



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

November 15, 2021

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

RE: Exempt Modification Application  
201 Main Street, Cromwell, CT 06416  
Latitude: 41.583361  
Longitude: -72.649833  
Site #: 876364\_Crown\_VZW

Dear Ms. Bachman:

Verizon Wireless is requesting to file an exempt modification for an existing tower located at 201 Main Street, Cromwell, CT 06416. Verizon Wireless currently maintains twelve (12) antennas at the 105-foot level of the existing 125-foot tower. The property is owned by S & S Partners Inc. and the tower is owned by Crown Castle. Verizon now intends to replace nine (9) antennas. The new antennas would be installed at the 105-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable. The existing platform mount will be replaced per the attached Maser Mount Analysis report dated August 17, 2021.

**Verizon Planned Modifications:**

**Remove:**

(1) 1-5/8" Coax

**Remove and Replace:**

(3) HBXX-6517DS-A2M Antennas (REMOVE) – (3) JAHH-45B-R3B Antennas (REPLACE)  
(3) LNX-6514DS-A1M Antennas (REMOVE) – (3) JAHH-45B-R3B Antennas (REPLACE)  
(3) HBXX-6517DS-A2M Antennas (REMOVE) – (3) MT6407-77A Antennas (REPLACE)  
(3) Nokia B4 RRH (REMOVE) - (3) Samsung BR04C-B5/B13(REPLACE)  
(3) Nokia B25 RRH (REMOVE) - (3) Samsung BR049-B2/B66A (REPLACE)  
(1) Raycap OVP (REMOVE) - (1) Raycap RHSDC-6627PF-48 OVP (REPLACE)  
(1) Hybrid Line (REMOVE) - (1) Hybrid Line (REPLACE)

**Install New:**

(3) Commscope Diplexers

**Existing to Remain:**

(3) ANDREW Antennas  
(11) 1-5/8" Coax

The facility was approved by the Town of Cromwell Planning & Zoning Commission on March 8, 2000. Please see attached.



**NSS** **NORTHEAST**  
SITE SOLUTIONS  
*Turnkey Wireless Development*

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16- SOj-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-SOj-73, a copy of this letter is being sent to Mayor Allan Spotts, Anthony Salvatore, Town Manager, and Stuart Popper, Director of Planning & Development for the Town of Cromwell. A copy is also being sent to the tower owner and property owner.

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

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

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

Sincerely,

Denise Sabo  
Mobile: 203-435-3640  
Fax: 413-521-0558  
Office: 4 Angela's Way, Burlington CT 06013  
E-mail: [denise@northeastsitesolutions.com](mailto:denise@northeastsitesolutions.com)



**NSS** **NORTHEAST**  
SITE SOLUTIONS  
*Turnkey Wireless Development*

Attachments

Cc: Mayor Allan Spotts  
Town of Cromwell  
41 West Street, Cromwell, CT 06416

Anthony Salvatore, Town Manager  
Town of Cromwell  
41 West Street, Cromwell, CT 06416

Stuart Popper, Director of Planning & Development  
Town of Cromwell  
41 West Street, Cromwell, CT 06416

S & S Partners Inc.  
PO Box 734, Old Lyme, CT 06371

Crown Castle, Tower Owner

# Exhibit A

## **Original Facility Approval**



TOWN OF CROMWELL PLANNING AND ZONING COMMISSION  
ZONING PERMIT

Date of Application 2-21-00 Permit Number \_\_\_\_\_  
Name of Permit Requester SPRINT SPECTRUM L.P., A DELAWARE LIMITED PARTNERSHIP  
Address of Permit Requester ONE INTERNATIONAL BLVD, STE 800, MAHWAH, NJ 07495  
Phone Number: Day (860) 919-7204 / (201) 684-4065 Evening (203) 248-6404, PG: (860) 588-2783  
Property Owner if different S+S PARTNERS, INC.  
Property Owner Address if different S+S PARTNERS, INC., ATTN: ARTHUR SIBLEY  
Type of Permit: P.O. BOX 301, CROMWELL, CT 06416

Sign  Filling  New Construction (860) 434-0079  
 Addition  Other  Swimming Pool

E & S Bond required  Yes  No Permit Number 0624  
Zoning District F Assessor's Map# 51 Block# 47 Lot# 36

ZBA Approved  Yes  No Volume 412 Page 142

Wetlands/watercourses on property  Yes  No Permit# N/A NOTE: ALL CONSTRUCTION IS OUTSIDE THE REGULATED AREAS  
Description of proposed activity PROPOSED SPRINT PCS ANTENNA FACILITY WITH A 125-FOOT MONOPOLE, RELATED CABLES, EQUIPMENT CABINETS, AND POWER + TELCO HOOKUPS  
Dimensions: H 125' W SEE PLANS L SEE PLANS  
Livable Floor Area: First N/A (NONE) Second N/A (NONE)  
Garage Area N/A (NONE) Special Permit needed  Yes  No

Volume 412 Page 142  Plot Plan attached

This permit, if issued, is based upon the plot plan submitted. Falsification, by misrepresentation or omission, or failure to comply with the conditions of approval of this permit shall constitute a violation of the Town of Cromwell Zoning Regulations.

Signature [Signature] Marc Goodman  
Check one:  Owner  Applicant  Agent

Conditions of approval \_\_\_\_\_  
Approved by [Signature] Date 3/8/00  
Rejected by \_\_\_\_\_ Date \_\_\_\_\_

# Exhibit B

## Property Card



**Patriot Properties Inc.**

Parcel ID: 00015800 Location: 201 MAIN STREET Map-Lot 51-36 Last Revaluation - October 1, 2017

**Current Owner**  
S S PARTNERS INC  
Percent 100  
0 PO BOX 734  
OLD LYME CT 06371

**Current Value Information** Override

Use Code	Land Value	PA 490 Value	Building Value	Outbuildings	Total Value	Total Assessed
201	281,500	0	310,600	57,900	650,000	455,000
<b>TOTAL</b>	<b>281,500</b>	<b>0</b>	<b>310,600</b>	<b>57,900</b>	<b>650,000</b>	<b>455,000</b>

**Previous Owner(s)**

**Previous Value Information**

Tax Yr	Land Value	Bldg Value	Outbuildings	Total Value	Total Assessment
2018	388,400	310,600	57,900	756,900	529,830
2017	388,400	310,600	57,900	756,900	529,830
2016	158,200	393,390	26,730	578,320	404,830
2015	158,200	393,390	26,730	578,320	404,830
2014	158,200	393,390	26,730	578,320	404,830
2013	158,200	393,390	26,730	578,320	404,830

**General Notes**

(3)24X12 OHD & (1)24X14 OHD; CELL BLDG & PLATFORM ON EXISTING TOWER; COMMERCIAL DIESEL NEW ENGLAND ASPHALT 120' POLE TOWER (38 RECEIVERS) ON ACCOUNT #00015810 Daniels Propane

**Sales Information**

Grantee	Vol-Page	Type	SaleDate	SalePrice	Sale Verif	GeneralNotes
S S PARTNERS INC	412-142		05/24/1989	0	Other	

**Property Factors**

Census 5703  
Flood: YES  
Topo:  
Street: Paved  
Dev. Map  
Dev. Map

**Zoning Data**

Desc. %  
IND 100.00

**Utilities**

5 Private Well  
6 Septic

**BAA**

17G;06G;05G

**Activity Information**

Date	Results	Visited By
12/26/2017	Informal Review No Change	John Valente
09/08/2017	Change - Value Change Company	John Valente
05/19/2017	No Change - Field Review	Dave Stannard
09/28/2015	Permit- Miscellaneous	AO
09/28/2015	Permit- Drive By	MM
11/26/2014	Permit- Miscellaneous	AO
11/26/2014	Permit- Miscellaneous	AO
11/19/2014	Permit- Miscellaneous	AO
11/19/2014	Permit- Miscellaneous	AO
09/12/2012	Permit- Miscellaneous	AO
09/12/2012	Permit- Miscellaneous	AO

**Building Permit Information**

Date	Permit #	Description	Amount	% Comp	Visit Date	CO Date	GeneralNotes
08/23/2017	24953	Roofing	34,800	100			Partial Reroof
01/20/2017	24542	Other		0		10/27/2017	Three Antennas Replace
08/31/2015	23606	Other	20,000	100	09/28/2015		Structural Upgrade on Mon
11/26/2014	23051	Plumbing	4,000	100	11/26/2014		Install gas line to Hangi
11/26/2014	23040	HVAC	4,000	100	11/26/2014		250,000 Hanging Furnace -
11/19/2014	23033	Propane Tank	1,300	100	11/19/2014		2 - 120 Gal LP Tanks
08/23/2011	20102	Propane Tank	100,000	100	09/12/2012	05/08/2012	30,000 gal tank
08/02/2010	19218	Air Condition	3,500	100	03/16/2012		Ductless

**Land Data**

Use	Description	Units	Unit Type	Neiah	Land Adjustments	Special Land Calc	Appraised Value	PA 490 Asmt	Neigh Order	Notes
201	Commercial	87,120	SF	CH			357,400	0	5000	
201	Commercial	1,240	AC	CH			31,000	0	5000	

Total Area: 3.24 PA 490 Use Asmt: 0 Total Appraised: 388,400 Assessed Value: 271,880

ParcelID: 00015800  
 Bldg Seq 1 Of 1

Location: 201 MAIN STREET

Printed By: Shawna 04/06/2018 3:25:00PM

**Exterior Information**

Building Type: Garage/Offic  
 Story Ht: 1 Story  
 Living Units: 0  
 Foundation:  
 Prim. Ext. Wall: Concrete  
 Sec. Ext. Wall:  
 Roof Type: Irregular  
 Roof Cover: Rolled Compo  
 Avg. Wall Ht: 16.00  
 Color:

**Interior Information**

Prime Wall: Minimum  
 Sec. Wall:  
 Floor Type: Concrete  
 Sec. Floor:  
 Heat Fuel: Oil  
 Heat Type: Forced Air  
 Sec. Ht Type:  
 % A/C: 0  
 % Sprinkled: 0  
 Bsmt. Gar: 0  
 Kitchens: 0 Add. Kit: 0  
 Fireplaces: 0 Gas: 0  
 Int. Condition: Typical

**Room Count**

Total Rooms:  
 Bedrooms:

**Bath Features**

Full Baths: 0  
 Addl. Full Baths: 0  
 Half Baths: 0  
 Addl. Half Baths: 0  
 Full Bths Below: 0  
 Half Bths Below: 0  
 Other Fixtures: 0  
 Total Baths: 0.0

**Condo Information**

Name:  
 Style:  
 Location:  
 Tot Units:

**General Information**

Year Blt: 1953  
 Grade: C+  
 Remodeled Yr:  
 Rem. Kitchen Yr:  
 Rem. Bath Yr:

**Depreciation**

	%
Phys Cond	Good 30.60
Func	0.00
Econ	0.00
Spec	0.00
OV	0.00
<b>Total %Dep:</b>	<b>30.60</b>

**Calculation**

Basic \$/SQ	57.00
Replacement Cost	435,229
Depreciation	133,180
Depreciated Value	302,049
<b>Final Total (Rounded)</b>	<b>302,000</b>

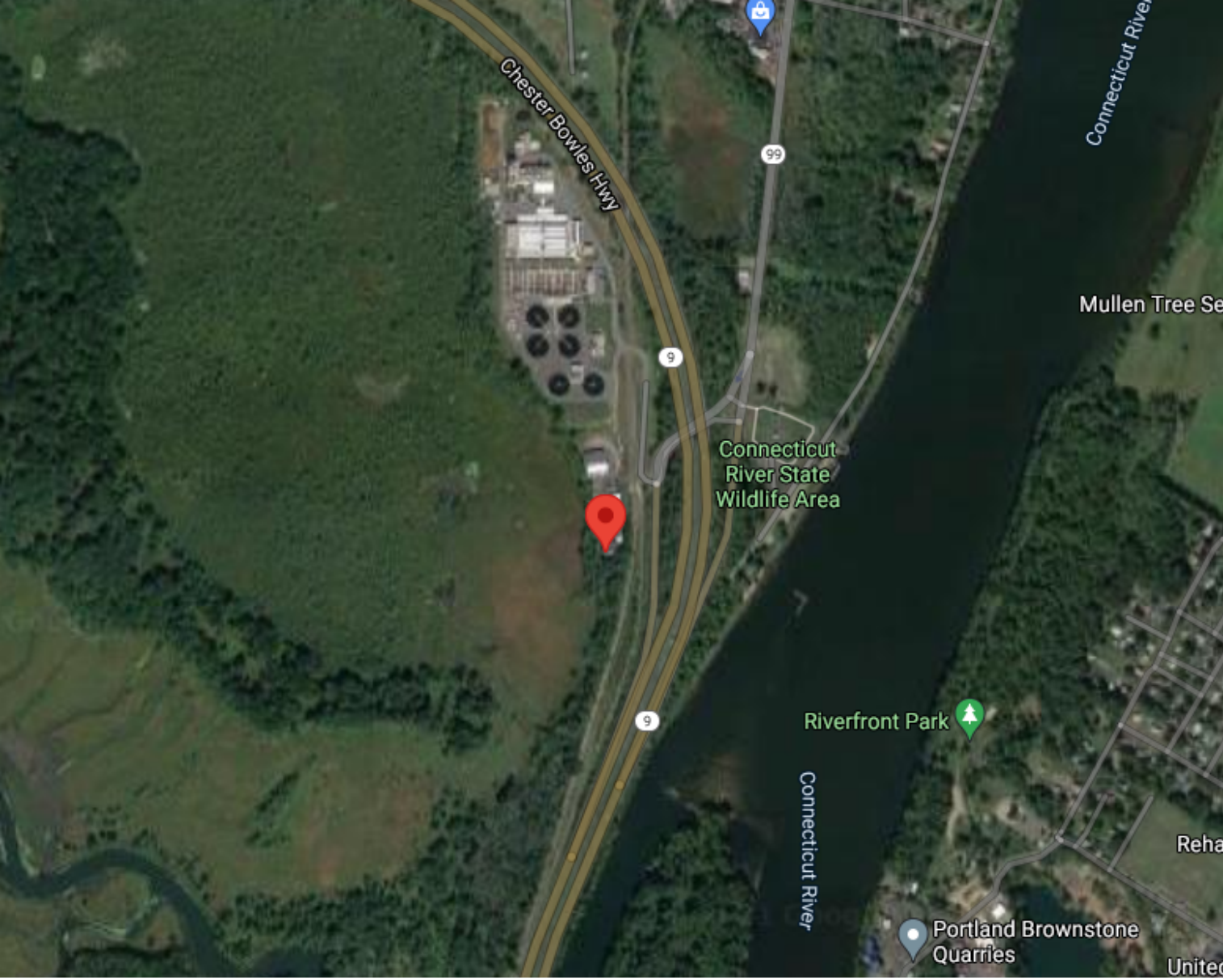


**Extra Features / Yard Items (1st 10 Lines Displayed)**

Code	Description	Qty	Size	Cond.	Year	Unit Price	Dep%	UndepValue	Appraised Value	Assessment
FN6	Fence 6'	1	2,520	AV	2002	17.00	13	51,408	44,700	31,290
LT2	Light 2	1	2	VG	2011	1,500.00	2	3,600	3,500	2,450
LT3	Light 3	1	3	VG	2011	2,100.00	2	7,560	7,400	5,180
PAV1	Paving Asph.	1	1,000	AV	1953	3.00	35	3,600	2,300	1,610
<b>Total Sp. Features:</b>			<b>Total Yard Items</b>			<b>57,900</b>	<b>Total Appraised:</b>	<b>57,900</b>	<b>Total Assessed Value</b>	<b>40,530</b>

**Sub Area Detail**

Code	Desc.	Living	Gross Area
FFL	First Floor	10,100	10,100
<b>Total</b>		<b>10,100</b>	<b>10,100</b>



# Exhibit C

## **Construction Drawings**





**VERIZON SITE NUMBER:** 323640  
**VERIZON SITE NAME:** CROMWELL SE CT  
**SITE TYPE:** MONOPOLE  
**TOWER HEIGHT:** 125'-0"

**BUSINESS UNIT #:** 876364  
**SITE ADDRESS:** 201 MAIN ST.  
 CROMWELL, CT 06416  
**COUNTY:** MIDDLESEX  
**JURISDICTION:** TOWN OF CROMWELL

**VERIZON 5G L-SUB6 - CARRIER ADD / FUZE ID: 16244590**



180 WASHINGTON VALLEY ROAD  
 BEDMINSTER, NJ 07921



1200 MACARTHUR BLVD, SUITE 200  
 MAHWAH, NJ 07430



70 Pleasant Hill Road  
 P.O. Box 37  
 Mountainville, NY 10953  
 Project Contact Info  
 1279 Route 300  
 Newburgh, NY 12550  
 Phone: (845) 534-8999  
 Phone: (800) 829-6531  
 www.tectonicengineering.com  
 Phone: (845) 567-6656

TECTONIC WO#: 10545.CROMWELL SE CT

**VERIZON SITE NUMBER:**  
**323640**

**BU #: 876364**  
**CROMWELL / FIRST LINE**  
**EMERGENC**

201 MAIN ST.  
 CROMWELL, CT 06416

EXISTING  
 125'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/19/21	JT	FOR CONSTRUCTION	----

**SITE INFORMATION**

CROWN CASTLE USA INC. CROMWELL / FIRST LINE EMERGENC  
 SITE NAME:  
 SITE ADDRESS: 201 MAIN ST.  
 CROMWELL, CT 06416  
 COUNTY: MIDDLESEX  
 MAP/PARCEL #: MAP 51, BLOCK 47, LOT 36  
 AREA OF CONSTRUCTION: EXISTING  
 LATITUDE: 41° 35' 0.11" N  
 LONGITUDE: 72° 38' 59.14" W  
 LAT/LONG TYPE: NAD83  
 GROUND ELEVATION: ----  
 CURRENT ZONING: IND - INDUSTRIAL  
 ZONING JURISDICTION: CONNECTICUT SITING COUNCIL  
 JURISDICTION: TOWN OF CROMWELL  
 OCCUPANCY CLASSIFICATION: ----  
 TYPE OF CONSTRUCTION: ----  
 A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION  
 PROPERTY OWNER: S & S PARTNERS, LLC.  
 P.O. BOX 652  
 OLD LYME, CT 06371  
 TOWER OWNER: CROWN CASTLE MU LLC  
 2000 CORPORATE DRIVE  
 CANONSBURG, PA 15317  
 CARRIER/APPLICANT: VERIZON WIRELESS  
 180 WASHINGTON VALLEY ROAD  
 BEDMINSTER, NJ 07921  
 ELECTRIC PROVIDER: NORTHEAST UTILITIES  
 (800)268-2000  
 TELCO PROVIDER: CROWN CASTLE FIBER  
 (855) 913-4237

**DRAWING INDEX**

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN
C-2	TOWER ELEVATION & ANTENNA PLANS
C-3	EQUIPMENT SCHEDULES
C-4	EQUIPMENT DETAILS
C-5	EQUIPMENT DETAILS
C-6	MOUNT SPECIFICATIONS
C-7	PLUMBING DIAGRAM
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR ----. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

**APPROVALS**

SIGNATURE	DATE

**CONTRACTOR PMI REQUIREMENTS**

PMI ACCESSED AT <https://pmi.vxwsmart.com>  
 SMART TOOL VENDOR  
 PROJECT NUMBER 10070199  
 V2W LOCATION CODE (PSLC) 467564

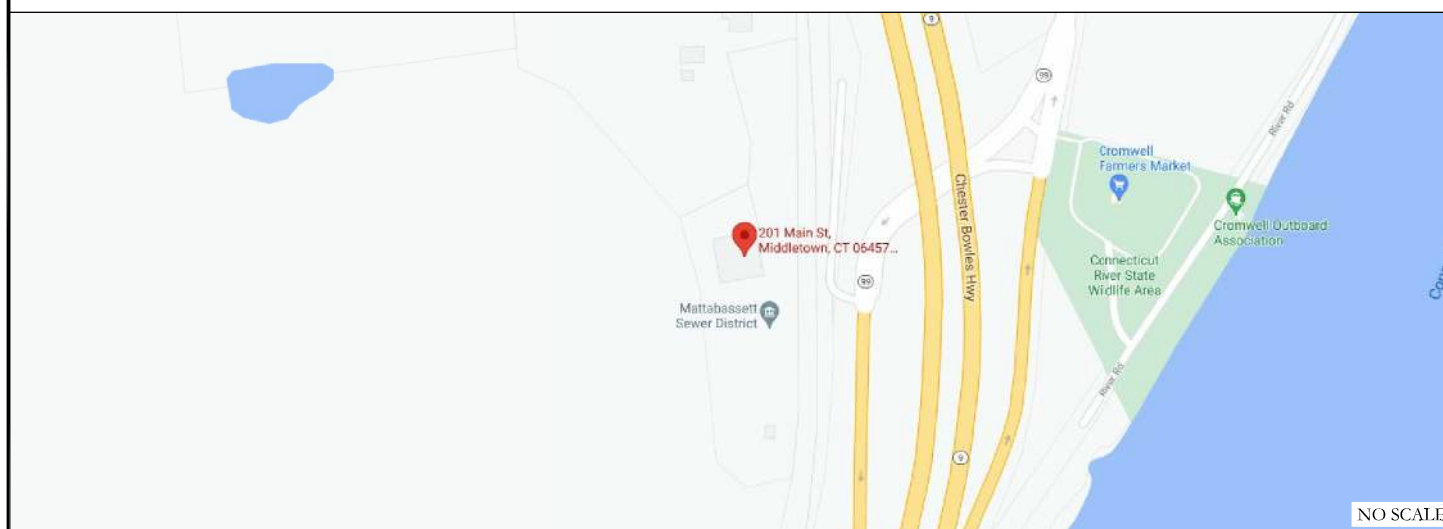
\*\*\* PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT

**MOUNT MODIFICATION REQUIRED** Y

**V2W APPROVED SMART KIT VENDORS**

REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR V2W SMART KIT APPROVED VENDORS

**LOCATION MAP**



DRIVING DIRECTIONS FROM VERIZON LOCAL OFFICE (180 WASHINGTON VALLEY RD, BEDMINSTER, NJ 07921)  
 TAKE US-202 N/US-206 N AND SCHLEY MOUNTAIN RD TO I-287 N. HEAD NORTHWEST, SLIGHT LEFT. TURN RIGHT ONTO US-202 N/US-206 N. TURN RIGHT ONTO SCHLEY MOUNTAIN RD. CONTINUE ON I-287 N. TAKE I-80 E, I-80 EXPRESS E, I-87 N, HUTCHINSON RIVER PKWY N, AND I-91 N TO CT-372 E IN CROMWELL. TAKE EXIT 19 FROM CT-9 S. MERGE WITH I-287 N. KEEP LEFT AT THE Y JUNCTION, FOLLOW SIGNS FOR I-80 E/PATERSON/NEW YORK CITY AND MERGE WITH I-80 E. KEEP LEFT TO STAY ON I-80 E. CONTINUE ONTO CT-15 N. TAKE EXIT 68 N-E TO MERGE WITH I-91 N TOWARD CT-66 E/HARTFORD/MIDDLETOWN. TAKE EXIT 22-22N-22S TO MERGE WITH CT-9 S TOWARD MIDDLETOWN. TAKE EXIT 19 FOR CT-372/WEST STREET TOWARD CROMWELL. CONTINUE ON CT-372 E TO YOUR DESTINATION. TURN LEFT ONTO CT-372 E. TURN RIGHT ONTO CT-99 S. DESTINATION WILL BE ON THE LEFT.

**APPLICABLE CODES/REFERENCE DOCUMENTS**

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

CODE TYPE	CODE
BUILDING	2018 CT IBC
MECHANICAL	2018 CT IMC
ELECTRICAL	2017 NEC

**REFERENCE DOCUMENTS:**

STRUCTURAL ANALYSIS: BY OTHERS  
 DATED:  
 MOUNT ANALYSIS: NB+C (MOUNT REPLACEMENT)  
 DATED: 08/17/21  
 RFDS REVISION: 0  
 DATED: 02/09/21  
 ORDER ID: 552635  
 REVISION: 0

**PROJECT DESCRIPTION**

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

**TOWER SCOPE OF WORK:**

- REMOVE (9) ANTENNAS
- REMOVE (1) HYBRID CABLE
- REMOVE (1) COAX CABLE
- REMOVE (1) OVP
- REMOVE (3) ANTENNA MOUNTS
- REMOVE (6) RRHS
- INSTALL (9) ANTENNAS
- INSTALL (6) RRHS
- INSTALL (1) OVP
- INSTALL (3) DIPLEXERS
- INSTALL (1) HYBRID CABLE
- INSTALL (3) MOUNT (BSAMNT-SBS-2-3)
- INSTALL NEW PLATFORM MOUNT

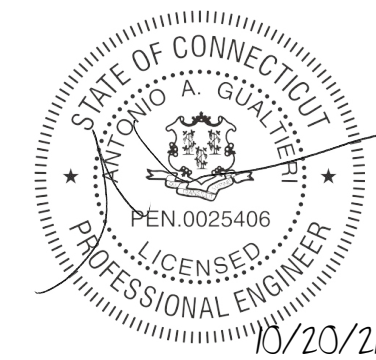
**GROUND SCOPE OF WORK:**

- REMOVE (3) RRHS

NOTE:  
 PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER

**PROJECT TEAM**

A&E FIRM: TECTONIC ENGINEERING & SURVEYING CONSULTANT P.C.  
 1279 ROUTE 300  
 NEWBURGH, NY 12550  
 PHONE: (845) 567-6656  
 CROWN CASTLE USA INC. DISTRICT CONTACTS:  
 1200 MACARTHUR BLVD, SUITE 200  
 MAHWAH, NJ 07430  
 ---- - PROJECT MANAGER  
 ----  
 ---- - CONSTRUCTION MANAGER  
 ----  
 VERIZON CONTACT: ----



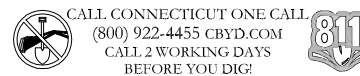
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**SHEET NUMBER:**

**T-1**

**REVISION:**

**0**





**CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:**

- NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORING POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH QAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED-STD-10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

**GREENFIELD GROUNDING NOTES:**

- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTIVE GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
- BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM. THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

**GENERAL NOTES:**

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION  
CARRIER: VERIZON  
TOWER OWNER: CROWN CASTLE USA INC.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

**CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:**

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 316, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90° AT TIME OF PLACEMENT.
- CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WFF) SHALL CONFORM TO ASTM A188. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:  
#4 BARS AND SMALLER.....40 ksi  
#5 BARS AND LARGER.....60 ksi  
THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:  
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"  
CONCRETE EXPOSED TO EARTH OR WEATHER:  
#6 BARS AND LARGER.....2"  
#5 BARS AND SMALLER.....1-1/2"  
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:  
SLAB AND WALLS.....3/4"  
BEAMS AND COLUMNS.....1-1/2"
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

**ELECTRICAL INSTALLATION NOTES:**

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.  
4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.  
4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREFOLD SPECIMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "VERIZON".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
120/208V, 3Ø	GROUND	GREEN
	A PHASE	BLACK
	B PHASE	RED
277/480V, 3Ø	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
DC VOLTAGE	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
	POS (+)	RED**
	NEG (-)	BLACK**

**APWA UNIFORM COLOR CODE:**

- WHITE PROPOSED EXCAVATION
- PINK TEMPORARY SURVEY MARKINGS
- RED ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
- YELLOW GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
- ORANGE COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
- BLUE POTABLE WATER
- PURPLE RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
- GREEN SEWERS AND DRAIN LINES

\* SEE NEC 210.5(C)(1) AND (2)  
\*\* POLARITY MARKED AT TERMINATION

**ABBREVIATIONS:**

- ANT ANTENNA
- (E) EXISTING
- FIF FACILITY INTERFACE FRAME
- GEN GENERATOR
- GPS GLOBAL POSITIONING SYSTEM
- GSM GLOBAL SYSTEM FOR MOBILE
- LTE LONG TERM EVOLUTION
- MGB MASTER GROUND BAR
- MW MICROWAVE
- (N) NEW
- NEC NATIONAL ELECTRIC CODE
- (P) PROPOSED
- PP POWER PLANT
- QTY QUANTITY
- RECT RECTIFIER
- RBS RADIO BASE STATION
- RET REMOTE ELECTRIC TILT
- RFD RADIO FREQUENCY DATA SHEET
- RRH REMOTE RADIO HEAD
- RRU REMOTE RADIO UNIT
- SIAD SMART INTEGRATED DEVICE
- TMA TOWER MOUNTED AMPLIFIER
- TYP TYPICAL
- UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
- W.F. WORK POINT



TECTONIC W/O#: 10545.CROMWELL.SE.CT

**VERIZON SITE NUMBER:**  
**323640**

**BU #: 876364**

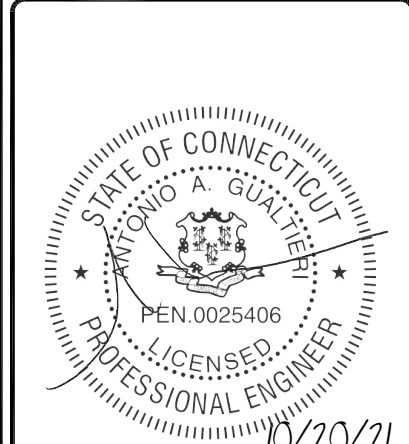
**CROMWELL / FIRST LINE EMERGENC**

201 MAIN ST.  
CROMWELL, CT 06416

EXISTING  
125'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/19/21	JT	FOR CONSTRUCTION	----



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**SHEET NUMBER:**  
**T-2**

**REVISION:**  
**0**





VERIZON SITE NUMBER:  
**323640**

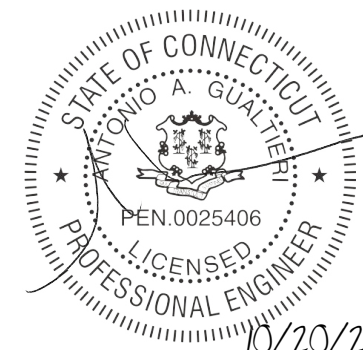
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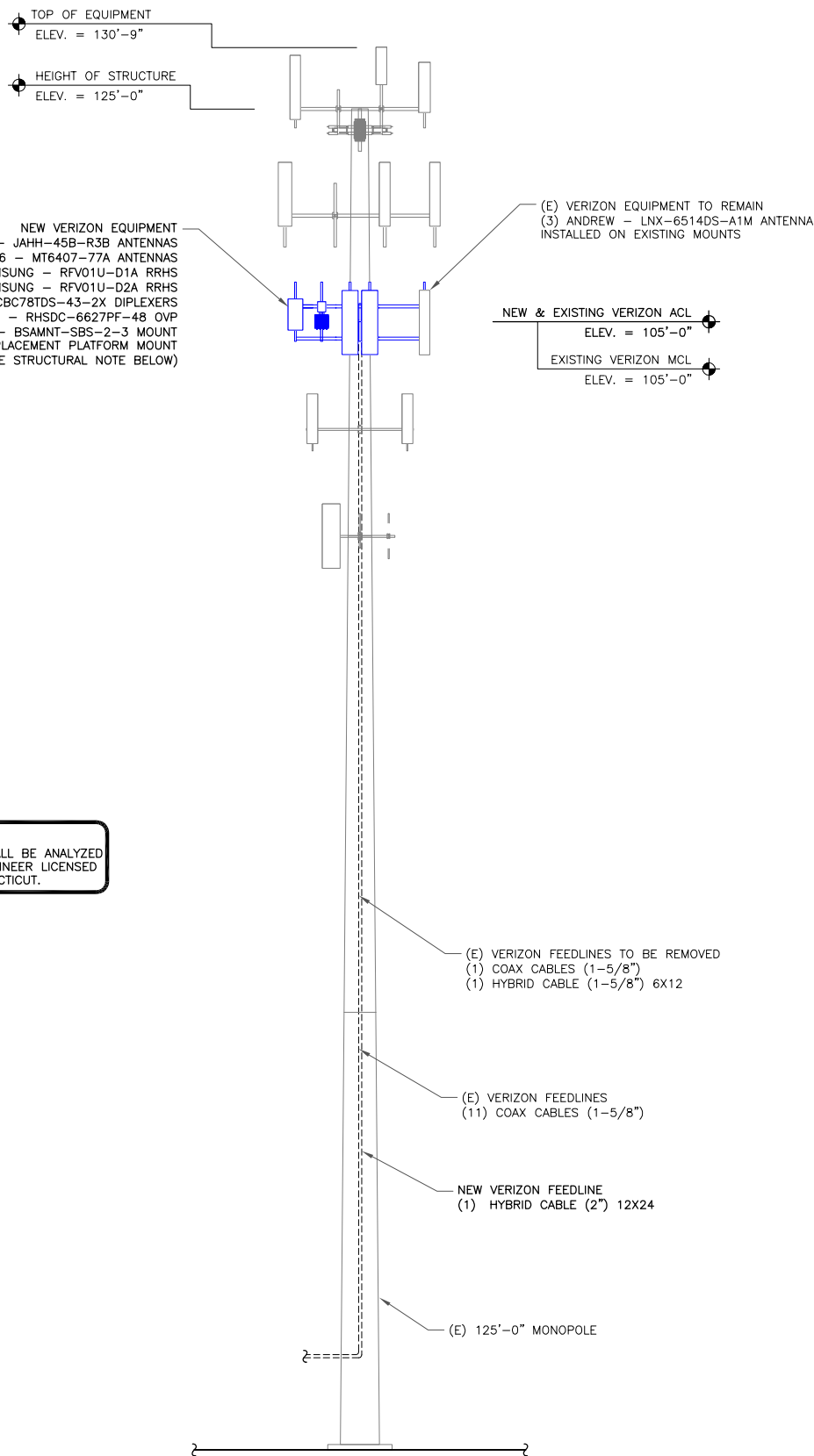
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SHEET NUMBER:

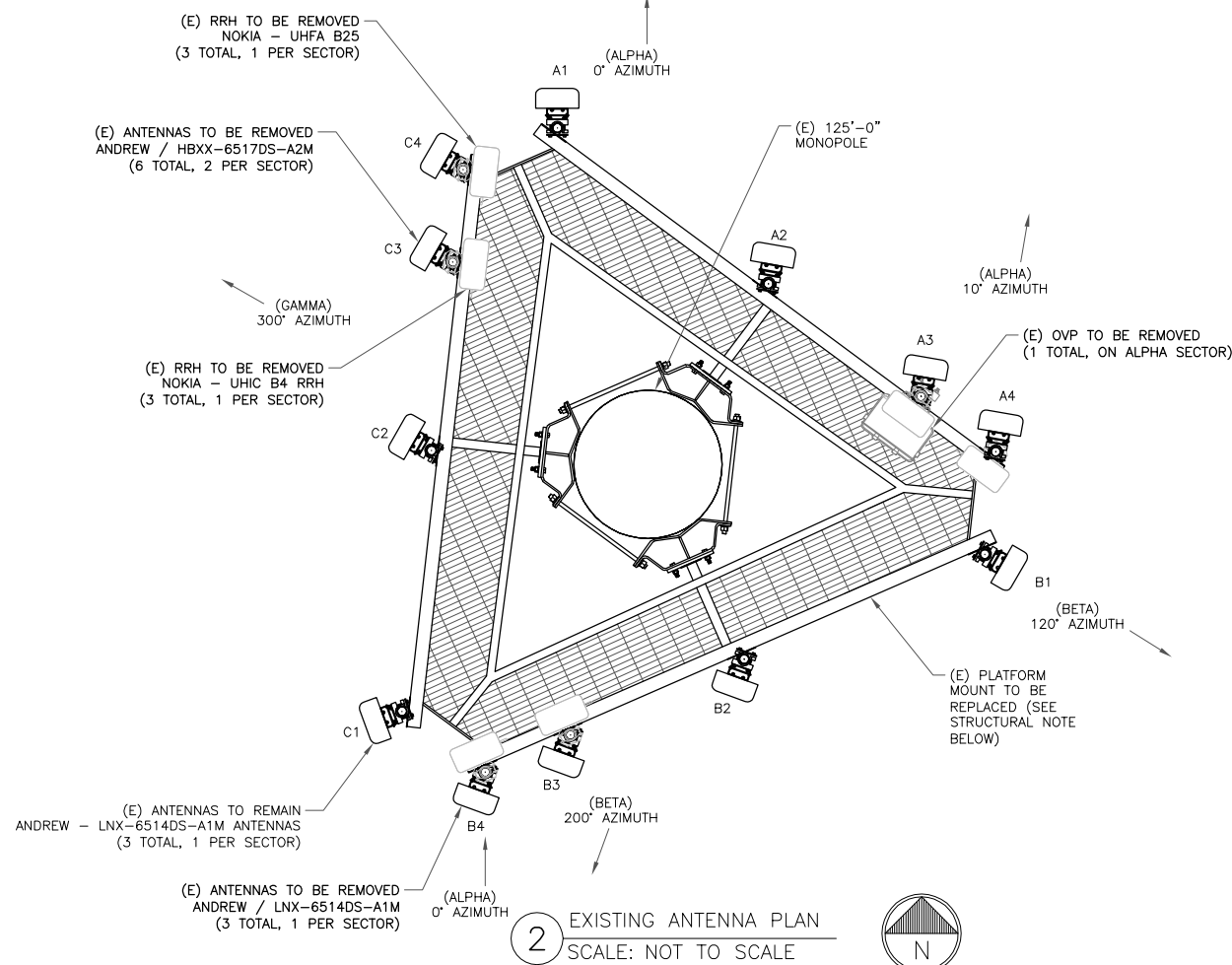
**C-2**

REVISION:

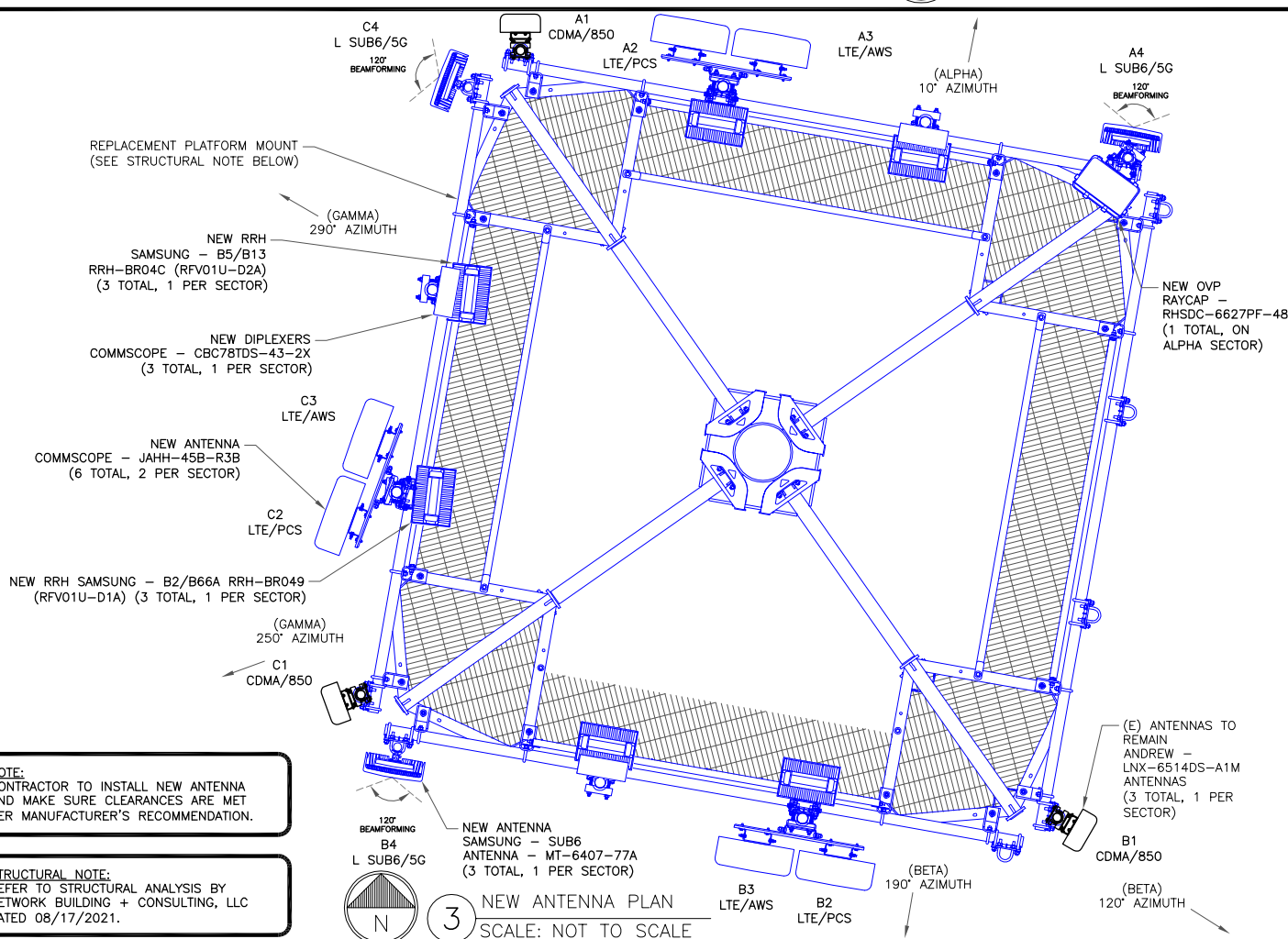
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**1** TOWER ELEVATION  
SCALE: NOT TO SCALE



**2** EXISTING ANTENNA PLAN  
SCALE: NOT TO SCALE



**3** NEW ANTENNA PLAN  
SCALE: NOT TO SCALE

**VERIZON EQUIPMENT**  
ANTENNA CL: 105'-0"  
MOUNT CL: 105'-0"

**TOWER NOTE:**  
EXISTING STRUCTURE SHALL BE ANALYZED  
BY A PROFESSIONAL ENGINEER LICENSED  
IN THE STATE OF CONNECTICUT.

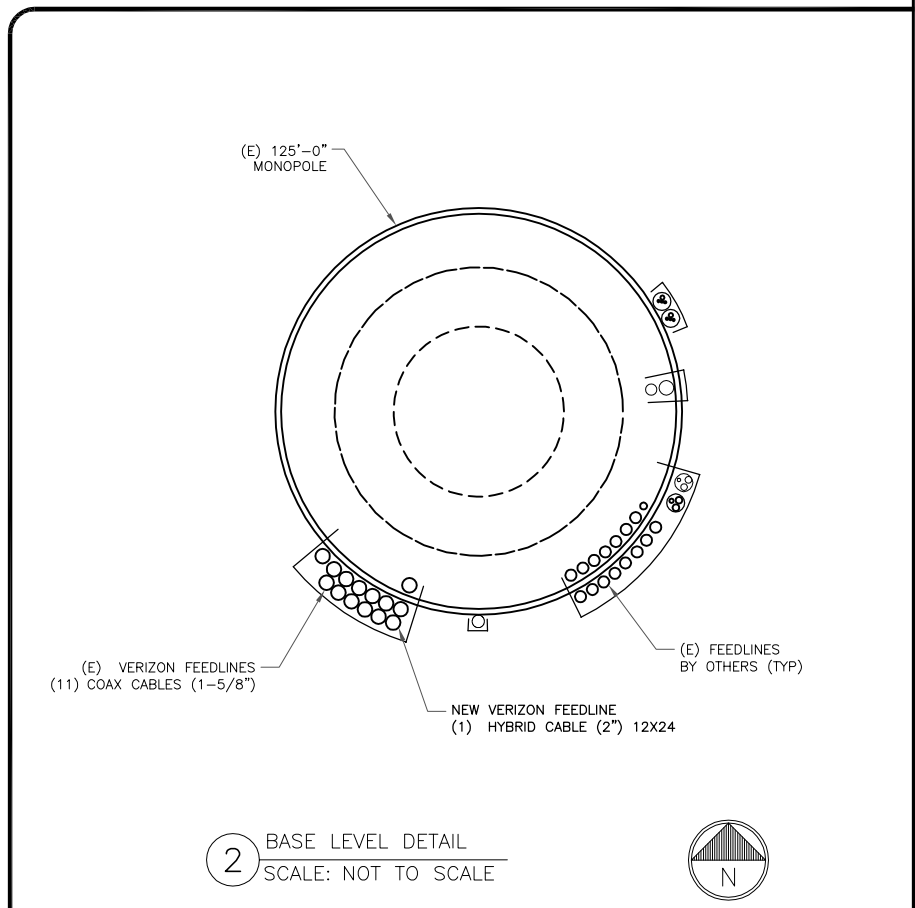
**NOTE:**  
CONTRACTOR TO INSTALL NEW ANTENNA  
AND MAKE SURE CLEARANCES ARE MET  
PER MANUFACTURER'S RECOMMENDATION.

**STRUCTURAL NOTE:**  
REFER TO STRUCTURAL ANALYSIS BY  
NETWORK BUILDING + CONSULTING, LLC  
DATED 08/17/2021.

ANTENNA/RRH SCHEDULE									
SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA CENTERLINE	AZIMUTH	MECHANICAL DOWNTILTS	ELECTRICAL DOWNTILTS	TOWER EQUIPMENT MANUFACTURER	TOWER EQUIPMENT QTY/MODEL
A1	EXISTING	ANDREW	LNx-6514DS-A1M	105'-0"	0°	0'	0'		
A2	NEW	COMMSCOPE	JAHH-45B-R3B	105'-0"	10°	0'	2'/2'	COMMSCOPE SAMSUNG SAMSUNG RAYCAP	(1) CBC78T-DS-43-2X (1) B5/B13 RRH-BR04C (RFV01U-D2A) (1) B2/B66A RRH-BR049 (RFV01U-D1A) (1) RHSDC-6627-PF-48
A3	NEW	COMMSCOPE	JAHH-45B-R3B	105'-0"	10°	0'	2'/2'		
A4	NEW	SAMSUNG	MT6407-77A	105'-0"	10°	0'	3'		
B1	EXISTING	ANDREW	LNx-6514DS-A1M	105'-0"	120°	0'	2'		
B2	NEW	COMMSCOPE	JAHH-45B-R3B	105'-0"	190°	0'	5'/5'	COMMSCOPE SAMSUNG SAMSUNG	(1) CBC78T-DS-43-2X (1) B5/B13 RRH-BR04C (RFV01U-D2A) (1) B2/B66A RRH-BR049 (RFV01U-D1A)
B3	NEW	COMMSCOPE	JAHH-45B-R3B	105'-0"	190°	0'	2'/2'		
B4	NEW	SAMSUNG	MT6407-77A	105'-0"	190°	0'	3'		
C1	EXISTING	ANDREW	LNx-6514DS-A1M	105'-0"	250°	0'	2'		
C2	NEW	COMMSCOPE	JAHH-45B-R3B	105'-0"	290°	0'	5'/5'	COMMSCOPE SAMSUNG SAMSUNG	(1) CBC78T-DS-43-2X (1) B5/B13 RRH-BR04C (RFV01U-D2A) (1) B2/B66A RRH-BR049 (RFV01U-D1A)
C3	NEW	COMMSCOPE	JAHH-45B-R3B	105'-0"	290°	0'	2'/2'		
C4	NEW	SAMSUNG	MT6407-77A	105'-0"	290°	0'	3'		

1 VERIZON TOWER EQUIPMENT SCHEDULE  
SCALE: NOT TO SCALE

CABLE SCHEDULE				
STATUS	CABLE TYPE	SIZE	LENGTH	QTY
EXISTING	COAX	1-5/8"	155'-0"±	11
NEW	HYBRID	2"(12x24)	155'-0"±	1
TOTAL CABLE QTY:				12



2 BASE LEVEL DETAIL  
SCALE: NOT TO SCALE



TECTONIC WO#: 10545.CROMWELL.SE.CT

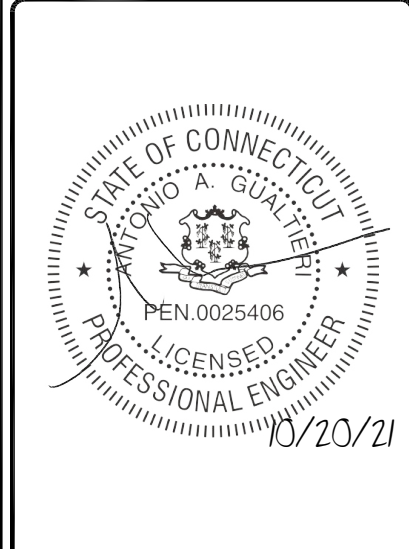
VERIZON SITE NUMBER:  
**323640**

BU #: 876364  
**CROMWELL / FIRST LINE  
EMERGENC**

201 MAIN ST.  
CROMWELL, CT 06416

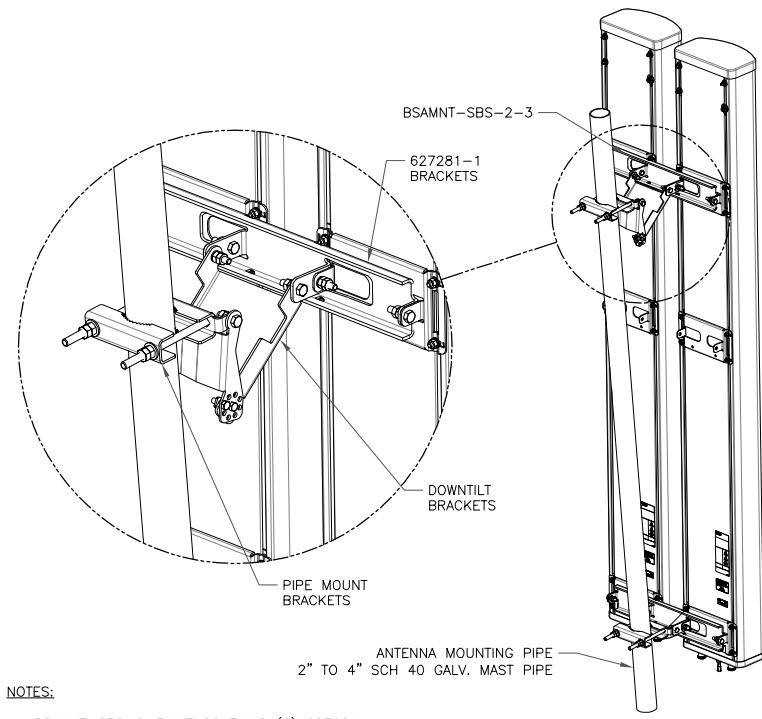
EXISTING  
125'-0" MONOPOLE

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/19/21	JT	FOR CONSTRUCTION	----



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **C-3** REVISION: **0**

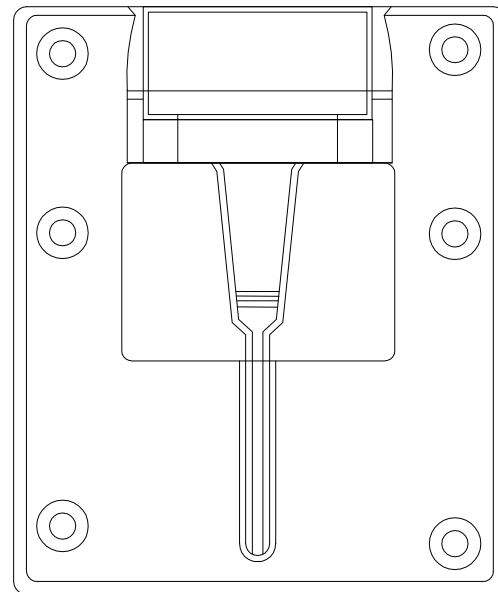


NOTES:

- BSAMNT-SBS-2-3 KIT CONTAINS (2) 627281 MOUNTING BRACKETS.
- TORQUE THE M10 BOLT ASSEMBLY TO 37 N.m. PER MANUFACTURE'S RECOMMENDATIONS.

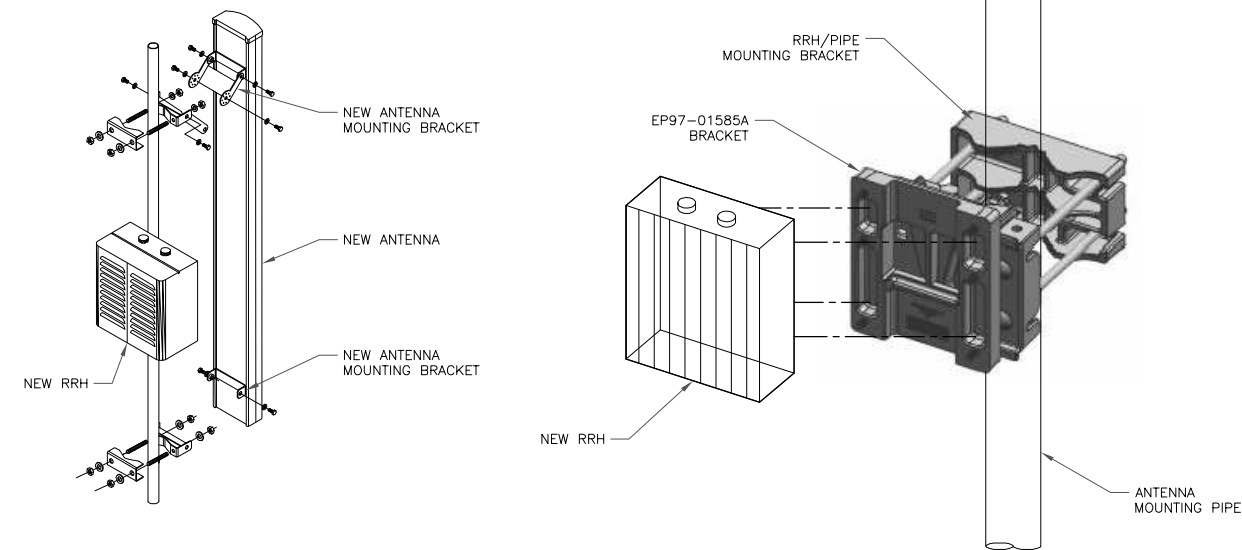
1 COMMSCOPE - BSAMNT-SBS-2-3  
SCALE: NOT TO SCALE

2 NOT USED  
SCALE: NOT TO SCALE



3 SAMSUNG - EP97-01585A BRACKET DETAIL  
SCALE: NOT TO SCALE

INSTALLER NOTES:  
ALL PIPES BRACKETS AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



4 ANTENNA & RRH MOUNTING DETAIL  
SCALE: NOT TO SCALE

**verizon**  
180 WASHINGTON VALLEY ROAD  
BEDMINSTER, NJ 07921

**CROWN CASTLE**  
1200 MACARTHUR BLVD, SUITE 200  
MAHWAH, NJ 07430

**Tectonic**  
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.  
Tectonic Engineering & Surveying Consultants P.C.  
70 Pleasant Hill Road Phone: (845) 534-5999  
P.O. Box 37 Mountainville, NY 10953 (800) 829-6531  
Project Contact Info www.tectonicengineering.com  
1279 Route 500 Newburgh, NY 12550 Phone: (845) 567-6656

TECTONIC WO#: 10545.CROMWELL.SE CT

VERIZON SITE NUMBER:  
**323640**

BU #: 876364  
**CROMWELL / FIRST LINE  
EMERGENC**

201 MAIN ST.  
CROMWELL, CT 06416

EXISTING  
125'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/19/21	JT	FOR CONSTRUCTION	----

STATE OF CONNECTICUT  
ANTONIO A. GUALTIERI  
PEN.0025406  
LICENSED PROFESSIONAL ENGINEER  
10/20/21

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SHEET NUMBER: **C-4** REVISION: **0**



**verizon**  
 180 WASHINGTON VALLEY ROAD  
 BEDMINSTER, NJ 07921

**CROWN CASTLE**  
 1200 MACARTHUR BLVD, SUITE 200  
 MAHWAH, NJ 07430

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 1279 Route 300 Newburgh, NY 12550 Phone: (845) 567-6656

TECTONIC WO#: 10545.CROMWELL.SE.CT

VERIZON SITE NUMBER:  
**323640**

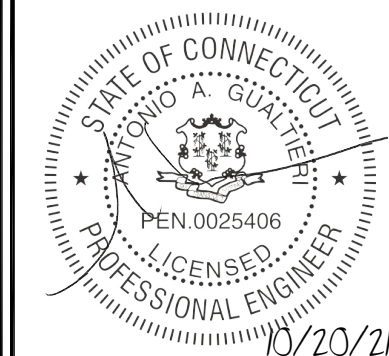
BU #: **876364**  
**CROMWELL / FIRST LINE**  
**EMERGENC**

201 MAIN ST.  
 CROMWELL, CT 06416

EXISTING  
 125'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/19/21	JT	FOR CONSTRUCTION	----



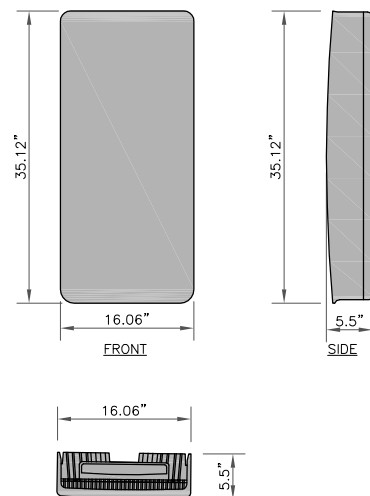
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 TO ALTER THIS DOCUMENT.

SHEET NUMBER:

**C-5**

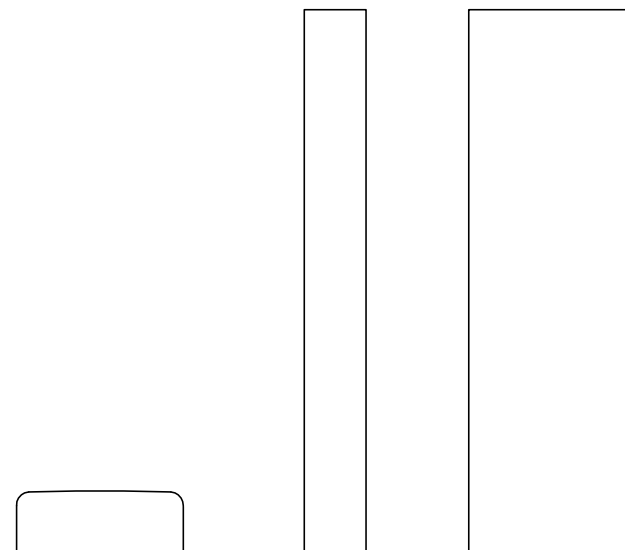
REVISION:

**0**



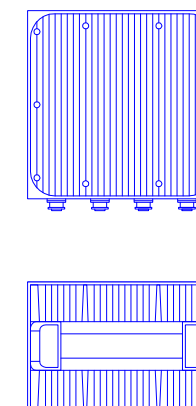
SAMSUNG - MT6407-77A  
 WEIGHT : 87.1 LBS  
 SIZE (HXWXD): 35.12 X 16.06 X 5.51 IN.

1 SAMSUNG - MT6407-77A  
 SCALE: NOT TO SCALE



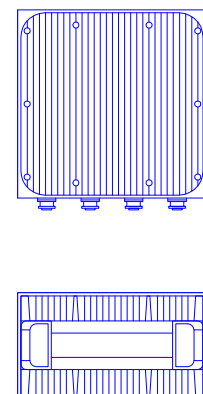
COMMSCOPE - JAHH-45B-R3B  
 WEIGHT : 97.5 LBS  
 SIZE (HXWXD): 72.0 X 18.0 X 7.0 IN.

2 COMMSCOPE - JAHH-45B-R3B  
 SCALE: NOT TO SCALE



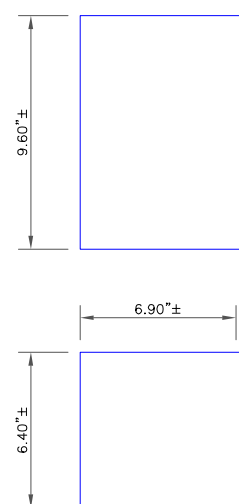
SAMSUNG - B2/B66A RRH-BR049 (RFV01U-D1A)  
 WEIGHT(W/O EQUIPMENT): 84.4 LBS  
 SIZE (HxWxD): 15x15x10 IN.

3 SAMSUNG - B2/B66A RRH-BR049 (RFV01U-D1A)  
 SCALE: NOT TO SCALE



SAMSUNG - B5/B13 RRH-BR04C (RFV01U-D2A)  
 WEIGHT (W/O EQUIPMENT): 31.9 LBS  
 SIZE (HxWxD): 15x15x8.1 IN.

4 SAMSUNG - B5/B13 RRH-BR04C (RFV01U-D2A)  
 SCALE: NOT TO SCALE

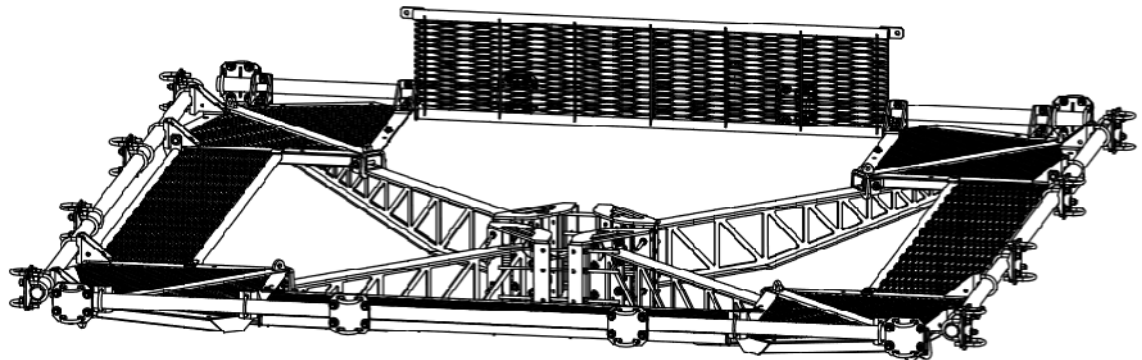


COMMSCOPE - CBC78TDS-43-2X  
 WEIGHT : 20.70 LBS  
 SIZE (HxWxD): 6.40x6.90x9.60 IN.

