624A
SITE ADDRESS:	97 CHAPLIN ROAD EASTFORD, CT 06242
PROJECT TYPE:	SPRINT RETAIN
SHEET TITLE:	ANTENNA LAYOUT & ELEVATIONS
DRAWING #: A-2	REVISION: 1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER
A1	PROPOSED	L2100, G1900, L1900	AIR32 KRD901146-1 B66A_B2	56.6x12.9x8.7	±145'	0°	–	–	–	(P) (3) 1-5/8" HCS
A2	PROPOSED	L700, L600, N600, L1900	APXVAALL24_43-U -NA20	95.9x24x8.5	±145'	0°	–	(P) (1) 4449 B71 B85 RRUS (P) (1) 4415 B25 RRUS	15x13.2x10.4 16.5x13.4x5.9	
A3	PROPOSED	L2500, N2500	AIR6449 B41	33.1x20.6x8.6	±145'	0°	–	–	–	
B1	PROPOSED	L2100, G1900, L1900	AIR32 KRD901146-1 B66A_B2	56.6x12.9x8.7	±145'	90°	–	–	–	
B2	PROPOSED	L700, L600, N600, L1900	APXVAALL24_43-U -NA20	95.9x24x8.5	±145'	90°	–	(P) (1) 4449 B71 B85 RRUS (P) (1) 4415 B25 RRUS	15x13.2x10.4 16.5x13.4x5.9	
B3	PROPOSED	L2500, N2500	AIR6449 B41	33.1x20.6x8.6	±145'	90°	–	–	–	
G1	PROPOSED	L2100, G1900, L1900	AIR32 KRD901146-1 B66A_B2	56.6x12.9x8.7	±145'	180°	–	–	–	
G2	PROPOSED	L700, L600, N600, L1900	APXVAALL24_43-U -NA20	95.9x24x8.5	±145'	180°	–	(P) (1) 4449 B71 B85 RRUS (P) (1) 4415 B25 RRUS	15x13.2x10.4 16.5x13.4x5.9	
G3	PROPOSED	L2500, N2500	AIR6449 B41	33.1x20.6x8.6	±145'	180°	–	–	–	

NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

RRU CHART

QUANTITY	MODEL	L	W	D
3(P)	4449 B71/B85	15.0"	13.2"	10.4"
3(P)	4415 B25	16.5"	13.4"	5.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

REFER TO THE FINAL RFDS AND TABLE FOR THE PROPOSED RRUS MODEL, QUANTITY, AND DIMENSIONS

RRUS DETAIL

N.T.S.

ERICSSON RBS6160 EQUIPMENT CABINET

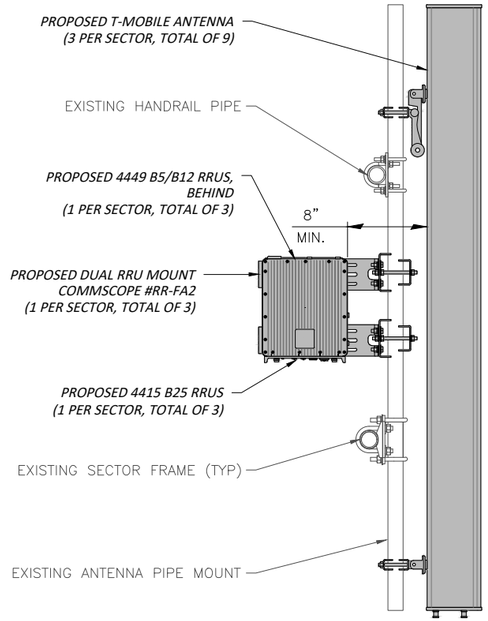
ENCLOSURE: ALUMINUM
DIMENSIONS (HxWxD): 63" X 25.6" X 33.5"
WEIGHT: 188LBS (EXCLUDES EQUIPMENT)
WEATHER TIGHTNESS: NEMA TYPE 3R

ERICSSON B160 BATTERY CABINET

ENCLOSURE: ALUMINUM
DIMENSIONS (HxWxD): 63" X 26" X 26"
WEIGHT: 188LBS (EXCLUDES EQUIPMENT)
WEATHER TIGHTNESS: NEMA TYPE 3R

EQUIPMENT CABINET DETAIL

N.T.S.



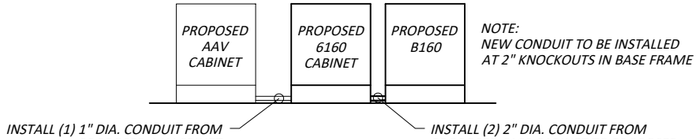
ANTENNA MOUNTING DETAIL

EMERSON NETXTEND COMPACT 2416 CABINET

ENCLOSURE: ALUMINUM
DIMENSIONS (HxWxD): 24" X 24" X 25.25"
WEIGHT: 64LBS (EXCLUDES EQUIPMENT)
WEATHER TIGHTNESS: NEMA TYPE 3R

AAV CABINET DETAIL

N.T.S.



CONDUIT DETAIL

N.T.S.

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PHONE: 781.713.4725

REVISIONS		
1	02/25/21	ISSUED FOR CONSTRUCTION
0	12/11/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION
DESIGNED BY: AG		APPROVED BY: DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 02/25/21

SITE NAME:	CTHA624A
SITE NUMBER:	CTHA624A
SITE ADDRESS:	97 CHAPLIN ROAD EASTFORD, CT 06242
PROJECT TYPE:	SPRINT RETAIN
SHEET TITLE:	DETAILS
DRAWING #: A-3	REVISION: 1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	**MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]**
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	**PHOTOGRAPHS**
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

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PHONE: 781.713.4725

REVISIONS		
1	02/25/21	ISSUED FOR CONSTRUCTION
0	12/11/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION
DESIGNED BY: AG		APPROVED BY: DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 02/25/21

SITE NAME: CTHA624A
SITE NUMBER: CTHA624A
SITE ADDRESS: 97 CHAPLIN ROAD EASTFORD, CT 06242
PROJECT TYPE: SPRINT RETAIN
SHEET TITLE: STRUCTURAL NOTES
DRAWING #: SN-1
REVISION: 1

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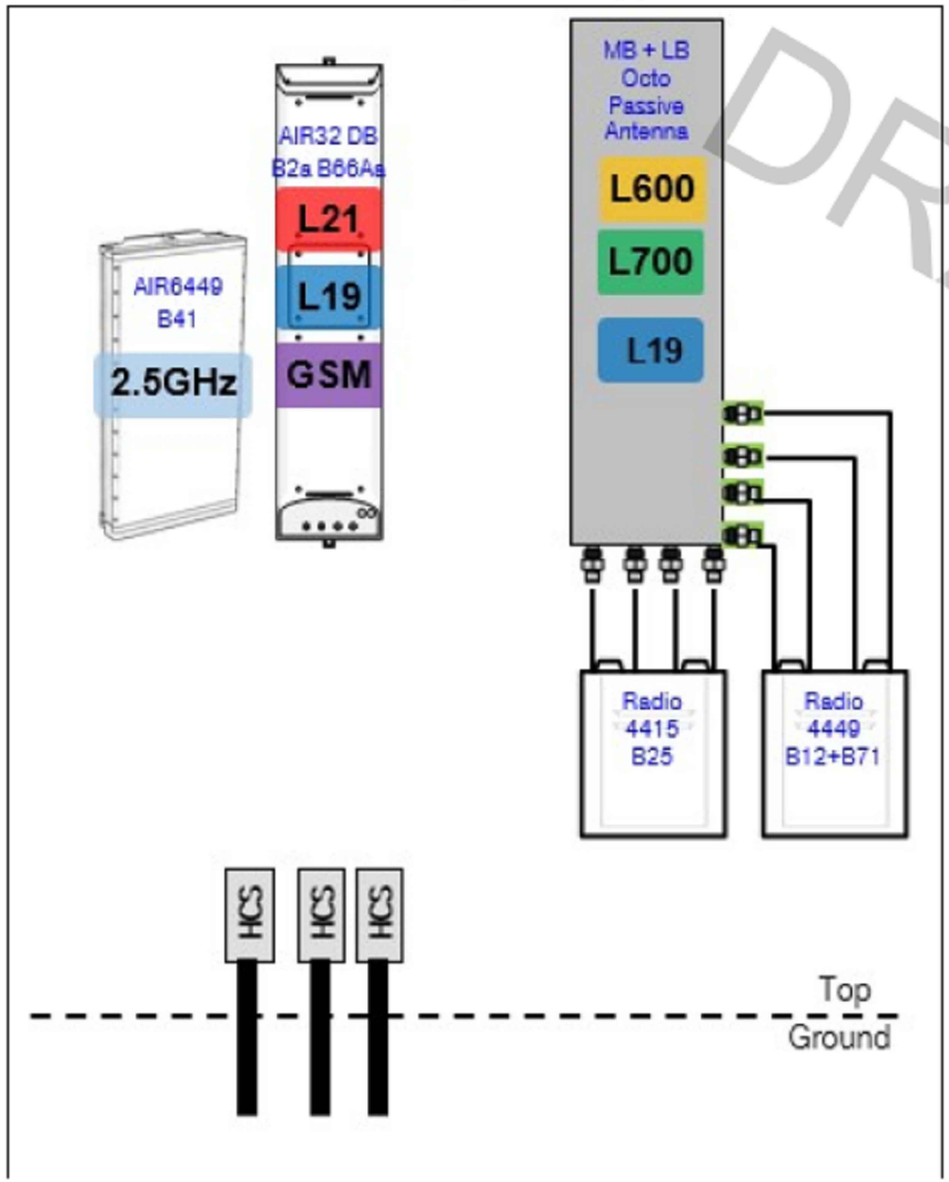

PLUMBING DIAGRAM

N.T.S.

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PHONE: 781.713.4725

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DESIGNED BY:	APPROVED BY:
AG	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 02/25/21

SITE NAME: CTHA624A

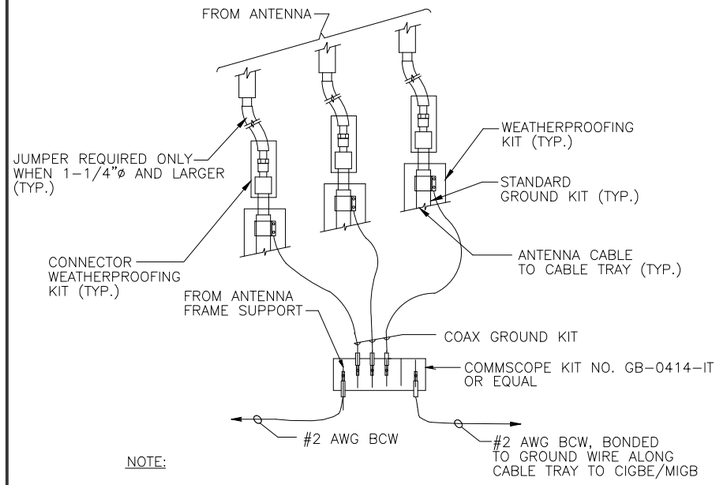
SITE NUMBER: CTHA624A

SITE ADDRESS: 97 CHAPLIN ROAD
EASTFORD, CT 06242

PROJECT TYPE: SPRINT RETAIN

SHEET TITLE: RF PLUMBING DIAGRAM

DRAWING #:	REVISION:
RF-1	1



NOTE:

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

GROUNDING RISER DIAGRAM

N.T.S.

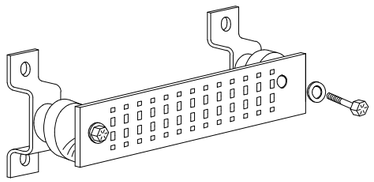
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
−48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

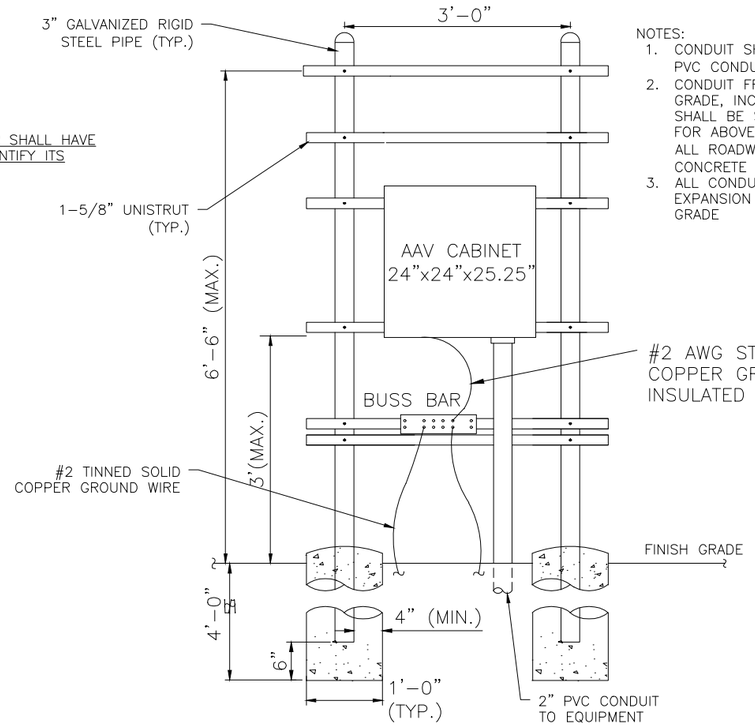
SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)



GROUND BAR DETAIL

N.T.S.

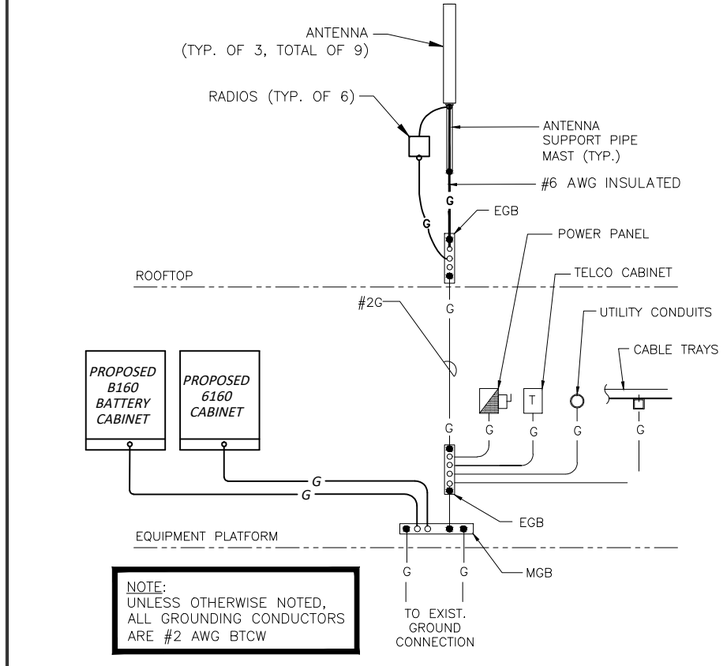


NOTES:

1. CONDUIT SHALL BE SCHEDULE 40 PVC CONDUIT 30" BELOW GRADE
2. CONDUIT FROM 30" BELOW GRADE, INCLUDING THE SWEEP, SHALL BE SCHEDULE 80 PVC FOR ABOVE GRADE AND UNDER ALL ROADWAYS (UNLESS CONCRETE ENCASED)
3. ALL CONDUITS SHALL HAVE EXPANSION FITTINGS ABOVE GRADE

H-FRAME DETAIL

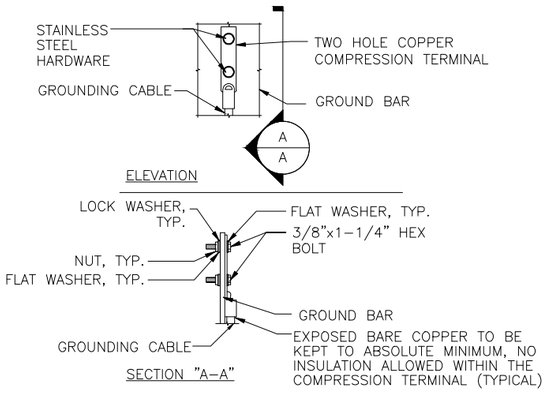
N.T.S.



NOTE:
UNLESS OTHERWISE NOTED, ALL GROUNDING CONDUCTORS ARE #2 AWG BTCW

GROUNDING RISER DIAGRAM

N.T.S.



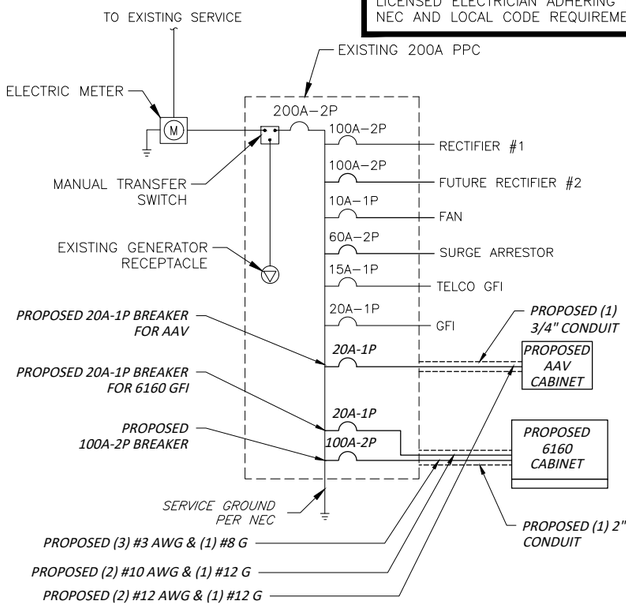
NOTE:

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

GROUND BAR CONNECTION DETAIL

N.T.S.

NOTE:
ALL WORK NEEDS TO BE PERFORMED BY LICENSED ELECTRICIAN ADHERING TO THE NEC AND LOCAL CODE REQUIREMENTS



ONE LINE POWER DIAGRAM

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STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 02/25/21

SITE NAME:	CTHA624A
SITE NUMBER:	CTHA624A
SITE ADDRESS:	97 CHAPLIN ROAD EASTFORD, CT 06242
PROJECT TYPE:	SPRINT RETAIN
SHEET TITLE:	GROUNDING DETAILS
DRAWING #: G-1	REVISION: 1

EXHIBIT 7

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

Structural Analysis Report

Existing 148 ft EEI Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT46145-A

Customer Site Name: Eastford-desiato/Ssusa

Carrier Name: T-Mobile Sprint (App#: 143991-1, V#)

Carrier Site ID / Name: CT33XC613

Site Location: 97 Chaplin Road

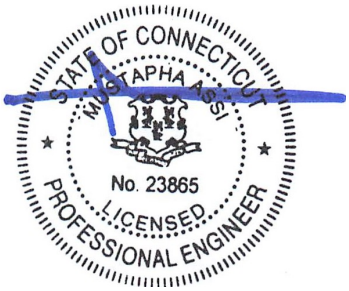
Eastford, Connecticut

Windham County

Latitude: 41.864389

Longitude: -72.096222

Exp.01/31/2021



12/16/2020

Analysis Result:

Max Structural Usage: 66.4% [Pass]

Max Foundation Usage: 48.0% [Pass]

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

Report Prepared By : Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 148 ft EEI Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	EEI, Job # 11523-E01, Dated 4/24/2003
Foundation Drawing	EEI, Job # 11523-E01, Dated 4/24/2003
Geotechnical Report	Dr. Clarence Welti, Dated 3/20/2003
Modification Drawings	Previous modifications by Tower Engineering Solutions. Dated 08-23-2018. TES Job No 56215. Modification inspection report prepared by Tower Engineering Solutions. Dated 02-04-2019. TES Project No 65186. (W.V)

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} = 130.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 101.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft

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	145.0	3	RFS APXVTM14-C-I20 - Panel	Platform Mount (Sitepro F4P-10W) with Handrail Kit (Sitepro F4P-HRK10)	(4) 1 1/4" Fiber	Sprint Nextel
2		3	Commscope NNVV-65B-R4 - Panel			
3		3	ALU 1900 Mhz RRH			
4		6	ALU 800 Mhz RRH			
5		3	ALU TD-RRH8x20-25 - RRU			

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
1	145.0	3	Ericsson - AIR32 KRD901146-1_B66A_B2A (Octo) - Panel	Platform Mount (Sitepro F4P-10W) with Handrail Kit (Sitepro F4P-HRK10)	(3) 2" Hybrid	T-Mobile Sprint
2		3	RFS - APXVAALL24_43-U-NA20 - Panel			
3		3	Ericsson - AIR6449 B41 - Panel			
4		3	Ericsson 4415 B25 RRU			
5		6	ALU 800 MHz RRH			
6		3	Ericsson 4449 B71 + B85			

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:	**66.4%**	**48.5%**	**59.9%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	1730.3	16.6	42.7

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 1.4675 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

[MODIFICATIONS]

Standard Conditions

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

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

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

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

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

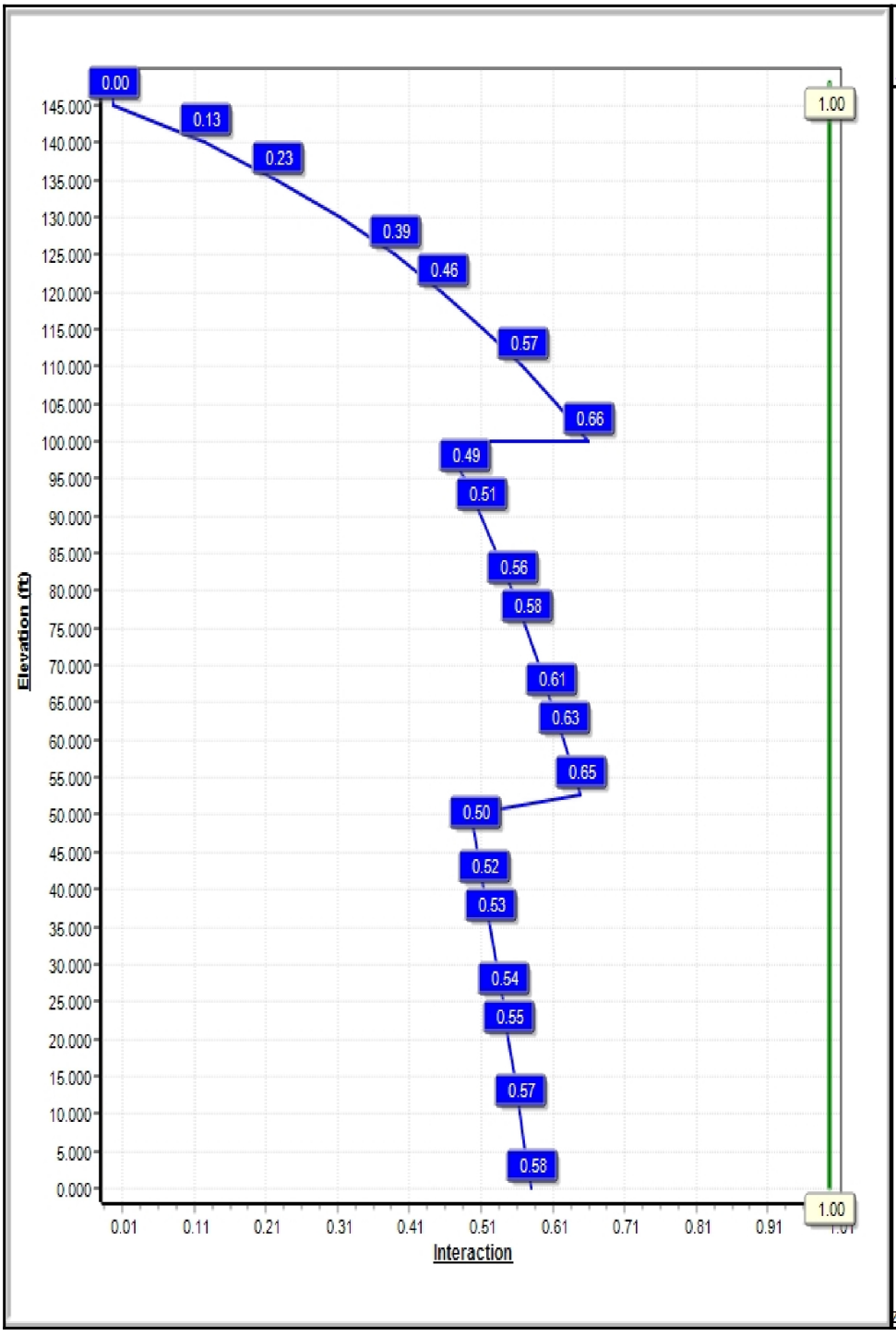
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

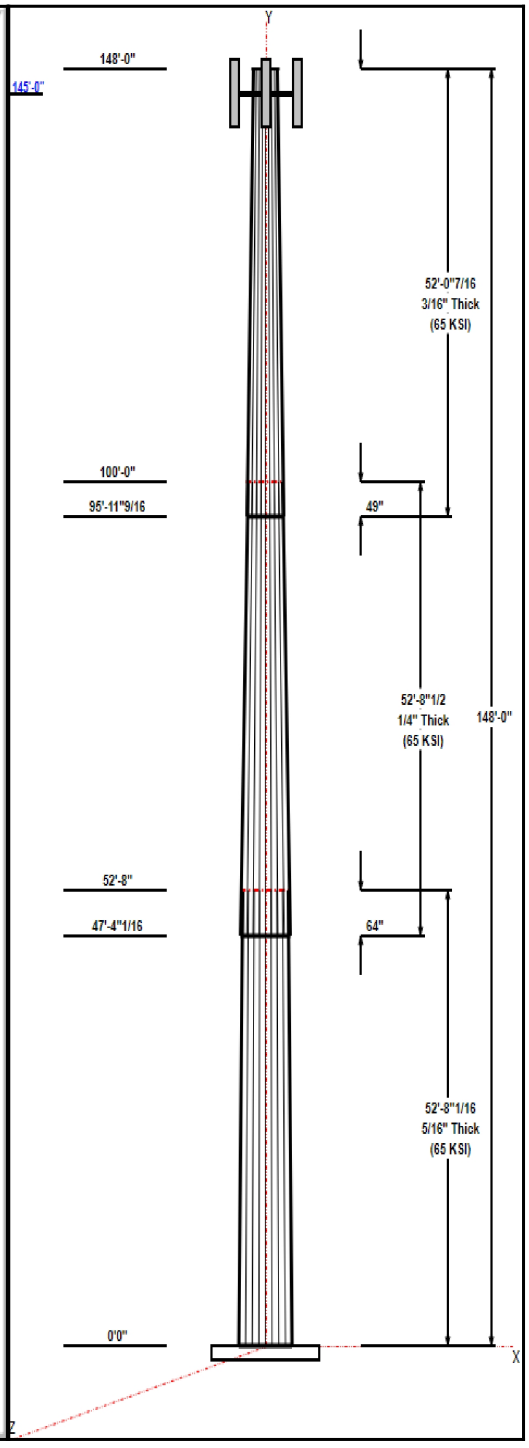
Usage Diagram - Max Ratio 66.39% at 100.0ft

Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

Dead Load Factor:	1.20	**Iterations:**	26
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 101 mph Wind





Structure: CT46145-A-SBA

Type: Tapered
Site Name: Eastford-desiato/Ssusa
Height: 148.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.21706

12/16/2020

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	52.67	36.82	48.25	0.313		0.21706	65
2	52.71	27.03	38.48	0.250	Slip	0.21706	65
3	52.04	17.00	28.30	0.188	Slip	0.21706	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
145.00	145.00	1	F4P-HRK10	Sprint Nextel
145.00	145.00	1	F4P-10W	T-Mobile Sprint
145.00	145.00	3	AIR32	T-Mobile Sprint
145.00	145.00	3	APXVAALL24_43-U-NA20	T-Mobile Sprint
145.00	145.00	3	AIR6449 B41	T-Mobile Sprint
145.00	145.00	3	Ericsson 4415 B25 RRU	T-Mobile Sprint
145.00	145.00	6	ALU 800 MHz RRH	T-Mobile Sprint
145.00	145.00	3	Ericsson 4449 B71 + B85	T-Mobile Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	145.00	Inside	2" Hybrid	T-Mobile Sprint

Anchor Bolts

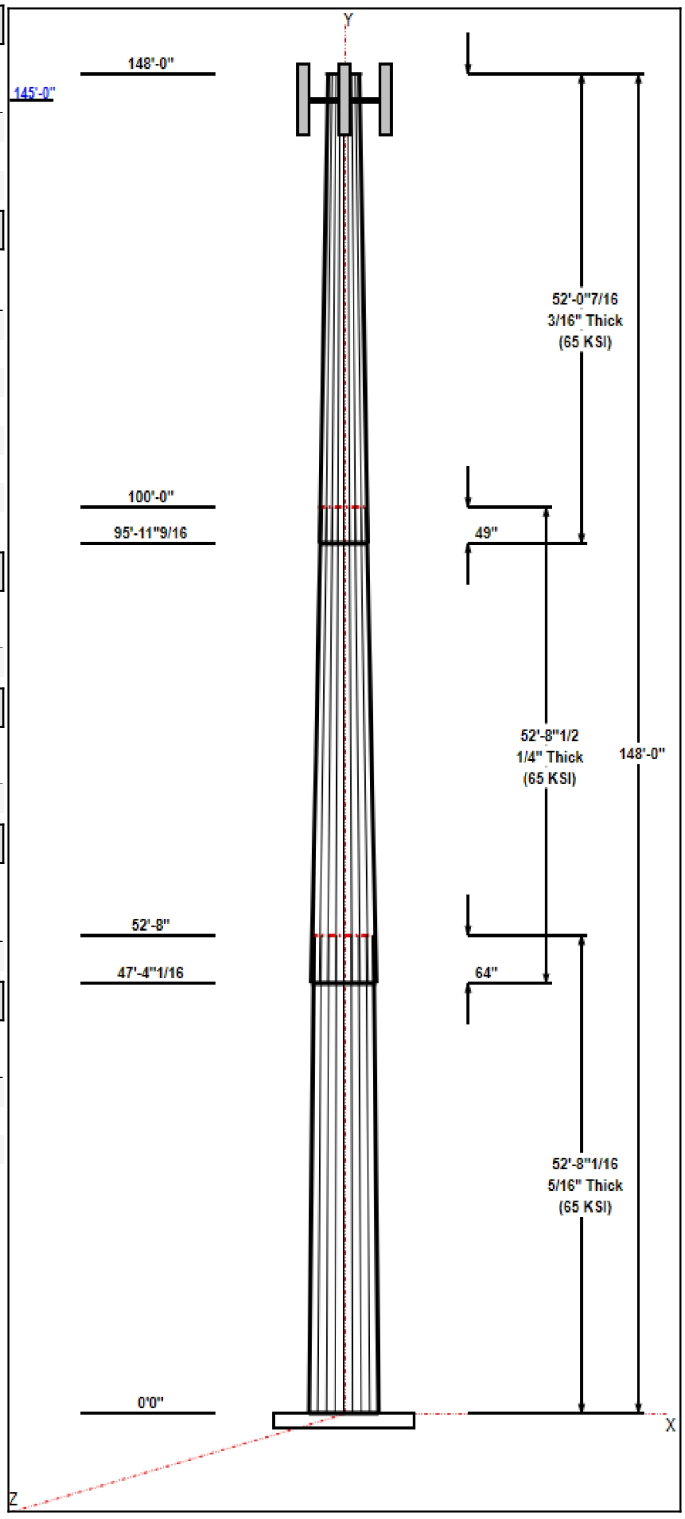
Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	63.0	60.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	1730.3	16.6	23.2
0.9D + 1.6W 101 mph Wind	1710.6	16.5	17.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	562.0	5.1	42.7
1.0D + 1.0W 60 mph Wind	379.3	3.6	19.3