5 COMMSCOPE - CBC78TDS-43-2X  
 SCALE: NOT TO SCALE

6 NOT USED  
 SCALE: NOT TO SCALE

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-LPP-CW	LOW PROFILE PLATFORM CORNER WELDMENT		195.75	795.91
2	4	X-LPP-SA14	SIDE ARM WELDMENT FOR 14' LOW PROFILE PLATFORM		151.85	606.71
3	4	X-RM4HD	WELDMENT FOR 4-SIDED HEAVY DUTY RING MOUNT		74.27	295.68
4	4	X-LPP-W14	WALKWAY FOR 14' LOW PROFILE PLATFORM		118.45	465.81
5	16	X-LPP-PC	FACE PIPE CONNECTION BRACKET FORTRESS PLATFORM		7.01	112.15
6	16	X-SCX3-FR	FORTRESS CROSSOVER PLATE		6.61	105.82
7	16	X-LPP-A7	CORNER WELDMENT ATTACHMENT ANGLE	2 1/2 in	1.27	20.38
8	8	X-LPP-H	HINGE FOR LOW PROFILE PLATFORM WALKWAY		2.75	22.22
9	4	P90114	2-7/8" O.D. x 174" SCH. 40 PIPE	174 in	84.20	336.75
10	16	G58R-45	5/8" x 45" THREADED ROD (HDG.)	45 in	0.40	6.33
10	16	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	6.33
11	8	G58R-5	5/8" x 5" THREADED ROD (HDG.)		0.70	5.51
12	64	X-UBS300	5/8" x 3" x 5-1/4" x 2-1/2" U-BOLT (HDG.)		1.15	73.56
13	32	X-UBS250	5/8" x 2-5/8" x 4-1/2" x 2" U-BOLT (HDG.)		1.00	32.00
14	16	X-UBS304	5/8" x 3" x 4-1/4" x 2-1/2" U-BOLT (HDG.)		0.95	15.80
15	64	G58214	5/8" x 2-1/4" HDG. HEX BOLT GR5		0.29	18.66
16	256	G58FW	5/8" HDG. USS FLAT WASHER	1/8 in	0.07	18.04
17	272	G58LW	5/8" HDG. LOCK WASHER		0.09	7.19
18	272	G58NUT	5/8" HDG. HEAVY 2H HEX NUT		0.13	35.33
					TOTAL WT. #	3056.14

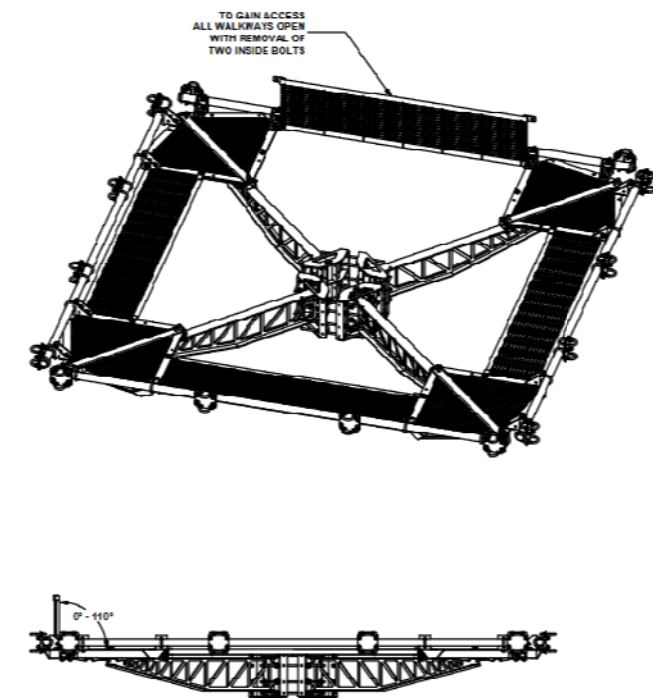
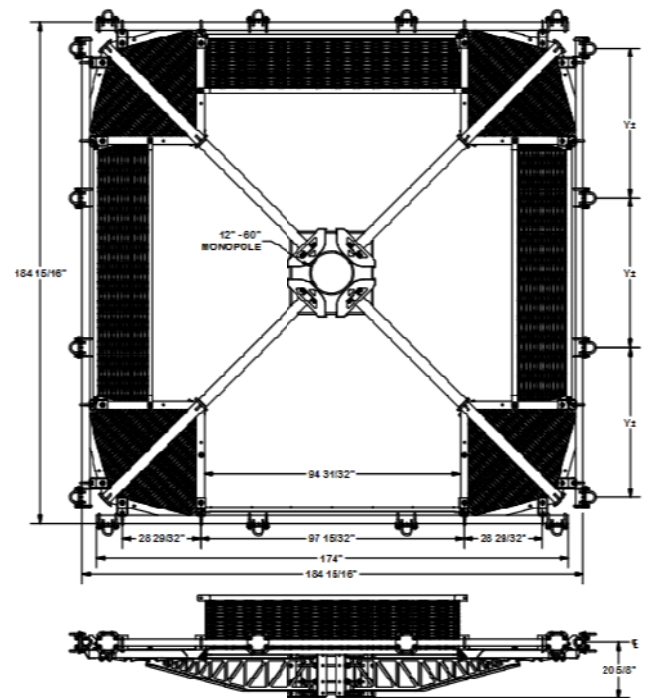


**TOLERANCE NOTES**  
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWS, SHEARED AND GAS CUT EDGES (± 0.007")  
 DRILLED AND GAS CUT HOLES (± 0.007") - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES  
 BENDS ARE ± 1/2 DEGREE  
 ALL OTHER MACHINING (± 0.007")  
 ALL OTHER ASSEMBLY (± 0.007")  
 DIMENSIONS ARE TO CENTER UNLESS OTHERWISE NOTED  
 THE CUTS AND TECHNIQUES COVERED IN THIS DRAWING ARE RESPECTIVE INFORMATION OF VENDOR'S  
 SPECIFICATIONS AND CONSTRUCTION PRACTICES. ALL USER ORIGINATIONS WITHOUT THE CONSENT OF  
 SITE PRO ENGINEERING ARE PROHIBITED.

DESCRIPTION: 14' FORTRESS™ QUAD-PLATFORM MOUNT WITH WALKWAYS  
 DPN NO. 81 02  
 DRAWN BY: CEK 8/9/2017  
 CHECKED BY: BMC 8/30/2017  
 ENG. APPROVAL: [Signature]  
 PART NO. F4P-14W  
 DWG. NO. F4P-14W

**SITE PRO ENGINEERING**  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Phoenix, AZ  
 Dallas, TX

1 SITE PRO - F4P-14W  
 SCALE: NOT TO SCALE

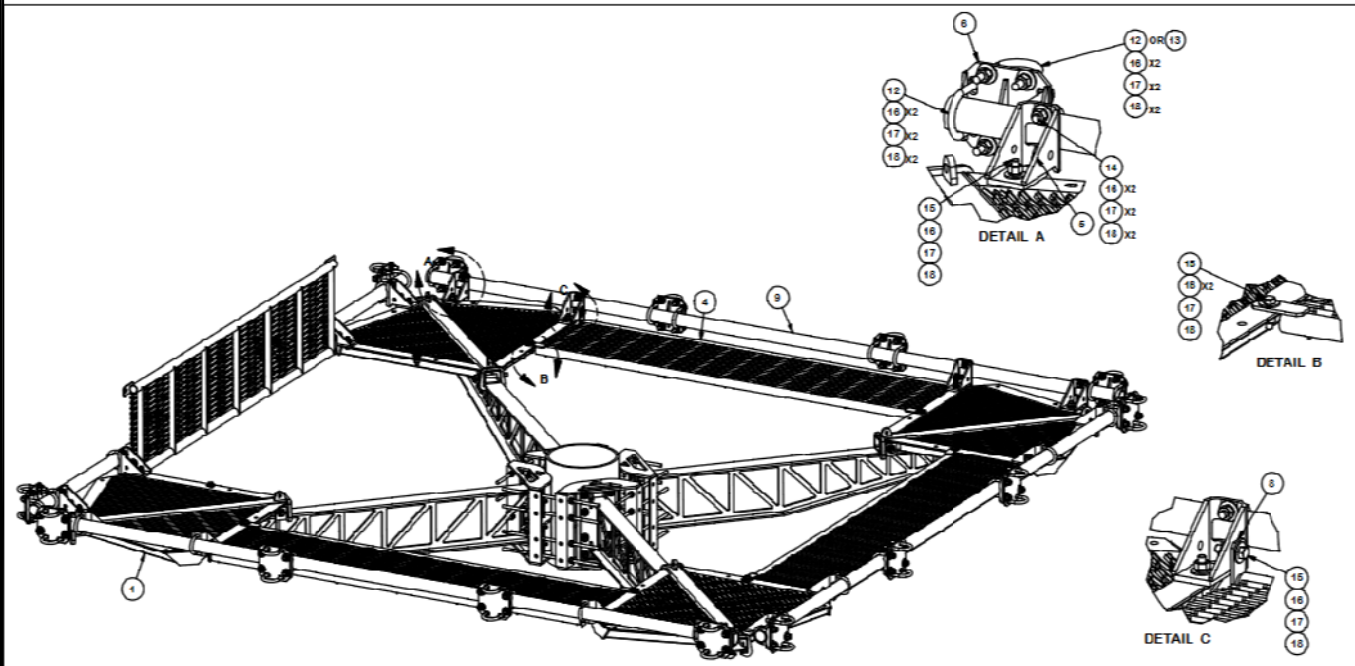


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 DRILLED AND GAS CUT HOLES (± 0.007")  
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 DWG. NO. F4P-14W

**SITE PRO ENGINEERING**  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Phoenix, AZ  
 Dallas, TX

2 SITE PRO - F4P-14W  
 SCALE: NOT TO SCALE

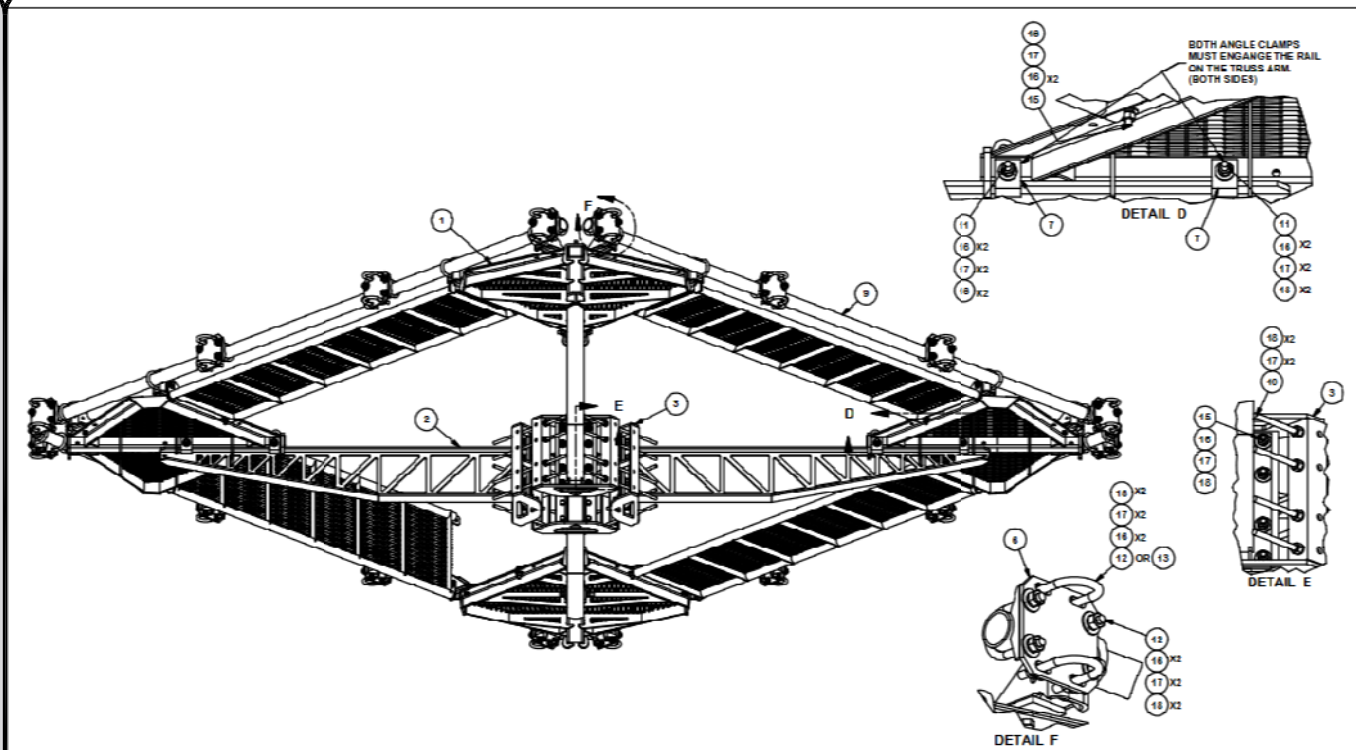


**TOLERANCE NOTES**  
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWS, SHEARED AND GAS CUT EDGES (± 0.007")  
 DRILLED AND GAS CUT HOLES (± 0.007") - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES  
 BENDS ARE ± 1/2 DEGREE  
 ALL OTHER MACHINING (± 0.007")  
 ALL OTHER ASSEMBLY (± 0.007")  
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 DPN NO. 81 02  
 DRAWN BY: CEK 8/9/2017  
 CHECKED BY: BMC 8/30/2017  
 ENG. APPROVAL: [Signature]  
 PART NO. F4P-14W  
 DWG. NO. F4P-14W

**SITE PRO ENGINEERING**  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Phoenix, AZ  
 Dallas, TX

3 SITE PRO - F4P-14W  
 SCALE: NOT TO SCALE



**TOLERANCE NOTES**  
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
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 LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES  
 BENDS ARE ± 1/2 DEGREE  
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 ENG. APPROVAL: [Signature]  
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 DWG. NO. F4P-14W

**SITE PRO ENGINEERING**  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Phoenix, AZ  
 Dallas, TX

4 SITE PRO - F4P-14W  
 SCALE: NOT TO SCALE

**verizon**  
 180 WASHINGTON VALLEY ROAD  
 BEDMINSTER, NJ 07921

**CROWN CASTLE**  
 1200 MACARTHUR BLVD, SUITE 200  
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 P.O. Box 37 Phone: (800) 829-6531  
 Mountainville, NY 10953 www.tectonicengineering.com  
 Project Contact Info  
 1279 Route 500  
 Newburgh, NY 12550 Phone: (845) 567-6656

TECTONIC WO#: 10545.CROMWELL.SE.CT

VERIZON SITE NUMBER:  
 323640

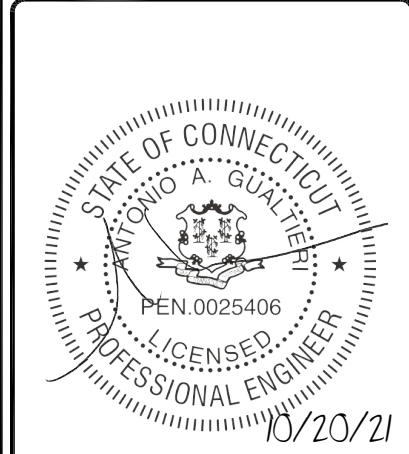
BU #: 876364  
**CROMWELL / FIRST LINE EMERGENC**

201 MAIN ST.  
 CROMWELL, CT 06416

EXISTING  
 125'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/19/21	JT	FOR CONSTRUCTION	----



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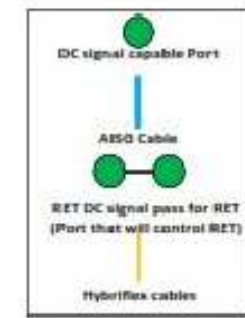
SHEET NUMBER: **C-6** REVISION: **0**





BBAMNT-9BS-2-3

- Port 1 & 2 are for low band (898-896 MHz).
- Port 3,4,5, & 6 are for high band (1695-2300 MHz).
- Smart Bias Tee (SBT) is through port 1 & 3 for low band and port 1 for high band.
- AISG cable is only needed when drawn in the diagrams below, if it is not drawn then SBT is enough to control all RET motors.
- Not all SBT ports are needed to control RET, only green port connection to green port will control RET.



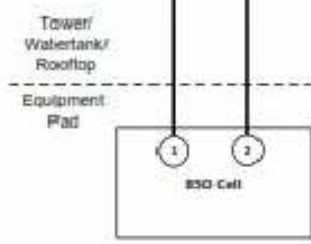
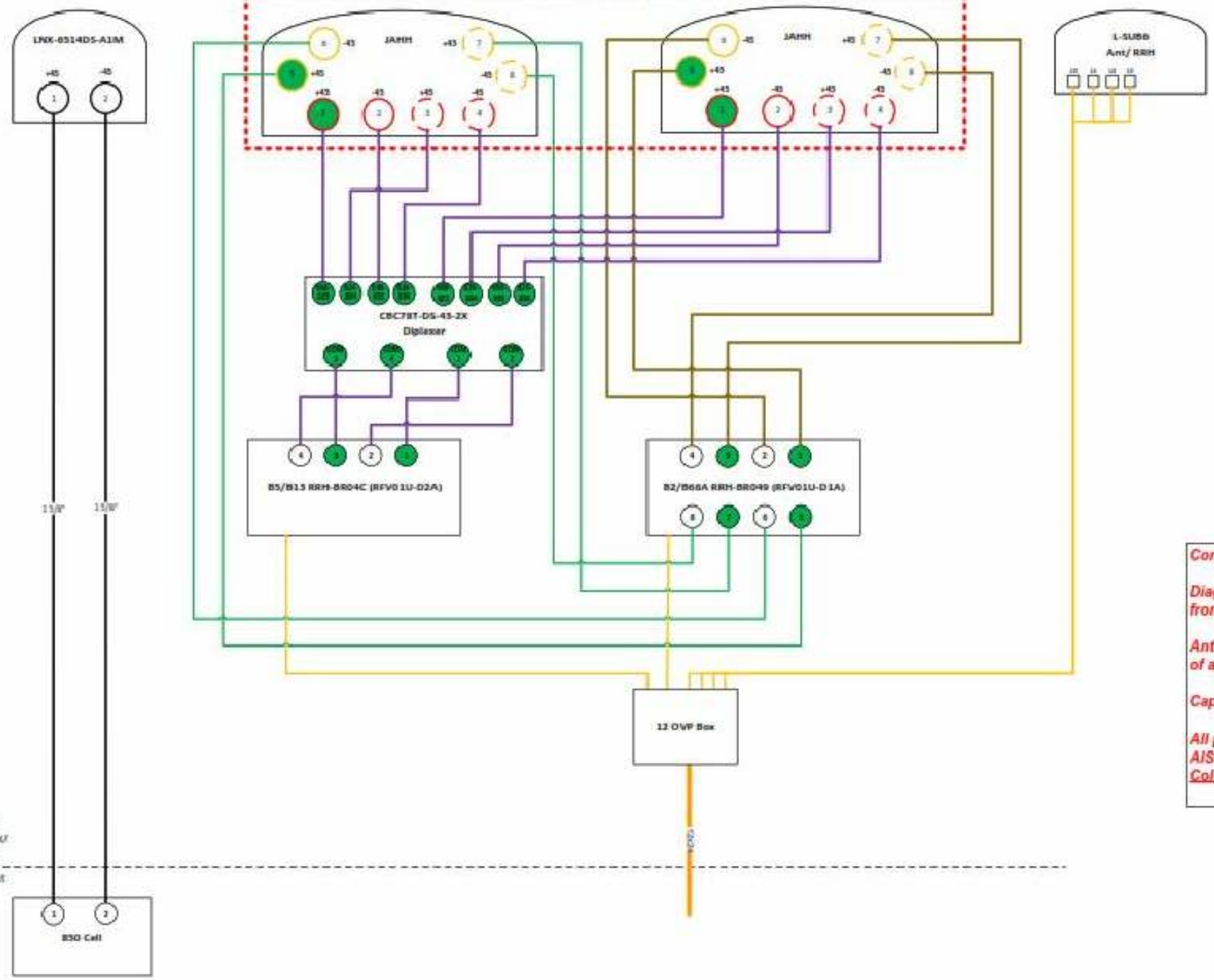
**Comments:**

Diagram shows antenna port configuration as viewed from below antennas.

Antenna positions are indicated as viewed from IN FRONT of antennas.

Cap and weatherproof unused antenna ports.

All plumbing diagram colors are irrelevant except for AISG & Hybridflex cable. (For the coax colors follow Coax Colors guide above)



1 PLUMBING DIAGRAM  
SCALE: NOT TO SCALE



TECTONIC WO#: 10545.CROMWELL.SE.CT

VERIZON SITE NUMBER:  
**323640**

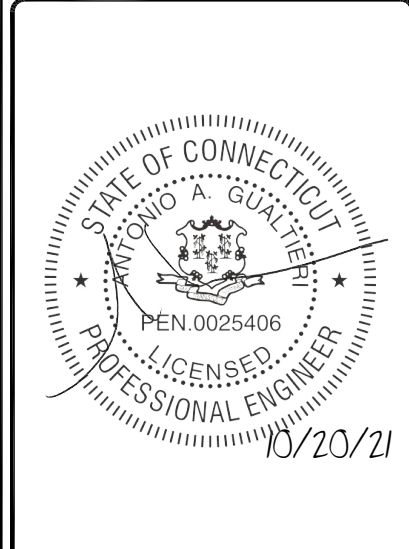
BU #: 876364  
**CROMWELL / FIRST LINE  
EMERGENC**

201 MAIN ST.  
CROMWELL, CT 06416

EXISTING  
125'-0" MONOPOLE

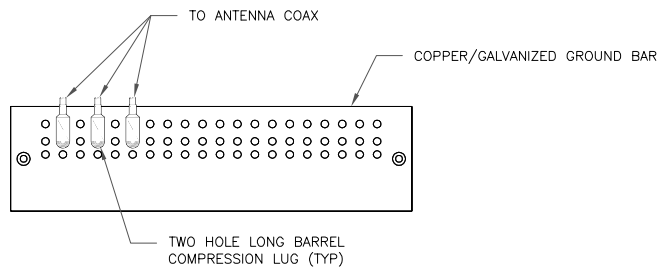
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/19/21	JT	FOR CONSTRUCTION	----



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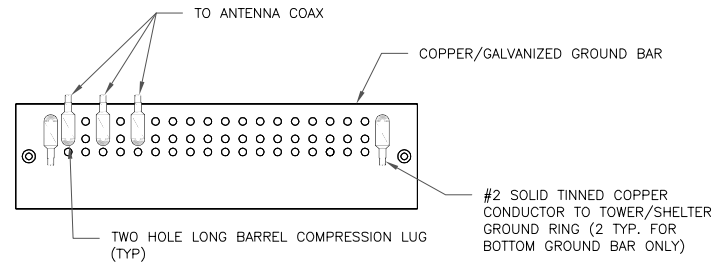
SHEET NUMBER: **C-7** REVISION: **0**



**NOTES:**

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

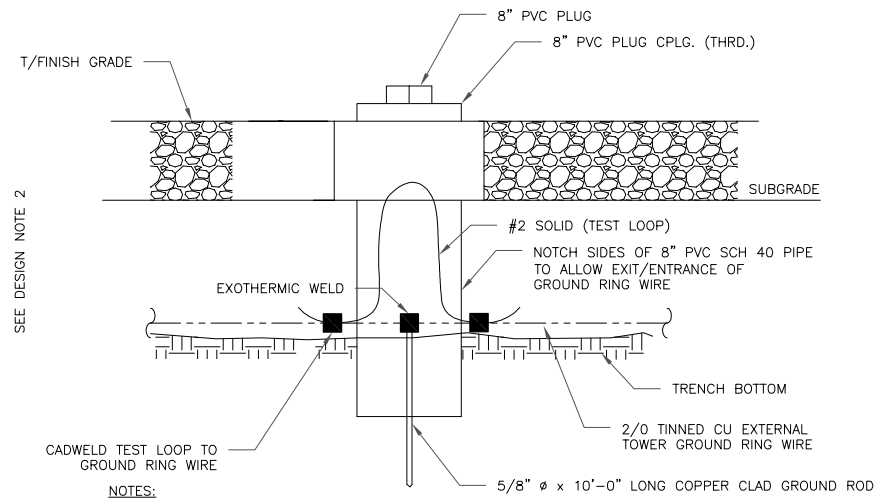
**1** ANTENNA SECTOR GROUND BAR DETAIL  
SCALE: NOT TO SCALE



**NOTES:**

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

**2** TOWER/SHELTER GROUND BAR DETAIL  
SCALE: NOT TO SCALE

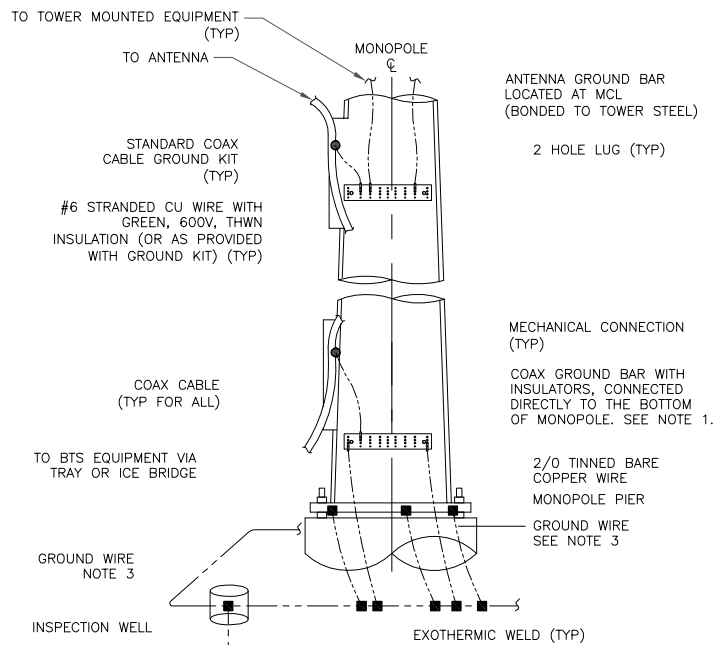


SEE DESIGN NOTE 2

**NOTES:**

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

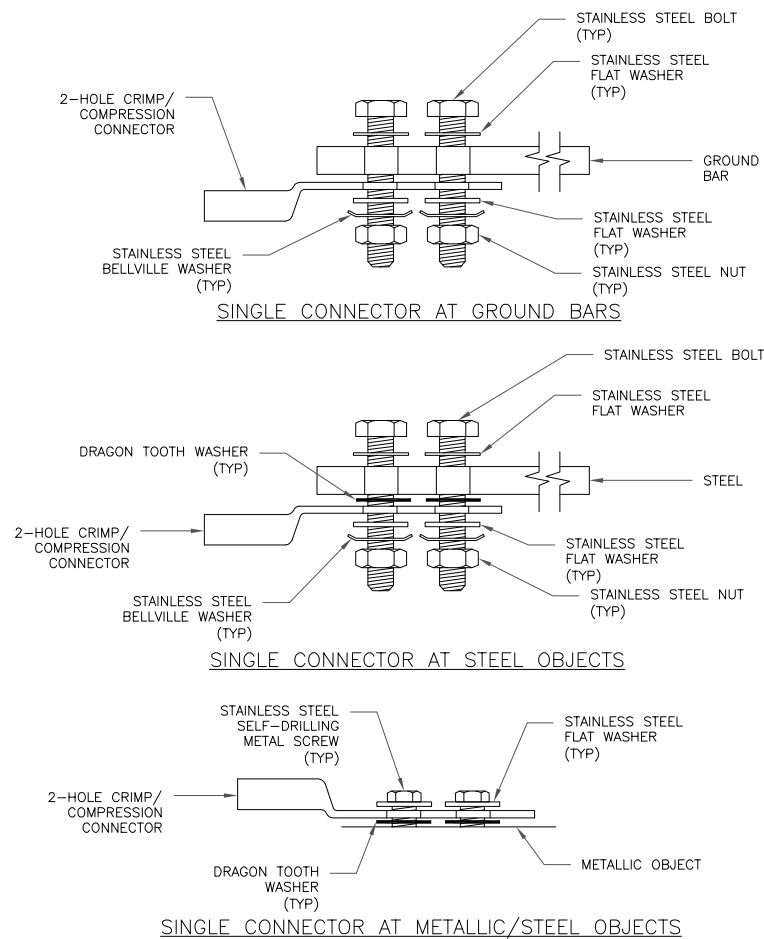
**3** INSPECTION WELL DETAIL  
SCALE: NOT TO SCALE



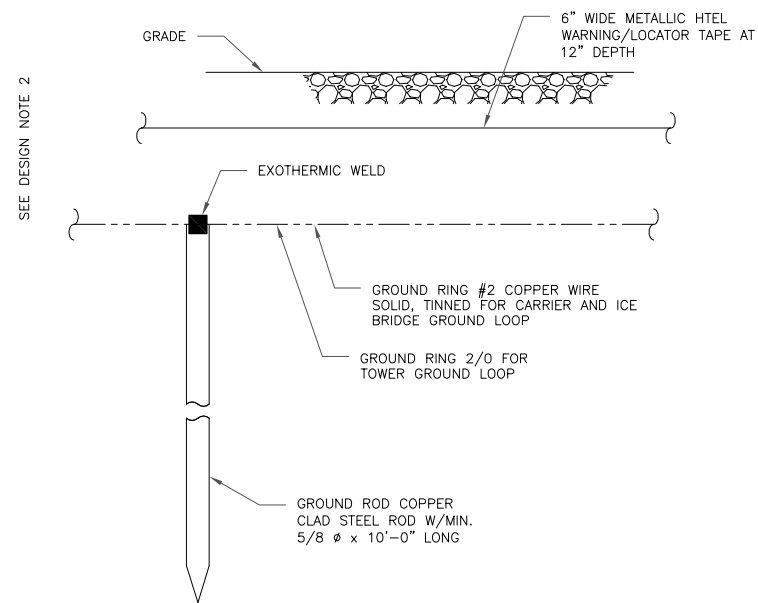
**NOTES:**

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

**4** TYPICAL ANTENNA CABLE GROUNDING  
SCALE: NOT TO SCALE



**5** HARDWARE DETAIL FOR EXTERIOR CONNECTIONS  
SCALE: NOT TO SCALE



SEE DESIGN NOTE 2

**NOTES:**

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

**6** GROUND ROD DETAIL  
SCALE: NOT TO SCALE

**verizon**  
180 WASHINGTON VALLEY ROAD  
BEDMINSTER, NJ 07921

**CROWN CASTLE**  
1200 MACARTHUR BLVD, SUITE 200  
MAHWAH, NJ 07430

**Tectonic**  
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.  
Tectonic Engineering & Surveying Consultants P.C.  
70 Pleasant Hill Road Phone: (845) 534-8999  
P.O. Box 37 Mountainville, NY 10953 (800) 829-6531  
Project Contact Info www.tectonicengineering.com  
1279 Route 500 Newburgh, NY 12550 Phone: (845) 567-6656

TECTONIC WO#: 10545.CROMWELL SE CT

VERIZON SITE NUMBER:  
**323640**

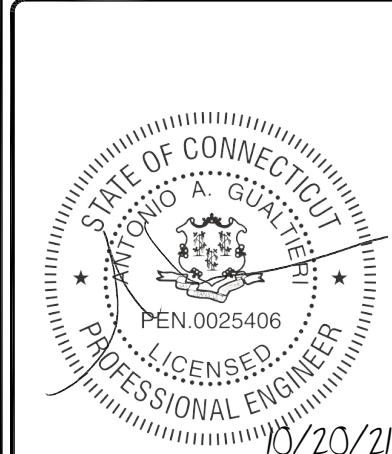
BU #: 876364  
**CROMWELL / FIRST LINE  
EMERGENC**

201 MAIN ST.  
CROMWELL, CT 06416

EXISTING  
125'-0" MONOPOLE

**ISSUED FOR:**

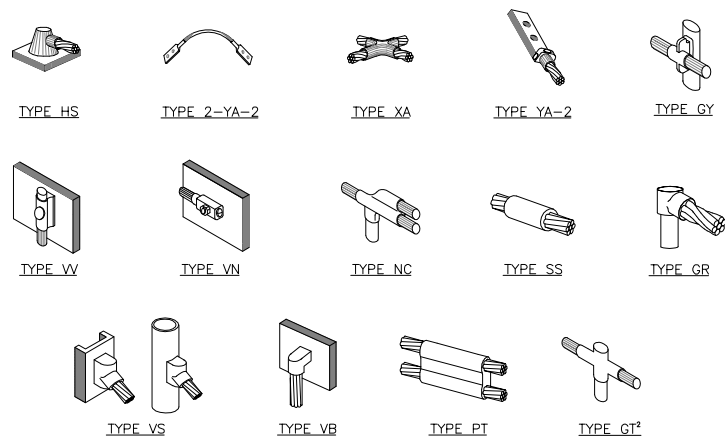
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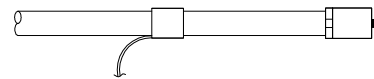


**NOTE:**

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

**1 CADWELD GROUNDING CONNECTIONS**  
SCALE: NOT TO SCALE

WEATHERPROOFING KIT  
(SEE NOTE 3)  
ANTENNA CABLE



#6 AWG STRANDED COPPER GROUND WIRE  
(GROUNDED TO GROUND BAR). SEE NOTE 1 & 2

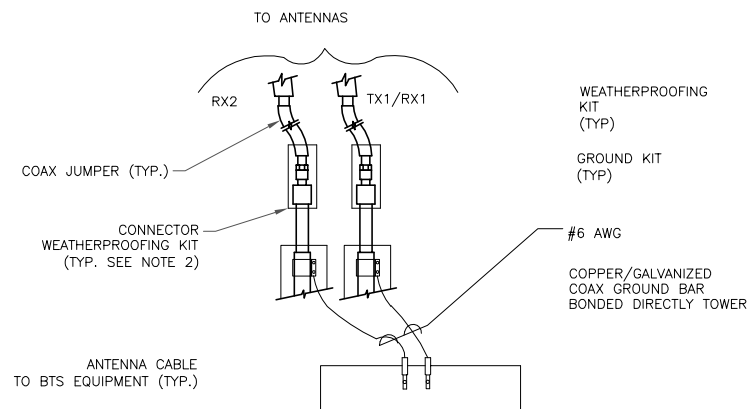
CABLE GROUND KIT

CABLE CONNECTOR

**NOTES:**

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

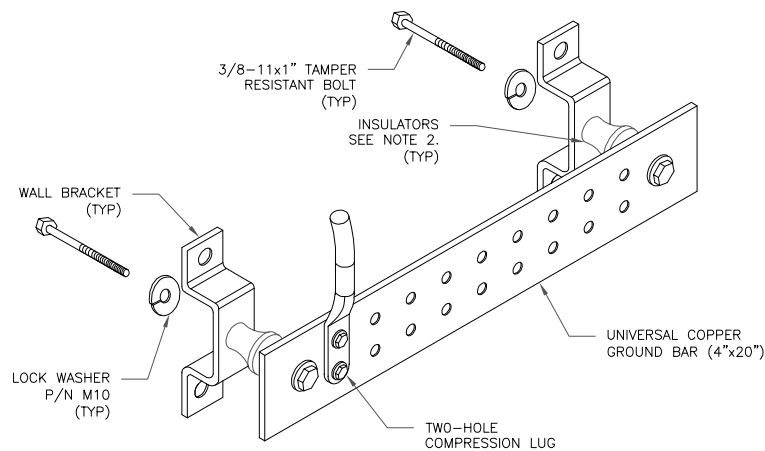
**3 CABLE GROUND KIT CONNECTION**  
SCALE: NOT TO SCALE



**NOTES:**

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

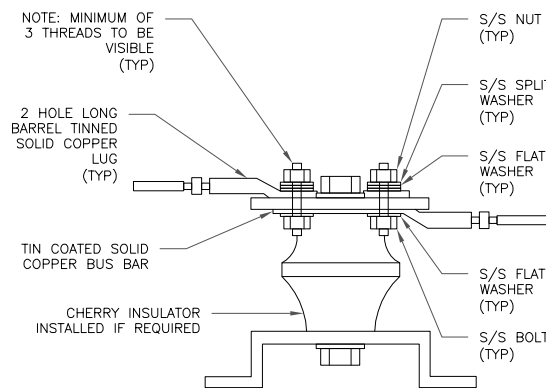
**4 GROUND CABLE CONNECTION**  
SCALE: NOT TO SCALE



**NOTES:**

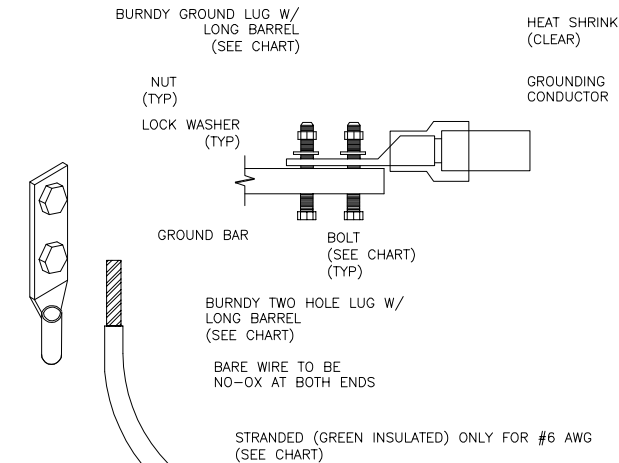
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

**6 GROUND BAR DETAIL**  
SCALE: NOT TO SCALE



**7 LUG DETAIL**  
SCALE: NOT TO SCALE

WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



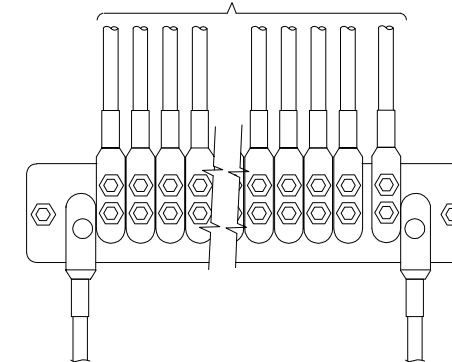
**NOTES:**

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

**2 MECHANICAL LUG CONNECTION**  
SCALE: NOT TO SCALE

#6 AWG MIN. FROM ANTENNA  
CABLE GROUND KIT

GROUND BAR ON SHELTER, ICE  
BRIDGE, OR ON ANTENNA TOWER

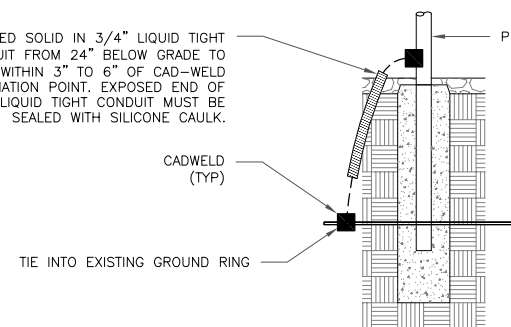


\*TWO HOLE LUG, OR  
EXOTHERMIC WELD TO BE USED  
WITH #2 AWG BARE CONDUCTOR  
WIRE TO BUILDING SERVICE  
GROUND OR GROUND RING

GROUNDING SHALL BE  
ELIMINATED WHEN GROUND BAR  
IS ELECTRICALLY BONDED TO  
METAL TOWER

**5 GROUNDWIRE INSTALLATION**  
SCALE: NOT TO SCALE

#2 TINNED SOLID IN 3/4" LIQUID TIGHT  
CONDUIT FROM 24" BELOW GRADE TO  
WITHIN 3" TO 6" OF CAD-WELD  
TERMINATION POINT. EXPOSED END OF  
THE LIQUID TIGHT CONDUIT MUST BE  
SEALED WITH SILICONE CAULK.



**8 TRANSITIONING GROUND DETAIL**  
SCALE: NOT TO SCALE

**verizon**  
180 WASHINGTON VALLEY ROAD  
BEDMINSTER, NJ 07921

**CROWN CASTLE**  
1200 MACARTHUR BLVD, SUITE 200  
MAHWAH, NJ 07430

**Tectonic**  
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.  
Tectonic Engineering & Surveying Consultants P.C.  
70 Pleasant Hill Road Phone: (845) 534-8999  
P.O. Box 37 Phone: (800) 829-6531  
Mountainville, NY 10953 www.tectonicengineering.com  
Project Contact Info  
1279 Route 500  
Newburgh, NY 12550 Phone: (845) 567-6656

TECTONIC WO#: 10545.CROMWELL.SE.CT

VERIZON SITE NUMBER:  
**323640**

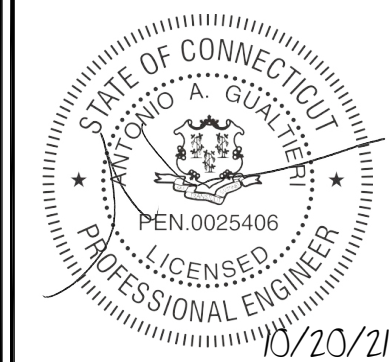
BU #: 876364  
**CROMWELL / FIRST LINE  
EMERGENC**

201 MAIN ST.  
CROMWELL, CT 06416

EXISTING  
125'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/19/21	JT	FOR CONSTRUCTION	----



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TO ALTER THIS DOCUMENT.

SHEET NUMBER: **G-2** REVISION: **0**

# Exhibit D

## **Structural Analysis Report**



MORRISON HERSHFIELD

Morrison Hershfield  
1455 Lincoln Parkway, Suite 500  
Atlanta, GA 30346  
(770) 397-8500

Date: **June 30, 2021**

**Subject:** **Structural Analysis Report**

**Carrier Designation:** **Verizon Wireless Co-Locate**  
**Site Number:** 467564  
**Site Name:** Cromwell SE CT

**Crown Castle Designation:** **BU Number:** 876364  
**Site Name:** Cromwell / First Line Emergenc  
**JDE Job Number:** 644648  
**Work Order Number:** 1953782  
**Order Number:** 552635 Rev. 0

**Engineering Firm Designation:** **Morrison Hershfield Project Number:** CN8-786 / 2101398

**Site Data:** **201 Main St., Cromwell, Middlesex County, CT 06416**  
**Latitude 41° 35' 0.11", Longitude -72° 38' 59.14"**  
**125 Foot – EEI Monopole Tower**

Morrison Hershfield is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity-99.8%**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

G. Lance Cooke, P.E. (CT License No. PEN.0028133)  
Senior Engineer



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3.2) Assumptions

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tnxTower Output

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Additional Calculations

## 1) INTRODUCTION

This tower is a 125 ft Monopole tower designed by Engineered Endeavors, Inc.

The tower has been modified multiple times in the past to accommodate additional loading. All the modifications have been considered in this analysis per their respective post modification inspection reports

## 2) ANALYSIS CRITERIA

<b>TIA-222 Revision:</b>	TIA-222-H
<b>Risk Category:</b>	II
<b>Wind Speed:</b>	125 mph
<b>Exposure Category:</b>	C
<b>Topographic Factor:</b>	1
<b>Ice Thickness:</b>	1.5 in
<b>Wind Speed with Ice:</b>	50 mph
<b>Service Wind Speed:</b>	60 mph

**Table 1 - Proposed Equipment Configuration**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
105.0	105.0	3	andrew	LNx-6514DS-A1M w/ Mount Pipe	11 1	1-5/8 2
		6	commscope	JAHH-45B-R3B w/ Mount Pipe		
		3	vzw	Sub6 Antenna - VZS01 w/ Mount Pipe		
		3	commscope	CBC78T-DS-43-2X		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		1	raycap	RVZDC-6627-PF-48		
		1	-	Platform Mount [LP 1201-1]		

**Table 2 - Other Considered Equipment**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
125.0	129.0	3	argus technologies	LLPX310R-V1 w/ Mount Pipe	3 3 3 2 2 1 1	1-1/4 5/16 1/4 2C 1/2 3/4
	127.0	3	rfs/celwave	APXVSP18-C-A20 w/ Mount Pipe		
		3	rfs/celwave	APXVTM14-C-120 w/ Mount Pipe		
		3	alcatel lucent	TD-RRH8x20-25		
	125.0	3	samsung telecommunications	WIMAX DAP HEAD		
		2	dragonwave	HORIZON COMPACT		
		1	-	Platform Mount [LP 714-1]		
	124.0	1	andrew	VHLP2-11		
		1	andrew	VHLP2-18		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
123.0	123.0	3	alcatel lucent	800MHZ 2X50W RRH W/FILTER	-	-
		3	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
		1	-	Side Arm Mount [SO 102-3]		
115.0	117.0	3	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe	12 4 2 2	1-1/4 3/4 2C 3/8
		3	kathrein	80010798 w/ Mount Pipe		
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		6	powerwave technologies	TT19-08BP111-001		
		3	ericsson	RRUS 11 B12		
		3	ericsson	RRUS 32		
		3	ericsson	RRUS 32 B2		
		3	ericsson	RRUS 32 B66		
		6	kaelus	DBC0061F1V51-2		
		2	raycap	DC6-48-60-18-8F		
95.0	96.0	6	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	1 1	1-1/4 1-5/8
		3	rfs/celwave	APXVAARR24_43-U-NA20		
		3	ericsson	RADIO 4449 B12/B71		
	95.0	3	Site Pro 1	Horizontal Pipe [#P2150]		
		1	Site Pro 1	Kicker Kit [#PRK-1245]		
		1	Site Pro 1	Kicker Kit [#PRK-SFS]		
		1	Site Pro 1	Support Rail Kit [#HRK14]		
		1	-	T-Arm Mount [TA 602-3]		
85.0	85.0	3	jma wireless	MX08FRO665-20 w/ Mount Pipe	1	1-3/8
		3	fujitsu	TA08025-B604		
		3	fujitsu	TA08025-B605		
		1	raycap	RDIDC-9181-PF-48		
		1	Commscope	T-Arm Mount [#MC-K6MHDX-9-96 (3)]		

### 3) ANALYSIS PROCEDURE

**Table 3 - Documents Provided**

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1532312	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1613909	CCISITES
4-TOWER MANUFACTURER DRAWINGS	2068958	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2296089	CCISITES
4-POST-MODIFICATION INSPECTION	2182292	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3373019	CCISITES
4-POST-MODIFICATION INSPECTION	3394680	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2055765	CCISITES
4-POST-MODIFICATION INSPECTION	1956332	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3669962	CCISITES
4-POST-MODIFICATION INSPECTION	4009982	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5685167	CCISITES
4-POST-MODIFICATION INSPECTION	5947318	CCISITES

#### 3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are included in Appendix C.

#### 3.2) Assumptions

- 1) Tower and structures were maintained in accordance with the TIA-222 Standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Morrison Hershfield should be notified to determine the effect on the structural integrity of the tower.

### 4) ANALYSIS RESULTS

**Table 4 - Section Capacity (Summary)**

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	125 - 120	Pole	TP19.575x18.5x0.1875	Pole	11.3	Pass
L2	120 - 115	Pole	TP20.65x19.575x0.1875	Pole	20.0	Pass
L3	115 - 110	Pole	TP21.724x20.65x0.1875	Pole	36.	Pass
L4	110 - 105	Pole	TP22.799x21.724x0.1875	Pole	48.0	Pass
L5	105 - 100	Pole	TP23.874x22.799x0.1875	Pole	64.4	Pass
L6	100 - 99.375	Pole	TP24.008x23.874x0.1875	Pole	66.2	Pass
L7	99.375 - 99.125	Pole + Reinf.	TP24.062x24.008x0.425	Reinf. 8 Tension Rupture	59.9	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L8	99.125 - 94.458	Pole + Reinf.	TP25.065x24.062x0.4125	Reinf. 8 Tension Rupture	73.3	Pass
L9	94.458 - 94.208	Pole + Reinf.	TP25.119x25.065x0.6	Reinf. 8 Tension Rupture	52.0	Pass
L10	94.208 - 89.208	Pole + Reinf.	TP26.194x25.119x0.575	Reinf. 8 Tension Rupture	63.8	Pass
L11	89.208 - 89	Pole + Reinf.	TP26.239x26.194x0.575	Reinf. 8 Tension Rupture	64.3	Pass
L12	89 - 85.04	Pole + Reinf.	TP27.09x26.239x0.6625	Reinf. 8 Tension Rupture	55.9	Pass
L13	85.04 - 84.04	Pole + Reinf.	TP26.918x25.873x0.5	Reinf. 4 Tension Rupture	65.1	Pass
L14	84.04 - 79.04	Pole + Reinf.	TP27.981x26.918x0.4875	Reinf. 4 Tension Rupture	74.5	Pass
L15	79.04 - 74.04	Pole + Reinf.	TP29.043x27.981x0.475	Reinf. 4 Tension Rupture	83.1	Pass
L16	74.04 - 73.583	Pole + Reinf.	TP29.14x29.043x0.475	Reinf. 4 Tension Rupture	83.8	Pass
L17	73.583 - 73.333	Pole + Reinf.	TP29.193x29.14x0.6125	Reinf. 4 Tension Rupture	66.4	Pass
L18	73.333 - 73	Pole + Reinf.	TP29.264x29.193x0.6125	Reinf. 4 Tension Rupture	66.8	Pass
L19	73 - 72.75	Pole + Reinf.	TP29.317x29.264x0.375	Reinf. 3 Tension Rupture	82.1	Pass
L20	72.75 - 67.75	Pole + Reinf.	TP30.38x29.317x0.375	Reinf. 3 Tension Rupture	89.0	Pass
L21	67.75 - 63	Pole + Reinf.	TP31.389x30.38x0.3688	Reinf. 3 Tension Rupture	94.8	Pass
L22	63 - 62.75	Pole + Reinf.	TP31.442x31.389x0.575	Reinf. 7 Tension Rupture	78.7	Pass
L23	62.75 - 57.75	Pole + Reinf.	TP32.505x31.442x0.5625	Reinf. 7 Tension Rupture	84.0	Pass
L24	57.75 - 57.233	Pole + Reinf.	TP32.615x32.505x0.45	Reinf. 2 Tension Rupture	82.4	Pass
L25	57.233 - 56.983	Pole + Reinf.	TP32.668x32.615x0.45	Reinf. 2 Tension Rupture	82.6	Pass
L26	56.983 - 51.983	Pole + Reinf.	TP33.731x32.668x0.4438	Reinf. 2 Tension Rupture	87.1	Pass
L27	51.983 - 46.983	Pole + Reinf.	TP34.793x33.731x0.4375	Reinf. 2 Tension Rupture	91.1	Pass
L28	46.983 - 40.457	Pole + Reinf.	TP36.18x34.793x0.4375	Reinf. 2 Tension Rupture	92.2	Pass
L29	40.457 - 39.457	Pole + Reinf.	TP35.889x34.6x0.5	Reinf. 2 Tension Rupture	86.5	Pass
L30	39.457 - 37.833	Pole + Reinf.	TP36.233x35.889x0.4938	Reinf. 2 Tension Rupture	87.5	Pass
L31	37.833 - 37.583	Pole + Reinf.	TP36.286x36.233x0.4938	Reinf. 1 Tension Rupture	87.6	Pass
L32	37.583 - 32.583	Pole + Reinf.	TP37.345x36.286x0.4875	Reinf. 1 Tension Rupture	90.6	Pass
L33	32.583 - 27.583	Pole + Reinf.	TP38.405x37.345x0.4813	Reinf. 1 Tension Rupture	93.2	Pass
L34	27.583 - 22.583	Pole + Reinf.	TP39.465x38.405x0.475	Reinf. 1 Tension Rupture	95.6	Pass
L35	22.583 - 17.583	Pole + Reinf.	TP40.524x39.465x0.475	Reinf. 1 Tension Rupture	97.8	Pass
L36	17.583 - 12.583	Pole + Reinf.	TP41.584x40.524x0.4625	Reinf. 1 Tension Rupture	99.7	Pass
L37	12.583 - 12.25	Pole + Reinf.	TP41.654x41.584x0.4625	Reinf. 1 Tension Rupture	99.8	Pass
L38	12.25 - 12	Pole + Reinf.	TP41.707x41.654x0.6	Reinf. 6 Tension Rupture	85.1	Pass
L39	12 - 7	Pole + Reinf.	TP42.767x41.707x0.5875	Reinf. 6 Tension Rupture	87.0	Pass
L40	7 - 2	Pole + Reinf.	TP43.826x42.767x0.5875	Reinf. 6 Tension Rupture	88.8	Pass
L41	2 - 0	Pole + Reinf.	TP44.25x43.826x0.575	Reinf. 6 Tension Rupture	89.4	Pass
					Summary	
				Pole	87.7	Pass
				Reinforcement	99.8	Pass
				Overall	99.8	Pass



**Table 5 - Tower Component Stresses vs. Capacity – LC7**

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	90.0	Pass
1	Base Plate		87.8	Pass
1	Base Foundation (Structure)	0	51.3	Pass
1	Base Foundation (Soil Interaction)		85.7	Pass

<b>Structure Rating (max from all components) =</b>	<b>99.8%*</b>
---	---------------

Notes:

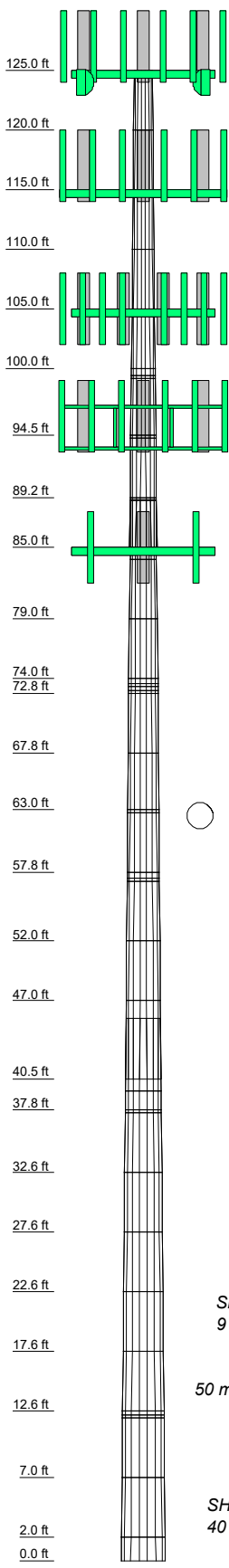
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) \*Rating per TIA-222-H, Section 15.5.

#### 4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

**APPENDIX A**  
**TNXTOWER OUTPUT**

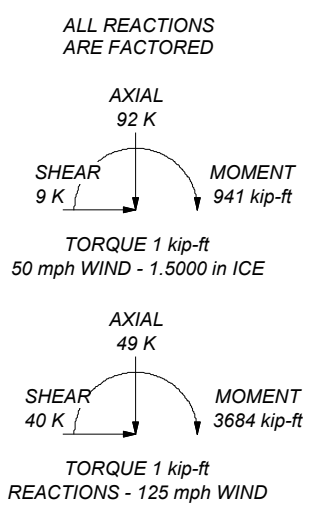
Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.1875					0.1875
2	5.00	18	0.1875					0.1875
3	5.00	18	0.1875					0.1875
4	5.00	18	0.1875					0.1875
5	5.00	18	0.1875					0.1875
6	5.00	18	0.1875					0.1875
7	5.00	18	0.1875					0.1875
8	5.00	18	0.1875					0.1875
9	5.00	18	0.1875					0.1875
10	5.00	18	0.1875					0.1875
11	5.00	18	0.1875					0.1875
12	5.00	18	0.1875					0.1875
13	5.00	18	0.1875					0.1875
14	5.00	18	0.1875					0.1875
15	5.00	18	0.1875					0.1875
16	5.00	18	0.1875					0.1875
17	5.00	18	0.1875					0.1875
18	5.00	18	0.1875					0.1875
19	5.00	18	0.1875					0.1875
20	5.00	18	0.1875					0.1875
21	5.00	18	0.1875					0.1875
22	5.00	18	0.1875					0.1875
23	5.00	18	0.1875					0.1875
24	5.00	18	0.1875					0.1875
25	5.00	18	0.1875					0.1875
26	5.00	18	0.1875					0.1875
27	5.00	18	0.1875					0.1875
28	5.00	18	0.1875					0.1875
29	5.00	18	0.1875					0.1875
30	5.00	18	0.1875					0.1875
31	5.00	18	0.1875					0.1875
32	5.00	18	0.1875					0.1875
33	5.00	18	0.1875					0.1875
34	5.00	18	0.1875					0.1875
35	5.00	18	0.1875					0.1875
36	5.00	18	0.1875					0.1875
37	5.00	18	0.1875					0.1875
38	5.00	18	0.1875					0.1875
39	5.00	18	0.1875					0.1875
40	5.00	18	0.1875					0.1875
41	5.00	18	0.1875					0.1875



MATERIAL STRENGTH					
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

**TOWER DESIGN NOTES**

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. CCIPOLE RATING: 99.8%



**Morrison Hershfield**  
 1455 Lincoln Parkway, Suite 500  
 Atlanta, GA 30346  
 Phone: (770) 397-8500  
 FAX: (770) 397-8501

Job: <b>CN8-786 / 2101398</b>		
Project: <b>876364 / Cromwell / First Line Emergenc</b>		
Client: <b>Crown Castle USA</b>	Drawn by: <b>NN</b>	App'd:
Code: <b>TIA-222-H</b>	Date: <b>06/30/21</b>	Scale: <b>NTS</b>
Path:		Dwg No. <b>E-1</b>

C:\Users\Naidu.M\Desktop\pandini\Daily Jobs\MPCN8-786\CN8-786 BU\_876364 WO\_1953782.dwg

## Tower Input Data

The tower is a monopole.  
 This tower is designed using the TIA-222-H standard.  
 The following design criteria apply:  
 Tower is located in Middlesex County, Connecticut.  
 Tower base elevation above sea level: 8.00 ft.  
 Basic wind speed of 125 mph.  
 Risk Category II.  
 Exposure Category C.  
 Simplified Topographic Factor Procedure for wind speed-up calculations is used.  
 Topographic Category: 1.  
 Crest Height: 0.00 ft.  
 Nominal ice thickness of 1.5000 in.  
 Ice thickness is considered to increase with height.  
 Ice density of 56 pcf.  
 A wind speed of 50 mph is used in combination with ice.  
 Temperature drop of 50 °F.  
 Deflections calculated using a wind speed of 60 mph.  
 A non-linear (P-delta) analysis was used.  
 Pressures are calculated at each section.  
 Stress ratio used in pole design is 1.  
 Tower analysis based on target reliabilities in accordance with Annex S.  
 Load Modification Factors used:  $K_{es}(F_w) = 0.95$ ,  $K_{es}(t_i) = 0.85$ .  
 Maximum demand-capacity ratio is: 1.05.  
 Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

## Options

- |  |   |   |
|--|---|---|
| Consider Moments - Legs<br>Consider Moments - Horizontals<br>Consider Moments - Diagonals<br>Use Moment Magnification<br>✓ Use Code Stress Ratios<br>✓ Use Code Safety Factors - Guys<br>Escalate Ice<br>Always Use Max Kz<br>Use Special Wind Profile<br><br>Include Bolts In Member Capacity<br><br>Leg Bolts Are At Top Of Section<br>Secondary Horizontal Braces Leg<br>Use Diamond Inner Bracing (4 Sided)<br>SR Members Have Cut Ends<br>SR Members Are Concentric | Distribute Leg Loads As Uniform<br>Assume Legs Pinned<br>✓ Assume Rigid Index Plate<br>✓ Use Clear Spans For Wind Area<br>Use Clear Spans For KL/r<br>Retension Guys To Initial Tension<br>✓ Bypass Mast Stability Checks<br>✓ Use Azimuth Dish Coefficients<br>✓ Project Wind Area of Appurt.<br><br>Autocalc Torque Arm Areas<br><br>Add IBC .6D+W Combination<br>Sort Capacity Reports By Component<br>Triangulate Diamond Inner Bracing<br>Treat Feed Line Bundles As Cylinder<br>Ignore KL/ry For 60 Deg. Angle Legs | Use ASCE 10 X-Brace Ly Rules<br>Calculate Redundant Bracing Forces<br>Ignore Redundant Members in FEA<br>SR Leg Bolts Resist Compression<br>All Leg Panels Have Same Allowable<br>Offset Girt At Foundation<br>✓ Consider Feed Line Torque<br>Include Angle Block Shear Check<br>Use TIA-222-H Bracing Resist.<br>Exemption<br>Use TIA-222-H Tension Splice<br>Exemption<br><br><div style="text-align: center; background-color: #e0e0e0; padding: 2px;"><b>Poles</b></div> ✓ Include Shear-Torsion Interaction<br>Always Use Sub-Critical Flow<br>Use Top Mounted Sockets<br>Pole Without Linear Attachments<br>Pole With Shroud Or No<br>Appurtenances<br>Outside and Inside Corner Radii Are<br>Known |
|--|---|---|

## Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	125.00-120.00	5.00	0.00	18	18.5000	19.5748	0.1875	0.7500	A572-65 (65 ksi)
L2	120.00-115.00	5.00	0.00	18	19.5748	20.6497	0.1875	0.7500	A572-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	115.00-110.00	5.00	0.00	18	20.6497	21.7245	0.1875	0.7500	(65 ksi) A572-65
L4	110.00-105.00	5.00	0.00	18	21.7245	22.7993	0.1875	0.7500	(65 ksi) A572-65
L5	105.00-100.00	5.00	0.00	18	22.7993	23.8741	0.1875	0.7500	(65 ksi) A572-65
L6	100.00-99.38	0.63	0.00	18	23.8741	24.0085	0.1875	0.7500	(65 ksi) A572-65
L7	99.38-99.13	0.25	0.00	18	24.0085	24.0622	0.4250	1.7000	(65 ksi) A572-65
L8	99.13-94.46	4.67	0.00	18	24.0622	25.0655	0.4125	1.6500	(65 ksi) A572-65
L9	94.46-94.21	0.25	0.00	18	25.0655	25.1192	0.6000	2.4000	(65 ksi) A572-65
L10	94.21-89.21	5.00	0.00	18	25.1192	26.1940	0.5750	2.3000	(65 ksi) A572-65
L11	89.21-89.00	0.21	0.00	18	26.1940	26.2387	0.5750	2.3000	(65 ksi) A572-65
L12	89.00-85.04	3.96	3.92	18	26.2387	27.0900	0.6625	2.6500	(65 ksi) A572-65
L13	85.04-84.04	4.92	0.00	18	25.8730	26.9179	0.5000	2.0000	(65 ksi) A572-65
L14	84.04-79.04	5.00	0.00	18	26.9179	27.9805	0.4875	1.9500	(65 ksi) A572-65
L15	79.04-74.04	5.00	0.00	18	27.9805	29.0431	0.4750	1.9000	(65 ksi) A572-65
L16	74.04-73.58	0.46	0.00	18	29.0431	29.1402	0.4750	1.9000	(65 ksi) A572-65
L17	73.58-73.33	0.25	0.00	18	29.1402	29.1933	0.6125	2.4500	(65 ksi) A572-65
L18	73.33-73.00	0.33	0.00	18	29.1933	29.2641	0.6125	2.4500	(65 ksi) A572-65
L19	73.00-72.75	0.25	0.00	18	29.2641	29.3172	0.3750	1.5000	(65 ksi) A572-65
L20	72.75-67.75	5.00	0.00	18	29.3172	30.3798	0.3750	1.5000	(65 ksi) A572-65
L21	67.75-63.00	4.75	0.00	18	30.3798	31.3893	0.3688	1.4750	(65 ksi) A572-65
L22	63.00-62.75	0.25	0.00	18	31.3893	31.4424	0.5750	2.3000	(65 ksi) A572-65
L23	62.75-57.75	5.00	0.00	18	31.4424	32.5050	0.5625	2.2500	(65 ksi) A572-65
L24	57.75-57.23	0.52	0.00	18	32.5050	32.6148	0.4500	1.8000	(65 ksi) A572-65
L25	57.23-56.98	0.25	0.00	18	32.6148	32.6680	0.4500	1.8000	(65 ksi) A572-65
L26	56.98-51.98	5.00	0.00	18	32.6680	33.7305	0.4437	1.7750	(65 ksi) A572-65
L27	51.98-46.98	5.00	0.00	18	33.7305	34.7931	0.4375	1.7500	(65 ksi) A572-65
L28	46.98-40.46	6.53	5.08	18	34.7931	36.1800	0.4375	1.7500	(65 ksi) A572-65
L29	40.46-39.46	6.08	0.00	18	34.5998	35.8888	0.5000	2.0000	(65 ksi) A572-65
L30	39.46-37.83	1.62	0.00	18	35.8888	36.2329	0.4938	1.9750	(65 ksi) A572-65
L31	37.83-37.58	0.25	0.00	18	36.2329	36.2859	0.4938	1.9750	(65 ksi) A572-65
L32	37.58-32.58	5.00	0.00	18	36.2859	37.3455	0.4875	1.9500	(65 ksi) A572-65
L33	32.58-27.58	5.00	0.00	18	37.3455	38.4050	0.4813	1.9250	(65 ksi) A572-65
L34	27.58-22.58	5.00	0.00	18	38.4050	39.4645	0.4750	1.9000	(65 ksi) A572-65
L35	22.58-17.58	5.00	0.00	18	39.4645	40.5241	0.4750	1.9000	(65 ksi) A572-65
L36	17.58-12.58	5.00	0.00	18	40.5241	41.5836	0.4625	1.8500	(65 ksi) A572-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L37	12.58-12.25	0.33	0.00	18	41.5836	41.6541	0.4625	1.8500	A572-65 (65 ksi)
L38	12.25-12.00	0.25	0.00	18	41.6541	41.7071	0.6000	2.4000	A572-65 (65 ksi)
L39	12.00-7.00	5.00	0.00	18	41.7071	42.7667	0.5875	2.3500	A572-65 (65 ksi)
L40	7.00-2.00	5.00	0.00	18	42.7667	43.8262	0.5875	2.3500	A572-65 (65 ksi)
L41	2.00-0.00	2.00		18	43.8262	44.2500	0.5750	2.3000	A572-65 (65 ksi)

### Tapered Pole Properties

Section	Tip Dia. in	Area in <sup>2</sup>	I in <sup>4</sup>	r in	C in	I/C in <sup>3</sup>	J in <sup>4</sup>	It/Q in <sup>2</sup>	w in	w/t
L1	18.7565	10.8982	461.7305	6.5009	9.3980	49.1307	924.0685	5.4501	2.9260	15.605
	19.8479	11.5379	547.8975	6.8825	9.9440	55.0982	1096.5159	5.7700	3.1152	16.614
L2	19.8479	11.5379	547.8975	6.8825	9.9440	55.0982	1096.5159	5.7700	3.1152	16.614
	20.9393	12.1775	644.1684	7.2641	10.4900	61.4077	1289.1845	6.0899	3.3043	17.623
L3	20.9393	12.1775	644.1684	7.2641	10.4900	61.4077	1289.1845	6.0899	3.3043	17.623
	22.0307	12.8172	751.1033	7.6456	11.0360	68.0592	1503.1950	6.4098	3.4935	18.632
L4	22.0307	12.8172	751.1033	7.6456	11.0360	68.0592	1503.1950	6.4098	3.4935	18.632
	23.1221	13.4568	869.2626	8.0272	11.5820	75.0526	1739.6690	6.7297	3.6827	19.641
L5	23.1221	13.4568	869.2626	8.0272	11.5820	75.0526	1739.6690	6.7297	3.6827	19.641
	24.2135	14.0965	999.2063	8.4088	12.1281	82.3880	1999.7273	7.0496	3.8718	20.65
L6	24.2135	14.0965	999.2063	8.4088	12.1281	82.3880	1999.7273	7.0496	3.8718	20.65
	24.3499	14.1765	1016.3057	8.4564	12.1963	83.3290	2033.9486	7.0896	3.8955	20.776
L7	24.3133	31.8129	2235.4080	8.3721	12.1963	183.2857	4473.7575	15.9095	3.4775	8.182
	24.3679	31.8854	2250.7247	8.3912	12.2236	184.1293	4504.4110	15.9457	3.4870	8.205
L8	24.3698	30.9640	2187.9945	8.3956	12.2236	178.9975	4378.8680	15.4849	3.5090	8.507
	25.3885	32.2775	2478.4236	8.7518	12.7333	194.6418	4960.1084	16.1418	3.6855	8.935
L9	25.3596	46.5920	3523.3499	8.6852	12.7333	276.7046	7051.3360	23.3004	3.3555	5.593
	25.4141	46.6944	3546.6192	8.7043	12.7606	277.9361	7097.9052	23.3516	3.3650	5.608
L10	25.4180	44.7944	3409.2505	8.7132	12.7606	267.1710	6822.9870	22.4015	3.4090	5.929
	26.5094	46.7560	3877.0380	9.0948	13.3066	291.3628	7759.1776	23.3824	3.5981	6.258
L11	26.5094	46.7560	3877.0380	9.0948	13.3066	291.3628	7759.1776	23.3824	3.5981	6.258
	26.5548	46.8376	3897.3733	9.1106	13.3293	292.3919	7799.8749	23.4233	3.6060	6.271
L12	26.5413	53.7811	4444.6780	9.0796	13.3293	333.4522	8895.2044	26.8956	3.4520	5.211
	27.4057	55.5711	4903.4133	9.3818	13.7617	356.3082	9813.2786	27.7908	3.6018	5.437
L13	27.0402	40.2669	3275.1328	9.0074	13.1435	249.1832	6554.5751	20.1373	3.6736	7.347
	27.2560	41.9252	3696.6675	9.3784	13.6743	270.3368	7398.1991	20.9666	3.8576	7.715
L14	27.2580	40.8965	3609.3694	9.3828	13.6743	263.9527	7223.4881	20.4521	3.8796	7.958
	28.3369	42.5406	4062.4262	9.7600	14.2141	285.8027	8130.1978	21.2743	4.0666	8.342
L15	28.3389	41.4687	3963.6629	9.7645	14.2141	278.8544	7932.5412	20.7383	4.0886	8.608
	29.4178	43.0707	4441.0042	10.1417	14.7539	301.0057	8887.8521	21.5394	4.2756	9.001
L16	29.4178	43.0707	4441.0042	10.1417	14.7539	301.0057	8887.8521	21.5394	4.2756	9.001
	29.5165	43.2171	4486.4513	10.1761	14.8032	303.0726	8978.8060	21.6127	4.2927	9.037
L17	29.4952	55.4600	5702.3095	10.1273	14.8032	385.2073	11412.122	27.7353	4.0507	6.613
	29.5492	55.5633	5734.2282	10.1462	14.8302	386.6586	11476.001	27.7869	4.0600	6.629
L18	29.5492	55.5633	5734.2282	10.1462	14.8302	386.6586	11476.001	27.7869	4.0600	6.629
	29.6211	55.7009	5776.9282	10.1713	14.8662	388.5958	11561.457	27.8557	4.0725	6.649
L19	29.6577	34.3852	3625.5804	10.2556	14.8662	243.8814	7255.9315	17.1959	4.4905	11.975
	29.7116	34.4485	3645.6203	10.2745	14.8932	244.7850	7296.0376	17.2275	4.4998	12
L20	29.7116	34.4485	3645.6203	10.2745	14.8932	244.7850	7296.0376	17.2275	4.4998	12
	30.7906	35.7132	4062.0762	10.6517	15.4329	263.2082	8129.4974	17.8600	4.6868	12.498
L21	30.7916	35.1253	3996.8715	10.6539	15.4329	258.9831	7999.0023	17.5660	4.6978	12.74
	31.8166	36.3068	4413.9055	11.0123	15.9457	276.8078	8833.6190	18.1568	4.8755	13.222
L22	31.7848	56.2376	6746.3253	10.9391	15.9457	423.0800	13501.527	28.1241	4.5125	7.848
	31.8387	56.3345	6781.2809	10.9579	15.9727	424.5536	13571.484	28.1726	4.5219	7.864
L23	31.8407	55.1322	6641.9243	10.9624	15.9727	415.8290	13292.588	27.5713	4.5439	8.078

Section	Tip Dia. in	Area in <sup>2</sup>	I in <sup>4</sup>	r in	C in	I/C in <sup>3</sup>	J in <sup>4</sup>	It/Q in <sup>2</sup>	w in	w/t
	32.9196	57.0293	7351.4353	11.3396	16.5125	445.2037	14712.543	28.5201	4.7309	8.41
L24	32.9370	45.7841	5943.5068	11.3795	16.5125	359.9394	11894.834	22.8964	4.9289	10.953
	33.0486	45.9410	6004.8316	11.4185	16.5683	362.4282	12017.564	22.9749	4.9482	10.996
L25	33.0486	45.9410	6004.8316	11.4185	16.5683	362.4282	12017.564	22.9749	4.9482	10.996
	33.1025	46.0169	6034.6366	11.4374	16.5953	363.6347	12077.213	23.0128	4.9576	11.017
L26	33.1035	45.3866	5954.2861	11.4396	16.5953	358.7930	11916.407	22.6976	4.9686	11.197
	34.1824	46.8832	6562.9426	11.8168	17.1351	383.0113	13134.520	23.4461	5.1556	11.618
L27	34.1834	46.2316	6474.1522	11.8190	17.1351	377.8295	12956.823	23.1202	5.1666	11.809
	35.2624	47.7071	7114.0330	12.1962	17.6749	402.4934	14237.426	23.8581	5.3536	12.237
L28	35.2624	47.7071	7114.0330	12.1962	17.6749	402.4934	14237.426	23.8581	5.3536	12.237
	36.6706	49.6329	8010.8243	12.6886	18.3794	435.8579	16032.189	24.8212	5.5977	12.795
L29	36.1501	54.1164	7950.0376	12.1054	17.5767	452.3058	15910.536	27.0633	5.2096	10.419
	36.3653	56.1620	8886.1209	12.5630	18.2315	487.4044	17783.934	28.0864	5.4364	10.873
L30	36.3663	55.4698	8779.6945	12.5652	18.2315	481.5669	17570.941	27.7402	5.4474	11.033
	36.7157	56.0091	9038.2798	12.6874	18.4063	491.0418	18088.452	28.0099	5.5080	11.155
L31	36.7157	56.0091	9038.2798	12.6874	18.4063	491.0418	18088.452	28.0099	5.5080	11.155
	36.7695	56.0921	9078.5315	12.7062	18.4332	492.5085	18169.008	28.0514	5.5173	11.174
L32	36.7705	55.3918	8968.3099	12.7084	18.4332	486.5290	17948.420	27.7012	5.5283	11.34
	37.8464	57.0312	9788.4207	13.0846	18.9715	515.9542	19589.721	28.5210	5.7148	11.723
L33	37.8473	56.3096	9667.8446	13.0868	18.9715	509.5986	19348.410	28.1602	5.7258	11.898
	38.9232	57.9280	10525.637	13.4629	19.5097	539.5070	21065.125	28.9695	5.9123	12.285
L34	38.9242	57.1851	10394.078	13.4651	19.5097	532.7638	20801.833	28.5980	5.9233	12.47
	40.0000	58.7825	11289.678	13.8413	20.0480	563.1331	22594.212	29.3969	6.1098	12.863
L35	40.0000	58.7825	11289.678	13.8413	20.0480	563.1331	22594.212	29.3969	6.1098	12.863
	41.0759	60.3800	12235.300	14.2174	20.5862	594.3443	24486.700	30.1957	6.2962	13.255
L36	41.0779	58.8094	11924.477	14.2219	20.5862	579.2457	23864.645	29.4103	6.3182	13.661
	42.1537	60.3647	12895.842	14.5980	21.1245	610.4697	25808.653	30.1881	6.5047	14.064
L37	42.1537	60.3647	12895.842	14.5980	21.1245	610.4697	25808.653	30.1881	6.5047	14.064
	42.2254	60.4683	12962.344	14.6230	21.1603	612.5783	25941.744	30.2399	6.5171	14.091
L38	42.2042	78.1835	16648.177	14.5742	21.1603	786.7645	33318.260	39.0992	6.2751	10.459
	42.2580	78.2844	16712.709	14.5930	21.1872	788.8109	33447.410	39.1496	6.2845	10.474
L39	42.2599	76.6768	16379.461	14.5975	21.1872	773.0822	32780.475	38.3457	6.3065	10.734
	43.3358	78.6525	17678.518	14.9736	21.7255	813.7235	35380.299	39.3337	6.4929	11.052
L40	43.3358	78.6525	17678.518	14.9736	21.7255	813.7235	35380.299	39.3337	6.4929	11.052
	44.4116	80.6283	19044.507	15.3497	22.2637	855.4061	38114.073	40.3218	6.6794	11.369

Section	Tip Dia. in	Area in <sup>2</sup>	I in <sup>4</sup>	r in	C in	I/C in <sup>3</sup>	J in <sup>4</sup>	It/Q in <sup>2</sup>	w in	w/t
L41	44.4136	78.9356	18655.474 1	15.3542	22.2637	837.9323	37335.497 4	39.4753	6.7014	11.655
	44.8439	79.7091	19209.274 9	15.5046	22.4790	854.5431	38443.824 2	39.8621	6.7760	11.784
			3				7			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A <sub>r</sub>	Adjust. Factor A <sub>r</sub>	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft <sup>2</sup>	in					in	in	in
L1 125.00-120.00				1	1	1			
L2 120.00-115.00				1	1	1			
L3 115.00-110.00				1	1	1			
L4 110.00-105.00				1	1	1			
L5 105.00-100.00				1	1	1			
L6 100.00-99.38				1	1	1			
L7 99.38-99.13				1	1	0.955265			
L8 99.13-94.46				1	1	0.962159			
L9 94.46-94.21				1	1	0.922777			
L10 94.21-89.21				1	1	0.935241			
L11 89.21-89.00				1	1	0.93418			
L12 89.00-85.04				1	1	0.924907			
L13 85.04-84.04				1	1	0.934083			
L14 84.04-79.04				1	1	0.940391			
L15 79.04-74.04				1	1	0.948394			
L16 74.04-73.58				1	1	0.946964			
L17 73.58-73.33				1	1	0.929662			
L18 73.33-73.00				1	1	0.928374			
L19 73.00-72.75				1	1	0.979803			
L20 72.75-67.75				1	1	0.968714			
L21 67.75-63.00				1	1	0.974938			
L22 63.00-62.75				1	1	0.948614			
L23 62.75-57.75				1	1	0.951842			
L24 57.75-57.23				1	1	0.956953			
L25 57.23-56.98				1	1	0.956291			
L26 56.98-51.98				1	1	0.956605			
L27 51.98-46.98				1	1	0.957759			
L28 46.98-40.46				1	1	0.954341			
L29 40.46-39.46				1	1	0.953832			



Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor $A_r$	Adjust. Factor $A_r$	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft <sup>2</sup>	in							
L30 39.46-37.83				1	1	0.962531			
L31 37.83-37.58				1	1	0.962043			
L32 37.58-32.58				1	1	0.964629			
L33 32.58-27.58				1	1	0.967837			
L34 27.58-22.58				1	1	0.971646			
L35 22.58-17.58				1	1	0.963345			
L36 17.58-12.58				1	1	0.980998			
L37 12.58-12.25				1	1	0.980475			
L38 12.25-12.00				1	1	1.06938			
L39 12.00-7.00				1	1	1.07774			
L40 7.00-2.00				1	1	1.06437			
L41 2.00-0.00				1	1	1.08191			

### Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
*****										
MP4-06	A	No	Surface Af (CaAa)	60.50 - 0.50	1	1	0.000 0.050	4.8750	12.2500	0.00
MP4-06	B	No	Surface Af (CaAa)	60.50 - 0.50	1	1	0.000 0.050	4.8750	12.2500	0.00
MP4-06	C	No	Surface Af (CaAa)	60.50 - 0.50	1	1	0.000 0.050	4.8750	12.2500	0.00
****										
MP4-04	A	No	Surface Af (CaAa)	75.50 - 90.50	1	1	0.000 0.050	4.7500	11.0000	0.00
MP4-04	B	No	Surface Af (CaAa)	75.50 - 90.50	1	1	0.000 0.050	4.7500	11.0000	0.00
MP4-04	C	No	Surface Af (CaAa)	75.50 - 90.50	1	1	0.000 0.050	4.7500	11.0000	0.00
*****										
CCI(6"x1")	A	No	Surface Af (CaAa)	96.50 - 71.00	1	1	0.200 0.250	6.0000	14.0000	0.00
CCI(6"x1")	B	No	Surface Af (CaAa)	96.50 - 71.00	1	1	0.200 0.250	6.0000	14.0000	0.00
CCI(6"x1")	C	No	Surface Af (CaAa)	96.50 - 71.00	1	1	0.200 0.250	6.0000	14.0000	0.00
*****										
CCI(6.5"x1.25")	A	No	Surface Af (CaAa)	15.00 - 0.00	1	1	0.100 0.150	6.5000	15.5000	0.00
CCI(6.5"x1.25")	B	No	Surface Af (CaAa)	15.00 - 0.00	1	1	0.100 0.150	6.5000	15.5000	0.00
CCI(6.5"x1.25")	C	No	Surface Af (CaAa)	15.00 - 0.00	1	1	0.100 0.150	6.5000	15.5000	0.00
****										
CCI(6"x1")	A	No	Surface Af (CaAa)	65.00 - 55.00	1	1	0.100 0.150	6.0000	14.0000	0.00
CCI(6"x1")	B	No	Surface Af (CaAa)	65.00 - 55.00	1	1	0.100 0.150	6.0000	14.0000	0.00
CCI(6"x1")	C	No	Surface Af (CaAa)	65.00 - 55.00	1	1	0.100 0.150	6.0000	14.0000	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
****										
CCI (3.25"x1.25")	A	No	Surface Af (CaAa)	102.50 - 87.50	1	1	0.100 0.150	3.2500	9.0000	0.00
CCI (3.25"x1.25")	B	No	Surface Af (CaAa)	102.50 - 87.50	1	1	0.100 0.150	3.2500	9.0000	0.00
CCI (3.25"x1.25")	C	No	Surface Af (CaAa)	102.50 - 87.50	1	1	0.100 0.150	3.2500	9.0000	0.00
*****										
Safety Line 3/8"	B	No	Surface Ar (CaAa)	125.00 - 10.00	1	1	0.000 0.000	0.3750		0.22
Climbing Pegs	B	No	Surface Ar (CaAa)	125.00 - 10.00	1	1	-0.050 0.050	0.7050		1.80
*****										
ATCB-B01-005(5/16)	B	No	Surface Ar (CaAa)	125.00 - 8.00	3	3	0.050 0.050	0.0000		0.08
FSJ4-50B(1/2)	B	No	Surface Ar (CaAa)	125.00 - 8.00	2	2	0.000 0.000	0.0000		0.14
LDF1-50A(1/4)	B	No	Surface Ar (CaAa)	125.00 - 8.00	3	3	-0.050 -0.050	0.0000		0.06
CONDUIT (2)	B	No	Surface Ar (CaAa)	125.00 - 8.00	2	2	0.000 0.000	2.0000		2.80
*****										
LDF6-50A(1-1/4)	C	No	Surface Ar (CaAa)	115.00 - 8.00	8	8	-0.460 -0.050	1.5500		0.60
FB-L98B-002-75000(3/8)	B	No	Surface Ar (CaAa)	115.00 - 8.00	1	1	0.480 0.480	0.0000		0.06
WR-VG86ST-BRD(3/4)	B	No	Surface Ar (CaAa)	115.00 - 8.00	2	2	0.480 0.480	0.0000		0.58
CONDUIT (2)	B	No	Surface Ar (CaAa)	115.00 - 8.00	1	1	0.480 0.480	2.0000		2.80
***										
FB-L98B-002-75000(3/8)	B	No	Surface Ar (CaAa)	115.00 - 8.00	1	1	0.490 0.490	0.0000		0.06
WR-VG86ST-BRD(3/4)	B	No	Surface Ar (CaAa)	115.00 - 8.00	2	1	0.490 0.490	0.0000		0.58
CONDUIT (2)	B	No	Surface Ar (CaAa)	115.00 - 8.00	1	1	0.490 0.490	2.0000		2.80
*****										
LDF7-50A(1-5/8)	C	No	Surface Ar (CaAa)	105.00 - 3.00	11	6	-0.050 0.320	1.9800		0.82
***										
MLCH 12/24 LOW INDUCTION(2)	C	No	Surface Ar (CaAa)	105.00 - 3.00	1	1	0.320 0.320	2.0160		3.04
*****										

### Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C <sub>A</sub> A <sub>A</sub> ft <sup>2</sup> /ft	Weight plf
HB114-1-08U4-M5J(1-1/4)	C	No	No	Inside Pole	125.00 - 8.00	2	No Ice	0.00	1.08
							1/2" Ice	0.00	1.08
							1" Ice	0.00	1.08
							2" Ice	0.00	1.08
HB114-21U3M12-XXXF(1-1/4)	C	No	No	Inside Pole	125.00 - 8.00	1	No Ice	0.00	1.22
							1/2" Ice	0.00	1.22
							1" Ice	0.00	1.22
							2" Ice	0.00	1.22
RLSS 8AWG DC(3/4)	C	No	No	Inside Pole	125.00 - 8.00	1	No Ice	0.00	0.49
							1/2" Ice	0.00	0.49
							1" Ice	0.00	0.49
							2" Ice	0.00	0.49
LDF6-50A(1-1/4)	C	No	No	Inside Pole	115.00 - 8.00	4	No Ice	0.00	0.60
							1/2" Ice	0.00	0.60

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C <sub>A</sub> A <sub>A</sub> ft <sup>2</sup> /ft	Weight plf
							1" Ice	0.00	0.60
							2" Ice	0.00	0.60
*****									
***									
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	B	No	No	Inside Pole	95.00 - 0.00	1	No Ice	0.00	1.07
							1/2" Ice	0.00	1.07
							1" Ice	0.00	1.07
							2" Ice	0.00	1.07
HB114-U6S12-XXX-LI(1-1/4)	B	No	No	Inside Pole	95.00 - 0.00	1	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
							1" Ice	0.00	1.70
							2" Ice	0.00	1.70
*****									
CU12PSM9P8XXX (1-3/8)	C	No	No	Inside Pole	85.00 - 0.00	1	No Ice	0.00	1.66
							1/2" Ice	0.00	1.66
							1" Ice	0.00	1.66
							2" Ice	0.00	1.66
*****									

**Feed Line/Linear Appurtenances Section Areas**

Tower Section	Tower Elevation ft	Face	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> In Face ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> Out Face ft <sup>2</sup>	Weight K
L1	125.00-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.540	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.02
L2	120.00-115.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.540	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.02
L3	115.00-110.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	4.540	0.000	0.08
		C	0.000	0.000	6.200	0.000	0.06
L4	110.00-105.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	4.540	0.000	0.08
		C	0.000	0.000	6.200	0.000	0.06
L5	105.00-100.00	A	0.000	0.000	1.354	0.000	0.00
		B	0.000	0.000	5.894	0.000	0.08
		C	0.000	0.000	14.502	0.000	0.12
L6	100.00-99.38	A	0.000	0.000	0.339	0.000	0.00
		B	0.000	0.000	0.906	0.000	0.01
		C	0.000	0.000	1.982	0.000	0.01
L7	99.38-99.13	A	0.000	0.000	0.135	0.000	0.00
		B	0.000	0.000	0.362	0.000	0.00
		C	0.000	0.000	0.793	0.000	0.01
L8	99.13-94.46	A	0.000	0.000	4.570	0.000	0.00
		B	0.000	0.000	8.808	0.000	0.08
		C	0.000	0.000	16.842	0.000	0.11
L9	94.46-94.21	A	0.000	0.000	0.385	0.000	0.00
		B	0.000	0.000	0.612	0.000	0.00
		C	0.000	0.000	1.043	0.000	0.01
L10	94.21-89.21	A	0.000	0.000	8.731	0.000	0.00
		B	0.000	0.000	13.271	0.000	0.10
		C	0.000	0.000	21.879	0.000	0.12
L11	89.21-89.00	A	0.000	0.000	0.485	0.000	0.00
		B	0.000	0.000	0.674	0.000	0.00
		C	0.000	0.000	1.032	0.000	0.00
L12	89.00-85.04	A	0.000	0.000	7.907	0.000	0.00
		B	0.000	0.000	11.503	0.000	0.08
		C	0.000	0.000	18.321	0.000	0.09
L13	85.04-84.04	A	0.000	0.000	1.792	0.000	0.00
		B	0.000	0.000	2.700	0.000	0.02
		C	0.000	0.000	4.421	0.000	0.02
L14	84.04-79.04	A	0.000	0.000	8.958	0.000	0.00
		B	0.000	0.000	13.498	0.000	0.10

Tower Sectio n	Tower Elevation ft	Face	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> In Face ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> Out Face ft <sup>2</sup>	Weight K
L15	79.04-74.04	C	0.000	0.000	22.106	0.000	0.12
		A	0.000	0.000	7.803	0.000	0.00
		B	0.000	0.000	12.342	0.000	0.10
L16	74.04-73.58	C	0.000	0.000	20.951	0.000	0.12
		A	0.000	0.000	0.457	0.000	0.00
		B	0.000	0.000	0.872	0.000	0.01
L17	73.58-73.33	C	0.000	0.000	1.659	0.000	0.01
		A	0.000	0.000	0.250	0.000	0.00
		B	0.000	0.000	0.477	0.000	0.00
L18	73.33-73.00	C	0.000	0.000	0.907	0.000	0.01
		A	0.000	0.000	0.333	0.000	0.00
		B	0.000	0.000	0.635	0.000	0.01
L19	73.00-72.75	C	0.000	0.000	1.209	0.000	0.01
		A	0.000	0.000	0.250	0.000	0.00
		B	0.000	0.000	0.477	0.000	0.00
L20	72.75-67.75	C	0.000	0.000	0.907	0.000	0.01
		A	0.000	0.000	1.750	0.000	0.00
		B	0.000	0.000	6.290	0.000	0.10
L21	67.75-63.00	C	0.000	0.000	14.898	0.000	0.12
		A	0.000	0.000	1.824	0.000	0.00
		B	0.000	0.000	6.137	0.000	0.09
L22	63.00-62.75	C	0.000	0.000	14.315	0.000	0.12
		A	0.000	0.000	0.228	0.000	0.00
		B	0.000	0.000	0.455	0.000	0.00
L23	62.75-57.75	C	0.000	0.000	0.885	0.000	0.01
		A	0.000	0.000	6.795	0.000	0.00
		B	0.000	0.000	11.335	0.000	0.10
L24	57.75-57.23	C	0.000	0.000	19.943	0.000	0.12
		A	0.000	0.000	0.892	0.000	0.00
		B	0.000	0.000	1.361	0.000	0.01
L25	57.23-56.98	C	0.000	0.000	2.251	0.000	0.01
		A	0.000	0.000	0.431	0.000	0.00
		B	0.000	0.000	0.658	0.000	0.00
L26	56.98-51.98	C	0.000	0.000	1.089	0.000	0.01
		A	0.000	0.000	5.871	0.000	0.00
		B	0.000	0.000	10.411	0.000	0.10
L27	51.98-46.98	C	0.000	0.000	19.019	0.000	0.12
		A	0.000	0.000	4.063	0.000	0.00
		B	0.000	0.000	8.602	0.000	0.10
L28	46.98-40.46	C	0.000	0.000	17.211	0.000	0.12
		A	0.000	0.000	5.302	0.000	0.00
		B	0.000	0.000	11.228	0.000	0.12
L29	40.46-39.46	C	0.000	0.000	22.463	0.000	0.16
		A	0.000	0.000	0.813	0.000	0.00
		B	0.000	0.000	1.720	0.000	0.02
L30	39.46-37.83	C	0.000	0.000	3.442	0.000	0.02
		A	0.000	0.000	1.319	0.000	0.00
		B	0.000	0.000	2.794	0.000	0.03
L31	37.83-37.58	C	0.000	0.000	5.590	0.000	0.04
		A	0.000	0.000	0.203	0.000	0.00
		B	0.000	0.000	0.430	0.000	0.00
L32	37.58-32.58	C	0.000	0.000	0.861	0.000	0.01
		A	0.000	0.000	4.063	0.000	0.00
		B	0.000	0.000	8.602	0.000	0.10
L33	32.58-27.58	C	0.000	0.000	17.211	0.000	0.12
		A	0.000	0.000	4.063	0.000	0.00
		B	0.000	0.000	8.602	0.000	0.10
L34	27.58-22.58	C	0.000	0.000	17.211	0.000	0.12
		A	0.000	0.000	4.063	0.000	0.00
		B	0.000	0.000	8.602	0.000	0.10
L35	22.58-17.58	C	0.000	0.000	17.211	0.000	0.12
		A	0.000	0.000	4.063	0.000	0.00
		B	0.000	0.000	8.602	0.000	0.10
L36	17.58-12.58	C	0.000	0.000	17.211	0.000	0.12
		A	0.000	0.000	6.681	0.000	0.00
		B	0.000	0.000	11.221	0.000	0.10
L37	12.58-12.25	C	0.000	0.000	19.829	0.000	0.12
		A	0.000	0.000	0.631	0.000	0.00
		B	0.000	0.000	0.934	0.000	0.01

Tower Section	Tower Elevation	Face	A <sub>R</sub>	A <sub>F</sub>	C <sub>A</sub> A <sub>A</sub> In Face	C <sub>A</sub> A <sub>A</sub> Out Face	Weight
n	ft		ft <sup>2</sup>	ft <sup>2</sup>	ft <sup>2</sup>	ft <sup>2</sup>	K
L38	12.25-12.00	C	0.000	0.000	1.507	0.000	0.01
		A	0.000	0.000	0.474	0.000	0.00
		B	0.000	0.000	0.701	0.000	0.00
L39	12.00-7.00	C	0.000	0.000	1.131	0.000	0.01
		A	0.000	0.000	9.479	0.000	0.00
		B	0.000	0.000	12.895	0.000	0.08
L40	7.00-2.00	C	0.000	0.000	21.387	0.000	0.11
		A	0.000	0.000	9.479	0.000	0.00
		B	0.000	0.000	9.479	0.000	0.01
L41	2.00-0.00	C	0.000	0.000	15.038	0.000	0.06
		A	0.000	0.000	3.385	0.000	0.00
		B	0.000	0.000	3.385	0.000	0.01
		C	0.000	0.000	3.385	0.000	0.00

### Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A <sub>R</sub>	A <sub>F</sub>	C <sub>A</sub> A <sub>A</sub> In Face	C <sub>A</sub> A <sub>A</sub> Out Face	Weight
n	ft		in	ft <sup>2</sup>	ft <sup>2</sup>	ft <sup>2</sup>	ft <sup>2</sup>	K
L1	125.00-120.00	A	1.454	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	13.216	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.02
L2	120.00-115.00	A	1.448	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	13.173	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.02
L3	115.00-110.00	A	1.441	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	24.138	0.000	0.32
		C		0.000	0.000	9.552	0.000	0.15
L4	110.00-105.00	A	1.435	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	24.051	0.000	0.32
		C		0.000	0.000	9.544	0.000	0.15
L5	105.00-100.00	A	1.428	0.000	0.000	2.068	0.000	0.02
		B		0.000	0.000	26.029	0.000	0.34
		C		0.000	0.000	23.249	0.000	0.37
L6	100.00-99.38	A	1.424	0.000	0.000	0.517	0.000	0.00
		B		0.000	0.000	3.505	0.000	0.04
		C		0.000	0.000	3.162	0.000	0.05
L7	99.38-99.13	A	1.423	0.000	0.000	0.207	0.000	0.00
		B		0.000	0.000	1.402	0.000	0.02
		C		0.000	0.000	1.265	0.000	0.02
L8	99.13-94.46	A	1.420	0.000	0.000	6.475	0.000	0.06
		B		0.000	0.000	28.739	0.000	0.36
		C		0.000	0.000	26.219	0.000	0.38
L9	94.46-94.21	A	1.416	0.000	0.000	0.527	0.000	0.00
		B		0.000	0.000	1.717	0.000	0.02
		C		0.000	0.000	1.584	0.000	0.02
L10	94.21-89.21	A	1.412	0.000	0.000	11.913	0.000	0.10
		B		0.000	0.000	35.665	0.000	0.43
		C		0.000	0.000	33.039	0.000	0.45
L11	89.21-89.00	A	1.408	0.000	0.000	0.660	0.000	0.01
		B		0.000	0.000	1.646	0.000	0.02
		C		0.000	0.000	1.538	0.000	0.02
L12	89.00-85.04	A	1.405	0.000	0.000	10.533	0.000	0.09
		B		0.000	0.000	29.267	0.000	0.35
		C		0.000	0.000	27.245	0.000	0.36
L13	85.04-84.04	A	1.401	0.000	0.000	2.348	0.000	0.02
		B		0.000	0.000	7.079	0.000	0.08
		C		0.000	0.000	6.568	0.000	0.09
L14	84.04-79.04	A	1.396	0.000	0.000	11.725	0.000	0.10
		B		0.000	0.000	35.258	0.000	0.42
		C		0.000	0.000	32.793	0.000	0.45
L15	79.04-74.04	A	1.387	0.000	0.000	10.155	0.000	0.08
		B		0.000	0.000	33.571	0.000	0.40
		C		0.000	0.000	31.192	0.000	0.43
L16	74.04-73.58	A	1.382	0.000	0.000	0.583	0.000	0.00
		B		0.000	0.000	2.717	0.000	0.03

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> In Face ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> Out Face ft <sup>2</sup>	Weight K
L17	73.58-73.33	C		0.000	0.000	2.504	0.000	0.04
		A	1.381	0.000	0.000	0.319	0.000	0.00
		B		0.000	0.000	1.486	0.000	0.02
L18	73.33-73.00	C		0.000	0.000	1.370	0.000	0.02
		A	1.381	0.000	0.000	0.425	0.000	0.00
		B		0.000	0.000	1.979	0.000	0.02
L19	73.00-72.75	C		0.000	0.000	1.825	0.000	0.03
		A	1.380	0.000	0.000	0.319	0.000	0.00
		B		0.000	0.000	1.485	0.000	0.02
L20	72.75-67.75	C		0.000	0.000	1.370	0.000	0.02
		A	1.375	0.000	0.000	2.231	0.000	0.02
		B		0.000	0.000	25.490	0.000	0.34
L21	67.75-63.00	C		0.000	0.000	23.227	0.000	0.37
		A	1.365	0.000	0.000	2.115	0.000	0.02
		B		0.000	0.000	24.087	0.000	0.32
L22	63.00-62.75	C		0.000	0.000	22.028	0.000	0.35
		A	1.360	0.000	0.000	0.264	0.000	0.00
		B		0.000	0.000	1.417	0.000	0.02
L23	62.75-57.75	C		0.000	0.000	1.311	0.000	0.02
		A	1.354	0.000	0.000	8.260	0.000	0.08
		B		0.000	0.000	31.241	0.000	0.39
L24	57.75-57.23	C		0.000	0.000	29.182	0.000	0.42
		A	1.348	0.000	0.000	1.105	0.000	0.01
		B		0.000	0.000	3.473	0.000	0.04
L25	57.23-56.98	C		0.000	0.000	3.266	0.000	0.05
		A	1.347	0.000	0.000	0.534	0.000	0.00
		B		0.000	0.000	1.679	0.000	0.02
L26	56.98-51.98	C		0.000	0.000	1.579	0.000	0.02
		A	1.341	0.000	0.000	7.495	0.000	0.06
		B		0.000	0.000	30.296	0.000	0.37
L27	51.98-46.98	C		0.000	0.000	28.369	0.000	0.41
		A	1.328	0.000	0.000	5.390	0.000	0.04
		B		0.000	0.000	28.022	0.000	0.35
L28	46.98-40.46	C		0.000	0.000	26.220	0.000	0.38
		A	1.311	0.000	0.000	7.014	0.000	0.06
		B		0.000	0.000	36.270	0.000	0.45
L29	40.46-39.46	C		0.000	0.000	34.126	0.000	0.50
		A	1.300	0.000	0.000	1.075	0.000	0.01
		B		0.000	0.000	5.558	0.000	0.07
L30	39.46-37.83	C		0.000	0.000	5.229	0.000	0.08
		A	1.295	0.000	0.000	1.740	0.000	0.01
		B		0.000	0.000	8.952	0.000	0.11
L31	37.83-37.58	C		0.000	0.000	8.469	0.000	0.12
		A	1.292	0.000	0.000	0.268	0.000	0.00
		B		0.000	0.000	1.376	0.000	0.02
L32	37.58-32.58	C		0.000	0.000	1.303	0.000	0.02
		A	1.283	0.000	0.000	5.345	0.000	0.04
		B		0.000	0.000	27.382	0.000	0.34
L33	32.58-27.58	C		0.000	0.000	26.018	0.000	0.37
		A	1.263	0.000	0.000	5.326	0.000	0.04
		B		0.000	0.000	27.103	0.000	0.33
L34	27.58-22.58	C		0.000	0.000	25.930	0.000	0.37
		A	1.240	0.000	0.000	5.303	0.000	0.04
		B		0.000	0.000	26.779	0.000	0.32
L35	22.58-17.58	C		0.000	0.000	25.827	0.000	0.37
		A	1.213	0.000	0.000	5.276	0.000	0.04
		B		0.000	0.000	26.390	0.000	0.32
L36	17.58-12.58	C		0.000	0.000	25.705	0.000	0.36
		A	1.179	0.000	0.000	8.257	0.000	0.06
		B		0.000	0.000	28.917	0.000	0.33
L37	12.58-12.25	C		0.000	0.000	28.566	0.000	0.38
		A	1.156	0.000	0.000	0.762	0.000	0.01
		B		0.000	0.000	2.118	0.000	0.02
L38	12.25-12.00	C		0.000	0.000	2.110	0.000	0.03
		A	1.154	0.000	0.000	0.572	0.000	0.00
		B		0.000	0.000	1.588	0.000	0.02
L39	12.00-7.00	C		0.000	0.000	1.583	0.000	0.02
		A	1.126	0.000	0.000	11.399	0.000	0.08
		B		0.000	0.000	26.245	0.000	0.27

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	$A_R$ ft <sup>2</sup>	$A_F$ ft <sup>2</sup>	$C_{AA}$ In Face ft <sup>2</sup>	$C_{AA}$ Out Face ft <sup>2</sup>	Weight K
L40	7.00-2.00	C	1.044	0.000	0.000	29.690	0.000	0.36
		A		0.000	0.000	11.276	0.000	0.07
		B		0.000	0.000	11.276	0.000	0.09
L41	2.00-0.00	C	0.899	0.000	0.000	19.902	0.000	0.21
		A		0.000	0.000	3.926	0.000	0.02
		B		0.000	0.000	3.926	0.000	0.03
		C		0.000	0.000	3.926	0.000	0.02

### Feed Line Center of Pressure

Section	Elevation ft	$CP_x$ in	$CP_z$ in	$CP_x$ Ice in	$CP_z$ Ice in
L1	125.00-120.00	2.7117	-1.5656	3.4513	-1.9926
L2	120.00-115.00	2.7440	-1.5842	3.5759	-2.0646
L3	115.00-110.00	4.7170	3.3049	4.8755	1.3376
L4	110.00-105.00	4.8453	3.3956	5.0625	1.3901
L5	105.00-100.00	2.0236	5.1934	3.2129	2.8672
L6	100.00-99.38	1.8086	4.6334	3.0458	2.7160
L7	99.38-99.13	1.8145	4.6472	3.0561	2.7249
L8	99.13-94.46	1.5409	3.9407	2.8359	2.5273
L9	94.46-94.21	1.2945	3.3058	2.5925	2.3095
L10	94.21-89.21	1.2397	3.1614	2.5415	2.2633
L11	89.21-89.00	1.0788	2.7471	2.3367	2.0805
L12	89.00-85.04	1.1931	3.0350	2.5272	2.2500
L13	85.04-84.04	1.2681	3.2248	2.6462	2.3549
L14	84.04-79.04	1.2925	3.2820	2.6941	2.4015
L15	79.04-74.04	1.4253	3.6110	2.8987	2.5853
L16	74.04-73.58	1.7405	4.4045	3.2944	2.9395
L17	73.58-73.33	1.7442	4.4131	3.3013	2.9459
L18	73.33-73.00	1.7470	4.4196	3.3067	2.9509
L19	73.00-72.75	1.7493	4.4250	3.3114	2.9553
L20	72.75-67.75	2.3126	5.8435	3.8631	3.4498
L21	67.75-63.00	2.3302	5.8770	3.9620	3.5432
L22	63.00-62.75	1.9031	4.7952	3.6141	3.2350
L23	62.75-57.75	1.6581	4.1741	3.3387	2.9918
L24	57.75-57.23	1.5091	3.7954	3.1566	2.8322
L25	57.23-56.98	1.5121	3.8023	3.1624	2.8380
L26	56.98-51.98	1.8101	4.5478	3.5092	3.1537
L27	51.98-46.98	2.1019	5.2723	3.8298	3.4525
L28	46.98-40.46	2.1549	5.3961	3.9233	3.5525
L29	40.46-39.46	2.1678	5.4260	3.9499	3.5748
L30	39.46-37.83	2.1796	5.4537	3.9586	3.6044
L31	37.83-37.58	2.1880	5.4733	3.9728	3.6208
L32	37.58-32.58	2.2115	5.5281	4.0116	3.6669
L33	32.58-27.58	2.2557	5.6312	4.0819	3.7555
L34	27.58-22.58	2.2993	5.7327	4.1464	3.8456
L35	22.58-17.58	2.3421	5.8327	4.2033	3.9384
L36	17.58-12.58	2.0126	5.0064	3.8701	3.6760
L37	12.58-12.25	1.7432	4.3339	3.5467	3.4007
L38	12.25-12.00	1.7454	4.3390	3.5481	3.4060
L39	12.00-7.00	1.2095	4.2131	2.7125	3.5865
L40	7.00-2.00	-0.8994	2.5742	-1.0225	2.7747
L41	2.00-0.00	0.0000	0.0000	0.0000	0.0000

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

### Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	$K_a$ No Ice	$K_a$ Ice
L1	26	Safety Line 3/8"	120.00 - 125.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L1	27	Climbing Pegs	120.00 - 125.00	1.0000	1.0000
L1	29	ATCB-B01-005(5/16)	120.00 - 125.00	1.0000	1.0000
L1	30	FSJ4-50B(1/2)	120.00 - 125.00	1.0000	1.0000
L1	31	LDF1-50A(1/4)	120.00 - 125.00	1.0000	1.0000
L1	35	CONDUIT (2)	120.00 - 125.00	1.0000	1.0000
L2	26	Safety Line 3/8"	115.00 - 120.00	1.0000	1.0000
L2	27	Climbing Pegs	115.00 - 120.00	1.0000	1.0000
L2	29	ATCB-B01-005(5/16)	115.00 - 120.00	1.0000	1.0000
L2	30	FSJ4-50B(1/2)	115.00 - 120.00	1.0000	1.0000
L2	31	LDF1-50A(1/4)	115.00 - 120.00	1.0000	1.0000
L2	35	CONDUIT (2)	115.00 - 120.00	1.0000	1.0000
L3	26	Safety Line 3/8"	110.00 - 115.00	1.0000	1.0000
L3	27	Climbing Pegs	110.00 - 115.00	1.0000	1.0000
L3	29	ATCB-B01-005(5/16)	110.00 - 115.00	1.0000	1.0000
L3	30	FSJ4-50B(1/2)	110.00 - 115.00	1.0000	1.0000
L3	31	LDF1-50A(1/4)	110.00 - 115.00	1.0000	1.0000
L3	35	CONDUIT (2)	110.00 - 115.00	1.0000	1.0000
L3	37	LDF6-50A(1-1/4)	110.00 - 115.00	1.0000	1.0000
L3	38	FB-L98B-002-75000(3/8)	110.00 - 115.00	1.0000	1.0000
L3	39	WR-VG86ST-BRD(3/4)	110.00 - 115.00	1.0000	1.0000
L3	41	CONDUIT (2)	110.00 - 115.00	1.0000	1.0000
L3	43	FB-L98B-002-75000(3/8)	110.00 - 115.00	1.0000	1.0000
L3	44	WR-VG86ST-BRD(3/4)	110.00 - 115.00	1.0000	1.0000
L3	45	CONDUIT (2)	110.00 - 115.00	1.0000	1.0000
L4	26	Safety Line 3/8"	105.00 - 110.00	1.0000	1.0000
L4	27	Climbing Pegs	105.00 - 110.00	1.0000	1.0000
L4	29	ATCB-B01-005(5/16)	105.00 - 110.00	1.0000	1.0000
L4	30	FSJ4-50B(1/2)	105.00 - 110.00	1.0000	1.0000
L4	31	LDF1-50A(1/4)	105.00 - 110.00	1.0000	1.0000
L4	35	CONDUIT (2)	105.00 - 110.00	1.0000	1.0000
L4	37	LDF6-50A(1-1/4)	105.00 - 110.00	1.0000	1.0000
L4	38	FB-L98B-002-75000(3/8)	105.00 - 110.00	1.0000	1.0000
L4	39	WR-VG86ST-BRD(3/4)	105.00 - 110.00	1.0000	1.0000
L4	41	CONDUIT (2)	105.00 - 110.00	1.0000	1.0000
L4	43	FB-L98B-002-75000(3/8)	105.00 - 110.00	1.0000	1.0000



Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
			110.00		
L4	44	WR-VG86ST-BRD(3/4)	105.00 - 110.00	1.0000	1.0000
L4	45	CONDUIT (2)	105.00 - 110.00	1.0000	1.0000
L5	22	CCI (3.25"x1.25")	100.00 - 102.50	1.0000	1.0000
L5	23	CCI (3.25"x1.25")	100.00 - 102.50	1.0000	1.0000
L5	24	CCI (3.25"x1.25")	100.00 - 102.50	1.0000	1.0000
L5	26	Safety Line 3/8"	100.00 - 105.00	1.0000	1.0000
L5	27	Climbing Pegs	100.00 - 105.00	1.0000	1.0000
L5	29	ATCB-B01-005(5/16)	100.00 - 105.00	1.0000	1.0000
L5	30	FSJ4-50B(1/2)	100.00 - 105.00	1.0000	1.0000
L5	31	LDF1-50A(1/4)	100.00 - 105.00	1.0000	1.0000
L5	35	CONDUIT (2)	100.00 - 105.00	1.0000	1.0000
L5	37	LDF6-50A(1-1/4)	100.00 - 105.00	1.0000	1.0000
L5	38	FB-L98B-002-75000(3/8)	100.00 - 105.00	1.0000	1.0000
L5	39	WR-VG86ST-BRD(3/4)	100.00 - 105.00	1.0000	1.0000
L5	41	CONDUIT (2)	100.00 - 105.00	1.0000	1.0000
L5	43	FB-L98B-002-75000(3/8)	100.00 - 105.00	1.0000	1.0000
L5	44	WR-VG86ST-BRD(3/4)	100.00 - 105.00	1.0000	1.0000
L5	45	CONDUIT (2)	100.00 - 105.00	1.0000	1.0000
L5	47	LDF7-50A(1-5/8)	100.00 - 105.00	1.0000	1.0000
L5	51	MLCH 12/24 LOW INDUCTION(2)	100.00 - 105.00	1.0000	1.0000
L6	22	CCI (3.25"x1.25")	99.38 - 100.00	1.0000	1.0000
L6	23	CCI (3.25"x1.25")	99.38 - 100.00	1.0000	1.0000
L6	24	CCI (3.25"x1.25")	99.38 - 100.00	1.0000	1.0000
L6	26	Safety Line 3/8"	99.38 - 100.00	1.0000	1.0000
L6	27	Climbing Pegs	99.38 - 100.00	1.0000	1.0000
L6	29	ATCB-B01-005(5/16)	99.38 - 100.00	1.0000	1.0000
L6	30	FSJ4-50B(1/2)	99.38 - 100.00	1.0000	1.0000
L6	31	LDF1-50A(1/4)	99.38 - 100.00	1.0000	1.0000
L6	35	CONDUIT (2)	99.38 - 100.00	1.0000	1.0000
L6	37	LDF6-50A(1-1/4)	99.38 - 100.00	1.0000	1.0000
L6	38	FB-L98B-002-75000(3/8)	99.38 - 100.00	1.0000	1.0000
L6	39	WR-VG86ST-BRD(3/4)	99.38 - 100.00	1.0000	1.0000
L6	41	CONDUIT (2)	99.38 - 100.00	1.0000	1.0000
L6	43	FB-L98B-002-75000(3/8)	99.38 - 100.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L6	44	WR-VG86ST-BRD(3/4)	99.38 - 100.00	1.0000	1.0000
L6	45	CONDUIT (2)	99.38 - 100.00	1.0000	1.0000
L6	47	LDF7-50A(1-5/8)	99.38 - 100.00	1.0000	1.0000
L6	51	MLCH 12/24 LOW INDUCTION(2)	99.38 - 100.00	1.0000	1.0000
L7	22	CCI (3.25"x1.25")	99.13 - 99.38	1.0000	1.0000
L7	23	CCI (3.25"x1.25")	99.13 - 99.38	1.0000	1.0000
L7	24	CCI (3.25"x1.25")	99.13 - 99.38	1.0000	1.0000
L7	26	Safety Line 3/8"	99.13 - 99.38	1.0000	1.0000
L7	27	Climbing Pegs	99.13 - 99.38	1.0000	1.0000
L7	29	ATCB-B01-005(5/16)	99.13 - 99.38	1.0000	1.0000
L7	30	FSJ4-50B(1/2)	99.13 - 99.38	1.0000	1.0000
L7	31	LDF1-50A(1/4)	99.13 - 99.38	1.0000	1.0000
L7	35	CONDUIT (2)	99.13 - 99.38	1.0000	1.0000
L7	37	LDF6-50A(1-1/4)	99.13 - 99.38	1.0000	1.0000
L7	38	FB-L98B-002-75000(3/8)	99.13 - 99.38	1.0000	1.0000
L7	39	WR-VG86ST-BRD(3/4)	99.13 - 99.38	1.0000	1.0000
L7	41	CONDUIT (2)	99.13 - 99.38	1.0000	1.0000
L7	43	FB-L98B-002-75000(3/8)	99.13 - 99.38	1.0000	1.0000
L7	44	WR-VG86ST-BRD(3/4)	99.13 - 99.38	1.0000	1.0000
L7	45	CONDUIT (2)	99.13 - 99.38	1.0000	1.0000
L7	47	LDF7-50A(1-5/8)	99.13 - 99.38	1.0000	1.0000
L7	51	MLCH 12/24 LOW INDUCTION(2)	99.13 - 99.38	1.0000	1.0000
L8	10	CCI(6"x1")	94.46 - 96.50	1.0000	1.0000
L8	11	CCI(6"x1")	94.46 - 96.50	1.0000	1.0000
L8	12	CCI(6"x1")	94.46 - 96.50	1.0000	1.0000
L8	22	CCI (3.25"x1.25")	94.46 - 99.13	1.0000	1.0000
L8	23	CCI (3.25"x1.25")	94.46 - 99.13	1.0000	1.0000
L8	24	CCI (3.25"x1.25")	94.46 - 99.13	1.0000	1.0000
L8	26	Safety Line 3/8"	94.46 - 99.13	1.0000	1.0000
L8	27	Climbing Pegs	94.46 - 99.13	1.0000	1.0000
L8	29	ATCB-B01-005(5/16)	94.46 - 99.13	1.0000	1.0000
L8	30	FSJ4-50B(1/2)	94.46 - 99.13	1.0000	1.0000
L8	31	LDF1-50A(1/4)	94.46 - 99.13	1.0000	1.0000
L8	35	CONDUIT (2)	94.46 - 99.13	1.0000	1.0000
L8	37	LDF6-50A(1-1/4)	94.46 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
			99.13		
L8	38	FB-L98B-002-75000(3/8)	94.46 -	1.0000	1.0000
			99.13		
L8	39	WR-VG86ST-BRD(3/4)	94.46 -	1.0000	1.0000
			99.13		
L8	41	CONDUIT (2)	94.46 -	1.0000	1.0000
			99.13		
L8	43	FB-L98B-002-75000(3/8)	94.46 -	1.0000	1.0000
			99.13		
L8	44	WR-VG86ST-BRD(3/4)	94.46 -	1.0000	1.0000
			99.13		
L8	45	CONDUIT (2)	94.46 -	1.0000	1.0000
			99.13		
L8	47	LDF7-50A(1-5/8)	94.46 -	1.0000	1.0000
			99.13		
L8	51	MLCH 12/24 LOW INDUCTION(2)	94.46 -	1.0000	1.0000
			99.13		
L9	10	CCI(6"x1")	94.21 -	1.0000	1.0000
			94.46		
L9	11	CCI(6"x1")	94.21 -	1.0000	1.0000
			94.46		
L9	12	CCI(6"x1")	94.21 -	1.0000	1.0000
			94.46		
L9	22	CCI (3.25"x1.25")	94.21 -	1.0000	1.0000
			94.46		
L9	23	CCI (3.25"x1.25")	94.21 -	1.0000	1.0000
			94.46		
L9	24	CCI (3.25"x1.25")	94.21 -	1.0000	1.0000
			94.46		
L9	26	Safety Line 3/8"	94.21 -	1.0000	1.0000
			94.46		
L9	27	Climbing Pegs	94.21 -	1.0000	1.0000
			94.46		
L9	29	ATCB-B01-005(5/16)	94.21 -	1.0000	1.0000
			94.46		
L9	30	FSJ4-50B(1/2)	94.21 -	1.0000	1.0000
			94.46		
L9	31	LDF1-50A(1/4)	94.21 -	1.0000	1.0000
			94.46		
L9	35	CONDUIT (2)	94.21 -	1.0000	1.0000
			94.46		
L9	37	LDF6-50A(1-1/4)	94.21 -	1.0000	1.0000
			94.46		
L9	38	FB-L98B-002-75000(3/8)	94.21 -	1.0000	1.0000
			94.46		
L9	39	WR-VG86ST-BRD(3/4)	94.21 -	1.0000	1.0000
			94.46		
L9	41	CONDUIT (2)	94.21 -	1.0000	1.0000
			94.46		
L9	43	FB-L98B-002-75000(3/8)	94.21 -	1.0000	1.0000
			94.46		
L9	44	WR-VG86ST-BRD(3/4)	94.21 -	1.0000	1.0000
			94.46		
L9	45	CONDUIT (2)	94.21 -	1.0000	1.0000
			94.46		
L9	47	LDF7-50A(1-5/8)	94.21 -	1.0000	1.0000
			94.46		
L9	51	MLCH 12/24 LOW INDUCTION(2)	94.21 -	1.0000	1.0000
			94.46		
L10	6	MP4-04	89.21 -	1.0000	1.0000
			90.50		
L10	7	MP4-04	89.21 -	1.0000	1.0000
			90.50		
L10	8	MP4-04	89.21 -	1.0000	1.0000
			90.50		
L10	10	CCI(6"x1")	89.21 -	1.0000	1.0000
			94.21		
L10	11	CCI(6"x1")	89.21 -	1.0000	1.0000
			94.21		

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L10	12	CCI(6"x1")	89.21 - 94.21	1.0000	1.0000
L10	22	CCI (3.25"x1.25")	89.21 - 94.21	1.0000	1.0000
L10	23	CCI (3.25"x1.25")	89.21 - 94.21	1.0000	1.0000
L10	24	CCI (3.25"x1.25")	89.21 - 94.21	1.0000	1.0000
L10	26	Safety Line 3/8"	89.21 - 94.21	1.0000	1.0000
L10	27	Climbing Pegs	89.21 - 94.21	1.0000	1.0000
L10	29	ATCB-B01-005(5/16)	89.21 - 94.21	1.0000	1.0000
L10	30	FSJ4-50B(1/2)	89.21 - 94.21	1.0000	1.0000
L10	31	LDF1-50A(1/4)	89.21 - 94.21	1.0000	1.0000
L10	35	CONDUIT (2)	89.21 - 94.21	1.0000	1.0000
L10	37	LDF6-50A(1-1/4)	89.21 - 94.21	1.0000	1.0000
L10	38	FB-L98B-002-75000(3/8)	89.21 - 94.21	1.0000	1.0000
L10	39	WR-VG86ST-BRD(3/4)	89.21 - 94.21	1.0000	1.0000
L10	41	CONDUIT (2)	89.21 - 94.21	1.0000	1.0000
L10	43	FB-L98B-002-75000(3/8)	89.21 - 94.21	1.0000	1.0000
L10	44	WR-VG86ST-BRD(3/4)	89.21 - 94.21	1.0000	1.0000
L10	45	CONDUIT (2)	89.21 - 94.21	1.0000	1.0000
L10	47	LDF7-50A(1-5/8)	89.21 - 94.21	1.0000	1.0000
L10	51	MLCH 12/24 LOW INDUCTION(2)	89.21 - 94.21	1.0000	1.0000
L11	6	MP4-04	89.00 - 89.21	1.0000	1.0000
L11	7	MP4-04	89.00 - 89.21	1.0000	1.0000
L11	8	MP4-04	89.00 - 89.21	1.0000	1.0000
L11	10	CCI(6"x1")	89.00 - 89.21	1.0000	1.0000
L11	11	CCI(6"x1")	89.00 - 89.21	1.0000	1.0000
L11	12	CCI(6"x1")	89.00 - 89.21	1.0000	1.0000
L11	22	CCI (3.25"x1.25")	89.00 - 89.21	1.0000	1.0000
L11	23	CCI (3.25"x1.25")	89.00 - 89.21	1.0000	1.0000
L11	24	CCI (3.25"x1.25")	89.00 - 89.21	1.0000	1.0000
L11	26	Safety Line 3/8"	89.00 - 89.21	1.0000	1.0000
L11	27	Climbing Pegs	89.00 - 89.21	1.0000	1.0000
L11	29	ATCB-B01-005(5/16)	89.00 - 89.21	1.0000	1.0000
L11	30	FSJ4-50B(1/2)	89.00 - 89.21	1.0000	1.0000
L11	31	LDF1-50A(1/4)	89.00 - 89.21	1.0000	1.0000
L11	35	CONDUIT (2)	89.00 - 89.21	1.0000	1.0000
L11	37	LDF6-50A(1-1/4)	89.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L11	38	FB-L98B-002-75000(3/8)	89.21 89.00 - 89.21	1.0000	1.0000
L11	39	WR-VG86ST-BRD(3/4)	89.00 - 89.21	1.0000	1.0000
L11	41	CONDUIT (2)	89.00 - 89.21	1.0000	1.0000
L11	43	FB-L98B-002-75000(3/8)	89.00 - 89.21	1.0000	1.0000
L11	44	WR-VG86ST-BRD(3/4)	89.00 - 89.21	1.0000	1.0000
L11	45	CONDUIT (2)	89.00 - 89.21	1.0000	1.0000
L11	47	LDF7-50A(1-5/8)	89.00 - 89.21	1.0000	1.0000
L11	51	MLCH 12/24 LOW INDUCTION(2)	89.00 - 89.21	1.0000	1.0000
L12	6	MP4-04	85.04 - 89.00	1.0000	1.0000
L12	7	MP4-04	85.04 - 89.00	1.0000	1.0000
L12	8	MP4-04	85.04 - 89.00	1.0000	1.0000
L12	10	CCI(6"x1")	85.04 - 89.00	1.0000	1.0000
L12	11	CCI(6"x1")	85.04 - 89.00	1.0000	1.0000
L12	12	CCI(6"x1")	85.04 - 89.00	1.0000	1.0000
L12	22	CCI (3.25"x1.25")	87.50 - 89.00	1.0000	1.0000
L12	23	CCI (3.25"x1.25")	87.50 - 89.00	1.0000	1.0000
L12	24	CCI (3.25"x1.25")	87.50 - 89.00	1.0000	1.0000
L12	26	Safety Line 3/8"	85.04 - 89.00	1.0000	1.0000
L12	27	Climbing Pegs	85.04 - 89.00	1.0000	1.0000
L12	29	ATCB-B01-005(5/16)	85.04 - 89.00	1.0000	1.0000
L12	30	FSJ4-50B(1/2)	85.04 - 89.00	1.0000	1.0000
L12	31	LDF1-50A(1/4)	85.04 - 89.00	1.0000	1.0000
L12	35	CONDUIT (2)	85.04 - 89.00	1.0000	1.0000
L12	37	LDF6-50A(1-1/4)	85.04 - 89.00	1.0000	1.0000
L12	38	FB-L98B-002-75000(3/8)	85.04 - 89.00	1.0000	1.0000
L12	39	WR-VG86ST-BRD(3/4)	85.04 - 89.00	1.0000	1.0000
L12	41	CONDUIT (2)	85.04 - 89.00	1.0000	1.0000
L12	43	FB-L98B-002-75000(3/8)	85.04 - 89.00	1.0000	1.0000
L12	44	WR-VG86ST-BRD(3/4)	85.04 - 89.00	1.0000	1.0000
L12	45	CONDUIT (2)	85.04 - 89.00	1.0000	1.0000
L12	47	LDF7-50A(1-5/8)	85.04 - 89.00	1.0000	1.0000
L12	51	MLCH 12/24 LOW INDUCTION(2)	85.04 - 89.00	1.0000	1.0000
L13	6	MP4-04	84.04 - 85.04	1.0000	1.0000
L13	7	MP4-04	84.04 - 85.04	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L13	8	MP4-04	84.04 - 85.04	1.0000	1.0000
L13	10	CCI(6"x1")	84.04 - 85.04	1.0000	1.0000
L13	11	CCI(6"x1")	84.04 - 85.04	1.0000	1.0000
L13	12	CCI(6"x1")	84.04 - 85.04	1.0000	1.0000
L13	26	Safety Line 3/8"	84.04 - 85.04	1.0000	1.0000
L13	27	Climbing Pegs	84.04 - 85.04	1.0000	1.0000
L13	29	ATCB-B01-005(5/16)	84.04 - 85.04	1.0000	1.0000
L13	30	FSJ4-50B(1/2)	84.04 - 85.04	1.0000	1.0000
L13	31	LDF1-50A(1/4)	84.04 - 85.04	1.0000	1.0000
L13	35	CONDUIT (2)	84.04 - 85.04	1.0000	1.0000
L13	37	LDF6-50A(1-1/4)	84.04 - 85.04	1.0000	1.0000
L13	38	FB-L98B-002-75000(3/8)	84.04 - 85.04	1.0000	1.0000
L13	39	WR-VG86ST-BRD(3/4)	84.04 - 85.04	1.0000	1.0000
L13	41	CONDUIT (2)	84.04 - 85.04	1.0000	1.0000
L13	43	FB-L98B-002-75000(3/8)	84.04 - 85.04	1.0000	1.0000
L13	44	WR-VG86ST-BRD(3/4)	84.04 - 85.04	1.0000	1.0000
L13	45	CONDUIT (2)	84.04 - 85.04	1.0000	1.0000
L13	47	LDF7-50A(1-5/8)	84.04 - 85.04	1.0000	1.0000
L13	51	MLCH 12/24 LOW INDUCTION(2)	84.04 - 85.04	1.0000	1.0000
L14	6	MP4-04	79.04 - 84.04	1.0000	1.0000
L14	7	MP4-04	79.04 - 84.04	1.0000	1.0000
L14	8	MP4-04	79.04 - 84.04	1.0000	1.0000
L14	10	CCI(6"x1")	79.04 - 84.04	1.0000	1.0000
L14	11	CCI(6"x1")	79.04 - 84.04	1.0000	1.0000
L14	12	CCI(6"x1")	79.04 - 84.04	1.0000	1.0000
L14	26	Safety Line 3/8"	79.04 - 84.04	1.0000	1.0000
L14	27	Climbing Pegs	79.04 - 84.04	1.0000	1.0000
L14	29	ATCB-B01-005(5/16)	79.04 - 84.04	1.0000	1.0000
L14	30	FSJ4-50B(1/2)	79.04 - 84.04	1.0000	1.0000
L14	31	LDF1-50A(1/4)	79.04 - 84.04	1.0000	1.0000
L14	35	CONDUIT (2)	79.04 - 84.04	1.0000	1.0000
L14	37	LDF6-50A(1-1/4)	79.04 - 84.04	1.0000	1.0000
L14	38	FB-L98B-002-75000(3/8)	79.04 - 84.04	1.0000	1.0000
L14	39	WR-VG86ST-BRD(3/4)	79.04 - 84.04	1.0000	1.0000
L14	41	CONDUIT (2)	79.04 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L14	43	FB-L98B-002-75000(3/8)	84.04 79.04 - 84.04	1.0000	1.0000
L14	44	WR-VG86ST-BRD(3/4)	79.04 - 84.04	1.0000	1.0000
L14	45	CONDUIT (2)	79.04 - 84.04	1.0000	1.0000
L14	47	LDF7-50A(1-5/8)	79.04 - 84.04	1.0000	1.0000
L14	51	MLCH 12/24 LOW INDUCTION(2)	79.04 - 84.04	1.0000	1.0000
L15	6	MP4-04	75.50 - 79.04	1.0000	1.0000
L15	7	MP4-04	75.50 - 79.04	1.0000	1.0000
L15	8	MP4-04	75.50 - 79.04	1.0000	1.0000
L15	10	CCI(6"x1")	74.04 - 79.04	1.0000	1.0000
L15	11	CCI(6"x1")	74.04 - 79.04	1.0000	1.0000
L15	12	CCI(6"x1")	74.04 - 79.04	1.0000	1.0000
L15	26	Safety Line 3/8"	74.04 - 79.04	1.0000	1.0000
L15	27	Climbing Pegs	74.04 - 79.04	1.0000	1.0000
L15	29	ATCB-B01-005(5/16)	74.04 - 79.04	1.0000	1.0000
L15	30	FSJ4-50B(1/2)	74.04 - 79.04	1.0000	1.0000
L15	31	LDF1-50A(1/4)	74.04 - 79.04	1.0000	1.0000
L15	35	CONDUIT (2)	74.04 - 79.04	1.0000	1.0000
L15	37	LDF6-50A(1-1/4)	74.04 - 79.04	1.0000	1.0000
L15	38	FB-L98B-002-75000(3/8)	74.04 - 79.04	1.0000	1.0000
L15	39	WR-VG86ST-BRD(3/4)	74.04 - 79.04	1.0000	1.0000
L15	41	CONDUIT (2)	74.04 - 79.04	1.0000	1.0000
L15	43	FB-L98B-002-75000(3/8)	74.04 - 79.04	1.0000	1.0000
L15	44	WR-VG86ST-BRD(3/4)	74.04 - 79.04	1.0000	1.0000
L15	45	CONDUIT (2)	74.04 - 79.04	1.0000	1.0000
L15	47	LDF7-50A(1-5/8)	74.04 - 79.04	1.0000	1.0000
L15	51	MLCH 12/24 LOW INDUCTION(2)	74.04 - 79.04	1.0000	1.0000
L16	10	CCI(6"x1")	73.58 - 74.04	1.0000	1.0000
L16	11	CCI(6"x1")	73.58 - 74.04	1.0000	1.0000
L16	12	CCI(6"x1")	73.58 - 74.04	1.0000	1.0000
L16	26	Safety Line 3/8"	73.58 - 74.04	1.0000	1.0000
L16	27	Climbing Pegs	73.58 - 74.04	1.0000	1.0000
L16	29	ATCB-B01-005(5/16)	73.58 - 74.04	1.0000	1.0000
L16	30	FSJ4-50B(1/2)	73.58 - 74.04	1.0000	1.0000
L16	31	LDF1-50A(1/4)	73.58 - 74.04	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L16	35	CONDUIT (2)	73.58 - 74.04	1.0000	1.0000
L16	37	LDF6-50A(1-1/4)	73.58 - 74.04	1.0000	1.0000
L16	38	FB-L98B-002-75000(3/8)	73.58 - 74.04	1.0000	1.0000
L16	39	WR-VG86ST-BRD(3/4)	73.58 - 74.04	1.0000	1.0000
L16	41	CONDUIT (2)	73.58 - 74.04	1.0000	1.0000
L16	43	FB-L98B-002-75000(3/8)	73.58 - 74.04	1.0000	1.0000
L16	44	WR-VG86ST-BRD(3/4)	73.58 - 74.04	1.0000	1.0000
L16	45	CONDUIT (2)	73.58 - 74.04	1.0000	1.0000
L16	47	LDF7-50A(1-5/8)	73.58 - 74.04	1.0000	1.0000
L16	51	MLCH 12/24 LOW INDUCTION(2)	73.58 - 74.04	1.0000	1.0000
L17	10	CCI(6"x1")	73.33 - 73.58	1.0000	1.0000
L17	11	CCI(6"x1")	73.33 - 73.58	1.0000	1.0000
L17	12	CCI(6"x1")	73.33 - 73.58	1.0000	1.0000
L17	26	Safety Line 3/8"	73.33 - 73.58	1.0000	1.0000
L17	27	Climbing Pegs	73.33 - 73.58	1.0000	1.0000
L17	29	ATCB-B01-005(5/16)	73.33 - 73.58	1.0000	1.0000
L17	30	FSJ4-50B(1/2)	73.33 - 73.58	1.0000	1.0000
L17	31	LDF1-50A(1/4)	73.33 - 73.58	1.0000	1.0000
L17	35	CONDUIT (2)	73.33 - 73.58	1.0000	1.0000
L17	37	LDF6-50A(1-1/4)	73.33 - 73.58	1.0000	1.0000
L17	38	FB-L98B-002-75000(3/8)	73.33 - 73.58	1.0000	1.0000
L17	39	WR-VG86ST-BRD(3/4)	73.33 - 73.58	1.0000	1.0000
L17	41	CONDUIT (2)	73.33 - 73.58	1.0000	1.0000
L17	43	FB-L98B-002-75000(3/8)	73.33 - 73.58	1.0000	1.0000
L17	44	WR-VG86ST-BRD(3/4)	73.33 - 73.58	1.0000	1.0000
L17	45	CONDUIT (2)	73.33 - 73.58	1.0000	1.0000
L17	47	LDF7-50A(1-5/8)	73.33 - 73.58	1.0000	1.0000
L17	51	MLCH 12/24 LOW INDUCTION(2)	73.33 - 73.58	1.0000	1.0000
L18	10	CCI(6"x1")	73.00 - 73.33	1.0000	1.0000
L18	11	CCI(6"x1")	73.00 - 73.33	1.0000	1.0000
L18	12	CCI(6"x1")	73.00 - 73.33	1.0000	1.0000
L18	26	Safety Line 3/8"	73.00 - 73.33	1.0000	1.0000
L18	27	Climbing Pegs	73.00 - 73.33	1.0000	1.0000
L18	29	ATCB-B01-005(5/16)	73.00 - 73.33	1.0000	1.0000
L18	30	FSJ4-50B(1/2)	73.00 -	1.0000	1.0000



Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L18	31	LDF1-50A(1/4)	73.33 73.00 -	1.0000	1.0000
L18	35	CONDUIT (2)	73.33 73.00 -	1.0000	1.0000
L18	37	LDF6-50A(1-1/4)	73.33 73.00 -	1.0000	1.0000
L18	38	FB-L98B-002-75000(3/8)	73.33 73.00 -	1.0000	1.0000
L18	39	WR-VG86ST-BRD(3/4)	73.33 73.00 -	1.0000	1.0000
L18	41	CONDUIT (2)	73.33 73.00 -	1.0000	1.0000
L18	43	FB-L98B-002-75000(3/8)	73.33 73.00 -	1.0000	1.0000
L18	44	WR-VG86ST-BRD(3/4)	73.33 73.00 -	1.0000	1.0000
L18	45	CONDUIT (2)	73.33 73.00 -	1.0000	1.0000
L18	47	LDF7-50A(1-5/8)	73.33 73.00 -	1.0000	1.0000
L18	51	MLCH 12/24 LOW INDUCTION(2)	73.33 73.00 -	1.0000	1.0000
L19	10	CCI(6"x1")	72.75 - 73.00	1.0000	1.0000
L19	11	CCI(6"x1")	72.75 - 73.00	1.0000	1.0000
L19	12	CCI(6"x1")	72.75 - 73.00	1.0000	1.0000
L19	26	Safety Line 3/8"	72.75 - 73.00	1.0000	1.0000
L19	27	Climbing Pegs	72.75 - 73.00	1.0000	1.0000
L19	29	ATCB-B01-005(5/16)	72.75 - 73.00	1.0000	1.0000
L19	30	FSJ4-50B(1/2)	72.75 - 73.00	1.0000	1.0000
L19	31	LDF1-50A(1/4)	72.75 - 73.00	1.0000	1.0000
L19	35	CONDUIT (2)	72.75 - 73.00	1.0000	1.0000
L19	37	LDF6-50A(1-1/4)	72.75 - 73.00	1.0000	1.0000
L19	38	FB-L98B-002-75000(3/8)	72.75 - 73.00	1.0000	1.0000
L19	39	WR-VG86ST-BRD(3/4)	72.75 - 73.00	1.0000	1.0000
L19	41	CONDUIT (2)	72.75 - 73.00	1.0000	1.0000
L19	43	FB-L98B-002-75000(3/8)	72.75 - 73.00	1.0000	1.0000
L19	44	WR-VG86ST-BRD(3/4)	72.75 - 73.00	1.0000	1.0000
L19	45	CONDUIT (2)	72.75 - 73.00	1.0000	1.0000
L19	47	LDF7-50A(1-5/8)	72.75 - 73.00	1.0000	1.0000
L19	51	MLCH 12/24 LOW INDUCTION(2)	72.75 - 73.00	1.0000	1.0000
L20	10	CCI(6"x1")	71.00 - 72.75	1.0000	1.0000
L20	11	CCI(6"x1")	71.00 - 72.75	1.0000	1.0000
L20	12	CCI(6"x1")	71.00 - 72.75	1.0000	1.0000
L20	26	Safety Line 3/8"	67.75 - 72.75	1.0000	1.0000
L20	27	Climbing Pegs	67.75 - 72.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L20	29	ATCB-B01-005(5/16)	67.75 - 72.75	1.0000	1.0000
L20	30	FSJ4-50B(1/2)	67.75 - 72.75	1.0000	1.0000
L20	31	LDF1-50A(1/4)	67.75 - 72.75	1.0000	1.0000
L20	35	CONDUIT (2)	67.75 - 72.75	1.0000	1.0000
L20	37	LDF6-50A(1-1/4)	67.75 - 72.75	1.0000	1.0000
L20	38	FB-L98B-002-75000(3/8)	67.75 - 72.75	1.0000	1.0000
L20	39	WR-VG86ST-BRD(3/4)	67.75 - 72.75	1.0000	1.0000
L20	41	CONDUIT (2)	67.75 - 72.75	1.0000	1.0000
L20	43	FB-L98B-002-75000(3/8)	67.75 - 72.75	1.0000	1.0000
L20	44	WR-VG86ST-BRD(3/4)	67.75 - 72.75	1.0000	1.0000
L20	45	CONDUIT (2)	67.75 - 72.75	1.0000	1.0000
L20	47	LDF7-50A(1-5/8)	67.75 - 72.75	1.0000	1.0000
L20	51	MLCH 12/24 LOW INDUCTION(2)	67.75 - 72.75	1.0000	1.0000
L21	18	CCI(6"x1")	63.00 - 65.00	1.0000	1.0000
L21	19	CCI(6"x1")	63.00 - 65.00	1.0000	1.0000
L21	20	CCI(6"x1")	63.00 - 65.00	1.0000	1.0000
L21	26	Safety Line 3/8"	63.00 - 67.75	1.0000	1.0000
L21	27	Climbing Pegs	63.00 - 67.75	1.0000	1.0000
L21	29	ATCB-B01-005(5/16)	63.00 - 67.75	1.0000	1.0000
L21	30	FSJ4-50B(1/2)	63.00 - 67.75	1.0000	1.0000
L21	31	LDF1-50A(1/4)	63.00 - 67.75	1.0000	1.0000
L21	35	CONDUIT (2)	63.00 - 67.75	1.0000	1.0000
L21	37	LDF6-50A(1-1/4)	63.00 - 67.75	1.0000	1.0000
L21	38	FB-L98B-002-75000(3/8)	63.00 - 67.75	1.0000	1.0000
L21	39	WR-VG86ST-BRD(3/4)	63.00 - 67.75	1.0000	1.0000
L21	41	CONDUIT (2)	63.00 - 67.75	1.0000	1.0000
L21	43	FB-L98B-002-75000(3/8)	63.00 - 67.75	1.0000	1.0000
L21	44	WR-VG86ST-BRD(3/4)	63.00 - 67.75	1.0000	1.0000
L21	45	CONDUIT (2)	63.00 - 67.75	1.0000	1.0000
L21	47	LDF7-50A(1-5/8)	63.00 - 67.75	1.0000	1.0000
L21	51	MLCH 12/24 LOW INDUCTION(2)	63.00 - 67.75	1.0000	1.0000
L22	18	CCI(6"x1")	62.75 - 63.00	1.0000	1.0000
L22	19	CCI(6"x1")	62.75 - 63.00	1.0000	1.0000
L22	20	CCI(6"x1")	62.75 - 63.00	1.0000	1.0000
L22	26	Safety Line 3/8"	62.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L22	27	Climbing Pegs	63.00 62.75 -	1.0000	1.0000
L22	29	ATCB-B01-005(5/16)	63.00 62.75 -	1.0000	1.0000
L22	30	FSJ4-50B(1/2)	63.00 62.75 -	1.0000	1.0000
L22	31	LDF1-50A(1/4)	63.00 62.75 -	1.0000	1.0000
L22	35	CONDUIT (2)	63.00 62.75 -	1.0000	1.0000
L22	37	LDF6-50A(1-1/4)	63.00 62.75 -	1.0000	1.0000
L22	38	FB-L98B-002-75000(3/8)	63.00 62.75 -	1.0000	1.0000
L22	39	WR-VG86ST-BRD(3/4)	63.00 62.75 -	1.0000	1.0000
L22	41	CONDUIT (2)	63.00 62.75 -	1.0000	1.0000
L22	43	FB-L98B-002-75000(3/8)	63.00 62.75 -	1.0000	1.0000
L22	44	WR-VG86ST-BRD(3/4)	63.00 62.75 -	1.0000	1.0000
L22	45	CONDUIT (2)	63.00 62.75 -	1.0000	1.0000
L22	47	LDF7-50A(1-5/8)	63.00 62.75 -	1.0000	1.0000
L22	51	MLCH 12/24 LOW INDUCTION(2)	63.00 62.75 -	1.0000	1.0000
L23	2	MP4-06	60.50 57.75 -	1.0000	1.0000
L23	3	MP4-06	60.50 57.75 -	1.0000	1.0000
L23	4	MP4-06	60.50 57.75 -	1.0000	1.0000
L23	18	CCI(6"x1")	60.50 57.75 -	1.0000	1.0000
L23	19	CCI(6"x1")	62.75 57.75 -	1.0000	1.0000
L23	20	CCI(6"x1")	62.75 57.75 -	1.0000	1.0000
L23	26	Safety Line 3/8"	62.75 57.75 -	1.0000	1.0000
L23	27	Climbing Pegs	62.75 57.75 -	1.0000	1.0000
L23	29	ATCB-B01-005(5/16)	62.75 57.75 -	1.0000	1.0000
L23	30	FSJ4-50B(1/2)	62.75 57.75 -	1.0000	1.0000
L23	31	LDF1-50A(1/4)	62.75 57.75 -	1.0000	1.0000
L23	35	CONDUIT (2)	62.75 57.75 -	1.0000	1.0000
L23	37	LDF6-50A(1-1/4)	62.75 57.75 -	1.0000	1.0000
L23	38	FB-L98B-002-75000(3/8)	62.75 57.75 -	1.0000	1.0000
L23	39	WR-VG86ST-BRD(3/4)	62.75 57.75 -	1.0000	1.0000
L23	41	CONDUIT (2)	62.75 57.75 -	1.0000	1.0000
L23	43	FB-L98B-002-75000(3/8)	62.75 57.75 -	1.0000	1.0000
L23	44	WR-VG86ST-BRD(3/4)	62.75 57.75 -	1.0000	1.0000
L23	45	CONDUIT (2)	62.75 57.75 -	1.0000	1.0000
L23	47	LDF7-50A(1-5/8)	62.75 57.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L23	51	MLCH 12/24 LOW INDUCTION(2)	57.75 - 62.75	1.0000	1.0000
L24	2	MP4-06	57.23 - 57.75	1.0000	1.0000
L24	3	MP4-06	57.23 - 57.75	1.0000	1.0000
L24	4	MP4-06	57.23 - 57.75	1.0000	1.0000
L24	18	CCI(6"x1")	57.23 - 57.75	1.0000	1.0000
L24	19	CCI(6"x1")	57.23 - 57.75	1.0000	1.0000
L24	20	CCI(6"x1")	57.23 - 57.75	1.0000	1.0000
L24	26	Safety Line 3/8"	57.23 - 57.75	1.0000	1.0000
L24	27	Climbing Pegs	57.23 - 57.75	1.0000	1.0000
L24	29	ATCB-B01-005(5/16)	57.23 - 57.75	1.0000	1.0000
L24	30	FSJ4-50B(1/2)	57.23 - 57.75	1.0000	1.0000
L24	31	LDF1-50A(1/4)	57.23 - 57.75	1.0000	1.0000
L24	35	CONDUIT (2)	57.23 - 57.75	1.0000	1.0000
L24	37	LDF6-50A(1-1/4)	57.23 - 57.75	1.0000	1.0000
L24	38	FB-L98B-002-75000(3/8)	57.23 - 57.75	1.0000	1.0000
L24	39	WR-VG86ST-BRD(3/4)	57.23 - 57.75	1.0000	1.0000
L24	41	CONDUIT (2)	57.23 - 57.75	1.0000	1.0000
L24	43	FB-L98B-002-75000(3/8)	57.23 - 57.75	1.0000	1.0000
L24	44	WR-VG86ST-BRD(3/4)	57.23 - 57.75	1.0000	1.0000
L24	45	CONDUIT (2)	57.23 - 57.75	1.0000	1.0000
L24	47	LDF7-50A(1-5/8)	57.23 - 57.75	1.0000	1.0000
L24	51	MLCH 12/24 LOW INDUCTION(2)	57.23 - 57.75	1.0000	1.0000
L25	2	MP4-06	56.98 - 57.23	1.0000	1.0000
L25	3	MP4-06	56.98 - 57.23	1.0000	1.0000
L25	4	MP4-06	56.98 - 57.23	1.0000	1.0000
L25	18	CCI(6"x1")	56.98 - 57.23	1.0000	1.0000
L25	19	CCI(6"x1")	56.98 - 57.23	1.0000	1.0000
L25	20	CCI(6"x1")	56.98 - 57.23	1.0000	1.0000
L25	26	Safety Line 3/8"	56.98 - 57.23	1.0000	1.0000
L25	27	Climbing Pegs	56.98 - 57.23	1.0000	1.0000
L25	29	ATCB-B01-005(5/16)	56.98 - 57.23	1.0000	1.0000
L25	30	FSJ4-50B(1/2)	56.98 - 57.23	1.0000	1.0000
L25	31	LDF1-50A(1/4)	56.98 - 57.23	1.0000	1.0000
L25	35	CONDUIT (2)	56.98 - 57.23	1.0000	1.0000
L25	37	LDF6-50A(1-1/4)	56.98 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L25	38	FB-L98B-002-75000(3/8)	57.23 56.98 -	1.0000	1.0000
L25	39	WR-VG86ST-BRD(3/4)	57.23 56.98 -	1.0000	1.0000
L25	41	CONDUIT (2)	57.23 56.98 -	1.0000	1.0000
L25	43	FB-L98B-002-75000(3/8)	57.23 56.98 -	1.0000	1.0000
L25	44	WR-VG86ST-BRD(3/4)	57.23 56.98 -	1.0000	1.0000
L25	45	CONDUIT (2)	57.23 56.98 -	1.0000	1.0000
L25	47	LDF7-50A(1-5/8)	57.23 56.98 -	1.0000	1.0000
L25	51	MLCH 12/24 LOW INDUCTION(2)	57.23 56.98 -	1.0000	1.0000
L26	2	MP4-06	56.98 51.98 -	1.0000	1.0000
L26	3	MP4-06	56.98 51.98 -	1.0000	1.0000
L26	4	MP4-06	56.98 51.98 -	1.0000	1.0000
L26	18	CCI(6"x1")	56.98 55.00 -	1.0000	1.0000
L26	19	CCI(6"x1")	56.98 55.00 -	1.0000	1.0000
L26	20	CCI(6"x1")	56.98 55.00 -	1.0000	1.0000
L26	26	Safety Line 3/8"	56.98 51.98 -	1.0000	1.0000
L26	27	Climbing Pegs	56.98 51.98 -	1.0000	1.0000
L26	29	ATCB-B01-005(5/16)	56.98 51.98 -	1.0000	1.0000
L26	30	FSJ4-50B(1/2)	56.98 51.98 -	1.0000	1.0000
L26	31	LDF1-50A(1/4)	56.98 51.98 -	1.0000	1.0000
L26	35	CONDUIT (2)	56.98 51.98 -	1.0000	1.0000
L26	37	LDF6-50A(1-1/4)	56.98 51.98 -	1.0000	1.0000
L26	38	FB-L98B-002-75000(3/8)	56.98 51.98 -	1.0000	1.0000
L26	39	WR-VG86ST-BRD(3/4)	56.98 51.98 -	1.0000	1.0000
L26	41	CONDUIT (2)	56.98 51.98 -	1.0000	1.0000
L26	43	FB-L98B-002-75000(3/8)	56.98 51.98 -	1.0000	1.0000
L26	44	WR-VG86ST-BRD(3/4)	56.98 51.98 -	1.0000	1.0000
L26	45	CONDUIT (2)	56.98 51.98 -	1.0000	1.0000
L26	47	LDF7-50A(1-5/8)	56.98 51.98 -	1.0000	1.0000
L26	51	MLCH 12/24 LOW INDUCTION(2)	56.98 51.98 -	1.0000	1.0000
L27	2	MP4-06	56.98 46.98 -	1.0000	1.0000
L27	3	MP4-06	51.98 46.98 -	1.0000	1.0000
L27	4	MP4-06	51.98 46.98 -	1.0000	1.0000
L27	26	Safety Line 3/8"	51.98 46.98 -	1.0000	1.0000
L27	27	Climbing Pegs	51.98 46.98 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L27	29	ATCB-B01-005(5/16)	46.98 - 51.98	1.0000	1.0000
L27	30	FSJ4-50B(1/2)	46.98 - 51.98	1.0000	1.0000
L27	31	LDF1-50A(1/4)	46.98 - 51.98	1.0000	1.0000
L27	35	CONDUIT (2)	46.98 - 51.98	1.0000	1.0000
L27	37	LDF6-50A(1-1/4)	46.98 - 51.98	1.0000	1.0000
L27	38	FB-L98B-002-75000(3/8)	46.98 - 51.98	1.0000	1.0000
L27	39	WR-VG86ST-BRD(3/4)	46.98 - 51.98	1.0000	1.0000
L27	41	CONDUIT (2)	46.98 - 51.98	1.0000	1.0000
L27	43	FB-L98B-002-75000(3/8)	46.98 - 51.98	1.0000	1.0000
L27	44	WR-VG86ST-BRD(3/4)	46.98 - 51.98	1.0000	1.0000
L27	45	CONDUIT (2)	46.98 - 51.98	1.0000	1.0000
L27	47	LDF7-50A(1-5/8)	46.98 - 51.98	1.0000	1.0000
L27	51	MLCH 12/24 LOW INDUCTION(2)	46.98 - 51.98	1.0000	1.0000
L28	2	MP4-06	40.46 - 46.98	1.0000	1.0000
L28	3	MP4-06	40.46 - 46.98	1.0000	1.0000
L28	4	MP4-06	40.46 - 46.98	1.0000	1.0000
L28	26	Safety Line 3/8"	40.46 - 46.98	1.0000	1.0000
L28	27	Climbing Pegs	40.46 - 46.98	1.0000	1.0000
L28	29	ATCB-B01-005(5/16)	40.46 - 46.98	1.0000	1.0000
L28	30	FSJ4-50B(1/2)	40.46 - 46.98	1.0000	1.0000
L28	31	LDF1-50A(1/4)	40.46 - 46.98	1.0000	1.0000
L28	35	CONDUIT (2)	40.46 - 46.98	1.0000	1.0000
L28	37	LDF6-50A(1-1/4)	40.46 - 46.98	1.0000	1.0000
L28	38	FB-L98B-002-75000(3/8)	40.46 - 46.98	1.0000	1.0000
L28	39	WR-VG86ST-BRD(3/4)	40.46 - 46.98	1.0000	1.0000
L28	41	CONDUIT (2)	40.46 - 46.98	1.0000	1.0000
L28	43	FB-L98B-002-75000(3/8)	40.46 - 46.98	1.0000	1.0000
L28	44	WR-VG86ST-BRD(3/4)	40.46 - 46.98	1.0000	1.0000
L28	45	CONDUIT (2)	40.46 - 46.98	1.0000	1.0000
L28	47	LDF7-50A(1-5/8)	40.46 - 46.98	1.0000	1.0000
L28	51	MLCH 12/24 LOW INDUCTION(2)	40.46 - 46.98	1.0000	1.0000
L29	2	MP4-06	39.46 - 40.46	1.0000	1.0000
L29	3	MP4-06	39.46 - 40.46	1.0000	1.0000
L29	4	MP4-06	39.46 - 40.46	1.0000	1.0000
L29	26	Safety Line 3/8"	39.46 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L29	27	Climbing Pegs	40.46 39.46 -	1.0000	1.0000
L29	29	ATCB-B01-005(5/16)	40.46 39.46 -	1.0000	1.0000
L29	30	FSJ4-50B(1/2)	40.46 39.46 -	1.0000	1.0000
L29	31	LDF1-50A(1/4)	40.46 39.46 -	1.0000	1.0000
L29	35	CONDUIT (2)	40.46 39.46 -	1.0000	1.0000
L29	37	LDF6-50A(1-1/4)	40.46 39.46 -	1.0000	1.0000
L29	38	FB-L98B-002-75000(3/8)	40.46 39.46 -	1.0000	1.0000
L29	39	WR-VG86ST-BRD(3/4)	40.46 39.46 -	1.0000	1.0000
L29	41	CONDUIT (2)	40.46 39.46 -	1.0000	1.0000
L29	43	FB-L98B-002-75000(3/8)	40.46 39.46 -	1.0000	1.0000
L29	44	WR-VG86ST-BRD(3/4)	40.46 39.46 -	1.0000	1.0000
L29	45	CONDUIT (2)	40.46 39.46 -	1.0000	1.0000
L29	47	LDF7-50A(1-5/8)	40.46 39.46 -	1.0000	1.0000
L29	51	MLCH 12/24 LOW INDUCTION(2)	40.46 39.46 -	1.0000	1.0000
L30	2	MP4-06	37.83 - 39.46	1.0000	1.0000
L30	3	MP4-06	37.83 - 39.46	1.0000	1.0000
L30	4	MP4-06	37.83 - 39.46	1.0000	1.0000
L30	26	Safety Line 3/8"	37.83 - 39.46	1.0000	1.0000
L30	27	Climbing Pegs	37.83 - 39.46	1.0000	1.0000
L30	29	ATCB-B01-005(5/16)	37.83 - 39.46	1.0000	1.0000
L30	30	FSJ4-50B(1/2)	37.83 - 39.46	1.0000	1.0000
L30	31	LDF1-50A(1/4)	37.83 - 39.46	1.0000	1.0000
L30	35	CONDUIT (2)	37.83 - 39.46	1.0000	1.0000
L30	37	LDF6-50A(1-1/4)	37.83 - 39.46	1.0000	1.0000
L30	38	FB-L98B-002-75000(3/8)	37.83 - 39.46	1.0000	1.0000
L30	39	WR-VG86ST-BRD(3/4)	37.83 - 39.46	1.0000	1.0000
L30	41	CONDUIT (2)	37.83 - 39.46	1.0000	1.0000
L30	43	FB-L98B-002-75000(3/8)	37.83 - 39.46	1.0000	1.0000
L30	44	WR-VG86ST-BRD(3/4)	37.83 - 39.46	1.0000	1.0000
L30	45	CONDUIT (2)	37.83 - 39.46	1.0000	1.0000
L30	47	LDF7-50A(1-5/8)	37.83 - 39.46	1.0000	1.0000
L30	51	MLCH 12/24 LOW INDUCTION(2)	37.83 - 39.46	1.0000	1.0000
L31	2	MP4-06	37.58 - 37.83	1.0000	1.0000
L31	3	MP4-06	37.58 - 37.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L31	4	MP4-06	37.58 - 37.83	1.0000	1.0000
L31	26	Safety Line 3/8"	37.58 - 37.83	1.0000	1.0000
L31	27	Climbing Pegs	37.58 - 37.83	1.0000	1.0000
L31	29	ATCB-B01-005(5/16)	37.58 - 37.83	1.0000	1.0000
L31	30	FSJ4-50B(1/2)	37.58 - 37.83	1.0000	1.0000
L31	31	LDF1-50A(1/4)	37.58 - 37.83	1.0000	1.0000
L31	35	CONDUIT (2)	37.58 - 37.83	1.0000	1.0000
L31	37	LDF6-50A(1-1/4)	37.58 - 37.83	1.0000	1.0000
L31	38	FB-L98B-002-75000(3/8)	37.58 - 37.83	1.0000	1.0000
L31	39	WR-VG86ST-BRD(3/4)	37.58 - 37.83	1.0000	1.0000
L31	41	CONDUIT (2)	37.58 - 37.83	1.0000	1.0000
L31	43	FB-L98B-002-75000(3/8)	37.58 - 37.83	1.0000	1.0000
L31	44	WR-VG86ST-BRD(3/4)	37.58 - 37.83	1.0000	1.0000
L31	45	CONDUIT (2)	37.58 - 37.83	1.0000	1.0000
L31	47	LDF7-50A(1-5/8)	37.58 - 37.83	1.0000	1.0000
L31	51	MLCH 12/24 LOW INDUCTION(2)	37.58 - 37.83	1.0000	1.0000
L32	2	MP4-06	32.58 - 37.58	1.0000	1.0000
L32	3	MP4-06	32.58 - 37.58	1.0000	1.0000
L32	4	MP4-06	32.58 - 37.58	1.0000	1.0000
L32	26	Safety Line 3/8"	32.58 - 37.58	1.0000	1.0000
L32	27	Climbing Pegs	32.58 - 37.58	1.0000	1.0000
L32	29	ATCB-B01-005(5/16)	32.58 - 37.58	1.0000	1.0000
L32	30	FSJ4-50B(1/2)	32.58 - 37.58	1.0000	1.0000
L32	31	LDF1-50A(1/4)	32.58 - 37.58	1.0000	1.0000
L32	35	CONDUIT (2)	32.58 - 37.58	1.0000	1.0000
L32	37	LDF6-50A(1-1/4)	32.58 - 37.58	1.0000	1.0000
L32	38	FB-L98B-002-75000(3/8)	32.58 - 37.58	1.0000	1.0000
L32	39	WR-VG86ST-BRD(3/4)	32.58 - 37.58	1.0000	1.0000
L32	41	CONDUIT (2)	32.58 - 37.58	1.0000	1.0000
L32	43	FB-L98B-002-75000(3/8)	32.58 - 37.58	1.0000	1.0000
L32	44	WR-VG86ST-BRD(3/4)	32.58 - 37.58	1.0000	1.0000
L32	45	CONDUIT (2)	32.58 - 37.58	1.0000	1.0000
L32	47	LDF7-50A(1-5/8)	32.58 - 37.58	1.0000	1.0000
L32	51	MLCH 12/24 LOW INDUCTION(2)	32.58 - 37.58	1.0000	1.0000
L33	2	MP4-06	27.58 -	1.0000	1.0000



Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L33	3	MP4-06	32.58 27.58 -	1.0000	1.0000
L33	4	MP4-06	32.58 27.58 -	1.0000	1.0000
L33	26	Safety Line 3/8"	32.58 27.58 -	1.0000	1.0000
L33	27	Climbing Pegs	32.58 27.58 -	1.0000	1.0000
L33	29	ATCB-B01-005(5/16)	32.58 27.58 -	1.0000	1.0000
L33	30	FSJ4-50B(1/2)	32.58 27.58 -	1.0000	1.0000
L33	31	LDF1-50A(1/4)	32.58 27.58 -	1.0000	1.0000
L33	35	CONDUIT (2)	32.58 27.58 -	1.0000	1.0000
L33	37	LDF6-50A(1-1/4)	32.58 27.58 -	1.0000	1.0000
L33	38	FB-L98B-002-75000(3/8)	32.58 27.58 -	1.0000	1.0000
L33	39	WR-VG86ST-BRD(3/4)	32.58 27.58 -	1.0000	1.0000
L33	41	CONDUIT (2)	32.58 27.58 -	1.0000	1.0000
L33	43	FB-L98B-002-75000(3/8)	32.58 27.58 -	1.0000	1.0000
L33	44	WR-VG86ST-BRD(3/4)	32.58 27.58 -	1.0000	1.0000
L33	45	CONDUIT (2)	32.58 27.58 -	1.0000	1.0000
L33	47	LDF7-50A(1-5/8)	32.58 27.58 -	1.0000	1.0000
L33	51	MLCH 12/24 LOW INDUCTION(2)	32.58 27.58 -	1.0000	1.0000
L34	2	MP4-06	22.58 - 27.58	1.0000	1.0000
L34	3	MP4-06	22.58 - 27.58	1.0000	1.0000
L34	4	MP4-06	22.58 - 27.58	1.0000	1.0000
L34	26	Safety Line 3/8"	22.58 - 27.58	1.0000	1.0000
L34	27	Climbing Pegs	22.58 - 27.58	1.0000	1.0000
L34	29	ATCB-B01-005(5/16)	22.58 - 27.58	1.0000	1.0000
L34	30	FSJ4-50B(1/2)	22.58 - 27.58	1.0000	1.0000
L34	31	LDF1-50A(1/4)	22.58 - 27.58	1.0000	1.0000
L34	35	CONDUIT (2)	22.58 - 27.58	1.0000	1.0000
L34	37	LDF6-50A(1-1/4)	22.58 - 27.58	1.0000	1.0000
L34	38	FB-L98B-002-75000(3/8)	22.58 - 27.58	1.0000	1.0000
L34	39	WR-VG86ST-BRD(3/4)	22.58 - 27.58	1.0000	1.0000
L34	41	CONDUIT (2)	22.58 - 27.58	1.0000	1.0000
L34	43	FB-L98B-002-75000(3/8)	22.58 - 27.58	1.0000	1.0000
L34	44	WR-VG86ST-BRD(3/4)	22.58 - 27.58	1.0000	1.0000
L34	45	CONDUIT (2)	22.58 - 27.58	1.0000	1.0000
L34	47	LDF7-50A(1-5/8)	22.58 - 27.58	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L34	51	MLCH 12/24 LOW INDUCTION(2)	22.58 - 27.58	1.0000	1.0000
L35	2	MP4-06	17.58 - 22.58	1.0000	1.0000
L35	3	MP4-06	17.58 - 22.58	1.0000	1.0000
L35	4	MP4-06	17.58 - 22.58	1.0000	1.0000
L35	26	Safety Line 3/8"	17.58 - 22.58	1.0000	1.0000
L35	27	Climbing Pegs	17.58 - 22.58	1.0000	1.0000
L35	29	ATCB-B01-005(5/16)	17.58 - 22.58	1.0000	1.0000
L35	30	FSJ4-50B(1/2)	17.58 - 22.58	1.0000	1.0000
L35	31	LDF1-50A(1/4)	17.58 - 22.58	1.0000	1.0000
L35	35	CONDUIT (2)	17.58 - 22.58	1.0000	1.0000
L35	37	LDF6-50A(1-1/4)	17.58 - 22.58	1.0000	1.0000
L35	38	FB-L98B-002-75000(3/8)	17.58 - 22.58	1.0000	1.0000
L35	39	WR-VG86ST-BRD(3/4)	17.58 - 22.58	1.0000	1.0000
L35	41	CONDUIT (2)	17.58 - 22.58	1.0000	1.0000
L35	43	FB-L98B-002-75000(3/8)	17.58 - 22.58	1.0000	1.0000
L35	44	WR-VG86ST-BRD(3/4)	17.58 - 22.58	1.0000	1.0000
L35	45	CONDUIT (2)	17.58 - 22.58	1.0000	1.0000
L35	47	LDF7-50A(1-5/8)	17.58 - 22.58	1.0000	1.0000
L35	51	MLCH 12/24 LOW INDUCTION(2)	17.58 - 22.58	1.0000	1.0000
L36	2	MP4-06	12.58 - 17.58	1.0000	1.0000
L36	3	MP4-06	12.58 - 17.58	1.0000	1.0000
L36	4	MP4-06	12.58 - 17.58	1.0000	1.0000
L36	14	CCI(6.5"x1.25")	12.58 - 15.00	1.0000	1.0000
L36	15	CCI(6.5"x1.25")	12.58 - 15.00	1.0000	1.0000
L36	16	CCI(6.5"x1.25")	12.58 - 15.00	1.0000	1.0000
L36	26	Safety Line 3/8"	12.58 - 17.58	1.0000	1.0000
L36	27	Climbing Pegs	12.58 - 17.58	1.0000	1.0000
L36	29	ATCB-B01-005(5/16)	12.58 - 17.58	1.0000	1.0000
L36	30	FSJ4-50B(1/2)	12.58 - 17.58	1.0000	1.0000
L36	31	LDF1-50A(1/4)	12.58 - 17.58	1.0000	1.0000
L36	35	CONDUIT (2)	12.58 - 17.58	1.0000	1.0000
L36	37	LDF6-50A(1-1/4)	12.58 - 17.58	1.0000	1.0000
L36	38	FB-L98B-002-75000(3/8)	12.58 - 17.58	1.0000	1.0000
L36	39	WR-VG86ST-BRD(3/4)	12.58 - 17.58	1.0000	1.0000
L36	41	CONDUIT (2)	12.58 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
			17.58		
L36	43	FB-L98B-002-75000(3/8)	12.58 -	1.0000	1.0000
			17.58		
L36	44	WR-VG86ST-BRD(3/4)	12.58 -	1.0000	1.0000
			17.58		
L36	45	CONDUIT (2)	12.58 -	1.0000	1.0000
			17.58		
L36	47	LDF7-50A(1-5/8)	12.58 -	1.0000	1.0000
			17.58		
L36	51	MLCH 12/24 LOW INDUCTION(2)	12.58 -	1.0000	1.0000
			17.58		
L37	2	MP4-06	12.25 -	1.0000	1.0000
			12.58		
L37	3	MP4-06	12.25 -	1.0000	1.0000
			12.58		
L37	4	MP4-06	12.25 -	1.0000	1.0000
			12.58		
L37	14	CCI(6.5"x1.25")	12.25 -	1.0000	1.0000
			12.58		
L37	15	CCI(6.5"x1.25")	12.25 -	1.0000	1.0000
			12.58		
L37	16	CCI(6.5"x1.25")	12.25 -	1.0000	1.0000
			12.58		
L37	26	Safety Line 3/8"	12.25 -	1.0000	1.0000
			12.58		
L37	27	Climbing Pegs	12.25 -	1.0000	1.0000
			12.58		
L37	29	ATCB-B01-005(5/16)	12.25 -	1.0000	1.0000
			12.58		
L37	30	FSJ4-50B(1/2)	12.25 -	1.0000	1.0000
			12.58		
L37	31	LDF1-50A(1/4)	12.25 -	1.0000	1.0000
			12.58		
L37	35	CONDUIT (2)	12.25 -	1.0000	1.0000
			12.58		
L37	37	LDF6-50A(1-1/4)	12.25 -	1.0000	1.0000
			12.58		
L37	38	FB-L98B-002-75000(3/8)	12.25 -	1.0000	1.0000
			12.58		
L37	39	WR-VG86ST-BRD(3/4)	12.25 -	1.0000	1.0000
			12.58		
L37	41	CONDUIT (2)	12.25 -	1.0000	1.0000
			12.58		
L37	43	FB-L98B-002-75000(3/8)	12.25 -	1.0000	1.0000
			12.58		
L37	44	WR-VG86ST-BRD(3/4)	12.25 -	1.0000	1.0000
			12.58		
L37	45	CONDUIT (2)	12.25 -	1.0000	1.0000
			12.58		
L37	47	LDF7-50A(1-5/8)	12.25 -	1.0000	1.0000
			12.58		
L37	51	MLCH 12/24 LOW INDUCTION(2)	12.25 -	1.0000	1.0000
			12.58		
L38	2	MP4-06	12.00 -	1.0000	1.0000
			12.25		
L38	3	MP4-06	12.00 -	1.0000	1.0000
			12.25		
L38	4	MP4-06	12.00 -	1.0000	1.0000
			12.25		
L38	14	CCI(6.5"x1.25")	12.00 -	1.0000	1.0000
			12.25		
L38	15	CCI(6.5"x1.25")	12.00 -	1.0000	1.0000
			12.25		
L38	16	CCI(6.5"x1.25")	12.00 -	1.0000	1.0000
			12.25		
L38	26	Safety Line 3/8"	12.00 -	1.0000	1.0000
			12.25		
L38	27	Climbing Pegs	12.00 -	1.0000	1.0000
			12.25		

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L38	29	ATCB-B01-005(5/16)	12.00 - 12.25	1.0000	1.0000
L38	30	FSJ4-50B(1/2)	12.00 - 12.25	1.0000	1.0000
L38	31	LDF1-50A(1/4)	12.00 - 12.25	1.0000	1.0000
L38	35	CONDUIT (2)	12.00 - 12.25	1.0000	1.0000
L38	37	LDF6-50A(1-1/4)	12.00 - 12.25	1.0000	1.0000
L38	38	FB-L98B-002-75000(3/8)	12.00 - 12.25	1.0000	1.0000
L38	39	WR-VG86ST-BRD(3/4)	12.00 - 12.25	1.0000	1.0000
L38	41	CONDUIT (2)	12.00 - 12.25	1.0000	1.0000
L38	43	FB-L98B-002-75000(3/8)	12.00 - 12.25	1.0000	1.0000
L38	44	WR-VG86ST-BRD(3/4)	12.00 - 12.25	1.0000	1.0000
L38	45	CONDUIT (2)	12.00 - 12.25	1.0000	1.0000
L38	47	LDF7-50A(1-5/8)	12.00 - 12.25	1.0000	1.0000
L38	51	MLCH 12/24 LOW INDUCTION(2)	12.00 - 12.25	1.0000	1.0000
L39	2	MP4-06	7.00 - 12.00	1.0000	1.0000
L39	3	MP4-06	7.00 - 12.00	1.0000	1.0000
L39	4	MP4-06	7.00 - 12.00	1.0000	1.0000
L39	14	CCI(6.5"x1.25")	7.00 - 12.00	1.0000	1.0000
L39	15	CCI(6.5"x1.25")	7.00 - 12.00	1.0000	1.0000
L39	16	CCI(6.5"x1.25")	7.00 - 12.00	1.0000	1.0000
L39	26	Safety Line 3/8"	10.00 - 12.00	1.0000	1.0000
L39	27	Climbing Pegs	10.00 - 12.00	1.0000	1.0000
L39	29	ATCB-B01-005(5/16)	8.00 - 12.00	1.0000	1.0000
L39	30	FSJ4-50B(1/2)	8.00 - 12.00	1.0000	1.0000
L39	31	LDF1-50A(1/4)	8.00 - 12.00	1.0000	1.0000
L39	35	CONDUIT (2)	8.00 - 12.00	1.0000	1.0000
L39	37	LDF6-50A(1-1/4)	8.00 - 12.00	1.0000	1.0000
L39	38	FB-L98B-002-75000(3/8)	8.00 - 12.00	1.0000	1.0000
L39	39	WR-VG86ST-BRD(3/4)	8.00 - 12.00	1.0000	1.0000
L39	41	CONDUIT (2)	8.00 - 12.00	1.0000	1.0000
L39	43	FB-L98B-002-75000(3/8)	8.00 - 12.00	1.0000	1.0000
L39	44	WR-VG86ST-BRD(3/4)	8.00 - 12.00	1.0000	1.0000
L39	45	CONDUIT (2)	8.00 - 12.00	1.0000	1.0000
L39	47	LDF7-50A(1-5/8)	7.00 - 12.00	1.0000	1.0000
L39	51	MLCH 12/24 LOW INDUCTION(2)	7.00 - 12.00	1.0000	1.0000
L40	2	MP4-06	2.00 - 7.00	1.0000	1.0000
L40	3	MP4-06	2.00 - 7.00	1.0000	1.0000
L40	4	MP4-06	2.00 - 7.00	1.0000	1.0000
L40	14	CCI(6.5"x1.25")	2.00 - 7.00	1.0000	1.0000
L40	15	CCI(6.5"x1.25")	2.00 - 7.00	1.0000	1.0000
L40	16	CCI(6.5"x1.25")	2.00 - 7.00	1.0000	1.0000
L40	47	LDF7-50A(1-5/8)	3.00 - 7.00	1.0000	1.0000
L40	51	MLCH 12/24 LOW INDUCTION(2)	3.00 - 7.00	1.0000	1.0000
L41	2	MP4-06	0.50 - 2.00	1.0000	1.0000
L41	3	MP4-06	0.50 - 2.00	1.0000	1.0000
L41	4	MP4-06	0.50 - 2.00	1.0000	1.0000
L41	14	CCI(6.5"x1.25")	0.00 - 2.00	1.0000	1.0000
L41	15	CCI(6.5"x1.25")	0.00 - 2.00	1.0000	1.0000
L41	16	CCI(6.5"x1.25")	0.00 - 2.00	1.0000	1.0000

**Effective Width of Flat Linear Attachments / Feed Lines**

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L5	22	CCI (3.25"x1.25")	100.00 - 102.50	Auto	0.0000
L5	23	CCI (3.25"x1.25")	100.00 - 102.50	Auto	0.0000
L5	24	CCI (3.25"x1.25")	100.00 - 102.50	Auto	0.0000
L6	22	CCI (3.25"x1.25")	99.38 - 100.00	Auto	0.0000
L6	23	CCI (3.25"x1.25")	99.38 - 100.00	Auto	0.0000
L6	24	CCI (3.25"x1.25")	99.38 - 100.00	Auto	0.0000
L7	22	CCI (3.25"x1.25")	99.13 - 99.38	Auto	0.0000
L7	23	CCI (3.25"x1.25")	99.13 - 99.38	Auto	0.0000
L7	24	CCI (3.25"x1.25")	99.13 - 99.38	Auto	0.0000
L8	10	CCI(6"x1")	94.46 - 96.50	Auto	0.3922
L8	11	CCI(6"x1")	94.46 - 96.50	Auto	0.3922
L8	12	CCI(6"x1")	94.46 - 96.50	Auto	0.3922
L8	22	CCI (3.25"x1.25")	94.46 - 99.13	Auto	0.0000
L8	23	CCI (3.25"x1.25")	94.46 - 99.13	Auto	0.0000
L8	24	CCI (3.25"x1.25")	94.46 - 99.13	Auto	0.0000
L9	10	CCI(6"x1")	94.21 - 94.46	Auto	0.4400
L9	11	CCI(6"x1")	94.21 - 94.46	Auto	0.4400
L9	12	CCI(6"x1")	94.21 - 94.46	Auto	0.4400
L9	22	CCI (3.25"x1.25")	94.21 - 94.46	Auto	0.0000
L9	23	CCI (3.25"x1.25")	94.21 - 94.46	Auto	0.0000
L9	24	CCI (3.25"x1.25")	94.21 - 94.46	Auto	0.0000
L10	6	MP4-04	89.21 - 90.50	Auto	0.2476
L10	7	MP4-04	89.21 - 90.50	Auto	0.2476
L10	8	MP4-04	89.21 - 90.50	Auto	0.2476
L10	10	CCI(6"x1")	89.21 - 94.21	Auto	0.4161
L10	11	CCI(6"x1")	89.21 - 94.21	Auto	0.4161
L10	12	CCI(6"x1")	89.21 - 94.21	Auto	0.4161
L10	22	CCI (3.25"x1.25")	89.21 - 94.21	Auto	0.0000
L10	23	CCI (3.25"x1.25")	89.21 - 94.21	Auto	0.0000
L10	24	CCI (3.25"x1.25")	89.21 - 94.21	Auto	0.0000
L11	6	MP4-04	89.00 - 89.21	Auto	0.2417
L11	7	MP4-04	89.00 - 89.21	Auto	0.2417
L11	8	MP4-04	89.00 - 89.21	Auto	0.2417

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L11	10	CCI(6"x1")	89.21 89.00 - 89.21	Auto	0.3997
L11	11	CCI(6"x1")	89.00 - 89.21	Auto	0.3997
L11	12	CCI(6"x1")	89.00 - 89.21	Auto	0.3997
L11	22	CCI (3.25"x1.25")	89.00 - 89.21	Auto	0.0000
L11	23	CCI (3.25"x1.25")	89.00 - 89.21	Auto	0.0000
L11	24	CCI (3.25"x1.25")	89.00 - 89.21	Auto	0.0000
L12	6	MP4-04	85.04 - 89.00	Auto	0.2575
L12	7	MP4-04	85.04 - 89.00	Auto	0.2575
L12	8	MP4-04	85.04 - 89.00	Auto	0.2575
L12	10	CCI(6"x1")	85.04 - 89.00	Auto	0.4122
L12	11	CCI(6"x1")	85.04 - 89.00	Auto	0.4122
L12	12	CCI(6"x1")	85.04 - 89.00	Auto	0.4122
L12	22	CCI (3.25"x1.25")	87.50 - 89.00	Auto	0.0000
L12	23	CCI (3.25"x1.25")	87.50 - 89.00	Auto	0.0000
L12	24	CCI (3.25"x1.25")	87.50 - 89.00	Auto	0.0000
L13	6	MP4-04	84.04 - 85.04	Auto	0.1918
L13	7	MP4-04	84.04 - 85.04	Auto	0.1918
L13	8	MP4-04	84.04 - 85.04	Auto	0.1918
L13	10	CCI(6"x1")	84.04 - 85.04	Auto	0.3602
L13	11	CCI(6"x1")	84.04 - 85.04	Auto	0.3602
L13	12	CCI(6"x1")	84.04 - 85.04	Auto	0.3602
L14	6	MP4-04	79.04 - 84.04	Auto	0.1636
L14	7	MP4-04	79.04 - 84.04	Auto	0.1636
L14	8	MP4-04	79.04 - 84.04	Auto	0.1636
L14	10	CCI(6"x1")	79.04 - 84.04	Auto	0.3378
L14	11	CCI(6"x1")	79.04 - 84.04	Auto	0.3378
L14	12	CCI(6"x1")	79.04 - 84.04	Auto	0.3378
L15	6	MP4-04	75.50 - 79.04	Auto	0.1253
L15	7	MP4-04	75.50 - 79.04	Auto	0.1253
L15	8	MP4-04	75.50 - 79.04	Auto	0.1253
L15	10	CCI(6"x1")	74.04 - 79.04	Auto	0.3030
L15	11	CCI(6"x1")	74.04 - 79.04	Auto	0.3030
L15	12	CCI(6"x1")	74.04 - 79.04	Auto	0.3030
L16	10	CCI(6"x1")	73.58 -	Auto	0.2860

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L16	11	CCI(6"x1")	74.04 73.58 - 74.04	Auto	0.2860
L16	12	CCI(6"x1")	73.58 - 74.04	Auto	0.2860
L17	10	CCI(6"x1")	73.33 - 73.58	Auto	0.3241
L17	11	CCI(6"x1")	73.33 - 73.58	Auto	0.3241
L17	12	CCI(6"x1")	73.33 - 73.58	Auto	0.3241
L18	10	CCI(6"x1")	73.00 - 73.33	Auto	0.3223
L18	11	CCI(6"x1")	73.00 - 73.33	Auto	0.3223
L18	12	CCI(6"x1")	73.00 - 73.33	Auto	0.3223
L19	10	CCI(6"x1")	72.75 - 73.00	Auto	0.2508
L19	11	CCI(6"x1")	72.75 - 73.00	Auto	0.2508
L19	12	CCI(6"x1")	72.75 - 73.00	Auto	0.2508
L20	10	CCI(6"x1")	71.00 - 72.75	Auto	0.2446
L20	11	CCI(6"x1")	71.00 - 72.75	Auto	0.2446
L20	12	CCI(6"x1")	71.00 - 72.75	Auto	0.2446
L21	18	CCI(6"x1")	63.00 - 65.00	Auto	0.1936
L21	19	CCI(6"x1")	63.00 - 65.00	Auto	0.1936
L21	20	CCI(6"x1")	63.00 - 65.00	Auto	0.1936
L22	18	CCI(6"x1")	62.75 - 63.00	Auto	0.2471
L22	19	CCI(6"x1")	62.75 - 63.00	Auto	0.2471
L22	20	CCI(6"x1")	62.75 - 63.00	Auto	0.2471
L23	2	MP4-06	57.75 - 60.50	Auto	0.0401
L23	3	MP4-06	57.75 - 60.50	Auto	0.0401
L23	4	MP4-06	57.75 - 60.50	Auto	0.0401
L23	18	CCI(6"x1")	57.75 - 62.75	Auto	0.2271
L23	19	CCI(6"x1")	57.75 - 62.75	Auto	0.2271
L23	20	CCI(6"x1")	57.75 - 62.75	Auto	0.2271
L24	2	MP4-06	57.23 - 57.75	Auto	0.0000
L24	3	MP4-06	57.23 - 57.75	Auto	0.0000
L24	4	MP4-06	57.23 - 57.75	Auto	0.0000
L24	18	CCI(6"x1")	57.23 - 57.75	Auto	0.1769
L24	19	CCI(6"x1")	57.23 - 57.75	Auto	0.1769
L24	20	CCI(6"x1")	57.23 - 57.75	Auto	0.1769
L25	2	MP4-06	56.98 - 57.23	Auto	0.0000
L25	3	MP4-06	56.98 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L25	4	MP4-06	57.23 56.98 - 57.23	Auto	0.0000
L25	18	CCI(6"x1")	56.98 - 57.23	Auto	0.1745
L25	19	CCI(6"x1")	56.98 - 57.23	Auto	0.1745
L25	20	CCI(6"x1")	56.98 - 57.23	Auto	0.1745
L26	2	MP4-06	51.98 - 56.98	Auto	0.0000
L26	3	MP4-06	51.98 - 56.98	Auto	0.0000
L26	4	MP4-06	51.98 - 56.98	Auto	0.0000
L26	18	CCI(6"x1")	55.00 - 56.98	Auto	0.1657
L26	19	CCI(6"x1")	55.00 - 56.98	Auto	0.1657
L26	20	CCI(6"x1")	55.00 - 56.98	Auto	0.1657
L27	2	MP4-06	46.98 - 51.98	Auto	0.0000
L27	3	MP4-06	46.98 - 51.98	Auto	0.0000
L27	4	MP4-06	46.98 - 51.98	Auto	0.0000
L28	2	MP4-06	40.46 - 46.98	Auto	0.0000
L28	3	MP4-06	40.46 - 46.98	Auto	0.0000
L28	4	MP4-06	40.46 - 46.98	Auto	0.0000
L29	2	MP4-06	39.46 - 40.46	Auto	0.0000
L29	3	MP4-06	39.46 - 40.46	Auto	0.0000
L29	4	MP4-06	39.46 - 40.46	Auto	0.0000
L30	2	MP4-06	37.83 - 39.46	Auto	0.0000
L30	3	MP4-06	37.83 - 39.46	Auto	0.0000
L30	4	MP4-06	37.83 - 39.46	Auto	0.0000
L31	2	MP4-06	37.58 - 37.83	Auto	0.0000
L31	3	MP4-06	37.58 - 37.83	Auto	0.0000
L31	4	MP4-06	37.58 - 37.83	Auto	0.0000
L32	2	MP4-06	32.58 - 37.58	Auto	0.0000
L32	3	MP4-06	32.58 - 37.58	Auto	0.0000
L32	4	MP4-06	32.58 - 37.58	Auto	0.0000
L33	2	MP4-06	27.58 - 32.58	Auto	0.0000
L33	3	MP4-06	27.58 - 32.58	Auto	0.0000
L33	4	MP4-06	27.58 - 32.58	Auto	0.0000
L34	2	MP4-06	22.58 - 27.58	Auto	0.0000
L34	3	MP4-06	22.58 - 27.58	Auto	0.0000
L34	4	MP4-06	22.58 -	Auto	0.0000



Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L35	2	MP4-06	27.58 17.58 - 22.58	Auto	0.0000
L35	3	MP4-06	17.58 - 22.58	Auto	0.0000
L35	4	MP4-06	17.58 - 22.58	Auto	0.0000
L36	2	MP4-06	12.58 - 17.58	Auto	0.0000
L36	3	MP4-06	12.58 - 17.58	Auto	0.0000
L36	4	MP4-06	12.58 - 17.58	Auto	0.0000
L36	14	CCI(6.5"x1.25")	12.58 - 15.00	Auto	0.0062
L36	15	CCI(6.5"x1.25")	12.58 - 15.00	Auto	0.0062
L36	16	CCI(6.5"x1.25")	12.58 - 15.00	Auto	0.0062
L37	2	MP4-06	12.25 - 12.58	Auto	0.0000
L37	3	MP4-06	12.25 - 12.58	Auto	0.0000
L37	4	MP4-06	12.25 - 12.58	Auto	0.0000
L37	14	CCI(6.5"x1.25")	12.25 - 12.58	Auto	0.0000
L37	15	CCI(6.5"x1.25")	12.25 - 12.58	Auto	0.0000
L37	16	CCI(6.5"x1.25")	12.25 - 12.58	Auto	0.0000
L38	2	MP4-06	12.00 - 12.25	Auto	0.0000
L38	3	MP4-06	12.00 - 12.25	Auto	0.0000
L38	4	MP4-06	12.00 - 12.25	Auto	0.0000
L38	14	CCI(6.5"x1.25")	12.00 - 12.25	Auto	0.0339
L38	15	CCI(6.5"x1.25")	12.00 - 12.25	Auto	0.0339
L38	16	CCI(6.5"x1.25")	12.00 - 12.25	Auto	0.0339
L39	2	MP4-06	7.00 - 12.00	Auto	0.0000
L39	3	MP4-06	7.00 - 12.00	Auto	0.0000
L39	4	MP4-06	7.00 - 12.00	Auto	0.0000
L39	14	CCI(6.5"x1.25")	7.00 - 12.00	Auto	0.0154
L39	15	CCI(6.5"x1.25")	7.00 - 12.00	Auto	0.0154
L39	16	CCI(6.5"x1.25")	7.00 - 12.00	Auto	0.0154
L40	2	MP4-06	2.00 - 7.00	Auto	0.0000
L40	3	MP4-06	2.00 - 7.00	Auto	0.0000
L40	4	MP4-06	2.00 - 7.00	Auto	0.0000
L40	14	CCI(6.5"x1.25")	2.00 - 7.00	Auto	0.0000
L40	15	CCI(6.5"x1.25")	2.00 - 7.00	Auto	0.0000
L40	16	CCI(6.5"x1.25")	2.00 - 7.00	Auto	0.0000
L41	2	MP4-06	0.50 - 2.00	Auto	0.0000
L41	3	MP4-06	0.50 - 2.00	Auto	0.0000
L41	4	MP4-06	0.50 - 2.00	Auto	0.0000
L41	14	CCI(6.5"x1.25")	0.00 - 2.00	Auto	0.0000
L41	15	CCI(6.5"x1.25")	0.00 - 2.00	Auto	0.0000
L41	16	CCI(6.5"x1.25")	0.00 - 2.00	Auto	0.0000

### Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement  ft	C <sub>AA</sub> Front  ft <sup>2</sup>	C <sub>AA</sub> Side  ft <sup>2</sup>	Weight  K	
*****									
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00	0.0000	125.00	No Ice	4.09	2.86	0.08
			0.00			1/2"	4.48	3.23	0.13
			2.00			Ice	4.88	3.61	0.19
						1" Ice	5.71	4.40	0.33
						2" Ice			
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00	0.0000	125.00	No Ice	4.09	2.86	0.08
			0.00			1/2"	4.48	3.23	0.13
			2.00			Ice	4.88	3.61	0.19
						1" Ice	5.71	4.40	0.33
						2" Ice			
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00	0.0000	125.00	No Ice	4.09	2.86	0.08
			0.00			1/2"	4.48	3.23	0.13
			2.00			Ice	4.88	3.61	0.19
						1" Ice	5.71	4.40	0.33
						2" Ice			
LLPX310R-V1 w/ Mount Pipe	A	From Leg	4.00	0.0000	125.00	No Ice	3.88	2.36	0.06
			0.00			1/2"	4.29	2.73	0.09
			4.00			Ice	4.72	3.12	0.13
						1" Ice	5.61	3.94	0.24
						2" Ice			
LLPX310R-V1 w/ Mount Pipe	B	From Leg	4.00	0.0000	125.00	No Ice	3.88	2.36	0.06
			0.00			1/2"	4.29	2.73	0.09
			4.00			Ice	4.72	3.12	0.13
						1" Ice	5.61	3.94	0.24
						2" Ice			
LLPX310R-V1 w/ Mount Pipe	C	From Leg	4.00	0.0000	125.00	No Ice	3.88	2.36	0.06
			0.00			1/2"	4.29	2.73	0.09
			4.00			Ice	4.72	3.12	0.13
						1" Ice	5.61	3.94	0.24
						2" Ice			
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00	0.0000	125.00	No Ice	4.60	4.01	0.10
			0.00			1/2"	5.05	4.45	0.16
			2.00			Ice	5.50	4.89	0.23
						1" Ice	6.44	5.82	0.42
						2" Ice			
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00	0.0000	125.00	No Ice	4.60	4.01	0.10
			0.00			1/2"	5.05	4.45	0.16
			2.00			Ice	5.50	4.89	0.23
						1" Ice	6.44	5.82	0.42
						2" Ice			
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00	0.0000	125.00	No Ice	4.60	4.01	0.10
			0.00			1/2"	5.05	4.45	0.16
			2.00			Ice	5.50	4.89	0.23
						1" Ice	6.44	5.82	0.42
						2" Ice			
TD-RRH8x20-25	A	From Leg	4.00	0.0000	125.00	No Ice	4.05	1.53	0.07
			0.00			1/2"	4.30	1.71	0.10
			2.00			Ice	4.56	1.90	0.13
						1" Ice	5.10	2.30	0.20
						2" Ice			
TD-RRH8x20-25	B	From Leg	4.00	0.0000	125.00	No Ice	4.05	1.53	0.07
			0.00			1/2"	4.30	1.71	0.10
			2.00			Ice	4.56	1.90	0.13
						1" Ice	5.10	2.30	0.20
						2" Ice			
TD-RRH8x20-25	C	From Leg	4.00	0.0000	125.00	No Ice	4.05	1.53	0.07
			0.00			1/2"	4.30	1.71	0.10
			2.00			Ice	4.56	1.90	0.13
						1" Ice	5.10	2.30	0.20
						2" Ice			
WIMAX DAP HEAD	A	From Leg	4.00	0.0000	125.00	No Ice	1.55	0.68	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K	
			0.00			1/2"	1.70	0.80	0.04
			0.00			Ice	1.87	0.92	0.06
						1" Ice	2.22	1.19	0.09
						2" Ice			
WIMAX DAP HEAD	B	From Leg	4.00	0.0000	125.00	No Ice	1.55	0.68	0.03
			0.00			1/2"	1.70	0.80	0.04
			0.00			Ice	1.87	0.92	0.06
						1" Ice	2.22	1.19	0.09
						2" Ice			
WIMAX DAP HEAD	C	From Leg	4.00	0.0000	125.00	No Ice	1.55	0.68	0.03
			0.00			1/2"	1.70	0.80	0.04
			0.00			Ice	1.87	0.92	0.06
						1" Ice	2.22	1.19	0.09
						2" Ice			
HORIZON COMPACT	B	From Leg	4.00	0.0000	125.00	No Ice	0.72	0.37	0.01
			0.00			1/2"	0.83	0.45	0.02
			0.00			Ice	0.94	0.54	0.03
						1" Ice	1.19	0.74	0.05
						2" Ice			
HORIZON COMPACT	C	From Leg	4.00	0.0000	125.00	No Ice	0.72	0.37	0.01
			0.00			1/2"	0.83	0.45	0.02
			0.00			Ice	0.94	0.54	0.03
						1" Ice	1.19	0.74	0.05
						2" Ice			
(2) 5' x 2" Pipe Mount	A	From Leg	4.00	0.0000	125.00	No Ice	1.19	1.19	0.02
			0.00			1/2"	1.50	1.50	0.03
			0.00			Ice	1.81	1.81	0.04
						1" Ice	2.46	2.46	0.08
						2" Ice			
(2) 5' x 2" Pipe Mount	B	From Leg	4.00	0.0000	125.00	No Ice	1.19	1.19	0.02
			0.00			1/2"	1.50	1.50	0.03
			0.00			Ice	1.81	1.81	0.04
						1" Ice	2.46	2.46	0.08
						2" Ice			
(2) 5' x 2" Pipe Mount	C	From Leg	4.00	0.0000	125.00	No Ice	1.19	1.19	0.02
			0.00			1/2"	1.50	1.50	0.03
			0.00			Ice	1.81	1.81	0.04
						1" Ice	2.46	2.46	0.08
						2" Ice			
Climbing Ladder (Flat)	A	From Leg	3.00	0.0000	125.00	No Ice	5.84	5.84	0.05
			0.00			1/2"	10.30	10.30	0.07
			-2.00			Ice	14.76	14.76	0.09
						1" Ice	23.67	23.67	0.14
						2" Ice			
Platform Mount [LP 714-1]	C	None		0.0000	125.00	No Ice	37.51	37.51	1.60
						1/2"	41.70	41.70	2.50
						Ice	45.89	45.89	3.46
						1" Ice	54.29	54.29	5.58
						2" Ice			
*****									
PCS 1900MHz 4x45W-65MHz	A	From Leg	1.00	0.0000	123.00	No Ice	2.32	2.24	0.06
			0.00			1/2"	2.53	2.44	0.08
			0.00			Ice	2.74	2.65	0.11
						1" Ice	3.19	3.09	0.17
						2" Ice			
PCS 1900MHz 4x45W-65MHz	B	From Leg	1.00	0.0000	123.00	No Ice	2.32	2.24	0.06
			0.00			1/2"	2.53	2.44	0.08
			0.00			Ice	2.74	2.65	0.11
						1" Ice	3.19	3.09	0.17
						2" Ice			
PCS 1900MHz 4x45W-65MHz	C	From Leg	1.00	0.0000	123.00	No Ice	2.32	2.24	0.06
			0.00			1/2"	2.53	2.44	0.08
			0.00			Ice	2.74	2.65	0.11
						1" Ice	3.19	3.09	0.17
						2" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>A</sub> A <sub>Front</sub>	C <sub>A</sub> A <sub>Side</sub>	Weight
			Horz	Lateral					
							ft <sup>2</sup>	ft <sup>2</sup>	K
800MHZ 2X50W RRH W/FILTER	A	From Leg	1.00	0.0000	123.00	No Ice	2.06	1.93	0.06
			0.00			1/2"	2.24	2.11	0.09
			0.00			Ice	2.43	2.29	0.11
						1" Ice	2.83	2.68	0.17
						2" Ice			
800MHZ 2X50W RRH W/FILTER	B	From Leg	1.00	0.0000	123.00	No Ice	2.06	1.93	0.06
			0.00			1/2"	2.24	2.11	0.09
			0.00			Ice	2.43	2.29	0.11
						1" Ice	2.83	2.68	0.17
						2" Ice			
800MHZ 2X50W RRH W/FILTER	C	From Leg	1.00	0.0000	123.00	No Ice	2.06	1.93	0.06
			0.00			1/2"	2.24	2.11	0.09
			0.00			Ice	2.43	2.29	0.11
						1" Ice	2.83	2.68	0.17
						2" Ice			
6' x 2" Mount Pipe	A	From Leg	1.00	0.0000	123.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
6' x 2" Mount Pipe	B	From Leg	1.00	0.0000	123.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
6' x 2" Mount Pipe	C	From Leg	1.00	0.0000	123.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
Side Arm Mount [SO 102-3]	C	None		0.0000	123.00	No Ice	3.60	3.60	0.07
						1/2"	4.18	4.18	0.11
						Ice	4.75	4.75	0.14
						1" Ice	5.90	5.90	0.20
						2" Ice			
*****									
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00	0.0000	115.00	No Ice	4.63	3.27	0.07
			0.00			1/2"	5.06	3.69	0.13
			2.00			Ice	5.51	4.12	0.20
						1" Ice	6.43	5.00	0.38
						2" Ice			
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00	0.0000	115.00	No Ice	4.63	3.27	0.07
			0.00			1/2"	5.06	3.69	0.13
			2.00			Ice	5.51	4.12	0.20
						1" Ice	6.43	5.00	0.38
						2" Ice			
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.00	0.0000	115.00	No Ice	4.63	3.27	0.07
			0.00			1/2"	5.06	3.69	0.13
			2.00			Ice	5.51	4.12	0.20
						1" Ice	6.43	5.00	0.38
						2" Ice			
RRUS 11 B12	A	From Leg	4.00	0.0000	115.00	No Ice	2.83	1.18	0.05
			0.00			1/2"	3.04	1.33	0.07
			2.00			Ice	3.26	1.48	0.10
						1" Ice	3.71	1.83	0.15
						2" Ice			
RRUS 11 B12	B	From Leg	4.00	0.0000	115.00	No Ice	2.83	1.18	0.05
			0.00			1/2"	3.04	1.33	0.07
			2.00			Ice	3.26	1.48	0.10
						1" Ice	3.71	1.83	0.15
						2" Ice			
RRUS 11 B12	C	From Leg	4.00	0.0000	115.00	No Ice	2.83	1.18	0.05
			0.00			1/2"	3.04	1.33	0.07
			2.00			Ice	3.26	1.48	0.10
						1" Ice	3.71	1.83	0.15
						2" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>AA</sub> Front	C <sub>AA</sub> Side	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	K	
DC6-48-60-18-8F	A	From Leg	1.00		0.0000	115.00	2" Ice			
			0.00				No Ice	0.92	0.92	0.02
			2.00				1/2"	1.46	1.46	0.04
							Ice	1.64	1.64	0.06
							1" Ice	2.04	2.04	0.11
4' x 2" Pipe Mount	A	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	0.79	0.79	0.03
			0.00				1/2"	1.03	1.03	0.04
							Ice	1.28	1.28	0.04
							1" Ice	1.81	1.81	0.07
4' x 2" Pipe Mount	B	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	0.79	0.79	0.03
			0.00				1/2"	1.03	1.03	0.04
							Ice	1.28	1.28	0.04
							1" Ice	1.81	1.81	0.07
4' x 2" Pipe Mount	C	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	0.79	0.79	0.03
			0.00				1/2"	1.03	1.03	0.04
							Ice	1.28	1.28	0.04
							1" Ice	1.81	1.81	0.07
Platform Mount [LP 304-1]	C	None			0.0000	115.00	2" Ice			
							No Ice	17.49	17.49	1.35
							1/2"	21.37	21.37	1.71
							Ice	25.28	25.28	2.13
							1" Ice	33.17	33.17	3.16
*****										
80010798 w/ Mount Pipe	A	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	7.79	4.90	0.11
			2.00				1/2"	8.40	5.47	0.19
							Ice	9.02	6.06	0.27
							1" Ice	10.30	7.26	0.48
80010798 w/ Mount Pipe	B	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	7.79	4.90	0.11
			2.00				1/2"	8.40	5.47	0.19
							Ice	9.02	6.06	0.27
							1" Ice	10.30	7.26	0.48
80010798 w/ Mount Pipe	C	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	7.79	4.90	0.11
			2.00				1/2"	8.40	5.47	0.19
							Ice	9.02	6.06	0.27
							1" Ice	10.30	7.26	0.48
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	9.22	6.25	0.07
			2.00				1/2"	9.98	6.96	0.14
							Ice	10.76	7.70	0.22
							1" Ice	12.36	9.22	0.42
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	9.22	6.25	0.07
			2.00				1/2"	9.98	6.96	0.14
							Ice	10.76	7.70	0.22
							1" Ice	12.36	9.22	0.42
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	9.22	6.25	0.07
			2.00				1/2"	9.98	6.96	0.14
							Ice	10.76	7.70	0.22
							1" Ice	12.36	9.22	0.42
(2) TT19-08BP111-001	A	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	0.55	0.44	0.02
			2.00				1/2"	0.64	0.53	0.02
							Ice	0.74	0.63	0.03
							1" Ice	0.97	0.84	0.05
(2) TT19-08BP111-001	B	From Leg	4.00		0.0000	115.00	2" Ice			
			0.00				No Ice	0.55	0.44	0.02
			2.00				1/2"	0.64	0.53	0.02
							Ice	0.74	0.63	0.03

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C <sub>AA</sub> <sub>Front</sub>	C <sub>AA</sub> <sub>Side</sub>	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	K
(2) TT19-08BP111-001	C	From Leg	4.00	0.0000	115.00		1" Ice	0.97	0.84	0.05
							2" Ice	0.55	0.44	0.02
							No Ice	0.64	0.53	0.02
							1/2" Ice	0.74	0.63	0.03
							1" Ice	0.97	0.84	0.05
RRUS 32 B66	A	From Leg	4.00	0.0000	115.00		2" Ice	2.74	1.67	0.05
							No Ice	2.96	1.86	0.07
							1/2" Ice	3.19	2.05	0.10
							1" Ice	3.68	2.46	0.16
							2" Ice	2.74	1.67	0.05
RRUS 32 B66	B	From Leg	4.00	0.0000	115.00		No Ice	2.96	1.86	0.07
							1/2" Ice	3.19	2.05	0.10
							1" Ice	3.68	2.46	0.16
							2" Ice	2.74	1.67	0.05
							No Ice	2.96	1.86	0.07
RRUS 32 B66	C	From Leg	4.00	0.0000	115.00		1/2" Ice	3.19	2.05	0.10
							1" Ice	3.68	2.46	0.16
							2" Ice	2.74	1.67	0.05
							No Ice	2.96	1.86	0.07
							1/2" Ice	3.19	2.05	0.10
RRUS 32	A	From Leg	4.00	0.0000	115.00		1" Ice	3.81	2.58	0.16
							2" Ice	2.86	1.78	0.06
							No Ice	3.08	1.97	0.08
							1/2" Ice	3.32	2.17	0.10
							1" Ice	3.81	2.58	0.16
RRUS 32	B	From Leg	4.00	0.0000	115.00		2" Ice	2.86	1.78	0.06
							No Ice	3.08	1.97	0.08
							1/2" Ice	3.32	2.17	0.10
							1" Ice	3.81	2.58	0.16
							2" Ice	2.86	1.78	0.06
RRUS 32	C	From Leg	4.00	0.0000	115.00		No Ice	3.08	1.97	0.08
							1/2" Ice	3.32	2.17	0.10
							1" Ice	3.81	2.58	0.16
							2" Ice	2.86	1.78	0.06
							No Ice	3.08	1.97	0.08
(2) DBC0061F1V51-2	A	From Leg	4.00	0.0000	115.00		1" Ice	0.81	0.79	0.06
							2" Ice	0.43	0.41	0.03
							No Ice	0.51	0.50	0.03
							1/2" Ice	0.61	0.59	0.04
							1" Ice	0.81	0.79	0.06
(2) DBC0061F1V51-2	B	From Leg	4.00	0.0000	115.00		2" Ice	0.43	0.41	0.03
							No Ice	0.51	0.50	0.03
							1/2" Ice	0.61	0.59	0.04
							1" Ice	0.81	0.79	0.06
							2" Ice	0.43	0.41	0.03
(2) DBC0061F1V51-2	C	From Leg	4.00	0.0000	115.00		No Ice	0.51	0.50	0.03
							1/2" Ice	0.61	0.59	0.04
							1" Ice	0.81	0.79	0.06
							2" Ice	0.43	0.41	0.03
							No Ice	0.51	0.50	0.03
RRUS 32 B2	A	From Leg	4.00	0.0000	115.00		1" Ice	3.66	2.46	0.16
							2" Ice	2.73	1.67	0.05
							No Ice	2.95	1.86	0.07
							1/2" Ice	3.18	2.05	0.10
							1" Ice	3.66	2.46	0.16
RRUS 32 B2	B	From Leg	4.00	0.0000	115.00		2" Ice	2.73	1.67	0.05
							No Ice	2.95	1.86	0.07
							1/2" Ice	3.18	2.05	0.10
							1" Ice	3.66	2.46	0.16
							2" Ice	2.73	1.67	0.05
RRUS 32 B2	C	From Leg	4.00	0.0000	115.00		No Ice	2.95	1.86	0.07
							1/2" Ice	3.18	2.05	0.10
							1" Ice	3.66	2.46	0.16
							2" Ice	2.73	1.67	0.05
							No Ice	2.95	1.86	0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K	
DC6-48-60-18-8F	A	From Leg	4.00 0.00 2.00	0.0000	115.00	1" Ice	3.66	2.46	0.16
						2" Ice			
						No Ice	0.92	0.92	0.02
						1/2" Ice	1.46	1.46	0.04
						Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
*****									
LNx-6514DS-A1M w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	4.09	3.30	0.06
						1/2" Ice	4.49	3.68	0.13
						Ice	4.89	4.06	0.20
						1" Ice	5.71	4.87	0.38
						2" Ice			
LNx-6514DS-A1M w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	4.09	3.30	0.06
						1/2" Ice	4.49	3.68	0.13
						Ice	4.89	4.06	0.20
						1" Ice	5.71	4.87	0.38
						2" Ice			
LNx-6514DS-A1M w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	4.09	3.30	0.06
						1/2" Ice	4.49	3.68	0.13
						Ice	4.89	4.06	0.20
						1" Ice	5.71	4.87	0.38
						2" Ice			
Platform Mount [LP 1201- 1]	C	None		0.0000	105.00	No Ice	18.38	18.38	2.10
						1/2" Ice	22.11	22.11	2.65
						Ice	25.87	25.87	3.26
						1" Ice	33.47	33.47	4.66
						2" Ice			
***									
(2) JAHH-45B-R3B w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	8.26	4.39	0.12
						1/2" Ice	8.83	4.91	0.20
						Ice	9.41	5.43	0.29
						1" Ice	10.61	6.53	0.50
						2" Ice			
(2) JAHH-45B-R3B w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	8.26	4.39	0.12
						1/2" Ice	8.83	4.91	0.20
						Ice	9.41	5.43	0.29
						1" Ice	10.61	6.53	0.50
						2" Ice			
(2) JAHH-45B-R3B w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	8.26	4.39	0.12
						1/2" Ice	8.83	4.91	0.20
						Ice	9.41	5.43	0.29
						1" Ice	10.61	6.53	0.50
						2" Ice			
Sub6 Antenna - VZS01 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	4.92	2.69	0.10
						1/2" Ice	5.26	3.15	0.14
						Ice	5.62	3.63	0.19
						1" Ice	6.37	4.64	0.29
						2" Ice			
Sub6 Antenna - VZS01 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	4.92	2.69	0.10
						1/2" Ice	5.26	3.15	0.14
						Ice	5.62	3.63	0.19
						1" Ice	6.37	4.64	0.29
						2" Ice			
Sub6 Antenna - VZS01 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	4.92	2.69	0.10
						1/2" Ice	5.26	3.15	0.14
						Ice	5.62	3.63	0.19
						1" Ice	6.37	4.64	0.29
						2" Ice			
RFV01U-D1A	A	From Leg	4.00 0.00 0.00	0.0000	105.00	No Ice	1.88	1.25	0.08
						1/2" Ice	2.05	1.39	0.10
						Ice	2.22	1.54	0.12
						1" Ice	2.60	1.86	0.18
						2" Ice			
RFV01U-D1A	B	From Leg	4.00	0.0000	105.00	No Ice	1.88	1.25	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K	
			0.00			1/2"	2.05	1.39	0.10
			0.00			Ice	2.22	1.54	0.12
						1" Ice	2.60	1.86	0.18
						2" Ice			
RFV01U-D1A	C	From Leg	4.00	0.0000	105.00	No Ice	1.88	1.25	0.08
			0.00			1/2"	2.05	1.39	0.10
			0.00			Ice	2.22	1.54	0.12
						1" Ice	2.60	1.86	0.18
						2" Ice			
RFV01U-D2A	A	From Leg	4.00	0.0000	105.00	No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			0.00			Ice	2.22	1.28	0.11
						1" Ice	2.60	1.59	0.15
						2" Ice			
RFV01U-D2A	B	From Leg	4.00	0.0000	105.00	No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			0.00			Ice	2.22	1.28	0.11
						1" Ice	2.60	1.59	0.15
						2" Ice			
RFV01U-D2A	C	From Leg	4.00	0.0000	105.00	No Ice	1.88	1.01	0.07
			0.00			1/2"	2.05	1.14	0.09
			0.00			Ice	2.22	1.28	0.11
						1" Ice	2.60	1.59	0.15
						2" Ice			
CBC78T-DS-43-2X	A	From Leg	4.00	0.0000	105.00	No Ice	0.37	0.51	0.02
			0.00			1/2"	0.45	0.60	0.03
			0.00			Ice	0.53	0.70	0.04
						1" Ice	0.72	0.93	0.06
						2" Ice			
CBC78T-DS-43-2X	B	From Leg	4.00	0.0000	105.00	No Ice	0.37	0.51	0.02
			0.00			1/2"	0.45	0.60	0.03
			0.00			Ice	0.53	0.70	0.04
						1" Ice	0.72	0.93	0.06
						2" Ice			
CBC78T-DS-43-2X	C	From Leg	4.00	0.0000	105.00	No Ice	0.37	0.51	0.02
			0.00			1/2"	0.45	0.60	0.03
			0.00			Ice	0.53	0.70	0.04
						1" Ice	0.72	0.93	0.06
						2" Ice			
RVZDC-6627-PF-48	A	From Leg	4.00	0.0000	105.00	No Ice	3.79	2.51	0.03
			0.00			1/2"	4.04	2.73	0.06
			0.00			Ice	4.30	2.95	0.10
						1" Ice	4.84	3.42	0.18
						2" Ice			
*****									
T-Arm Mount [TA 602-3]	C	None		0.0000	95.00	No Ice	13.40	13.40	0.77
						1/2"	16.44	16.44	1.00
						Ice	19.70	19.70	1.29
						1" Ice	25.86	25.86	2.05
						2" Ice			
****									
(2) ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00	0.0000	95.00	No Ice	3.14	2.59	0.11
			0.00			1/2"	3.45	2.88	0.16
			1.00			Ice	3.77	3.19	0.22
						1" Ice	4.43	3.84	0.37
						2" Ice			
(2) ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00	0.0000	95.00	No Ice	3.14	2.59	0.11
			0.00			1/2"	3.45	2.88	0.16
			1.00			Ice	3.77	3.19	0.22
						1" Ice	4.43	3.84	0.37
						2" Ice			
(2) ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00	0.0000	95.00	No Ice	3.14	2.59	0.11
			0.00			1/2"	3.45	2.88	0.16
			1.00			Ice	3.77	3.19	0.22
						1" Ice	4.43	3.84	0.37
						2" Ice			



Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>AA</sub> Front	C <sub>AA</sub> Side	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	K	
APXVAARR24_43-U-NA20	A	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	14.67	5.32	0.15
							1/2"	15.43	5.99	0.27
							Ice	16.21	6.68	0.39
							1" Ice	17.81	8.08	0.66
APXVAARR24_43-U-NA20	B	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	14.67	5.32	0.15
							1/2"	15.43	5.99	0.27
							Ice	16.21	6.68	0.39
							1" Ice	17.81	8.08	0.66
APXVAARR24_43-U-NA20	C	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	14.67	5.32	0.15
							1/2"	15.43	5.99	0.27
							Ice	16.21	6.68	0.39
							1" Ice	17.81	8.08	0.66
RADIO 4449 B12/B71	A	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	1.65	1.16	0.07
							1/2"	1.81	1.30	0.09
							Ice	1.98	1.45	0.11
							1" Ice	2.34	1.76	0.16
RADIO 4449 B12/B71	B	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	1.65	1.16	0.07
							1/2"	1.81	1.30	0.09
							Ice	1.98	1.45	0.11
							1" Ice	2.34	1.76	0.16
RADIO 4449 B12/B71	C	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	1.65	1.16	0.07
							1/2"	1.81	1.30	0.09
							Ice	1.98	1.45	0.11
							1" Ice	2.34	1.76	0.16
10' x 2" Mount Pipe	A	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	2.38	2.38	0.04
							1/2"	3.40	3.40	0.05
							Ice	4.45	4.45	0.08
							1" Ice	5.91	5.91	0.15
10' x 2" Mount Pipe	B	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	2.38	2.38	0.04
							1/2"	3.40	3.40	0.05
							Ice	4.45	4.45	0.08
							1" Ice	5.91	5.91	0.15
10' x 2" Mount Pipe	C	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	2.38	2.38	0.04
							1/2"	3.40	3.40	0.05
							Ice	4.45	4.45	0.08
							1" Ice	5.91	5.91	0.15
Horizontal Pipe [#P2150]	A	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	2.28	0.01	0.03
							1/2"	3.50	0.04	0.05
							Ice	4.75	0.09	0.08
							1" Ice	7.28	0.21	0.15
Horizontal Pipe [#P2150]	B	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	2.28	0.01	0.03
							1/2"	3.50	0.04	0.05
							Ice	4.75	0.09	0.08
							1" Ice	7.28	0.21	0.15
Horizontal Pipe [#P2150]	C	From Leg	4.00	0.00	0.0000	95.00	2" Ice			
							No Ice	2.28	0.01	0.03
							1/2"	3.50	0.04	0.05
							Ice	4.75	0.09	0.08
							1" Ice	7.28	0.21	0.15
Kicker Kit [#PRK-1245]	C	None			0.0000	95.00	2" Ice			
							No Ice	11.84	11.84	0.47
							1/2"	16.96	16.96	0.61
							Ice	22.08	22.08	0.75
							1" Ice	32.32	32.32	1.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K
Support Rail Kit [#HRK14]	C	None		0.0000	95.00	2" Ice			
						No Ice	6.36	6.36	0.30
						1/2"	8.52	8.52	0.39
						Ice	10.62	10.62	0.48
						1" Ice	14.64	14.64	0.67
Kicker Kit [#PRK-SFS]	C	None		0.0000	95.00	2" Ice			
						No Ice	11.84	11.84	0.59
						1/2"	16.96	16.96	0.76
						Ice	22.08	22.08	0.94
						1" Ice	32.32	32.32	1.29
***** MX08FRO665-20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	8.01	4.23	0.10
						1/2"	8.52	4.69	0.18
						Ice	9.04	5.16	0.28
						1" Ice	10.11	6.12	0.51
MX08FRO665-20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	8.01	4.23	0.10
						1/2"	8.52	4.69	0.18
						Ice	9.04	5.16	0.28
						1" Ice	10.11	6.12	0.51
MX08FRO665-20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	8.01	4.23	0.10
						1/2"	8.52	4.69	0.18
						Ice	9.04	5.16	0.28
						1" Ice	10.11	6.12	0.51
TA08025-B604	A	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	1.96	0.98	0.06
						1/2"	2.14	1.11	0.08
						Ice	2.32	1.25	0.10
						1" Ice	2.71	1.55	0.15
TA08025-B604	B	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	1.96	0.98	0.06
						1/2"	2.14	1.11	0.08
						Ice	2.32	1.25	0.10
						1" Ice	2.71	1.55	0.15
TA08025-B604	C	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	1.96	0.98	0.06
						1/2"	2.14	1.11	0.08
						Ice	2.32	1.25	0.10
						1" Ice	2.71	1.55	0.15
TA08025-B605	A	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	1.96	1.13	0.08
						1/2"	2.14	1.27	0.09
						Ice	2.32	1.41	0.11
						1" Ice	2.71	1.72	0.16
TA08025-B605	B	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	1.96	1.13	0.08
						1/2"	2.14	1.27	0.09
						Ice	2.32	1.41	0.11
						1" Ice	2.71	1.72	0.16
TA08025-B605	C	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	1.96	1.13	0.08
						1/2"	2.14	1.27	0.09
						Ice	2.32	1.41	0.11
						1" Ice	2.71	1.72	0.16
RDIDC-9181-PF-48	A	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	2.01	1.17	0.02
						1/2"	2.19	1.31	0.04
						Ice	2.37	1.46	0.06
						1" Ice	2.76	1.78	0.11
(2) 8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	85.00	2" Ice			
						No Ice	1.90	1.90	0.03
						1/2"	2.73	2.73	0.04
						Ice	3.40	3.40	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C <sub>A</sub> A <sub>Front</sub> ft <sup>2</sup>	C <sub>A</sub> A <sub>Side</sub> ft <sup>2</sup>	Weight K	
(2) 8' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	85.00	1" Ice	4.40	4.40	0.12
						2" Ice			
						No Ice	1.90	1.90	0.03
						1/2" Ice	2.73	2.73	0.04
						Ice	3.40	3.40	0.06
(2) 8' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	85.00	1" Ice	4.40	4.40	0.12
						2" Ice			
						No Ice	1.90	1.90	0.03
						1/2" Ice	2.73	2.73	0.04
						Ice	3.40	3.40	0.06
T-Arm Mount [#MC-K6MHDX-9-96 (3)]	C	None		0.0000	85.00	2" Ice			
						No Ice	15.30	15.30	1.19
						1/2" Ice	20.48	20.48	1.71
						Ice	25.66	25.66	2.22
						1" Ice	36.02	36.02	3.25
*****									

### Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft <sup>2</sup>	Weight K	
*****											
VHLP2-18	B	Paraboloid w/Shroud (HP)	From Leg	4.00 0.00 -1.00	62.0000		125.00	2.17	No Ice	3.72	0.03
									1/2" Ice	4.01	0.05
									1" Ice	4.30	0.07
									2" Ice	4.88	0.11
VHLP2-11	C	Paraboloid w/Shroud (HP)	From Leg	4.00 0.00 -1.00	90.0000		125.00	2.17	No Ice	3.72	0.03
									1/2" Ice	4.01	0.05
									1" Ice	4.30	0.07
									2" Ice	4.88	0.11
*****											

### Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice

Comb. No.	Description
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

### Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	125 - 120	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-10.56	-0.14	-0.09
			Max. Mx	8	-3.47	-36.86	-0.53
			Max. My	2	-3.50	0.22	37.24
			Max. Vy	8	7.04	-36.86	-0.53
			Max. Vx	2	-7.15	0.22	37.24
			Max. Torque	8			1.08
L2	120 - 115	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.18	-0.29	-0.01
			Max. Mx	8	-3.76	-72.95	-1.20
			Max. My	2	-3.79	0.48	73.85
			Max. Vy	8	7.39	-72.95	-1.20
			Max. Vx	2	-7.49	0.48	73.85
			Max. Torque	23			-0.61
L3	115 - 110	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.59	-0.60	0.59
			Max. Mx	8	-7.44	-142.92	-1.73
			Max. My	2	-7.51	0.70	144.36
			Max. Vy	8	12.74	-142.92	-1.73
			Max. Vx	2	-12.82	0.70	144.36
			Max. Torque	22			-0.61
L4	110 - 105	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-21.56	-0.93	0.63
			Max. Mx	8	-7.90	-207.56	-2.41
			Max. My	2	-7.97	0.92	209.34
			Max. Vy	8	13.09	-207.56	-2.41
			Max. Vx	2	-13.17	0.92	209.34
			Max. Torque	22			-0.61
L5	105 - 100	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L6	100 - 99.375	Pole	Max. Compression	26	-32.38	-1.28	1.13
			Max. Mx	8	-12.63	-296.95	-3.06
			Max. My	2	-12.77	1.14	298.23
			Max. Vy	8	18.25	-296.95	-3.06
			Max. Vx	2	-17.93	1.14	298.23
			Max. Torque	22			-1.05
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.55	-1.32	1.11
			Max. Mx	8	-12.71	-308.39	-3.16
			Max. My	2	-12.85	1.17	309.44
L7	99.375 - 99.125	Pole	Max. Vy	8	18.34	-308.39	-3.16
			Max. Vx	14	17.97	-2.33	-308.75
			Max. Torque	22			-0.99
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.63	-1.34	1.10
			Max. Mx	8	-12.75	-312.98	-3.19
			Max. My	2	-12.90	1.18	313.93
			Max. Vy	8	18.38	-312.98	-3.19
			Max. Vx	14	17.98	-2.35	-313.24
			Max. Torque	22			-0.98
L8	99.125 - 94.458	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.36	-1.68	0.90
			Max. Mx	8	-17.47	-405.44	-3.92
			Max. My	2	-17.70	1.38	403.43
			Max. Vy	8	24.22	-405.44	-3.92
			Max. Vx	14	23.39	-2.82	-402.86
			Max. Torque	22			-0.98
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.47	-1.70	0.89
			Max. Mx	8	-17.54	-411.51	-3.96
L9	94.458 - 94.208	Pole	Max. My	2	-17.77	1.39	409.27
			Max. Vy	8	24.26	-411.51	-3.96
			Max. Vx	14	23.40	-2.85	-408.71
			Max. Torque	22			-0.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.60	-2.08	0.68
			Max. Mx	8	-18.65	-535.10	-4.75
			Max. My	2	-18.92	1.61	527.28
			Max. Vy	8	25.15	-535.10	-4.75
			Max. Vx	14	23.84	-3.36	-526.85
L10	94.208 - 89.208	Pole	Max. Torque	22			-0.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.70	-2.10	0.67
			Max. Mx	8	-18.71	-540.34	-4.78
			Max. My	2	-18.98	1.62	532.24
			Max. Vy	8	25.19	-540.34	-4.78
			Max. Vx	14	23.85	-3.38	-531.81
			Max. Torque	22			-0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.72	-2.11	0.67
L11	89.208 - 89	Pole	Max. Mx	8	-18.72	-541.43	-4.79
			Max. My	2	-18.99	1.62	533.26
			Max. Vy	8	25.20	-541.43	-4.79
			Max. Vx	14	23.86	-3.39	-532.84
			Max. Torque	22			-0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.28	-2.50	0.87
			Max. Mx	8	-22.81	-670.25	-5.47
			Max. My	2	-23.14	1.83	654.34
			Max. Vy	8	28.69	-670.25	-5.47
L12	89 - 85.04	Pole	Max. Vx	14	26.91	-3.90	-653.81
			Max. Torque	22			-1.03
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.28	-2.50	0.87
			Max. Mx	8	-22.81	-670.25	-5.47
			Max. My	2	-23.14	1.83	654.34
			Max. Vy	8	28.69	-670.25	-5.47
			Max. Vx	14	26.91	-3.90	-653.81
			Max. Torque	22			-1.03
			Max Tension	1	0.00	0.00	0.00
L13	85.04 - 84.04	Pole	Max. Compression	26	-54.28	-2.50	0.87
			Max. Mx	8	-22.81	-670.25	-5.47
			Max. My	2	-23.14	1.83	654.34
			Max. Vy	8	28.69	-670.25	-5.47
			Max. Vx	14	26.91	-3.90	-653.81
			Max. Torque	22			-1.03
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.28	-2.50	0.87
			Max. Mx	8	-22.81	-670.25	-5.47
			Max. My	2	-23.14	1.83	654.34
L14	84.04 - 79.04	Pole	Max. Vy	8	28.69	-670.25	-5.47
			Max. Vx	14	26.91	-3.90	-653.81
			Max. Torque	22			-1.03
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.28	-2.50	0.87
			Max. Mx	8	-22.81	-670.25	-5.47
			Max. My	2	-23.14	1.83	654.34
			Max. Vy	8	28.69	-670.25	-5.47
			Max. Vx	14	26.91	-3.90	-653.81
			Max. Torque	22			-1.03

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L15	79.04 - 74.04	Pole	Max. Compression	26	-56.34	-2.91	0.64
			Max. Mx	8	-23.93	-815.83	-6.28
			Max. My	2	-24.29	2.04	789.74
			Max. Vy	8	29.53	-815.83	-6.28
			Max. Vx	14	27.30	-4.43	-789.34
			Max. Torque	22			-1.03
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.38	-3.33	0.40
L16	74.04 - 73.583	Pole	Max. Mx	8	-25.09	-965.56	-7.09
			Max. My	2	-25.47	2.25	927.03
			Max. Vy	8	30.35	-965.56	-7.09
			Max. Vx	14	27.67	-4.96	-926.78
			Max. Torque	22			-0.99
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.56	-3.37	0.38
			L17	73.583 - 73.333	Pole	Max. Mx	8
Max. My	2	-25.59				2.27	939.67
Max. Vy	8	30.39				-979.44	-7.16
Max. Vx	14	27.70				-5.01	-939.43
Max. Torque	22						-0.94
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-58.66				-3.39	0.37
L18	73.333 - 73	Pole				Max. Mx	8
			Max. My	2	-25.66	2.28	946.59
			Max. Vy	8	30.41	-987.04	-7.20
			Max. Vx	14	27.72	-5.03	-946.36
			Max. Torque	22			-0.93
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.81	-3.42	0.35
			L19	73 - 72.75	Pole	Max. Mx	8
Max. My	2	-25.76				2.29	955.82
Max. Vy	8	30.45				-997.18	-7.26
Max. Vx	14	27.75				-5.07	-955.60
Max. Torque	22						-0.93
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-58.90				-3.44	0.34
L20	72.75 - 67.75	Pole				Max. Mx	8
			Max. My	2	-25.81	2.30	962.76
			Max. Vy	8	30.47	-1004.80	-7.30
			Max. Vx	14	27.76	-5.09	-962.54
			Max. Torque	22			-0.92
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.62	-3.87	0.09
			L21	67.75 - 63	Pole	Max. Mx	8
Max. My	2	-26.91				2.50	1102.28
Max. Vy	8	30.91				-1158.29	-8.11
Max. Vx	14	28.10				-5.63	-1102.22
Max. Torque	22						-0.92
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-62.29				-4.28	-0.16
L22	63 - 62.75	Pole				Max. Mx	8
			Max. My	14	-27.98	-6.13	-1236.39
			Max. Vy	8	31.31	-1306.05	-8.88
			Max. Vx	14	28.40	-6.13	-1236.39
			Max. Torque	22			-0.84
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.40	-4.31	-0.17
			L23	62.75 - 57.75	Pole	Max. Mx	8
Max. My	14	-28.08				-6.16	-1243.49
Max. Vy	8	31.31				-1313.88	-8.92
Max. Vx	24	-28.42				665.88	1167.96
Max. Torque	22						-0.84
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-64.69				-4.74	-0.43

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L24	57.75 - 57.233	Pole	Max. Mx	8	-29.17	-1472.70	-9.73
			Max. My	14	-29.52	-6.70	-1386.53
			Max. Vy	8	32.19	-1472.70	-9.73
			Max. Vx	24	-29.20	748.19	1311.88
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.92	-4.79	-0.46
			Max. Mx	8	-29.31	-1489.37	-9.81
			Max. My	14	-29.66	-6.75	-1401.43
			Max. Vy	8	32.27	-1489.37	-9.81
L25	57.233 - 56.983	Pole	Max. Vx	24	-29.27	756.83	1326.98
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.03	-4.81	-0.48
			Max. Mx	8	-29.38	-1497.44	-9.85
			Max. My	14	-29.73	-6.78	-1408.64
			Max. Vy	8	32.31	-1497.44	-9.85
			Max. Vx	24	-29.30	761.01	1334.30
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
L26	56.983 - 51.983	Pole	Max. Compression	26	-67.10	-5.25	-0.75
			Max. Mx	8	-30.68	-1661.10	-10.65
			Max. My	14	-31.03	-7.31	-1553.77
			Max. Vy	8	33.13	-1661.10	-10.65
			Max. Vx	24	-30.04	845.81	1482.52
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.13	-5.70	-1.03
			Max. Mx	8	-32.04	-1827.92	-11.46
			Max. My	14	-32.36	-7.85	-1700.55
L27	51.983 - 46.983	Pole	Max. Vy	8	33.58	-1827.92	-11.46
			Max. Vx	24	-30.75	932.67	1634.32
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.72	-5.83	-1.11
			Max. Mx	8	-32.43	-1876.47	-11.69
			Max. My	14	-32.74	-8.01	-1743.21
			Max. Vy	8	33.71	-1876.47	-11.69
			Max. Vx	24	-30.95	958.12	1678.78
			Max. Torque	22			-0.83
L28	46.983 - 40.457	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.65	-6.37	-1.45
			Max. Mx	8	-35.14	-2083.67	-12.67
			Max. My	14	-35.44	-8.67	-1925.03
			Max. Vy	8	34.38	-2083.67	-12.67
			Max. Vx	24	-31.93	1067.51	1869.89
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.37	-6.52	-1.55
			Max. Mx	8	-35.63	-2139.63	-12.94
L29	40.457 - 39.457	Pole	Max. My	14	-35.92	-8.84	-1974.07
			Max. Vy	8	34.53	-2139.63	-12.94
			Max. Vx	24	-32.17	1097.27	1921.88
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.48	-6.54	-1.56
			Max. Mx	8	-35.73	-2148.27	-12.98
			Max. My	14	-36.01	-8.87	-1981.64
			Max. Vy	8	34.52	-2148.27	-12.98
			Max. Vx	24	-32.18	1101.87	1929.91
L30	39.457 - 37.833	Pole	Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.48	-6.54	-1.56
			Max. Mx	8	-35.73	-2148.27	-12.98
			Max. My	14	-36.01	-8.87	-1981.64
			Max. Vy	8	34.52	-2148.27	-12.98
			Max. Vx	24	-32.18	1101.87	1929.91
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.48	-6.54	-1.56
L31	37.833 - 37.583	Pole	Max. Mx	8	-35.73	-2148.27	-12.98
			Max. My	14	-36.01	-8.87	-1981.64
			Max. Vy	8	34.52	-2148.27	-12.98
			Max. Vx	24	-32.18	1101.87	1929.91
			Max. Torque	22			-0.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.48	-6.54	-1.56
			Max. Mx	8	-35.73	-2148.27	-12.98
			Max. My	14	-36.01	-8.87	-1981.64
			Max. Vy	8	34.52	-2148.27	-12.98

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L32	37.583 - 32.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.68	-6.99	-1.85
			Max. Mx	8	-37.27	-2322.00	-13.78
			Max. My	14	-37.52	-9.41	-2133.72
			Max. Vy	8	34.94	-2322.00	-13.78
			Max. Vx	24	-32.86	1194.88	2092.35
			Max. Torque	22			-0.83
L33	32.583 - 27.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.90	-7.41	-2.14
			Max. Mx	8	-38.85	-2497.67	-14.58
			Max. My	14	-39.07	-9.95	-2287.29
			Max. Vy	8	35.32	-2497.67	-14.58
			Max. Vx	24	-33.21	1289.37	2257.34
			Max. Torque	22			-0.83
L34	27.583 - 22.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.14	-7.83	-2.43
			Max. Mx	8	-40.46	-2675.16	-15.38
			Max. My	14	-40.64	-10.49	-2442.24
			Max. Vy	8	35.66	-2675.16	-15.38
			Max. Vx	24	-33.53	1384.81	2423.98
			Max. Torque	22			-0.83
L35	22.583 - 17.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.38	-8.24	-2.72
			Max. Mx	8	-42.10	-2854.29	-16.17
			Max. My	14	-42.23	-11.03	-2598.49
			Max. Vy	8	35.98	-2854.29	-16.17
			Max. Vx	24	-33.82	1481.13	2592.14
			Max. Torque	22			-0.83
L36	17.583 - 12.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.69	-8.65	-3.02
			Max. Mx	8	-43.76	-3034.93	-16.96
			Max. My	12	-43.70	-1585.14	-2762.73
			Max. Vy	8	36.26	-3034.93	-16.96
			Max. Vx	24	-34.08	1578.25	2761.67
			Max. Torque	22			-0.83
L37	12.583 - 12.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.84	-8.68	-3.04
			Max. Mx	8	-43.88	-3047.01	-17.01
			Max. My	12	-43.83	-1591.66	-2774.08
			Max. Vy	8	36.27	-3047.01	-17.01
			Max. Vx	24	-34.08	1584.75	2773.01
			Max. Torque	22			-0.83
L38	12.25 - 12	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.99	-8.70	-3.05
			Max. Mx	8	-43.99	-3056.09	-17.05
			Max. My	12	-43.94	-1596.56	-2782.60
			Max. Vy	8	36.28	-3056.09	-17.05
			Max. Vx	24	-34.09	1589.62	2781.52
			Max. Torque	22			-0.83
L39	12 - 7	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.75	-9.00	-3.37
			Max. Mx	8	-46.08	-3238.43	-17.85
			Max. My	12	-46.04	-1694.92	-2953.84
			Max. Vy	8	36.63	-3238.43	-17.85
			Max. Vx	24	-34.40	1687.67	2952.57
			Max. Torque	22			-0.83
L40	7 - 2	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.15	-9.00	-3.64
			Max. Mx	8	-48.06	-3422.17	-18.64
			Max. My	12	-48.05	-1793.87	-3126.33
			Max. Vy	8	36.90	-3422.17	-18.64
			Max. Vx	24	-34.60	1786.55	3124.86
			Max. Torque	22			-0.83



Sectio n No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L41	2 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-92.02	-9.00	-3.64
			Max. Mx	8	-48.84	-3496.03	-18.91
			Max. My	12	-48.83	-1833.62	-3195.56
			Max. Vy	8	37.00	-3496.03	-18.91
			Max. Vx	24	-34.68	1826.27	3194.11
			Max. Torque	22			-0.83

### Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K	
Pole	Max. Vert	32	92.02	-4.72	-8.21	
	Max. H <sub>x</sub>	20	48.85	36.97	0.05	
	Max. H <sub>z</sub>	25	36.64	19.88	34.66	
	Max. M <sub>x</sub>	24	3194.11	19.88	34.66	
	Max. M <sub>z</sub>	8	3496.03	-36.98	-0.13	
	Max. Torsion	6	0.64	-28.88	16.88	
	Min. Vert	19	36.64	28.91	-16.79	
	Min. H <sub>x</sub>	8	48.85	-36.98	-0.13	
	Min. H <sub>z</sub>	13	36.64	-19.90	-34.66	
	Min. M <sub>x</sub>	12	-3195.56	-19.90	-34.66	
	Min. M <sub>z</sub>	20	-3489.44	36.97	0.05	
	Min. Torsion	22		-0.83	31.61	18.49

### Tower Mast Reaction Summary

Load Combination	Vertical K	Shear <sub>x</sub> K	Shear <sub>z</sub> K	Overturing Moment, M <sub>x</sub> kip-ft	Overturing Moment, M <sub>z</sub> kip-ft	Torque kip-ft
Dead Only	40.71	0.00	0.00	0.97	-2.15	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	48.85	-0.06	-32.23	-3155.19	5.03	0.12
0.9 Dead+1.0 Wind 0 deg - No Ice	36.64	-0.06	-32.23	-3113.24	5.62	0.12
1.2 Dead+1.0 Wind 30 deg - No Ice	48.85	18.80	-32.92	-3131.33	-1785.28	0.27
0.9 Dead+1.0 Wind 30 deg - No Ice	36.64	18.80	-32.92	-3090.61	-1761.27	0.28
1.2 Dead+1.0 Wind 60 deg - No Ice	48.85	28.88	-16.88	-1648.70	-2816.69	-0.64
0.9 Dead+1.0 Wind 60 deg - No Ice	36.64	28.88	-16.88	-1627.01	-2778.54	-0.63
1.2 Dead+1.0 Wind 90 deg - No Ice	48.85	36.98	0.13	18.91	-3496.03	-0.04
0.9 Dead+1.0 Wind 90 deg - No Ice	36.64	36.98	0.13	18.33	-3449.68	-0.03
1.2 Dead+1.0 Wind 120 deg - No Ice	48.85	31.66	18.49	1771.19	-3022.70	-0.33
0.9 Dead+1.0 Wind 120 deg - No Ice	36.64	31.66	18.49	1747.62	-2982.39	-0.32
1.2 Dead+1.0 Wind 150 deg - No Ice	48.85	19.90	34.66	3195.56	-1833.62	-0.19
0.9 Dead+1.0 Wind 150 deg - No Ice	36.64	19.90	34.66	3154.11	-1809.35	-0.18
1.2 Dead+1.0 Wind 180 deg - No Ice	48.85	0.08	32.23	3157.56	-12.67	0.29
0.9 Dead+1.0 Wind 180 deg - No Ice	36.64	0.08	32.23	3115.00	-11.81	0.29
1.2 Dead+1.0 Wind 210 deg - No Ice	48.85	-18.75	32.90	3131.47	1773.69	0.10
0.9 Dead+1.0 Wind 210 deg - No Ice	36.64	-18.75	32.90	3090.17	1751.20	0.10
1.2 Dead+1.0 Wind 240 deg - No Ice	48.85	-28.91	16.79	1640.22	2815.34	0.57
0.9 Dead+1.0 Wind 240 deg - No Ice	36.64	-28.91	16.79	1618.08	2778.55	0.56
1.2 Dead+1.0 Wind 270 deg - No Ice	48.85	-36.97	-0.05	-5.54	3489.44	0.14
0.9 Dead+1.0 Wind 270 deg - No Ice	36.64	-36.97	-0.05	-5.75	3444.52	0.12
1.2 Dead+1.0 Wind 300 deg - No Ice	48.85	-31.61	-18.49	-1769.35	3010.82	0.83
0.9 Dead+1.0 Wind 300 deg - No Ice	36.64	-31.61	-18.49	-1746.38	2972.02	0.82
1.2 Dead+1.0 Wind 330 deg - No Ice	48.85	-19.88	-34.66	-3194.11	1826.27	0.63
0.9 Dead+1.0 Wind 330 deg - No Ice	36.64	-19.88	-34.66	-3153.26	1803.45	0.62
1.2 Dead+1.0 Ice+1.0 Temp	92.02	0.00	0.00	3.64	-9.00	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	92.02	-0.01	-8.17	-829.45	-7.47	0.02
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	92.02	4.50	-7.86	-793.17	-463.76	0.05

Load Combination	Vertical K	Shear <sub>x</sub> K	Shear <sub>z</sub> K	Overturning Moment, M <sub>x</sub> kip-ft	Overturning Moment, M <sub>z</sub> kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	92.02	7.13	-4.16	-420.56	-734.83	-0.46
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	92.02	8.59	0.03	7.45	-877.83	-0.42
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	92.02	7.45	4.34	445.90	-765.53	-0.46
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	92.02	4.72	8.21	813.10	-473.69	-0.46
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	92.02	0.01	8.17	836.81	-11.22	0.06
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	92.02	-4.49	7.86	800.05	444.23	0.02
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	92.02	-7.14	4.14	425.62	717.47	0.44
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	92.02	-8.59	-0.01	2.26	859.36	0.43
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	92.02	-7.45	-4.35	-438.65	745.94	0.56
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	92.02	-4.72	-8.21	-805.93	455.07	0.55
Dead+Wind 0 deg - Service	40.71	-0.01	-6.99	-679.02	-0.58	0.02
Dead+Wind 30 deg - Service	40.71	4.08	-7.14	-674.25	-386.50	0.06
Dead+Wind 60 deg - Service	40.71	6.27	-3.66	-354.50	-608.57	-0.14
Dead+Wind 90 deg - Service	40.71	8.02	0.03	4.81	-755.16	-0.01
Dead+Wind 120 deg - Service	40.71	6.87	4.01	382.48	-653.15	-0.07
Dead+Wind 150 deg - Service	40.71	4.32	7.52	689.63	-396.96	-0.04
Dead+Wind 180 deg - Service	40.71	0.02	6.99	681.00	-4.39	0.06
Dead+Wind 210 deg - Service	40.71	-4.07	7.14	675.74	380.67	0.02
Dead+Wind 240 deg - Service	40.71	-6.27	3.64	354.14	604.94	0.12
Dead+Wind 270 deg - Service	40.71	-8.02	-0.01	-0.46	750.40	0.03
Dead+Wind 300 deg - Service	40.71	-6.86	-4.01	-380.60	647.25	0.18
Dead+Wind 330 deg - Service	40.71	-4.31	-7.52	-687.84	392.04	0.14

## Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-40.71	0.00	0.00	40.71	0.00	0.000%
2	-0.06	-48.85	-32.23	0.06	48.85	32.23	0.000%
3	-0.06	-36.64	-32.23	0.06	36.64	32.23	0.000%
4	18.80	-48.85	-32.92	-18.80	48.85	32.92	0.000%
5	18.80	-36.64	-32.92	-18.80	36.64	32.92	0.000%
6	28.88	-48.85	-16.88	-28.88	48.85	16.88	0.000%
7	28.88	-36.64	-16.88	-28.88	36.64	16.88	0.000%
8	36.98	-48.85	0.13	-36.98	48.85	-0.13	0.000%
9	36.98	-36.64	0.13	-36.98	36.64	-0.13	0.000%
10	31.66	-48.85	18.49	-31.66	48.85	-18.49	0.000%
11	31.66	-36.64	18.49	-31.66	36.64	-18.49	0.000%
12	19.90	-48.85	34.66	-19.90	48.85	-34.66	0.000%
13	19.90	-36.64	34.66	-19.90	36.64	-34.66	0.000%
14	0.08	-48.85	32.23	-0.08	48.85	-32.23	0.000%
15	0.08	-36.64	32.23	-0.08	36.64	-32.23	0.000%
16	-18.75	-48.85	32.90	18.75	48.85	-32.90	0.000%
17	-18.75	-36.64	32.90	18.75	36.64	-32.90	0.000%
18	-28.91	-48.85	16.79	28.91	48.85	-16.79	0.000%
19	-28.91	-36.64	16.79	28.91	36.64	-16.79	0.000%
20	-36.97	-48.85	-0.05	36.97	48.85	0.05	0.000%
21	-36.97	-36.64	-0.05	36.97	36.64	0.05	0.000%
22	-31.61	-48.85	-18.49	31.61	48.85	18.49	0.000%
23	-31.61	-36.64	-18.49	31.61	36.64	18.49	0.000%
24	-19.88	-48.85	-34.66	19.88	48.85	34.66	0.000%
25	-19.88	-36.64	-34.66	19.88	36.64	34.66	0.000%
26	0.00	-92.02	0.00	-0.00	92.02	-0.00	0.000%
27	-0.01	-92.02	-8.17	0.01	92.02	8.17	0.000%
28	4.50	-92.02	-7.86	-4.50	92.02	7.86	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
29	7.13	-92.02	-4.16	-7.13	92.02	4.16	0.000%
30	8.59	-92.02	0.03	-8.59	92.02	-0.03	0.000%
31	7.45	-92.02	4.34	-7.45	92.02	-4.34	0.000%
32	4.72	-92.02	8.21	-4.72	92.02	-8.21	0.000%
33	0.01	-92.02	8.17	-0.01	92.02	-8.17	0.000%
34	-4.49	-92.02	7.86	4.49	92.02	-7.86	0.000%
35	-7.14	-92.02	4.14	7.14	92.02	-4.14	0.000%
36	-8.59	-92.02	-0.01	8.59	92.02	0.01	0.000%
37	-7.45	-92.02	-4.35	7.45	92.02	4.35	0.000%
38	-4.72	-92.02	-8.21	4.72	92.02	8.21	0.000%
39	-0.01	-40.71	-6.99	0.01	40.71	6.99	0.000%
40	4.08	-40.71	-7.14	-4.08	40.71	7.14	0.000%
41	6.27	-40.71	-3.66	-6.27	40.71	3.66	0.000%
42	8.02	-40.71	0.03	-8.02	40.71	-0.03	0.000%
43	6.87	-40.71	4.01	-6.87	40.71	-4.01	0.000%
44	4.32	-40.71	7.52	-4.32	40.71	-7.52	0.000%
45	0.02	-40.71	6.99	-0.02	40.71	-6.99	0.000%
46	-4.07	-40.71	7.14	4.07	40.71	-7.14	0.000%
47	-6.27	-40.71	3.64	6.27	40.71	-3.64	0.000%
48	-8.02	-40.71	-0.01	8.02	40.71	0.01	0.000%
49	-6.86	-40.71	-4.01	6.86	40.71	4.01	0.000%
50	-4.31	-40.71	-7.52	4.31	40.71	7.52	0.000%

### Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	6	0.00000001	0.00021037
3	Yes	6	0.00000001	0.00005937
4	Yes	8	0.00000001	0.00018416
5	Yes	7	0.00000001	0.00068922
6	Yes	8	0.00000001	0.00017321
7	Yes	7	0.00000001	0.00066275
8	Yes	6	0.00000001	0.00068072
9	Yes	6	0.00000001	0.00021321
10	Yes	8	0.00000001	0.00017919
11	Yes	7	0.00000001	0.00067434
12	Yes	8	0.00000001	0.00018326
13	Yes	7	0.00000001	0.00068432
14	Yes	6	0.00000001	0.00028181
15	Yes	6	0.00000001	0.00007161
16	Yes	8	0.00000001	0.00018296
17	Yes	7	0.00000001	0.00068798
18	Yes	8	0.00000001	0.00016872
19	Yes	7	0.00000001	0.00064745
20	Yes	6	0.00000001	0.00061715
21	Yes	6	0.00000001	0.00019477
22	Yes	8	0.00000001	0.00018202
23	Yes	7	0.00000001	0.00068826
24	Yes	8	0.00000001	0.00018053
25	Yes	7	0.00000001	0.00067280
26	Yes	6	0.00000001	0.00032844
27	Yes	8	0.00000001	0.00048447
28	Yes	8	0.00000001	0.00092495
29	Yes	8	0.00000001	0.00082193
30	Yes	8	0.00000001	0.00050775
31	Yes	8	0.00000001	0.00085612
32	Yes	8	0.00000001	0.00093915
33	Yes	8	0.00000001	0.00048596
34	Yes	8	0.00000001	0.00089338
35	Yes	8	0.00000001	0.00077961
36	Yes	8	0.00000001	0.00049629
37	Yes	8	0.00000001	0.00085012
38	Yes	8	0.00000001	0.00087952
39	Yes	5	0.00000001	0.00068459

40	Yes	6	0.00000001	0.00075270
41	Yes	6	0.00000001	0.00062588
42	Yes	5	0.00000001	0.00072174
43	Yes	6	0.00000001	0.00069462
44	Yes	6	0.00000001	0.00075959
45	Yes	5	0.00000001	0.00068803
46	Yes	6	0.00000001	0.00073831
47	Yes	6	0.00000001	0.00058276
48	Yes	5	0.00000001	0.00077809
49	Yes	6	0.00000001	0.00071719
50	Yes	6	0.00000001	0.00071630

### Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	125 - 120	22.248	44	1.5706	0.0032
L2	120 - 115	20.612	44	1.5585	0.0026
L3	115 - 110	18.998	44	1.5301	0.0022
L4	110 - 105	17.425	44	1.4803	0.0019
L5	105 - 100	15.914	44	1.4122	0.0016
L6	100 - 99.375	14.481	44	1.3264	0.0012
L7	99.375 - 99.125	14.309	44	1.3145	0.0011
L8	99.125 - 94.458	14.240	44	1.3123	0.0011
L9	94.458 - 94.208	12.980	44	1.2667	0.0010
L10	94.208 - 89.208	12.914	44	1.2649	0.0009
L11	89.208 - 89	11.611	44	1.2236	0.0009
L12	89 - 85.04	11.558	44	1.2218	0.0008
L13	88.957 - 84.04	11.547	44	1.2214	0.0008
L14	84.04 - 79.04	10.301	44	1.1924	0.0008
L15	79.04 - 74.04	9.084	44	1.1318	0.0007
L16	74.04 - 73.583	7.933	44	1.0656	0.0006
L17	73.583 - 73.333	7.832	44	1.0594	0.0006
L18	73.333 - 73	7.776	44	1.0567	0.0006
L19	73 - 72.75	7.703	44	1.0531	0.0006
L20	72.75 - 67.75	7.648	44	1.0488	0.0006
L21	67.75 - 63	6.595	44	0.9610	0.0005
L22	63 - 62.75	5.682	44	0.8738	0.0004
L23	62.75 - 57.75	5.637	44	0.8708	0.0004
L24	57.75 - 57.233	4.758	44	0.8082	0.0004
L25	57.233 - 56.983	4.671	44	0.8002	0.0004
L26	56.983 - 51.983	4.629	44	0.7963	0.0004
L27	51.983 - 46.983	3.836	44	0.7169	0.0003
L28	46.983 - 40.457	3.128	44	0.6358	0.0003
L29	45.54 - 39.457	2.940	44	0.6124	0.0002
L30	39.457 - 37.833	2.190	44	0.5580	0.0002
L31	37.833 - 37.583	2.004	44	0.5340	0.0002
L32	37.583 - 32.583	1.976	44	0.5302	0.0002
L33	32.583 - 27.583	1.461	44	0.4544	0.0002
L34	27.583 - 22.583	1.025	44	0.3782	0.0001
L35	22.583 - 17.583	0.669	44	0.3018	0.0001
L36	17.583 - 12.583	0.392	44	0.2263	0.0001
L37	12.583 - 12.25	0.196	44	0.1499	0.0000
L38	12.25 - 12	0.185	44	0.1449	0.0000
L39	12 - 7	0.178	44	0.1420	0.0000
L40	7 - 2	0.060	44	0.0823	0.0000
L41	2 - 0	0.005	44	0.0237	0.0000

### Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
125.00	APXVTM14-C-120 w/ Mount Pipe	44	22.248	1.5706	0.0032	13871

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
124.00	VHLP2-18	44	21.920	1.5688	0.0030	13871
123.00	PCS 1900MHz 4x45W-65MHz	44	21.592	1.5668	0.0029	13871
115.00	AM-X-CD-16-65-00T-RET w/ Mount Pipe	44	18.998	1.5301	0.0022	7383
105.00	LNx-6514DS-A1M w/ Mount Pipe	44	15.914	1.4122	0.0016	3741
95.00	T-Arm Mount [TA 602-3]	44	13.124	1.2712	0.0010	6238
85.00	MX08FRO665-20 w/ Mount Pipe	44	10.542	1.1993	0.0008	6652

### Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	125 - 120	102.960	12	7.2839	0.0131
L2	120 - 115	95.402	12	7.2283	0.0107
L3	115 - 110	87.944	12	7.0968	0.0089
L4	110 - 105	80.671	12	6.8673	0.0076
L5	105 - 100	73.681	12	6.5531	0.0065
L6	100 - 99.375	67.056	12	6.1571	0.0048
L7	99.375 - 99.125	66.257	12	6.1022	0.0046
L8	99.125 - 94.458	65.939	12	6.0920	0.0045
L9	94.458 - 94.208	60.112	12	5.8811	0.0040
L10	94.208 - 89.208	59.805	12	5.8726	0.0039
L11	89.208 - 89	53.776	12	5.6807	0.0036
L12	89 - 85.04	53.529	12	5.6722	0.0036
L13	88.957 - 84.04	53.479	12	5.6706	0.0036
L14	84.04 - 79.04	47.713	12	5.5332	0.0033
L15	79.04 - 74.04	42.079	12	5.2518	0.0029
L16	74.04 - 73.583	36.751	12	4.9441	0.0026
L17	73.583 - 73.333	36.280	12	4.9153	0.0025
L18	73.333 - 73	36.024	12	4.9028	0.0025
L19	73 - 72.75	35.683	12	4.8862	0.0025
L20	72.75 - 67.75	35.428	12	4.8663	0.0025
L21	67.75 - 63	30.554	12	4.4584	0.0021
L22	63 - 62.75	26.326	12	4.0533	0.0018
L23	62.75 - 57.75	26.115	12	4.0392	0.0018
L24	57.75 - 57.233	22.042	12	3.7487	0.0016
L25	57.233 - 56.983	21.639	12	3.7114	0.0016
L26	56.983 - 51.983	21.445	12	3.6933	0.0016
L27	51.983 - 46.983	17.774	12	3.3243	0.0014
L28	46.983 - 40.457	14.493	12	2.9481	0.0012
L29	45.54 - 39.457	13.619	12	2.8394	0.0011
L30	39.457 - 37.833	10.145	12	2.5871	0.0010
L31	37.833 - 37.583	9.285	12	2.4754	0.0009
L32	37.583 - 32.583	9.156	12	2.4580	0.0009
L33	32.583 - 27.583	6.767	12	2.1062	0.0008
L34	27.583 - 22.583	4.748	12	1.7527	0.0006
L35	22.583 - 17.583	3.098	12	1.3984	0.0005
L36	17.583 - 12.583	1.818	12	1.0485	0.0003
L37	12.583 - 12.25	0.905	12	0.6945	0.0002
L38	12.25 - 12	0.858	12	0.6711	0.0002
L39	12 - 7	0.823	12	0.6575	0.0002
L40	7 - 2	0.280	12	0.3812	0.0001
L41	2 - 0	0.023	12	0.1095	0.0000

### Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
125.00	APXVTM14-C-120 w/ Mount	12	102.960	7.2839	0.0131	3098

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
	Pipe					
124.00	VHLP2-18	12	101.445	7.2757	0.0126	3098
123.00	PCS 1900MHz 4x45W-65MHz	12	99.931	7.2667	0.0121	3098
115.00	AM-X-CD-16-65-00T-RET w/ Mount Pipe	12	87.944	7.0968	0.0089	1651
105.00	LNx-6514DS-A1M w/ Mount Pipe	12	73.681	6.5531	0.0065	835
95.00	T-Arm Mount [TA 602-3]	12	60.778	5.9019	0.0040	1380
85.00	MX08FRO665-20 w/ Mount Pipe	12	48.826	5.5658	0.0034	1465