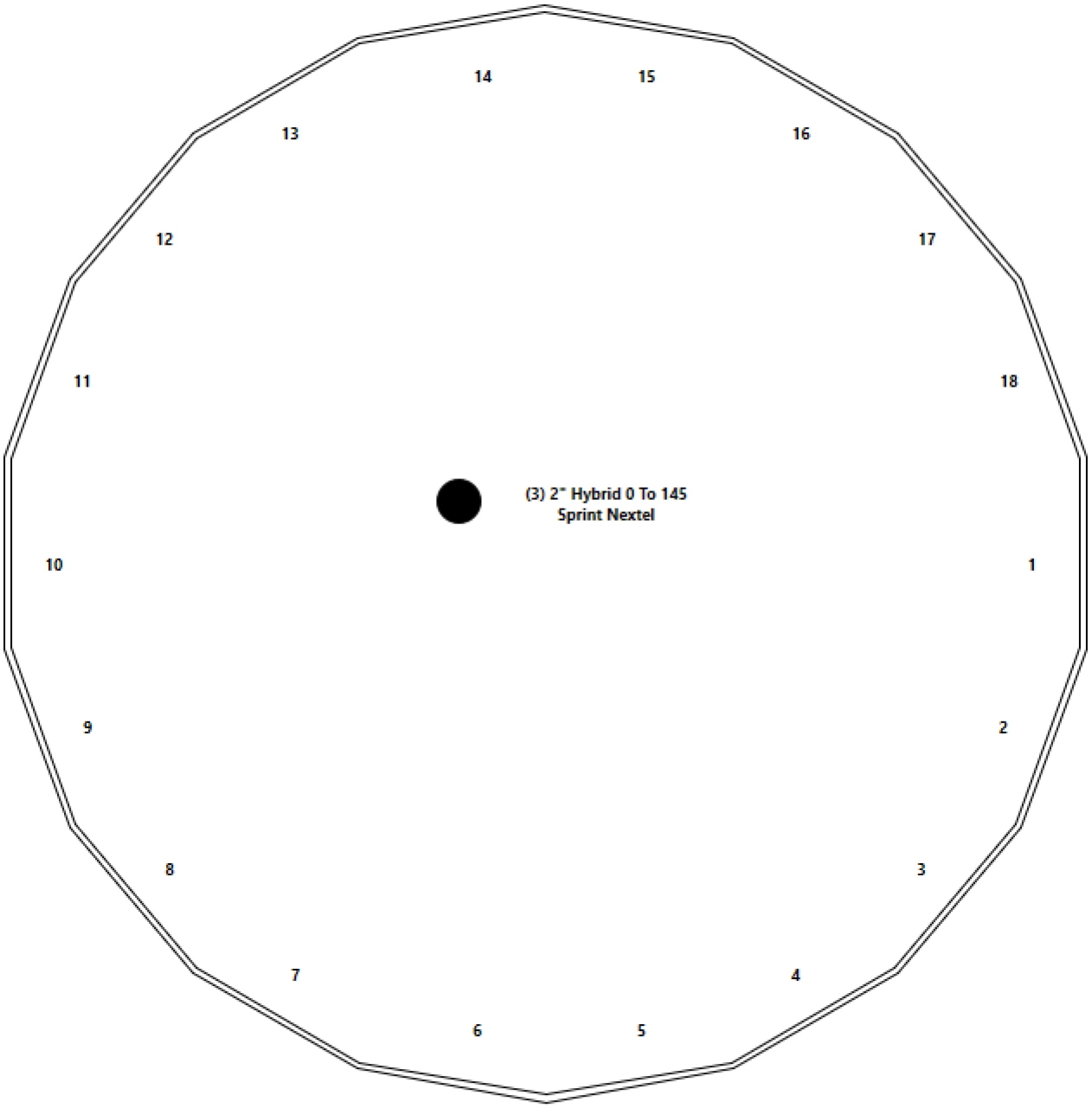


Structure: CT46145-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Eastford-desiato/Ssusa
Height: 148.00 (ft)

12/16/2020

Tower Engineering Solutions



Shaft Properties

Structure:	CT46145-A-SBA		**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Eastford-desiato/Ssusa		**Exposure:**	B	
Height:	148.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 4

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	52.670	0.3125	65		0.00	7,505
2	18	52.710	0.2500	65	Slip	64.00	4,626
3	18	52.037	0.1875	65	Slip	49.00	2,367
					Total Shaft Weight:		**14,498**

	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	48.25	0.00	47.55	13804.50	25.81	154.40	36.82	52.67	36.21	6096.04	19.36	117.8	0.217061
2	38.48	47.34	30.33	5599.24	25.73	153.90	27.03	100.05	21.25	1926.20	17.66	108.1	0.217061
3	28.30	95.96	16.73	1669.62	25.20	150.91	17.00	148.00	10.01	357.31	14.58	90.67	0.217061

Load Summary

Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (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

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	145.00	F4P-HRK10	1	478.27	9.00	1.00	1099.39	23.193	1.00	0.00	0.00
2	145.00	F4P-10W	1	2396.00	58.98	1.00	5507.65	51.990	1.00	0.00	0.00
3	145.00	AIR32 KRD901146-1_B66A_B2A	3	132.20	6.51	0.87	392.16	8.092	0.87	0.00	0.00
4	145.00	APXVAALL24_43-U-NA20	3	99.00	20.24	0.73	690.89	22.796	0.73	0.00	0.00
5	145.00	AIR6449 B41	3	103.00	5.65	0.71	285.21	6.913	0.71	0.00	0.00
6	145.00	Ericsson 4415 B25 RRU	3	46.30	1.86	0.67	134.65	2.637	0.67	0.00	0.00
7	145.00	ALU 800 MHz RRH	6	53.00	2.49	0.67	151.28	4.010	0.67	0.00	0.00
8	145.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	149.93	2.727	0.67	0.00	0.00
		Totals:	**23**	**4,553.37**			**12,473.24**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	145.00	(3) 2" Hybrid	0.00	Inside

Shaft Section Properties

Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (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

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3125	48.250	47.546	13804.5	25.81	154.40	71.0	563.5	0.0
5.00		0.3125	47.165	46.470	12888.0	25.20	150.93	71.8	538.2	799.8
10.00		0.3125	46.079	45.393	12012.9	24.59	147.45	72.5	513.5	781.5
15.00		0.3125	44.994	44.317	11178.4	23.98	143.98	73.2	489.3	763.2
20.00		0.3125	43.909	43.241	10383.5	23.36	140.51	73.9	465.8	744.8
25.00		0.3125	42.823	42.164	9627.1	22.75	137.04	74.6	442.8	726.5
30.00		0.3125	41.738	41.088	8908.5	22.14	133.56	75.4	420.4	708.2
35.00		0.3125	40.653	40.011	8226.5	21.53	130.09	76.1	398.6	689.9
40.00		0.3125	39.568	38.935	7580.2	20.92	126.62	76.8	377.3	671.6
45.00		0.3125	38.482	37.858	6968.7	20.30	123.14	77.5	356.7	653.3
47.34	Bot - Section 2	0.3125	37.975	37.355	6694.6	20.02	121.52	77.9	347.2	299.0
50.00		0.3125	37.397	36.782	6391.0	19.69	119.67	78.2	336.6	608.7
52.67	Top - Section 1	0.2500	37.317	29.412	5105.8	24.91	149.27	0.0	0.0	600.9
55.00		0.2500	36.812	29.011	4899.6	24.55	147.25	72.5	262.2	231.6
60.00		0.2500	35.726	28.149	4476.1	23.79	142.91	73.4	246.8	486.3
65.00		0.2500	34.641	27.288	4077.7	23.02	138.56	74.3	231.9	471.6
70.00		0.2500	33.556	26.427	3703.8	22.26	134.22	75.2	217.4	457.0
75.00		0.2500	32.470	25.566	3353.3	21.49	129.88	76.1	203.4	442.3
80.00		0.2500	31.385	24.705	3025.8	20.73	125.54	77.0	189.9	427.7
85.00		0.2500	30.300	23.844	2720.3	19.96	121.20	77.9	176.8	413.0
90.00		0.2500	29.215	22.983	2436.0	19.19	116.86	78.8	164.2	398.3
95.00		0.2500	28.129	22.121	2172.3	18.43	112.52	79.7	152.1	383.7
95.96	Bot - Section 3	0.2500	27.920	21.955	2123.8	18.28	111.68	79.9	149.8	72.2
100.00		0.2500	27.044	21.260	1928.4	17.66	108.18	80.6	140.4	523.0
100.05	Top - Section 2	0.1875	27.409	16.199	1516.6	24.36	146.18	0.0	0.0	5.9
105.00		0.1875	26.334	15.560	1343.9	23.35	140.45	73.9	100.5	267.7
110.00		0.1875	25.248	14.914	1183.4	22.33	134.66	75.1	92.3	259.2
115.00		0.1875	24.163	14.268	1036.2	21.31	128.87	76.3	84.5	248.2
120.00		0.1875	23.078	13.622	901.8	20.29	123.08	77.5	77.0	237.3
125.00		0.1875	21.992	12.976	779.5	19.27	117.29	78.7	69.8	226.3
130.00		0.1875	20.907	12.330	668.8	18.25	111.50	79.9	63.0	215.3
135.00		0.1875	19.822	11.684	569.1	17.23	105.72	81.1	56.5	204.3
140.00		0.1875	18.736	11.039	479.9	16.21	99.93	82.3	50.4	193.3
145.00		0.1875	17.651	10.393	400.5	15.19	94.14	82.5	44.7	182.3
148.00		0.1875	17.000	10.005	357.3	14.58	90.67	82.5	41.4	104.1
										14498.0

Wind Loading - Shaft

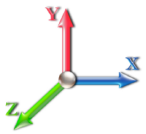
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	17.366	19.10	345.01	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.366	19.10	337.25	0.650	0.000	5.00	20.185	13.12	401.0	0.0	959.7
10.00		1.00	0.70	17.366	19.10	329.49	0.650	0.000	5.00	19.726	12.82	391.9	0.0	937.8
15.00		1.00	0.70	17.366	19.10	321.73	0.650	0.000	5.00	19.266	12.52	382.8	0.0	915.8
20.00		1.00	0.70	17.366	19.10	313.97	0.650	0.000	5.00	18.807	12.22	373.6	0.0	893.8
25.00		1.00	0.70	17.366	19.10	306.21	0.650	0.000	5.00	18.348	11.93	364.5	0.0	871.8
30.00		1.00	0.70	17.381	19.12	298.58	0.650	0.000	5.00	17.889	11.63	355.7	0.0	849.9
35.00		1.00	0.73	18.163	19.98	297.29	0.650	0.000	5.00	17.430	11.33	362.2	0.0	827.9
40.00		1.00	0.76	18.870	20.76	294.92	0.650	0.000	5.00	16.970	11.03	366.3	0.0	805.9
45.00		1.00	0.79	19.516	21.47	291.70	0.650	0.000	5.00	16.511	10.73	368.6	0.0	783.9
47.34	Bot - Section 2	1.00	0.80	19.800	21.78	289.95	0.650	0.000	2.34	7.559	4.91	171.2	0.0	358.8
50.00		1.00	0.81	20.112	22.12	287.77	0.650	0.000	2.66	8.606	5.59	198.0	0.0	730.5
52.67	Top - Section 1	1.00	0.82	20.413	22.45	285.43	0.650	0.000	2.67	8.497	5.52	198.4	0.0	721.1
55.00		1.00	0.83	20.667	22.73	287.15	0.650	0.000	2.33	7.308	4.75	172.8	0.0	277.9
60.00		1.00	0.85	21.187	23.31	282.17	0.650	0.000	5.00	15.345	9.97	371.9	0.0	583.5
65.00		1.00	0.87	21.678	23.85	276.75	0.650	0.000	5.00	14.886	9.68	369.2	0.0	565.9
70.00		1.00	0.89	22.142	24.36	270.93	0.650	0.000	5.00	14.427	9.38	365.4	0.0	548.3
75.00		1.00	0.91	22.582	24.84	264.76	0.650	0.000	5.00	13.968	9.08	360.8	0.0	530.8
80.00		1.00	0.93	23.003	25.30	258.28	0.650	0.000	5.00	13.508	8.78	355.5	0.0	513.2
85.00		1.00	0.94	23.404	25.74	251.52	0.650	0.000	5.00	13.049	8.48	349.4	0.0	495.6
90.00		1.00	0.96	23.790	26.17	244.50	0.650	0.000	5.00	12.590	8.18	342.6	0.0	478.0
95.00		1.00	0.97	24.160	26.58	237.24	0.650	0.000	5.00	12.131	7.89	335.3	0.0	460.4
95.96	Bot - Section 3	1.00	0.98	24.230	26.65	235.82	0.650	0.000	0.96	2.284	1.48	63.3	0.0	86.7
100.00		1.00	0.99	24.517	26.97	229.77	0.650	0.000	4.04	9.515	6.18	266.9	0.0	627.6
100.05	Top - Section 2	1.00	0.99	24.520	26.97	229.70	0.650	0.000	0.05	0.108	0.07	3.0	0.0	7.1
105.00		1.00	1.00	24.861	27.35	225.30	0.650	0.000	4.95	11.263	7.32	320.3	0.0	321.2
110.00		1.00	1.02	25.194	27.71	217.45	0.650	0.000	5.00	10.912	7.09	314.5	0.0	311.1
115.00		1.00	1.03	25.516	28.07	209.43	0.650	0.000	5.00	10.453	6.79	305.1	0.0	297.9
120.00		1.00	1.04	25.828	28.41	201.24	0.650	0.000	5.00	9.994	6.50	295.3	0.0	284.7
125.00		1.00	1.05	26.131	28.74	192.90	0.650	0.000	5.00	9.534	6.20	285.0	0.0	271.5
130.00		1.00	1.07	26.425	29.07	184.41	0.650	0.000	5.00	9.075	5.90	274.4	0.0	258.3
135.00		1.00	1.08	26.712	29.38	175.78	0.650	0.000	5.00	8.616	5.60	263.3	0.0	245.2
140.00		1.00	1.09	26.991	29.69	167.03	0.650	0.000	5.00	8.157	5.30	251.9	0.0	232.0
145.00	Appurtenance(s)	1.00	1.10	27.263	29.99	158.14	0.650	0.000	5.00	7.698	5.00	240.1	0.0	218.8
148.00		1.00	1.11	27.423	30.17	152.75	0.650	0.000	3.00	4.398	2.86	138.0	0.0	124.9
								Totals:	**148.00**			**9,978.3**		**17,397.6**

Discrete Appurtenance Forces

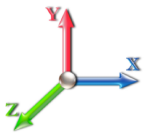
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	145.00	F4P-10W	1	27.263	29.989	1.00	1.00	58.98	2875.20	0.000	0.000	2830.01	0.00	0.00
2	145.00	F4P-HRK10	1	27.263	29.989	1.00	1.00	9.00	573.92	0.000	0.000	431.84	0.00	0.00
3	145.00	AIR32	3	27.263	29.989	0.65	0.75	12.74	475.92	0.000	0.000	611.46	0.00	0.00
4	145.00	APXVAALL24_43-U-NA20	3	27.263	29.989	0.55	0.75	33.24	356.40	0.000	0.000	1595.14	0.00	0.00
5	145.00	AIR6449 B41	3	27.263	29.989	0.53	0.75	9.03	370.80	0.000	0.000	433.08	0.00	0.00
6	145.00	Ericsson 4415 B25 RRU	3	27.263	29.989	0.50	0.75	2.80	166.68	0.000	0.000	134.54	0.00	0.00
7	145.00	ALU 800 MHz RRH	6	27.263	29.989	0.50	0.75	7.51	381.60	0.000	0.000	360.22	0.00	0.00
8	145.00	Ericsson 4449 B71 + B85	3	27.263	29.989	0.50	0.75	2.97	263.52	0.000	0.000	142.50	0.00	0.00
							Totals:		**5,464.04**			**6,538.79**		

Total Applied Force Summary

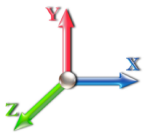
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		401.01	971.63	0.00	0.00
10.00		391.89	949.65	0.00	0.00
15.00		382.76	927.67	0.00	0.00
20.00		373.64	905.70	0.00	0.00
25.00		364.52	883.72	0.00	0.00
30.00		355.69	861.74	0.00	0.00
35.00		362.17	839.76	0.00	0.00
40.00		366.34	817.79	0.00	0.00
45.00		368.63	795.81	0.00	0.00
47.34		171.22	364.37	0.00	0.00
50.00		198.01	736.82	0.00	0.00
52.67		198.42	727.39	0.00	0.00
55.00		172.78	283.46	0.00	0.00
60.00		371.94	595.39	0.00	0.00
65.00		369.16	577.81	0.00	0.00
70.00		365.43	560.23	0.00	0.00
75.00		360.84	542.64	0.00	0.00
80.00		355.47	525.06	0.00	0.00
85.00		349.39	507.48	0.00	0.00
90.00		342.65	489.90	0.00	0.00
95.00		335.29	472.32	0.00	0.00
95.96		63.32	88.98	0.00	0.00
100.00		266.88	637.17	0.00	0.00
100.05		3.04	7.25	0.00	0.00
105.00		320.33	332.95	0.00	0.00
110.00		314.50	322.96	0.00	0.00
115.00		305.12	309.78	0.00	0.00
120.00		295.28	296.59	0.00	0.00
125.00		285.02	283.40	0.00	0.00
130.00		274.35	270.22	0.00	0.00
135.00		263.29	257.03	0.00	0.00
140.00		251.86	243.84	0.00	0.00
145.00	(23) attachments	6778.87	5694.70	0.00	0.00
148.00		137.98	124.94	0.00	0.00
	Totals:	**16,517.09**	**23,206.13**	**0.00**	**0.00**

Calculated Forces

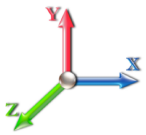
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-23.18	-16.55	0.00	-1730.2	0.00	1730.26	3039.86	1519.93	5995.78	3002.34	0.00	0.000	0.000	0.584
5.00	-22.16	-16.22	0.00	-1647.5	0.00	1647.50	3001.16	1500.58	5784.56	2896.58	0.09	-0.174	0.000	0.576
10.00	-21.16	-15.89	0.00	-1566.4	0.00	1566.41	2961.07	1480.53	5574.20	2791.24	0.37	-0.351	0.000	0.568
15.00	-20.19	-15.56	0.00	-1486.9	0.00	1486.97	2919.58	1459.79	5364.88	2686.43	0.84	-0.532	0.000	0.561
20.00	-19.24	-15.24	0.00	-1409.1	0.00	1409.16	2876.69	1438.34	5156.78	2582.22	1.49	-0.716	0.000	0.553
25.00	-18.31	-14.93	0.00	-1332.9	0.00	1332.95	2832.41	1416.20	4950.10	2478.73	2.34	-0.904	0.000	0.544
30.00	-17.40	-14.61	0.00	-1258.3	0.00	1258.32	2786.73	1393.36	4745.03	2376.04	3.39	-1.096	0.000	0.536
35.00	-16.52	-14.29	0.00	-1185.2	0.00	1185.26	2739.66	1369.83	4541.75	2274.25	4.64	-1.291	0.000	0.527
40.00	-15.67	-13.96	0.00	-1113.8	0.00	1113.80	2691.19	1345.59	4340.45	2173.45	6.10	-1.490	0.000	0.518
45.00	-14.85	-13.61	0.00	-1044.0	0.00	1044.01	2641.32	1320.66	4141.32	2073.74	7.77	-1.692	0.000	0.509
47.34	-14.46	-13.45	0.00	-1012.2	0.00	1012.21	2617.54	1308.77	4049.05	2027.54	8.62	-1.790	0.000	0.505
50.00	-13.71	-13.26	0.00	-976.38	0.00	976.38	2590.07	1295.03	3944.54	1975.20	9.65	-1.903	0.000	0.500
52.67	-12.96	-13.06	0.00	-940.98	0.00	940.98	1908.61	954.30	2910.23	1457.28	10.75	-2.017	0.000	0.653
55.00	-12.64	-12.92	0.00	-910.56	0.00	910.56	1893.52	946.76	2847.57	1425.90	11.76	-2.117	0.000	0.645
60.00	-12.01	-12.57	0.00	-845.98	0.00	845.98	1860.12	930.06	2713.74	1358.89	14.11	-2.372	0.000	0.629
65.00	-11.39	-12.23	0.00	-783.11	0.00	783.11	1825.33	912.66	2580.95	1292.39	16.74	-2.631	0.000	0.612
70.00	-10.79	-11.89	0.00	-721.95	0.00	721.95	1789.14	894.57	2449.37	1226.50	19.63	-2.894	0.000	0.595
75.00	-10.22	-11.55	0.00	-662.50	0.00	662.50	1751.55	875.78	2319.19	1161.32	22.80	-3.160	0.000	0.576
80.00	-9.66	-11.21	0.00	-604.75	0.00	604.75	1712.57	856.29	2190.61	1096.93	26.25	-3.428	0.000	0.557
85.00	-9.12	-10.87	0.00	-548.71	0.00	548.71	1672.20	836.10	2063.81	1033.44	29.99	-3.699	0.000	0.537
90.00	-8.61	-10.54	0.00	-494.34	0.00	494.34	1630.42	815.21	1938.98	970.93	34.01	-3.972	0.000	0.515
95.00	-8.13	-10.19	0.00	-441.65	0.00	441.65	1587.26	793.63	1816.30	909.50	38.31	-4.245	0.000	0.491
95.96	-8.02	-10.14	0.00	-431.83	0.00	431.83	1578.78	789.39	1792.93	897.80	39.17	-4.301	0.000	0.486
100.00	-7.39	-9.84	0.00	-390.88	0.00	390.88	1542.69	771.35	1695.98	849.25	42.90	-4.523	0.000	0.465
100.05	-7.36	-9.86	0.00	-390.42	0.00	390.42	1060.56	530.28	1187.41	594.59	42.95	-4.526	0.000	0.664
105.00	-7.00	-9.55	0.00	-341.59	0.00	341.59	1035.33	517.66	1113.06	557.36	47.78	-4.793	0.000	0.620
110.00	-6.66	-9.25	0.00	-293.85	0.00	293.85	1008.46	504.23	1038.86	520.20	52.98	-5.130	0.000	0.572
115.00	-6.33	-8.95	0.00	-247.62	0.00	247.62	980.21	490.10	965.69	483.57	58.52	-5.455	0.000	0.519
120.00	-6.01	-8.66	0.00	-202.88	0.00	202.88	950.55	475.28	893.76	447.54	64.39	-5.764	0.000	0.460
125.00	-5.72	-8.37	0.00	-159.60	0.00	159.60	919.50	459.75	823.24	412.23	70.57	-6.050	0.000	0.394
130.00	-5.45	-8.09	0.00	-117.74	0.00	117.74	887.06	443.53	754.32	377.72	77.04	-6.303	0.000	0.318
135.00	-5.20	-7.82	0.00	-77.28	0.00	77.28	853.21	426.61	687.20	344.11	83.74	-6.511	0.000	0.231
140.00	-4.97	-7.55	0.00	-38.19	0.00	38.19	817.98	408.99	622.06	311.49	90.63	-6.655	0.000	0.129
145.00	-0.11	-0.15	0.00	-0.45	0.00	0.45	772.13	386.06	552.49	276.66	97.63	-6.712	0.000	0.002
148.00	0.00	-0.14	0.00	0.00	0.00	0.00	743.33	371.67	511.84	256.30	101.84	-6.713	0.000	0.000

Wind Loading - Shaft

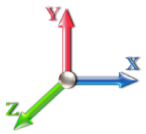
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	17.366	19.10	345.01	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.366	19.10	337.25	0.650	0.000	5.00	20.185	13.12	401.0	0.0	719.8
10.00		1.00	0.70	17.366	19.10	329.49	0.650	0.000	5.00	19.726	12.82	391.9	0.0	703.3
15.00		1.00	0.70	17.366	19.10	321.73	0.650	0.000	5.00	19.266	12.52	382.8	0.0	686.8
20.00		1.00	0.70	17.366	19.10	313.97	0.650	0.000	5.00	18.807	12.22	373.6	0.0	670.4
25.00		1.00	0.70	17.366	19.10	306.21	0.650	0.000	5.00	18.348	11.93	364.5	0.0	653.9
30.00		1.00	0.70	17.381	19.12	298.58	0.650	0.000	5.00	17.889	11.63	355.7	0.0	637.4
35.00		1.00	0.73	18.163	19.98	297.29	0.650	0.000	5.00	17.430	11.33	362.2	0.0	620.9
40.00		1.00	0.76	18.870	20.76	294.92	0.650	0.000	5.00	16.970	11.03	366.3	0.0	604.4
45.00		1.00	0.79	19.516	21.47	291.70	0.650	0.000	5.00	16.511	10.73	368.6	0.0	587.9
47.34	Bot - Section 2	1.00	0.80	19.800	21.78	289.95	0.650	0.000	2.34	7.559	4.91	171.2	0.0	269.1
50.00		1.00	0.81	20.112	22.12	287.77	0.650	0.000	2.66	8.606	5.59	198.0	0.0	547.9
52.67	Top - Section 1	1.00	0.82	20.413	22.45	285.43	0.650	0.000	2.67	8.497	5.52	198.4	0.0	540.8
55.00		1.00	0.83	20.667	22.73	287.15	0.650	0.000	2.33	7.308	4.75	172.8	0.0	208.4
60.00		1.00	0.85	21.187	23.31	282.17	0.650	0.000	5.00	15.345	9.97	371.9	0.0	437.6
65.00		1.00	0.87	21.678	23.85	276.75	0.650	0.000	5.00	14.886	9.68	369.2	0.0	424.4
70.00		1.00	0.89	22.142	24.36	270.93	0.650	0.000	5.00	14.427	9.38	365.4	0.0	411.3
75.00		1.00	0.91	22.582	24.84	264.76	0.650	0.000	5.00	13.968	9.08	360.8	0.0	398.1
80.00		1.00	0.93	23.003	25.30	258.28	0.650	0.000	5.00	13.508	8.78	355.5	0.0	384.9
85.00		1.00	0.94	23.404	25.74	251.52	0.650	0.000	5.00	13.049	8.48	349.4	0.0	371.7
90.00		1.00	0.96	23.790	26.17	244.50	0.650	0.000	5.00	12.590	8.18	342.6	0.0	358.5
95.00		1.00	0.97	24.160	26.58	237.24	0.650	0.000	5.00	12.131	7.89	335.3	0.0	345.3
95.96	Bot - Section 3	1.00	0.98	24.230	26.65	235.82	0.650	0.000	0.96	2.284	1.48	63.3	0.0	65.0
100.00		1.00	0.99	24.517	26.97	229.77	0.650	0.000	4.04	9.515	6.18	266.9	0.0	470.7
100.05	Top - Section 2	1.00	0.99	24.520	26.97	229.70	0.650	0.000	0.05	0.108	0.07	3.0	0.0	5.4
105.00		1.00	1.00	24.861	27.35	225.30	0.650	0.000	4.95	11.263	7.32	320.3	0.0	240.9
110.00		1.00	1.02	25.194	27.71	217.45	0.650	0.000	5.00	10.912	7.09	314.5	0.0	233.3
115.00		1.00	1.03	25.516	28.07	209.43	0.650	0.000	5.00	10.453	6.79	305.1	0.0	223.4
120.00		1.00	1.04	25.828	28.41	201.24	0.650	0.000	5.00	9.994	6.50	295.3	0.0	213.5
125.00		1.00	1.05	26.131	28.74	192.90	0.650	0.000	5.00	9.534	6.20	285.0	0.0	203.6
130.00		1.00	1.07	26.425	29.07	184.41	0.650	0.000	5.00	9.075	5.90	274.4	0.0	193.8
135.00		1.00	1.08	26.712	29.38	175.78	0.650	0.000	5.00	8.616	5.60	263.3	0.0	183.9
140.00		1.00	1.09	26.991	29.69	167.03	0.650	0.000	5.00	8.157	5.30	251.9	0.0	174.0
145.00	Appurtenance(s)	1.00	1.10	27.263	29.99	158.14	0.650	0.000	5.00	7.698	5.00	240.1	0.0	164.1
148.00		1.00	1.11	27.423	30.17	152.75	0.650	0.000	3.00	4.398	2.86	138.0	0.0	93.7
								Totals:	**148.00**			**9,978.3**		**13,048.2**

Discrete Appurtenance Forces

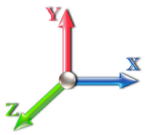
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	145.00	F4P-10W	1	27.263	29.989	1.00	1.00	58.98	2156.40	0.000	0.000	2830.01	0.00	0.00
2	145.00	F4P-HRK10	1	27.263	29.989	1.00	1.00	9.00	430.44	0.000	0.000	431.84	0.00	0.00
3	145.00	AIR32	3	27.263	29.989	0.65	0.75	12.74	356.94	0.000	0.000	611.46	0.00	0.00
4	145.00	APXVAALL24_43-U-NA20	3	27.263	29.989	0.55	0.75	33.24	267.30	0.000	0.000	1595.14	0.00	0.00
5	145.00	AIR6449 B41	3	27.263	29.989	0.53	0.75	9.03	278.10	0.000	0.000	433.08	0.00	0.00
6	145.00	Ericsson 4415 B25 RRU	3	27.263	29.989	0.50	0.75	2.80	125.01	0.000	0.000	134.54	0.00	0.00
7	145.00	ALU 800 MHz RRH	6	27.263	29.989	0.50	0.75	7.51	286.20	0.000	0.000	360.22	0.00	0.00
8	145.00	Ericsson 4449 B71 + B85	3	27.263	29.989	0.50	0.75	2.97	197.64	0.000	0.000	142.50	0.00	0.00
							Totals:		**4,098.03**			**6,538.79**		

Total Applied Force Summary

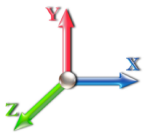
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		401.01	728.72	0.00	0.00
10.00		391.89	712.24	0.00	0.00
15.00		382.76	695.75	0.00	0.00
20.00		373.64	679.27	0.00	0.00
25.00		364.52	662.79	0.00	0.00
30.00		355.69	646.31	0.00	0.00
35.00		362.17	629.82	0.00	0.00
40.00		366.34	613.34	0.00	0.00
45.00		368.63	596.86	0.00	0.00
47.34		171.22	273.28	0.00	0.00
50.00		198.01	552.61	0.00	0.00
52.67		198.42	545.55	0.00	0.00
55.00		172.78	212.59	0.00	0.00
60.00		371.94	446.54	0.00	0.00
65.00		369.16	433.36	0.00	0.00
70.00		365.43	420.17	0.00	0.00
75.00		360.84	406.98	0.00	0.00
80.00		355.47	393.80	0.00	0.00
85.00		349.39	380.61	0.00	0.00
90.00		342.65	367.42	0.00	0.00
95.00		335.29	354.24	0.00	0.00
95.96		63.32	66.73	0.00	0.00
100.00		266.88	477.88	0.00	0.00
100.05		3.04	5.44	0.00	0.00
105.00		320.33	249.71	0.00	0.00
110.00		314.50	242.22	0.00	0.00
115.00		305.12	232.33	0.00	0.00
120.00		295.28	222.44	0.00	0.00
125.00		285.02	212.55	0.00	0.00
130.00		274.35	202.66	0.00	0.00
135.00		263.29	192.77	0.00	0.00
140.00		251.86	182.88	0.00	0.00
145.00	(23) attachments	6778.87	4271.03	0.00	0.00
148.00		137.98	93.70	0.00	0.00
	Totals:	**16,517.09**	**17,404.60**	**0.00**	**0.00**

Calculated Forces

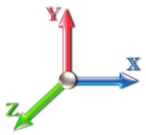
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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	-17.38	-16.54	0.00	-1710.6	0.00	1710.64	3039.86	1519.93	5995.78	3002.34	0.00	0.000	0.000	0.576
5.00	-16.60	-16.19	0.00	-1627.9	0.00	1627.92	3001.16	1500.58	5784.56	2896.58	0.09	-0.172	0.000	0.568
10.00	-15.84	-15.85	0.00	-1546.9	0.00	1546.96	2961.07	1480.53	5574.20	2791.24	0.37	-0.347	0.000	0.560
15.00	-15.10	-15.51	0.00	-1467.7	0.00	1467.74	2919.58	1459.79	5364.88	2686.43	0.83	-0.526	0.000	0.552
20.00	-14.38	-15.17	0.00	-1390.2	0.00	1390.21	2876.69	1438.34	5156.78	2582.22	1.47	-0.708	0.000	0.543
25.00	-13.67	-14.84	0.00	-1314.3	0.00	1314.36	2832.41	1416.20	4950.10	2478.73	2.31	-0.893	0.000	0.535
30.00	-12.98	-14.52	0.00	-1240.1	0.00	1240.16	2786.73	1393.36	4745.03	2376.04	3.35	-1.082	0.000	0.527
35.00	-12.31	-14.18	0.00	-1167.5	0.00	1167.57	2739.66	1369.83	4541.75	2274.25	4.59	-1.274	0.000	0.518
40.00	-11.66	-13.84	0.00	-1096.6	0.00	1096.65	2691.19	1345.59	4340.45	2173.45	6.02	-1.470	0.000	0.509
45.00	-11.04	-13.49	0.00	-1027.4	0.00	1027.43	2641.32	1320.66	4141.32	2073.74	7.67	-1.669	0.000	0.500
47.34	-10.75	-13.33	0.00	-995.91	0.00	995.91	2617.54	1308.77	4049.05	2027.54	8.51	-1.765	0.000	0.495
50.00	-10.18	-13.13	0.00	-960.42	0.00	960.42	2590.07	1295.03	3944.54	1975.20	9.53	-1.876	0.000	0.490
52.67	-9.61	-12.93	0.00	-925.36	0.00	925.36	1908.61	954.30	2910.23	1457.28	10.61	-1.988	0.000	0.640
55.00	-9.37	-12.78	0.00	-895.23	0.00	895.23	1893.52	946.76	2847.57	1425.90	11.60	-2.087	0.000	0.633
60.00	-8.88	-12.43	0.00	-831.32	0.00	831.32	1860.12	930.06	2713.74	1358.89	13.92	-2.338	0.000	0.617
65.00	-8.41	-12.08	0.00	-769.16	0.00	769.16	1825.33	912.66	2580.95	1292.39	16.51	-2.592	0.000	0.600
70.00	-7.96	-11.73	0.00	-708.75	0.00	708.75	1789.14	894.57	2449.37	1226.50	19.36	-2.850	0.000	0.582
75.00	-7.52	-11.39	0.00	-650.09	0.00	650.09	1751.55	875.78	2319.19	1161.32	22.48	-3.111	0.000	0.564
80.00	-7.09	-11.04	0.00	-593.16	0.00	593.16	1712.57	856.29	2190.61	1096.93	25.88	-3.375	0.000	0.545
85.00	-6.68	-10.70	0.00	-537.95	0.00	537.95	1672.20	836.10	2063.81	1033.44	29.56	-3.640	0.000	0.525
90.00	-6.29	-10.36	0.00	-484.44	0.00	484.44	1630.42	815.21	1938.98	970.93	33.51	-3.908	0.000	0.503
95.00	-5.93	-10.02	0.00	-432.62	0.00	432.62	1587.26	793.63	1816.30	909.50	37.74	-4.175	0.000	0.480
95.96	-5.85	-9.97	0.00	-422.97	0.00	422.97	1578.78	789.39	1792.93	897.80	38.59	-4.229	0.000	0.475
100.00	-5.37	-9.68	0.00	-382.73	0.00	382.73	1542.69	771.35	1695.98	849.25	42.26	-4.447	0.000	0.454
100.05	-5.35	-9.68	0.00	-382.28	0.00	382.28	1060.56	530.28	1187.41	594.59	42.30	-4.450	0.000	0.648
105.00	-5.07	-9.37	0.00	-334.31	0.00	334.31	1035.33	517.66	1113.06	557.36	47.05	-4.712	0.000	0.605
110.00	-4.81	-9.07	0.00	-287.45	0.00	287.45	1008.46	504.23	1038.86	520.20	52.16	-5.041	0.000	0.558
115.00	-4.56	-8.77	0.00	-242.12	0.00	242.12	980.21	490.10	965.69	483.57	57.61	-5.359	0.000	0.506
120.00	-4.32	-8.47	0.00	-198.30	0.00	198.30	950.55	475.28	893.76	447.54	63.38	-5.662	0.000	0.448
125.00	-4.10	-8.19	0.00	-155.94	0.00	155.94	919.50	459.75	823.24	412.23	69.45	-5.941	0.000	0.383
130.00	-3.90	-7.91	0.00	-115.01	0.00	115.01	887.06	443.53	754.32	377.72	75.80	-6.188	0.000	0.309
135.00	-3.71	-7.64	0.00	-75.47	0.00	75.47	853.21	426.61	687.20	344.11	82.38	-6.391	0.000	0.224
140.00	-3.54	-7.37	0.00	-37.30	0.00	37.30	817.98	408.99	622.06	311.49	89.14	-6.532	0.000	0.124
145.00	-0.08	-0.15	0.00	-0.44	0.00	0.44	772.13	386.06	552.49	276.66	96.01	-6.588	0.000	0.002
148.00	0.00	-0.14	0.00	0.00	0.00	0.00	743.33	371.67	511.84	256.30	100.14	-6.588	0.000	0.000