### Compression Checks

### Pole Design Data

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> K	φP <sub>n</sub> K	Ratio P <sub>u</sub> / φP <sub>n</sub>
L1	125 - 120 (1)	TP19.5748x18.5x0.1875	5.00	0.00	0.0	11.537 9	-3.42	674.97	0.005
L2	120 - 115 (2)	TP20.6497x19.5748x0.18 75	5.00	0.00	0.0	12.177 5	-3.70	712.39	0.005
L3	115 - 110 (3)	TP21.7245x20.6497x0.18 75	5.00	0.00	0.0	12.817 2	-7.36	749.81	0.010
L4	110 - 105 (4)	TP22.7993x21.7245x0.18 75	5.00	0.00	0.0	13.456 8	-7.75	787.23	0.010
L5	105 - 100 (5)	TP23.8741x22.7993x0.18 75	5.00	0.00	0.0	14.096 5	-12.46	824.64	0.015
L6	100 - 99.375 (6)	TP24.0085x23.8741x0.18 75	0.63	0.00	0.0	14.176 5	-12.54	829.32	0.015
L7	99.375 - 99.125 (7)	TP24.0622x24.0085x0.42 5	0.25	0.00	0.0	31.885 4	-12.59	1865.30	0.007
L8	99.125 - 94.458 (8)	TP25.0655x24.0622x0.41 25	4.67	0.00	0.0	32.277 5	-17.30	1888.23	0.009
L9	94.458 - 94.208 (9)	TP25.1192x25.0655x0.6 4	0.25	0.00	0.0	46.694 4	-17.36	2731.62	0.006
L10	94.208 - 89.208 (10)	TP26.194x25.1192x0.575 0	5.00	0.00	0.0	46.756 0	-18.48	2735.23	0.007
L11	89.208 - 89 (11)	TP26.2387x26.194x0.575 6	0.21	0.00	0.0	46.837 6	-18.53	2740.00	0.007
L12	89 - 85.04 (12)	TP27.09x26.2387x0.6625 5	3.96	0.00	0.0	53.800 5	-18.54	3147.33	0.006
L13	85.04 - 84.04 (13)	TP26.9179x25.873x0.5 2	4.92	0.00	0.0	41.925 2	-22.63	2452.63	0.009
L14	84.04 - 79.04 (14)	TP27.9805x26.9179x0.48 75	5.00	0.00	0.0	42.540 6	-23.75	2488.63	0.010
L15	79.04 - 74.04 (15)	TP29.0431x27.9805x0.47 5	5.00	0.00	0.0	43.070 7	-24.92	2519.63	0.010
L16	74.04 - 73.583 (16)	TP29.1402x29.0431x0.47 5	0.46	0.00	0.0	43.217 1	-25.04	2528.20	0.010
L17	73.583 - 73.333 (17)	TP29.1933x29.1402x0.61 25	0.25	0.00	0.0	55.563 3	-25.12	3250.45	0.008
L18	73.333 - 73 (18)	TP29.2641x29.1933x0.61 25	0.33	0.00	0.0	55.700 9	-25.21	3258.50	0.008
L19	73 - 72.75 (19)	TP29.3172x29.2641x0.37 5	0.25	0.00	0.0	34.448 5	-25.27	2015.24	0.013
L20	72.75 - 67.75 (20)	TP30.3798x29.3172x0.37 5	5.00	0.00	0.0	35.713 2	-26.39	2089.22	0.013
L21	67.75 - 63 (21)	TP31.3893x30.3798x0.36 88	4.75	0.00	0.0	36.306 8	-27.50	2123.95	0.013
L22	63 - 62.75 (22)	TP31.4424x31.3893x0.57 5	0.25	0.00	0.0	56.334 5	-27.60	3295.57	0.008
L23	62.75 - 57.75 (23)	TP32.505x31.4424x0.562 5	5.00	0.00	0.0	57.029 3	-29.04	3336.21	0.009
L24	57.75 -	TP32.6148x32.505x0.45	0.52	0.00	0.0	45.941	-29.18	2687.55	0.011

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> K	φP <sub>n</sub> K	Ratio P <sub>u</sub> / φP <sub>n</sub>
L25	57.233 (24) 57.233 - 56.983 (25)	TP32.668x32.6148x0.45	0.25	0.00	0.0	46.016 9	-29.25	2691.99	0.011
L26	56.983 - 51.983 (26)	TP33.7305x32.668x0.443 8	5.00	0.00	0.0	46.883 2	-30.56	2742.67	0.011
L27	51.983 - 46.983 (27)	TP34.7931x33.7305x0.43 75	5.00	0.00	0.0	47.707 1	-31.93	2790.86	0.011
L28	46.983 - 40.457 (28)	TP36.18x34.7931x0.4375	6.53	0.00	0.0	48.132 9	-32.33	2815.78	0.011
L29	40.457 - 39.457 (29)	TP35.8888x34.5998x0.5	6.08	0.00	0.0	56.162 0	-34.97	3285.48	0.011
L30	39.457 - 37.833 (30)	TP36.2329x35.8888x0.49 38	1.62	0.00	0.0	56.009 1	-35.45	3276.53	0.011
L31	37.833 - 37.583 (31)	TP36.2859x36.2329x0.49 38	0.25	0.00	0.0	56.092 1	-35.56	3281.39	0.011
L32	37.583 - 32.583 (32)	TP37.3455x36.2859x0.48 75	5.00	0.00	0.0	57.031 2	-37.11	3336.33	0.011
L33	32.583 - 27.583 (33)	TP38.405x37.3455x0.481 3	5.00	0.00	0.0	57.928 0	-38.71	3388.79	0.011
L34	27.583 - 22.583 (34)	TP39.4645x38.405x0.475	5.00	0.00	0.0	58.782 5	-40.35	3438.78	0.012
L35	22.583 - 17.583 (35)	TP40.5241x39.4645x0.47 5	5.00	0.00	0.0	60.380 0	-42.01	3532.23	0.012
L36	17.583 - 12.583 (36)	TP41.5836x40.5241x0.46 25	5.00	0.00	0.0	60.364 7	-43.70	3531.34	0.012
L37	12.583 - 12.25 (37)	TP41.6541x41.5836x0.46 25	0.33	0.00	0.0	60.468 3	-43.83	3537.40	0.012
L38	12.25 - 12 (38)	TP41.7071x41.6541x0.6	0.25	0.00	0.0	78.284 4	-43.94	4579.64	0.010
L39	12 - 7 (39)	TP42.7667x41.7071x0.58 75	5.00	0.00	0.0	78.652 5	-46.04	4601.17	0.010
L40	7 - 2 (40)	TP43.8262x42.7667x0.58 75	5.00	0.00	0.0	80.628 3	-48.05	4716.75	0.010
L41	2 - 0 (41)	TP44.25x43.8262x0.575	2.00	0.00	0.0	79.709 1	-48.83	4662.98	0.010

### Pole Bending Design Data

Section No.	Elevation ft	Size	M <sub>ux</sub> kip-ft	φM <sub>nx</sub> kip-ft	Ratio M <sub>ux</sub> / φM <sub>nx</sub>	M <sub>uy</sub> kip-ft	φM <sub>ny</sub> kip-ft	Ratio M <sub>uy</sub> / φM <sub>ny</sub>
L1	125 - 120 (1)	TP19.5748x18.5x0.1875	37.52	334.00	0.112	0.00	334.00	0.000
L2	120 - 115 (2)	TP20.6497x19.5748x0.18 75	74.70	366.78	0.204	0.00	366.78	0.000
L3	115 - 110 (3)	TP21.7245x20.6497x0.18 75	146.14	400.45	0.365	0.00	400.45	0.000
L4	110 - 105 (4)	TP22.7993x21.7245x0.18 75	213.59	434.92	0.491	0.00	434.92	0.000
L5	105 - 100 (5)	TP23.8741x22.7993x0.18 75	307.84	470.09	0.655	0.00	470.09	0.000
L6	100 - 99.375 (6)	TP24.0085x23.8741x0.18 75	319.87	474.53	0.674	0.00	474.53	0.000
L7	99.375 - 99.125 (7)	TP24.0622x24.0085x0.42 5	324.69	1139.99	0.285	0.00	1139.99	0.000
L8	99.125 - 94.458 (8)	TP25.0655x24.0622x0.41 25	421.56	1205.08	0.350	0.00	1205.08	0.000
L9	94.458 - 94.208 (9)	TP25.1192x25.0655x0.6	427.86	1720.78	0.249	0.00	1720.78	0.000
L10	94.208 - 89.208 (10)	TP26.194x25.1192x0.575	556.24	1803.90	0.308	0.00	1803.90	0.000
L11	89.208 - 89 (11)	TP26.2387x26.194x0.575	561.68	1810.28	0.310	0.00	1810.28	0.000
L12	89 - 85.04 (12)	TP27.09x26.2387x0.6625	562.81	2066.00	0.272	0.00	2066.00	0.000
L13	85.04 - 84.04	TP26.9179x25.873x0.5	696.50	1673.72	0.416	0.00	1673.72	0.000

Section No.	Elevation ft	Size	$M_{ux}$ kip-ft	$\phi M_{nx}$ kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	$M_{uy}$ kip-ft	$\phi M_{ny}$ kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L14	84.04 - 79.04 (13)	TP27.9805x26.9179x0.4875	847.07	1769.47	0.479	0.00	1769.47	0.000
L15	79.04 - 74.04 (14)	TP29.0431x27.9805x0.475	1001.78	1863.60	0.538	0.00	1863.60	0.000
L16	74.04 - 73.583 (15)	TP29.1402x29.0431x0.475	1016.12	1876.40	0.542	0.00	1876.40	0.000
L17	73.583 - 73.333 (16)	TP29.1933x29.1402x0.6125	1023.97	2393.90	0.428	0.00	2393.90	0.000
L18	73.333 - 73 (17)	TP29.2641x29.1933x0.6125	1034.44	2405.89	0.430	0.00	2405.89	0.000
L19	73 - 72.75 (18)	TP29.3172x29.2641x0.375	1042.31	1515.53	0.688	0.00	1515.53	0.000
L20	72.75 - 67.75 (19)	TP30.3798x29.3172x0.375	1200.78	1629.59	0.737	0.00	1629.59	0.000
L21	67.75 - 63 (20)	TP31.3893x30.3798x0.3688	1353.26	1713.78	0.790	0.00	1713.78	0.000
L22	63 - 62.75 (21)	TP31.4424x31.3893x0.575	1361.33	2628.52	0.518	0.00	2628.52	0.000
L23	62.75 - 57.75 (22)	TP32.505x31.4424x0.5625	1525.12	2756.37	0.553	0.00	2756.37	0.000
L24	57.75 - 57.233 (23)	TP32.6148x32.505x0.45	1542.30	2243.88	0.687	0.00	2243.88	0.000
L25	57.233 - 56.983 (24)	TP32.668x32.6148x0.45	1550.63	2251.35	0.689	0.00	2251.35	0.000
L26	56.983 - 51.983 (25)	TP33.7305x32.668x0.4438	1719.23	2371.32	0.725	0.00	2371.32	0.000
L27	51.983 - 46.983 (26)	TP34.7931x33.7305x0.4375	1890.99	2491.93	0.759	0.00	2491.93	0.000
L28	46.983 - 40.457 (27)	TP36.18x34.7931x0.4375	1940.97	2536.91	0.765	0.00	2536.91	0.000
L29	40.457 - 39.457 (28)	TP35.8888x34.5998x0.5	2155.80	3017.64	0.714	0.00	3017.64	0.000
L30	39.457 - 37.833 (29)	TP36.2329x35.8888x0.4938	2215.80	3040.16	0.729	0.00	3040.16	0.000
L31	37.833 - 37.583 (30)	TP36.2859x36.2329x0.4938	2225.07	3049.24	0.730	0.00	3049.24	0.000
L32	37.583 - 32.583 (31)	TP37.3455x36.2859x0.4875	2412.56	3194.40	0.755	0.00	3194.40	0.000
L33	32.583 - 27.583 (32)	TP38.405x37.3455x0.4813	2602.99	3340.22	0.779	0.00	3340.22	0.000
L34	27.583 - 22.583 (33)	TP39.4645x38.405x0.475	2795.35	3486.50	0.802	0.00	3486.50	0.000
L35	22.583 - 17.583 (34)	TP40.5241x39.4645x0.475	2989.47	3679.73	0.812	0.00	3679.73	0.000
L36	17.583 - 12.583 (35)	TP41.5836x40.5241x0.4625	3185.18	3779.57	0.843	0.00	3779.57	0.000
L37	12.583 - 12.25 (36)	TP41.6541x41.5836x0.4625	3198.27	3792.63	0.843	0.00	3792.63	0.000
L38	12.25 - 12 (37)	TP41.7071x41.6541x0.6	3208.09	4883.73	0.657	0.00	4883.73	0.000
L39	12 - 7 (38)	TP42.7667x41.7071x0.5875	3405.57	5037.97	0.676	0.00	5037.97	0.000
L40	7 - 2 (39)	TP43.8262x42.7667x0.5875	3604.43	5296.03	0.681	0.00	5296.03	0.000
L41	2 - 0 (40)	TP44.25x43.8262x0.575	3684.26	5290.69	0.696	0.00	5290.69	0.000

### Pole Shear Design Data

Section No.	Elevation ft	Size	Actual $V_u$ K	$\phi V_n$ K	Ratio $\frac{V_u}{\phi V_n}$	Actual $T_u$ kip-ft	$\phi T_n$ kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	125 - 120 (1)	TP19.5748x18.5x0.1875	7.24	202.49	0.036	0.48	343.80	0.001
L2	120 - 115 (2)	TP20.6497x19.5748x0.1875	7.64	213.72	0.036	0.48	382.97	0.001



Section No.	Elevation ft	Size	Actual $V_u$ K	$\phi V_n$ K	Ratio $\frac{V_u}{\phi V_n}$	Actual $T_u$ kip-ft	$\phi T_n$ kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L3	115 - 110 (3)	TP21.7245x20.6497x0.1875	13.04	224.94	0.058	0.48	424.26	0.001
L4	110 - 105 (4)	TP22.7993x21.7245x0.1875	14.00	236.17	0.059	0.12	467.67	0.000
L5	105 - 100 (5)	TP23.8741x22.7993x0.1875	19.21	247.39	0.078	0.07	513.18	0.000
L6	100 - 99.375 (6)	TP24.0085x23.8741x0.1875	19.30	248.80	0.078	0.05	519.02	0.000
L7	99.375 - 99.125 (7)	TP24.0622x24.0085x0.425	19.34	559.59	0.035	0.04	1158.37	0.000
L8	99.125 - 94.458 (8)	TP25.0655x24.0622x0.4125	25.20	566.47	0.044	0.02	1223.00	0.000
L9	94.458 - 94.208 (9)	TP25.1192x25.0655x0.6	25.24	819.49	0.031	0.03	1759.66	0.000
L10	94.208 - 89.208 (10)	TP26.194x25.1192x0.575	26.13	820.57	0.032	0.08	1841.02	0.000
L11	89.208 - 89 (11)	TP26.2387x26.194x0.575	26.17	822.00	0.032	0.08	1847.45	0.000
L12	89 - 85.04 (12)	TP27.09x26.2387x0.6625	26.18	944.20	0.028	0.08	2115.62	0.000
L13	85.04 - 84.04 (13)	TP26.9179x25.873x0.5	29.71	735.79	0.040	0.12	1702.28	0.000
L14	84.04 - 79.04 (14)	TP27.9805x26.9179x0.4875	30.55	746.59	0.041	0.06	1797.56	0.000
L15	79.04 - 74.04 (15)	TP29.0431x27.9805x0.475	31.37	755.89	0.042	0.12	1891.13	0.000
L16	74.04 - 73.583 (16)	TP29.1402x29.0431x0.475	31.41	758.46	0.041	0.12	1904.00	0.000
L17	73.583 - 73.333 (17)	TP29.1933x29.1402x0.6125	31.43	975.14	0.032	0.12	2440.73	0.000
L18	73.333 - 73 (18)	TP29.2641x29.1933x0.6125	31.47	977.55	0.032	0.12	2452.83	0.000
L19	73 - 72.75 (19)	TP29.3172x29.2641x0.375	31.49	604.57	0.052	0.12	1532.36	0.000
L20	72.75 - 67.75 (20)	TP30.3798x29.3172x0.375	31.93	626.77	0.051	0.12	1646.93	0.000
L21	67.75 - 63 (21)	TP31.3893x30.3798x0.3688	32.33	637.18	0.051	0.12	1730.98	0.000
L22	63 - 62.75 (22)	TP31.4424x31.3893x0.575	32.33	988.67	0.033	0.12	2672.58	0.000
L23	62.75 - 57.75 (23)	TP32.505x31.4424x0.5625	33.21	1000.86	0.033	0.19	2799.78	0.000
L24	57.75 - 57.233 (24)	TP32.6148x32.505x0.45	33.29	806.26	0.041	0.19	2271.12	0.000
L25	57.233 - 56.983 (25)	TP32.668x32.6148x0.45	33.32	807.60	0.041	0.20	2278.63	0.000
L26	56.983 - 51.983 (26)	TP33.7305x32.668x0.4438	34.15	822.80	0.042	0.28	2398.53	0.000
L27	51.983 - 46.983 (27)	TP34.7931x33.7305x0.4375	34.60	837.26	0.041	0.28	2519.06	0.000
L28	46.983 - 40.457 (28)	TP36.18x34.7931x0.4375	34.73	844.73	0.041	0.28	2564.22	0.000
L29	40.457 - 39.457 (29)	TP35.8888x34.5998x0.5	36.81	985.64	0.037	0.22	3054.68	0.000
L30	39.457 - 37.833 (30)	TP36.2329x35.8888x0.4938	37.08	982.96	0.038	0.22	3076.53	0.000
L31	37.833 - 37.583 (31)	TP36.2859x36.2329x0.4938	37.09	984.42	0.038	0.21	3085.65	0.000
L32	37.583 - 32.583 (32)	TP37.3455x36.2859x0.4875	37.88	1000.90	0.038	0.19	3230.73	0.000
L33	32.583 - 27.583 (33)	TP38.405x37.3455x0.4813	38.28	1016.64	0.038	0.19	3376.43	0.000
L34	27.583 - 22.583 (34)	TP39.4645x38.405x0.475	38.65	1031.63	0.037	0.19	3522.52	0.000
L35	22.583 - 17.583 (35)	TP40.5241x39.4645x0.475	38.99	1059.67	0.037	0.19	3716.57	0.000
L36	17.583 - 12.583 (36)	TP41.5836x40.5241x0.4625	39.29	1059.40	0.037	0.19	3815.09	0.000
L37	12.583 -	TP41.6541x41.5836x0.46	39.29	1061.22	0.037	0.19	3828.19	0.000

Section No.	Elevation ft	Size	Actual $V_u$ K	$\phi V_n$ K	Ratio $\frac{V_u}{\phi V_n}$	Actual $T_u$ kip-ft	$\phi T_n$ kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L38	12.25 (37) 12.25 - 12 (38)	25 TP41.7071x41.6541x0.6	39.30	1373.89	0.029	0.19	4945.95	0.000
L39	12 - 7 (39)	TP42.7667x41.7071x0.58	39.65	1380.35	0.029	0.19	5098.80	0.000
L40	7 - 2 (40)	75 TP43.8262x42.7667x0.58	39.89	1415.03	0.028	0.19	5358.18	0.000
L41	2 - 0 (41)	75 TP44.25x43.8262x0.575	39.99	1398.89	0.029	0.19	5350.54	0.000

### Pole Interaction Design Data

Section No.	Elevation ft	Ratio $P_u$ $\phi P_n$	Ratio $M_{ux}$ $\phi M_{nx}$	Ratio $M_{uy}$ $\phi M_{ny}$	Ratio $V_u$ $\phi V_n$	Ratio $T_u$ $\phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	125 - 120 (1)	0.005	0.112	0.000	0.036	0.001	0.119	1.050	4.8.2
L2	120 - 115 (2)	0.005	0.204	0.000	0.036	0.001	0.210	1.050	4.8.2
L3	115 - 110 (3)	0.010	0.365	0.000	0.058	0.001	0.378	1.050	4.8.2
L4	110 - 105 (4)	0.010	0.491	0.000	0.059	0.000	0.504	1.050	4.8.2
L5	105 - 100 (5)	0.015	0.655	0.000	0.078	0.000	0.676	1.050	4.8.2
L6	100 - 99.375 (6)	0.015	0.674	0.000	0.078	0.000	0.695	1.050	4.8.2
L7	99.375 - 99.125 (7)	0.007	0.285	0.000	0.035	0.000	0.293	1.050	4.8.2
L8	99.125 - 94.458 (8)	0.009	0.350	0.000	0.044	0.000	0.361	1.050	4.8.2
L9	94.458 - 94.208 (9)	0.006	0.249	0.000	0.031	0.000	0.256	1.050	4.8.2
L10	94.208 - 89.208 (10)	0.007	0.308	0.000	0.032	0.000	0.316	1.050	4.8.2
L11	89.208 - 89 (11)	0.007	0.310	0.000	0.032	0.000	0.318	1.050	4.8.2
L12	89 - 85.04 (12)	0.006	0.272	0.000	0.028	0.000	0.279	1.050	4.8.2
L13	85.04 - 84.04 (13)	0.009	0.416	0.000	0.040	0.000	0.427	1.050	4.8.2
L14	84.04 - 79.04 (14)	0.010	0.479	0.000	0.041	0.000	0.490	1.050	4.8.2
L15	79.04 - 74.04 (15)	0.010	0.538	0.000	0.042	0.000	0.549	1.050	4.8.2
L16	74.04 - 73.583 (16)	0.010	0.542	0.000	0.041	0.000	0.553	1.050	4.8.2
L17	73.583 - 73.333 (17)	0.008	0.428	0.000	0.032	0.000	0.437	1.050	4.8.2
L18	73.333 - 73 (18)	0.008	0.430	0.000	0.032	0.000	0.439	1.050	4.8.2
L19	73 - 72.75 (19)	0.013	0.688	0.000	0.052	0.000	0.703	1.050	4.8.2
L20	72.75 - 67.75 (20)	0.013	0.737	0.000	0.051	0.000	0.752	1.050	4.8.2
L21	67.75 - 63 (21)	0.013	0.790	0.000	0.051	0.000	0.805	1.050	4.8.2
L22	63 - 62.75 (22)	0.008	0.518	0.000	0.033	0.000	0.527	1.050	4.8.2
L23	62.75 - 57.75 (23)	0.009	0.553	0.000	0.033	0.000	0.563	1.050	4.8.2
L24	57.75 - 57.233 (24)	0.011	0.687	0.000	0.041	0.000	0.700	1.050	4.8.2
L25	57.233 - 56.983 (25)	0.011	0.689	0.000	0.041	0.000	0.701	1.050	4.8.2
L26	56.983 - 51.983 (26)	0.011	0.725	0.000	0.042	0.000	0.738	1.050	4.8.2
L27	51.983 - 46.983 (27)	0.011	0.759	0.000	0.041	0.000	0.772	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		$P_u$	$M_{ux}$	$M_{uy}$	$V_u$	$T_u$			
		$\phi P_n$	$\phi M_{nx}$	$\phi M_{ny}$	$\phi V_n$	$\phi T_n$			
L28	46.983 - 40.457 (28)	0.011	0.765	0.000	0.041	0.000	0.778	1.050	4.8.2
L29	40.457 - 39.457 (29)	0.011	0.714	0.000	0.037	0.000	0.726	1.050	4.8.2
L30	39.457 - 37.833 (30)	0.011	0.729	0.000	0.038	0.000	0.741	1.050	4.8.2
L31	37.833 - 37.583 (31)	0.011	0.730	0.000	0.038	0.000	0.742	1.050	4.8.2
L32	37.583 - 32.583 (32)	0.011	0.755	0.000	0.038	0.000	0.768	1.050	4.8.2
L33	32.583 - 27.583 (33)	0.011	0.779	0.000	0.038	0.000	0.792	1.050	4.8.2
L34	27.583 - 22.583 (34)	0.012	0.802	0.000	0.037	0.000	0.815	1.050	4.8.2
L35	22.583 - 17.583 (35)	0.012	0.812	0.000	0.037	0.000	0.826	1.050	4.8.2
L36	17.583 - 12.583 (36)	0.012	0.843	0.000	0.037	0.000	0.856	1.050	4.8.2
L37	12.583 - 12.25 (37)	0.012	0.843	0.000	0.037	0.000	0.857	1.050	4.8.2
L38	12.25 - 12 (38)	0.010	0.657	0.000	0.029	0.000	0.667	1.050	4.8.2
L39	12 - 7 (39)	0.010	0.676	0.000	0.029	0.000	0.687	1.050	4.8.2
L40	7 - 2 (40)	0.010	0.681	0.000	0.028	0.000	0.692	1.050	4.8.2
L41	2 - 0 (41)	0.010	0.696	0.000	0.029	0.000	0.708	1.050	4.8.2

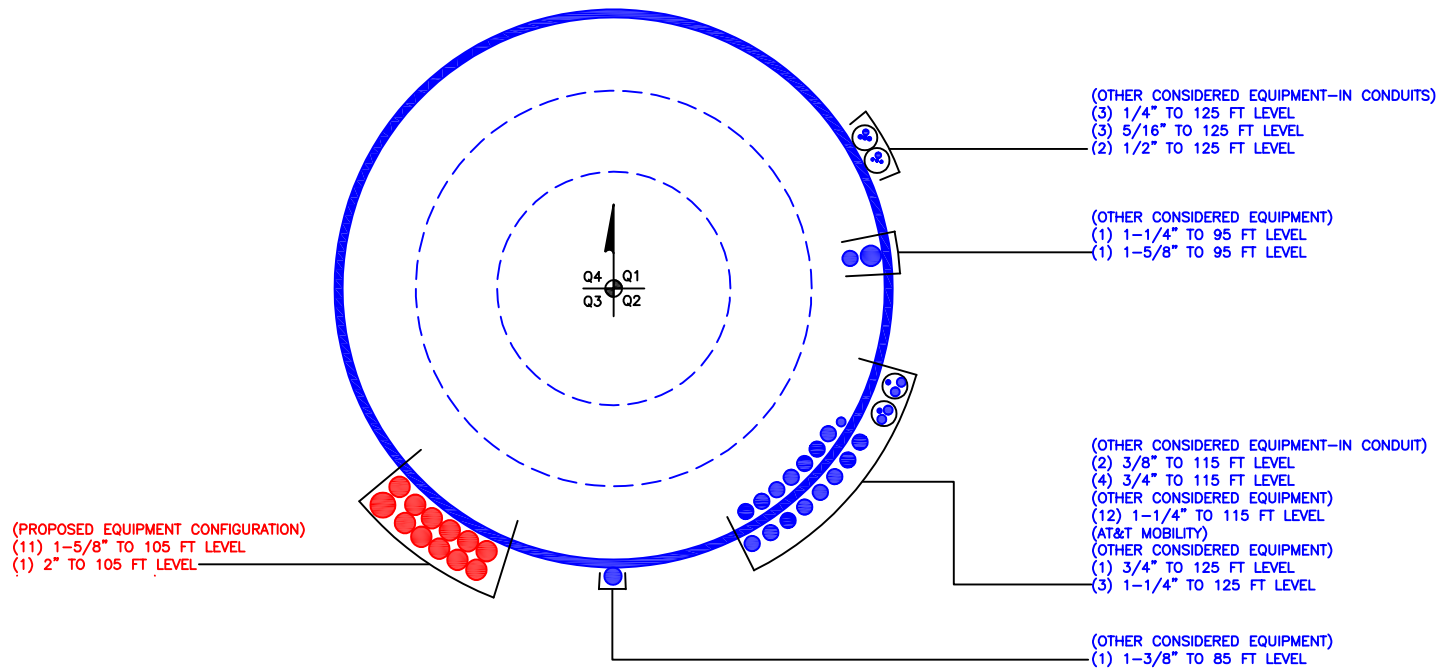
### Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$\phi P_{allow}$ K	% Capacity	Pass Fail
L1	125 - 120	Pole	TP19.5748x18.5x0.1875	1	-3.42	708.71	11.3	Pass
L2	120 - 115	Pole	TP20.6497x19.5748x0.1875	2	-3.70	748.01	20.0	Pass
L3	115 - 110	Pole	TP21.7245x20.6497x0.1875	3	-7.36	787.30	36.0	Pass
L4	110 - 105	Pole	TP22.7993x21.7245x0.1875	4	-7.75	826.59	48.0	Pass
L5	105 - 100	Pole	TP23.8741x22.7993x0.1875	5	-12.46	865.88	64.4	Pass
L6	100 - 99.375	Pole	TP24.0085x23.8741x0.1875	6	-12.54	870.79	66.2	Pass
L7	99.375 - 99.125	Pole	TP24.0622x24.0085x0.425	7	-12.59	1958.56	27.9	Pass
L8	99.125 - 94.458	Pole	TP25.0655x24.0622x0.4125	8	-17.30	1982.64	34.4	Pass
L9	94.458 - 94.208	Pole	TP25.1192x25.0655x0.6	9	-17.36	2868.20	24.4	Pass
L10	94.208 - 89.208	Pole	TP26.194x25.1192x0.575	10	-18.48	2871.99	30.1	Pass
L11	89.208 - 89	Pole	TP26.2387x26.194x0.575	11	-18.53	2877.00	30.3	Pass
L12	89 - 85.04	Pole	TP27.09x26.2387x0.6625	12	-18.54	3304.70	26.6	Pass
L13	85.04 - 84.04	Pole	TP26.9179x25.873x0.5	13	-22.63	2575.26	40.7	Pass
L14	84.04 - 79.04	Pole	TP27.9805x26.9179x0.4875	14	-23.75	2613.06	46.7	Pass
L15	79.04 - 74.04	Pole	TP29.0431x27.9805x0.475	15	-24.92	2645.61	52.3	Pass
L16	74.04 - 73.583	Pole	TP29.1402x29.0431x0.475	16	-25.04	2654.61	52.7	Pass
L17	73.583 - 73.333	Pole	TP29.1933x29.1402x0.6125	17	-25.12	3412.97	41.6	Pass
L18	73.333 - 73	Pole	TP29.2641x29.1933x0.6125	18	-25.21	3421.42	41.8	Pass
L19	73 - 72.75	Pole	TP29.3172x29.2641x0.375	19	-25.27	2116.00	67.0	Pass
L20	72.75 - 67.75	Pole	TP30.3798x29.3172x0.375	20	-26.39	2193.68	71.6	Pass
L21	67.75 - 63	Pole	TP31.3893x30.3798x0.3688	21	-27.50	2230.15	76.7	Pass
L22	63 - 62.75	Pole	TP31.4424x31.3893x0.575	22	-27.60	3460.35	50.2	Pass
L23	62.75 - 57.75	Pole	TP32.505x31.4424x0.5625	23	-29.04	3503.02	53.6	Pass
L24	57.75 - 57.233	Pole	TP32.6148x32.505x0.45	24	-29.18	2821.93	66.7	Pass
L25	57.233 - 56.983	Pole	TP32.668x32.6148x0.45	25	-29.25	2826.59	66.8	Pass
L26	56.983 - 51.983	Pole	TP33.7305x32.668x0.4438	26	-30.56	2879.80	70.3	Pass
L27	51.983 - 46.983	Pole	TP34.7931x33.7305x0.4375	27	-31.93	2930.40	73.5	Pass
L28	46.983 - 40.457	Pole	TP36.18x34.7931x0.4375	28	-32.33	2956.57	74.1	Pass
L29	40.457 - 39.457	Pole	TP35.8888x34.5998x0.5	29	-34.97	3449.75	69.2	Pass
L30	39.457 - 37.833	Pole	TP36.2329x35.8888x0.4938	30	-35.45	3440.36	70.6	Pass
L31	37.833 - 37.583	Pole	TP36.2859x36.2329x0.4938	31	-35.56	3445.46	70.7	Pass
L32	37.583 - 32.583	Pole	TP37.3455x36.2859x0.4875	32	-37.11	3503.15	73.1	Pass
L33	32.583 - 27.583	Pole	TP38.405x37.3455x0.4813	33	-38.71	3558.23	75.4	Pass
L34	27.583 - 22.583	Pole	TP39.4645x38.405x0.475	34	-40.35	3610.72	77.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$\phi P_{allow}$ K	% Capacity	Pass Fail	
L35	22.583 - 17.583	Pole	TP40.5241x39.4645x0.475	35	-42.01	3708.84	78.6	Pass	
L36	17.583 - 12.583	Pole	TP41.5836x40.5241x0.4625	36	-43.70	3707.91	81.6	Pass	
L37	12.583 - 12.25	Pole	TP41.6541x41.5836x0.4625	37	-43.83	3714.27	81.6	Pass	
L38	12.25 - 12	Pole	TP41.7071x41.6541x0.6	38	-43.94	4808.62	63.6	Pass	
L39	12 - 7	Pole	TP42.7667x41.7071x0.5875	39	-46.04	4831.23	65.4	Pass	
L40	7 - 2	Pole	TP43.8262x42.7667x0.5875	40	-48.05	4952.59	65.9	Pass	
L41	2 - 0	Pole	TP44.25x43.8262x0.575	41	-48.83	4896.13	67.4	Pass	
							Summary		
							Pole (L37)	81.6	Pass
							<b>RATING =</b>	<b>81.6</b>	<b>Pass</b>

**\*NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix C.**

**APPENDIX B**  
**BASE LEVEL DRAWING**



**APPENDIX C**  
**ADDITIONAL CALCULATIONS**

Site BU: 876364  
Work Order: 1953782

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**Pole Geometry**

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	125	39.96	3.917	18	18.5	27.09	0.1875	Auto	A572-65
2	88.957	48.5	5.083	18	25.87	36.18	0.25	Auto	A572-65
3	45.54	45.54	0	18	34.60	44.25	0.3125	Auto	A572-65

**Reinforcement Configuration**

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	37.833	plate	MS-406	3					M						M						M	
2	37.833	57.333	plate	MS-406	3				M							M						M	
3	57.333	73.583	plate	MS-404	3					M						M						M	
4	73	89	plate	MS-600K	3	M						M						M					
5	89	94.458	plate	MS-600 Notched (2")	3		M						M						M				
6	0	12.25	plate	CCI-WSFP-065125	3	M						M			M								
7	57.33	63	plate	CCI-SFP-060100	3	M						M						M					
8	86.875	99.375	plate	CCI 3.25X1.25	4					M					M					M			M
9																							
10																							

**Reinforcement Details**

	B (in)	H (in)	Gross Area (in <sup>2</sup> )	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in <sup>2</sup> )	Bolt Hole Size (in)	Reinforcement Material
1	4.875	1.25	6.09375	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	23.000	4.492	1.2188	A514-GR100
2	4.875	1.25	6.09375	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	23.000	4.492	1.2188	A514-GR100
3	4.75	0.75	3.5625	0.375	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	14.000	2.602	1.2188	A514-GR100
4	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.375	4.719	1.2188	A572-65
5	4	1	4	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.375	2.719	1.2188	A572-65
6	6.5	1.25	8.125	0.625	Welded	n/a	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
7	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
8	3.25	1.25	4.0625	0.625	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	24.000	2.461	1.2188	A572-65

**Connection Details for Custom Reinforcements**

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
MS-406	Top	11	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	11	N	3	3	-	-	-	-	-	-	-	-	-
MS-404	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
MS-600K	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
MS-600 Notched (2")	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
CCI 3.25X1.25	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	5	N	3	3	-	-	-	-	-	-	-	-	-



# TNX Geometry Input

Increment (ft):  [Export to TNX](#)

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	125 - 120	5		18	18.500	19.575	0.1875	A572-65	1.000
2	120 - 115	5		18	19.575	20.650	0.1875	A572-65	1.000
3	115 - 110	5		18	20.650	21.724	0.1875	A572-65	1.000
4	110 - 105	5		18	21.724	22.799	0.1875	A572-65	1.000
5	105 - 100	5		18	22.799	23.874	0.1875	A572-65	1.000
6	100 - 99.375	0.625		18	23.874	24.008	0.1875	A572-65	1.000
7	99.375 - 99.125	0.25		18	24.008	24.062	0.425	A572-65	0.955
8	99.125 - 94.458	4.667		18	24.062	25.065	0.4125	A572-65	0.962
9	94.458 - 94.208	0.25		18	25.065	25.119	0.6	A572-65	0.923
10	94.208 - 89.208	5		18	25.119	26.194	0.575	A572-65	0.935
11	89.208 - 89	0.208		18	26.194	26.239	0.575	A572-65	0.934
12	89 - 88.957	3.96	3.917	18	26.239	27.090	0.6625	A572-65	0.925
13	88.957 - 84.04	4.917		18	25.873	26.918	0.5	A572-65	0.934
14	84.04 - 79.04	5		18	26.918	27.981	0.4875	A572-65	0.940
15	79.04 - 74.04	5		18	27.981	29.043	0.475	A572-65	0.948
16	74.04 - 73.583	0.457		18	29.043	29.140	0.475	A572-65	0.947
17	73.583 - 73.333	0.25		18	29.140	29.193	0.6125	A572-65	0.930
18	73.333 - 73	0.333		18	29.193	29.264	0.6125	A572-65	0.928
19	73 - 72.75	0.25		18	29.264	29.317	0.375	A572-65	0.980
20	72.75 - 67.75	5		18	29.317	30.380	0.375	A572-65	0.969
21	67.75 - 63	4.75		18	30.380	31.389	0.36875	A572-65	0.975
22	63 - 62.75	0.25		18	31.389	31.442	0.575	A572-65	0.949
23	62.75 - 57.75	5		18	31.442	32.505	0.5625	A572-65	0.952
24	57.75 - 57.233	0.517		18	32.505	32.615	0.45	A572-65	0.957
25	57.233 - 56.983	0.25		18	32.615	32.668	0.45	A572-65	0.956
26	56.983 - 51.983	5		18	32.668	33.731	0.44375	A572-65	0.957
27	51.983 - 46.983	5		18	33.731	34.793	0.4375	A572-65	0.958
28	46.983 - 45.54	6.526	5.083	18	34.793	36.180	0.4375	A572-65	0.954
29	45.54 - 39.457	6.083		18	34.600	35.889	0.5	A572-65	0.954
30	39.457 - 37.833	1.624		18	35.889	36.233	0.49375	A572-65	0.963
31	37.833 - 37.583	0.25		18	36.233	36.286	0.49375	A572-65	0.962
32	37.583 - 32.583	5		18	36.286	37.345	0.4875	A572-65	0.965
33	32.583 - 27.583	5		18	37.345	38.405	0.48125	A572-65	0.968
34	27.583 - 22.583	5		18	38.405	39.465	0.475	A572-65	0.972
35	22.583 - 17.583	5		18	39.465	40.524	0.475	A572-65	0.963
36	17.583 - 12.583	5		18	40.524	41.584	0.4625	A572-65	0.981
37	12.583 - 12.25	0.333		18	41.584	41.654	0.4625	A572-65	0.980
38	12.25 - 12	0.25		18	41.654	41.707	0.6	A572-65	1.069
39	12 - 7	5		18	41.707	42.767	0.5875	A572-65	1.078
40	7 - 2	5		18	42.767	43.826	0.5875	A572-65	1.064
41	2 - 0	2		18	43.826	44.250	0.575	A572-65	1.082

## TNX Section Forces

Increment (ft):		TNX Output		
	5	P <sub>u</sub>	M <sub>ux</sub> (kip-ft)	V <sub>u</sub> (K)
	Section Height (ft)	(K)		
1	125 - 120	3.42	37.55	7.24
2	120 - 115	3.70	74.73	7.64
3	115 - 110	7.36	146.14	13.04
4	110 - 105	7.75	213.59	14.00
5	105 - 100	12.46	307.84	19.21
6	100 - 99.375	12.54	319.86	19.30
7	99.375 - 99.125	12.59	324.69	19.34
8	99.125 - 94.458	17.30	421.55	25.20
9	94.458 - 94.208	17.36	427.86	25.24
10	94.208 - 89.208	18.48	556.24	26.13
11	89.208 - 89	18.53	561.68	26.17
12	89 - 88.957	18.54	562.81	26.18
13	88.957 - 84.04	22.63	696.50	29.71
14	84.04 - 79.04	23.75	847.06	30.55
15	79.04 - 74.04	24.92	1001.77	31.37
16	74.04 - 73.583	25.04	1016.11	31.41
17	73.583 - 73.333	25.12	1023.97	31.43
18	73.333 - 73	25.21	1034.44	31.47
19	73 - 72.75	25.27	1042.31	31.49
20	72.75 - 67.75	26.39	1200.78	31.93
21	67.75 - 63	27.50	1353.26	32.33
22	63 - 62.75	27.60	1361.34	32.33
23	62.75 - 57.75	29.04	1525.12	33.21
24	57.75 - 57.233	29.18	1542.30	33.29
25	57.233 - 56.983	29.25	1550.62	33.32
26	56.983 - 51.983	30.56	1719.24	34.15
27	51.983 - 46.983	31.93	1890.99	34.60
28	46.983 - 45.54	32.33	1940.97	34.73
29	45.54 - 39.457	34.97	2155.80	36.81
30	39.457 - 37.833	35.45	2215.80	37.08
31	37.833 - 37.583	35.56	2225.07	37.09
32	37.583 - 32.583	37.11	2412.56	37.88
33	32.583 - 27.583	38.71	2602.99	38.28
34	27.583 - 22.583	40.35	2795.35	38.65
35	22.583 - 17.583	42.01	2989.47	38.99
36	17.583 - 12.583	43.70	3185.18	39.29
37	12.583 - 12.25	43.83	3198.26	39.29
38	12.25 - 12	43.94	3208.10	39.30
39	12 - 7	46.04	3405.57	39.65
40	7 - 2	48.05	3604.43	39.89
41	2 - 0	48.83	3684.26	39.99

# Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
125 - 120	Pole	TP19.575x18.5x0.1875	Pole	11.3%	Pass
120 - 115	Pole	TP20.65x19.575x0.1875	Pole	20.0%	Pass
115 - 110	Pole	TP21.724x20.65x0.1875	Pole	36.0%	Pass
110 - 105	Pole	TP22.799x21.724x0.1875	Pole	48.0%	Pass
105 - 100	Pole	TP23.874x22.799x0.1875	Pole	64.4%	Pass
100 - 99.38	Pole	TP24.008x23.874x0.1875	Pole	66.2%	Pass
99.38 - 99.13	Pole + Reinf.	TP24.062x24.008x0.425	Reinf. 8 Tension Rupture	59.9%	Pass
99.13 - 94.46	Pole + Reinf.	TP25.065x24.062x0.4125	Reinf. 8 Tension Rupture	73.3%	Pass
94.46 - 94.21	Pole + Reinf.	TP25.119x25.065x0.6	Reinf. 8 Tension Rupture	52.0%	Pass
94.21 - 89.21	Pole + Reinf.	TP26.194x25.119x0.575	Reinf. 8 Tension Rupture	63.8%	Pass
89.21 - 89	Pole + Reinf.	TP26.239x26.194x0.575	Reinf. 8 Tension Rupture	64.3%	Pass
89 - 88.96	Pole + Reinf.	TP27.09x26.239x0.6625	Reinf. 8 Tension Rupture	55.9%	Pass
88.96 - 84.04	Pole + Reinf.	TP26.918x25.873x0.5	Reinf. 4 Tension Rupture	65.1%	Pass
84.04 - 79.04	Pole + Reinf.	TP27.981x26.918x0.4875	Reinf. 4 Tension Rupture	74.5%	Pass
79.04 - 74.04	Pole + Reinf.	TP29.043x27.981x0.475	Reinf. 4 Tension Rupture	83.1%	Pass
74.04 - 73.58	Pole + Reinf.	TP29.14x29.043x0.475	Reinf. 4 Tension Rupture	83.8%	Pass
73.58 - 73.33	Pole + Reinf.	TP29.193x29.14x0.6125	Reinf. 4 Tension Rupture	66.4%	Pass
73.33 - 73	Pole + Reinf.	TP29.264x29.193x0.6125	Reinf. 4 Tension Rupture	66.8%	Pass
73 - 72.75	Pole + Reinf.	TP29.317x29.264x0.375	Reinf. 3 Tension Rupture	82.1%	Pass
72.75 - 67.75	Pole + Reinf.	TP30.38x29.317x0.375	Reinf. 3 Tension Rupture	89.0%	Pass
67.75 - 63	Pole + Reinf.	TP31.389x30.38x0.3688	Reinf. 3 Tension Rupture	94.8%	Pass
63 - 62.75	Pole + Reinf.	TP31.442x31.389x0.575	Reinf. 7 Tension Rupture	78.7%	Pass
62.75 - 57.75	Pole + Reinf.	TP32.505x31.442x0.5625	Reinf. 7 Tension Rupture	84.0%	Pass
57.75 - 57.23	Pole + Reinf.	TP32.615x32.505x0.45	Reinf. 2 Tension Rupture	82.4%	Pass
57.23 - 56.98	Pole + Reinf.	TP32.668x32.615x0.45	Reinf. 2 Tension Rupture	82.6%	Pass
56.98 - 51.98	Pole + Reinf.	TP33.731x32.668x0.4438	Reinf. 2 Tension Rupture	87.1%	Pass
51.98 - 46.98	Pole + Reinf.	TP34.793x33.731x0.4375	Reinf. 2 Tension Rupture	91.1%	Pass
46.98 - 45.54	Pole + Reinf.	TP36.18x34.793x0.4375	Reinf. 2 Tension Rupture	92.2%	Pass
45.54 - 39.46	Pole + Reinf.	TP35.889x34.6x0.5	Reinf. 2 Tension Rupture	86.5%	Pass
39.46 - 37.83	Pole + Reinf.	TP36.233x35.889x0.4938	Reinf. 2 Tension Rupture	87.5%	Pass
37.83 - 37.58	Pole + Reinf.	TP36.286x36.233x0.4938	Reinf. 1 Tension Rupture	87.6%	Pass
37.58 - 32.58	Pole + Reinf.	TP37.345x36.286x0.4875	Reinf. 1 Tension Rupture	90.6%	Pass
32.58 - 27.58	Pole + Reinf.	TP38.405x37.345x0.4813	Reinf. 1 Tension Rupture	93.2%	Pass
27.58 - 22.58	Pole + Reinf.	TP39.465x38.405x0.475	Reinf. 1 Tension Rupture	95.6%	Pass
22.58 - 17.58	Pole + Reinf.	TP40.524x39.465x0.475	Reinf. 1 Tension Rupture	97.8%	Pass
17.58 - 12.58	Pole + Reinf.	TP41.584x40.524x0.4625	Reinf. 1 Tension Rupture	99.7%	Pass
12.58 - 12.25	Pole + Reinf.	TP41.654x41.584x0.4625	Reinf. 1 Tension Rupture	99.8%	Pass
12.25 - 12	Pole + Reinf.	TP41.707x41.654x0.6	Reinf. 6 Tension Rupture	85.1%	Pass
12 - 7	Pole + Reinf.	TP42.767x41.707x0.5875	Reinf. 6 Tension Rupture	87.0%	Pass
7 - 2	Pole + Reinf.	TP43.826x42.767x0.5875	Reinf. 6 Tension Rupture	88.8%	Pass
2 - 0	Pole + Reinf.	TP44.25x43.826x0.575	Reinf. 6 Tension Rupture	89.4%	Pass
				Summary	
			Pole	87.7%	Pass
			Reinforcement	99.8%	Pass
			Overall	99.8%	Pass

# Additional Calculations

Section Elevation (ft)	Moment of Inertia (in <sup>4</sup> )			Area (in <sup>2</sup> )			% Capacity*								
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8
125 - 120	548	n/a	548	11.54	n/a	11.54	11.3%								
120 - 115	644	n/a	644	12.18	n/a	12.18	20.0%								
115 - 110	751	n/a	751	12.82	n/a	12.82	36.0%								
110 - 105	869	n/a	869	13.46	n/a	13.46	48.0%								
105 - 100	999	n/a	999	14.10	n/a	14.10	64.4%								
100 - 99.38	1016	n/a	1016	14.18	n/a	14.18	66.2%								
99.38 - 99.13	1025	1229	2254	14.21	16.25	30.46	31.2%								59.9%
99.13 - 94.46	1160	1328	2488	14.80	16.25	31.05	38.9%								73.3%
94.46 - 94.21	1166	2368	3534	14.84	28.25	43.09	27.6%					46.0%			52.0%
94.21 - 89.21	1324	2565	3888	15.48	28.25	43.73	34.4%					56.4%			63.8%
89.21 - 89	1330	2573	3903	15.50	28.25	43.75	34.7%					56.8%			64.3%
89 - 88.96	1332	3152	4483	15.51	34.25	49.76	30.2%				42.8%				55.9%
88.96 - 84.04	1901	1781	3682	21.16	18.00	39.16	41.5%				65.1%				
84.04 - 79.04	2137	1917	4054	22.00	18.00	40.00	48.0%				74.5%				
79.04 - 74.04	2392	2059	4451	22.85	18.00	40.85	54.2%				83.1%				
74.04 - 73.58	2416	2072	4488	22.92	18.00	40.92	54.7%				83.8%				
73.58 - 73.33	2430	3287	5717	22.97	28.69	51.65	43.3%			51.8%	66.4%				
73.33 - 73	2448	3302	5750	23.02	28.69	51.71	43.7%			52.1%	66.8%				
73 - 72.75	2461	1218	3679	23.06	10.69	33.75	68.8%			82.1%					
72.75 - 67.75	2741	1305	4046	23.91	10.69	34.59	75.5%			89.0%					
67.75 - 63	3026	1390	4416	24.71	10.69	35.40	81.3%			94.8%					
63 - 62.75	3041	3791	6832	24.75	28.69	53.44	53.0%			61.8%				78.7%	
62.75 - 57.75	3363	4041	7404	25.59	28.69	54.28	57.3%			65.9%				84.0%	
57.75 - 57.23	3397	2640	6037	25.68	18.28	43.96	71.3%		82.4%						
57.23 - 56.98	3414	2648	6062	25.72	18.28	44.00	71.5%		82.6%						
56.98 - 51.98	3761	2815	6577	26.57	18.28	44.85	76.3%		87.1%						
51.98 - 46.98	4131	2988	7119	27.41	18.28	45.69	80.9%		91.1%						
46.98 - 45.54	4242	3039	7280	27.65	18.28	45.93	82.2%		92.2%						
45.54 - 39.46	5641	3171	8812	35.29	18.28	53.57	72.0%		86.5%						
39.46 - 37.83	5806	3230	9036	35.63	18.28	53.91	73.1%		87.5%						
37.83 - 37.58	5832	3239	9071	35.68	18.28	53.96	73.2%	87.6%							
37.58 - 32.58	6362	3423	9785	36.73	18.28	55.01	76.4%	90.6%							
32.58 - 27.58	6924	3613	10537	37.78	18.28	56.06	79.5%	93.2%							
27.58 - 22.58	7518	3807	11325	38.83	18.28	57.11	82.3%	95.6%							
22.58 - 17.58	8145	4007	12152	39.88	18.28	58.16	85.0%	97.8%							
17.58 - 12.58	8806	4212	13018	40.93	18.28	59.22	87.6%	99.7%							
12.58 - 12.25	8851	4226	13077	41.00	18.28	59.29	87.7%	99.8%							
12.25 - 12	9052	7786	16838	41.06	42.66	83.71	75.7%	79.0%					85.1%		
12 - 7	9760	8175	17935	42.11	42.66	84.76	78.0%	80.6%						87.0%	
7 - 2	10504	8575	19079	43.16	42.66	85.81	80.2%	82.2%						88.8%	
2 - 0	10812	8737	19549	43.58	42.66	86.24	81.1%	82.7%						89.4%	

Note: Section capacity checked using 5 degree increments.  
Rating per TIA-222-H Section 15.5.

# Monopole Base Plate Connection

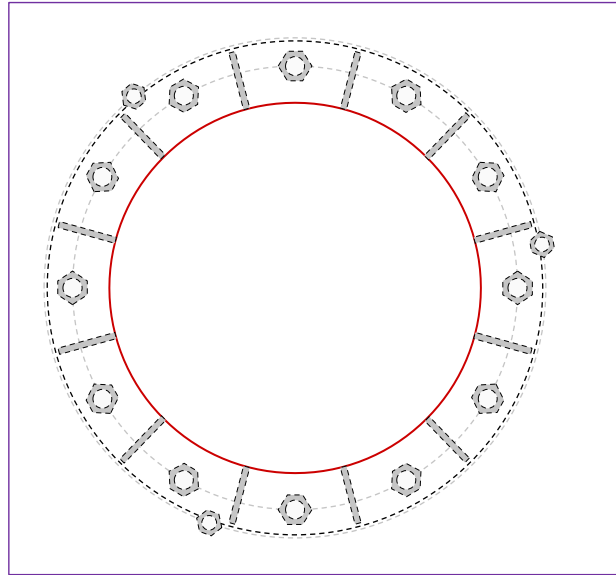


Site Info	
BU #	876364
Site Name	Well / First Line Emer
Order #	552635 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
$l_{ar}$ (in)	0

Applied Loads	
Moment (kip-ft)	3684.26
Axial Force (kips)	48.83
Shear Force (kips)	39.99

\*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
GROUP 1: (12) 2-1/4" $\phi$ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 53" BC
GROUP 2: (3) 1-3/4" $\phi$ bolts (A193 Gr. B7 N; $F_y=105$ ksi, $F_u=125$ ksi) on 59.75" BC
Base Plate Data
59" OD x 1.75" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi)
Stiffener Data
(12) 22"H x 7"W x 0.75"T, Notch: 0.75"
plate: $F_y=50$ ksi ; weld: $F_y=70$ ksi
horiz. weld: 0.625" fillet
vert. weld: 0.375" fillet
Pole Data
44.25" x 0.3125" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary	<i>(units of kips, kip-in)</i>	
GROUP 1:		
$P_{u,t} = 230.27$	$\phi P_{n,t} = 243.75$	<b>Stress Rating</b>
$V_u = 3.33$	$\phi V_n = 149.1$	<b>90.0%</b>
$M_u = n/a$	$\phi M_n = n/a$	<b>Pass</b>
GROUP 2:		
$P_{u,t} = 154.45$	$\phi P_{n,t} = 178.13$	<b>Stress Rating</b>
$V_u = 0$	$\phi V_n = 112.75$	<b>82.6%</b>
$M_u = n/a$	$\phi M_n = n/a$	<b>Pass</b>
Base Plate Summary		
Max Stress (ksi):	46.76	(Roark's Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	<b>82.5%</b>	<b>Pass</b>
Stiffener Summary		
Horizontal Weld:	<b>87.8%</b>	<b>Pass</b>
Vertical Weld:	<b>46.7%</b>	<b>Pass</b>
Plate Flexure+Shear:	<b>20.5%</b>	<b>Pass</b>
Plate Tension+Shear:	<b>78.1%</b>	<b>Pass</b>
Plate Compression:	<b>77.2%</b>	<b>Pass</b>
Pole Summary		
Punching Shear:	<b>14.6%</b>	<b>Pass</b>

# Pier and Pad Foundation



BU #: 876364  
 Site Name: Cromwell / First Lin  
 App. Number: 552635 Rev. 0

TIA-222 Revision: H  
 Tower Type: Monopole

Top & Bot. Pad Rein. Different?:   
 Block Foundation?:   
 Rectangular Pad?:

Superstructure Analysis Reactions		
Compression, $P_{comp}$ :	48.85	kips
Base Shear, $V_{u\_comp}$ :	39.97	kips
Moment, $M_u$ :	3684.26	ft-kips
Tower Height, $H$ :	125	ft
BP Dist. Above Fdn, $bp_{dist}$ :	2.75	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	236.66	39.97	16.1%	Pass
<i>Bearing Pressure (ksf)</i>	6.00	3.36	56.0%	Pass
<i>Overturning (kip*ft)</i>	4565.38	3913.25	85.7%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	7025.95	3784.19	51.3%	Pass
<i>Pier Compression (kip)</i>	80196.48	137.05	0.2%	Pass
<i>Pad Flexure (kip*ft)</i>	3256.22	839.51	24.6%	Pass
<i>Pad Shear - 1-way (kips)</i>	745.34	173.94	22.2%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.164	0.000	0.0%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	5561.26	2270.51	38.9%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$ :	14	ft
Ext. Above Grade, $E$ :	0.5	ft
Pier Rebar Size, $Sc$ :	8	
Pier Rebar Quantity, $mc$ :	24	
Pier Tie/Spiral Size, $St$ :	4	
Pier Tie/Spiral Quantity, $mt$ :	7	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, $cc_{pier}$ :	3	in

\*Rating per TIA-222-H Section 15.5

Structural Rating*:	51.3%
Soil Rating*:	85.7%

Pad Properties		
Depth, $D$ :	5	ft
Pad Width, $W_1$ :	24	ft
Pad Thickness, $T$ :	3	ft
Pad Rebar Size (Top dir.2), $Sp_{top2}$ :	8	
Pad Rebar Quantity (Top dir. 2), $mp_{top2}$ :	24	
Pad Rebar Size (Bottom dir. 2), $Sp_2$ :	8	
Pad Rebar Quantity (Bottom dir. 2), $mp_2$ :	30	
Pad Clear Cover, $cc_{pad}$ :	3	in

Material Properties		
Rebar Grade, $F_y$ :	60	ksi
Concrete Compressive Strength, $F'_c$ :	3	ksi
Dry Concrete Density, $\delta_c$ :	150	pcf

Soil Properties		
Total Soil Unit Weight, $\gamma$ :	125	pcf
Ultimate Gross Bearing, $Q_{ult}$ :	8.000	ksf
Cohesion, $C_u$ :	0.000	ksf
Friction Angle, $\phi$ :	30	degrees
SPT Blow Count, $N_{blows}$ :		
Base Friction, $\mu$ :	0.6	
Neglected Depth, $N$ :	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, $gw$ :	N/A	ft

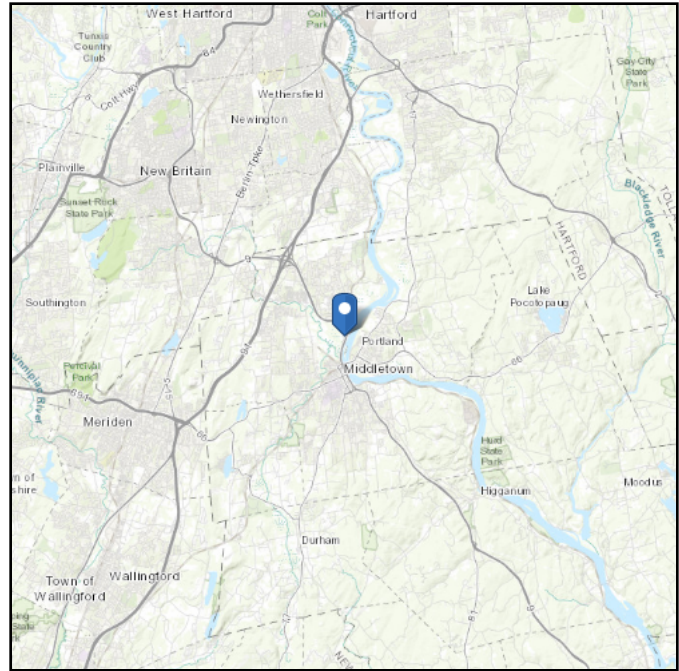
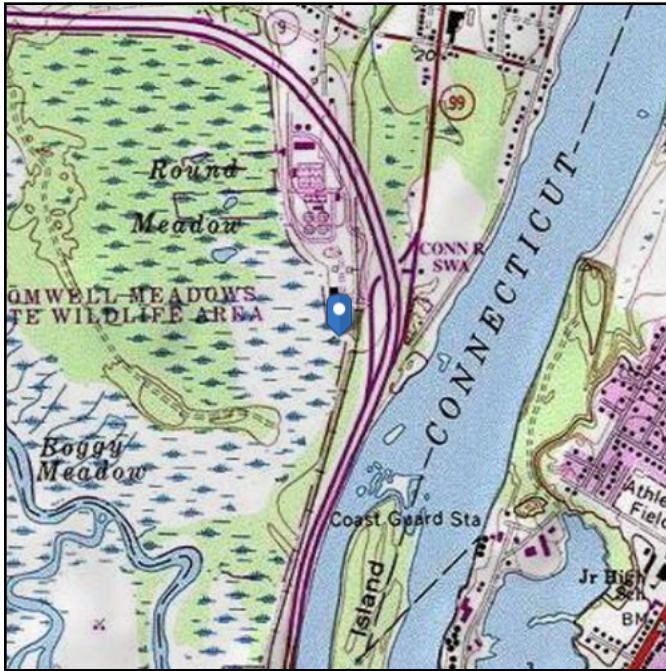
--Toggle between Gross and Net

# ASCE 7 Hazards Report

**Address:**  
No Address at This Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** II  
**Soil Class:** D - Stiff Soil

**Elevation:** 8.26 ft (NAVD 88)  
**Latitude:** 41.583364  
**Longitude:** -72.649761



## Wind

### Results:

Wind Speed:	125 Vmph
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	94 Vmph
100-year MRI	102 Vmph

**Data Source:** ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

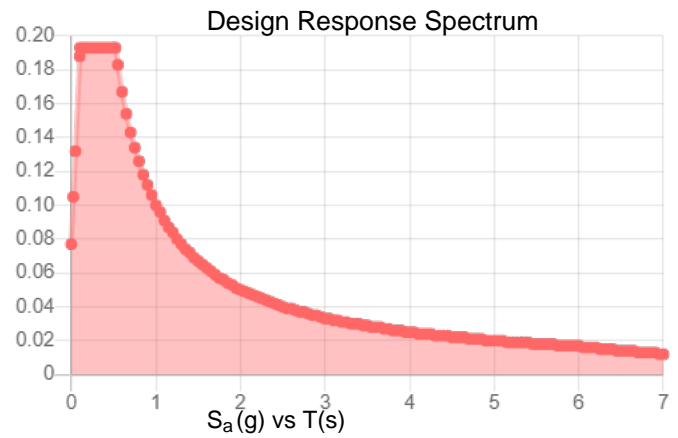
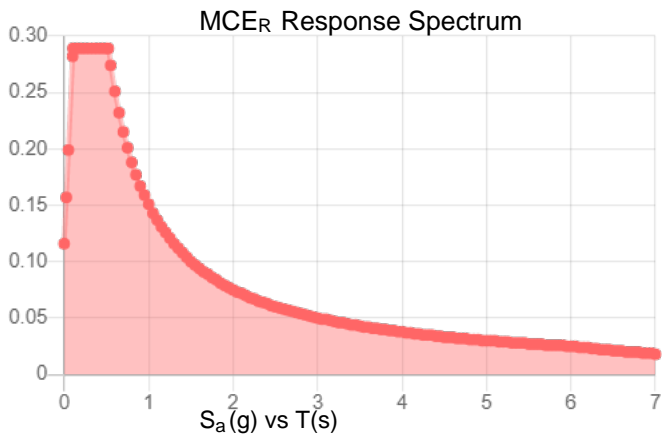


**Site Soil Class:** D - Stiff Soil

**Results:**

$S_S$ :	0.181	$S_{DS}$ :	0.193
$S_1$ :	0.063	$S_{D1}$ :	0.1
$F_a$ :	1.6	$T_L$ :	6
$F_v$ :	2.4	PGA :	0.092
$S_{MS}$ :	0.289	PGA <sub>M</sub> :	0.147
$S_{M1}$ :	0.151	F <sub>PGA</sub> :	1.6
		$I_e$ :	1

**Seismic Design Category** B



**Data Accessed:**

Tue Jun 29 2021

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.



## Ice

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**Results:**

Ice Thickness: 0.75 in.  
Concurrent Temperature: 15 F  
Gust Speed: 50 mph

**Data Source:** Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

**Date Accessed:** Tue Jun 29 2021

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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# Exhibit E

## **Mount Analysis**



Network Building + Consulting, LLC  
1777 Sentry Parkway W VEVA 17, Suite 400  
Blue Bell, PA 19422  
(267)460-0122  
NBC\_SmartTool@nbcllc.com

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## New/Replacement Antenna Mount Analysis Report and PMI Requirements

Mount Analysis-R

SMART Tool Project #: 10070199  
NB+C Project #: 100819

August 17, 2021

### Site Information

Site ID: 467564-VZW / CROMWELL SE CT  
Site Name: CROMWELL SE CT  
Carrier Name: Verizon Wireless  
Address: 201 MAIN ST  
CROMWELL, Connecticut 06416,  
Middlesex County  
Latitude: 41.583364°  
Longitude: -72.649828°

### Structure Information

Tower Type: Monopole  
Mount Type: 14.50-Ft Platform

**FUZE ID # 16244590**

### Analysis Results

Platform: **73.4% Pass**

### \*\*\*Contractor PMI Requirements:

**Included at the end of this MA report**

**Available & Submitted via portal at <https://pmi.vzwsmart.com>**

**Contractor - Please Review Specific Site PMI Requirements Upon Award  
Requirements may also be Noted on A & E drawings**

Report Prepared By: Connor Rice, EIT

8/17/2021

DocuSigned by:  
Knyakaran Kolandavelu  
81AC599182D841D...