Wind Loading - Shaft

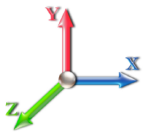
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.656	5.00	21.565	25.88	121.1	506.4	1466.1
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.775	5.00	21.205	25.45	119.1	532.0	1469.7
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.848	5.00	20.807	24.97	116.9	542.3	1458.0
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.902	5.00	20.392	24.47	114.6	545.8	1439.6
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.945	5.00	19.969	23.96	112.2	545.4	1417.2
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.981	5.00	19.540	23.45	109.9	542.4	1392.2
35.00		1.00	0.73	4.451	4.90	0.00	1.200	2.012	5.00	19.106	22.93	112.3	537.5	1365.4
40.00		1.00	0.76	4.625	5.09	0.00	1.200	2.039	5.00	18.669	22.40	114.0	531.2	1337.1
45.00		1.00	0.79	4.783	5.26	0.00	1.200	2.063	5.00	18.230	21.88	115.1	523.8	1307.7
47.34	Bot - Section 2	1.00	0.80	4.852	5.34	0.00	1.200	2.073	2.34	8.366	10.04	53.6	243.0	601.8
50.00		1.00	0.81	4.929	5.42	0.00	1.200	2.085	2.66	9.531	11.44	62.0	278.0	1008.5
52.67	Top - Section 1	1.00	0.82	5.003	5.50	0.00	1.200	2.096	2.67	9.429	11.32	62.3	276.2	997.2
55.00		1.00	0.83	5.065	5.57	0.00	1.200	2.105	2.33	8.125	9.75	54.3	239.0	516.9
60.00		1.00	0.85	5.193	5.71	0.00	1.200	2.123	5.00	17.115	20.54	117.3	503.2	1086.7
65.00		1.00	0.87	5.313	5.84	0.00	1.200	2.140	5.00	16.670	20.00	116.9	492.9	1058.8
70.00		1.00	0.89	5.426	5.97	0.00	1.200	2.156	5.00	16.224	19.47	116.2	482.1	1030.4
75.00		1.00	0.91	5.534	6.09	0.00	1.200	2.171	5.00	15.777	18.93	115.3	470.9	1001.6
80.00		1.00	0.93	5.637	6.20	0.00	1.200	2.185	5.00	15.329	18.40	114.1	459.2	972.4
85.00		1.00	0.94	5.736	6.31	0.00	1.200	2.198	5.00	14.881	17.86	112.7	447.3	942.9
90.00		1.00	0.96	5.830	6.41	0.00	1.200	2.211	5.00	14.433	17.32	111.1	435.0	913.0
95.00		1.00	0.97	5.921	6.51	0.00	1.200	2.223	5.00	13.983	16.78	109.3	422.4	882.8
95.96	Bot - Section 3	1.00	0.98	5.938	6.53	0.00	1.200	2.225	0.96	2.642	3.17	20.7	80.9	167.6
100.00		1.00	0.99	6.008	6.61	0.00	1.200	2.234	4.04	11.019	13.22	87.4	334.8	962.4
100.05	Top - Section 2	1.00	0.99	6.009	6.61	0.00	1.200	2.235	0.05	0.126	0.15	1.0	3.9	11.0
105.00		1.00	1.00	6.093	6.70	0.00	1.200	2.245	4.95	13.117	15.74	105.5	397.9	719.1
110.00		1.00	1.02	6.174	6.79	0.00	1.200	2.256	5.00	12.792	15.35	104.3	388.3	699.4
115.00		1.00	1.03	6.253	6.88	0.00	1.200	2.266	5.00	12.341	14.81	101.9	374.8	672.7
120.00		1.00	1.04	6.330	6.96	0.00	1.200	2.276	5.00	11.890	14.27	99.3	361.1	645.8
125.00		1.00	1.05	6.404	7.04	0.00	1.200	2.285	5.00	11.439	13.73	96.7	347.1	618.6
130.00		1.00	1.07	6.476	7.12	0.00	1.200	2.294	5.00	10.987	13.18	93.9	333.0	591.4
135.00		1.00	1.08	6.546	7.20	0.00	1.200	2.303	5.00	10.535	12.64	91.0	318.7	563.9
140.00		1.00	1.09	6.615	7.28	0.00	1.200	2.311	5.00	10.083	12.10	88.0	304.3	536.3
145.00	Appurtenance(s)	1.00	1.10	6.681	7.35	0.00	1.200	2.319	5.00	9.630	11.56	84.9	289.7	508.5
148.00		1.00	1.11	6.721	7.39	0.00	1.200	2.324	3.00	5.560	6.67	49.3	168.5	293.5
								Totals:	**148.00**			**3,204.1**		**30,656.4**

Discrete Appurtenance Forces

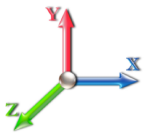
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

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	145.00	F4P-10W	1	6.681	7.350	1.00	1.00	151.99	5295.85	0.000	0.000	1117.06	0.00	0.00
2	145.00	F4P-HRK10	1	6.681	7.350	1.00	1.00	23.19	573.92	0.000	0.000	170.46	0.00	0.00
3	145.00	AIR32	3	6.681	7.350	0.65	0.75	15.84	1255.81	0.000	0.000	116.42	0.00	0.00
4	145.00	APXVAALL24_43-U-NA20	3	6.681	7.350	0.55	0.75	37.44	2132.08	0.000	0.000	275.18	0.00	0.00
5	145.00	AIR6449 B41	3	6.681	7.350	0.53	0.75	11.04	822.32	0.000	0.000	81.17	0.00	0.00
6	145.00	Ericsson 4415 B25 RRU	3	6.681	7.350	0.50	0.75	3.98	431.73	0.000	0.000	29.22	0.00	0.00
7	145.00	ALU 800 MHz RRH	6	6.681	7.350	0.50	0.75	12.09	844.68	0.000	0.000	88.85	0.00	0.00
8	145.00	Ericsson 4449 B71 + B85	3	6.681	7.350	0.50	0.75	4.11	318.51	0.000	0.000	30.21	0.00	0.00
							Totals:		**11,674.89**			**1,908.57**		

Total Applied Force Summary

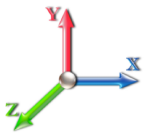
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		121.15	1478.03	0.00	0.00
10.00		119.13	1481.62	0.00	0.00
15.00		116.89	1469.93	0.00	0.00
20.00		114.56	1451.47	0.00	0.00
25.00		112.18	1429.09	0.00	0.00
30.00		109.86	1404.12	0.00	0.00
35.00		112.26	1377.26	0.00	0.00
40.00		113.96	1348.98	0.00	0.00
45.00		115.09	1319.58	0.00	0.00
47.34		53.59	607.37	0.00	0.00
50.00		62.01	1014.84	0.00	0.00
52.67		62.27	1003.58	0.00	0.00
55.00		54.32	522.47	0.00	0.00
60.00		117.30	1098.57	0.00	0.00
65.00		116.90	1070.70	0.00	0.00
70.00		116.21	1042.33	0.00	0.00
75.00		115.26	1013.52	0.00	0.00
80.00		114.07	984.31	0.00	0.00
85.00		112.67	954.75	0.00	0.00
90.00		111.07	924.87	0.00	0.00
95.00		109.29	894.69	0.00	0.00
95.96		20.71	169.88	0.00	0.00
100.00		87.39	972.01	0.00	0.00
100.05		1.00	11.12	0.00	0.00
105.00		105.49	730.87	0.00	0.00
110.00		104.26	711.30	0.00	0.00
115.00		101.87	684.57	0.00	0.00
120.00		99.34	657.65	0.00	0.00
125.00		96.69	630.53	0.00	0.00
130.00		93.92	603.23	0.00	0.00
135.00		91.03	575.77	0.00	0.00
140.00		88.04	548.14	0.00	0.00
145.00	(23) attachments	1993.50	12195.26	0.00	0.00
148.00		49.33	293.47	0.00	0.00
	Totals:	**5,112.62**	**42,675.86**	**0.00**	**0.00**

Calculated Forces

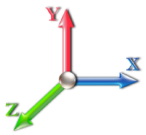
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

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 25

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	-42.67	-5.13	0.00	-561.96	0.00	561.96	3039.86	1519.93	5995.78	3002.34	0.00	0.000	0.000	0.201
5.00	-41.19	-5.05	0.00	-536.30	0.00	536.30	3001.16	1500.58	5784.56	2896.58	0.03	-0.057	0.000	0.199
10.00	-39.70	-4.97	0.00	-511.03	0.00	511.03	2961.07	1480.53	5574.20	2791.24	0.12	-0.114	0.000	0.197
15.00	-38.23	-4.89	0.00	-486.18	0.00	486.18	2919.58	1459.79	5364.88	2686.43	0.27	-0.173	0.000	0.194
20.00	-36.77	-4.81	0.00	-461.72	0.00	461.72	2876.69	1438.34	5156.78	2582.22	0.49	-0.234	0.000	0.192
25.00	-35.34	-4.73	0.00	-437.67	0.00	437.67	2832.41	1416.20	4950.10	2478.73	0.76	-0.295	0.000	0.189
30.00	-33.93	-4.65	0.00	-414.02	0.00	414.02	2786.73	1393.36	4745.03	2376.04	1.11	-0.358	0.000	0.186
35.00	-32.55	-4.57	0.00	-390.77	0.00	390.77	2739.66	1369.83	4541.75	2274.25	1.52	-0.423	0.000	0.184
40.00	-31.20	-4.48	0.00	-367.95	0.00	367.95	2691.19	1345.59	4340.45	2173.45	1.99	-0.488	0.000	0.181
45.00	-29.87	-4.38	0.00	-345.56	0.00	345.56	2641.32	1320.66	4141.32	2073.74	2.54	-0.555	0.000	0.178
47.34	-29.26	-4.33	0.00	-335.34	0.00	335.34	2617.54	1308.77	4049.05	2027.54	2.82	-0.588	0.000	0.177
50.00	-28.25	-4.28	0.00	-323.80	0.00	323.80	2590.07	1295.03	3944.54	1975.20	3.16	-0.625	0.000	0.175
52.67	-27.24	-4.22	0.00	-312.37	0.00	312.37	1908.61	954.30	2910.23	1457.28	3.52	-0.663	0.000	0.229
55.00	-26.72	-4.19	0.00	-302.54	0.00	302.54	1893.52	946.76	2847.57	1425.90	3.85	-0.696	0.000	0.226
60.00	-25.61	-4.10	0.00	-281.59	0.00	281.59	1860.12	930.06	2713.74	1358.89	4.63	-0.781	0.000	0.221
65.00	-24.54	-4.00	0.00	-261.10	0.00	261.10	1825.33	912.66	2580.95	1292.39	5.49	-0.867	0.000	0.215
70.00	-23.49	-3.91	0.00	-241.10	0.00	241.10	1789.14	894.57	2449.37	1226.50	6.44	-0.955	0.000	0.210
75.00	-22.47	-3.81	0.00	-221.57	0.00	221.57	1751.55	875.78	2319.19	1161.32	7.49	-1.044	0.000	0.204
80.00	-21.49	-3.71	0.00	-202.54	0.00	202.54	1712.57	856.29	2190.61	1096.93	8.63	-1.134	0.000	0.197
85.00	-20.53	-3.61	0.00	-184.00	0.00	184.00	1672.20	836.10	2063.81	1033.44	9.87	-1.224	0.000	0.190
90.00	-19.60	-3.51	0.00	-165.95	0.00	165.95	1630.42	815.21	1938.98	970.93	11.20	-1.316	0.000	0.183
95.00	-18.71	-3.40	0.00	-148.41	0.00	148.41	1587.26	793.63	1816.30	909.50	12.63	-1.408	0.000	0.175
95.96	-18.53	-3.39	0.00	-145.14	0.00	145.14	1578.78	789.39	1792.93	897.80	12.91	-1.426	0.000	0.173
100.00	-17.56	-3.29	0.00	-131.47	0.00	131.47	1542.69	771.35	1695.98	849.25	14.15	-1.501	0.000	0.166
100.05	-17.55	-3.30	0.00	-131.32	0.00	131.32	1060.56	530.28	1187.41	594.59	14.17	-1.502	0.000	0.237
105.00	-16.81	-3.20	0.00	-114.98	0.00	114.98	1035.33	517.66	1113.06	557.36	15.77	-1.592	0.000	0.223
110.00	-16.10	-3.11	0.00	-98.96	0.00	98.96	1008.46	504.23	1038.86	520.20	17.50	-1.705	0.000	0.206
115.00	-15.41	-3.02	0.00	-83.41	0.00	83.41	980.21	490.10	965.69	483.57	19.35	-1.815	0.000	0.188
120.00	-14.75	-2.92	0.00	-68.34	0.00	68.34	950.55	475.28	893.76	447.54	21.30	-1.919	0.000	0.168
125.00	-14.12	-2.83	0.00	-53.73	0.00	53.73	919.50	459.75	823.24	412.23	23.37	-2.015	0.000	0.146
130.00	-13.52	-2.73	0.00	-39.60	0.00	39.60	887.06	443.53	754.32	377.72	25.52	-2.100	0.000	0.120
135.00	-12.95	-2.63	0.00	-25.96	0.00	25.96	853.21	426.61	687.20	344.11	27.76	-2.170	0.000	0.091
140.00	-12.40	-2.53	0.00	-12.82	0.00	12.82	817.98	408.99	622.06	311.49	30.06	-2.219	0.000	0.056
145.00	-0.29	-0.06	0.00	-0.18	0.00	0.18	772.13	386.06	552.49	276.66	32.40	-2.238	0.000	0.001
148.00	0.00	-0.05	0.00	0.00	0.00	0.00	743.33	371.67	511.84	256.30	33.81	-2.238	0.000	0.000

Wind Loading - Shaft

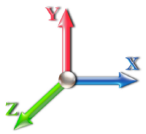
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.74	204.96	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	200.35	0.650	0.000	5.00	20.185	13.12	88.4	0.0	799.8
10.00		1.00	0.70	6.129	6.74	195.74	0.650	0.000	5.00	19.726	12.82	86.4	0.0	781.5
15.00		1.00	0.70	6.129	6.74	191.13	0.650	0.000	5.00	19.266	12.52	84.4	0.0	763.2
20.00		1.00	0.70	6.129	6.74	186.52	0.650	0.000	5.00	18.807	12.22	82.4	0.0	744.8
25.00		1.00	0.70	6.129	6.74	181.91	0.650	0.000	5.00	18.348	11.93	80.4	0.0	726.5
30.00		1.00	0.70	6.134	6.75	177.37	0.650	0.000	5.00	17.889	11.63	78.5	0.0	708.2
35.00		1.00	0.73	6.410	7.05	176.61	0.650	0.000	5.00	17.430	11.33	79.9	0.0	689.9
40.00		1.00	0.76	6.659	7.33	175.20	0.650	0.000	5.00	16.970	11.03	80.8	0.0	671.6
45.00		1.00	0.79	6.887	7.58	173.29	0.650	0.000	5.00	16.511	10.73	81.3	0.0	653.3
47.34	Bot - Section 2	1.00	0.80	6.988	7.69	172.24	0.650	0.000	2.34	7.559	4.91	37.8	0.0	299.0
50.00		1.00	0.81	7.098	7.81	170.95	0.650	0.000	2.66	8.606	5.59	43.7	0.0	608.7
52.67	Top - Section 1	1.00	0.82	7.204	7.92	169.56	0.650	0.000	2.67	8.497	5.52	43.8	0.0	600.9
55.00		1.00	0.83	7.294	8.02	170.59	0.650	0.000	2.33	7.308	4.75	38.1	0.0	231.6
60.00		1.00	0.85	7.477	8.22	167.63	0.650	0.000	5.00	15.345	9.97	82.0	0.0	486.3
65.00		1.00	0.87	7.650	8.42	164.40	0.650	0.000	5.00	14.886	9.68	81.4	0.0	471.6
70.00		1.00	0.89	7.814	8.60	160.95	0.650	0.000	5.00	14.427	9.38	80.6	0.0	457.0
75.00		1.00	0.91	7.969	8.77	157.29	0.650	0.000	5.00	13.968	9.08	79.6	0.0	442.3
80.00		1.00	0.93	8.118	8.93	153.44	0.650	0.000	5.00	13.508	8.78	78.4	0.0	427.7
85.00		1.00	0.94	8.260	9.09	149.42	0.650	0.000	5.00	13.049	8.48	77.1	0.0	413.0
90.00		1.00	0.96	8.396	9.24	145.25	0.650	0.000	5.00	12.590	8.18	75.6	0.0	398.3
95.00		1.00	0.97	8.526	9.38	140.94	0.650	0.000	5.00	12.131	7.89	74.0	0.0	383.7
95.96	Bot - Section 3	1.00	0.98	8.551	9.41	140.09	0.650	0.000	0.96	2.284	1.48	14.0	0.0	72.2
100.00		1.00	0.99	8.652	9.52	136.50	0.650	0.000	4.04	9.515	6.18	58.9	0.0	523.0
100.05	Top - Section 2	1.00	0.99	8.653	9.52	136.45	0.650	0.000	0.05	0.108	0.07	0.7	0.0	5.9
105.00		1.00	1.00	8.774	9.65	133.84	0.650	0.000	4.95	11.263	7.32	70.7	0.0	267.7
110.00		1.00	1.02	8.891	9.78	129.18	0.650	0.000	5.00	10.912	7.09	69.4	0.0	259.2
115.00		1.00	1.03	9.005	9.91	124.41	0.650	0.000	5.00	10.453	6.79	67.3	0.0	248.2
120.00		1.00	1.04	9.115	10.03	119.55	0.650	0.000	5.00	9.994	6.50	65.1	0.0	237.3
125.00		1.00	1.05	9.222	10.14	114.59	0.650	0.000	5.00	9.534	6.20	62.9	0.0	226.3
130.00		1.00	1.07	9.326	10.26	109.55	0.650	0.000	5.00	9.075	5.90	60.5	0.0	215.3
135.00		1.00	1.08	9.427	10.37	104.43	0.650	0.000	5.00	8.616	5.60	58.1	0.0	204.3
140.00		1.00	1.09	9.525	10.48	99.22	0.650	0.000	5.00	8.157	5.30	55.6	0.0	193.3
145.00	Appurtenance(s)	1.00	1.10	9.621	10.58	93.95	0.650	0.000	5.00	7.698	5.00	53.0	0.0	182.3
148.00		1.00	1.11	9.678	10.65	90.74	0.650	0.000	3.00	4.398	2.86	30.4	0.0	104.1
								Totals:	**148.00**			**2,200.9**		**14,498.0**

Discrete Appurtenance Forces

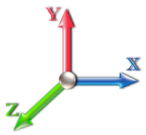
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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	145.00	F4P-10W	1	9.621	10.583	1.00	1.00	58.98	2396.00	0.000	0.000	624.20	0.00	0.00
2	145.00	F4P-HRK10	1	9.621	10.583	1.00	1.00	9.00	478.27	0.000	0.000	95.25	0.00	0.00
3	145.00	AIR32	3	9.621	10.583	0.65	0.75	12.74	396.60	0.000	0.000	134.87	0.00	0.00
4	145.00	APXVAALL24_43-U-NA20	3	9.621	10.583	0.55	0.75	33.24	297.00	0.000	0.000	351.83	0.00	0.00
5	145.00	AIR6449 B41	3	9.621	10.583	0.53	0.75	9.03	309.00	0.000	0.000	95.52	0.00	0.00
6	145.00	Ericsson 4415 B25 RRU	3	9.621	10.583	0.50	0.75	2.80	138.90	0.000	0.000	29.68	0.00	0.00
7	145.00	ALU 800 MHz RRH	6	9.621	10.583	0.50	0.75	7.51	318.00	0.000	0.000	79.45	0.00	0.00
8	145.00	Ericsson 4449 B71 + B85	3	9.621	10.583	0.50	0.75	2.97	219.60	0.000	0.000	31.43	0.00	0.00
							Totals:		**4,553.37**			**1,442.24**		

Total Applied Force Summary

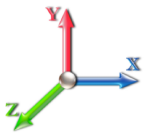
Structure:	CT46145-A-SBA		**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Eastford-desiato/Ssusa		**Exposure:**	B	
Height:	148.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 21

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		88.45	809.69	0.00	0.00
10.00		86.44	791.38	0.00	0.00
15.00		84.42	773.06	0.00	0.00
20.00		82.41	754.75	0.00	0.00
25.00		80.40	736.43	0.00	0.00
30.00		78.45	718.12	0.00	0.00
35.00		79.88	699.80	0.00	0.00
40.00		80.80	681.49	0.00	0.00
45.00		81.31	663.17	0.00	0.00
47.34		37.76	303.64	0.00	0.00
50.00		43.67	614.01	0.00	0.00
52.67		43.76	606.16	0.00	0.00
55.00		38.11	236.21	0.00	0.00
60.00		82.04	496.16	0.00	0.00
65.00		81.42	481.51	0.00	0.00
70.00		80.60	466.85	0.00	0.00
75.00		79.59	452.20	0.00	0.00
80.00		78.41	437.55	0.00	0.00
85.00		77.06	422.90	0.00	0.00
90.00		75.58	408.25	0.00	0.00
95.00		73.95	393.60	0.00	0.00
95.96		13.97	74.15	0.00	0.00
100.00		58.86	530.97	0.00	0.00
100.05		0.67	6.04	0.00	0.00
105.00		70.65	277.46	0.00	0.00
110.00		69.37	269.14	0.00	0.00
115.00		67.30	258.15	0.00	0.00
120.00		65.13	247.16	0.00	0.00
125.00		62.87	236.17	0.00	0.00
130.00		60.51	225.18	0.00	0.00
135.00		58.07	214.19	0.00	0.00
140.00		55.55	203.20	0.00	0.00
145.00	(23) attachments	1495.19	4745.58	0.00	0.00
148.00		30.43	104.11	0.00	0.00
	Totals:	**3,643.12**	**19,338.45**	**0.00**	**0.00**

Calculated Forces

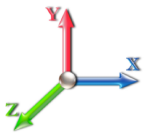
Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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	-19.34	-3.65	0.00	-379.27	0.00	379.27	3039.86	1519.93	5995.78	3002.34	0.00	0.000	0.000	0.133
5.00	-18.53	-3.57	0.00	-361.03	0.00	361.03	3001.16	1500.58	5784.56	2896.58	0.02	-0.038	0.000	0.131
10.00	-17.73	-3.50	0.00	-343.16	0.00	343.16	2961.07	1480.53	5574.20	2791.24	0.08	-0.077	0.000	0.129
15.00	-16.96	-3.42	0.00	-325.68	0.00	325.68	2919.58	1459.79	5364.88	2686.43	0.18	-0.117	0.000	0.127
20.00	-16.20	-3.35	0.00	-308.56	0.00	308.56	2876.69	1438.34	5156.78	2582.22	0.33	-0.157	0.000	0.125
25.00	-15.46	-3.28	0.00	-291.81	0.00	291.81	2832.41	1416.20	4950.10	2478.73	0.51	-0.198	0.000	0.123
30.00	-14.74	-3.21	0.00	-275.41	0.00	275.41	2786.73	1393.36	4745.03	2376.04	0.74	-0.240	0.000	0.121
35.00	-14.04	-3.14	0.00	-259.37	0.00	259.37	2739.66	1369.83	4541.75	2274.25	1.02	-0.283	0.000	0.119
40.00	-13.36	-3.06	0.00	-243.68	0.00	243.68	2691.19	1345.59	4340.45	2173.45	1.34	-0.326	0.000	0.117
45.00	-12.69	-2.98	0.00	-228.37	0.00	228.37	2641.32	1320.66	4141.32	2073.74	1.70	-0.370	0.000	0.115
47.34	-12.39	-2.95	0.00	-221.40	0.00	221.40	2617.54	1308.77	4049.05	2027.54	1.89	-0.392	0.000	0.114
50.00	-11.77	-2.91	0.00	-213.54	0.00	213.54	2590.07	1295.03	3944.54	1975.20	2.11	-0.417	0.000	0.113
52.67	-11.16	-2.86	0.00	-205.78	0.00	205.78	1908.61	954.30	2910.23	1457.28	2.35	-0.441	0.000	0.147
55.00	-10.93	-2.83	0.00	-199.11	0.00	199.11	1893.52	946.76	2847.57	1425.90	2.58	-0.463	0.000	0.145
60.00	-10.43	-2.75	0.00	-184.96	0.00	184.96	1860.12	930.06	2713.74	1358.89	3.09	-0.519	0.000	0.142
65.00	-9.95	-2.68	0.00	-171.19	0.00	171.19	1825.33	912.66	2580.95	1292.39	3.67	-0.576	0.000	0.138
70.00	-9.48	-2.60	0.00	-157.80	0.00	157.80	1789.14	894.57	2449.37	1226.50	4.30	-0.633	0.000	0.134
75.00	-9.02	-2.53	0.00	-144.79	0.00	144.79	1751.55	875.78	2319.19	1161.32	4.99	-0.691	0.000	0.130
80.00	-8.58	-2.45	0.00	-132.16	0.00	132.16	1712.57	856.29	2190.61	1096.93	5.75	-0.750	0.000	0.125
85.00	-8.16	-2.38	0.00	-119.90	0.00	119.90	1672.20	836.10	2063.81	1033.44	6.57	-0.809	0.000	0.121
90.00	-7.75	-2.30	0.00	-108.01	0.00	108.01	1630.42	815.21	1938.98	970.93	7.45	-0.869	0.000	0.116
95.00	-7.36	-2.23	0.00	-96.49	0.00	96.49	1587.26	793.63	1816.30	909.50	8.39	-0.929	0.000	0.111
95.96	-7.28	-2.22	0.00	-94.35	0.00	94.35	1578.78	789.39	1792.93	897.80	8.58	-0.941	0.000	0.110
100.00	-6.75	-2.15	0.00	-85.40	0.00	85.40	1542.69	771.35	1695.98	849.25	9.39	-0.989	0.000	0.105
100.05	-6.74	-2.15	0.00	-85.30	0.00	85.30	1060.56	530.28	1187.41	594.59	9.40	-0.990	0.000	0.150
105.00	-6.46	-2.09	0.00	-74.63	0.00	74.63	1035.33	517.66	1113.06	557.36	10.46	-1.048	0.000	0.140
110.00	-6.19	-2.02	0.00	-64.19	0.00	64.19	1008.46	504.23	1038.86	520.20	11.60	-1.122	0.000	0.130
115.00	-5.94	-1.95	0.00	-54.09	0.00	54.09	980.21	490.10	965.69	483.57	12.81	-1.193	0.000	0.118
120.00	-5.69	-1.89	0.00	-44.32	0.00	44.32	950.55	475.28	893.76	447.54	14.10	-1.260	0.000	0.105
125.00	-5.45	-1.83	0.00	-34.86	0.00	34.86	919.50	459.75	823.24	412.23	15.45	-1.323	0.000	0.091
130.00	-5.23	-1.77	0.00	-25.72	0.00	25.72	887.06	443.53	754.32	377.72	16.87	-1.378	0.000	0.074
135.00	-5.01	-1.71	0.00	-16.88	0.00	16.88	853.21	426.61	687.20	344.11	18.34	-1.423	0.000	0.055
140.00	-4.81	-1.65	0.00	-8.34	0.00	8.34	817.98	408.99	622.06	311.49	19.85	-1.455	0.000	0.033
145.00	-0.10	-0.03	0.00	-0.10	0.00	0.10	772.13	386.06	552.49	276.66	21.38	-1.468	0.000	0.000
148.00	0.00	-0.03	0.00	0.00	0.00	0.00	743.33	371.67	511.84	256.30	22.30	-1.468	0.000	0.000

Final Analysis Summary

Structure:	CT46145-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Eastford-desiato/Ssusa	**Exposure:**	B		
Height:	148.00 (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	

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 101 mph Wind	16.6	0.00	23.18	0.00	0.00	1730.26
0.9D + 1.6W 101 mph Wind	16.5	0.00	17.38	0.00	0.00	1710.64
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.1	0.00	42.67	0.00	0.00	561.96
1.0D + 1.0W 60 mph Wind	3.6	0.00	19.34	0.00	0.00	379.27

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 101 mph Wind	-7.36	-9.86	0.00	-390.42	0.00	-390.42	1060.56	530.28	1187.41	594.59	100.05	0.664
0.9D + 1.6W 101 mph Wind	-5.35	-9.68	0.00	-382.28	0.00	-382.28	1060.56	530.28	1187.41	594.59	100.05	0.648
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-17.55	-3.30	0.00	-131.32	0.00	-131.32	1060.56	530.28	1187.41	594.59	100.05	0.237
1.0D + 1.0W 60 mph Wind	-6.74	-2.15	0.00	-85.30	0.00	-85.30	1060.56	530.28	1187.41	594.59	100.05	0.150

Monopole Mat Foundation Design

				Date
				12/16/2020
	Customer Name:	T-Mobile Sprint	**EIA/TIA Standard:**	EIA-222-G
	Site Name:		**Structure Height (Ft.):**	148
	Site Number:	CT46145-A-SBA	**Engineer Name:**	T. Alajaj
	Engr. Number:	100580	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

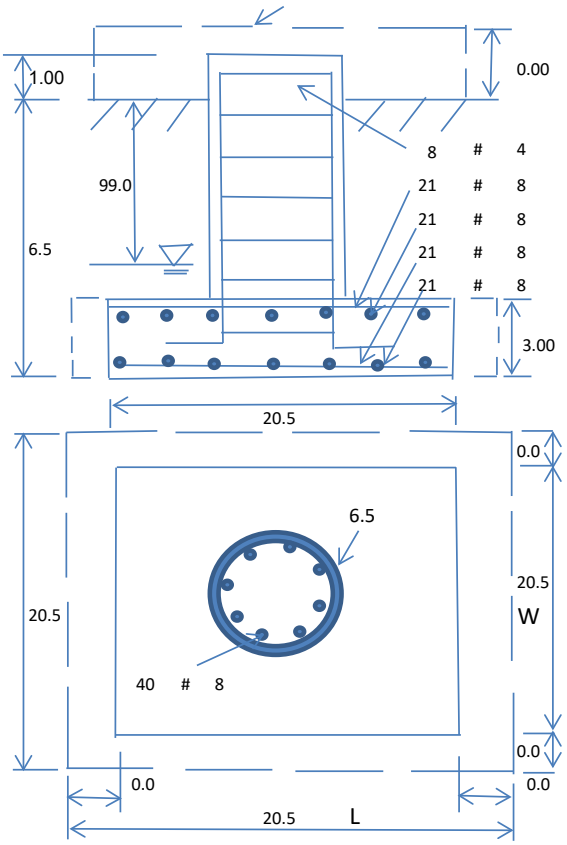
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	23.2	Shear Force (Kips):	16.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1730.3
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	6.5	Depth of Base BG (ft.):	6.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	3.00
Length of Pad (ft.):	20.5	Width of Pad (ft.):	20.5
Final Length of pad (ft)	20.5	Final width of pad (ft):	20.5



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	40	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	21	Qty. of Rebar in Pad (W):	21	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	21	Qty. of Rebar in Pad (W):	21	
Apply 1.35 factor for e/w Per G:	2.00			

Soil Design Parameters:

Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	12000	Ultimate Skin Friction:		Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	1354.73	Total Dry Soil Weight (Kips):	149.02
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	149.02	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1410.07	Total Dry Concrete Weight (Kips):	211.51
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	211.51	Total Vertical Load on Base (Kips):	383.73

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2262	<	Allowable Factored Soil Bearing (psf):	9000	0.25	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	3563.7	>	Design Factored Momont (kips-ft):	1715	0.48	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.08	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	0.79		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	4817.8	>	Design Factored Moment (Mu, Kips-F	1805.0	0.37	OK!
Calculated Shear Capacity (Kips):	517.4	>	Design Factored Shear (Kips):	16.6	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	1706.4	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	6294.2	>	Design Factored Axial Load (Pu Kips):	23.2	0.00	OK!
Moment & Axial Strength Combination:	0.37	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.007		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	656.9	>	One-Way Factored Shear (L-D. Kips):	154.3	0.23	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	656.9	>	One-Way Factored Shear (W-D., Kips)	154.3	0.23	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	547.1	>	One-Way Factored Shear (C-C, Kips):	151.1	0.28	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0021	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0021		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2367.1	>	Moment at Bottom (L-Dir. K-Ft):	719.9	0.30	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2367.1	>	Moment at Bottom (W-Dir. K-Ft):	719.9	0.30	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	3323.3	>	Moment at Bottom (C-C Dir. K-Ft):	1018.1	0.31	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0021	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0021		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	2367.1	>	Moment at the top (L-Dir K-Ft):	242.2	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	2367.1	>	Moment at the top (W-Dir K-Ft):	242.2	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	3323.3	>	Moment at the top (C-C Dir. K-Ft):	228.6	0.07	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	692.1	k-ft.	Max. factored shear stress v_{u_CD}:		2.3	Psi
Max. factored shear stress v_{u_AB}:	5.5	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	5.5	Psi	Check Usage of Punching Shear Capacity:		0.03	OK!

EXHIBIT 8

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

Antenna Mount Analysis Report

Existing 148'Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT46145-A-SBA / Eastford-desiato/Ssusa

Customer Site Name: Eastford-desiato/Ssusa

Carrier Name: T-Mobile Sprint (App#: 143991, V1)

Carrier Site ID / Name: CT33XC613

Site Location: 97 Chaplin Road

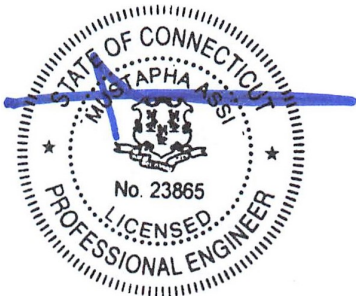
Eastford, Connecticut

Windham County

Latitude: 41.864389

Longitude: -72.096222

Exp.10/31/2021



Analysis Result:

Max Structural Usage: 78.2% [Pass]

03/18/2021

Report Prepared By : Dipika Dhungana

Introduction

The purpose of this report is to summarize the analysis results on the [MOUNTTYPE] at 145.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	SBA Site: CT46145-A-01 / Eastford-desiato/Ssusa, Application #: 143991, v1, dated 12/8/2020
Antenna Loading	SBA Site: CT46145-A-01 / Eastford-desiato/Ssusa, Application #: 143991, v1, dated 12/8/2020
Modification Drawings	N/A

Analysis Criteria

Basic Wind Speed Used in the Analysis: V_{ULT} = 130.0mph (3-Sec. Gust) / Equivalent to
V_{ASD} = 101.0 mph (3-Sec. Gust)
Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed: 30 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-G
Exposure Category: B
Structure Class: II
Topographic Category: 1
Crest Height (Ft): 0

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

Mount Information

Platform w/ Handrail (SitePro F4P-10W w/ F4P-HRK10) at 145.00' elevation

Final Antenna Configuration

3	Ericsson AIR32 KRD901146-1_B66A_B2A (Octo)
3	RFS RFS APXVAALL24_43-U-NA20
3	Ericsson AIR6449 B41
3	Ericsson 4415 B25
6	ALU 800 MHz RRH
3	Ericsson 4449 B71 + B85

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

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 78.2%, which occurs in the standoff. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

1. Mount Photos
2. Antenna Placement Diagram
3. Analysis Calculations

Standard Conditions

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

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

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

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

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

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

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

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

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

Structure: CT46145-A-SBA - Eastford-desiato/Ssusa

Sector: A

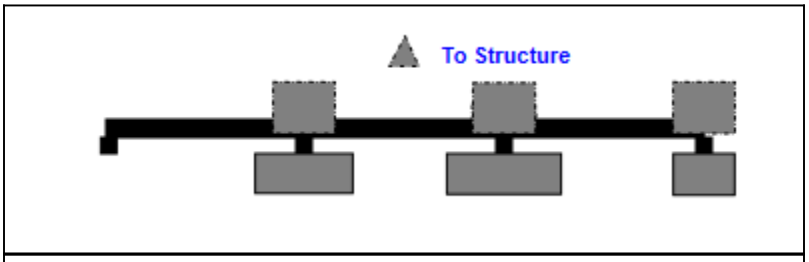
Structure Type: Monopole

Mount Elev: 145.00

3/18/2021

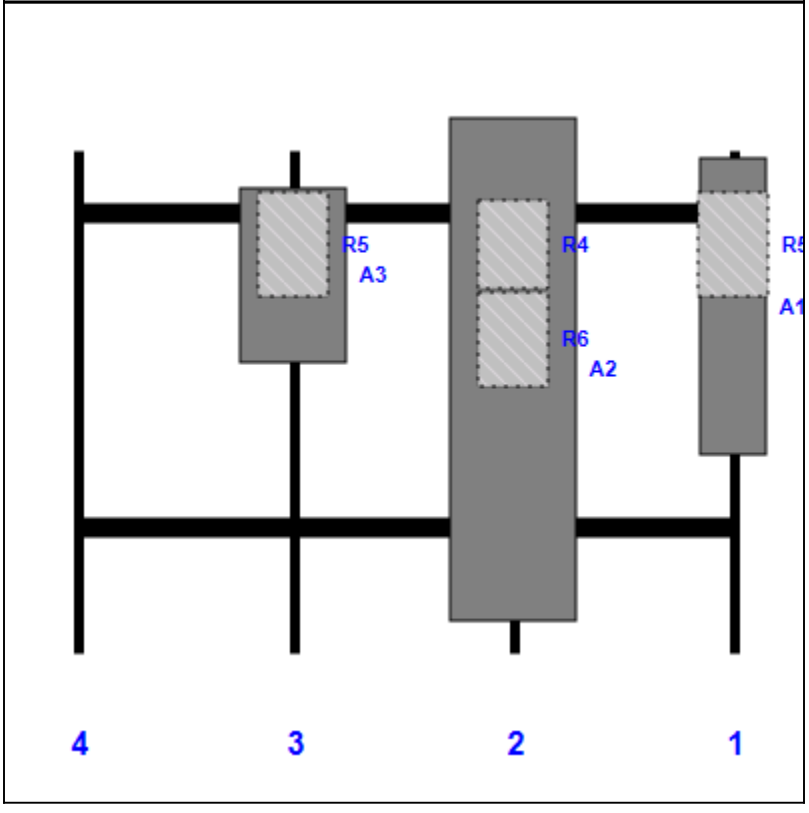
Tower Engineering Solutions

Plan View



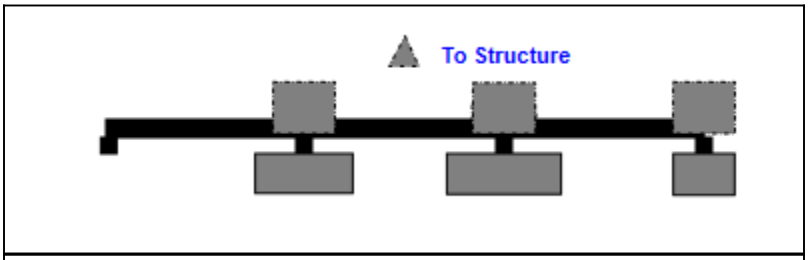
Front View

Looking Toward Structure



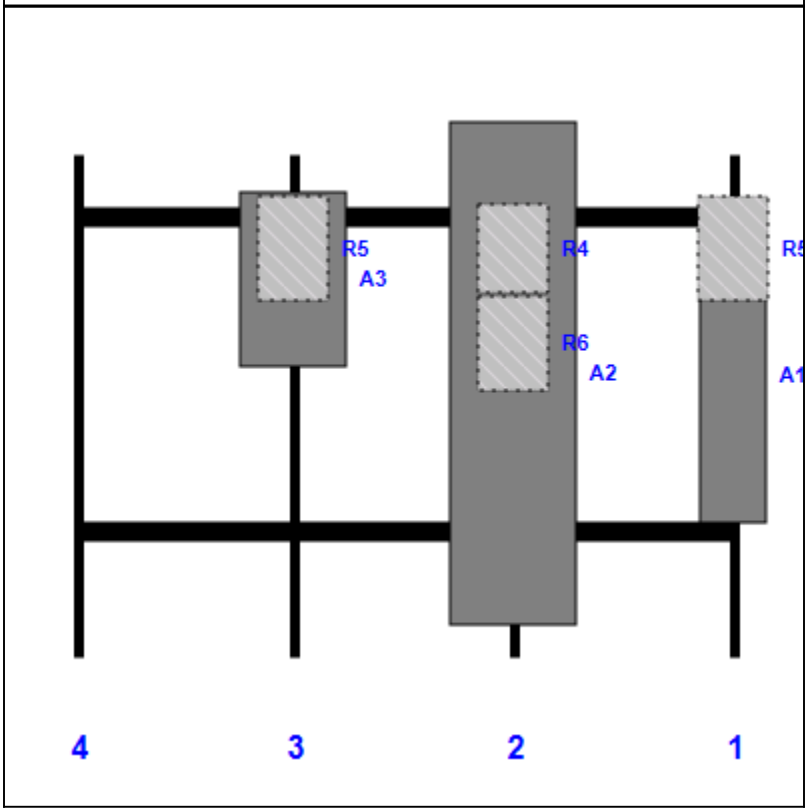
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	Ericsson AIR32 KRD901146-1_B66A_B2/	56.60	12.90	126.00	1	a	Front	30.00			
R5	ALU 800 MHz RRH	19.70	13.00	126.00	1	a	Behind	18.00			
A2	RFS APXVAALL24_43-U-NA20	95.90	24.00	84.00	2	a	Front	42.00			
R4	Ericsson 4415 B25	16.50	13.40	84.00	2	a	Behind	18.00			
R6	Ericsson 4449 B71 + B85	17.90	13.10	84.00	2	a	Behind	36.00			
A3	Ericsson AIR6449 B41	33.10	20.50	42.00	3	a	Front	24.00			
R5	ALU 800 MHz RRH	19.70	13.00	42.00	3	a	Behind	18.00			

Plan View



Front View

Looking Toward Structure



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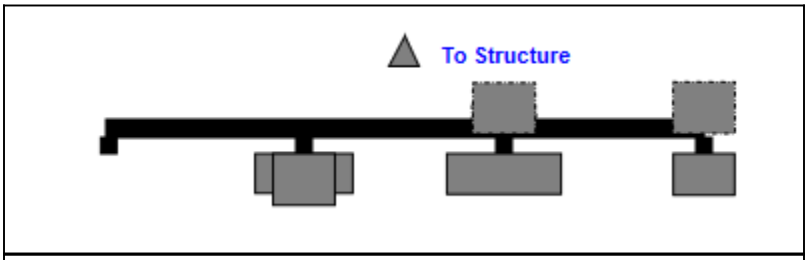
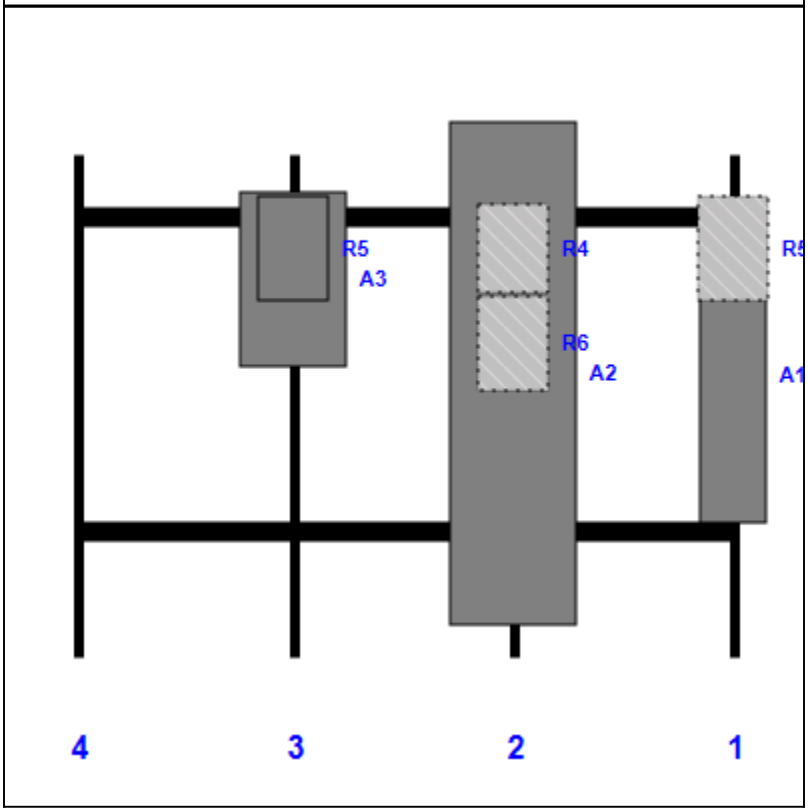
R5	ALU 800 MHz RRH	19.70	13.00	42.00	3	a	Behind	18.00			

Plan View

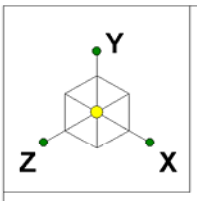


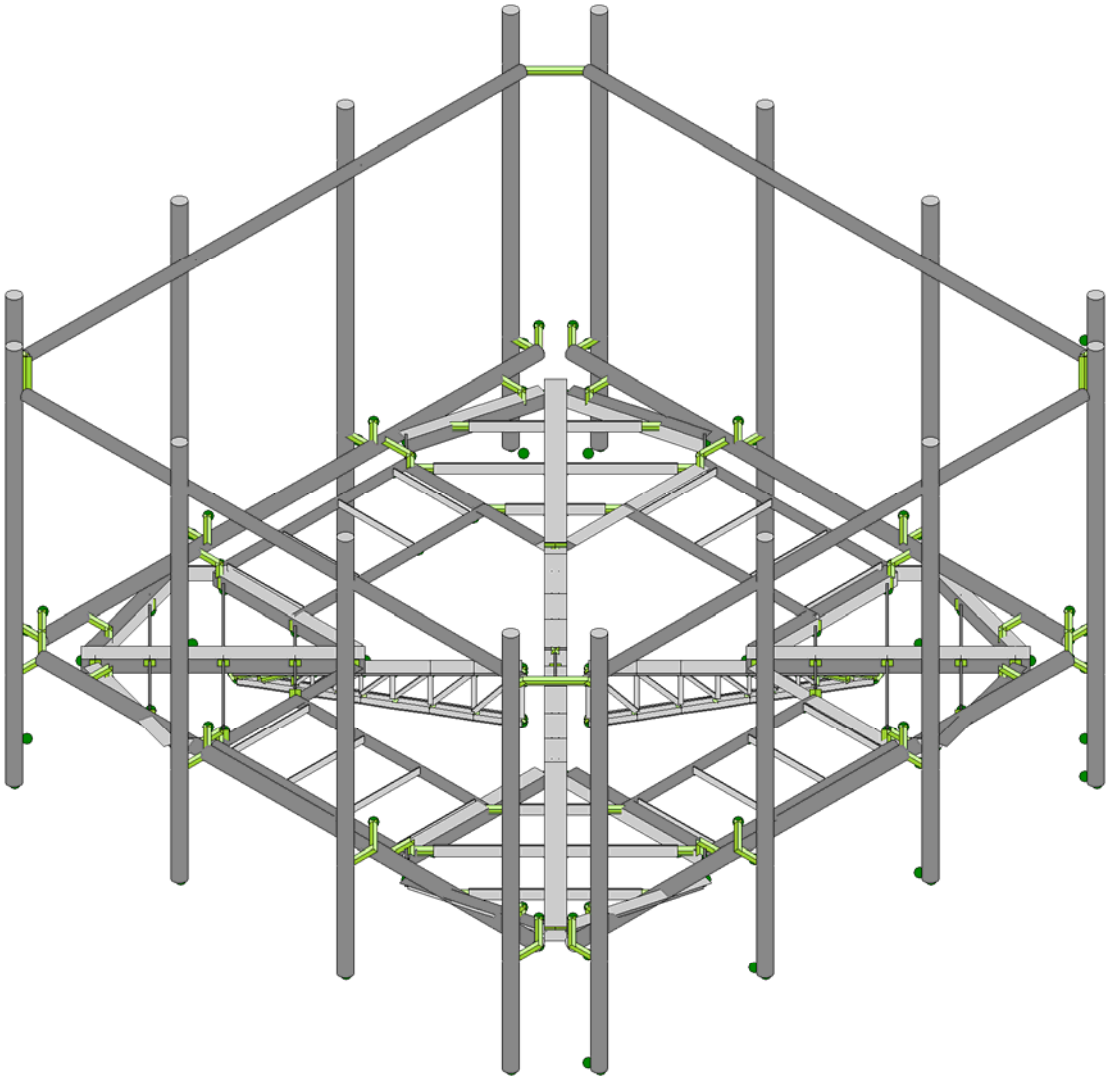
Front View

Looking Toward Structure

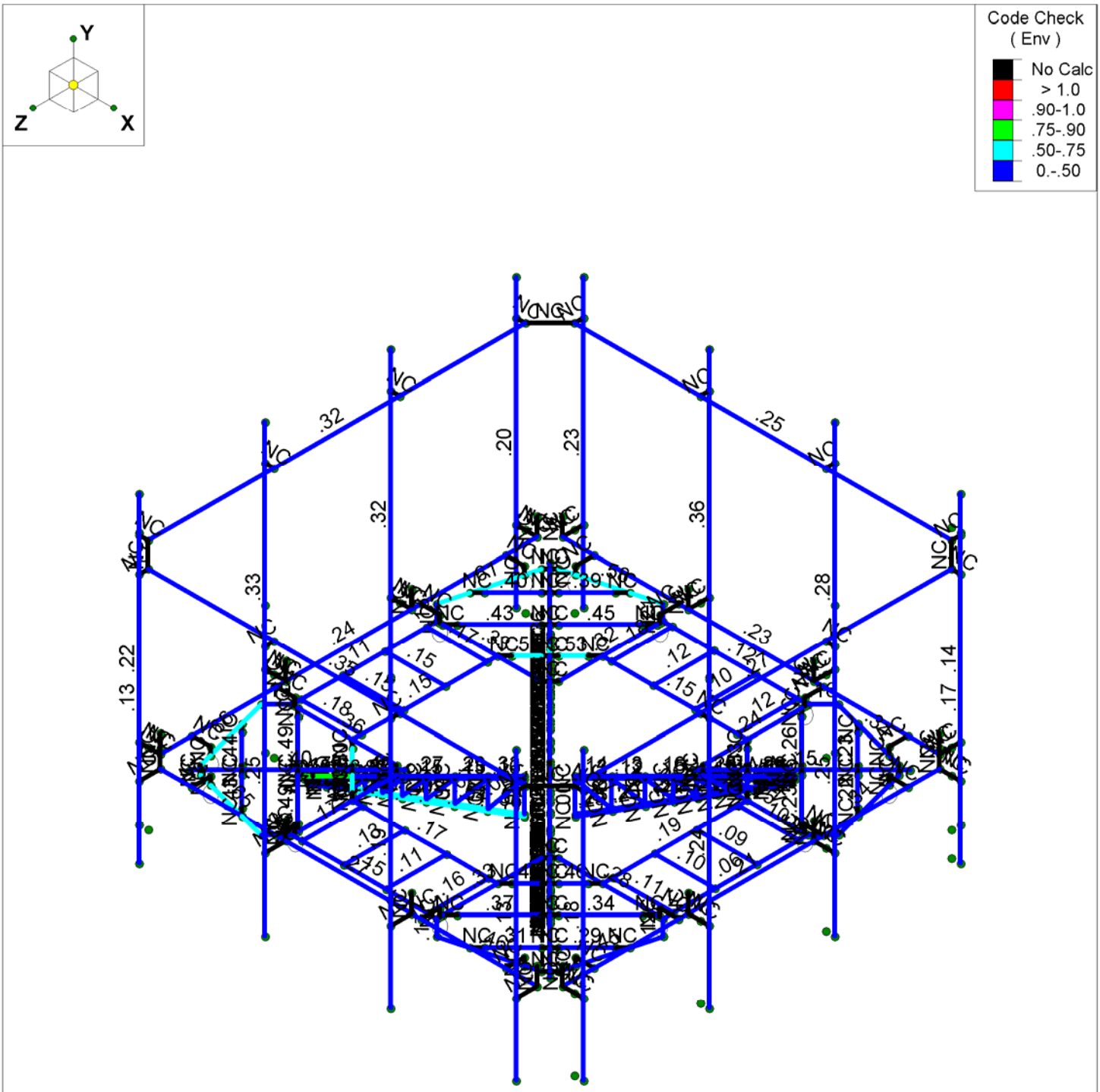


Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	Ericsson AIR32 KRD901146-1_B66A_B2/	56.60	12.90	126.00	1	a	Front	42.00			
R5	ALU 800 MHz RRH	19.70	13.00	126.00	1	a	Behind	18.00			
A2	RFS APXVAALL24_43-U-NA20	95.90	24.00	84.00	2	a	Front	42.00			
R4	Ericsson 4415 B25	16.50	13.40	84.00	2	a	Behind	18.00			
R6	Ericsson 4449 B71 + B85	17.90	13.10	84.00	2	a	Behind	36.00			
A3	Ericsson AIR6449 B41	33.10	20.50	42.00	3	a	Front	24.00			
R5	ALU 800 MHz RRH	19.70	13.00	42.00	3	a	Front	18.00			



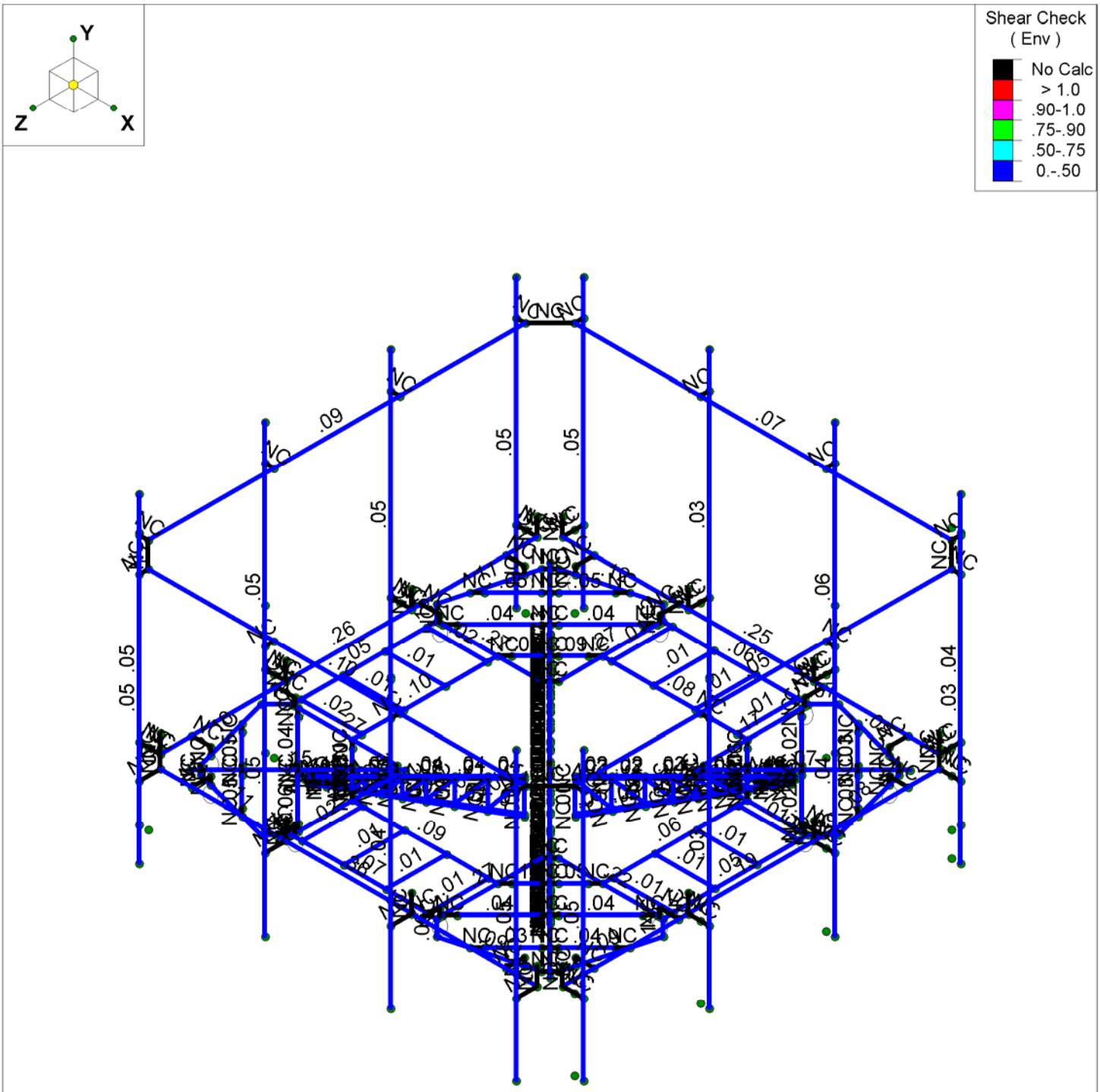


Tower Engineering Solutio...	CT46145-A-SBA_MT_LO_Loads Only_G	SK - 1
JET		Mar 18, 2021 at 9:12 AM
TES Project No. 100579		CT46145-A-SBA_100579_G_RISA_...



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0W (0 Deg)

Tower Engineering Solutio...	CT46145-A-SBA_MT_LO_Loads Only_G	SK - 2
JET		Mar 18, 2021 at 9:12 AM
TES Project No. 100579		CT46145-A-SBA_100579_G_RISA_...



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0W (0 Deg)

Tower Engineering Solutio...	CT46145-A-SBA_MT_LO_Loads Only_G	SK - 3
JET		Mar 18, 2021 at 9:12 AM
TES Project No. 100579		CT46145-A-SBA_100579_G_RISA_...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Antenna D	None					30			
2	Antenna Di	None					30			
3	Antenna W Front	None					30			
4	Antenna Wi Front	None					30			
5	Antenna W Side	None					30			
6	Antenna Wi Side	None					30			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1						
10	Structure Di	None						240		
11	Structure W Front	None						240		
12	Structure Wi Front	None						240		
13	Structure W Side	None						240		
14	Structure Wi Side	None						240		

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
1	1.2D+1.0W (0 Deg)	Yes	Y		1	1.2	9	1.2	3	1	5		11	1	13									
2	1.2D+1.0W (30 Deg)	Yes	Y		1	1.2	9	1.2	3	.866	5	.5	11	.866	13	.5								
3	1.2D+1.0W (60 Deg)	Yes	Y		1	1.2	9	1.2	3	.5	5	.866	11	.5	13	.866								
4	1.2D+1.0W (90 Deg)	Yes	Y		1	1.2	9	1.2	3		5	1	11		13	1								
5	1.2D+1.0W (120 Deg)	Yes	Y		1	1.2	9	1.2	3	-.5	5	.866	11	-.5	13	.866								
6	1.2D+1.0W (150 Deg)	Yes	Y		1	1.2	9	1.2	3	-.866	5	.5	11	-.866	13	.5								
7	1.2D+1.0W (180 Deg)	Yes	Y		1	1.2	9	1.2	3	-1	5		11	-1	13									
8	1.2D+1.0W (210 Deg)	Yes	Y		1	1.2	9	1.2	3	-.866	5	-.5	11	-.866	13	-.5								
9	1.2D+1.0W (240 Deg)	Yes	Y		1	1.2	9	1.2	3	-.5	5	-.866	11	-.5	13	-.866								
10	1.2D+1.0W (270 Deg)	Yes	Y		1	1.2	9	1.2	3		5	-1	11		13	-1								
11	1.2D+1.0W (300 Deg)	Yes	Y		1	1.2	9	1.2	3	.5	5	-.866	11	.5	13	-.866								
12	1.2D+1.0W (330 Deg)	Yes	Y		1	1.2	9	1.2	3	.866	5	-.5	11	.866	13	-.5								
13	1.2D+1.0Di+1.0Wi (0 ...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	1	6		12	1	14					
14	1.2D+1.0Di+1.0Wi (30 ...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	.866	6	.5	12	.866	14	.5				
15	1.2D+1.0Di+1.0Wi (60 ...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	.5	6	.866	12	.5	14	.866				
16	1.2D+1.0Di+1.0Wi (90 ...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4		6	1	12		14	1				
17	1.2D+1.0Di+1.0Wi (12...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-.5	6	.866	12	-.5	14	.866				
18	1.2D+1.0Di+1.0Wi (15...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-.866	6	.5	12	-.866	14	.5				
19	1.2D+1.0Di+1.0Wi (18...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-1	6		12	-1	14					
20	1.2D+1.0Di+1.0Wi (21...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-.866	6	-.5	12	-.866	14	-.5				
21	1.2D+1.0Di+1.0Wi (24...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-.5	6	-.866	12	-.5	14	-.866				
22	1.2D+1.0Di+1.0Wi (27...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4		6	-1	12		14	-1				
23	1.2D+1.0Di+1.0Wi (30...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	.5	6	-.866	12	.5	14	-.866				
24	1.2D+1.0Di+1.0Wi (33...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	.866	6	-.5	12	.866	14	-.5				
25	1.2D+1.5Lm1+1.0Wm ...	Yes	Y		1	1.2	9	1.2	7	1.5	15	1	17	1										
26	1.2D+1.5LmL2+1.0W...	Yes	Y		1	1.2	9	1.2	8	1.5	15	1	17	1										
27	1.2D+1.5Lv1 (Mainten...	Yes	Y		1	1.2	9	1.2	19	1.5														
28	1.2D+1.5Lv2 (Mainten...	Yes	Y		1	1.2	9	1.2	20	1.5														
29	1.4D	Yes	Y		1	1.4	9	1.4																
30	Seismic Mass		Y		1	1	9	1																
31	1.2D+1.0Ev+1.0Eh (0 ...		Y		1	1.2	9	1.2	SX		SY	1	SZ	-1										
32	1.2D+1.0Ev+1.0Eh (30...		Y		1	1.2	9	1.2	SX	.5	SY	1	SZ	-.866										
33	1.2D+1.0Ev+1.0Eh (60...		Y		1	1.2	9	1.2	SX	.866	SY	1	SZ	-.5										
34	1.2D+1.0Ev+1.0Eh (90...		Y		1	1.2	9	1.2	SX	1	SY	1	SZ											

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
35	1.2D+1.0Ev+1.0Eh (12...		Y		1	1.2	9	1.2	SX	.866	SY	1	SZ	.5										
36	1.2D+1.0Ev+1.0Eh (15...		Y		1	1.2	9	1.2	SX	.5	SY	1	SZ	.866										
37	1.2D+1.0Ev+1.0Eh (18...		Y		1	1.2	9	1.2	SX		SY	1	SZ	1										
38	1.2D+1.0Ev+1.0Eh (21...		Y		1	1.2	9	1.2	SX	-.5	SY	1	SZ	.866										
39	1.2D+1.0Ev+1.0Eh (24...		Y		1	1.2	9	1.2	SX	-.866	SY	1	SZ	.5										
40	1.2D+1.0Ev+1.0Eh (27...		Y		1	1.2	9	1.2	SX	-1	SY	1	SZ											
41	1.2D+1.0Ev+1.0Eh (30...		Y		1	1.2	9	1.2	SX	-.866	SY	1	SZ	-.5										
42	1.2D+1.0Ev+1.0Eh (33...		Y		1	1.2	9	1.2	SX	-.5	SY	1	SZ	-.866										
43	0.9D-1.0Ev+1.0Eh (0 ...		Y		1	.9	9	.9	SX		SY	-1	SZ	-1										
44	0.9D-1.0Ev+1.0Eh (30 ...		Y		1	.9	9	.9	SX	.5	SY	-1	SZ	-.866										
45	0.9D-1.0Ev+1.0Eh (60 ...		Y		1	.9	9	.9	SX	.866	SY	-1	SZ	-.5										
46	0.9D-1.0Ev+1.0Eh (90 ...		Y		1	.9	9	.9	SX	1	SY	-1	SZ											
47	0.9D-1.0Ev+1.0Eh (12...		Y		1	.9	9	.9	SX	.866	SY	-1	SZ	.5										
48	0.9D-1.0Ev+1.0Eh (15...		Y		1	.9	9	.9	SX	.5	SY	-1	SZ	.866										
49	0.9D-1.0Ev+1.0Eh (18...		Y		1	.9	9	.9	SX		SY	-1	SZ	1										
50	0.9D-1.0Ev+1.0Eh (21...		Y		1	.9	9	.9	SX	-.5	SY	-1	SZ	.866										
51	0.9D-1.0Ev+1.0Eh (24...		Y		1	.9	9	.9	SX	-.866	SY	-1	SZ	.5										
52	0.9D-1.0Ev+1.0Eh (27...		Y		1	.9	9	.9	SX	-1	SY	-1	SZ											
53	0.9D-1.0Ev+1.0Eh (30...		Y		1	.9	9	.9	SX	-.866	SY	-1	SZ	-.5										
54	0.9D-1.0Ev+1.0Eh (33...		Y		1	.9	9	.9	SX	-.5	SY	-1	SZ	-.866										