**Executive Summary:**

The objective of this report is to determine the capacity of the proposed antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. The proposed mount was assumed to be installed properly to the existing tower per the manufacturer's instructions. Network Building + Consulting cannot verify that the proposed mount will fit properly and is not liable for any fit-up issues during installation.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

**Sources of Information:**

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS Site ID: 323640, dated February 9, 2021
Mount Manufacturing Drawings	Site Pro 1, Part #: F4P-14W, dated August 30, 2017
Mount Manufacturing Drawings	Site Pro 1, Part #: F4P-HRK14, dated August 29, 2017

**Analysis Criteria:**

Codes and Standards:	ANSI/TIA-222-H
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), $V_{ULT}$ : 119 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.00 in Risk Category: II Exposure Category: C Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, $K_e$ : 1.000
Seismic Parameters:	$S_s$ : 0.207 $S_1$ : 0.056
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Live Load, $L_v$ : 250 lbs. Maintenance Live Load, $L_m$ : 500 lbs.
Analysis Software:	RISA-3D (V17)

**Final Loading Configuration:**

The following equipment has been considered for the analysis of the mount:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
102.0	105.0	6	Commscope	JAHH-45B-R3B	Added
		3	Samsung	MT6407-77A	
		3	Commscope	CBC78T-DS-43	
		3	Samsung	B2/B66A RRH-BR049 (RFV01U-D1A)	
		3	Samsung	B5/B13 RRH-BR04C (RFV01U-D2A)	
		1	Raycap	RHSDC-6627-PF-48	
		3	Commscope	LNx-6514DS-A1M	Retained

It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required.

Model Number	Ports	AKA
RHSDC-1064-PF-48	2	OVP-2
RC3DC-3315-PF-48	6	OVP-6
RC3DC-3300-PF-48	6	OVP-6
RC3DC-4750-PF-48	6	OVP-6
RHSDC-6627-PF-48	12	OVP-12
RHSDC-6600-PF-48	12	OVP-12

**Standard Conditions:**

1. All engineering services are performed on the basis that the information provided to Network Building + Consulting and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Network Building + Consulting to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped by Network Building + Consulting, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.
6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Network Building + Consulting is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
- Channel, Solid Round, Angle, Plate      ASTM A36 (Gr. 36)
  - HSS (Rectangular)                            ASTM 500 (Gr. B-46)
  - Pipe    ASTM A53 (Gr. B-35)
  - Threaded Rod                                  F1554 (Gr. 36)
  - Bolts    ASTM A325

**Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Network Building + Consulting.**

**Analysis Results:**

Component	Utilization %	Pass/Fail
Walkway Pipes	57.6 %	Pass
Support Rail	41.1 %	Pass
Standoff	31.9 %	Pass
PL7/8x0.375	9.5 %	Pass
PL3/16x1.5	28.5 %	Pass
PL3/8x4.0	43.2 %	Pass
PL3/8x3.0	27.0 %	Pass
PL3/8x1.0	46.5 %	Pass
PL3/8x0.625	18.9 %	Pass
PL3/4x0.375	14.0 %	Pass
PL1/2x4.0	30.6 %	Pass
PL1/2x2.375	42.2 %	Pass
Mount Pipe	67.8 %	Pass
Horizontal	48.0 %	Pass
Corner Support	41.7 %	Pass
Corner Angles	73.4 %	Pass
Mount Connection	72.0 %	Pass

<b>Structure Rating – (Controlling Utilization of all Components)</b>	<b>73.4%</b>
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**Recommendation:**

The proposed antenna mounts is **SUFFICIENT** for the final loading configuration and do not require modifications.

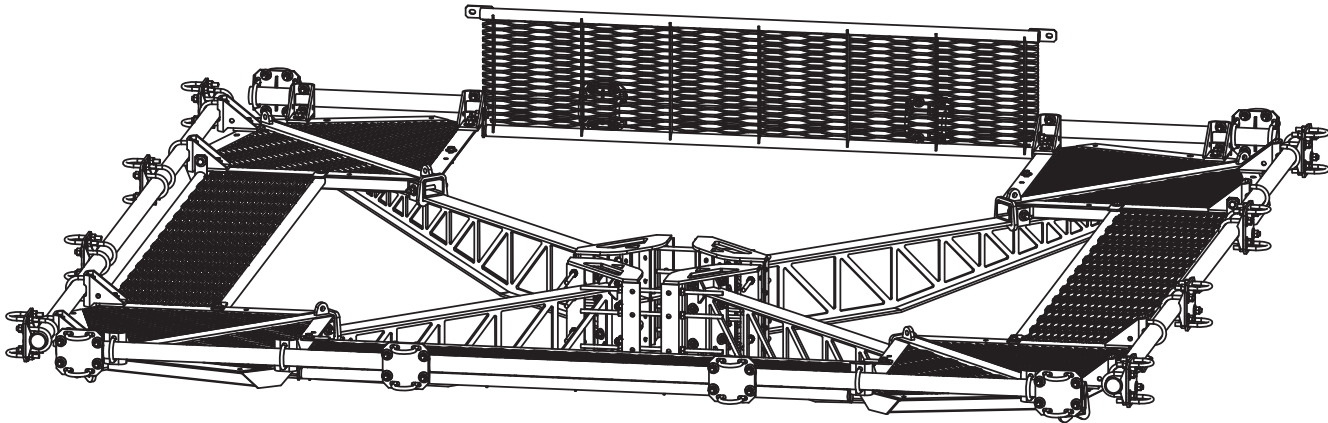
ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other, if required. Separate review fees will apply.

- Contractor to remove existing mount and replace with (1) Quad-Platform Mount (Site Pro 1 PN#: F4P-14W) and (1) Support Rail Kit (Site Pro Part #: F4P-HRK14).
- Contractor to install (4) P2.0 STD (2.375 OD) x 8'-0" long mount pipes per sector.

**Attachments:**

1. Mount Photos
2. Analysis Calculations
3. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
4. Antenna Placement Diagrams

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-LPP-CW	LOW PROFILE PLATFORM CORNER WELDMENT		198.75	795.01
2	4	X-LPP-SA14	SIDE ARM WELDMENT FOR 14' LOW PROFILE PLATFORM		151.68	606.71
3	4	X-RM4HD	WELDMENT FOR 4-SIDED HEAVY DUTY RING MOUNT		71.27	285.08
4	4	X-LPP-W14	WALKWAY FOR 14' LOW PROFILE PLATFORM		116.45	465.81
5	16	X-LPP-PC	FACE PIPE CONNECTION BRACKET FORTRESS PLATFORM		7.01	112.15
6	16	X-SCX3-FR	FORTRESS CROSSOVER PLATE		6.61	105.82
7	16	X-LPP-A7	CORNER WELDMENT ATTACHMENT ANGLE	2 1/2 in	1.27	20.33
8	8	X-LPP-H	HINGE FOR LOW PROFILE PLATFORM WALKWAY		2.78	22.22
9	4	P30174	2-7/8" O.D. x 174" SCH. 40 PIPE	174 in	84.20	336.78
10	16	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	6.38
10	16	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	6.38
11	8	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	5.58
12	64	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	73.56
13	32	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	32.00
14	16	X-UB5304	5/8" X 3" X 4-1/4" X 2-1/2" U-BOLT (HDG.)		0.98	15.60
15	64	G58214	5/8" x 2-1/4" HDG HEX BOLT GR5		0.29	18.66
16	256	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	18.04
17	272	G58LW	5/8" HDG LOCKWASHER		0.03	7.10
18	272	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	35.33
					<b>TOTAL WT. #</b>	<b>3056.14</b>



**TOLERANCE NOTES**

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030"$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.030"$ ) - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES ( $\pm 0.010"$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.030"$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.060"$ )

PROPRIETARY NOTE:  
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DESCRIPTION  
 14' FORTRESS™  
 QUAD-PLATFORM MOUNT  
 WITH WALKWAYS

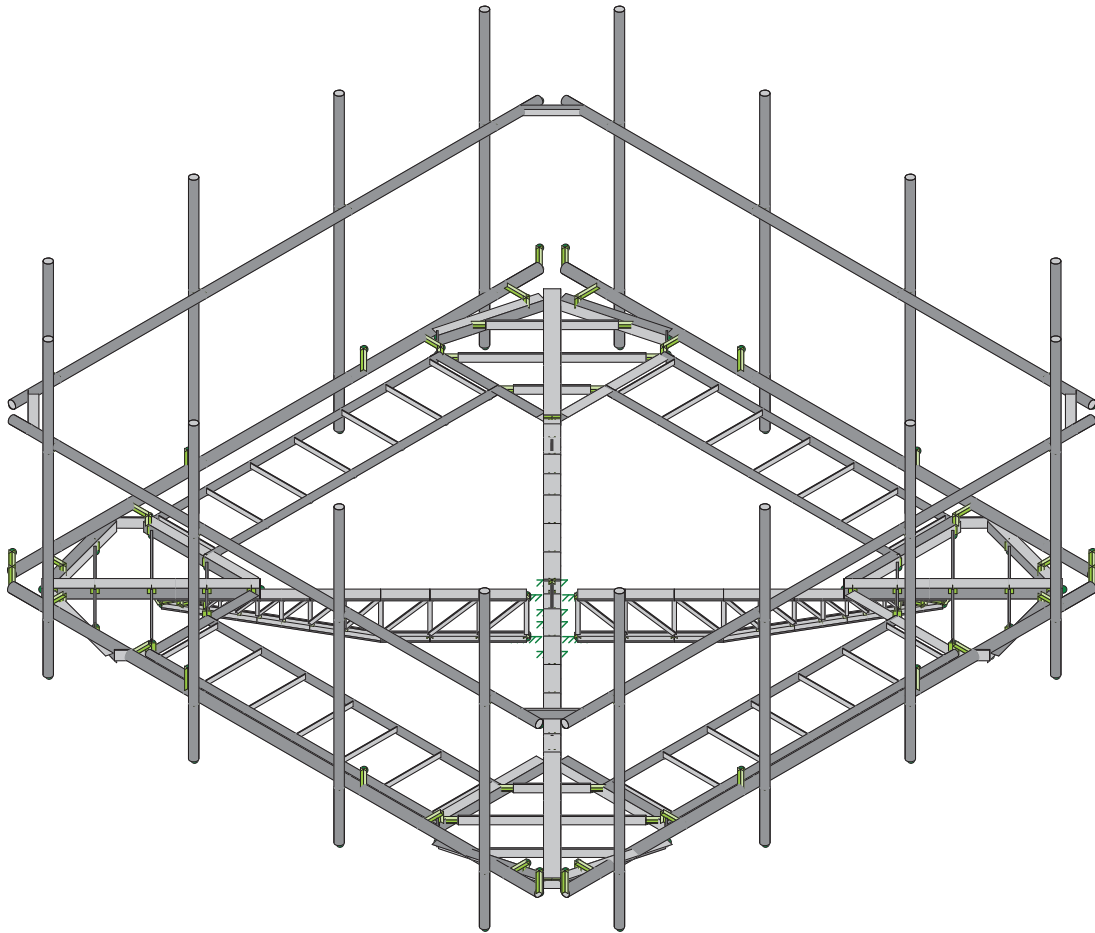
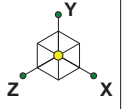


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 1-888-753-7446

CPD NO.	DRAWN BY	ENG. APPROVAL
	CEK 8/9/2017	
CLASS	DRAWING USAGE	CHECKED BY
81	CUSTOMER	BMC 8/30/2017

PART NO.	F4P-14W
DWG. NO.	F4P-14W

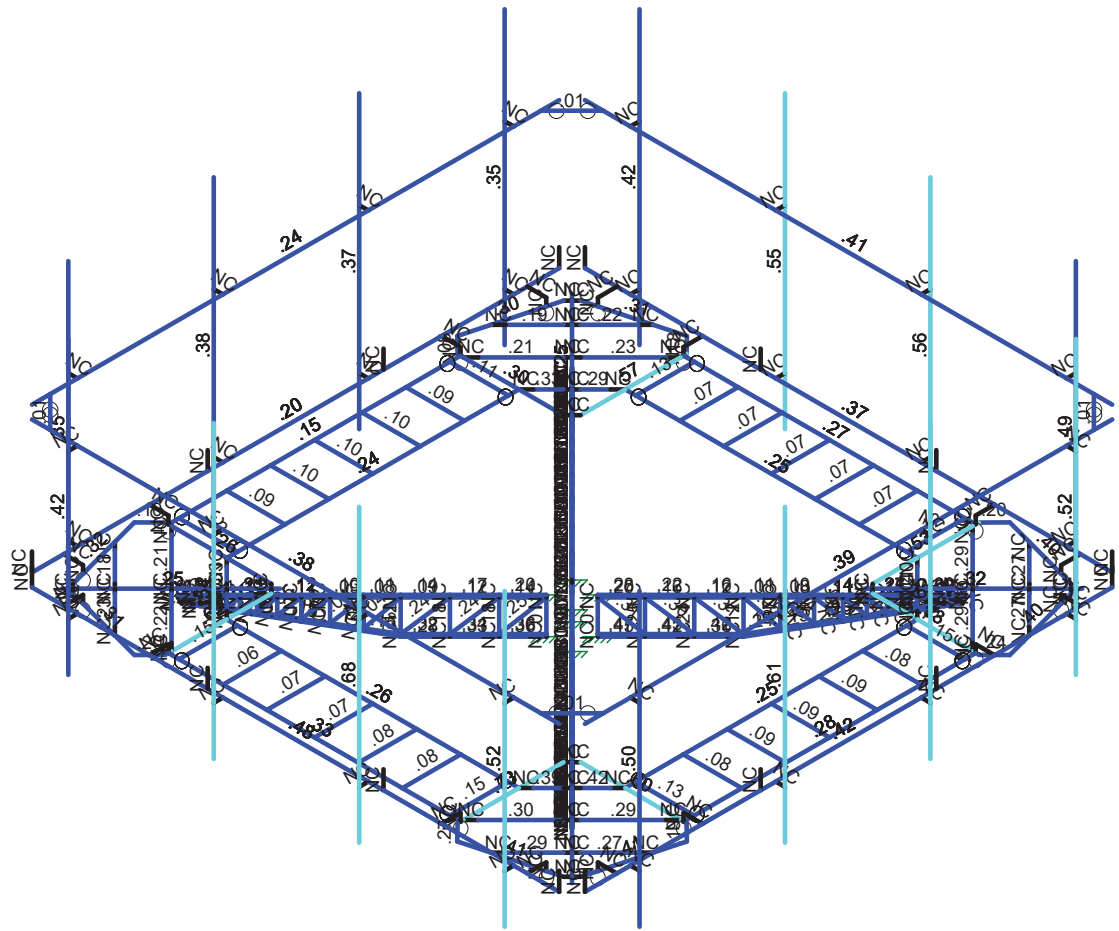
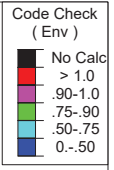
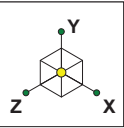




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Project No. 10070199

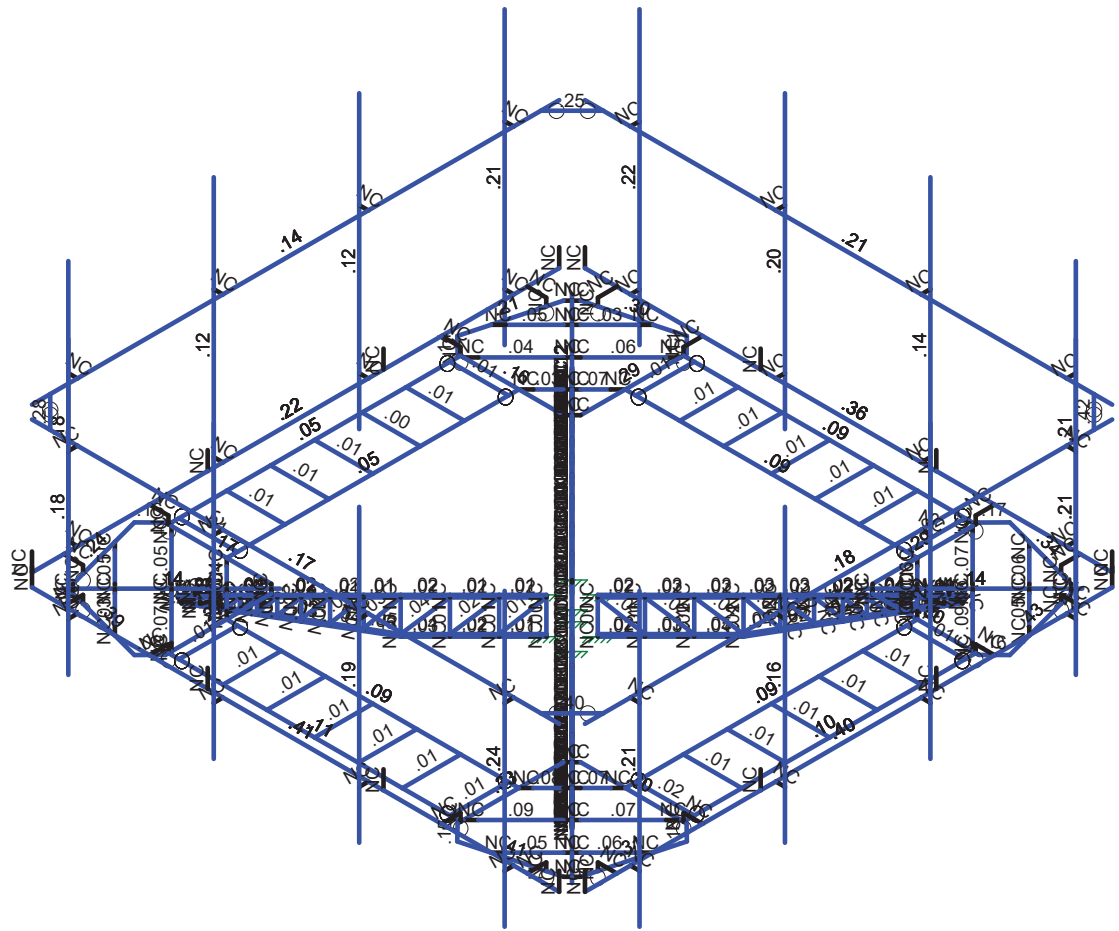
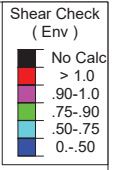
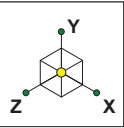
467564-VZW\_MT\_LO\_H  
Model Rendering

SK - 1  
Aug 16, 2021 at 2:17 PM  
467564-VZW\_MT\_LO\_H.r3d



Member Code Checks Displayed (Enveloped)  
Envelope Only Solution

Network Building + Consu...	467564-VZW_MT_LO_H	SK - 2
Connor Rice, EIT	Code Check	Aug 17, 2021 at 10:42 AM
Project No. 10070199		467564-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)  
Envelope Only Solution

Network Building + Consu...	467564-VZW_MT_LO_H	SK - 3
Connor Rice, EIT	Shear Check	Aug 17, 2021 at 10:43 AM
Project No. 10070199		467564-VZW_MT_LO_H.r3d



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 Designer : Connor Rice, EIT  
 Job Number : Project No. 10070199  
 Model Name : 467564-VZW\_MT\_LO\_H

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### (Global) Model Settings

Display Sections for Member Calcs	20
Max Internal Sections for Member Calcs	39
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	No
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	No
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	No
RISACONNECTION CODE	AISC 15th(360-16): LRFD
Cold Formed Steel Code	AISI S100-16: LRFD
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parame Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR SET ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8



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### **(Global) Model Settings, Continued**

Seismic Code	ASCE 7-05
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	No
Ct X	.035
Ct Z	.035
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	8.5
R Z	8.5
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	Not Entered
Occupancy Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

### **Basic Load Cases**

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu..	Area(M...Surface...
1	Antenna D	None					102		
2	Antenna Di	None					102		
3	Antenna Wo (0 Deg)	None					102		
4	Antenna Wo (30 Deg)	None					102		
5	Antenna Wo (60 Deg)	None					102		
6	Antenna Wo (90 Deg)	None					102		
7	Antenna Wo (120 Deg)	None					102		
8	Antenna Wo (150 Deg)	None					102		
9	Antenna Wo (180 Deg)	None					102		
10	Antenna Wo (210 Deg)	None					102		
11	Antenna Wo (240 Deg)	None					102		
12	Antenna Wo (270 Deg)	None					102		
13	Antenna Wo (300 Deg)	None					102		
14	Antenna Wo (330 Deg)	None					102		
15	Antenna Wi (0 Deg)	None					102		
16	Antenna Wi (30 Deg)	None					102		
17	Antenna Wi (60 Deg)	None					102		
18	Antenna Wi (90 Deg)	None					102		
19	Antenna Wi (120 Deg)	None					102		
20	Antenna Wi (150 Deg)	None					102		
21	Antenna Wi (180 Deg)	None					102		
22	Antenna Wi (210 Deg)	None					102		
23	Antenna Wi (240 Deg)	None					102		
24	Antenna Wi (270 Deg)	None					102		
25	Antenna Wi (300 Deg)	None					102		
26	Antenna Wi (330 Deg)	None					102		
27	Antenna Wm (0 Deg)	None					102		
28	Antenna Wm (30 Deg)	None					102		
29	Antenna Wm (60 Deg)	None					102		
30	Antenna Wm (90 Deg)	None					102		





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 Model Name : 467564-VZW\_MT\_LO\_H

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**Load Combinations**

	Description	So...	PDelta	S...	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..
1	1.2D+1.0Wo (0 D...	Yes	Y		1	1.2	39	1.2	3	1	41	1					
2	1.2D+1.0Wo (30 ...	Yes	Y		1	1.2	39	1.2	4	1	42	1					
3	1.2D+1.0Wo (60 ...	Yes	Y		1	1.2	39	1.2	5	1	43	1					
4	1.2D+1.0Wo (90 ...	Yes	Y		1	1.2	39	1.2	6	1	44	1					
5	1.2D+1.0Wo (120...	Yes	Y		1	1.2	39	1.2	7	1	45	1					
6	1.2D+1.0Wo (150...	Yes	Y		1	1.2	39	1.2	8	1	46	1					
7	1.2D+1.0Wo (180...	Yes	Y		1	1.2	39	1.2	9	1	47	1					
8	1.2D+1.0Wo (210...	Yes	Y		1	1.2	39	1.2	10	1	48	1					
9	1.2D+1.0Wo (240...	Yes	Y		1	1.2	39	1.2	11	1	49	1					
10	1.2D+1.0Wo (270...	Yes	Y		1	1.2	39	1.2	12	1	50	1					
11	1.2D+1.0Wo (300...	Yes	Y		1	1.2	39	1.2	13	1	51	1					
12	1.2D+1.0Wo (330...	Yes	Y		1	1.2	39	1.2	14	1	52	1					
13	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1	
14	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1	
15	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1	
16	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1	
17	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1	
18	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1	
19	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1	
20	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1	
21	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1	
22	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1	
23	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1	
24	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1	
25	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1			
26	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1			
27	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1			
28	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1			
29	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1			
30	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1			
31	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1			
32	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1			
33	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1			
34	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1			
35	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1			
36	1.2D + 1.5Lm1 + ...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1			
37	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1			
38	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1			
39	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1			
40	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1			
41	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1			
42	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1			
43	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1			
44	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1			
45	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1			
46	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1			
47	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1			
48	1.2D + 1.5Lm2 + ...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1			
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5							
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5							
51	1.4D	Yes	Y		1	1.4	39	1.4									
52	Seismic Mass		Y		1	1	39	1									
53	1.2D + 1.0Ev + 1....		Y		1	1.2	39	1.2	SX		SY	1	SZ	-1			
54	1.2D + 1.0Ev + 1....		Y		1	1.2	39	1.2	SX	.5	SY	1	SZ	-.866			
55	1.2D + 1.0Ev + 1....		Y		1	1.2	39	1.2	SX	.866	SY	1	SZ	-.5			
56	1.2D + 1.0Ev + 1....		Y		1	1.2	39	1.2	SX	1	SY	1	SZ				





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### Load Combinations (Continued)

	Description	So...	PDelta	S...	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..
57	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	.866	SY	1	SZ	.5	
58	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	.5	SY	1	SZ	.866	
59	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX		SY	1	SZ	1	
60	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-.5	SY	1	SZ	.866	
61	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-.866	SY	1	SZ	.5	
62	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-1	SY	1	SZ		
63	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-.866	SY	1	SZ	-.5	
64	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-.5	SY	1	SZ	-.866	

### Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N74A	-4.015542	.125	-4.015542	0	
2	N75A	-7.016738	.125	-7.016738	0	
3	N76	-5.18545	.125	-5.18545	0	
4	N77	-4.748428	.125	-4.748428	0	
5	N79	-5.278758	.125	-4.218098	0	
6	N27	-5.508568	.125	-5.508568	0	
7	N28	-6.288271	.125	-6.288271	0	
8	N29	-6.79945	.125	-4.217686	0	
9	N31	-7.200792	.125	-5.37575	0	
10	N35	-4.866279	.125	-4.630577	0	
11	N38	-5.626419	.125	-5.390717	0	
12	N39	-6.406122	.125	-6.17042	0	
13	N41	-5.479942	.125	-4.016914	0	
14	N41A	-7.000222	.125	-4.016914	0	
15	N42	-7.401972	.125	-5.17457	0	
16	N47	-4.134765	.125	-4.134765	0	
17	N49	-6.86322	.125	-6.86322	0	
18	N50	-4.252616	.125	-4.016914	0	
19	N52	-7.167048	.125	-4.016755	0	
20	N52A	-6.981071	.125	-6.745368	0	
21	N64	-4.218098	.125	-5.278758	0	
22	N67	-4.217686	.125	-6.79945	0	
23	N68	-5.37575	.125	-7.200792	0	
24	N69	-4.630577	.125	-4.866279	0	
25	N70	-5.390717	.125	-5.626419	0	
26	N71	-6.17042	.125	-6.406122	0	
27	N72	-4.016914	.125	-5.479942	0	
28	N73	-4.016914	.125	-7.000222	0	
29	N74	-5.17457	.125	-7.401972	0	
30	N78	-4.016914	.125	-4.252616	0	
31	N79A	-4.016755	.125	-7.167048	0	
32	N80	-6.745369	.125	-6.981071	0	
33	N54	-7.0837	.125	-4.016914	0	
34	N55	-7.0837	0.33325	-4.016759	0	
35	N56	-7.604533	0.33325	-4.016759	0	
36	N59	-7.604533	0.33325	-6.373568	0	
37	N60	-4.440865	.125	-7.598571	0	
38	N62	-7.598571	.125	-4.440864	0	
39	N58	-7.081322	.125	-6.371234	0	
40	N59A	-7.081322	0.33325	-6.371234	0	
41	N60A	-4.016914	.125	-7.083699	0	
42	N61	-4.016759	0.33325	-7.083699	0	
43	N62A	-4.016759	0.33325	-7.604533	0	
44	N63	-6.373568	0.33325	-7.604533	0	





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### ***Joint Coordinates and Temperatures (Continued)***

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
45	N64A	-6.371234	.125	-7.081322	0	
46	N65	-6.371234	0.33325	-7.081322	0	
47	N85	-4.015542	.125	4.015542	0	
48	N86	-7.016738	.125	7.016738	0	
49	N88	-4.748428	.125	4.748428	0	
50	N89	-4.218098	.125	5.278758	0	
51	N90	-5.508568	.125	5.508568	0	
52	N91	-6.288271	.125	6.288271	0	
53	N92	-4.217686	.125	6.79945	0	
54	N93	-5.37575	.125	7.200792	0	
55	N94	-4.630577	.125	4.866279	0	
56	N95	-5.390717	.125	5.626419	0	
57	N96	-6.17042	.125	6.406122	0	
58	N97	-4.016914	.125	5.479942	0	
59	N98	-4.016914	.125	7.000222	0	
60	N99	-5.17457	.125	7.401972	0	
61	N100	-4.134765	.125	4.134765	0	
62	N101	-6.86322	.125	6.86322	0	
63	N102	-4.016914	.125	4.252616	0	
64	N103	-4.016755	.125	7.167048	0	
65	N104	-6.745369	.125	6.981071	0	
66	N105	-5.278758	.125	4.218098	0	
67	N106	-6.79945	.125	4.217686	0	
68	N107	-7.200792	.125	5.37575	0	
69	N108	-4.866279	.125	4.630577	0	
70	N109	-5.626419	.125	5.390717	0	
71	N110	-6.406122	.125	6.17042	0	
72	N111	-5.479942	.125	4.016914	0	
73	N112	-7.000222	.125	4.016914	0	
74	N113	-7.401972	.125	5.17457	0	
75	N114	-4.252616	.125	4.016914	0	
76	N115	-7.167048	.125	4.016755	0	
77	N116	-6.981071	.125	6.745369	0	
78	N117	-4.016914	.125	7.0837	0	
79	N118	-4.016759	0.33325	7.0837	0	
80	N119	-4.016759	0.33325	7.604533	0	
81	N120	-6.373568	0.33325	7.604533	0	
82	N121	-7.598571	.125	4.440865	0	
83	N122	-4.440865	.125	7.598571	0	
84	N123	-6.371234	.125	7.081322	0	
85	N124	-6.371234	0.33325	7.081322	0	
86	N125	-7.0837	.125	4.016914	0	
87	N126	-7.0837	0.33325	4.016759	0	
88	N127	-7.604533	0.33325	4.016759	0	
89	N128	-7.604533	0.33325	6.373568	0	
90	N129	-7.081322	.125	6.371234	0	
91	N130	-7.081322	0.33325	6.371234	0	
92	N150	4.015542	.125	4.015542	0	
93	N151	7.016738	.125	7.016738	0	
94	N153	4.748428	.125	4.748428	0	
95	N154	5.278758	.125	4.218098	0	
96	N155	5.508568	.125	5.508568	0	
97	N156	6.288271	.125	6.288271	0	
98	N157	6.79945	.125	4.217686	0	
99	N158	7.200792	.125	5.37575	0	
100	N159	4.866279	.125	4.630577	0	
101	N160	5.626419	.125	5.390717	0	



Company : Network Building + Consulting  
 Designer : Connor Rice, EIT  
 Job Number : Project No. 10070199  
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### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
102	N161	6.406122	.125	6.17042	0	
103	N162	5.479942	.125	4.016914	0	
104	N163	7.000222	.125	4.016914	0	
105	N164	7.401972	.125	5.17457	0	
106	N165	4.134765	.125	4.134765	0	
107	N166	6.86322	.125	6.86322	0	
108	N167	4.252616	.125	4.016914	0	
109	N168	7.167048	.125	4.016755	0	
110	N169	6.981071	.125	6.745369	0	
111	N170	4.218098	.125	5.278758	0	
112	N171	4.217686	.125	6.79945	0	
113	N172	5.37575	.125	7.200792	0	
114	N173	4.630577	.125	4.866279	0	
115	N174	5.390717	.125	5.626419	0	
116	N175	6.17042	.125	6.406122	0	
117	N176	4.016914	.125	5.479942	0	
118	N177	4.016914	.125	7.000222	0	
119	N178	5.17457	.125	7.401972	0	
120	N179	4.016914	.125	4.252616	0	
121	N180	4.016755	.125	7.167048	0	
122	N181	6.745369	.125	6.981071	0	
123	N182	7.0837	.125	4.016914	0	
124	N183	7.0837	0.33325	4.016759	0	
125	N184	7.604533	0.33325	4.016759	0	
126	N185	7.604533	0.33325	6.373568	0	
127	N186	4.440865	.125	7.598571	0	
128	N187	7.598571	.125	4.440865	0	
129	N188	7.081322	.125	6.371234	0	
130	N189	7.081322	0.33325	6.371234	0	
131	N190	4.016914	.125	7.0837	0	
132	N191	4.016759	0.33325	7.0837	0	
133	N192	4.016759	0.33325	7.604533	0	
134	N193	6.373568	0.33325	7.604533	0	
135	N194	6.371234	.125	7.081322	0	
136	N195	6.371234	0.33325	7.081322	0	
137	N215	4.015542	.125	-4.015542	0	
138	N216	7.016738	.125	-7.016738	0	
139	N218	4.748428	.125	-4.748428	0	
140	N219	4.218098	.125	-5.278758	0	
141	N220	5.508568	.125	-5.508568	0	
142	N221	6.288271	.125	-6.288271	0	
143	N222	4.217686	.125	-6.79945	0	
144	N223	5.37575	.125	-7.200792	0	
145	N224	4.630577	.125	-4.866279	0	
146	N225	5.390717	.125	-5.626419	0	
147	N226	6.17042	.125	-6.406122	0	
148	N227	4.016914	.125	-5.479942	0	
149	N228	4.016914	.125	-7.000222	0	
150	N229	5.17457	.125	-7.401972	0	
151	N230	4.134765	.125	-4.134765	0	
152	N231	6.86322	.125	-6.86322	0	
153	N232	4.016914	.125	-4.252616	0	
154	N233	4.016755	.125	-7.167048	0	
155	N234	6.745369	.125	-6.981071	0	
156	N235	5.278758	.125	-4.218098	0	
157	N236	6.79945	.125	-4.217686	0	
158	N237	7.200792	.125	-5.37575	0	



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### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
159	N238	4.866279	.125	-4.630577	0	
160	N239	5.626419	.125	-5.390717	0	
161	N240	6.406122	.125	-6.17042	0	
162	N241	5.479942	.125	-4.016914	0	
163	N242	7.000222	.125	-4.016914	0	
164	N243	7.401972	.125	-5.17457	0	
165	N244	4.252616	.125	-4.016914	0	
166	N245	7.167048	.125	-4.016755	0	
167	N246	6.981071	.125	-6.745368	0	
168	N247	4.016914	.125	-7.083699	0	
169	N248	4.016759	0.33325	-7.083699	0	
170	N249	4.016759	0.33325	-7.604533	0	
171	N250	6.373568	0.33325	-7.604533	0	
172	N251	7.598571	.125	-4.440864	0	
173	N252	4.440865	.125	-7.598571	0	
174	N253	6.371234	.125	-7.081322	0	
175	N254	6.371234	0.33325	-7.081322	0	
176	N255	7.0837	.125	-4.016914	0	
177	N256	7.0837	0.33325	-4.016759	0	
178	N257	7.604533	0.33325	-4.016759	0	
179	N258	7.604533	0.33325	-6.373568	0	
180	N259	7.081322	.125	-6.371234	0	
181	N260	7.081322	0.33325	-6.371234	0	
182	N263	-7.604533	0.33325	-2.416667	0	
183	N264	-7.604533	0.33325	2.416667	0	
184	N267	-2.416667	0.33325	7.604533	0	
185	N268	2.416667	0.33325	7.604533	0	
186	N271	7.604533	0.33325	2.416667	0	
187	N272	7.604533	0.33325	-2.416667	0	
188	N275	2.416667	0.33325	-7.604533	0	
189	N276	-2.416667	0.33325	-7.604533	0	
190	N245B	-7.604533	0.83325	7.25	0	
191	N246B	-7.604533	0.83325	-7.25	0	
192	N247B	-7.604533	0.83325	-2.416667	0	
193	N248A	-7.604533	0.83325	2.416667	0	
194	N249A	7.25	0.83325	7.604533	0	
195	N250A	-7.25	0.83325	7.604533	0	
196	N251A	-2.416667	0.83325	7.604533	0	
197	N252A	2.416667	0.83325	7.604533	0	
198	N253A	7.604533	0.83325	-7.25	0	
199	N254A	7.604533	0.83325	7.25	0	
200	N255A	7.604533	0.83325	2.416667	0	
201	N256A	7.604533	0.83325	-2.416667	0	
202	N257A	-7.25	0.83325	-7.604533	0	
203	N258A	7.25	0.83325	-7.604533	0	
204	N259A	2.416667	0.83325	-7.604533	0	
205	N260A	-2.416667	0.83325	-7.604533	0	
206	N260C	7.25	0.33325	7.604533	0	
207	N261B	7.25	0.33325	-7.604533	0	
208	N262B	-7.25	0.33325	7.604533	0	
209	N263B	-7.25	0.33325	-7.604533	0	
210	N264B	-7.604533	0.33325	7.25	0	
211	N265B	7.604533	0.33325	7.25	0	
212	N266B	-7.604533	0.33325	-7.25	0	
213	N267C	7.604533	0.33325	-7.25	0	
214	T1	-2.357023	-0.020833	-2.357023	0	
215	T2	-3.392158	-0.020833	-3.392158	0	



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### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
216	T3	-4.334202	-0.020833	-4.334202	0	
217	T4	-5.117271	-0.020833	-5.117271	0	
218	T5	-5.421152	-0.020833	-5.421152	0	
219	T6	-2.357023	-1.0155	-2.357023	0	
220	T7	-5.369596	-0.223863	-5.369596	0	
221	T8	-2.357023	-0.083333	-2.357023	0	
222	T9	-2.864917	-0.020833	-2.864917	0	
223	T10	-3.328307	-0.020833	-3.328307	0	
224	T11	-3.723553	-0.020833	-3.723553	0	
225	T12	-4.054962	-0.020833	-4.054962	0	
226	T13	-4.569784	-0.020833	-4.569784	0	
227	T14	-4.754037	-0.020833	-4.754037	0	
228	T15	-2.864917	-0.083333	-2.864917	0	
229	T16	-3.328307	-0.083333	-3.328307	0	
230	T17	-3.723549	-0.083333	-3.723549	0	
231	T18	-4.054962	-0.083333	-4.054962	0	
232	T19	-4.334202	-0.083333	-4.334202	0	
233	T20	-4.569784	-0.083333	-4.569784	0	
234	T21	-4.754037	-0.083333	-4.754037	0	
235	T22	-2.357023	-0.954046	-2.357023	0	
236	T23	-3.328307	-0.696739	-3.328307	0	
237	T24	-2.872992	-0.879911	-2.872992	0	
238	T25	-3.731619	-0.654283	-3.731619	0	
239	T26	-3.336376	-0.758148	-3.336376	0	
240	T27	-4.063034	-0.567191	-4.063034	0	
241	T28	-4.342276	-0.493815	-4.342276	0	
242	T29	-4.577858	-0.431911	-4.577858	0	
243	T30	-4.762112	-0.383495	-4.762112	0	
244	T31	-2.864917	-0.818456	-2.864917	0	
245	T32	-3.723549	-0.59286	-3.723549	0	
246	T33	-4.054962	-0.505757	-4.054962	0	
247	T34	-4.334202	-0.432373	-4.334202	0	
248	T35	-4.569784	-0.370462	-4.569784	0	
249	T36	-4.754037	-0.322041	-4.754037	0	
250	T37	-5.421152	-0.083333	-5.421152	0	
251	T38	-5.361522	-.17	-5.361522	0	
252	T39	-5.117271	-0.083333	-5.117271	0	
253	T40	-5.117271	-0.231131	-5.117271	0	
254	T41	-5.117271	-0.290168	-5.117271	0	
255	T42	-1.679379	-0.020833	-1.679379	0	
256	T43	-1.679379	-1.0155	-1.679379	0	
257	T44	-1.679379	-0.083333	-1.679379	0	
258	T45	-1.679379	-0.954046	-1.679379	0	
259	T46	-1.001735	-0.020833	-1.001735	0	
260	T47	-1.001735	-1.0155	-1.001735	0	
261	T48	-1.001735	-0.083333	-1.001735	0	
262	T49	-1.001735	-0.954046	-1.001735	0	
263	R4	-0.353553	-0.020833	-0.353553	0	
264	R4A	-0.353553	-1.0155	-0.353553	0	
265	T52	-0.353553	-0.083333	-0.353553	0	
266	T53	-0.353553	-0.954046	-0.353553	0	
267	N271A	-5.18545	-0.020833	-5.18545	0	
268	N272A	-4.134765	-0.020833	-4.134765	0	
269	N273	-5.18545	.125	5.18545	0	
270	N275A	-2.357023	-0.020833	2.357023	0	
271	N276A	-3.392158	-0.020833	3.392158	0	
272	N277	-4.334202	-0.020833	4.334202	0	



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### ***Joint Coordinates and Temperatures (Continued)***

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
273	N278	-5.117271	-0.020833	5.117271	0	
274	N279	-5.421152	-0.020833	5.421152	0	
275	N280	-2.357023	-1.0155	2.357023	0	
276	N281	-5.369596	-0.223863	5.369596	0	
277	N282	-2.357023	-0.083333	2.357023	0	
278	N283	-2.864917	-0.020833	2.864917	0	
279	N284	-3.328307	-0.020833	3.328307	0	
280	N285	-3.723553	-0.020833	3.723553	0	
281	N286	-4.054962	-0.020833	4.054962	0	
282	N287	-4.569784	-0.020833	4.569784	0	
283	N288	-4.754037	-0.020833	4.754037	0	
284	N289	-2.864917	-0.083333	2.864917	0	
285	N290	-3.328307	-0.083333	3.328307	0	
286	N291	-3.723549	-0.083333	3.723549	0	
287	N292	-4.054962	-0.083333	4.054962	0	
288	N293	-4.334202	-0.083333	4.334202	0	
289	N294	-4.569784	-0.083333	4.569784	0	
290	N295	-4.754037	-0.083333	4.754037	0	
291	N296	-2.357023	-0.954046	2.357023	0	
292	N297	-3.328307	-0.696739	3.328307	0	
293	N298	-2.872992	-0.879911	2.872992	0	
294	N299	-3.731619	-0.654283	3.731619	0	
295	N300	-3.336376	-0.758148	3.336376	0	
296	N301	-4.063034	-0.567191	4.063034	0	
297	N302	-4.342276	-0.493815	4.342276	0	
298	N303	-4.577858	-0.431911	4.577858	0	
299	N304	-4.762112	-0.383495	4.762112	0	
300	N305	-2.864917	-0.818456	2.864917	0	
301	N306	-3.723549	-0.59286	3.723549	0	
302	N307	-4.054962	-0.505757	4.054962	0	
303	N308	-4.334202	-0.432373	4.334202	0	
304	N309	-4.569784	-0.370462	4.569784	0	
305	N310	-4.754037	-0.322041	4.754037	0	
306	N311	-5.421152	-0.083333	5.421152	0	
307	N312	-5.361522	-.17	5.361522	0	
308	N313	-5.117271	-0.083333	5.117271	0	
309	N314	-5.117271	-0.231131	5.117271	0	
310	N315	-5.117271	-0.290168	5.117271	0	
311	N316	-1.679379	-0.020833	1.679379	0	
312	N317	-1.679379	-1.0155	1.679379	0	
313	N318	-1.679379	-0.083333	1.679379	0	
314	N319	-1.679379	-0.954046	1.679379	0	
315	N320	-1.001735	-0.020833	1.001735	0	
316	N321	-1.001735	-1.0155	1.001735	0	
317	N322	-1.001735	-0.083333	1.001735	0	
318	N323	-1.001735	-0.954046	1.001735	0	
319	R1	-0.353553	-0.020833	0.353553	0	
320	R1A	-0.353553	-1.0155	0.353553	0	
321	N326	-0.353553	-0.083333	0.353553	0	
322	N327	-0.353553	-0.954046	0.353553	0	
323	N328	-5.18545	-0.020833	5.18545	0	
324	N329	-4.134765	-0.020833	4.134765	0	
325	N330	5.18545	.125	5.18545	0	
326	N331	2.357023	-0.020833	2.357023	0	
327	N332	3.392158	-0.020833	3.392158	0	
328	N333	4.334202	-0.020833	4.334202	0	
329	N334	5.117271	-0.020833	5.117271	0	





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### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
330	N335	5.421152	-0.020833	5.421152	0	
331	N336	2.357023	-1.0155	2.357023	0	
332	N337	5.369596	-0.223863	5.369596	0	
333	N338	2.357023	-0.083333	2.357023	0	
334	N339	2.864917	-0.020833	2.864917	0	
335	N340	3.328307	-0.020833	3.328307	0	
336	N341	3.723553	-0.020833	3.723553	0	
337	N342	4.054962	-0.020833	4.054962	0	
338	N343	4.569784	-0.020833	4.569784	0	
339	N344	4.754037	-0.020833	4.754037	0	
340	N345	2.864917	-0.083333	2.864917	0	
341	N346	3.328307	-0.083333	3.328307	0	
342	N347	3.723549	-0.083333	3.723549	0	
343	N348	4.054962	-0.083333	4.054962	0	
344	N349	4.334202	-0.083333	4.334202	0	
345	N350	4.569784	-0.083333	4.569784	0	
346	N351	4.754037	-0.083333	4.754037	0	
347	N352	2.357023	-0.954046	2.357023	0	
348	N353	3.328307	-0.696739	3.328307	0	
349	N354	2.872992	-0.879911	2.872992	0	
350	N355	3.731619	-0.654283	3.731619	0	
351	N356	3.336376	-0.758148	3.336376	0	
352	N357	4.063034	-0.567191	4.063034	0	
353	N358	4.342276	-0.493815	4.342276	0	
354	N359	4.577858	-0.431911	4.577858	0	
355	N360	4.762112	-0.383495	4.762112	0	
356	N361	2.864917	-0.818456	2.864917	0	
357	N362	3.723549	-0.59286	3.723549	0	
358	N363	4.054962	-0.505757	4.054962	0	
359	N364	4.334202	-0.432373	4.334202	0	
360	N365	4.569784	-0.370462	4.569784	0	
361	N366	4.754037	-0.322041	4.754037	0	
362	N367	5.421152	-0.083333	5.421152	0	
363	N368	5.361522	-.17	5.361522	0	
364	N369	5.117271	-0.083333	5.117271	0	
365	N370	5.117271	-0.231131	5.117271	0	
366	N371	5.117271	-0.290168	5.117271	0	
367	N372	1.679379	-0.020833	1.679379	0	
368	N373	1.679379	-1.0155	1.679379	0	
369	N374	1.679379	-0.083333	1.679379	0	
370	N375	1.679379	-0.954046	1.679379	0	
371	N376	1.001735	-0.020833	1.001735	0	
372	N377	1.001735	-1.0155	1.001735	0	
373	N378	1.001735	-0.083333	1.001735	0	
374	N379	1.001735	-0.954046	1.001735	0	
375	R2	0.353553	-0.020833	0.353553	0	
376	R2A	0.353553	-1.0155	0.353553	0	
377	N382	0.353553	-0.083333	0.353553	0	
378	N383	0.353553	-0.954046	0.353553	0	
379	N384	5.18545	-0.020833	5.18545	0	
380	N385	4.134765	-0.020833	4.134765	0	
381	N386	5.18545	.125	-5.18545	0	
382	N387	2.357023	-0.020833	-2.357023	0	
383	N388	3.392158	-0.020833	-3.392158	0	
384	N389	4.334202	-0.020833	-4.334202	0	
385	N390	5.117271	-0.020833	-5.117271	0	
386	N391	5.421152	-0.020833	-5.421152	0	



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### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
387	N392	2.357023	-1.0155	-2.357023	0	
388	N393	5.369596	-0.223863	-5.369596	0	
389	N394	2.357023	-0.083333	-2.357023	0	
390	N395	2.864917	-0.020833	-2.864917	0	
391	N396	3.328307	-0.020833	-3.328307	0	
392	N397	3.723553	-0.020833	-3.723553	0	
393	N398	4.054962	-0.020833	-4.054962	0	
394	N399	4.569784	-0.020833	-4.569784	0	
395	N400	4.754037	-0.020833	-4.754037	0	
396	N401	2.864917	-0.083333	-2.864917	0	
397	N402	3.328307	-0.083333	-3.328307	0	
398	N403	3.723549	-0.083333	-3.723549	0	
399	N404	4.054962	-0.083333	-4.054962	0	
400	N405	4.334202	-0.083333	-4.334202	0	
401	N406	4.569784	-0.083333	-4.569784	0	
402	N407	4.754037	-0.083333	-4.754037	0	
403	N408	2.357023	-0.954046	-2.357023	0	
404	N409	3.328307	-0.696739	-3.328307	0	
405	N410	2.872992	-0.879911	-2.872992	0	
406	N411	3.731619	-0.654283	-3.731619	0	
407	N412	3.336376	-0.758148	-3.336376	0	
408	N413	4.063034	-0.567191	-4.063034	0	
409	N414	4.342276	-0.493815	-4.342276	0	
410	N415	4.577858	-0.431911	-4.577858	0	
411	N416	4.762112	-0.383495	-4.762112	0	
412	N417	2.864917	-0.818456	-2.864917	0	
413	N418	3.723549	-0.59286	-3.723549	0	
414	N419	4.054962	-0.505757	-4.054962	0	
415	N420	4.334202	-0.432373	-4.334202	0	
416	N421	4.569784	-0.370462	-4.569784	0	
417	N422	4.754037	-0.322041	-4.754037	0	
418	N423	5.421152	-0.083333	-5.421152	0	
419	N424	5.361522	-.17	-5.361522	0	
420	N425	5.117271	-0.083333	-5.117271	0	
421	N426	5.117271	-0.231131	-5.117271	0	
422	N427	5.117271	-0.290168	-5.117271	0	
423	N428	1.679379	-0.020833	-1.679379	0	
424	N429	1.679379	-1.0155	-1.679379	0	
425	N430	1.679379	-0.083333	-1.679379	0	
426	N431	1.679379	-0.954046	-1.679379	0	
427	N432	1.001735	-0.020833	-1.001735	0	
428	N433	1.001735	-1.0155	-1.001735	0	
429	N434	1.001735	-0.083333	-1.001735	0	
430	N435	1.001735	-0.954046	-1.001735	0	
431	R3	0.353553	-0.020833	-0.353553	0	
432	R3A	0.353553	-1.0155	-0.353553	0	
433	N438	0.353553	-0.083333	-0.353553	0	
434	N439	0.353553	-0.954046	-0.353553	0	
435	N440	5.18545	-0.020833	-5.18545	0	
436	N441	4.134765	-0.020833	-4.134765	0	
437	N438A	-5.479942	.125	0.	0	
438	N439A	-7.0837	.125	0.	0	
439	N440A	0	.125	5.479942	0	
440	N441A	-0.	.125	7.0837	0	
441	N442	5.479942	.125	-0.	0	
442	N443	7.0837	.125	-0.	0	
443	N444	-0.	.125	-5.479942	0	



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### ***Joint Coordinates and Temperatures (Continued)***

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
444	N445	-0.	.125	-7.083699	0	
445	N446	-5.479942	.125	-3.725093	0	
446	N447	-7.0837	.125	-3.725093	0	
447	N448	-3.725093	.125	5.479942	0	
448	N449	-3.725093	.125	7.0837	0	
449	N450	5.479942	.125	3.725248	0	
450	N451	7.0837	.125	3.725248	0	
451	N452	3.725248	.125	-5.479942	0	
452	N453	3.725248	.125	-7.083699	0	
453	N454	-5.479942	.125	3.724907	0	
454	N455	-7.0837	.125	3.724907	0	
455	N456	3.724907	.125	5.479942	0	
456	N457	3.724907	.125	7.0837	0	
457	N458	5.479942	.125	-3.724752	0	
458	N459	7.0837	.125	-3.724752	0	
459	N460	-3.724752	.125	-5.479942	0	
460	N461	-3.724752	.125	-7.083699	0	
461	N462	-5.479942	.125	-2.516759	0	
462	N463	-7.0837	.125	-2.516759	0	
463	N464	5.479942	.125	-2.516419	0	
464	N465	7.0837	.125	-2.516419	0	
465	N466	-5.479942	.125	-1.308426	0	
466	N467	-7.0837	.125	-1.308426	0	
467	N468	5.479942	.125	-1.308085	0	
468	N469	7.0837	.125	-1.308085	0	
469	N470	-5.479942	.125	1.208333	0	
470	N471	-7.0837	.125	1.208333	0	
471	N472	5.479942	.125	1.208333	0	
472	N473	7.0837	.125	1.208333	0	
473	N474	-5.479942	.125	2.416667	0	
474	N475	-7.0837	.125	2.416667	0	
475	N476	5.479942	.125	2.416667	0	
476	N477	7.0837	.125	2.416667	0	
477	N490	-2.516759	.125	5.479942	0	
478	N491	-2.516759	.125	7.0837	0	
479	N492	-2.516419	.125	-5.479942	0	
480	N493	-2.516419	.125	-7.083699	0	
481	N494	-1.308426	.125	5.479942	0	
482	N495	-1.308426	.125	7.0837	0	
483	N496	-1.308085	.125	-5.479942	0	
484	N497	-1.308085	.125	-7.083699	0	
485	N498	1.208333	.125	5.479942	0	
486	N499	1.208333	.125	7.0837	0	
487	N500	1.208333	.125	-5.479942	0	
488	N501	1.208333	.125	-7.083699	0	
489	N502	2.416667	.125	5.479942	0	
490	N503	2.416667	.125	7.0837	0	
491	N504	2.416667	.125	-5.479942	0	
492	N505	2.416667	.125	-7.083699	0	
493	N495A	7.25	4.33325	7.604533	0	
494	N496A	-7.25	4.33325	7.604533	0	
495	N496B	-6	4.33325	7.604533	0	
496	N497A	-2	4.33325	7.604533	0	
497	N498A	2	4.33325	7.604533	0	
498	N499A	6	4.33325	7.604533	0	
499	N500A	-6	4.33325	7.854533	0	
500	N501A	-2	4.33325	7.854533	0	





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### ***Joint Coordinates and Temperatures (Continued)***

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
501	N502A	2	4.33325	7.854533	0	
502	N503A	6	4.33325	7.854533	0	
503	N504A	-6	6.999917	7.854533	0	
504	N505A	-2	6.999917	7.854533	0	
505	N506	2	6.999917	7.854533	0	
506	N507	6	6.999917	7.854533	0	
507	N508	-6	-1.000083	7.854533	0	
508	N509	-2	-1.000083	7.854533	0	
509	N510	2	-1.000083	7.854533	0	
510	N511	6	-1.000083	7.854533	0	
511	N512	-6	0.33325	7.604533	0	
512	N513	-2	0.33325	7.604533	0	
513	N514	2	0.33325	7.604533	0	
514	N515	6	0.33325	7.604533	0	
515	N516	-6	0.33325	7.854533	0	
516	N517	-2	0.33325	7.854533	0	
517	N518	2	0.33325	7.854533	0	
518	N519	6	0.33325	7.854533	0	
519	N520	-6.75	4.33325	7.604533	0	
520	N521	6.75	4.33325	7.604533	0	
521	N522	7.604533	4.33325	-7.25	0	
522	N523	7.604533	4.33325	7.25	0	
523	N524	7.604533	4.33325	6	0	
524	N525	7.604533	4.33325	2	0	
525	N526	7.604533	4.33325	-2	0	
526	N527	7.604533	4.33325	-6	0	
527	N528	7.854533	4.33325	6	0	
528	N529	7.854533	4.33325	2	0	
529	N530	7.854533	4.33325	-2	0	
530	N531	7.854533	4.33325	-6	0	
531	N532	7.854533	6.999917	6	0	
532	N533	7.854533	6.999917	2	0	
533	N534	7.854533	6.999917	-2	0	
534	N535	7.854533	6.999917	-6	0	
535	N536	7.854533	-1.000083	6	0	
536	N537	7.854533	-1.000083	2	0	
537	N538	7.854533	-1.000083	-2	0	
538	N539	7.854533	-1.000083	-6	0	
539	N540	7.604533	0.33325	6	0	
540	N541	7.604533	0.33325	2	0	
541	N542	7.604533	0.33325	-2	0	
542	N543	7.604533	0.33325	-6	0	
543	N544	7.854533	0.33325	6	0	
544	N545	7.854533	0.33325	2	0	
545	N546	7.854533	0.33325	-2	0	
546	N547	7.854533	0.33325	-6	0	
547	N548	7.604533	4.33325	-6.75	0	
548	N549	-7.25	4.33325	-7.604533	0	
549	N550	7.25	4.33325	-7.604533	0	
550	N551	6	4.33325	-7.604533	0	
551	N552	2	4.33325	-7.604533	0	
552	N553	-2	4.33325	-7.604533	0	
553	N554	-6	4.33325	-7.604533	0	
554	N555	6	4.33325	-7.854533	0	
555	N556	2	4.33325	-7.854533	0	
556	N557	-2	4.33325	-7.854533	0	
557	N558	-6	4.33325	-7.854533	0	



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### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
558	N559	6	6.999917	-7.854533	0	
559	N560	2	6.999917	-7.854533	0	
560	N561	-2	6.999917	-7.854533	0	
561	N562	-6	6.999917	-7.854533	0	
562	N563	6	-1.000083	-7.854533	0	
563	N564	2	-1.000083	-7.854533	0	
564	N565	-2	-1.000083	-7.854533	0	
565	N566	-6	-1.000083	-7.854533	0	
566	N567	6	0.33325	-7.604533	0	
567	N568	2	0.33325	-7.604533	0	
568	N569	-2	0.33325	-7.604533	0	
569	N570	-6	0.33325	-7.604533	0	
570	N571	6	0.33325	-7.854533	0	
571	N572	2	0.33325	-7.854533	0	
572	N573	-2	0.33325	-7.854533	0	
573	N574	-6	0.33325	-7.854533	0	
574	N575	-6.75	4.33325	-7.604533	0	
575	N576	-7.604533	4.33325	7.25	0	
576	N577	-7.604533	4.33325	-7.25	0	
577	N578	-7.604533	4.33325	-6	0	
578	N579	-7.604533	4.33325	-2	0	
579	N580	-7.604533	4.33325	2	0	
580	N581	-7.604533	4.33325	6	0	
581	N582	-7.854533	4.33325	-6	0	
582	N583	-7.854533	4.33325	-2	0	
583	N584	-7.854533	4.33325	2	0	
584	N585	-7.854533	4.33325	6	0	
585	N586	-7.854533	6.999917	-6	0	
586	N587	-7.854533	6.999917	-2	0	
587	N588	-7.854533	6.999917	2	0	
588	N589	-7.854533	6.999917	6	0	
589	N590	-7.854533	-1.000083	-6	0	
590	N591	-7.854533	-1.000083	-2	0	
591	N592	-7.854533	-1.000083	2	0	
592	N593	-7.854533	-1.000083	6	0	
593	N594	-7.604533	0.33325	-6	0	
594	N595	-7.604533	0.33325	-2	0	
595	N596	-7.604533	0.33325	2	0	
596	N597	-7.604533	0.33325	6	0	
597	N598	-7.854533	0.33325	-6	0	
598	N599	-7.854533	0.33325	-2	0	
599	N600	-7.854533	0.33325	2	0	
600	N601	-7.854533	0.33325	6	0	
601	N602	-7.604533	4.33325	6.75	0	
602	N603	7.604533	4.33325	6.75	0	
603	N604	6.75	4.33325	-7.604533	0	
604	N605	-7.604533	4.33325	-6.75	0	

### Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in <sup>2</sup> ]	Iyy [in <sup>4</sup> ]	Izz [in <sup>4</sup> ]	J [in <sup>4</sup> ]
1	Mount Pipe	PIPE 2.0	Beam	Pipe	Q235	Typical	1.02	.627	.627	1.25
2	Support Rail	PIPE 2.0	Beam	Pipe	Q235	Typical	1.02	.627	.627	1.25
3	PL3/16x1.5	PL3/16x1.5	Beam	RECT	A992	Typical	.281	.000824	.053	.003
4	PL3/8x0.625	PL3/8x0.625	Beam	RECT	A992	Typical	.234	.003	.008	.007
5	PL3/8x4.0	PL3/8x4.0	Beam	RECT	A992	Typical	1.5	.018	2	.066



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### Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design ...	A [in <sup>2</sup> ]	I <sub>yy</sub> [in <sup>4</sup> ]	I <sub>zz</sub> [in <sup>4</sup> ]	J [in <sup>4</sup> ]
6	PL3/8x3.0	PL3/8x3.0	Beam	RECT	Q235	Typical	1.125	.013	.844	.049
7	PL3/8x1.0	PL3/8x1.0	Beam	RECT	A992	Typical	.375	.004	.031	.013
8	PL3/4x0.375	PL3/4x0.375	Beam	RECT	A992	Typical	.281	.003	.013	.009
9	PL7/8x0.375	PL7/8x0.375	Beam	RECT	A992	Typical	.328	.004	.021	.011
10	PL1/2x4.0	PL1/2x4.0	Beam	RECT	A992	Typical	2	.042	2.667	.154
11	PL1/2x2.375	PL1/2x2.375	Beam	RECT	Q235	Typical	1.188	.025	.558	.086
12	Standoff	HSS4X3X4	Beam	SquareTube	Q235	Typical	2.91	3.91	6.15	7.96
13	Walkway Pipes	PIPE 1.5	Beam	Pipe	Q235	Typical	.749	.293	.293	.586
14	Horizontal	PIPE 2.5	Beam	Pipe	Q235	Typical	1.61	1.45	1.45	2.89
15	Corner Angles	L3X3X6	Beam	Single Angle	Q235	Typical	2.11	1.75	1.75	.101
16	Corner Support	Corner Support Rail ...	Beam	W_Tee	Q235	Typical	1.734	.498	.984	.082

### Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1...	Density[k/ft <sup>3</sup> ]	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

### Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M509	N41	N111			Walkway Pipes	Beam	Pipe	Q235	Typical
2	M510	N54	N125			Walkway Pipes	Beam	Pipe	Q235	Typical
3	M511	N97	N176			Walkway Pipes	Beam	Pipe	Q235	Typical
4	M512	N117	N190			Walkway Pipes	Beam	Pipe	Q235	Typical
5	M513	N162	N241			Walkway Pipes	Beam	Pipe	Q235	Typical
6	M514	N182	N255			Walkway Pipes	Beam	Pipe	Q235	Typical
7	M515	N227	N72			Walkway Pipes	Beam	Pipe	Q235	Typical
8	M516	N247	N60A			Walkway Pipes	Beam	Pipe	Q235	Typical
9	M545	N496A	N495A			Support Rail	Beam	Pipe	Q235	Typical
10	M558	N523	N522			Support Rail	Beam	Pipe	Q235	Typical
11	M571	N550	N549			Support Rail	Beam	Pipe	Q235	Typical
12	M584	N577	N576			Support Rail	Beam	Pipe	Q235	Typical
13	M54	N74A	N75A		90	Standoff	Beam	SquareTube	Q235	Typical
14	M130	N85	N86		90	Standoff	Beam	SquareTube	Q235	Typical
15	M208	N150	N151		90	Standoff	Beam	SquareTube	Q235	Typical
16	M286	N215	N216		90	Standoff	Beam	SquareTube	Q235	Typical
17	M57	N77	N69			RIGID	None	None	RIGID	Typical
18	M58	N27	N70			RIGID	None	None	RIGID	Typical
19	M59	N28	N71			RIGID	None	None	RIGID	Typical
20	M63	N64	N72			RIGID	None	None	RIGID	Typical
21	M64	N67	N73			RIGID	None	None	RIGID	Typical
22	M65	N68	N74			RIGID	None	None	RIGID	Typical
23	M67	N47	N78			RIGID	None	None	RIGID	Typical
24	M70	N49	N80			RIGID	None	None	RIGID	Typical
25	M71	N54	N55			RIGID	None	None	RIGID	Typical
26	M72	N55	N56			RIGID	None	None	RIGID	Typical
27	M74A	N58	N59A			RIGID	None	None	RIGID	Typical
28	M75A	N60A	N61			RIGID	None	None	RIGID	Typical
29	M75C	N59A	N59			RIGID	None	None	RIGID	Typical