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N74A	-2.015313	.125	2.015313	0	
2	N75A	-5.01651	.125	5.01651	0	
3	N77	-2.7482	.125	2.7482	0	
4	N79	-2.21787	.125	3.27853	0	
5	N27	-3.50834	.125	3.50834	0	
6	N28	-4.288043	.125	4.288043	0	
7	N29	-2.217457	.125	4.799222	0	
8	N31	-3.375522	.125	5.200564	0	
9	N35	-2.630349	.125	2.866051	0	
10	N38	-3.390489	.125	3.626191	0	
11	N39	-4.170192	.125	4.405894	0	
12	N41	-2.016686	.125	3.479714	0	
13	N41A	-2.016686	.125	4.999994	0	
14	N42	-3.174342	.125	5.401744	0	
15	N47	-2.134537	.125	2.134537	0	
16	N49	-4.862991	.125	4.862991	0	
17	N50	-2.016686	.125	2.252388	0	
18	N52	-2.016526	.125	5.166819	0	
19	N52A	-4.74514	.125	4.980842	0	
20	N64	-3.27853	.125	2.21787	0	
21	N67	-4.799222	.125	2.217457	0	
22	N68	-5.200564	.125	3.375521	0	
23	N69	-2.866051	.125	2.630349	0	
24	N70	-3.626191	.125	3.390489	0	
25	N71	-4.405894	.125	4.170192	0	
26	N72	-3.479714	.125	2.016686	0	
27	N73	-4.999994	.125	2.016686	0	
28	N74	-5.401744	.125	3.174342	0	
29	N78	-2.252388	.125	2.016686	0	
30	N79A	-5.166819	.125	2.016526	0	
31	N80	-4.980842	.125	4.74514	0	
32	N54	-2.016531	.125	5.083471	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
33	N55	-2.016531	0.33325	5.083471	0	
34	N56	-2.016531	0.33325	5.604305	0	
35	N59	-4.37334	0.33325	5.604305	0	
36	N60	-5.598343	.125	2.440636	0	
37	N62	-2.440636	.125	5.598343	0	
38	N58	-4.371005	.125	5.081093	0	
39	N59A	-4.371005	0.33325	5.081093	0	
40	N60A	-5.083471	.125	2.016531	0	
41	N61	-5.083471	0.33325	2.016531	0	
42	N62A	-5.604305	0.33325	2.016531	0	
43	N63	-5.604305	0.33325	4.37334	0	
44	N64A	-5.081093	.125	4.371005	0	
45	N65	-5.081093	0.33325	4.371005	0	
46	N85	2.015313	.125	2.015313	0	
47	N86	5.01651	.125	5.01651	0	
48	N88	2.7482	.125	2.7482	0	
49	N89	3.27853	.125	2.21787	0	
50	N90	3.50834	.125	3.50834	0	
51	N91	4.288043	.125	4.288043	0	
52	N92	4.799222	.125	2.217457	0	
53	N93	5.200564	.125	3.375521	0	
54	N94	2.866051	.125	2.630349	0	
55	N95	3.626191	.125	3.390489	0	
56	N96	4.405894	.125	4.170192	0	
57	N97	3.479714	.125	2.016686	0	
58	N98	4.999994	.125	2.016686	0	
59	N99	5.401744	.125	3.174342	0	
60	N100	2.134537	.125	2.134537	0	
61	N101	4.862991	.125	4.862991	0	
62	N102	2.252388	.125	2.016686	0	
63	N103	5.166819	.125	2.016526	0	
64	N104	4.980842	.125	4.74514	0	
65	N105	2.21787	.125	3.27853	0	
66	N106	2.217457	.125	4.799222	0	
67	N107	3.375522	.125	5.200564	0	
68	N108	2.630349	.125	2.866051	0	
69	N109	3.390489	.125	3.626191	0	
70	N110	4.170192	.125	4.405894	0	
71	N111	2.016686	.125	3.479714	0	
72	N112	2.016686	.125	4.999994	0	
73	N113	3.174342	.125	5.401744	0	
74	N114	2.016686	.125	2.252388	0	
75	N115	2.016526	.125	5.166819	0	
76	N116	4.74514	.125	4.980842	0	
77	N117	5.083471	.125	2.016531	0	
78	N118	5.083471	0.33325	2.016531	0	
79	N119	5.604305	0.33325	2.016531	0	
80	N120	5.604305	0.33325	4.37334	0	
81	N121	2.440636	.125	5.598343	0	
82	N122	5.598343	.125	2.440636	0	
83	N123	5.081093	.125	4.371005	0	
84	N124	5.081093	0.33325	4.371005	0	
85	N125	2.016531	.125	5.083471	0	
86	N126	2.016531	0.33325	5.083471	0	
87	N127	2.016531	0.33325	5.604305	0	
88	N128	4.37334	0.33325	5.604305	0	
89	N129	4.371005	.125	5.081093	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
90	N130	4.371005	0.33325	5.081093	0	
91	N150	2.015313	.125	-2.015313	0	
92	N151	5.01651	.125	-5.01651	0	
93	N153	2.7482	.125	-2.7482	0	
94	N154	2.21787	.125	-3.27853	0	
95	N155	3.50834	.125	-3.50834	0	
96	N156	4.288043	.125	-4.288043	0	
97	N157	2.217457	.125	-4.799222	0	
98	N158	3.375522	.125	-5.200564	0	
99	N159	2.630349	.125	-2.866051	0	
100	N160	3.390489	.125	-3.626191	0	
101	N161	4.170192	.125	-4.405894	0	
102	N162	2.016686	.125	-3.479714	0	
103	N163	2.016686	.125	-4.999994	0	
104	N164	3.174342	.125	-5.401744	0	
105	N165	2.134537	.125	-2.134537	0	
106	N166	4.862991	.125	-4.862991	0	
107	N167	2.016686	.125	-2.252388	0	
108	N168	2.016526	.125	-5.166819	0	
109	N169	4.74514	.125	-4.980843	0	
110	N170	3.27853	.125	-2.21787	0	
111	N171	4.799222	.125	-2.217457	0	
112	N172	5.200564	.125	-3.375522	0	
113	N173	2.866051	.125	-2.630349	0	
114	N174	3.626191	.125	-3.390489	0	
115	N175	4.405894	.125	-4.170192	0	
116	N176	3.479714	.125	-2.016686	0	
117	N177	4.999994	.125	-2.016686	0	
118	N178	5.401744	.125	-3.174342	0	
119	N179	2.252388	.125	-2.016686	0	
120	N180	5.166819	.125	-2.016527	0	
121	N181	4.980842	.125	-4.74514	0	
122	N182	2.016531	.125	-5.083471	0	
123	N183	2.016531	0.33325	-5.083471	0	
124	N184	2.016531	0.33325	-5.604305	0	
125	N185	4.37334	0.33325	-5.604305	0	
126	N186	5.598343	.125	-2.440636	0	
127	N187	2.440636	.125	-5.598343	0	
128	N188	4.371005	.125	-5.081093	0	
129	N189	4.371005	0.33325	-5.081093	0	
130	N190	5.083471	.125	-2.016531	0	
131	N191	5.083471	0.33325	-2.016531	0	
132	N192	5.604305	0.33325	-2.016531	0	
133	N193	5.604305	0.33325	-4.37334	0	
134	N194	5.081093	.125	-4.371005	0	
135	N195	5.081093	0.33325	-4.371005	0	
136	N215	-2.015313	.125	-2.015313	0	
137	N216	-5.01651	.125	-5.01651	0	
138	N217	-3.299832	.125	-3.299832	0	
139	N218	-2.7482	.125	-2.7482	0	
140	N219	-3.27853	.125	-2.21787	0	
141	N220	-3.50834	.125	-3.50834	0	
142	N221	-4.288043	.125	-4.288043	0	
143	N222	-4.799222	.125	-2.217457	0	
144	N223	-5.200564	.125	-3.375522	0	
145	N224	-2.866051	.125	-2.630349	0	
146	N225	-3.626191	.125	-3.390489	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
147	N226	-4.405894	.125	-4.170192	0	
148	N227	-3.479714	.125	-2.016686	0	
149	N228	-4.999994	.125	-2.016686	0	
150	N229	-5.401744	.125	-3.174342	0	
151	N230	-2.134537	.125	-2.134537	0	
152	N231	-4.862991	.125	-4.862991	0	
153	N232	-2.252388	.125	-2.016686	0	
154	N233	-5.166819	.125	-2.016527	0	
155	N234	-4.980842	.125	-4.74514	0	
156	N235	-2.21787	.125	-3.27853	0	
157	N236	-2.217457	.125	-4.799222	0	
158	N237	-3.375522	.125	-5.200564	0	
159	N238	-2.630349	.125	-2.866051	0	
160	N239	-3.390489	.125	-3.626191	0	
161	N240	-4.170192	.125	-4.405894	0	
162	N241	-2.016686	.125	-3.479714	0	
163	N242	-2.016686	.125	-4.999994	0	
164	N243	-3.174342	.125	-5.401744	0	
165	N244	-2.016686	.125	-2.252388	0	
166	N245	-2.016526	.125	-5.166819	0	
167	N246	-4.74514	.125	-4.980843	0	
168	N247	-5.083471	.125	-2.016531	0	
169	N248	-5.083471	0.33325	-2.016531	0	
170	N249	-5.604305	0.33325	-2.016531	0	
171	N250	-5.604305	0.33325	-4.37334	0	
172	N251	-2.440636	.125	-5.598343	0	
173	N252	-5.598343	.125	-2.440636	0	
174	N253	-5.081093	.125	-4.371005	0	
175	N254	-5.081093	0.33325	-4.371005	0	
176	N255	-2.016531	.125	-5.083471	0	
177	N256	-2.016531	0.33325	-5.083471	0	
178	N257	-2.016531	0.33325	-5.604305	0	
179	N258	-4.37334	0.33325	-5.604305	0	
180	N259	-4.371005	.125	-5.081093	0	
181	N260	-4.371005	0.33325	-5.081093	0	
182	N263	-1.75	0.33325	5.604305	0	
183	N264	1.75	0.33325	5.604305	0	
184	N267	5.604305	0.33325	1.75	0	
185	N268	5.604305	0.33325	-1.75	0	
186	N271	1.75	0.33325	-5.604305	0	
187	N272	-1.75	0.33325	-5.604305	0	
188	N275	-5.604305	0.33325	-1.75	0	
189	N276	-5.604305	0.33325	1.75	0	
190	N245B	5.25	0.83325	5.604305	0	
191	N246B	-5.25	0.83325	5.604305	0	
192	N247B	-1.75	0.83325	5.604305	0	
193	N248A	1.75	0.83325	5.604305	0	
194	N249A	5.604305	0.83325	-5.25	0	
195	N250A	5.604305	0.83325	5.25	0	
196	N251A	5.604305	0.83325	1.75	0	
197	N252A	5.604305	0.83325	-1.75	0	
198	N253A	-5.25	0.83325	-5.604305	0	
199	N254A	5.25	0.83325	-5.604305	0	
200	N255A	1.75	0.83325	-5.604305	0	
201	N256A	-1.75	0.83325	-5.604305	0	
202	N257A	-5.604305	0.83325	5.25	0	
203	N258A	-5.604305	0.83325	-5.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
204	N259A	-5.604305	0.83325	-1.75	0	
205	N260A	-5.604305	0.83325	1.75	0	
206	N250B	-0.353553	-0.020833	0.353553	0	
207	N251B	-2.048459	-0.020833	2.048459	0	
208	N252B	-2.330733	-0.020833	2.330733	0	
209	N253B	-3.113802	-0.020833	3.113802	0	
210	N254B	-3.417683	-0.020833	3.417683	0	
211	N255B	-0.353553	-1	0.353553	0	
212	N256B	-3.366127	-0.208363	3.366127	0	
213	N257B	-0.353553	-0.083333	0.353553	0	
214	N258B	-0.861448	-0.020833	0.861448	0	
215	N259B	-1.324837	-0.020833	1.324837	0	
216	N260B	-1.720083	-0.020833	1.720083	0	
217	N262A	-2.566315	-0.020833	2.566315	0	
218	N263A	-2.750567	-0.020833	2.750567	0	
219	N264A	-0.861448	-0.083333	0.861448	0	
220	N265A	-1.324837	-0.083333	1.324837	0	
221	N266A	-1.720079	-0.083333	1.720079	0	
222	N267A	-2.051493	-0.083333	2.051493	0	
223	N268A	-2.330733	-0.083333	2.330733	0	
224	N269A	-2.566315	-0.083333	2.566315	0	
225	N270A	-2.750567	-0.083333	2.750567	0	
226	N271A	-0.353553	-0.938546	0.353553	0	
227	N272A	-1.324837	-0.681239	1.324837	0	
228	N273A	-0.869523	-0.864411	0.869523	0	
229	N274A	-1.72815	-0.638783	1.72815	0	
230	N275A	-1.332906	-0.742648	1.332906	0	
231	N276A	-2.059565	-0.551691	2.059565	0	
232	N277	-2.338807	-0.478315	2.338807	0	
233	N278	-2.574389	-0.416411	2.574389	0	
234	N279	-2.758642	-0.367995	2.758642	0	
235	N280	-0.861448	-0.802956	0.861448	0	
236	N281	-1.720079	-0.57736	1.720079	0	
237	N282	-2.051493	-0.490257	2.051493	0	
238	N283	-2.330733	-0.416873	2.330733	0	
239	N284	-2.566315	-0.354962	2.566315	0	
240	N285	-2.750567	-0.306541	2.750567	0	
241	N286	-3.417683	-0.083333	3.417683	0	
242	N287	-3.358053	-0.1545	3.358053	0	
243	N288	-3.113802	-0.083333	3.113802	0	
244	N289	-3.113802	-0.215631	3.113802	0	
245	N290	-3.113802	-0.274668	3.113802	0	
246	N260C	5.604305	0.33325	-5.25	0	
247	N261B	-5.604305	0.33325	-5.25	0	
248	N262B	5.604305	0.33325	5.25	0	
249	N263B	-5.604305	0.33325	5.25	0	
250	N264B	5.25	0.33325	5.604305	0	
251	N265B	5.25	0.33325	-5.604305	0	
252	N266B	-5.25	0.33325	5.604305	0	
253	N267C	-5.25	0.33325	-5.604305	0	
254	N271B	0.353553	-0.020833	0.353553	0	
255	N272B	2.048459	-0.020833	2.048459	0	
256	N273B	2.330733	-0.020833	2.330733	0	
257	N274B	3.113802	-0.020833	3.113802	0	
258	N275B	3.417683	-0.020833	3.417683	0	
259	N276B	0.353553	-1	0.353553	0	
260	N277A	3.366127	-0.208363	3.366127	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
261	N278A	0.353553	-0.083333	0.353553	0	
262	N279A	0.861448	-0.020833	0.861448	0	
263	N280A	1.324837	-0.020833	1.324837	0	
264	N281A	1.720083	-0.020833	1.720083	0	
265	N283A	2.566315	-0.020833	2.566315	0	
266	N284A	2.750567	-0.020833	2.750567	0	
267	N285A	0.861448	-0.083333	0.861448	0	
268	N286A	1.324837	-0.083333	1.324837	0	
269	N287A	1.720079	-0.083333	1.720079	0	
270	N288A	2.051493	-0.083333	2.051493	0	
271	N289A	2.330733	-0.083333	2.330733	0	
272	N290A	2.566315	-0.083333	2.566315	0	
273	N291	2.750567	-0.083333	2.750567	0	
274	N292	0.353553	-0.938546	0.353553	0	
275	N293	1.324837	-0.681239	1.324837	0	
276	N294	0.869523	-0.864411	0.869523	0	
277	N295	1.72815	-0.638783	1.72815	0	
278	N296	1.332906	-0.742648	1.332906	0	
279	N297	2.059565	-0.551691	2.059565	0	
280	N298	2.338807	-0.478315	2.338807	0	
281	N299	2.574389	-0.416411	2.574389	0	
282	N300	2.758642	-0.367995	2.758642	0	
283	N301	0.861448	-0.802956	0.861448	0	
284	N302	1.720079	-0.57736	1.720079	0	
285	N303	2.051493	-0.490257	2.051493	0	
286	N304	2.330733	-0.416873	2.330733	0	
287	N305	2.566315	-0.354962	2.566315	0	
288	N306	2.750567	-0.306541	2.750567	0	
289	N307	3.417683	-0.083333	3.417683	0	
290	N308	3.358053	-0.1545	3.358053	0	
291	N309	3.113802	-0.083333	3.113802	0	
292	N310	3.113802	-0.215631	3.113802	0	
293	N311	3.113802	-0.274668	3.113802	0	
294	N314	0.353553	-0.020833	-0.353553	0	
295	N315	2.048459	-0.020833	-2.048459	0	
296	N316	2.330733	-0.020833	-2.330733	0	
297	N317	3.113802	-0.020833	-3.113802	0	
298	N318	3.417683	-0.020833	-3.417683	0	
299	N319	0.353553	-1	-0.353553	0	
300	N320	3.366127	-0.208363	-3.366127	0	
301	N321	0.353553	-0.083333	-0.353553	0	
302	N322	0.861448	-0.020833	-0.861448	0	
303	N323	1.324837	-0.020833	-1.324837	0	
304	N324	1.720083	-0.020833	-1.720083	0	
305	N326	2.566315	-0.020833	-2.566315	0	
306	N327	2.750567	-0.020833	-2.750567	0	
307	N328	0.861448	-0.083333	-0.861448	0	
308	N329	1.324837	-0.083333	-1.324837	0	
309	N330	1.720079	-0.083333	-1.720079	0	
310	N331	2.051493	-0.083333	-2.051493	0	
311	N332	2.330733	-0.083333	-2.330733	0	
312	N333	2.566315	-0.083333	-2.566315	0	
313	N334	2.750567	-0.083333	-2.750567	0	
314	N335	0.353553	-0.938546	-0.353553	0	
315	N336	1.324837	-0.681239	-1.324837	0	
316	N337	0.869523	-0.864411	-0.869523	0	
317	N338	1.72815	-0.638783	-1.72815	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
318	N339	1.332906	-0.742648	-1.332907	0	
319	N340	2.059565	-0.551691	-2.059565	0	
320	N341	2.338807	-0.478315	-2.338807	0	
321	N342	2.574389	-0.416411	-2.574389	0	
322	N343	2.758642	-0.367995	-2.758642	0	
323	N344	0.861448	-0.802956	-0.861448	0	
324	N345	1.720079	-0.57736	-1.720079	0	
325	N346	2.051493	-0.490257	-2.051493	0	
326	N347	2.330733	-0.416873	-2.330733	0	
327	N348	2.566315	-0.354962	-2.566315	0	
328	N349	2.750567	-0.306541	-2.750567	0	
329	N350	3.417683	-0.083333	-3.417683	0	
330	N351	3.358053	-0.1545	-3.358053	0	
331	N352	3.113802	-0.083333	-3.113802	0	
332	N353	3.113802	-0.215631	-3.113802	0	
333	N354	3.113802	-0.274668	-3.113802	0	
334	N357	-0.353553	-0.020833	-0.353553	0	
335	N358	-2.134537	-0.020833	-2.134537	0	
336	N359	-2.330733	-0.020833	-2.330733	0	
337	N360	-3.113802	-0.020833	-3.113802	0	
338	N361	-3.417683	-0.020833	-3.417683	0	
339	N362	-0.353553	-1	-0.353553	0	
340	N363	-3.366127	-0.208363	-3.366127	0	
341	N364	-0.353553	-0.083333	-0.353553	0	
342	N365	-0.861448	-0.020833	-0.861448	0	
343	N366	-1.324837	-0.020833	-1.324837	0	
344	N367	-1.720083	-0.020833	-1.720083	0	
345	N368	-2.051493	-0.020833	-2.051493	0	
346	N369	-2.566315	-0.020833	-2.566315	0	
347	N370	-2.750567	-0.020833	-2.750567	0	
348	N371	-0.861448	-0.083333	-0.861448	0	
349	N372	-1.324837	-0.083333	-1.324837	0	
350	N373	-1.720079	-0.083333	-1.720079	0	
351	N374	-2.051493	-0.083333	-2.051493	0	
352	N375	-2.330733	-0.083333	-2.330733	0	
353	N376	-2.566315	-0.083333	-2.566315	0	
354	N377	-2.750567	-0.083333	-2.750567	0	
355	N378	-0.353553	-0.938546	-0.353553	0	
356	N379	-1.324837	-0.681239	-1.324837	0	
357	N380	-0.869523	-0.864411	-0.869523	0	
358	N381	-1.72815	-0.638783	-1.72815	0	
359	N382	-1.332906	-0.742648	-1.332906	0	
360	N383	-2.059565	-0.551691	-2.059565	0	
361	N384	-2.338807	-0.478315	-2.338807	0	
362	N385	-2.574389	-0.416411	-2.574389	0	
363	N386	-2.758642	-0.367995	-2.758642	0	
364	N387	-0.861448	-0.802956	-0.861448	0	
365	N388	-1.720079	-0.57736	-1.720079	0	
366	N389	-2.051493	-0.490257	-2.051493	0	
367	N390	-2.330733	-0.416873	-2.330733	0	
368	N391	-2.566315	-0.354962	-2.566315	0	
369	N392	-2.750567	-0.306541	-2.750567	0	
370	N393	-3.417683	-0.083333	-3.417683	0	
371	N394	-3.358053	-0.1545	-3.358053	0	
372	N395	-3.113802	-0.083333	-3.113802	0	
373	N396	-3.113802	-0.215631	-3.113802	0	
374	N397	-3.113802	-0.274668	-3.113802	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
375	N397A	0	0	0	0	
376	N389A	-3.299832	-0.020833	-3.299832	0	
377	N383A	-3.299832	.125	3.299832	0	
378	N385A	-2.134537	-0.020833	2.134537	0	
379	N386A	-3.299832	-0.020833	3.299832	0	
380	N387A	3.299832	.125	3.299832	0	
381	N388A	2.134537	-0.020833	2.134537	0	
382	N389B	3.299832	-0.020833	3.299832	0	
383	N390A	3.299832	.125	-3.299832	0	
384	N391A	2.134537	-0.020833	-2.134537	0	
385	N392A	3.299832	-0.020833	-3.299832	0	
386	N386B	3.479714	.125	-1.766686	0	
387	N387B	5.166819	.125	-1.766686	0	
388	N388B	3.479714	.125	-0.60002	0	
389	N389C	5.166819	.125	-0.60002	0	
390	N390B	3.479714	.125	0.566647	0	
391	N391B	5.166819	.125	0.566647	0	
392	N392B	3.479714	.125	1.733314	0	
393	N393A	5.166819	.125	1.733314	0	
394	N394A	-1.766686	.125	-3.479714	0	
395	N395A	-1.766686	.125	-5.166819	0	
396	N396A	-0.60002	.125	-3.479714	0	
397	N397B	-0.60002	.125	-5.166819	0	
398	N398	0.566647	.125	-3.479714	0	
399	N399	0.566647	.125	-5.166819	0	
400	N400	1.733314	.125	-3.479714	0	
401	N401	1.733314	.125	-5.166819	0	
402	N402	-3.479714	.125	1.766686	0	
403	N403	-5.166819	.125	1.766686	0	
404	N404	-3.479714	.125	0.60002	0	
405	N405	-5.166819	.125	0.60002	0	
406	N406	-3.479714	.125	-0.566647	0	
407	N407	-5.166819	.125	-0.566647	0	
408	N408	-3.479714	.125	-1.733314	0	
409	N409	-5.166819	.125	-1.733314	0	
410	N410	1.766686	.125	3.479714	0	
411	N411	1.766686	.125	5.166819	0	
412	N412	0.60002	.125	3.479714	0	
413	N413	0.60002	.125	5.166819	0	
414	N414	-0.566647	.125	3.479714	0	
415	N415	-0.566647	.125	5.166819	0	
416	N416	-1.733314	.125	3.479714	0	
417	N417	-1.733314	.125	5.166819	0	
418	N418	-1.75	0.33325	6.187638	0	
419	N419	1.75	0.33325	6.187638	0	
420	N420	5.25	0.33325	6.187638	0	
421	N421	-5.25	0.33325	6.187638	0	
422	N426	5.937638	0.33325	1.75	0	
423	N427	5.937638	0.33325	-1.75	0	
424	N428	5.937638	0.33325	-5.25	0	
425	N429	5.937638	0.33325	5.25	0	
426	N434	1.75	0.33325	-5.937638	0	
427	N435	-1.75	0.33325	-5.937638	0	
428	N436	-5.25	0.33325	-5.937638	0	
429	N437	5.25	0.33325	-5.937638	0	
430	N442	-5.937638	0.33325	-1.75	0	
431	N443	-5.937638	0.33325	1.75	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
432	N444	-5.937638	0.33325	5.25	0	
433	N445	-5.937638	0.33325	-5.25	0	
434	N434A	-1.75	6.33325	6.187638	0	
435	N435A	1.75	6.33325	6.187638	0	
436	N436A	5.25	6.33325	6.187638	0	
437	N437A	-5.25	6.33325	6.187638	0	
438	N438	-1.75	-1.66675	6.187638	0	
439	N439	1.75	-1.66675	6.187638	0	
440	N440	5.25	-1.66675	6.187638	0	
441	N441	-5.25	-1.66675	6.187638	0	
442	N444A	5.937638	6.33325	-5.25	0	
443	N446	5.937638	-1.66675	1.75	0	
444	N447	5.937638	-1.66675	-1.75	0	
445	N448	5.937638	-1.66675	-5.25	0	
446	N449	5.937638	-1.66675	5.25	0	
447	N454	1.75	-1.66675	-5.937638	0	
448	N456	-5.25	-1.66675	-5.937638	0	
449	N457	5.25	-1.66675	-5.937638	0	
450	N463	-5.937638	-1.66675	1.75	0	
451	N464	-5.937638	-1.66675	5.25	0	
452	N465	-5.937638	-1.66675	-5.25	0	
453	N466	-5.25	5.33325	5.937638	0	
454	N467	-1.75	5.33325	5.937638	0	
455	N468	1.75	5.33325	5.937638	0	
456	N469	5.25	5.33325	5.937638	0	
457	N470	5.937638	5.33325	5.25	0	
458	N471	5.937638	5.33325	-5.25	0	
459	N472	5.25	5.33325	-5.937638	0	
460	N473	-5.25	5.33325	-5.937638	0	
461	N474	-5.937638	5.33325	-5.25	0	
462	N475	-5.937638	5.33325	5.25	0	
463	N476	5.937638	5.33325	1.75	0	
464	N477	5.937638	5.33325	-1.75	0	
465	N478	1.75	5.33325	-5.937638	0	
466	N479	-1.75	5.33325	-5.937638	0	
467	N480	-5.937638	5.33325	-1.75	0	
468	N481	-5.937638	5.33325	1.75	0	
469	N482	-5.25	5.33325	6.187638	0	
470	N483	-1.75	5.33325	6.187638	0	
471	N484	1.75	5.33325	6.187638	0	
472	N485	5.25	5.33325	6.187638	0	
473	N490	6.187638	0.33325	1.75	0	
474	N491	6.187638	0.33325	-1.75	0	
475	N492	6.187638	0.33325	-5.25	0	
476	N493	6.187638	0.33325	5.25	0	
477	N494	6.187638	6.33325	1.75	0	
478	N495	6.187638	6.33325	-1.75	0	
479	N496	6.187638	6.33325	-5.25	0	
480	N497	6.187638	6.33325	5.25	0	
481	N498	6.187638	-1.66675	1.75	0	
482	N499	6.187638	-1.66675	-1.75	0	
483	N500	6.187638	-1.66675	-5.25	0	
484	N501	6.187638	-1.66675	5.25	0	
485	N506	6.187638	5.33325	5.25	0	
486	N507	6.187638	5.33325	1.75	0	
487	N508	6.187638	5.33325	-1.75	0	
488	N509	6.187638	5.33325	-5.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
489	N514	1.75	0.33325	-6.187638	0	
490	N515	-1.75	0.33325	-6.187638	0	
491	N516	-5.25	0.33325	-6.187638	0	
492	N517	5.25	0.33325	-6.187638	0	
493	N518	1.75	6.33325	-6.187638	0	
494	N519	-1.75	6.33325	-6.187638	0	
495	N520	-5.25	6.33325	-6.187638	0	
496	N521	5.25	6.33325	-6.187638	0	
497	N522	1.75	-1.66675	-6.187638	0	
498	N523	-1.75	-1.66675	-6.187638	0	
499	N524	-5.25	-1.66675	-6.187638	0	
500	N525	5.25	-1.66675	-6.187638	0	
501	N530	5.25	5.33325	-6.187638	0	
502	N531	1.75	5.33325	-6.187638	0	
503	N532	-1.75	5.33325	-6.187638	0	
504	N533	-5.25	5.33325	-6.187638	0	
505	N538	-6.187638	0.33325	-1.75	0	
506	N539	-6.187638	0.33325	1.75	0	
507	N540	-6.187638	0.33325	5.25	0	
508	N541	-6.187638	0.33325	-5.25	0	
509	N542	-6.187638	6.33325	-1.75	0	
510	N543	-6.187638	6.33325	1.75	0	
511	N544	-6.187638	6.33325	5.25	0	
512	N545	-6.187638	6.33325	-5.25	0	
513	N546	-6.187638	-1.66675	-1.75	0	
514	N547	-6.187638	-1.66675	1.75	0	
515	N548	-6.187638	-1.66675	5.25	0	
516	N549	-6.187638	-1.66675	-5.25	0	
517	N554	-6.187638	5.33325	-5.25	0	
518	N555	-6.187638	5.33325	-1.75	0	
519	N556	-6.187638	5.33325	1.75	0	
520	N557	-6.187638	5.33325	5.25	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizon...	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
2	Support Rail	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	Mount Pipes	PIPE_2.5	Column	Wide Flange	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	Standoff Top ...	PL1/2x4	Beam	RECT	A36 Gr.36	Typical	2	.042	2.667	.154
5	Standoff Bott...	PL3/8x4	Beam	RECT	A36 Gr.36	Typical	1.5	.018	2	.066
6	Standoff Brac...	PL3/8x1	Beam	RECT	A36 Gr.36	Typical	.375	.004	.031	.013
7	Standoff Brac...	PL3/8x7/8	Beam	RECT	A36 Gr.36	Typical	.328	.004	.021	.011
8	Standoff Brac...	PL3/8x3/4	Beam	RECT	A36 Gr.36	Typical	.281	.003	.013	.009
9	Standoff Brac...	PL3/8x5/8	Beam	RECT	A36 Gr.36	Typical	.234	.003	.008	.007
10	Grating Supp...	PL3/8x2.375	Beam	RECT	A36 Gr.36	Typical	.891	.01	.419	.038
11	Grating Supp...	PL3/8x3	Beam	RECT	A36 Gr.36	Typical	1.125	.013	.844	.049
12	Grating Supp...	L3x3x6	Beam	Single Angle	A36 Gr.36	Typical	2.11	1.75	1.75	.101
13	Walkway Plate	PL3/16x1.5	Beam	RECT	A36 Gr.36	Typical	.282	.000831	.053	.003
14	Walkway Pipe	PIPE_1.5	Beam	Pipe	A53 Gr.B	Typical	.749	.293	.293	.586
15	Standoff Tube	HSS4x3x4	Beam	Tube	A500 Gr.B R...	Typical	2.91	3.91	6.15	7.96

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF1A	162T125-18	Beam	CU	A653 SS G...	Typical	.078	.013	.042	9e-6

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	AL1A	AACS14X13.9	Beam	AA Channel	3003-H14	Typical	11.8	44.7	401	1.19

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
8	Q235	29000	11154	.3	.65	.49	35	1.5	58	1.2

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A653 SS Gr33	29500	11346	.3	.65	.49	33	45
2	A653 SS Gr50/1	29500	11346	.3	.65	.49	50	65

Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density[...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B....	1	19	16	13	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B....	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B....	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B....	1	30	25	25	19	141
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B....	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B....	1	24	15	15	15	141

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	R3	N77	N35			RIGID	None	None	RIGID	Typical
2	R4	N27	N38			RIGID	None	None	RIGID	Typical
3	R5	N28	N39			RIGID	None	None	RIGID	Typical
4	R6	N79	N41			RIGID	None	None	RIGID	Typical
5	R7	N29	N41A			RIGID	None	None	RIGID	Typical
6	R8	N31	N42			RIGID	None	None	RIGID	Typical
7	R9	N47	N50			RIGID	None	None	RIGID	Typical
8	R10	N49	N52A			RIGID	None	None	RIGID	Typical
9	M57	N77	N69			RIGID	None	None	RIGID	Typical
10	M58	N27	N70			RIGID	None	None	RIGID	Typical
11	M59	N28	N71			RIGID	None	None	RIGID	Typical
12	M63	N64	N72			RIGID	None	None	RIGID	Typical
13	M64	N67	N73			RIGID	None	None	RIGID	Typical
14	M65	N68	N74			RIGID	None	None	RIGID	Typical
15	M67	N47	N78			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
16	M70	N49	N80			RIGID	None	None	RIGID	Typical
17	M71	N54	N55			RIGID	None	None	RIGID	Typical
18	M72	N55	N56			RIGID	None	None	RIGID	Typical
19	M74A	N58	N59A			RIGID	None	None	RIGID	Typical
20	M75C	N59A	N59			RIGID	None	None	RIGID	Typical
21	M75A	N60A	N61			RIGID	None	None	RIGID	Typical
22	M76	N61	N62A			RIGID	None	None	RIGID	Typical
23	M77	N64A	N65			RIGID	None	None	RIGID	Typical
24	M78	N65	N63			RIGID	None	None	RIGID	Typical
25	M100	N88	N94			RIGID	None	None	RIGID	Typical
26	M101	N90	N95			RIGID	None	None	RIGID	Typical
27	M102	N91	N96			RIGID	None	None	RIGID	Typical
28	M106	N89	N97			RIGID	None	None	RIGID	Typical
29	M107	N92	N98			RIGID	None	None	RIGID	Typical
30	M108	N93	N99			RIGID	None	None	RIGID	Typical
31	M109	N100	N102			RIGID	None	None	RIGID	Typical
32	M111	N101	N104			RIGID	None	None	RIGID	Typical
33	M133	N88	N108			RIGID	None	None	RIGID	Typical
34	M134	N90	N109			RIGID	None	None	RIGID	Typical
35	M135	N91	N110			RIGID	None	None	RIGID	Typical
36	M139	N105	N111			RIGID	None	None	RIGID	Typical
37	M140	N106	N112			RIGID	None	None	RIGID	Typical
38	M141	N107	N113			RIGID	None	None	RIGID	Typical
39	M143	N100	N114			RIGID	None	None	RIGID	Typical
40	M145	N101	N116			RIGID	None	None	RIGID	Typical
41	M146	N117	N118			RIGID	None	None	RIGID	Typical
42	M147	N118	N119			RIGID	None	None	RIGID	Typical
43	M151	N123	N124			RIGID	None	None	RIGID	Typical
44	M152	N124	N120			RIGID	None	None	RIGID	Typical
45	M153	N125	N126			RIGID	None	None	RIGID	Typical
46	M154	N126	N127			RIGID	None	None	RIGID	Typical
47	M155	N129	N130			RIGID	None	None	RIGID	Typical
48	M156	N130	N128			RIGID	None	None	RIGID	Typical
49	M178	N153	N159			RIGID	None	None	RIGID	Typical
50	M179	N155	N160			RIGID	None	None	RIGID	Typical
51	M180	N156	N161			RIGID	None	None	RIGID	Typical
52	M184	N154	N162			RIGID	None	None	RIGID	Typical
53	M185	N157	N163			RIGID	None	None	RIGID	Typical
54	M186	N158	N164			RIGID	None	None	RIGID	Typical
55	M187	N165	N167			RIGID	None	None	RIGID	Typical
56	M189	N166	N169			RIGID	None	None	RIGID	Typical
57	M211	N153	N173			RIGID	None	None	RIGID	Typical
58	M212	N155	N174			RIGID	None	None	RIGID	Typical
59	M213	N156	N175			RIGID	None	None	RIGID	Typical
60	M217	N170	N176			RIGID	None	None	RIGID	Typical
61	M218	N171	N177			RIGID	None	None	RIGID	Typical
62	M219	N172	N178			RIGID	None	None	RIGID	Typical
63	M221	N165	N179			RIGID	None	None	RIGID	Typical
64	M223	N166	N181			RIGID	None	None	RIGID	Typical
65	M224	N182	N183			RIGID	None	None	RIGID	Typical
66	M225	N183	N184			RIGID	None	None	RIGID	Typical
67	M229	N188	N189			RIGID	None	None	RIGID	Typical
68	M230	N189	N185			RIGID	None	None	RIGID	Typical
69	M231	N190	N191			RIGID	None	None	RIGID	Typical
70	M232	N191	N192			RIGID	None	None	RIGID	Typical
71	M233	N194	N195			RIGID	None	None	RIGID	Typical
72	M234	N195	N193			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
73	M256	N218	N224			RIGID	None	None	RIGID	Typical
74	M257	N220	N225			RIGID	None	None	RIGID	Typical
75	M258	N221	N226			RIGID	None	None	RIGID	Typical
76	M262	N219	N227			RIGID	None	None	RIGID	Typical
77	M263	N222	N228			RIGID	None	None	RIGID	Typical
78	M264	N223	N229			RIGID	None	None	RIGID	Typical
79	M265	N230	N232			RIGID	None	None	RIGID	Typical
80	M267	N231	N234			RIGID	None	None	RIGID	Typical
81	M289	N218	N238			RIGID	None	None	RIGID	Typical
82	M290	N220	N239			RIGID	None	None	RIGID	Typical
83	M291	N221	N240			RIGID	None	None	RIGID	Typical
84	M295	N235	N241			RIGID	None	None	RIGID	Typical
85	M296	N236	N242			RIGID	None	None	RIGID	Typical
86	M297	N237	N243			RIGID	None	None	RIGID	Typical
87	M299	N230	N244			RIGID	None	None	RIGID	Typical
88	M301	N231	N246			RIGID	None	None	RIGID	Typical
89	M302	N247	N248			RIGID	None	None	RIGID	Typical
90	M303	N248	N249			RIGID	None	None	RIGID	Typical
91	M307	N253	N254			RIGID	None	None	RIGID	Typical
92	M308	N254	N250			RIGID	None	None	RIGID	Typical
93	M309	N255	N256			RIGID	None	None	RIGID	Typical
94	M310	N256	N257			RIGID	None	None	RIGID	Typical
95	M311	N259	N260			RIGID	None	None	RIGID	Typical
96	M312	N260	N258			RIGID	None	None	RIGID	Typical
97	M313	N266B	N264B			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
98	M314	N262B	N260C			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
99	M315	N265B	N267C			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
100	M316	N261B	N263B			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
101	M45A	N50	N52		180	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
102	M68	N78	N79A		90	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
103	M74B	N80	N60		180	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
104	M75B	N52A	N62		90	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
105	M110	N102	N103		180	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
106	M144	N114	N115		90	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
107	M148	N116	N121		180	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
108	M150	N104	N122		90	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
109	M188	N167	N168		180	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
110	M222	N179	N180		90	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
111	M226	N181	N186		180	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
112	M228	N169	N187		90	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
113	M266	N232	N233		180	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
114	M300	N244	N245		90	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
115	M304	N246	N251		180	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
116	M306	N234	N252		90	Grating Suppo...	Beam	Single Angle	A36 Gr.36	Typical
117	M54	N74A	N75A		90	Standoff Tube	Beam	Tube	A500 Gr.B...	Typical
118	M130	N85	N86		90	Standoff Tube	Beam	Tube	A500 Gr.B...	Typical
119	M208	N150	N151		90	Standoff Tube	Beam	Tube	A500 Gr.B...	Typical
120	M286	N215	N216		90	Standoff Tube	Beam	Tube	A500 Gr.B...	Typical
121	M66	N79A	N60			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
122	M74C	N52	N62			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
123	M142	N115	N121			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
124	M149	N103	N122			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
125	M220	N180	N186			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
126	M227	N168	N187			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
127	M298	N245	N251			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
128	M305	N233	N252			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
129	M31	N38	N29			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
130	M33	N39	N31			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
131	M34A	N35	N79			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
132	M60	N70	N67			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
133	M61	N71	N68			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
134	M62	N69	N64			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
135	M103	N95	N92			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
136	M104	N96	N93			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
137	M105	N94	N89			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
138	M136	N109	N106			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
139	M137	N110	N107			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
140	M138	N108	N105			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
141	M181	N160	N157			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
142	M182	N161	N158			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
143	M183	N159	N154			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
144	M214	N174	N171			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
145	M215	N175	N172			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
146	M216	N173	N170			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
147	M259	N225	N222			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
148	M260	N226	N223			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
149	M261	N224	N219			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
150	M292	N239	N236			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
151	M293	N240	N237			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
152	M294	N238	N235			Grating Suppo...	Beam	RECT	A36 Gr.36	Typical
153	M193	N266B	N246B			RIGID	None	None	RIGID	Typical
154	M194	N263B	N257A			RIGID	None	None	RIGID	Typical
155	M195	N276	N260A			RIGID	None	None	RIGID	Typical
156	M196	N275	N259A			RIGID	None	None	RIGID	Typical
157	M197	N261B	N258A			RIGID	None	None	RIGID	Typical
158	M198	N267C	N253A			RIGID	None	None	RIGID	Typical
159	M199	N272	N256A			RIGID	None	None	RIGID	Typical
160	M200	N271	N255A			RIGID	None	None	RIGID	Typical
161	M201	N265B	N254A			RIGID	None	None	RIGID	Typical
162	M202	N260C	N249A			RIGID	None	None	RIGID	Typical
163	M203	N268	N252A			RIGID	None	None	RIGID	Typical
164	M204	N267	N251A			RIGID	None	None	RIGID	Typical
165	M205	N262B	N250A			RIGID	None	None	RIGID	Typical
166	M206	N264B	N245B			RIGID	None	None	RIGID	Typical
167	M207	N264	N248A			RIGID	None	None	RIGID	Typical
168	M208A	N263	N247B			RIGID	None	None	RIGID	Typical
169	M190	N254B	N286			RIGID	None	None	RIGID	Typical
170	M191	N287	N256B			RIGID	None	None	RIGID	Typical
171	M192	N288	N253B			RIGID	None	None	RIGID	Typical
172	M193A	N289	N290			RIGID	None	None	RIGID	Typical
173	M194A	N270A	N263A			RIGID	None	None	RIGID	Typical
174	M195A	N285	N279			RIGID	None	None	RIGID	Typical
175	M196A	N269A	N262A			RIGID	None	None	RIGID	Typical
176	M197A	N284	N278			RIGID	None	None	RIGID	Typical
177	M198A	N268A	N252B			RIGID	None	None	RIGID	Typical
178	M199A	N267A	N251B			RIGID	None	None	RIGID	Typical
179	M200A	N266A	N260B			RIGID	None	None	RIGID	Typical
180	M201A	N265A	N259B			RIGID	None	None	RIGID	Typical
181	M202A	N264A	N258B			RIGID	None	None	RIGID	Typical
182	M203A	N257B	N250B			RIGID	None	None	RIGID	Typical
183	M204A	N271A	N255B			RIGID	None	None	RIGID	Typical
184	M205A	N280	N273A			RIGID	None	None	RIGID	Typical
185	M206A	N272A	N275A			RIGID	None	None	RIGID	Typical
186	M207A	N281	N274A			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
187	M208B	N282	N276A			RIGID	None	None	RIGID	Typical
188	M209	N283	N277			RIGID	None	None	RIGID	Typical
189	M210	N257B	N264A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
190	M211A	N264A	N265A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
191	M215A	N270A	N286			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
192	M222A	N271A	N257B		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
193	M223A	N257B	N280			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
194	M224A	N280	N264A		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
195	M225A	N272A	N264A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
196	M226A	N272A	N265A		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
197	M227A	N281	N265A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
198	M228A	N281	N266A		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
199	M229A	N282	N266A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
200	M230A	N282	N267A		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
201	M231A	N283	N267A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
202	M232A	N283	N268A		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
203	M233A	N284	N268A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
204	M234A	N284	N269A		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
205	M235	N285	N269A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
206	M236	N285	N270A			RIGID	None	None	RIGID	Typical
207	M237	N256B	N286			RIGID	None	None	RIGID	Typical
208	M238	N289	N288			RIGID	None	None	RIGID	Typical
209	M215B	N254B	N263A		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
210	M216A	N263A	N251B		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
211	M217A	N251B	N259B		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
212	M218A	N259B	N258B		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
213	M219A	N258B	N250B		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
214	M220A	N256B	N279		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
215	M221A	N279	N276A		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
216	M222B	N276A	N275A		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
217	M223B	N275A	N273A		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
218	M224B	N273A	N255B		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
219	M225B	N287	N285			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
220	M226B	N285	N282			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
221	M227B	N282	N272A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
222	M228B	N272A	N280			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
223	M229B	N280	N271A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
224	M227C	N270A	N267A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
225	M228C	N267A	N265A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
226	M229C	N275B	N307			RIGID	None	None	RIGID	Typical
227	M230B	N308	N277A			RIGID	None	None	RIGID	Typical
228	M231B	N309	N274B			RIGID	None	None	RIGID	Typical
229	M232B	N310	N311			RIGID	None	None	RIGID	Typical
230	M233B	N291	N284A			RIGID	None	None	RIGID	Typical
231	M234B	N306	N300			RIGID	None	None	RIGID	Typical
232	M235A	N290A	N283A			RIGID	None	None	RIGID	Typical
233	M236A	N305	N299			RIGID	None	None	RIGID	Typical
234	M237A	N289A	N273B			RIGID	None	None	RIGID	Typical
235	M238A	N288A	N272B			RIGID	None	None	RIGID	Typical
236	M239A	N287A	N281A			RIGID	None	None	RIGID	Typical
237	M240A	N286A	N280A			RIGID	None	None	RIGID	Typical
238	M241A	N285A	N279A			RIGID	None	None	RIGID	Typical
239	M242	N278A	N271B			RIGID	None	None	RIGID	Typical
240	M243	N292	N276B			RIGID	None	None	RIGID	Typical
241	M244	N301	N294			RIGID	None	None	RIGID	Typical
242	M245	N293	N296			RIGID	None	None	RIGID	Typical
243	M246	N302	N295			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
244	M247	N303	N297			RIGID	None	None	RIGID	Typical
245	M248	N304	N298			RIGID	None	None	RIGID	Typical
246	M249	N278A	N285A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
247	M250	N285A	N286A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
248	M251	N291	N307			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
249	M252	N292	N278A		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
250	M253	N278A	N301			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
251	M254	N301	N285A		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
252	M255	N293	N285A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
253	M256A	N293	N286A		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
254	M257A	N302	N286A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
255	M258A	N302	N287A		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
256	M259A	N303	N287A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
257	M260A	N303	N288A		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
258	M261A	N304	N288A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
259	M262A	N304	N289A		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
260	M263A	N305	N289A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
261	M264A	N305	N290A		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
262	M265A	N306	N290A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
263	M266A	N306	N291			RIGID	None	None	RIGID	Typical
264	M267A	N277A	N307			RIGID	None	None	RIGID	Typical
265	M268	N310	N309			RIGID	None	None	RIGID	Typical
266	M272	N275B	N284A		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
267	M273	N284A	N272B		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
268	M274	N272B	N280A		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
269	M275	N280A	N279A		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
270	M276	N279A	N271B		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
271	M277	N277A	N300		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
272	M278	N300	N297		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
273	M279	N297	N296		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
274	M280	N296	N294		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
275	M281	N294	N276B		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
276	M282	N308	N306			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
277	M283	N306	N303			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
278	M284	N303	N293			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
279	M285	N293	N301			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
280	M286A	N301	N292			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
281	M287	N291	N288A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
282	M288	N288A	N286A			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
283	M289A	N318	N350			RIGID	None	None	RIGID	Typical
284	M290A	N351	N320			RIGID	None	None	RIGID	Typical
285	M291A	N352	N317			RIGID	None	None	RIGID	Typical
286	M292A	N353	N354			RIGID	None	None	RIGID	Typical
287	M293A	N334	N327			RIGID	None	None	RIGID	Typical
288	M294A	N349	N343			RIGID	None	None	RIGID	Typical
289	M295A	N333	N326			RIGID	None	None	RIGID	Typical
290	M296A	N348	N342			RIGID	None	None	RIGID	Typical
291	M297A	N332	N316			RIGID	None	None	RIGID	Typical
292	M298A	N331	N315			RIGID	None	None	RIGID	Typical
293	M299A	N330	N324			RIGID	None	None	RIGID	Typical
294	M300A	N329	N323			RIGID	None	None	RIGID	Typical
295	M301A	N328	N322			RIGID	None	None	RIGID	Typical
296	M302A	N321	N314			RIGID	None	None	RIGID	Typical
297	M303A	N335	N319			RIGID	None	None	RIGID	Typical
298	M304A	N344	N337			RIGID	None	None	RIGID	Typical
299	M305A	N336	N339			RIGID	None	None	RIGID	Typical
300	M306A	N345	N338			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
301	M307A	N346	N340			RIGID	None	None	RIGID	Typical
302	M308A	N347	N341			RIGID	None	None	RIGID	Typical
303	M309A	N321	N328			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
304	M310A	N328	N329			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
305	M311A	N334	N350			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
306	M312A	N335	N321		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
307	M313A	N321	N344			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
308	M314A	N344	N328		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
309	M315A	N336	N328			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
310	M316A	N336	N329		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
311	M317	N345	N329			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
312	M318	N345	N330		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
313	M319	N346	N330			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
314	M320	N346	N331		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
315	M321	N347	N331			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
316	M322	N347	N332		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
317	M323	N348	N332			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
318	M324	N348	N333		45	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
319	M325	N349	N333			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
320	M326	N349	N334			RIGID	None	None	RIGID	Typical
321	M327	N320	N350			RIGID	None	None	RIGID	Typical
322	M328	N353	N352			RIGID	None	None	RIGID	Typical
323	M332	N318	N327		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
324	M333	N327	N315		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
325	M334	N315	N323		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
326	M335	N323	N322		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
327	M336	N322	N314		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
328	M337	N320	N343		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
329	M338	N343	N340		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
330	M339	N340	N339		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
331	M340	N339	N337		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
332	M341	N337	N319		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
333	M342	N351	N349			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
334	M343	N349	N346			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
335	M344	N346	N336			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
336	M345	N336	N344			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
337	M346	N344	N335			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
338	M347	N334	N331			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
339	M348	N331	N329			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
340	M349	N361	N393			RIGID	None	None	RIGID	Typical
341	M350	N394	N363			RIGID	None	None	RIGID	Typical
342	M351	N395	N360			RIGID	None	None	RIGID	Typical
343	M352	N396	N397			RIGID	None	None	RIGID	Typical
344	M353	N377	N370			RIGID	None	None	RIGID	Typical
345	M354	N392	N386			RIGID	None	None	RIGID	Typical
346	M355	N376	N369			RIGID	None	None	RIGID	Typical
347	M356	N391	N385			RIGID	None	None	RIGID	Typical
348	M357	N375	N359			RIGID	None	None	RIGID	Typical
349	M358	N374	N368			RIGID	None	None	RIGID	Typical
350	M359	N373	N367			RIGID	None	None	RIGID	Typical
351	M360	N372	N366			RIGID	None	None	RIGID	Typical
352	M361	N371	N365			RIGID	None	None	RIGID	Typical
353	M362	N364	N357			RIGID	None	None	RIGID	Typical
354	M363	N378	N362			RIGID	None	None	RIGID	Typical
355	M364	N387	N380			RIGID	None	None	RIGID	Typical
356	M365	N379	N382			RIGID	None	None	RIGID	Typical
357	M366	N388	N381			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
358	M367	N389	N383			RIGID	None	None	RIGID	Typical
359	M368	N390	N384			RIGID	None	None	RIGID	Typical
360	M369	N364	N371			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
361	M370	N371	N372			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
362	M371	N377	N393			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
363	M372	N378	N364		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
364	M373	N364	N387			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
365	M374	N387	N371		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
366	M375	N379	N371			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
367	M376	N379	N372		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
368	M377	N388	N372			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
369	M378	N388	N373		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
370	M379	N389	N373			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
371	M380	N389	N374		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
372	M381	N390	N374			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
373	M382	N390	N375		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
374	M383	N391	N375			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
375	M384	N391	N376		135	Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
376	M385	N392	N376			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
377	M386	N392	N377			RIGID	None	None	RIGID	Typical
378	M387	N363	N393			RIGID	None	None	RIGID	Typical
379	M388	N396	N395			RIGID	None	None	RIGID	Typical
380	M389	N389A	N217			RIGID	None	None	RIGID	Typical
381	M390	N358	N230			RIGID	None	None	RIGID	Typical
382	M392	N361	N370		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
383	M393	N370	N368		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
384	M394	N368	N366		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
385	M395	N366	N365		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
386	M396	N365	N357		90	Standoff Top F...	Beam	RECT	A36 Gr.36	Typical
387	M397	N363	N386		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
388	M398	N386	N383		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
389	M399	N383	N382		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
390	M400	N382	N380		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
391	M401	N380	N362		90	Standoff Botto...	Beam	RECT	A36 Gr.36	Typical
392	M402	N394	N392			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
393	M403	N392	N389			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
394	M404	N389	N379			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
395	M405	N379	N387			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
396	M406	N387	N378			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
397	M407	N377	N374			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
398	M408	N374	N372			Standoff Braci...	Beam	RECT	A36 Gr.36	Typical
399	M408A	N386A	N383A			RIGID	None	None	RIGID	Typical
400	M409	N385A	N47			RIGID	None	None	RIGID	Typical
401	M410	N389B	N387A			RIGID	None	None	RIGID	Typical
402	M411	N388A	N100			RIGID	None	None	RIGID	Typical
403	M412	N392A	N390A			RIGID	None	None	RIGID	Typical
404	M413	N391A	N165			RIGID	None	None	RIGID	Typical
405	M405A	N291	N310			RIGID	None	None	RIGID	Typical
406	M406A	N309	N308			RIGID	None	None	RIGID	Typical
407	M407A	N334	N353			RIGID	None	None	RIGID	Typical
408	M408B	N352	N351			RIGID	None	None	RIGID	Typical
409	M409A	N377	N396			RIGID	None	None	RIGID	Typical
410	M410A	N395	N394			RIGID	None	None	RIGID	Typical
411	M411A	N270A	N289			RIGID	None	None	RIGID	Typical
412	M412A	N288	N287			RIGID	None	None	RIGID	Typical
413	M413A	N168	N245			Walkway Pipe	Beam	Pipe	A53 Gr.B	Typical
414	M414	N162	N241			Walkway Pipe	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
415	M415	N103	N180			Walkway Pipe	Beam	Pipe	A53 Gr.B	Typical
416	M416	N97	N176			Walkway Pipe	Beam	Pipe	A53 Gr.B	Typical
417	M417	N227	N72			Walkway Pipe	Beam	Pipe	A53 Gr.B	Typical
418	M418	N233	N79A			Walkway Pipe	Beam	Pipe	A53 Gr.B	Typical
419	M419	N52	N115			Walkway Pipe	Beam	Pipe	A53 Gr.B	Typical
420	M420	N41	N111			Walkway Pipe	Beam	Pipe	A53 Gr.B	Typical
421	M421	N386B	N387B			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
422	M422	N388B	N389C			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
423	M423	N390B	N391B			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
424	M424	N392B	N393A			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
425	M425	N394A	N395A			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
426	M426	N396A	N397B			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
427	M427	N398	N399			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
428	M428	N400	N401			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
429	M429	N402	N403			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
430	M430	N404	N405			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
431	M431	N406	N407			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
432	M432	N408	N409			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
433	M433	N410	N411			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
434	M434	N412	N413			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
435	M435	N414	N415			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
436	M436	N416	N417			Walkway Plate	Beam	RECT	A36 Gr.36	Typical
437	M437	N266B	N421			RIGID	None	None	RIGID	Typical
438	M438	N263	N418			RIGID	None	None	RIGID	Typical
439	M439	N264	N419			RIGID	None	None	RIGID	Typical
440	M440	N264B	N420			RIGID	None	None	RIGID	Typical
441	M441	N262B	N429			RIGID	None	None	RIGID	Typical
442	M442	N267	N426			RIGID	None	None	RIGID	Typical
443	M443	N268	N427			RIGID	None	None	RIGID	Typical
444	M444	N260C	N428			RIGID	None	None	RIGID	Typical
445	M445	N265B	N437			RIGID	None	None	RIGID	Typical
446	M446	N271	N434			RIGID	None	None	RIGID	Typical
447	M447	N272	N435			RIGID	None	None	RIGID	Typical
448	M448	N267C	N436			RIGID	None	None	RIGID	Typical
449	M449	N261B	N445			RIGID	None	None	RIGID	Typical
450	M450	N275	N442			RIGID	None	None	RIGID	Typical
451	M451	N276	N443			RIGID	None	None	RIGID	Typical
452	M452	N263B	N444			RIGID	None	None	RIGID	Typical
453	MP4A	N437A	N441			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
454	MP3A	N434A	N438			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
455	MP2A	N435A	N439			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
456	MP1A	N436A	N440			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
457	M477	N466	N469			Support Rail	Beam	Pipe	A53 Gr.B	Typical
458	M478	N470	N471			Support Rail	Beam	Pipe	A53 Gr.B	Typical
459	M479	N472	N473			Support Rail	Beam	Pipe	A53 Gr.B	Typical
460	M480	N474	N475			Support Rail	Beam	Pipe	A53 Gr.B	Typical
461	M482	N466	N475			RIGID	None	None	RIGID	Typical
462	M483	N470	N469			RIGID	None	None	RIGID	Typical
463	M484	N472	N471			RIGID	None	None	RIGID	Typical
464	M485	N474	N473			RIGID	None	None	RIGID	Typical
465	M477A	N466	N482			RIGID	None	None	RIGID	Typical
466	M478A	N467	N483			RIGID	None	None	RIGID	Typical
467	M479A	N468	N484			RIGID	None	None	RIGID	Typical
468	M480A	N469	N485			RIGID	None	None	RIGID	Typical
469	M469	N262B	N493			RIGID	None	None	RIGID	Typical
470	M470	N267	N490			RIGID	None	None	RIGID	Typical
471	M471	N268	N491			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
472	M472	N260C	N492			RIGID	None	None	RIGID	Typical
473	MP4D	N497	N501			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
474	MP3D	N494	N498			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
475	MP2D	N495	N499			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
476	MP1D	N496	N500			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
477	M477B	N470	N506			RIGID	None	None	RIGID	Typical
478	M478B	N476	N507			RIGID	None	None	RIGID	Typical
479	M479B	N477	N508			RIGID	None	None	RIGID	Typical
480	M480B	N471	N509			RIGID	None	None	RIGID	Typical
481	M481	N265B	N517			RIGID	None	None	RIGID	Typical
482	M482A	N271	N514			RIGID	None	None	RIGID	Typical
483	M483A	N272	N515			RIGID	None	None	RIGID	Typical
484	M484A	N267C	N516			RIGID	None	None	RIGID	Typical
485	MP4C	N521	N525			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
486	MP3C	N518	N522			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
487	MP2C	N519	N523			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
488	MP1C	N520	N524			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
489	M489	N472	N530			RIGID	None	None	RIGID	Typical
490	M490	N478	N531			RIGID	None	None	RIGID	Typical
491	M491	N479	N532			RIGID	None	None	RIGID	Typical
492	M492	N473	N533			RIGID	None	None	RIGID	Typical
493	M493	N261B	N541			RIGID	None	None	RIGID	Typical
494	M494	N275	N538			RIGID	None	None	RIGID	Typical
495	M495	N276	N539			RIGID	None	None	RIGID	Typical
496	M496	N263B	N540			RIGID	None	None	RIGID	Typical
497	MP4B	N545	N549			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
498	MP3B	N542	N546			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
499	MP2B	N543	N547			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
500	MP1B	N544	N548			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
501	M501	N474	N554			RIGID	None	None	RIGID	Typical
502	M502	N480	N555			RIGID	None	None	RIGID	Typical
503	M503	N481	N556			RIGID	None	None	RIGID	Typical
504	M504	N475	N557			RIGID	None	None	RIGID	Typical
505	M505	N266B	N421			RIGID	None	None	RIGID	Typical
506	M506	N263	N418			RIGID	None	None	RIGID	Typical
507	M507	N264	N419			RIGID	None	None	RIGID	Typical
508	M508	N264B	N420			RIGID	None	None	RIGID	Typical
509	M509	N437A	N441			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
510	M510	N434A	N438			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
511	M511	N435A	N439			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
512	M512	N436A	N440			Mount Pipes	Column	Wide Flange	A53 Gr.B	Typical
513	M513	N466	N482			RIGID	None	None	RIGID	Typical
514	M514	N467	N483			RIGID	None	None	RIGID	Typical
515	M515	N468	N484			RIGID	None	None	RIGID	Typical
516	M516	N469	N485			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
1	R3						Yes			None
2	R4						Yes			None
3	R5						Yes			None
4	R6						Yes			None
5	R7						Yes			None
6	R8						Yes			None
7	R9						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
8	R10						Yes			None
9	M57						Yes			None
10	M58						Yes			None
11	M59						Yes			None
12	M63						Yes			None
13	M64						Yes			None
14	M65						Yes			None
15	M67						Yes			None
16	M70						Yes			None
17	M71		OOOXOO				Yes			None
18	M72						Yes			None
19	M74A		OOOXOO				Yes			None
20	M75C						Yes			None
21	M75A		OOOXOO				Yes			None
22	M76						Yes			None
23	M77		OOOXOO				Yes			None
24	M78						Yes			None
25	M100						Yes			None
26	M101						Yes			None
27	M102						Yes			None
28	M106						Yes			None
29	M107						Yes			None
30	M108						Yes			None
31	M109						Yes			None
32	M111						Yes			None
33	M133						Yes			None
34	M134						Yes			None
35	M135						Yes			None
36	M139						Yes			None
37	M140						Yes			None
38	M141						Yes			None
39	M143						Yes			None
40	M145						Yes			None
41	M146		OOOXOO				Yes			None
42	M147						Yes			None
43	M151		OOOXOO				Yes			None
44	M152						Yes			None
45	M153		OOOXOO				Yes			None
46	M154						Yes			None
47	M155		OOOXOO				Yes			None
48	M156						Yes			None
49	M178						Yes			None
50	M179						Yes			None
51	M180						Yes			None
52	M184						Yes			None
53	M185						Yes			None
54	M186						Yes			None
55	M187						Yes			None
56	M189						Yes			None
57	M211						Yes			None
58	M212						Yes			None
59	M213						Yes			None
60	M217						Yes			None
61	M218						Yes			None
62	M219						Yes			None
63	M221						Yes			None
64	M223						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
65	M224		OOOXOO				Yes			None
66	M225						Yes			None
67	M229		OOOXOO				Yes			None
68	M230						Yes			None
69	M231		OOOXOO				Yes			None
70	M232						Yes			None
71	M233		OOOXOO				Yes			None
72	M234						Yes			None
73	M256						Yes			None
74	M257						Yes			None
75	M258						Yes			None
76	M262						Yes			None
77	M263						Yes			None
78	M264						Yes			None
79	M265						Yes			None
80	M267						Yes			None
81	M289						Yes			None
82	M290						Yes			None
83	M291						Yes			None
84	M295						Yes			None
85	M296						Yes			None
86	M297						Yes			None
87	M299						Yes			None
88	M301						Yes			None
89	M302		OOOXOO				Yes			None
90	M303						Yes			None
91	M307		OOOXOO				Yes			None
92	M308						Yes			None
93	M309		OOOXOO				Yes			None
94	M310						Yes			None
95	M311		OOOXOO				Yes			None
96	M312						Yes			None
97	M313						Yes			None
98	M314						Yes			None
99	M315						Yes			None
100	M316						Yes			None
101	M45A						Yes			None
102	M68						Yes			None
103	M74B						Yes			None
104	M75B						Yes			None
105	M110						Yes			None
106	M144						Yes			None
107	M148						Yes			None
108	M150						Yes			None
109	M188						Yes			None
110	M222						Yes			None
111	M226						Yes			None
112	M228						Yes			None
113	M266						Yes			None
114	M300						Yes			None
115	M304						Yes			None
116	M306						Yes			None
117	M54						Yes			None
118	M130						Yes			None
119	M208						Yes			None
120	M286						Yes			None
121	M66						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
122	M74C						Yes			None
123	M142						Yes			None
124	M149						Yes			None
125	M220						Yes			None
126	M227						Yes			None
127	M298						Yes			None
128	M305						Yes			None
129	M31						Yes			None
130	M33						Yes			None
131	M34A						Yes			None
132	M60						Yes			None
133	M61						Yes			None
134	M62						Yes			None
135	M103						Yes			None
136	M104						Yes			None
137	M105						Yes			None
138	M136						Yes			None
139	M137						Yes			None
140	M138						Yes			None
141	M181						Yes			None
142	M182						Yes			None
143	M183						Yes			None
144	M214						Yes			None
145	M215						Yes			None
146	M216						Yes			None
147	M259						Yes			None
148	M260						Yes			None
149	M261						Yes			None
150	M292						Yes			None
151	M293						Yes			None
152	M294						Yes			None
153	M193						Yes			None
154	M194						Yes			None
155	M195						Yes			None
156	M196						Yes			None
157	M197						Yes			None
158	M198						Yes			None
159	M199						Yes			None
160	M200						Yes			None
161	M201						Yes			None
162	M202						Yes			None
163	M203						Yes			None
164	M204						Yes			None
165	M205						Yes			None
166	M206						Yes			None
167	M207						Yes			None
168	M208A						Yes			None
169	M190						Yes			None
170	M191						Yes			None
171	M192						Yes			None
172	M193A						Yes			None
173	M194A						Yes			None
174	M195A						Yes			None
175	M196A						Yes			None
176	M197A						Yes			None
177	M198A						Yes			None
178	M199A						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
179	M200A						Yes			None
180	M201A						Yes			None
181	M202A						Yes			None
182	M203A						Yes			None
183	M204A						Yes			None
184	M205A						Yes			None
185	M206A						Yes			None
186	M207A						Yes			None
187	M208B						Yes			None
188	M209						Yes			None
189	M210						Yes			None
190	M211A						Yes			None
191	M215A						Yes			None
192	M222A						Yes			None
193	M223A						Yes			None
194	M224A						Yes			None
195	M225A						Yes			None
196	M226A						Yes			None
197	M227A						Yes			None
198	M228A						Yes			None
199	M229A						Yes			None
200	M230A						Yes			None
201	M231A						Yes			None
202	M232A						Yes			None
203	M233A						Yes			None
204	M234A						Yes			None
205	M235						Yes			None
206	M236						Yes			None
207	M237						Yes			None
208	M238						Yes			None
209	M215B						Yes			None
210	M216A						Yes			None
211	M217A						Yes			None
212	M218A						Yes			None
213	M219A						Yes			None
214	M220A						Yes			None
215	M221A						Yes			None
216	M222B						Yes			None
217	M223B						Yes			None
218	M224B						Yes			None
219	M225B						Yes			None
220	M226B						Yes			None
221	M227B						Yes			None
222	M228B						Yes			None
223	M229B						Yes			None
224	M227C						Yes			None
225	M228C						Yes			None
226	M229C						Yes			None
227	M230B						Yes			None
228	M231B						Yes			None
229	M232B						Yes			None
230	M233B						Yes			None
231	M234B						Yes			None
232	M235A						Yes			None
233	M236A						Yes			None
234	M237A						Yes			None
235	M238A						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
236	M239A						Yes			None
237	M240A						Yes			None
238	M241A						Yes			None
239	M242						Yes			None
240	M243						Yes			None
241	M244						Yes			None
242	M245						Yes			None
243	M246						Yes			None
244	M247						Yes			None
245	M248						Yes			None
246	M249						Yes			None
247	M250						Yes			None
248	M251						Yes			None
249	M252						Yes			None
250	M253						Yes			None
251	M254						Yes			None
252	M255						Yes			None
253	M256A						Yes			None
254	M257A						Yes			None
255	M258A						Yes			None
256	M259A						Yes			None
257	M260A						Yes			None
258	M261A						Yes			None
259	M262A						Yes			None
260	M263A						Yes			None
261	M264A						Yes			None
262	M265A						Yes			None
263	M266A						Yes			None
264	M267A						Yes			None
265	M268						Yes			None
266	M272						Yes			None
267	M273						Yes			None
268	M274						Yes			None
269	M275						Yes			None
270	M276						Yes			None
271	M277						Yes			None
272	M278						Yes			None
273	M279						Yes			None
274	M280						Yes			None
275	M281						Yes			None
276	M282						Yes			None
277	M283						Yes			None
278	M284						Yes			None
279	M285						Yes			None
280	M286A						Yes			None
281	M287						Yes			None
282	M288						Yes			None
283	M289A						Yes			None
284	M290A						Yes			None
285	M291A						Yes			None
286	M292A						Yes			None
287	M293A						Yes			None
288	M294A						Yes			None
289	M295A						Yes			None
290	M296A						Yes			None
291	M297A						Yes			None
292	M298A						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
293	M299A						Yes			None
294	M300A						Yes			None
295	M301A						Yes			None
296	M302A						Yes			None
297	M303A						Yes			None
298	M304A						Yes			None
299	M305A						Yes			None
300	M306A						Yes			None
301	M307A						Yes			None
302	M308A						Yes			None
303	M309A						Yes			None
304	M310A						Yes			None
305	M311A						Yes			None
306	M312A						Yes			None
307	M313A						Yes			None
308	M314A						Yes			None
309	M315A						Yes			None
310	M316A						Yes			None
311	M317						Yes			None
312	M318						Yes			None
313	M319						Yes			None
314	M320						Yes			None
315	M321						Yes			None
316	M322						Yes			None
317	M323						Yes			None
318	M324						Yes			None
319	M325						Yes			None
320	M326						Yes			None
321	M327						Yes			None
322	M328						Yes			None
323	M332						Yes			None
324	M333						Yes			None
325	M334						Yes			None
326	M335						Yes			None
327	M336						Yes			None
328	M337						Yes			None
329	M338						Yes			None
330	M339						Yes			None
331	M340						Yes			None
332	M341						Yes			None
333	M342						Yes			None
334	M343						Yes			None
335	M344						Yes			None
336	M345						Yes			None
337	M346						Yes			None
338	M347						Yes			None
339	M348						Yes			None
340	M349						Yes			None
341	M350						Yes			None
342	M351						Yes			None
343	M352						Yes			None
344	M353						Yes			None
345	M354						Yes			None
346	M355						Yes			None
347	M356						Yes			None
348	M357						Yes			None
349	M358						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
350	M359						Yes			None
351	M360						Yes			None
352	M361						Yes			None
353	M362						Yes			None
354	M363						Yes			None
355	M364						Yes			None
356	M365						Yes			None
357	M366						Yes			None
358	M367						Yes			None
359	M368						Yes			None
360	M369						Yes			None
361	M370						Yes			None
362	M371						Yes			None
363	M372						Yes			None
364	M373						Yes			None
365	M374						Yes			None
366	M375						Yes			None
367	M376						Yes			None
368	M377						Yes			None
369	M378						Yes			None
370	M379						Yes			None
371	M380						Yes			None
372	M381						Yes			None
373	M382						Yes			None
374	M383						Yes			None
375	M384						Yes			None
376	M385						Yes			None
377	M386						Yes			None
378	M387						Yes			None
379	M388						Yes			None
380	M389						Yes			None
381	M390						Yes			None
382	M392						Yes			None
383	M393						Yes			None
384	M394						Yes			None
385	M395						Yes			None
386	M396						Yes			None
387	M397						Yes			None
388	M398						Yes			None
389	M399						Yes			None
390	M400						Yes			None
391	M401						Yes			None
392	M402						Yes			None
393	M403						Yes			None
394	M404						Yes			None
395	M405						Yes			None
396	M406						Yes			None
397	M407						Yes			None
398	M408						Yes			None
399	M408A						Yes			None
400	M409						Yes			None
401	M410						Yes			None
402	M411						Yes			None
403	M412						Yes			None
404	M413						Yes			None
405	M405A						Yes			None
406	M406A						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
407	M407A						Yes			None
408	M408B						Yes			None
409	M409A						Yes			None
410	M410A						Yes			None
411	M411A						Yes			None
412	M412A						Yes			None
413	M413A						Yes			None
414	M414						Yes			None
415	M415						Yes			None
416	M416						Yes			None
417	M417						Yes			None
418	M418						Yes			None
419	M419						Yes			None
420	M420						Yes			None
421	M421						Yes			None
422	M422						Yes			None
423	M423						Yes			None
424	M424						Yes			None
425	M425						Yes			None
426	M426						Yes			None
427	M427						Yes			None
428	M428						Yes			None
429	M429						Yes			None
430	M430						Yes			None
431	M431						Yes			None
432	M432						Yes			None
433	M433						Yes			None
434	M434						Yes			None
435	M435						Yes			None
436	M436						Yes			None
437	M437						Yes			None
438	M438						Yes			None
439	M439						Yes			None
440	M440						Yes			None
441	M441						Yes			None
442	M442						Yes			None
443	M443						Yes			None
444	M444						Yes			None
445	M445						Yes			None
446	M446						Yes			None
447	M447						Yes			None
448	M448						Yes			None
449	M449						Yes			None
450	M450						Yes			None
451	M451						Yes			None
452	M452						Yes			None
453	MP4A						Yes			None
454	MP3A						Yes			None
455	MP2A						Yes			None
456	MP1A						Yes			None
457	M477						Yes			None
458	M478						Yes			None
459	M479						Yes			None
460	M480						Yes			None
461	M482						Yes			None
462	M483						Yes			None
463	M484						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
464	M485						Yes			None
465	M477A						Yes			None
466	M478A						Yes			None
467	M479A						Yes			None
468	M480A						Yes			None
469	M469						Yes			None
470	M470						Yes			None
471	M471						Yes			None
472	M472						Yes			None
473	MP4D						Yes			None
474	MP3D						Yes			None
475	MP2D						Yes			None
476	MP1D						Yes			None
477	M477B						Yes			None
478	M478B						Yes			None
479	M479B						Yes			None
480	M480B						Yes			None
481	M481						Yes			None
482	M482A						Yes			None
483	M483A						Yes			None
484	M484A						Yes			None
485	MP4C						Yes			None
486	MP3C						Yes			None
487	MP2C						Yes			None
488	MP1C						Yes			None
489	M489						Yes			None
490	M490						Yes			None
491	M491						Yes			None
492	M492						Yes			None
493	M493						Yes			None
494	M494						Yes			None
495	M495						Yes			None
496	M496						Yes			None
497	MP4B						Yes			None
498	MP3B						Yes			None
499	MP2B						Yes			None
500	MP1B						Yes			None
501	M501						Yes			None
502	M502						Yes			None
503	M503						Yes			None
504	M504						Yes			None
505	M505						Yes			None
506	M506						Yes			None
507	M507						Yes			None
508	M508						Yes			None
509	M509						Yes			None
510	M510						Yes			None
511	M511						Yes			None
512	M512						Yes			None
513	M513						Yes			None
514	M514						Yes			None
515	M515						Yes			None
516	M516						Yes			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-tor...	Kyy	Kzz	Cb	Funct...
1	M313	Face Horizontal	10.5			Lbyy			.65	.65		Lateral
2	M314	Face Horizontal	10.5			Lbyy			.65	.65		Lateral
3	M315	Face Horizontal	10.5			Lbyy			.65	.65		Lateral
4	M316	Face Horizontal	10.5			Lbyy			.65	.65		Lateral
5	M45A	Grating Support Angle	2.914	Segment	Segment	Lbyy			.65	.65		Lateral
6	M68	Grating Support Angle	2.914	Segment	Segment	Lbyy			.65	.65		Lateral
7	M74B	Grating Support Angle	2.386	Segment	Segment	Lbyy			.65	.65		Lateral
8	M75B	Grating Support Angle	2.386	Segment	Segment	Lbyy			.65	.65		Lateral
9	M110	Grating Support Angle	2.914	Segment	Segment	Lbyy			.65	.65		Lateral
10	M144	Grating Support Angle	2.914	Segment	Segment	Lbyy			.65	.65		Lateral
11	M148	Grating Support Angle	2.386	Segment	Segment	Lbyy			.65	.65		Lateral
12	M150	Grating Support Angle	2.386	Segment	Segment	Lbyy			.65	.65		Lateral
13	M188	Grating Support Angle	2.914	Segment	Segment	Lbyy			.65	.65		Lateral
14	M222	Grating Support Angle	2.914	Segment	Segment	Lbyy			.65	.65		Lateral
15	M226	Grating Support Angle	2.386	Segment	Segment	Lbyy			.65	.65		Lateral
16	M228	Grating Support Angle	2.386	Segment	Segment	Lbyy			.65	.65		Lateral
17	M266	Grating Support Angle	2.914	Segment	Segment	Lbyy			.65	.65		Lateral
18	M300	Grating Support Angle	2.914	Segment	Segment	Lbyy			.65	.65		Lateral
19	M304	Grating Support Angle	2.386	Segment	Segment	Lbyy			.65	.65		Lateral
20	M306	Grating Support Angle	2.386	Segment	Segment	Lbyy			.65	.65		Lateral
21	M54	Standoff Tube	4.244			Lbyy			1	1		Lateral
22	M130	Standoff Tube	4.244			Lbyy			1	1		Lateral
23	M208	Standoff Tube	4.244			Lbyy			1	1		Lateral
24	M286	Standoff Tube	4.244			Lbyy			1	1		Lateral
25	M66	Grating Support Plate 2	.605			Lbyy			.65	.65		Lateral
26	M74C	Grating Support Plate 2	.605			Lbyy			.65	.65		Lateral
27	M142	Grating Support Plate 2	.605			Lbyy			.65	.65		Lateral
28	M149	Grating Support Plate 2	.605			Lbyy			.65	.65		Lateral
29	M220	Grating Support Plate 2	.605			Lbyy			.65	.65		Lateral
30	M227	Grating Support Plate 2	.605			Lbyy			.65	.65		Lateral
31	M298	Grating Support Plate 2	.605			Lbyy			.65	.65		Lateral
32	M305	Grating Support Plate 2	.605			Lbyy			.65	.65		Lateral
33	M31	Grating Support Plate 1	1.659	.5	.5	Lbyy			.65	.65		Lateral
34	M33	Grating Support Plate 1	1.124	.5	.5	Lbyy			.65	.65		Lateral
35	M34A	Grating Support Plate 1	.583	.5	.5	Lbyy			.65	.65		Lateral
36	M60	Grating Support Plate 1	1.659	.5	.5	Lbyy			.65	.65		Lateral
37	M61	Grating Support Plate 1	1.124	.5	.5	Lbyy			.65	.65		Lateral
38	M62	Grating Support Plate 1	.583	.5	.5	Lbyy			.65	.65		Lateral
39	M103	Grating Support Plate 1	1.659	.5	.5	Lbyy			.65	.65		Lateral
40	M104	Grating Support Plate 1	1.124	.5	.5	Lbyy			.65	.65		Lateral
41	M105	Grating Support Plate 1	.583	.5	.5	Lbyy			.65	.65		Lateral
42	M136	Grating Support Plate 1	1.659	.5	.5	Lbyy			.65	.65		Lateral
43	M137	Grating Support Plate 1	1.124	.5	.5	Lbyy			.65	.65		Lateral
44	M138	Grating Support Plate 1	.583	.5	.5	Lbyy			.65	.65		Lateral
45	M181	Grating Support Plate 1	1.659	.5	.5	Lbyy			.65	.65		Lateral
46	M182	Grating Support Plate 1	1.124	.5	.5	Lbyy			.65	.65		Lateral
47	M183	Grating Support Plate 1	.583	.5	.5	Lbyy			.65	.65		Lateral
48	M214	Grating Support Plate 1	1.659	.5	.5	Lbyy			.65	.65		Lateral
49	M215	Grating Support Plate 1	1.124	.5	.5	Lbyy			.65	.65		Lateral
50	M216	Grating Support Plate 1	.583	.5	.5	Lbyy			.65	.65		Lateral
51	M259	Grating Support Plate 1	1.659	.5	.5	Lbyy			.65	.65		Lateral
52	M260	Grating Support Plate 1	1.124	.5	.5	Lbyy			.65	.65		Lateral
53	M261	Grating Support Plate 1	.583	.5	.5	Lbyy			.65	.65		Lateral
54	M292	Grating Support Plate 1	1.659	.5	.5	Lbyy			.65	.65		Lateral
55	M293	Grating Support Plate 1	1.124	.5	.5	Lbyy			.65	.65		Lateral
56	M294	Grating Support Plate 1	.583	.5	.5	Lbyy			.65	.65		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-tor...	Kyy	Kzz	Cb	Funct...
57	M210	Standoff Bracing 1	.718			Lbyy			.65	.65		Lateral
58	M211A	Standoff Bracing 1	.655			Lbyy			.65	.65		Lateral
59	M215A	Standoff Bracing 1	.943			Lbyy			.65	.65		Lateral
60	M222A	Standoff Bracing 1	.855			Lbyy			.65	.65		Lateral
61	M223A	Standoff Bracing 1	1.017			Lbyy			.65	.65		Lateral
62	M224A	Standoff Bracing 1	.72			Lbyy			.65	.65		Lateral
63	M225A	Standoff Bracing 1	.887			Lbyy			.65	.65		Lateral
64	M226A	Standoff Bracing 2	.598			Lbyy			.65	.65		Lateral
65	M227A	Standoff Bracing 2	.746			Lbyy			.65	.65		Lateral
66	M228A	Standoff Bracing 2	.494			Lbyy			.65	.65		Lateral
67	M229A	Standoff Bracing 3	.621			Lbyy			.65	.65		Lateral
68	M230A	Standoff Bracing 3	.407			Lbyy			.65	.65		Lateral
69	M231A	Standoff Bracing 3	.517			Lbyy			.65	.65		Lateral
70	M232A	Standoff Bracing 4	.334			Lbyy			.65	.65		Lateral
71	M233A	Standoff Bracing 4	.43			Lbyy			.65	.65		Lateral
72	M234A	Standoff Bracing 4	.272			Lbyy			.65	.65		Lateral
73	M235	Standoff Bracing 4	.343			Lbyy			.65	.65		Lateral
74	M215B	Standoff Top Flange	.943			Lbyy			.65	.65		Lateral
75	M216A	Standoff Top Flange	.993			Lbyy			.65	.65		Lateral
76	M217A	Standoff Top Flange	1.023			Lbyy			.65	.65		Lateral
77	M218A	Standoff Top Flange	.655			Lbyy			.65	.65		Lateral
78	M219A	Standoff Top Flange	.718			Lbyy			.65	.65		Lateral
79	M220A	Standoff Bottom Flange	.874			Lbyy			.65	.65		Lateral
80	M221A	Standoff Bottom Flange	1.006			Lbyy			.65	.65		Lateral
81	M222B	Standoff Bottom Flange	1.045			Lbyy			.65	.65		Lateral
82	M223B	Standoff Bottom Flange	.667			Lbyy			.65	.65		Lateral
83	M224B	Standoff Bottom Flange	.742			Lbyy			.65	.65		Lateral
84	M225B	Standoff Bracing 1	.872			Lbyy			.65	.65		Lateral
85	M226B	Standoff Bracing 1	1.006			Lbyy			.65	.65		Lateral
86	M227B	Standoff Bracing 1	1.045			Lbyy			.65	.65		Lateral
87	M228B	Standoff Bracing 1	.667			Lbyy			.65	.65		Lateral
88	M229B	Standoff Bracing 1	.731			Lbyy			.65	.65		Lateral
89	M227C	Standoff Bracing 1	.989			Lbyy			.65	.65		Lateral
90	M228C	Standoff Bracing 1	1.028			Lbyy			.65	.65		Lateral
91	M249	Standoff Bracing 1	.718			Lbyy			.65	.65		Lateral
92	M250	Standoff Bracing 1	.655			Lbyy			.65	.65		Lateral
93	M251	Standoff Bracing 1	.943			Lbyy			.65	.65		Lateral
94	M252	Standoff Bracing 1	.855			Lbyy			.65	.65		Lateral
95	M253	Standoff Bracing 1	1.017			Lbyy			.65	.65		Lateral
96	M254	Standoff Bracing 1	.72			Lbyy			.65	.65		Lateral
97	M255	Standoff Bracing 1	.887			Lbyy			.65	.65		Lateral
98	M256A	Standoff Bracing 2	.598			Lbyy			.65	.65		Lateral
99	M257A	Standoff Bracing 2	.746			Lbyy			.65	.65		Lateral
100	M258A	Standoff Bracing 2	.494			Lbyy			.65	.65		Lateral
101	M259A	Standoff Bracing 3	.621			Lbyy			.65	.65		Lateral
102	M260A	Standoff Bracing 3	.407			Lbyy			.65	.65		Lateral
103	M261A	Standoff Bracing 3	.517			Lbyy			.65	.65		Lateral
104	M262A	Standoff Bracing 4	.334			Lbyy			.65	.65		Lateral
105	M263A	Standoff Bracing 4	.43			Lbyy			.65	.65		Lateral
106	M264A	Standoff Bracing 4	.272			Lbyy			.65	.65		Lateral
107	M265A	Standoff Bracing 4	.343			Lbyy			.65	.65		Lateral
108	M272	Standoff Top Flange	.943			Lbyy			.65	.65		Lateral
109	M273	Standoff Top Flange	.993			Lbyy			.65	.65		Lateral
110	M274	Standoff Top Flange	1.023			Lbyy			.65	.65		Lateral
111	M275	Standoff Top Flange	.655			Lbyy			.65	.65		Lateral
112	M276	Standoff Top Flange	.718			Lbyy			.65	.65		Lateral
113	M277	Standoff Bottom Flange	.874			Lbyy			.65	.65		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-tor...	Kyy	Kzz	Cb	Funct...
114	M278	Standoff Bottom Flange	1.006			Lbyy			.65	.65		Lateral
115	M279	Standoff Bottom Flange	1.045			Lbyy			.65	.65		Lateral
116	M280	Standoff Bottom Flange	.667			Lbyy			.65	.65		Lateral
117	M281	Standoff Bottom Flange	.742			Lbyy			.65	.65		Lateral
118	M282	Standoff Bracing 1	.872			Lbyy			.65	.65		Lateral
119	M283	Standoff Bracing 1	1.006			Lbyy			.65	.65		Lateral
120	M284	Standoff Bracing 1	1.045			Lbyy			.65	.65		Lateral
121	M285	Standoff Bracing 1	.667			Lbyy			.65	.65		Lateral
122	M286A	Standoff Bracing 1	.731			Lbyy			.65	.65		Lateral
123	M287	Standoff Bracing 1	.989			Lbyy			.65	.65		Lateral
124	M288	Standoff Bracing 1	1.028			Lbyy			.65	.65		Lateral
125	M309A	Standoff Bracing 1	.718			Lbyy			.65	.65		Lateral
126	M310A	Standoff Bracing 1	.655			Lbyy			.65	.65		Lateral
127	M311A	Standoff Bracing 1	.943			Lbyy			.65	.65		Lateral
128	M312A	Standoff Bracing 1	.855			Lbyy			.65	.65		Lateral
129	M313A	Standoff Bracing 1	1.017			Lbyy			.65	.65		Lateral
130	M314A	Standoff Bracing 1	.72			Lbyy			.65	.65		Lateral
131	M315A	Standoff Bracing 1	.887			Lbyy			.65	.65		Lateral
132	M316A	Standoff Bracing 2	.598			Lbyy			.65	.65		Lateral
133	M317	Standoff Bracing 2	.746			Lbyy			.65	.65		Lateral
134	M318	Standoff Bracing 2	.494			Lbyy			.65	.65		Lateral
135	M319	Standoff Bracing 3	.621			Lbyy			.65	.65		Lateral
136	M320	Standoff Bracing 3	.407			Lbyy			.65	.65		Lateral
137	M321	Standoff Bracing 3	.517			Lbyy			.65	.65		Lateral
138	M322	Standoff Bracing 4	.334			Lbyy			.65	.65		Lateral
139	M323	Standoff Bracing 4	.43			Lbyy			.65	.65		Lateral
140	M324	Standoff Bracing 4	.272			Lbyy			.65	.65		Lateral
141	M325	Standoff Bracing 4	.343			Lbyy			.65	.65		Lateral
142	M332	Standoff Top Flange	.943			Lbyy			.65	.65		Lateral
143	M333	Standoff Top Flange	.993			Lbyy			.65	.65		Lateral
144	M334	Standoff Top Flange	1.023			Lbyy			.65	.65		Lateral
145	M335	Standoff Top Flange	.655			Lbyy			.65	.65		Lateral
146	M336	Standoff Top Flange	.718			Lbyy			.65	.65		Lateral
147	M337	Standoff Bottom Flange	.874			Lbyy			.65	.65		Lateral
148	M338	Standoff Bottom Flange	1.006			Lbyy			.65	.65		Lateral
149	M339	Standoff Bottom Flange	1.045			Lbyy			.65	.65		Lateral
150	M340	Standoff Bottom Flange	.667			Lbyy			.65	.65		Lateral
151	M341	Standoff Bottom Flange	.742			Lbyy			.65	.65		Lateral
152	M342	Standoff Bracing 1	.872			Lbyy			.65	.65		Lateral
153	M343	Standoff Bracing 1	1.006			Lbyy			.65	.65		Lateral
154	M344	Standoff Bracing 1	1.045			Lbyy			.65	.65		Lateral
155	M345	Standoff Bracing 1	.667			Lbyy			.65	.65		Lateral
156	M346	Standoff Bracing 1	.731			Lbyy			.65	.65		Lateral
157	M347	Standoff Bracing 1	.989			Lbyy			.65	.65		Lateral
158	M348	Standoff Bracing 1	1.028			Lbyy			.65	.65		Lateral
159	M369	Standoff Bracing 1	.718			Lbyy			.65	.65		Lateral
160	M370	Standoff Bracing 1	.655			Lbyy			.65	.65		Lateral
161	M371	Standoff Bracing 1	.943			Lbyy			.65	.65		Lateral
162	M372	Standoff Bracing 1	.855			Lbyy			.65	.65		Lateral
163	M373	Standoff Bracing 1	1.017			Lbyy			.65	.65		Lateral
164	M374	Standoff Bracing 1	.72			Lbyy			.65	.65		Lateral
165	M375	Standoff Bracing 1	.887			Lbyy			.65	.65		Lateral
166	M376	Standoff Bracing 2	.598			Lbyy			.65	.65		Lateral
167	M377	Standoff Bracing 2	.746			Lbyy			.65	.65		Lateral
168	M378	Standoff Bracing 2	.494			Lbyy			.65	.65		Lateral
169	M379	Standoff Bracing 3	.621			Lbyy			.65	.65		Lateral
170	M380	Standoff Bracing 3	.407			Lbyy			.65	.65		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-tor...	Kyy	Kzz	Cb	Funct...
171	M381	Standoff Bracing 3	.517			Lbyy			.65	.65		Lateral
172	M382	Standoff Bracing 4	.334			Lbyy			.65	.65		Lateral
173	M383	Standoff Bracing 4	.43			Lbyy			.65	.65		Lateral
174	M384	Standoff Bracing 4	.272			Lbyy			.65	.65		Lateral
175	M385	Standoff Bracing 4	.343			Lbyy			.65	.65		Lateral
176	M392	Standoff Top Flange	.943			Lbyy			.65	.65		Lateral
177	M393	Standoff Top Flange	.989			Lbyy			.65	.65		Lateral
178	M394	Standoff Top Flange	1.028			Lbyy			.65	.65		Lateral
179	M395	Standoff Top Flange	.655			Lbyy			.65	.65		Lateral
180	M396	Standoff Top Flange	.718			Lbyy			.65	.65		Lateral
181	M397	Standoff Bottom Flange	.874			Lbyy			.65	.65		Lateral
182	M398	Standoff Bottom Flange	1.006			Lbyy			.65	.65		Lateral
183	M399	Standoff Bottom Flange	1.045			Lbyy			.65	.65		Lateral
184	M400	Standoff Bottom Flange	.667			Lbyy			.65	.65		Lateral
185	M401	Standoff Bottom Flange	.742			Lbyy			.65	.65		Lateral
186	M402	Standoff Bracing 1	.872			Lbyy			.65	.65		Lateral
187	M403	Standoff Bracing 1	1.006			Lbyy			.65	.65		Lateral
188	M404	Standoff Bracing 1	1.045			Lbyy			.65	.65		Lateral
189	M405	Standoff Bracing 1	.667			Lbyy			.65	.65		Lateral
190	M406	Standoff Bracing 1	.731			Lbyy			.65	.65		Lateral
191	M407	Standoff Bracing 1	.989			Lbyy			.65	.65		Lateral
192	M408	Standoff Bracing 1	1.028			Lbyy			.65	.65		Lateral
193	M413A	Walkway Pipe	4.033			Lbyy						Lateral
194	M414	Walkway Pipe	4.033			Lbyy						Lateral
195	M415	Walkway Pipe	4.033			Lbyy						Lateral
196	M416	Walkway Pipe	4.033			Lbyy						Lateral
197	M417	Walkway Pipe	4.033			Lbyy						Lateral
198	M418	Walkway Pipe	4.033			Lbyy						Lateral
199	M419	Walkway Pipe	4.033			Lbyy						Lateral
200	M420	Walkway Pipe	4.033			Lbyy						Lateral
201	M421	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
202	M422	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
203	M423	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
204	M424	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
205	M425	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
206	M426	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
207	M427	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
208	M428	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
209	M429	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
210	M430	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
211	M431	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
212	M432	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
213	M433	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
214	M434	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
215	M435	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
216	M436	Walkway Plate	1.687	.833	.833	Lbyy						Lateral
217	MP4A	Mount Pipes	8			Lbyy						Lateral
218	MP3A	Mount Pipes	8			Lbyy						Lateral
219	MP2A	Mount Pipes	8			Lbyy						Lateral
220	MP1A	Mount Pipes	8			Lbyy						Lateral
221	M477	Support Rail	10.5			Lbyy						Lateral
222	M478	Support Rail	10.5			Lbyy						Lateral
223	M479	Support Rail	10.5			Lbyy						Lateral
224	M480	Support Rail	10.5			Lbyy						Lateral
225	MP4D	Mount Pipes	8			Lbyy						Lateral
226	MP3D	Mount Pipes	8			Lbyy						Lateral
227	MP2D	Mount Pipes	8			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-tor...	Kyy	Kzz	Cb	Funct...
228	MP1D	Mount Pipes	8			Lbyy						Lateral
229	MP4C	Mount Pipes	8			Lbyy						Lateral
230	MP3C	Mount Pipes	8			Lbyy						Lateral
231	MP2C	Mount Pipes	8			Lbyy						Lateral
232	MP1C	Mount Pipes	8			Lbyy						Lateral
233	MP4B	Mount Pipes	8			Lbyy						Lateral
234	MP3B	Mount Pipes	8			Lbyy						Lateral
235	MP2B	Mount Pipes	8			Lbyy						Lateral
236	MP1B	Mount Pipes	8			Lbyy						Lateral
237	M509	Mount Pipes	8			Lbyy						Lateral
238	M510	Mount Pipes	8			Lbyy						Lateral
239	M511	Mount Pipes	8			Lbyy						Lateral
240	M512	Mount Pipes	8			Lbyy						Lateral

Cold Formed Steel Design Parameters

Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp b...	Kyy	Kzz	Cm-yy	Cm-zz	Cb	R	y sway	z sway
No Data to Print ...														

Aluminum Design Parameters

Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
No Data to Print ...											

Joint Loads and Enforced Displacements

Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
No Data to Print ...			

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N250B	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N255B	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N271B	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N276B	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N314	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N319	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	N357	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N362	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N250B	max	13916.423	21	792.283	14	3901.664	2	.094	21	1.055	12	.094	20
2		min	-3763.898	3	-110.327	8	-13872.261	20	-.037	3	-1.026	6	-.037	2
3	N255B	max	22.781	2	5049.543	20	19076.166	21	.216	22	.375	12	.21	19
4		min	-19053.121	20	39.306	2	101.128	2	0	4	-.346	6	-.04	2
5	N271B	max	4749.618	11	722.411	24	4527.093	11	.061	5	.403	11	.04	11

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
6		min	-9118.616	17	-85.795	6	-9188.064	17	-.045	11	-.31	5	-.066	17
7	N276B	max	14260.09	17	3828.936	17	14543.686	17	.198	17	.247	12	-.004	10
8		min	-852.119	11	-203.62	11	-890.622	11	-.043	12	-.378	6	-.109	17
9	N314	max	6116.833	9	819.67	20	5942.229	3	.055	9	.303	2	.052	8
10		min	-6086.218	3	-10.029	2	-5923.027	9	-.045	3	-.332	8	-.047	2
11	N319	max	8065.865	14	2194.604	14	2312.622	9	.056	8	.378	1	.028	10
12		min	-2300.726	9	-580.602	9	-8232.57	14	-.11	13	-.282	7	-.065	16
13	N357	max	11593.756	24	730.072	18	11710.762	24	.037	5	.887	1	.077	24
14		min	-3804.62	6	-102.206	12	-4322.423	6	-.077	24	-.948	7	-.04	6
15	N362	max	317.296	6	4483.987	24	140.613	6	-.019	3	.365	1	.196	24
16		min	-16924.326	24	-33.064	6	-16879.573	24	-.17	22	-.382	7	-.055	6
17	Totals:	max	6343.542	10	16185.28	22	6343.687	1						
18		min	-6343.556	4	4797.601	4	-6343.679	7						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc...		Shear Check	Loc...		LC	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
1	M215B	PL1/2x4	.782	.149	21	.172	0	z	20	56512...	64800	.675	5.4	...	H1-1b
2	M226B	PL3/8x1	.733	0	20	.106	.265	y	21	8968....	12150	.092	.254	...	H1-1a
3	M392	PL1/2x4	.697	.149	24	.155	0	z	23	56512...	64800	.675	5.4	...	H1-1b
4	M74B	L3x3x6	.658	0	21	.101	0	y	9	68266...	68364	2.307	5.322	...	H2-1
5	M403	PL3/8x1	.652	0	24	.093	.265	y	24	8968....	12150	.092	.254	...	H1-1a
6	M75B	L3x3x6	.650	0	20	.114	0	z	7	68266...	68364	2.307	5.322	...	H2-1
7	M222B	PL3/8x4	.633	1.0...	20	.020	1.0...	y	12	36054...	48600	.38	4.027	...	H1-1a
8	M221A	PL3/8x4	.632	1.0...	20	.014	.265	z	21	36864...	48600	.38	3.868	...	H1-1a
9	M272	PL1/2x4	.620	.149	18	.208	0	z	18	56512...	64800	.675	5.4	...	H1-1b
10	M306	L3x3x6	.608	0	23	.110	0	z	11	68266...	68364	2.307	5.322	...	H2-1
11	M62	PL3/8x2...	.601	0	20	.103	0	y	22	26880...	28868...	.224	1.428	...	H1-1b
12	M34A	PL3/8x2...	.600	0	21	.091	0	y	19	26880...	28868...	.224	1.428	...	H1-1b
13	M227B	PL3/8x1	.590	1.0...	21	.020	.468	y	1	8751....	12150	.092	.254	...	H1-1a
14	M304	L3x3x6	.581	0	24	.119	0	y	1	68266...	68364	2.307	5.322	...	H2-1
15	M399	PL3/8x4	.570	1.0...	24	.018	1.0...	y	8	36054...	48600	.38	4.05	...	H1-1a
16	M224B	PL3/8x4	.564	.742	22	.013	.742	y	12	41807...	48600	.38	4.05	...	H1-1a
17	M398	PL3/8x4	.559	1.0...	24	.012	.265	z	24	36864...	48600	.38	4.05	...	H1-1a
18	M283	PL3/8x1	.553	0	17	.094	.265	y	17	8968....	12150	.092	.254	...	H1-1a
19	M261	PL3/8x2...	.544	0	24	.090	0	y	22	26880...	28868...	.224	1.428	...	H1-1b
20	M223B	PL3/8x4	.541	.667	21	.017	.667	y	12	43042...	48600	.38	4.05	...	H1-1a
21	M229B	PL3/8x1	.531	.731	21	.008	.731	y	24	10349...	12150	.092	.254	...	H1-1a
22	M294	PL3/8x2...	.527	0	23	.086	0	y	13	26880...	28868...	.224	1.428	...	H1-1b
23	M404	PL3/8x1	.525	1.0...	24	.019	.468	y	7	8751....	12150	.092	.254	...	H1-1a
24	M401	PL3/8x4	.513	.742	24	.012	.742	y	8	41807...	48600	.38	4.05	...	H1-1a
25	M228B	PL3/8x1	.508	.667	21	.013	.667	y	12	10632...	12150	.092	.254	...	H1-1a
26	M281	PL3/8x4	.495	.742	17	.019	0	y	19	41807...	48600	.38	4.05	...	H1-1a
27	M31	PL3/8x2...	.494	0	20	.056	0	y	24	26880...	28868...	.224	1.428	...	H1-1b
28	M400	PL3/8x4	.493	.667	24	.015	.667	y	8	43042...	48600	.38	4.05	...	H1-1a
29	M278	PL3/8x4	.492	1.0...	17	.029	.291	y	19	36864...	48600	.38	4.05	...	H1-1a
30	M216A	PL1/2x4	.487	.888	21	.049	.888	z	20	55686...	64800	.675	5.4	...	H1-1a
31	M60	PL3/8x2...	.487	0	20	.045	0	y	18	26880...	28868...	.224	1.428	...	H1-1b
32	M279	PL3/8x4	.486	1.0...	17	.028	0	y	19	36054...	48600	.38	4.05	...	H1-1a
33	M406	PL3/8x1	.474	.731	24	.009	.731	y	20	10349...	12150	.092	.254	...	H1-1a
34	M105	PL3/8x2...	.463	0	18	.047	0	y	16	26880...	28868...	.224	1.428	...	H1-1b
35	M148	L3x3x6	.461	0	18	.093	0	y	7	68266...	68364	2.307	5.322	...	H2-1
36	M405	PL3/8x1	.453	.667	24	.012	.667	y	8	10632...	12150	.092	.254	...	H1-1a
37	M150	L3x3x6	.453	0	17	.090	2.3...	y	18	68266...	68364	2.307	5.322	...	H2-1
38	M284	PL3/8x1	.451	1.0...	17	.030	.468	y	22	8751....	12150	.092	.254	...	H1-1a
39	M280	PL3/8x4	.448	.667	17	.024	0	y	19	43042...	48600	.38	4.05	...	H1-1a

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc...		Shear Check	Loc...		LC	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
40	M292	PL3/8x2...	.446	0	24	.043	0	y	21	26880...	28868...	.224	1.428	...	H1-1b
41	M232A	PL3/8x5/8	.444	.334	21	.032	.334	y	20	7373....	7581.6	.059	.1	...	H1-1a
42	M61	PL3/8x2...	.441	0	21	.053	0	y	20	26880...	28868...	.224	1.428	...	H1-1b
43	M259	PL3/8x2...	.435	0	24	.040	0	y	14	26880...	28868...	.224	1.428	...	H1-1b
44	M138	PL3/8x2...	.433	0	17	.101	0	y	19	26880...	28868...	.224	1.428	...	H1-1b
45	M33	PL3/8x2...	.433	0	20	.055	0	y	21	26880...	28868...	.224	1.428	...	H1-1b
46	M286A	PL3/8x1	.413	.731	17	.013	.731	y	21	10349...	12150	.092	.254	...	H1-1a
47	M234A	PL3/8x5/8	.412	.272	21	.047	.272	y	21	7443....	7581.6	.059	.1	...	H1-1a
48	M260	PL3/8x2...	.400	0	23	.046	0	y	24	26880...	28868...	.224	1.428	...	H1-1b
49	M54	HSS4x3x4	.398	1.8...	21	.150	1.8...	z	21	10580...	120474	10.764	13.144	...	H1-1b
50	M285	PL3/8x1	.391	.667	17	.020	.667	y	21	10632...	12150	.092	.254	...	H1-1a
51	M293	PL3/8x2...	.391	0	24	.048	0	y	23	26880...	28868...	.224	1.428	...	H1-1b
52	M382	PL3/8x5/8	.385	.334	24	.028	.334	y	23	7373....	7581.6	.059	.1	...	H1-1a
53	M233A	PL3/8x5/8	.381	0	21	.009	0	y	23	7239....	7581.6	.059	.1	...	H1-1a
54	M231A	PL3/8x3/4	.376	.517	21	.010	.517	y	22	8403....	9104.4	.069	.143	...	H1-1a
55	M136	PL3/8x2...	.371	0	18	.037	0	y	14	26880...	28868...	.224	1.428	...	H1-1b
56	M262A	PL3/8x5/8	.367	.334	17	.037	.334	y	17	7373....	7581.6	.059	.1	...	H1-1a
57	M45A	L3x3x6	.365	0	24	.320	2.9...	y	21	67393...	68364	2.307	5.322	...	H2-1
58	M384	PL3/8x5/8	.364	.272	24	.042	.272	y	24	7443....	7581.6	.059	.1	...	H1-1a
59	M393	PL1/2x4	.362	.885	23	.048	.885	z	11	55759...	64800	.675	5.4	...	H1-1b
60	M286	HSS4x3x4	.360	1.8...	23	.132	1.8...	z	23	10580...	120474	10.764	13.144	...	H1-1b
61	MP2C	PIPE_2.5	.357	5.8...	21	.032	5.8...		22	30038...	50715	3.596	3.596	...	H1-1b
62	M68	L3x3x6	.355	1.2...	22	.267	2.9...	z	20	67393...	68364	2.307	5.322	...	H2-1
63	M477	PIPE_2.0	.352	0	20	.102	10.5		7	8922....	32130	1.872	1.872	...	H1-1b
64	M273	PL1/2x4	.344	.888	6	.074	.993	y	20	55686...	64800	.675	5.4	...	H1-1b
65	M226	L3x3x6	.344	0	15	.080	0	y	4	68266...	68364	2.307	5.322	...	H2-1
66	M228	L3x3x6	.339	0	14	.085	0	y	7	68266...	68364	2.307	5.322	...	H2-1
67	M216	PL3/8x2...	.339	0	14	.038	0	y	16	26880...	28868...	.224	1.428	...	H1-1b
68	M383	PL3/8x5/8	.337	0	24	.008	.43	y	12	7239....	7581.6	.059	.1	...	H1-1a
69	M103	PL3/8x2...	.335	0	18	.042	0	y	19	26880...	28868...	.224	1.428	...	H1-1b
70	M144	L3x3x6	.332	1.2...	19	.274	2.7...	y	14	67393...	68364	2.307	5.322	...	H2-1
71	MP2B	PIPE_2.5	.329	5.8...	17	.052	5.8...		11	30038...	50715	3.596	3.596	...	H1-1b
72	M219A	PL1/2x4	.328	.718	22	.038	.718	y	6	59858...	64800	.675	5.4	...	H1-1a
73	M183	PL3/8x2...	.328	0	15	.065	0	y	13	26880...	28868...	.224	1.428	...	H1-1b
74	M235	PL3/8x5/8	.327	0	21	.007	.343	y	23	7361....	7581.6	.059	.1	...	H1-1a
75	M381	PL3/8x3/4	.326	.517	24	.012	0	y	12	8403....	9104.4	.069	.143	...	H1-1a
76	M266	L3x3x6	.326	1.2...	22	.268	2.9...	y	24	67393...	68364	2.307	5.322	...	H2-1
77	M300	L3x3x6	.323	0	19	.272	2.9...	y	23	67393...	68364	2.307	5.322	...	H2-1
78	M480	PIPE_2.0	.319	10.5	22	.090	10.5		10	8922....	32130	1.872	1.872	...	H1-1b
79	M130	HSS4x3x4	.317	1.8...	18	.130	1.8...	z	18	10580...	120474	10.764	13.144	...	H1-1b
80	MP3B	PIPE_2.5	.315	5.8...	1	.052	5.8...		9	30038...	50715	3.596	3.596	...	H1-1b
81	M137	PL3/8x2...	.311	0	18	.034	0	y	17	26880...	28868...	.224	1.428	...	H1-1b
82	M263A	PL3/8x5/8	.294	.43	17	.023	0	y	18	7239....	7581.6	.059	.1	...	H1-1a
83	M332	PL1/2x4	.293	.149	2	.115	0	z	13	56512...	64800	.675	5.4	...	H1-1b
84	M341	PL3/8x4	.289	.742	14	.014	0	y	24	41807...	48600	.38	4.05	...	H1-1a
85	M261A	PL3/8x3/4	.289	.517	17	.034	.517	y	18	8403....	9104.4	.069	.143	...	H1-1a
86	M385	PL3/8x5/8	.289	0	24	.005	.343	y	24	7361....	7581.6	.059	.1	...	H1-1a
87	M227C	PL3/8x1	.288	.989	21	.066	.26	y	21	9059....	12150	.092	.254	...	H1-1b
88	M104	PL3/8x2...	.288	0	17	.039	0	y	18	26880...	28868...	.224	1.428	...	H1-1b
89	M218A	PL1/2x4	.286	.655	22	.041	.655	y	6	60659...	64800	.675	5.4	...	H1-1a
90	M110	L3x3x6	.282	0	21	.224	2.9...	y	18	67393...	68364	2.307	5.322	...	H2-1
91	MP3C	PIPE_2.5	.281	5.8...	4	.056	5.8...		12	30038...	50715	3.596	3.596	...	H1-1b
92	M396	PL1/2x4	.275	.718	24	.034	.718	y	8	59858...	64800	.675	5.4	...	H1-1a
93	M217A	PL1/2x4	.273	1.0...	20	.041	1.0...	y	6	55163...	64800	.675	5.4	...	H1-1a
94	M344	PL3/8x1	.272	1.0...	14	.028	.468	y	21	8751....	12150	.092	.254	...	H1-1a
95	M339	PL3/8x4	.270	1.0...	14	.019	0	y	24	36054...	48600	.38	4.05	...	H1-1a
96	M478	PIPE_2.0	.270	10.5	18	.047	3.5...		7	8922....	32130	1.872	1.872	...	H1-1b

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc...		Shear Check	Loc...		LC	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
97	M313	PIPE_2.5	.266	6.9...	22	.360	3.3...		12	34640...	50715	3.596	3.596	...	H1-1b
98	M181	PL3/8x2....	.262	0	14	.021	0	y	17	26880...	28868...	.224	1.428	...	H1-1b
99	M340	PL3/8x4	.257	.667	14	.016	0	y	24	43042...	48600	.38	4.05	...	H1-1a
100	M333	PL1/2x4	.256	.888	8	.050	.993	z	21	55686...	64800	.675	5.4	...	H1-1b
101	MP3A	PIPE_2.5	.254	5.8...	23	.053	1.0...		19	30038...	50715	3.596	3.596	...	H1-1b
102	M395	PL1/2x4	.251	.655	24	.037	.655	y	8	60659...	64800	.675	5.4	...	H1-1a
103	M479	PIPE_2.0	.251	6.9...	10	.070	0		1	8922....	32130	1.872	1.872	...	H1-1b
104	M222	L3x3x6	.251	0	22	.166	2.7...	y	19	67393...	68364	2.307	5.322	...	H2-1
105	M346	PL3/8x1	.251	.731	14	.012	.731	y	23	10349...	12150	.092	.254	...	H1-1a
106	M510	PIPE_2.5	.250	5.8...	23	.051	5.8...		20	30038...	50715	3.596	3.596	...	H1-1b
107	M265A	PL3/8x5/8	.249	0	17	.008	.343	y	17	7361....	7581.6	.059	.1	...	H1-1a
108	M338	PL3/8x4	.248	1.0...	15	.021	.291	y	24	36864...	48600	.38	4.05	...	H1-1a
109	M264A	PL3/8x5/8	.247	.272	17	.044	.272	y	17	7443....	7581.6	.059	.1	...	H1-1b
110	M407	PL3/8x1	.247	.989	24	.058	.26	y	24	9059....	12150	.092	.254	...	H1-1b
111	MP2D	PIPE_2.5	.246	5.8...	7	.035	5.8...		18	30038...	50715	3.596	3.596	...	H1-1b
112	M316	PIPE_2.5	.244	9.3...	19	.256	7.1...		5	34640...	50715	3.596	3.596	...	H1-1b
113	M188	L3x3x6	.243	0	19	.168	2.8...	z	9	67393...	68364	2.307	5.322	...	H2-1
114	M394	PL1/2x4	.240	1.0...	24	.038	1.0...	y	8	55089...	64800	.675	5.4	...	H1-1a
115	MP3D	PIPE_2.5	.235	5.8...	7	.028	5.8...		7	30038...	50715	3.596	3.596	...	H1-1b
116	M182	PL3/8x2....	.234	0	14	.028	0	y	15	26880...	28868...	.224	1.428	...	H1-1b
117	M214	PL3/8x2....	.231	0	14	.025	0	y	24	26880...	28868...	.224	1.428	...	H1-1b
118	MP1C	PIPE_2.5	.231	5.8...	21	.051	5.8...		3	30038...	50715	3.596	3.596	...	H1-1b
119	M315	PIPE_2.5	.227	9.3...	23	.248	7.1...		8	34640...	50715	3.596	3.596	...	H1-1b
120	MP1B	PIPE_2.5	.218	5.8...	18	.051	5.8...		5	30038...	50715	3.596	3.596	...	H1-1b
121	M215	PL3/8x2....	.217	0	15	.026	0	y	13	26880...	28868...	.224	1.428	...	H1-1b
122	M314	PIPE_2.5	.213	1.1...	23	.186	3.3...		21	34640...	50715	3.596	3.596	...	H1-1b
123	M298	PL3/8x3	.212	0	24	.116	.605	y	23	32979...	36450	.285	2.278	...	H1-1b
124	MP4B	PIPE_2.5	.200	5.8...	19	.050	5.8...		8	30038...	50715	3.596	3.596	...	H1-1b
125	M287	PL3/8x1	.200	.989	18	.055	.26	y	17	9059....	12150	.092	.254	...	H1-1b
126	M74C	PL3/8x3	.197	0	19	.152	.605	y	20	32979...	36450	.285	2.278	...	H1-1b
127	M343	PL3/8x1	.196	0	15	.050	.265	y	14	8968....	12150	.092	.254	...	H1-1b
128	M345	PL3/8x1	.195	0	14	.017	.667	y	23	10632...	12150	.092	.254	...	H1-1...
129	MP2A	PIPE_2.5	.193	5.8...	13	.043	5.8...		8	30038...	50715	3.596	3.596	...	H1-1b
130	M416	PIPE_1.5	.192	0	19	.059	4.0...		17	17365...	23593...	1.105	1.105	...	H1-1b
131	M66	PL3/8x3	.191	0	21	.145	.605	y	20	32979...	36450	.285	2.278	...	H1-1b
132	M511	PIPE_2.5	.189	5.8...	13	.042	5.8...		8	30038...	50715	3.596	3.596	...	H1-1b
133	MP4D	PIPE_2.5	.183	5.8...	15	.047	5.8...		1	30038...	50715	3.596	3.596	...	H1-1b
134	M429	PL3/16x...	.182	0	20	.016	0	y	23	1877....	9136.8	.035	.286	...	H1-1b
135	M425	PL3/16x...	.182	0	15	.012	0	y	14	1877....	9136.8	.035	.286	...	H1-1b
136	M305	PL3/8x3	.178	0	23	.146	.605	y	24	32979...	36450	.285	2.278	...	H1-1b
137	M420	PIPE_1.5	.174	0	23	.092	0		18	17365...	23593...	1.105	1.105	...	H1-1b
138	M260A	PL3/8x3/4	.170	.407	24	.031	0	y	22	8663....	9104.4	.069	.143	...	H1-1b
139	M432	PL3/16x...	.169	0	24	.017	0	y	21	1877....	9136.8	.035	.286	...	H1-1b
140	M436	PL3/16x...	.169	0	17	.017	0	y	17	1877....	9136.8	.035	.286	...	H1-1b
141	M274	PL1/2x4	.168	0	7	.056	.458	y	21	55163...	64800	.675	5.4	...	H1-1b
142	M142	PL3/8x3	.168	0	19	.061	.605	y	18	32979...	36450	.285	2.278	...	H1-1b
143	MP1D	PIPE_2.5	.167	5.8...	18	.030	5.8...		7	30038...	50715	3.596	3.596	...	H1-1b
144	M210	PL3/8x1	.165	0	21	.012	0	y	12	10406...	12150	.092	.254	...	H1-1b
145	M334	PL1/2x4	.163	.458	9	.035	.458	y	24	55163...	64800	.675	5.4	...	H1-1...
146	M227	PL3/8x3	.160	0	15	.066	.605	y	15	32979...	36450	.285	2.278	...	H1-1b
147	M433	PL3/16x...	.159	1.6...	8	.009	0	y	20	1877....	9136.8	.035	.244	...	H1-1b
148	M320	PL3/8x3/4	.157	.407	22	.020	.407	y	24	8663....	9104.4	.069	.143	...	H1-1b
149	M322	PL3/8x5/8	.156	.334	14	.021	.334	y	14	7373....	7581.6	.059	.1	...	H1-1b
150	M430	PL3/16x...	.154	0	20	.010	0	y	24	1877....	9136.8	.035	.286	...	H1-1b
151	M417	PIPE_1.5	.153	4.0...	19	.099	0		22	17365...	23593...	1.105	1.105	...	H1-1b
152	M348	PL3/8x1	.153	1.0...	9	.035	.46	y	23	8848....	12150	.092	.254	...	H1-1...
153	M275	PL1/2x4	.148	0	6	.041	.655	y	21	60659...	64800	.675	5.4	...	H1-1b

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc...		Shear Check	Loc...		LC	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
154	M419	PIPE_1.5	.148	0	6	.066	0		1	17366...	23593...	1.105	1.105	...	H1-1b
155	M230A	PL3/8x3/4	.147	.407	13	.018	0	y	24	8663....	9104.4	.069	.143	...	H1-1b
156	M208	HSS4x3x4	.147	1.8...	2	.069	1.8...	z	14	10580...	120474	10.764	13.144	...	H1-1b
157	M431	PL3/16x...	.146	0	24	.013	0	y	20	1877....	9136.8	.035	.286	...	H1-1b
158	M211A	PL3/8x1	.146	0	21	.014	0	y	12	10680...	12150	.092	.254	...	H1-1b
159	M276	PL1/2x4	.146	.718	21	.035	.718	y	21	59858...	64800	.675	5.4	...	H1-1b
160	M228C	PL3/8x1	.145	1.0...	21	.017	.46	y	16	8848....	12150	.092	.254	...	H1-1b
161	M414	PIPE_1.5	.145	4.0...	21	.082	.212		24	17365...	23593...	1.105	1.105	...	H1-1b
162	M369	PL3/8x1	.143	0	24	.011	0	y	8	10406...	12150	.092	.254	...	H1-1b
163	MP4C	PIPE_2.5	.140	5.8...	17	.040	1.0...		13	30038...	50715	3.596	3.596	...	H1-1b
164	M336	PL1/2x4	.136	.718	8	.019	.718	y	23	59858...	64800	.675	5.4	...	H1-1b
165	MP4A	PIPE_2.5	.135	5.8...	23	.051	5.8...		5	30038...	50715	3.596	3.596	...	H1-1b
166	M509	PIPE_2.5	.135	5.8...	23	.051	5.8...		5	30038...	50715	3.596	3.596	...	H1-1b
167	M335	PL1/2x4	.132	.655	9	.024	.655	y	24	60659...	64800	.675	5.4	...	H1-1...
168	MP1A	PIPE_2.5	.131	5.8...	15	.050	1.0...		7	30038...	50715	3.596	3.596	...	H1-1b
169	M258A	PL3/8x7/8	.129	.494	24	.034	0	y	21	9967....	10627...	.084	.194	...	H1-1b
170	M380	PL3/8x3/4	.129	.407	18	.017	0	y	20	8663....	9104.4	.069	.143	...	H1-1b
171	M435	PL3/16x...	.129	0	17	.010	0	y	17	1877....	9136.8	.035	.286	...	H1-1b
172	M324	PL3/8x5/8	.128	.272	14	.024	.272	y	14	7443....	7581.6	.059	.1	...	H1-1b
173	M370	PL3/8x1	.126	0	24	.014	0	y	8	10680...	12150	.092	.254	...	H1-1b
174	M512	PIPE_2.5	.125	5.8...	15	.046	1.0...		19	30038...	50715	3.596	3.596	...	H1-1b
175	M408	PL3/8x1	.125	1.0...	24	.016	.46	y	20	8848....	12150	.092	.254	...	H1-1b
176	M309A	PL3/8x1	.125	0	9	.018	0	y	23	10406...	12150	.092	.254	...	H1-1...
177	M413A	PIPE_1.5	.124	4.0...	14	.063	0		23	17366...	23593...	1.105	1.105	...	H1-1b
178	M288	PL3/8x1	.124	1.0...	11	.042	.46	y	21	8848....	12150	.092	.254	...	H1-1...
179	M318	PL3/8x7/8	.123	.494	21	.024	0	y	23	9967....	10627...	.084	.194	...	H1-1b
180	M426	PL3/16x...	.123	0	15	.012	0	y	23	1877....	9136.8	.035	.286	...	H1-1b
181	M310A	PL3/8x1	.122	0	9	.020	0	y	23	10680...	12150	.092	.254	...	H1-1...
182	M428	PL3/16x...	.121	0	23	.014	0	y	24	1877....	9136.8	.035	.286	...	H1-1b
183	M249	PL3/8x1	.121	0	17	.023	0	y	21	10406...	12150	.092	.254	...	H1-1b
184	M347	PL3/8x1	.117	.989	2	.029	.26	y	14	9059....	12150	.092	.254	...	H1-1b
185	M149	PL3/8x3	.116	0	18	.135	.605	y	18	32979...	36450	.285	2.278	...	H1-1b
186	M418	PIPE_1.5	.115	4.0...	11	.051	4.0...		10	17366...	23593...	1.105	1.105	...	H1-1b
187	M434	PL3/16x...	.114	0	6	.008	0	y	21	1877....	9136.8	.035	.286	...	H1-1b
188	M228A	PL3/8x7/8	.110	.494	14	.022	0	y	12	9967....	10627...	.084	.194	...	H1-1b
189	M424	PL3/16x...	.109	0	14	.011	0	y	16	1877....	9136.8	.035	.286	...	H1-1b
190	M250	PL3/8x1	.108	0	17	.027	0	y	21	10680...	12150	.092	.254	...	H1-1b
191	M256A	PL3/8x7/8	.101	.598	23	.028	0	y	21	9674....	10627...	.084	.194	...	H1-1b
192	M427	PL3/16x...	.100	0	15	.013	0	y	24	1877....	9136.8	.035	.286	...	H1-1b
193	M378	PL3/8x7/8	.100	.494	18	.021	0	y	8	9967....	10627...	.084	.194	...	H1-1b
194	M220	PL3/8x3	.098	0	13	.093	.605	y	14	32979...	36450	.285	2.278	...	H1-1b
195	M423	PL3/16x...	.098	0	19	.009	0	y	19	1877....	9136.8	.035	.286	...	H1-1b
196	M421	PL3/16x...	.095	0	18	.014	0	y	16	1877....	9136.8	.035	.286	...	H1-1b
197	M321	PL3/8x3/4	.095	.517	2	.026	0	y	23	8403....	9104.4	.069	.143	...	H1-1b
198	M316A	PL3/8x7/8	.095	.598	21	.019	0	y	23	9674....	10627...	.084	.194	...	H1-1b
199	M422	PL3/16x...	.090	0	14	.011	0	y	18	1877....	9136.8	.035	.286	...	H1-1b
200	M226A	PL3/8x7/8	.088	0	14	.021	0	y	12	9674....	10627...	.084	.194	...	H1-1...
201	M323	PL3/8x5/8	.088	.43	14	.017	0	y	24	7239....	7581.6	.059	.1	...	H1-1b
202	M229A	PL3/8x3/4	.087	0	15	.005	0	y	23	8110....	9104.4	.069	.143	...	H1-1b
203	M223A	PL3/8x1	.082	0	13	.012	0	y	12	8907....	12150	.092	.254	...	H1-1b
204	M376	PL3/8x7/8	.080	0	18	.020	0	y	8	9674....	10627...	.084	.194	...	H1-1...
205	M319	PL3/8x3/4	.078	0	20	.018	.621	y	23	8110....	9104.4	.069	.143	...	H1-1b
206	M254	PL3/8x1	.077	.72	22	.018	.72	y	20	10400...	12150	.092	.254	...	H1-1b
207	M379	PL3/8x3/4	.077	0	17	.007	.621	y	11	8110....	9104.4	.069	.143	...	H1-1b
208	M314A	PL3/8x1	.076	0	20	.012	0	y	23	10400...	12150	.092	.254	...	H1-1...
209	M373	PL3/8x1	.076	0	19	.012	0	y	7	8907....	12150	.092	.254	...	H1-1b
210	M227A	PL3/8x7/8	.075	.746	14	.004	.746	y	24	9182....	10627...	.084	.194	...	H1-1b

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc...		Shear Check	Loc...		LC	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
211	M224A	PL3/8x1	.075	0	14	.014	0	y	12	10400...	12150	.092	.254	...	H1-1...
212	M325	PL3/8x5/8	.074	0	14	.006	.343	y	13	7361....	7581.6	.059	.1	...	H1-1b
213	M259A	PL3/8x3/4	.073	0	13	.025	0	y	19	8110....	9104.4	.069	.143	...	H1-1b
214	M253	PL3/8x1	.070	0	22	.007	0	y	16	8907....	12150	.092	.254	...	H1-1b
215	M225A	PL3/8x1	.069	.887	13	.005	.887	y	1	9592....	12150	.092	.254	...	H1-1b
216	M374	PL3/8x1	.068	0	18	.013	0	y	8	10400...	12150	.092	.254	...	H1-1...
217	M317	PL3/8x7/8	.068	.02	21	.014	.746	y	24	9182....	10627...	.084	.194	...	H1-1b
218	M377	PL3/8x7/8	.068	.746	18	.005	.746	y	11	9182....	10627...	.084	.194	...	H1-1b
219	M313A	PL3/8x1	.068	0	19	.007	1.0...	y	1	8907....	12150	.092	.254	...	H1-1b
220	M257A	PL3/8x7/8	.064	.746	24	.019	.746	y	19	9182....	10627...	.084	.194	...	H1-1b
221	M375	PL3/8x1	.063	.887	18	.006	.887	y	6	9592....	12150	.092	.254	...	H1-1b
222	M255	PL3/8x1	.061	.887	23	.013	.887	y	18	9592....	12150	.092	.254	...	H1-1b
223	M315A	PL3/8x1	.060	0	21	.010	.887	y	24	9592....	12150	.092	.254	...	H1-1b
224	M415	PIPE_1.5	.058	.318	12	.045	4.0...		19	17366...	23593...	1.105	1.105	...	H1-1b
225	M222A	PL3/8x1	.004	0	11	.000	0	y	8	9754....	12150	.092	.254	...	H1-1b
226	M372	PL3/8x1	.004	0	2	.000	0	y	12	9754....	12150	.092	.254	...	H1-1b
227	M252	PL3/8x1	.004	0	3	.000	0	y	5	9754....	12150	.092	.254	...	H1-1b
228	M312A	PL3/8x1	.004	0	5	.000	0	y	3	9754....	12150	.092	.254	...	H1-1b
229	M225B	PL3/8x1	.002	.872	18	.001	.872	y	20	9667....	12150	.092	.254	...	H1-1b
230	M402	PL3/8x1	.002	.872	14	.001	.872	y	24	9667....	12150	.092	.254	...	H1-1b
231	M282	PL3/8x1	.002	.872	20	.001	.872	y	17	9667....	12150	.092	.254	...	H1-1b
232	M342	PL3/8x1	.002	.872	24	.001	.872	y	14	9667....	12150	.092	.254	...	H1-1b
233	M215A	PL3/8x1	.002	0	17	.001	0	y	20	9300....	12150	.092	.254	...	H1-1b
234	M371	PL3/8x1	.002	0	15	.001	0	y	24	9300....	12150	.092	.254	...	H1-1b
235	M251	PL3/8x1	.002	0	21	.001	0	y	17	9300....	12150	.092	.254	...	H1-1b
236	M311A	PL3/8x1	.002	0	23	.001	0	y	14	9300....	12150	.092	.254	...	H1-1b
237	M337	PL3/8x4	.001	.874	14	.000	.874	z	14	39445...	48600	.38	4.05	...	H1-1b
238	M277	PL3/8x4	.001	.874	18	.000	.874	z	17	39445...	48600	.38	4.05	...	H1-1b
239	M397	PL3/8x4	.001	.874	23	.000	.874	z	24	39445...	48600	.38	4.05	...	H1-1b
240	M220A	PL3/8x4	.001	.874	20	.000	.874	z	20	39445...	48600	.38	4.05	...	H1-1b

Envelope AISI NAS-01: ASD Cold Formed Steel Code Checks

Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[...	Dir	LC	Pn/O...	Tn/O...	Mnyy/...	Mnzz/...	Cb	Cmyy	Cmzz	Eqn
No Data to Print ...																

Envelope AA ADM1-10: ASD - Building Aluminum Code Checks

Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Pnc/O...	Pnt/Om...	Mny/O...	Mnz/O...	Vny/O...	Vnz/O...	Cb	Eqn
No Data to Print ...																

EXHIBIT 9

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CTHA624A

97 Chaplin Road
Eastford, Connecticut 06242

February 22, 2021

EBI Project Number: 6221000646

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**13.84%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

February 22, 2021

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTHA624A

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **97 Chaplin Road** in **Eastford, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and 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 T-Mobile Wireless antenna facility located at 97 Chaplin Road in Eastford, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 1 LTE channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

8) 1 NR channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

11) 0 This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

12) The antenna mounting height centerline of the proposed antennas is 145 feet above ground level (AGL).

13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd
Height (AGL):	145 feet	Height (AGL):	145 feet	Height (AGL):	145 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna A1 MPE %:	**2.20%**	Antenna B1 MPE %:	**2.20%**	Antenna C1 MPE %:	**2.20%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd
Height (AGL):	145 feet	Height (AGL):	145 feet	Height (AGL):	145 feet
Channel Count:	7	Channel Count:	7	Channel Count:	7
Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts
ERP (W):	8,360.85	ERP (W):	8,360.85	ERP (W):	8,360.85
Antenna A2 MPE %:	**2.41%**	Antenna B2 MPE %:	**2.41%**	Antenna C2 MPE %:	**2.41%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	145 feet	Height (AGL):	145 feet	Height (AGL):	145 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	38,477.89	ERP (W):	38,477.89	ERP (W):	38,477.89
Antenna A3 MPE %:	**6.58%**	Antenna B3 MPE %:	**6.58%**	Antenna C3 MPE %:	**6.58%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	11.18%
Sprint	2.66%
Site Total MPE % :	13.84%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	11.18%
T-Mobile Sector B Total:	11.18%
T-Mobile Sector C Total:	11.18%
Site Total MPE % :	13.84%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 1900 MHz GSM	4	1028.30	145.0	7.03	1900 MHz GSM	1000	0.70%
T-Mobile 1900 MHz LTE	2	2056.61	145.0	7.03	1900 MHz LTE	1000	0.70%
T-Mobile 2100 MHz LTE	2	2307.55	145.0	7.89	2100 MHz LTE	1000	0.79%
T-Mobile 600 MHz LTE	2	591.73	145.0	2.02	600 MHz LTE	400	0.51%
T-Mobile 600 MHz NR	1	1577.94	145.0	2.70	600 MHz NR	400	0.67%
T-Mobile 700 MHz LTE	2	695.22	145.0	2.38	700 MHz LTE	467	0.51%
T-Mobile 1900 MHz LTE	2	2104.51	145.0	7.20	1900 MHz LTE	1000	0.72%
T-Mobile 2500 MHz LTE	1	19238.94	145.0	32.90	2500 MHz LTE	1000	3.29%
T-Mobile 2500 MHz NR	1	19238.94	145.0	32.90	2500 MHz NR	1000	3.29%
						Total:	**11.18%**

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	11.18%
Sector B:	11.18%
Sector C:	11.18%
T-Mobile Maximum MPE % (Sector A):	11.18%
Site Total:	13.84%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **13.84%** 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.