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 Designer : Connor Rice, EIT  
 Job Number : Project No. 10070199  
 Model Name : 467564-VZW\_MT\_LO\_H

Aug 17, 2021  
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### Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
30	M76	N61	N62A			RIGID	None	None	RIGID	Typical
31	M77	N64A	N65			RIGID	None	None	RIGID	Typical
32	M78	N65	N63			RIGID	None	None	RIGID	Typical
33	M100	N88	N94			RIGID	None	None	RIGID	Typical
34	M101	N90	N95			RIGID	None	None	RIGID	Typical
35	M102	N91	N96			RIGID	None	None	RIGID	Typical
36	M106	N89	N97			RIGID	None	None	RIGID	Typical
37	M107	N92	N98			RIGID	None	None	RIGID	Typical
38	M108	N93	N99			RIGID	None	None	RIGID	Typical
39	M109	N100	N102			RIGID	None	None	RIGID	Typical
40	M111	N101	N104			RIGID	None	None	RIGID	Typical
41	M133	N88	N108			RIGID	None	None	RIGID	Typical
42	M134	N90	N109			RIGID	None	None	RIGID	Typical
43	M135	N91	N110			RIGID	None	None	RIGID	Typical
44	M139	N105	N111			RIGID	None	None	RIGID	Typical
45	M140	N106	N112			RIGID	None	None	RIGID	Typical
46	M141	N107	N113			RIGID	None	None	RIGID	Typical
47	M143	N100	N114			RIGID	None	None	RIGID	Typical
48	M145	N101	N116			RIGID	None	None	RIGID	Typical
49	M146	N117	N118			RIGID	None	None	RIGID	Typical
50	M147	N118	N119			RIGID	None	None	RIGID	Typical
51	M151	N123	N124			RIGID	None	None	RIGID	Typical
52	M152	N124	N120			RIGID	None	None	RIGID	Typical
53	M153	N125	N126			RIGID	None	None	RIGID	Typical
54	M154	N126	N127			RIGID	None	None	RIGID	Typical
55	M155	N129	N130			RIGID	None	None	RIGID	Typical
56	M156	N130	N128			RIGID	None	None	RIGID	Typical
57	M178	N153	N159			RIGID	None	None	RIGID	Typical
58	M179	N155	N160			RIGID	None	None	RIGID	Typical
59	M180	N156	N161			RIGID	None	None	RIGID	Typical
60	M184	N154	N162			RIGID	None	None	RIGID	Typical
61	M185	N157	N163			RIGID	None	None	RIGID	Typical
62	M186	N158	N164			RIGID	None	None	RIGID	Typical
63	M187	N165	N167			RIGID	None	None	RIGID	Typical
64	M189	N166	N169			RIGID	None	None	RIGID	Typical
65	M193	N266B	N246B			RIGID	None	None	RIGID	Typical
66	M194	N263B	N257A			RIGID	None	None	RIGID	Typical
67	M195	N276	N260A			RIGID	None	None	RIGID	Typical
68	M196	N275	N259A			RIGID	None	None	RIGID	Typical
69	M197	N261B	N258A			RIGID	None	None	RIGID	Typical
70	M198	N267C	N253A			RIGID	None	None	RIGID	Typical
71	M199	N272	N256A			RIGID	None	None	RIGID	Typical
72	M200	N271	N255A			RIGID	None	None	RIGID	Typical
73	M201	N265B	N254A			RIGID	None	None	RIGID	Typical
74	M202	N260C	N249A			RIGID	None	None	RIGID	Typical
75	M203	N268	N252A			RIGID	None	None	RIGID	Typical
76	M204	N267	N251A			RIGID	None	None	RIGID	Typical
77	M205	N262B	N250A			RIGID	None	None	RIGID	Typical
78	M206	N264B	N245B			RIGID	None	None	RIGID	Typical
79	M207	N264	N248A			RIGID	None	None	RIGID	Typical
80	M208A	N263	N247B			RIGID	None	None	RIGID	Typical
81	M211	N153	N173			RIGID	None	None	RIGID	Typical
82	M212	N155	N174			RIGID	None	None	RIGID	Typical
83	M213	N156	N175			RIGID	None	None	RIGID	Typical
84	M217	N170	N176			RIGID	None	None	RIGID	Typical
85	M218	N171	N177			RIGID	None	None	RIGID	Typical
86	M219	N172	N178			RIGID	None	None	RIGID	Typical



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	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
87	M221	N165	N179			RIGID	None	None	RIGID	Typical
88	M223	N166	N181			RIGID	None	None	RIGID	Typical
89	M224	N182	N183			RIGID	None	None	RIGID	Typical
90	M225	N183	N184			RIGID	None	None	RIGID	Typical
91	M229	N188	N189			RIGID	None	None	RIGID	Typical
92	M230	N189	N185			RIGID	None	None	RIGID	Typical
93	M231	N190	N191			RIGID	None	None	RIGID	Typical
94	M232	N191	N192			RIGID	None	None	RIGID	Typical
95	M233	N194	N195			RIGID	None	None	RIGID	Typical
96	M234	N195	N193			RIGID	None	None	RIGID	Typical
97	M250	N271A	N76			RIGID	None	None	RIGID	Typical
98	M251	N272A	N47			RIGID	None	None	RIGID	Typical
99	M252	N282	N275A			RIGID	None	None	RIGID	Typical
100	M253	N289	N283			RIGID	None	None	RIGID	Typical
101	M254	N290	N284			RIGID	None	None	RIGID	Typical
102	M255	N291	N285			RIGID	None	None	RIGID	Typical
103	M256	N218	N224			RIGID	None	None	RIGID	Typical
104	M256A	N292	N286			RIGID	None	None	RIGID	Typical
105	M257	N220	N225			RIGID	None	None	RIGID	Typical
106	M257A	N293	N277			RIGID	None	None	RIGID	Typical
107	M258	N221	N226			RIGID	None	None	RIGID	Typical
108	M258A	N294	N287			RIGID	None	None	RIGID	Typical
109	M259A	N295	N288			RIGID	None	None	RIGID	Typical
110	M260A	N313	N278			RIGID	None	None	RIGID	Typical
111	M261A	N311	N279			RIGID	None	None	RIGID	Typical
112	M262	N219	N227			RIGID	None	None	RIGID	Typical
113	M262A	N281	N311			RIGID	None	None	RIGID	Typical
114	M263	N222	N228			RIGID	None	None	RIGID	Typical
115	M263A	N281	N312			RIGID	None	None	RIGID	Typical
116	M264	N223	N229			RIGID	None	None	RIGID	Typical
117	M264A	N315	N314			RIGID	None	None	RIGID	Typical
118	M265	N230	N232			RIGID	None	None	RIGID	Typical
119	M265A	N304	N310			RIGID	None	None	RIGID	Typical
120	M266A	N303	N309			RIGID	None	None	RIGID	Typical
121	M267	N231	N234			RIGID	None	None	RIGID	Typical
122	M267A	N302	N308			RIGID	None	None	RIGID	Typical
123	M268	N301	N307			RIGID	None	None	RIGID	Typical
124	M269	N299	N306			RIGID	None	None	RIGID	Typical
125	M270	N300	N297			RIGID	None	None	RIGID	Typical
126	M271	N298	N305			RIGID	None	None	RIGID	Typical
127	M272	N280	N296			RIGID	None	None	RIGID	Typical
128	M289	N218	N238			RIGID	None	None	RIGID	Typical
129	M290	N220	N239			RIGID	None	None	RIGID	Typical
130	M291	N221	N240			RIGID	None	None	RIGID	Typical
131	M294A	N314	N313			RIGID	None	None	RIGID	Typical
132	M295	N235	N241			RIGID	None	None	RIGID	Typical
133	M296	N236	N242			RIGID	None	None	RIGID	Typical
134	M297	N237	N243			RIGID	None	None	RIGID	Typical
135	M299	N230	N244			RIGID	None	None	RIGID	Typical
136	M301	N231	N246			RIGID	None	None	RIGID	Typical
137	M302	N247	N248			RIGID	None	None	RIGID	Typical
138	M303	N248	N249			RIGID	None	None	RIGID	Typical
139	M307	N253	N254			RIGID	None	None	RIGID	Typical
140	M308	N254	N250			RIGID	None	None	RIGID	Typical
141	M308A	N310	N295			RIGID	None	None	RIGID	Typical
142	M309	N255	N256			RIGID	None	None	RIGID	Typical
143	M310	N256	N257			RIGID	None	None	RIGID	Typical





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### Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
144	M311	N259	N260			RIGID	None	None	RIGID	Typical
145	M312	N260	N258			RIGID	None	None	RIGID	Typical
146	M326	N318	N316			RIGID	None	None	RIGID	Typical
147	M327	N322	N320			RIGID	None	None	RIGID	Typical
148	M328	N326	R1			RIGID	None	None	RIGID	Typical
149	M329	R1A	N327			RIGID	None	None	RIGID	Typical
150	M330	N321	N323			RIGID	None	None	RIGID	Typical
151	M331	N317	N319			RIGID	None	None	RIGID	Typical
152	M333	N328	N273			RIGID	None	None	RIGID	Typical
153	M334	N329	N100			RIGID	None	None	RIGID	Typical
154	M335	N338	N331			RIGID	None	None	RIGID	Typical
155	M336	N345	N339			RIGID	None	None	RIGID	Typical
156	M337	N346	N340			RIGID	None	None	RIGID	Typical
157	M338	N347	N341			RIGID	None	None	RIGID	Typical
158	M339	N348	N342			RIGID	None	None	RIGID	Typical
159	M340	N349	N333			RIGID	None	None	RIGID	Typical
160	M341	N350	N343			RIGID	None	None	RIGID	Typical
161	M342	N351	N344			RIGID	None	None	RIGID	Typical
162	M343	N369	N334			RIGID	None	None	RIGID	Typical
163	M344	N367	N335			RIGID	None	None	RIGID	Typical
164	M345	N337	N367			RIGID	None	None	RIGID	Typical
165	M346	N337	N368			RIGID	None	None	RIGID	Typical
166	M347	N371	N370			RIGID	None	None	RIGID	Typical
167	M348	N360	N366			RIGID	None	None	RIGID	Typical
168	M349	N359	N365			RIGID	None	None	RIGID	Typical
169	M350	N358	N364			RIGID	None	None	RIGID	Typical
170	M351	N357	N363			RIGID	None	None	RIGID	Typical
171	M352	N355	N362			RIGID	None	None	RIGID	Typical
172	M353	N356	N353			RIGID	None	None	RIGID	Typical
173	M354	N354	N361			RIGID	None	None	RIGID	Typical
174	M355	N336	N352			RIGID	None	None	RIGID	Typical
175	M377	N370	N369			RIGID	None	None	RIGID	Typical
176	M391	N366	N351			RIGID	None	None	RIGID	Typical
177	M409	N374	N372			RIGID	None	None	RIGID	Typical
178	M410	N378	N376			RIGID	None	None	RIGID	Typical
179	M411	N382	R2			RIGID	None	None	RIGID	Typical
180	M412	R2A	N383			RIGID	None	None	RIGID	Typical
181	M413	N377	N379			RIGID	None	None	RIGID	Typical
182	M414	N373	N375			RIGID	None	None	RIGID	Typical
183	M416	N384	N330			RIGID	None	None	RIGID	Typical
184	M417	N385	N165			RIGID	None	None	RIGID	Typical
185	M418	N394	N387			RIGID	None	None	RIGID	Typical
186	M419	N401	N395			RIGID	None	None	RIGID	Typical
187	M420	N402	N396			RIGID	None	None	RIGID	Typical
188	M421	N403	N397			RIGID	None	None	RIGID	Typical
189	M422	N404	N398			RIGID	None	None	RIGID	Typical
190	M423	N405	N389			RIGID	None	None	RIGID	Typical
191	M424	N406	N399			RIGID	None	None	RIGID	Typical
192	M425	N407	N400			RIGID	None	None	RIGID	Typical
193	M426	N425	N390			RIGID	None	None	RIGID	Typical
194	M427	N423	N391			RIGID	None	None	RIGID	Typical
195	M428	N393	N423			RIGID	None	None	RIGID	Typical
196	M429	N393	N424			RIGID	None	None	RIGID	Typical
197	M430	N427	N426			RIGID	None	None	RIGID	Typical
198	M431	N416	N422			RIGID	None	None	RIGID	Typical
199	M432	N415	N421			RIGID	None	None	RIGID	Typical
200	M433	N414	N420			RIGID	None	None	RIGID	Typical



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	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
201	M434	N413	N419			RIGID	None	None	RIGID	Typical
202	M435	N411	N418			RIGID	None	None	RIGID	Typical
203	M436	N412	N409			RIGID	None	None	RIGID	Typical
204	M437	N410	N417			RIGID	None	None	RIGID	Typical
205	M438	N392	N408			RIGID	None	None	RIGID	Typical
206	M460	N426	N425			RIGID	None	None	RIGID	Typical
207	M474	N422	N407			RIGID	None	None	RIGID	Typical
208	M492	N430	N428			RIGID	None	None	RIGID	Typical
209	M493	N434	N432			RIGID	None	None	RIGID	Typical
210	M494	N438	R3			RIGID	None	None	RIGID	Typical
211	M495	R3A	N439			RIGID	None	None	RIGID	Typical
212	M496	N433	N435			RIGID	None	None	RIGID	Typical
213	M497	N429	N431			RIGID	None	None	RIGID	Typical
214	M499	N440	N386			RIGID	None	None	RIGID	Typical
215	M500	N441	N230			RIGID	None	None	RIGID	Typical
216	M501	N295	N314			RIGID	None	None	RIGID	Typical
217	M502	N312	N313			RIGID	None	None	RIGID	Typical
218	M503	N407	N426			RIGID	None	None	RIGID	Typical
219	M504	N425	N424			RIGID	None	None	RIGID	Typical
220	M505	T21	T40			RIGID	None	None	RIGID	Typical
221	M506	T39	T38			RIGID	None	None	RIGID	Typical
222	M507	N351	N370			RIGID	None	None	RIGID	Typical
223	M508	N369	N368			RIGID	None	None	RIGID	Typical
224	M550	N500A	N496B			RIGID	None	None	RIGID	Typical
225	M551	N501A	N497A			RIGID	None	None	RIGID	Typical
226	M552	N502A	N498A			RIGID	None	None	RIGID	Typical
227	M553	N503A	N499A			RIGID	None	None	RIGID	Typical
228	M554	N516	N512			RIGID	None	None	RIGID	Typical
229	M555	N517	N513			RIGID	None	None	RIGID	Typical
230	M556	N518	N514			RIGID	None	None	RIGID	Typical
231	M557	N519	N515			RIGID	None	None	RIGID	Typical
232	M563	N528	N524			RIGID	None	None	RIGID	Typical
233	M564	N529	N525			RIGID	None	None	RIGID	Typical
234	M565	N530	N526			RIGID	None	None	RIGID	Typical
235	M566	N531	N527			RIGID	None	None	RIGID	Typical
236	M567	N544	N540			RIGID	None	None	RIGID	Typical
237	M568	N545	N541			RIGID	None	None	RIGID	Typical
238	M569	N546	N542			RIGID	None	None	RIGID	Typical
239	M570	N547	N543			RIGID	None	None	RIGID	Typical
240	M576	N555	N551			RIGID	None	None	RIGID	Typical
241	M577	N556	N552			RIGID	None	None	RIGID	Typical
242	M578	N557	N553			RIGID	None	None	RIGID	Typical
243	M579	N558	N554			RIGID	None	None	RIGID	Typical
244	M580	N571	N567			RIGID	None	None	RIGID	Typical
245	M581	N572	N568			RIGID	None	None	RIGID	Typical
246	M582	N573	N569			RIGID	None	None	RIGID	Typical
247	M583	N574	N570			RIGID	None	None	RIGID	Typical
248	M589	N582	N578			RIGID	None	None	RIGID	Typical
249	M590	N583	N579			RIGID	None	None	RIGID	Typical
250	M591	N584	N580			RIGID	None	None	RIGID	Typical
251	M592	N585	N581			RIGID	None	None	RIGID	Typical
252	M593	N598	N594			RIGID	None	None	RIGID	Typical
253	M594	N599	N595			RIGID	None	None	RIGID	Typical
254	M595	N600	N596			RIGID	None	None	RIGID	Typical
255	M596	N601	N597			RIGID	None	None	RIGID	Typical
256	MT1	T8	T1			RIGID	None	None	RIGID	Typical
257	MT2	T15	T9			RIGID	None	None	RIGID	Typical



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	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
258	MT3	T16	T10			RIGID	None	None	RIGID	Typical
259	MT4	T17	T11			RIGID	None	None	RIGID	Typical
260	MT5	T18	T12			RIGID	None	None	RIGID	Typical
261	MT6	T19	T3			RIGID	None	None	RIGID	Typical
262	MT7	T20	T13			RIGID	None	None	RIGID	Typical
263	MT8	T21	T14			RIGID	None	None	RIGID	Typical
264	MT9	T39	T4			RIGID	None	None	RIGID	Typical
265	MT10	T37	T5			RIGID	None	None	RIGID	Typical
266	MT11	T7	T37			RIGID	None	None	RIGID	Typical
267	MT12	T7	T38			RIGID	None	None	RIGID	Typical
268	MT13	T41	T40			RIGID	None	None	RIGID	Typical
269	MT14	T30	T36			RIGID	None	None	RIGID	Typical
270	MT15	T29	T35			RIGID	None	None	RIGID	Typical
271	MT16	T28	T34			RIGID	None	None	RIGID	Typical
272	MT17	T27	T33			RIGID	None	None	RIGID	Typical
273	MT18	T25	T32			RIGID	None	None	RIGID	Typical
274	MT19	T26	T23			RIGID	None	None	RIGID	Typical
275	MT20	T24	T31			RIGID	None	None	RIGID	Typical
276	MT21	T6	T22			RIGID	None	None	RIGID	Typical
277	MT43	T40	T39			RIGID	None	None	RIGID	Typical
278	MT57	T36	T21			RIGID	None	None	RIGID	Typical
279	MT75	T44	T42			RIGID	None	None	RIGID	Typical
280	MT76	T48	T46			RIGID	None	None	RIGID	Typical
281	MT77	T52	R4			RIGID	None	None	RIGID	Typical
282	MT78	R4A	T53			RIGID	None	None	RIGID	Typical
283	MT79	T47	T49			RIGID	None	None	RIGID	Typical
284	MT80	T43	T45			RIGID	None	None	RIGID	Typical
285	R3	N77	N35			RIGID	None	None	RIGID	Typical
286	R4	N27	N38			RIGID	None	None	RIGID	Typical
287	R5	N28	N39			RIGID	None	None	RIGID	Typical
288	R6	N79	N41			RIGID	None	None	RIGID	Typical
289	R7	N29	N41A			RIGID	None	None	RIGID	Typical
290	R8	N31	N42			RIGID	None	None	RIGID	Typical
291	R9	N47	N50			RIGID	None	None	RIGID	Typical
292	R10	N49	N52A			RIGID	None	None	RIGID	Typical
293	M298A	N297	N290		45	PL7/8x0.375	Beam	RECT	A992	Typical
294	M299A	N306	N290			PL7/8x0.375	Beam	RECT	A992	Typical
295	M300A	N306	N291		45	PL7/8x0.375	Beam	RECT	A992	Typical
296	M381	N353	N346		315	PL7/8x0.375	Beam	RECT	A992	Typical
297	M382	N362	N346			PL7/8x0.375	Beam	RECT	A992	Typical
298	M383	N362	N347		315	PL7/8x0.375	Beam	RECT	A992	Typical
299	M464	N409	N402		45	PL7/8x0.375	Beam	RECT	A992	Typical
300	M465	N418	N402			PL7/8x0.375	Beam	RECT	A992	Typical
301	M466	N418	N403		45	PL7/8x0.375	Beam	RECT	A992	Typical
302	MT47	T23	T16		315	PL7/8x0.375	Beam	RECT	A992	Typical
303	MT48	T32	T16			PL7/8x0.375	Beam	RECT	A992	Typical
304	MT49	T32	T17		315	PL7/8x0.375	Beam	RECT	A992	Typical
305	M517	N458	N459			PL3/16x1.5	Beam	RECT	A992	Typical
306	M518	N464	N465			PL3/16x1.5	Beam	RECT	A992	Typical
307	M519	N468	N469			PL3/16x1.5	Beam	RECT	A992	Typical
308	M520	N442	N443			PL3/16x1.5	Beam	RECT	A992	Typical
309	M521	N472	N473			PL3/16x1.5	Beam	RECT	A992	Typical
310	M522	N476	N477			PL3/16x1.5	Beam	RECT	A992	Typical
311	M523	N450	N451			PL3/16x1.5	Beam	RECT	A992	Typical
312	M524	N455	N454			PL3/16x1.5	Beam	RECT	A992	Typical
313	M525	N475	N474			PL3/16x1.5	Beam	RECT	A992	Typical
314	M526	N471	N470			PL3/16x1.5	Beam	RECT	A992	Typical





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### Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
315	M527	N439A	N438A			PL3/16x1.5	Beam	RECT	A992	Typical
316	M528	N467	N466			PL3/16x1.5	Beam	RECT	A992	Typical
317	M529	N463	N462			PL3/16x1.5	Beam	RECT	A992	Typical
318	M530	N447	N446			PL3/16x1.5	Beam	RECT	A992	Typical
319	M531	N460	N461			PL3/16x1.5	Beam	RECT	A992	Typical
320	M532	N492	N493			PL3/16x1.5	Beam	RECT	A992	Typical
321	M533	N496	N497			PL3/16x1.5	Beam	RECT	A992	Typical
322	M534	N444	N445			PL3/16x1.5	Beam	RECT	A992	Typical
323	M535	N500	N501			PL3/16x1.5	Beam	RECT	A992	Typical
324	M536	N504	N505			PL3/16x1.5	Beam	RECT	A992	Typical
325	M537	N452	N453			PL3/16x1.5	Beam	RECT	A992	Typical
326	M538	N457	N456			PL3/16x1.5	Beam	RECT	A992	Typical
327	M539	N503	N502			PL3/16x1.5	Beam	RECT	A992	Typical
328	M540	N499	N498			PL3/16x1.5	Beam	RECT	A992	Typical
329	M541	N441A	N440A			PL3/16x1.5	Beam	RECT	A992	Typical
330	M542	N495	N494			PL3/16x1.5	Beam	RECT	A992	Typical
331	M543	N491	N490			PL3/16x1.5	Beam	RECT	A992	Typical
332	M544	N449	N448			PL3/16x1.5	Beam	RECT	A992	Typical
333	M274	N281	N304		90	PL3/8x4.0	Beam	RECT	A992	Typical
334	M279	N304	N301		90	PL3/8x4.0	Beam	RECT	A992	Typical
335	M280	N301	N300		90	PL3/8x4.0	Beam	RECT	A992	Typical
336	M281	N300	N298		90	PL3/8x4.0	Beam	RECT	A992	Typical
337	M282	N298	N280		90	PL3/8x4.0	Beam	RECT	A992	Typical
338	M316A	N280	N317		90	PL3/8x4.0	Beam	RECT	A992	Typical
339	M317	N317	N321		90	PL3/8x4.0	Beam	RECT	A992	Typical
340	M318	N321	R1A		90	PL3/8x4.0	Beam	RECT	A992	Typical
341	M357	N337	N360		90	PL3/8x4.0	Beam	RECT	A992	Typical
342	M362	N360	N357		90	PL3/8x4.0	Beam	RECT	A992	Typical
343	M363	N357	N356		90	PL3/8x4.0	Beam	RECT	A992	Typical
344	M364	N356	N354		90	PL3/8x4.0	Beam	RECT	A992	Typical
345	M365	N354	N336		90	PL3/8x4.0	Beam	RECT	A992	Typical
346	M399	N336	N373		90	PL3/8x4.0	Beam	RECT	A992	Typical
347	M400	N373	N377		90	PL3/8x4.0	Beam	RECT	A992	Typical
348	M401	N377	R2A		90	PL3/8x4.0	Beam	RECT	A992	Typical
349	M440	N393	N416		90	PL3/8x4.0	Beam	RECT	A992	Typical
350	M445	N416	N413		90	PL3/8x4.0	Beam	RECT	A992	Typical
351	M446	N413	N412		90	PL3/8x4.0	Beam	RECT	A992	Typical
352	M447	N412	N410		90	PL3/8x4.0	Beam	RECT	A992	Typical
353	M448	N410	N392		90	PL3/8x4.0	Beam	RECT	A992	Typical
354	M482	N392	N429		90	PL3/8x4.0	Beam	RECT	A992	Typical
355	M483	N429	N433		90	PL3/8x4.0	Beam	RECT	A992	Typical
356	M484	N433	R3A		90	PL3/8x4.0	Beam	RECT	A992	Typical
357	MT23	T7	T30		90	PL3/8x4.0	Beam	RECT	A992	Typical
358	MT28	T30	T27		90	PL3/8x4.0	Beam	RECT	A992	Typical
359	MT29	T27	T26		90	PL3/8x4.0	Beam	RECT	A992	Typical
360	MT30	T26	T24		90	PL3/8x4.0	Beam	RECT	A992	Typical
361	MT31	T24	T6		90	PL3/8x4.0	Beam	RECT	A992	Typical
362	MT65	T6	T43		90	PL3/8x4.0	Beam	RECT	A992	Typical
363	MT66	T43	T47		90	PL3/8x4.0	Beam	RECT	A992	Typical
364	MT67	T47	R4A		90	PL3/8x4.0	Beam	RECT	A992	Typical
365	M66	N79A	N60			PL3/8x3.0	Beam	RECT	Q235	Typical
366	M74C	N52	N62			PL3/8x3.0	Beam	RECT	Q235	Typical
367	M142	N115	N121			PL3/8x3.0	Beam	RECT	Q235	Typical
368	M149	N103	N122			PL3/8x3.0	Beam	RECT	Q235	Typical
369	M220	N180	N186			PL3/8x3.0	Beam	RECT	Q235	Typical
370	M227	N168	N187			PL3/8x3.0	Beam	RECT	Q235	Typical
371	M298	N245	N251			PL3/8x3.0	Beam	RECT	Q235	Typical



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**Member Primary Data (Continued)**

Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
372	M305	N233	N252		PL3/8x3.0	Beam	RECT	Q235	Typical
373	M283	N311	N295		PL3/8x1.0	Beam	RECT	A992	Typical
374	M284	N312	N310		PL3/8x1.0	Beam	RECT	A992	Typical
375	M285	N295	N292		PL3/8x1.0	Beam	RECT	A992	Typical
376	M286A	N292	N290		PL3/8x1.0	Beam	RECT	A992	Typical
377	M287	N290	N289		PL3/8x1.0	Beam	RECT	A992	Typical
378	M288	N289	N282		PL3/8x1.0	Beam	RECT	A992	Typical
379	M289A	N310	N307		PL3/8x1.0	Beam	RECT	A992	Typical
380	M290A	N307	N297		PL3/8x1.0	Beam	RECT	A992	Typical
381	M291A	N297	N305		PL3/8x1.0	Beam	RECT	A992	Typical
382	M292A	N305	N296		PL3/8x1.0	Beam	RECT	A992	Typical
383	M293A	N296	N282	45	PL3/8x1.0	Beam	RECT	A992	Typical
384	M295A	N282	N305		PL3/8x1.0	Beam	RECT	A992	Typical
385	M296A	N305	N289	45	PL3/8x1.0	Beam	RECT	A992	Typical
386	M297A	N289	N297		PL3/8x1.0	Beam	RECT	A992	Typical
387	M309A	N282	N318		PL3/8x1.0	Beam	RECT	A992	Typical
388	M310A	N318	N322		PL3/8x1.0	Beam	RECT	A992	Typical
389	M311A	N322	N326		PL3/8x1.0	Beam	RECT	A992	Typical
390	M312A	N296	N319		PL3/8x1.0	Beam	RECT	A992	Typical
391	M313A	N319	N323		PL3/8x1.0	Beam	RECT	A992	Typical
392	M314A	N323	N327		PL3/8x1.0	Beam	RECT	A992	Typical
393	M315A	N327	N326	45	PL3/8x1.0	Beam	RECT	A992	Typical
394	M322	N296	N318		PL3/8x1.0	Beam	RECT	A992	Typical
395	M323	N319	N318	45	PL3/8x1.0	Beam	RECT	A992	Typical
396	M324	N319	N322		PL3/8x1.0	Beam	RECT	A992	Typical
397	M325	N323	N322	45	PL3/8x1.0	Beam	RECT	A992	Typical
398	M332	N323	N326		PL3/8x1.0	Beam	RECT	A992	Typical
399	M366	N367	N351		PL3/8x1.0	Beam	RECT	A992	Typical
400	M367	N368	N366		PL3/8x1.0	Beam	RECT	A992	Typical
401	M368	N351	N348		PL3/8x1.0	Beam	RECT	A992	Typical
402	M369	N348	N346		PL3/8x1.0	Beam	RECT	A992	Typical
403	M370	N346	N345		PL3/8x1.0	Beam	RECT	A992	Typical
404	M371	N345	N338		PL3/8x1.0	Beam	RECT	A992	Typical
405	M372	N366	N363		PL3/8x1.0	Beam	RECT	A992	Typical
406	M373	N363	N353		PL3/8x1.0	Beam	RECT	A992	Typical
407	M374	N353	N361		PL3/8x1.0	Beam	RECT	A992	Typical
408	M375	N361	N352		PL3/8x1.0	Beam	RECT	A992	Typical
409	M376	N352	N338	315	PL3/8x1.0	Beam	RECT	A992	Typical
410	M378	N338	N361		PL3/8x1.0	Beam	RECT	A992	Typical
411	M379	N361	N345	315	PL3/8x1.0	Beam	RECT	A992	Typical
412	M380	N345	N353		PL3/8x1.0	Beam	RECT	A992	Typical
413	M392	N338	N374		PL3/8x1.0	Beam	RECT	A992	Typical
414	M393	N374	N378		PL3/8x1.0	Beam	RECT	A992	Typical
415	M394	N378	N382		PL3/8x1.0	Beam	RECT	A992	Typical
416	M395	N352	N375		PL3/8x1.0	Beam	RECT	A992	Typical
417	M396	N375	N379		PL3/8x1.0	Beam	RECT	A992	Typical
418	M397	N379	N383		PL3/8x1.0	Beam	RECT	A992	Typical
419	M398	N383	N382	315	PL3/8x1.0	Beam	RECT	A992	Typical
420	M405	N352	N374		PL3/8x1.0	Beam	RECT	A992	Typical
421	M406	N375	N374	315	PL3/8x1.0	Beam	RECT	A992	Typical
422	M407	N375	N378		PL3/8x1.0	Beam	RECT	A992	Typical
423	M408	N379	N378	315	PL3/8x1.0	Beam	RECT	A992	Typical
424	M415	N379	N382		PL3/8x1.0	Beam	RECT	A992	Typical
425	M449	N423	N407		PL3/8x1.0	Beam	RECT	A992	Typical
426	M450	N424	N422		PL3/8x1.0	Beam	RECT	A992	Typical
427	M451	N407	N404		PL3/8x1.0	Beam	RECT	A992	Typical
428	M452	N404	N402		PL3/8x1.0	Beam	RECT	A992	Typical



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**Member Primary Data (Continued)**

Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
429	M453	N402	N401		PL3/8x1.0	Beam	RECT	A992	Typical
430	M454	N401	N394		PL3/8x1.0	Beam	RECT	A992	Typical
431	M455	N422	N419		PL3/8x1.0	Beam	RECT	A992	Typical
432	M456	N419	N409		PL3/8x1.0	Beam	RECT	A992	Typical
433	M457	N409	N417		PL3/8x1.0	Beam	RECT	A992	Typical
434	M458	N417	N408		PL3/8x1.0	Beam	RECT	A992	Typical
435	M459	N408	N394	45	PL3/8x1.0	Beam	RECT	A992	Typical
436	M461	N394	N417		PL3/8x1.0	Beam	RECT	A992	Typical
437	M462	N417	N401	45	PL3/8x1.0	Beam	RECT	A992	Typical
438	M463	N401	N409		PL3/8x1.0	Beam	RECT	A992	Typical
439	M475	N394	N430		PL3/8x1.0	Beam	RECT	A992	Typical
440	M476	N430	N434		PL3/8x1.0	Beam	RECT	A992	Typical
441	M477	N434	N438		PL3/8x1.0	Beam	RECT	A992	Typical
442	M478	N408	N431		PL3/8x1.0	Beam	RECT	A992	Typical
443	M479	N431	N435		PL3/8x1.0	Beam	RECT	A992	Typical
444	M480	N435	N439		PL3/8x1.0	Beam	RECT	A992	Typical
445	M481	N439	N438	45	PL3/8x1.0	Beam	RECT	A992	Typical
446	M488	N408	N430		PL3/8x1.0	Beam	RECT	A992	Typical
447	M489	N431	N430	45	PL3/8x1.0	Beam	RECT	A992	Typical
448	M490	N431	N434		PL3/8x1.0	Beam	RECT	A992	Typical
449	M491	N435	N434	45	PL3/8x1.0	Beam	RECT	A992	Typical
450	M498	N435	N438		PL3/8x1.0	Beam	RECT	A992	Typical
451	MT32	T37	T21		PL3/8x1.0	Beam	RECT	A992	Typical
452	MT33	T38	T36		PL3/8x1.0	Beam	RECT	A992	Typical
453	MT34	T21	T18		PL3/8x1.0	Beam	RECT	A992	Typical
454	MT35	T18	T16		PL3/8x1.0	Beam	RECT	A992	Typical
455	MT36	T16	T15		PL3/8x1.0	Beam	RECT	A992	Typical
456	MT37	T15	T8		PL3/8x1.0	Beam	RECT	A992	Typical
457	MT38	T36	T33		PL3/8x1.0	Beam	RECT	A992	Typical
458	MT39	T33	T23		PL3/8x1.0	Beam	RECT	A992	Typical
459	MT40	T23	T31		PL3/8x1.0	Beam	RECT	A992	Typical
460	MT41	T31	T22		PL3/8x1.0	Beam	RECT	A992	Typical
461	MT42	T22	T8	315	PL3/8x1.0	Beam	RECT	A992	Typical
462	MT44	T8	T31		PL3/8x1.0	Beam	RECT	A992	Typical
463	MT45	T31	T15	315	PL3/8x1.0	Beam	RECT	A992	Typical
464	MT46	T15	T23		PL3/8x1.0	Beam	RECT	A992	Typical
465	MT58	T8	T44		PL3/8x1.0	Beam	RECT	A992	Typical
466	MT59	T44	T48		PL3/8x1.0	Beam	RECT	A992	Typical
467	MT60	T48	T52		PL3/8x1.0	Beam	RECT	A992	Typical
468	MT61	T22	T45		PL3/8x1.0	Beam	RECT	A992	Typical
469	MT62	T45	T49		PL3/8x1.0	Beam	RECT	A992	Typical
470	MT63	T49	T53		PL3/8x1.0	Beam	RECT	A992	Typical
471	MT64	T53	T52	315	PL3/8x1.0	Beam	RECT	A992	Typical
472	MT71	T22	T44		PL3/8x1.0	Beam	RECT	A992	Typical
473	MT72	T45	T44	315	PL3/8x1.0	Beam	RECT	A992	Typical
474	MT73	T45	T48		PL3/8x1.0	Beam	RECT	A992	Typical
475	MT74	T49	T48	315	PL3/8x1.0	Beam	RECT	A992	Typical
476	MT81	T49	T52		PL3/8x1.0	Beam	RECT	A992	Typical
477	M304A	N308	N293	45	PL3/8x0.625	Beam	RECT	A992	Typical
478	M305A	N309	N293		PL3/8x0.625	Beam	RECT	A992	Typical
479	M306A	N309	N294	45	PL3/8x0.625	Beam	RECT	A992	Typical
480	M307A	N310	N294		PL3/8x0.625	Beam	RECT	A992	Typical
481	M387	N364	N349	315	PL3/8x0.625	Beam	RECT	A992	Typical
482	M388	N365	N349		PL3/8x0.625	Beam	RECT	A992	Typical
483	M389	N365	N350	315	PL3/8x0.625	Beam	RECT	A992	Typical
484	M390	N366	N350		PL3/8x0.625	Beam	RECT	A992	Typical
485	M470	N420	N405	45	PL3/8x0.625	Beam	RECT	A992	Typical





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**Member Primary Data (Continued)**

Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
486	M471	N421	N405		PL3/8x0.625	Beam	RECT	A992	Typical
487	M472	N421	N406	45	PL3/8x0.625	Beam	RECT	A992	Typical
488	M473	N422	N406		PL3/8x0.625	Beam	RECT	A992	Typical
489	MT53	T34	T19	315	PL3/8x0.625	Beam	RECT	A992	Typical
490	MT54	T35	T19		PL3/8x0.625	Beam	RECT	A992	Typical
491	MT55	T35	T20	315	PL3/8x0.625	Beam	RECT	A992	Typical
492	MT56	T36	T20		PL3/8x0.625	Beam	RECT	A992	Typical
493	M301A	N307	N291		PL3/4x0.375	Beam	RECT	A992	Typical
494	M302A	N307	N292	45	PL3/4x0.375	Beam	RECT	A992	Typical
495	M303A	N308	N292		PL3/4x0.375	Beam	RECT	A992	Typical
496	M384	N363	N347		PL3/4x0.375	Beam	RECT	A992	Typical
497	M385	N363	N348	315	PL3/4x0.375	Beam	RECT	A992	Typical
498	M386	N364	N348		PL3/4x0.375	Beam	RECT	A992	Typical
499	M467	N419	N403		PL3/4x0.375	Beam	RECT	A992	Typical
500	M468	N419	N404	45	PL3/4x0.375	Beam	RECT	A992	Typical
501	M469	N420	N404		PL3/4x0.375	Beam	RECT	A992	Typical
502	MT50	T33	T17		PL3/4x0.375	Beam	RECT	A992	Typical
503	MT51	T33	T18	315	PL3/4x0.375	Beam	RECT	A992	Typical
504	MT52	T34	T18		PL3/4x0.375	Beam	RECT	A992	Typical
505	M273	N279	N288	90	PL1/2x4.0	Beam	RECT	A992	Typical
506	M275	N288	N286	90	PL1/2x4.0	Beam	RECT	A992	Typical
507	M276	N286	N284	90	PL1/2x4.0	Beam	RECT	A992	Typical
508	M277	N284	N283	90	PL1/2x4.0	Beam	RECT	A992	Typical
509	M278	N283	N275A	90	PL1/2x4.0	Beam	RECT	A992	Typical
510	M319	N275A	N316	90	PL1/2x4.0	Beam	RECT	A992	Typical
511	M320	N316	N320	90	PL1/2x4.0	Beam	RECT	A992	Typical
512	M321	N320	R1	90	PL1/2x4.0	Beam	RECT	A992	Typical
513	M356	N335	N344	90	PL1/2x4.0	Beam	RECT	A992	Typical
514	M358	N344	N342	90	PL1/2x4.0	Beam	RECT	A992	Typical
515	M359	N342	N340	90	PL1/2x4.0	Beam	RECT	A992	Typical
516	M360	N340	N339	90	PL1/2x4.0	Beam	RECT	A992	Typical
517	M361	N339	N331	90	PL1/2x4.0	Beam	RECT	A992	Typical
518	M402	N331	N372	90	PL1/2x4.0	Beam	RECT	A992	Typical
519	M403	N372	N376	90	PL1/2x4.0	Beam	RECT	A992	Typical
520	M404	N376	R2	90	PL1/2x4.0	Beam	RECT	A992	Typical
521	M439	N391	N400	90	PL1/2x4.0	Beam	RECT	A992	Typical
522	M441	N400	N398	90	PL1/2x4.0	Beam	RECT	A992	Typical
523	M442	N398	N396	90	PL1/2x4.0	Beam	RECT	A992	Typical
524	M443	N396	N395	90	PL1/2x4.0	Beam	RECT	A992	Typical
525	M444	N395	N387	90	PL1/2x4.0	Beam	RECT	A992	Typical
526	M485	N387	N428	90	PL1/2x4.0	Beam	RECT	A992	Typical
527	M486	N428	N432	90	PL1/2x4.0	Beam	RECT	A992	Typical
528	M487	N432	R3	90	PL1/2x4.0	Beam	RECT	A992	Typical
529	MT22	T5	T14	90	PL1/2x4.0	Beam	RECT	A992	Typical
530	MT24	T14	T12	90	PL1/2x4.0	Beam	RECT	A992	Typical
531	MT25	T12	T10	90	PL1/2x4.0	Beam	RECT	A992	Typical
532	MT26	T10	T9	90	PL1/2x4.0	Beam	RECT	A992	Typical
533	MT27	T9	T1	90	PL1/2x4.0	Beam	RECT	A992	Typical
534	MT68	T1	T42	90	PL1/2x4.0	Beam	RECT	A992	Typical
535	MT69	T42	T46	90	PL1/2x4.0	Beam	RECT	A992	Typical
536	MT70	T46	R4	90	PL1/2x4.0	Beam	RECT	A992	Typical
537	M31	N38	N29		PL1/2x2.375	Beam	RECT	Q235	Typical
538	M33	N39	N31		PL1/2x2.375	Beam	RECT	Q235	Typical
539	M34A	N35	N79		PL1/2x2.375	Beam	RECT	Q235	Typical
540	M60	N70	N67		PL1/2x2.375	Beam	RECT	Q235	Typical
541	M61	N71	N68		PL1/2x2.375	Beam	RECT	Q235	Typical
542	M62	N69	N64		PL1/2x2.375	Beam	RECT	Q235	Typical



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### Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
543	M103	N95	N92			PL1/2x2.375	Beam	RECT	Q235	Typical
544	M104	N96	N93			PL1/2x2.375	Beam	RECT	Q235	Typical
545	M105	N94	N89			PL1/2x2.375	Beam	RECT	Q235	Typical
546	M136	N109	N106			PL1/2x2.375	Beam	RECT	Q235	Typical
547	M137	N110	N107			PL1/2x2.375	Beam	RECT	Q235	Typical
548	M138	N108	N105			PL1/2x2.375	Beam	RECT	Q235	Typical
549	M181	N160	N157			PL1/2x2.375	Beam	RECT	Q235	Typical
550	M182	N161	N158			PL1/2x2.375	Beam	RECT	Q235	Typical
551	M183	N159	N154			PL1/2x2.375	Beam	RECT	Q235	Typical
552	M214	N174	N171			PL1/2x2.375	Beam	RECT	Q235	Typical
553	M215	N175	N172			PL1/2x2.375	Beam	RECT	Q235	Typical
554	M216	N173	N170			PL1/2x2.375	Beam	RECT	Q235	Typical
555	M259	N225	N222			PL1/2x2.375	Beam	RECT	Q235	Typical
556	M260	N226	N223			PL1/2x2.375	Beam	RECT	Q235	Typical
557	M261	N224	N219			PL1/2x2.375	Beam	RECT	Q235	Typical
558	M292	N239	N236			PL1/2x2.375	Beam	RECT	Q235	Typical
559	M293	N240	N237			PL1/2x2.375	Beam	RECT	Q235	Typical
560	M294	N238	N235			PL1/2x2.375	Beam	RECT	Q235	Typical
561	MP1A	N507	N511			Mount Pipe	Beam	Pipe	Q235	Typical
562	MP2A	N506	N510			Mount Pipe	Beam	Pipe	Q235	Typical
563	MP3A	N505A	N509			Mount Pipe	Beam	Pipe	Q235	Typical
564	MP4A	N504A	N508			Mount Pipe	Beam	Pipe	Q235	Typical
565	M	N562	N566			Mount Pipe	Beam	Pipe	Q235	Typical
566	MP1C	N535	N539			Mount Pipe	Beam	Pipe	Q235	Typical
567	MP	N589	N593			Mount Pipe	Beam	Pipe	Q235	Typical
568	MP2B	N561	N565			Mount Pipe	Beam	Pipe	Q235	Typical
569	MP2C	N534	N538			Mount Pipe	Beam	Pipe	Q235	Typical
570	MA	N588	N592			Mount Pipe	Beam	Pipe	Q235	Typical
571	MP3B	N560	N564			Mount Pipe	Beam	Pipe	Q235	Typical
572	MP3C	N533	N537			Mount Pipe	Beam	Pipe	Q235	Typical
573	MC	N587	N591			Mount Pipe	Beam	Pipe	Q235	Typical
574	MP4B	N559	N563			Mount Pipe	Beam	Pipe	Q235	Typical
575	MP4C	N532	N536			Mount Pipe	Beam	Pipe	Q235	Typical
576	MP1B	N586	N590			Mount Pipe	Beam	Pipe	Q235	Typical
577	M313	N266B	N264B			Horizontal	Beam	Pipe	Q235	Typical
578	M314	N262B	N260C			Horizontal	Beam	Pipe	Q235	Typical
579	M315	N265B	N267C			Horizontal	Beam	Pipe	Q235	Typical
580	M316	N261B	N263B			Horizontal	Beam	Pipe	Q235	Typical
581	M610	N520	N602		270	Corner Support	Beam	W Tee	Q235	Typical
582	M611	N605	N575		270	Corner Support	Beam	W Tee	Q235	Typical
583	M612	N604	N548		270	Corner Support	Beam	W Tee	Q235	Typical
584	M613	N603	N521		270	Corner Support	Beam	W Tee	Q235	Typical
585	M45A	N50	N52		180	Corner Angles	Beam	Single Angle	Q235	Typical
586	M68	N78	N79A		90	Corner Angles	Beam	Single Angle	Q235	Typical
587	M74B	N80	N60		180	Corner Angles	Beam	Single Angle	Q235	Typical
588	M75B	N52A	N62		90	Corner Angles	Beam	Single Angle	Q235	Typical
589	M110	N102	N103		180	Corner Angles	Beam	Single Angle	Q235	Typical
590	M144	N114	N115		90	Corner Angles	Beam	Single Angle	Q235	Typical
591	M148	N116	N121		180	Corner Angles	Beam	Single Angle	Q235	Typical
592	M150	N104	N122		90	Corner Angles	Beam	Single Angle	Q235	Typical
593	M188	N167	N168		180	Corner Angles	Beam	Single Angle	Q235	Typical
594	M222	N179	N180		90	Corner Angles	Beam	Single Angle	Q235	Typical
595	M226	N181	N186		180	Corner Angles	Beam	Single Angle	Q235	Typical
596	M228	N169	N187		90	Corner Angles	Beam	Single Angle	Q235	Typical
597	M266	N232	N233		180	Corner Angles	Beam	Single Angle	Q235	Typical
598	M300	N244	N245		90	Corner Angles	Beam	Single Angle	Q235	Typical
599	M304	N246	N251		180	Corner Angles	Beam	Single Angle	Q235	Typical



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Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
600	M306	N234	N252	90	Corner Angles	Beam	Single Angle	Q235	Typical

**Member Advanced Data**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat..	Analysis ...	Inactive	Seismic...
1	M509	OOOXOO	OOOXOO				Yes				None
2	M510	OOOXOO	OOOXOO				Yes				None
3	M511	OOOXOO	OOOXOO				Yes				None
4	M512	OOOXOO	OOOXOO				Yes				None
5	M513	OOOXOO	OOOXOO				Yes				None
6	M514	OOOXOO	OOOXOO				Yes				None
7	M515	OOOXOO	OOOXOO				Yes				None
8	M516	OOOXOO	OOOXOO				Yes				None
9	M545						Yes				None
10	M558						Yes				None
11	M571						Yes				None
12	M584						Yes				None
13	M54						Yes				None
14	M130						Yes				None
15	M208						Yes				None
16	M286						Yes				None
17	M57						Yes	** NA **			None
18	M58						Yes	** NA **			None
19	M59						Yes	** NA **			None
20	M63						Yes	** NA **			None
21	M64						Yes	** NA **			None
22	M65						Yes	** NA **			None
23	M67						Yes	** NA **			None
24	M70						Yes	** NA **			None
25	M71		OOOXOO				Yes	** NA **			None
26	M72						Yes	** NA **			None
27	M74A		OOOXOO				Yes	** NA **			None
28	M75A		OOOXOO				Yes	** NA **			None
29	M75C						Yes	** NA **			None
30	M76						Yes	** NA **			None
31	M77		OOOXOO				Yes	** NA **			None
32	M78						Yes	** NA **			None
33	M100						Yes	** NA **			None
34	M101						Yes	** NA **			None
35	M102						Yes	** NA **			None
36	M106						Yes	** NA **			None
37	M107						Yes	** NA **			None
38	M108						Yes	** NA **			None
39	M109						Yes	** NA **			None
40	M111						Yes	** NA **			None
41	M133						Yes	** NA **			None
42	M134						Yes	** NA **			None
43	M135						Yes	** NA **			None
44	M139						Yes	** NA **			None
45	M140						Yes	** NA **			None
46	M141						Yes	** NA **			None
47	M143						Yes	** NA **			None
48	M145						Yes	** NA **			None
49	M146		OOOXOO				Yes	** NA **			None
50	M147						Yes	** NA **			None
51	M151		OOOXOO				Yes	** NA **			None



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**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
52	M152						Yes	** NA **			None
53	M153		OOOXOO				Yes	** NA **			None
54	M154						Yes	** NA **			None
55	M155		OOOXOO				Yes	** NA **			None
56	M156						Yes	** NA **			None
57	M178						Yes	** NA **			None
58	M179						Yes	** NA **			None
59	M180						Yes	** NA **			None
60	M184						Yes	** NA **			None
61	M185						Yes	** NA **			None
62	M186						Yes	** NA **			None
63	M187						Yes	** NA **			None
64	M189						Yes	** NA **			None
65	M193						Yes	** NA **			None
66	M194						Yes	** NA **			None
67	M195						Yes	** NA **			None
68	M196						Yes	** NA **			None
69	M197						Yes	** NA **			None
70	M198						Yes	** NA **			None
71	M199						Yes	** NA **			None
72	M200						Yes	** NA **			None
73	M201						Yes	** NA **			None
74	M202						Yes	** NA **			None
75	M203						Yes	** NA **			None
76	M204						Yes	** NA **			None
77	M205						Yes	** NA **			None
78	M206						Yes	** NA **			None
79	M207						Yes	** NA **			None
80	M208A						Yes	** NA **			None
81	M211						Yes	** NA **			None
82	M212						Yes	** NA **			None
83	M213						Yes	** NA **			None
84	M217						Yes	** NA **			None
85	M218						Yes	** NA **			None
86	M219						Yes	** NA **			None
87	M221						Yes	** NA **			None
88	M223						Yes	** NA **			None
89	M224		OOOXOO				Yes	** NA **			None
90	M225						Yes	** NA **			None
91	M229		OOOXOO				Yes	** NA **			None
92	M230						Yes	** NA **			None
93	M231		OOOXOO				Yes	** NA **			None
94	M232						Yes	** NA **			None
95	M233		OOOXOO				Yes	** NA **			None
96	M234						Yes	** NA **			None
97	M250						Yes	** NA **			None
98	M251						Yes	** NA **			None
99	M252						Yes	** NA **			None
100	M253						Yes	** NA **			None
101	M254						Yes	** NA **			None
102	M255						Yes	** NA **			None
103	M256						Yes	** NA **			None
104	M256A						Yes	** NA **			None
105	M257						Yes	** NA **			None
106	M257A						Yes	** NA **			None
107	M258						Yes	** NA **			None
108	M258A						Yes	** NA **			None



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	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
109	M259A						Yes	** NA **			None
110	M260A						Yes	** NA **			None
111	M261A						Yes	** NA **			None
112	M262						Yes	** NA **			None
113	M262A						Yes	** NA **			None
114	M263						Yes	** NA **			None
115	M263A						Yes	** NA **			None
116	M264						Yes	** NA **			None
117	M264A						Yes	** NA **			None
118	M265						Yes	** NA **			None
119	M265A						Yes	** NA **			None
120	M266A						Yes	** NA **			None
121	M267						Yes	** NA **			None
122	M267A						Yes	** NA **			None
123	M268						Yes	** NA **			None
124	M269						Yes	** NA **			None
125	M270						Yes	** NA **			None
126	M271						Yes	** NA **			None
127	M272						Yes	** NA **			None
128	M289						Yes	** NA **			None
129	M290						Yes	** NA **			None
130	M291						Yes	** NA **			None
131	M294A						Yes	** NA **			None
132	M295						Yes	** NA **			None
133	M296						Yes	** NA **			None
134	M297						Yes	** NA **			None
135	M299						Yes	** NA **			None
136	M301						Yes	** NA **			None
137	M302		OOOXOO				Yes	** NA **			None
138	M303						Yes	** NA **			None
139	M307		OOOXOO				Yes	** NA **			None
140	M308						Yes	** NA **			None
141	M308A						Yes	** NA **			None
142	M309		OOOXOO				Yes	** NA **			None
143	M310						Yes	** NA **			None
144	M311		OOOXOO				Yes	** NA **			None
145	M312						Yes	** NA **			None
146	M326						Yes	** NA **			None
147	M327						Yes	** NA **			None
148	M328						Yes	** NA **			None
149	M329						Yes	** NA **			None
150	M330						Yes	** NA **			None
151	M331						Yes	** NA **			None
152	M333						Yes	** NA **			None
153	M334						Yes	** NA **			None
154	M335						Yes	** NA **			None
155	M336						Yes	** NA **			None
156	M337						Yes	** NA **			None
157	M338						Yes	** NA **			None
158	M339						Yes	** NA **			None
159	M340						Yes	** NA **			None
160	M341						Yes	** NA **			None
161	M342						Yes	** NA **			None
162	M343						Yes	** NA **			None
163	M344						Yes	** NA **			None
164	M345						Yes	** NA **			None
165	M346						Yes	** NA **			None





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	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
166	M347						Yes	** NA **			None
167	M348						Yes	** NA **			None
168	M349						Yes	** NA **			None
169	M350						Yes	** NA **			None
170	M351						Yes	** NA **			None
171	M352						Yes	** NA **			None
172	M353						Yes	** NA **			None
173	M354						Yes	** NA **			None
174	M355						Yes	** NA **			None
175	M377						Yes	** NA **			None
176	M391						Yes	** NA **			None
177	M409						Yes	** NA **			None
178	M410						Yes	** NA **			None
179	M411						Yes	** NA **			None
180	M412						Yes	** NA **			None
181	M413						Yes	** NA **			None
182	M414						Yes	** NA **			None
183	M416						Yes	** NA **			None
184	M417						Yes	** NA **			None
185	M418						Yes	** NA **			None
186	M419						Yes	** NA **			None
187	M420						Yes	** NA **			None
188	M421						Yes	** NA **			None
189	M422						Yes	** NA **			None
190	M423						Yes	** NA **			None
191	M424						Yes	** NA **			None
192	M425						Yes	** NA **			None
193	M426						Yes	** NA **			None
194	M427						Yes	** NA **			None
195	M428						Yes	** NA **			None
196	M429						Yes	** NA **			None
197	M430						Yes	** NA **			None
198	M431						Yes	** NA **			None
199	M432						Yes	** NA **			None
200	M433						Yes	** NA **			None
201	M434						Yes	** NA **			None
202	M435						Yes	** NA **			None
203	M436						Yes	** NA **			None
204	M437						Yes	** NA **			None
205	M438						Yes	** NA **			None
206	M460						Yes	** NA **			None
207	M474						Yes	** NA **			None
208	M492						Yes	** NA **			None
209	M493						Yes	** NA **			None
210	M494						Yes	** NA **			None
211	M495						Yes	** NA **			None
212	M496						Yes	** NA **			None
213	M497						Yes	** NA **			None
214	M499						Yes	** NA **			None
215	M500						Yes	** NA **			None
216	M501						Yes	** NA **			None
217	M502						Yes	** NA **			None
218	M503						Yes	** NA **			None
219	M504						Yes	** NA **			None
220	M505						Yes	** NA **			None
221	M506						Yes	** NA **			None
222	M507						Yes	** NA **			None



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	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
223	M508						Yes	** NA **			None
224	M550						Yes	** NA **			None
225	M551						Yes	** NA **			None
226	M552						Yes	** NA **			None
227	M553						Yes	** NA **			None
228	M554						Yes	** NA **			None
229	M555						Yes	** NA **			None
230	M556						Yes	** NA **			None
231	M557						Yes	** NA **			None
232	M563						Yes	** NA **			None
233	M564						Yes	** NA **			None
234	M565						Yes	** NA **			None
235	M566						Yes	** NA **			None
236	M567						Yes	** NA **			None
237	M568						Yes	** NA **			None
238	M569						Yes	** NA **			None
239	M570						Yes	** NA **			None
240	M576						Yes	** NA **			None
241	M577						Yes	** NA **			None
242	M578						Yes	** NA **			None
243	M579						Yes	** NA **			None
244	M580						Yes	** NA **			None
245	M581						Yes	** NA **			None
246	M582						Yes	** NA **			None
247	M583						Yes	** NA **			None
248	M589						Yes	** NA **			None
249	M590						Yes	** NA **			None
250	M591						Yes	** NA **			None
251	M592						Yes	** NA **			None
252	M593						Yes	** NA **			None
253	M594						Yes	** NA **			None
254	M595						Yes	** NA **			None
255	M596						Yes	** NA **			None
256	MT1						Yes	** NA **			None
257	MT2						Yes	** NA **			None
258	MT3						Yes	** NA **			None
259	MT4						Yes	** NA **			None
260	MT5						Yes	** NA **			None
261	MT6						Yes	** NA **			None
262	MT7						Yes	** NA **			None
263	MT8						Yes	** NA **			None
264	MT9						Yes	** NA **			None
265	MT10						Yes	** NA **			None
266	MT11						Yes	** NA **			None
267	MT12						Yes	** NA **			None
268	MT13						Yes	** NA **			None
269	MT14						Yes	** NA **			None
270	MT15						Yes	** NA **			None
271	MT16						Yes	** NA **			None
272	MT17						Yes	** NA **			None
273	MT18						Yes	** NA **			None
274	MT19						Yes	** NA **			None
275	MT20						Yes	** NA **			None
276	MT21						Yes	** NA **			None
277	MT43						Yes	** NA **			None
278	MT57						Yes	** NA **			None
279	MT75						Yes	** NA **			None



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	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
280	MT76						Yes	** NA **			None
281	MT77						Yes	** NA **			None
282	MT78						Yes	** NA **			None
283	MT79						Yes	** NA **			None
284	MT80						Yes	** NA **			None
285	R3						Yes	** NA **			None
286	R4						Yes	** NA **			None
287	R5						Yes	** NA **			None
288	R6						Yes	** NA **			None
289	R7						Yes	** NA **			None
290	R8						Yes	** NA **			None
291	R9						Yes	** NA **			None
292	R10						Yes	** NA **			None
293	M298A						Yes				None
294	M299A						Yes				None
295	M300A						Yes				None
296	M381						Yes				None
297	M382						Yes				None
298	M383						Yes				None
299	M464						Yes				None
300	M465						Yes				None
301	M466						Yes				None
302	MT47						Yes				None
303	MT48						Yes				None
304	MT49						Yes				None
305	M517						Yes				None
306	M518						Yes				None
307	M519						Yes				None
308	M520						Yes				None
309	M521						Yes				None
310	M522						Yes				None
311	M523						Yes				None
312	M524						Yes				None
313	M525						Yes				None
314	M526						Yes				None
315	M527						Yes	Default			None
316	M528						Yes				None
317	M529						Yes				None
318	M530						Yes				None
319	M531						Yes				None
320	M532						Yes				None
321	M533						Yes				None
322	M534						Yes				None
323	M535						Yes				None
324	M536						Yes				None
325	M537						Yes				None
326	M538						Yes				None
327	M539						Yes				None
328	M540						Yes				None
329	M541						Yes				None
330	M542						Yes				None
331	M543						Yes				None
332	M544						Yes				None
333	M274						Yes				None
334	M279						Yes				None
335	M280						Yes				None
336	M281						Yes				None



Company : Network Building + Consulting  
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**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
337	M282						Yes				None
338	M316A						Yes				None
339	M317						Yes				None
340	M318						Yes				None
341	M357						Yes				None
342	M362						Yes				None
343	M363						Yes				None
344	M364						Yes				None
345	M365						Yes				None
346	M399						Yes				None
347	M400						Yes				None
348	M401						Yes				None
349	M440						Yes				None
350	M445						Yes				None
351	M446						Yes				None
352	M447						Yes				None
353	M448						Yes				None
354	M482						Yes				None
355	M483						Yes				None
356	M484						Yes				None
357	MT23						Yes				None
358	MT28						Yes				None
359	MT29						Yes				None
360	MT30						Yes				None
361	MT31						Yes				None
362	MT65						Yes				None
363	MT66						Yes				None
364	MT67						Yes				None
365	M66						Yes				None
366	M74C						Yes				None
367	M142						Yes				None
368	M149						Yes				None
369	M220						Yes				None
370	M227						Yes				None
371	M298						Yes				None
372	M305						Yes				None
373	M283						Yes				None
374	M284						Yes				None
375	M285						Yes				None
376	M286A						Yes				None
377	M287						Yes				None
378	M288						Yes				None
379	M289A						Yes				None
380	M290A						Yes				None
381	M291A						Yes				None
382	M292A						Yes				None
383	M293A						Yes				None
384	M295A						Yes				None
385	M296A						Yes				None
386	M297A						Yes				None
387	M309A						Yes				None
388	M310A						Yes				None
389	M311A						Yes				None
390	M312A						Yes				None
391	M313A						Yes				None
392	M314A						Yes				None
393	M315A						Yes				None



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**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
394	M322						Yes				None
395	M323						Yes				None
396	M324						Yes				None
397	M325						Yes				None
398	M332						Yes				None
399	M366						Yes				None
400	M367						Yes				None
401	M368						Yes				None
402	M369						Yes				None
403	M370						Yes				None
404	M371						Yes				None
405	M372						Yes				None
406	M373						Yes				None
407	M374						Yes				None
408	M375						Yes				None
409	M376						Yes				None
410	M378						Yes				None
411	M379						Yes				None
412	M380						Yes				None
413	M392						Yes				None
414	M393						Yes				None
415	M394						Yes				None
416	M395						Yes				None
417	M396						Yes				None
418	M397						Yes				None
419	M398						Yes				None
420	M405						Yes				None
421	M406						Yes				None
422	M407						Yes				None
423	M408						Yes				None
424	M415						Yes				None
425	M449						Yes				None
426	M450						Yes				None
427	M451						Yes				None
428	M452						Yes				None
429	M453						Yes				None
430	M454						Yes				None
431	M455						Yes				None
432	M456						Yes				None
433	M457						Yes				None
434	M458						Yes				None
435	M459						Yes				None
436	M461						Yes				None
437	M462						Yes				None
438	M463						Yes				None
439	M475						Yes				None
440	M476						Yes				None
441	M477						Yes				None
442	M478						Yes				None
443	M479						Yes				None
444	M480						Yes				None
445	M481						Yes				None
446	M488						Yes				None
447	M489						Yes				None
448	M490						Yes				None
449	M491						Yes				None
450	M498						Yes				None



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### Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
451	MT32						Yes				None
452	MT33						Yes				None
453	MT34						Yes				None
454	MT35						Yes				None
455	MT36						Yes				None
456	MT37						Yes				None
457	MT38						Yes				None
458	MT39						Yes				None
459	MT40						Yes				None
460	MT41						Yes				None
461	MT42						Yes				None
462	MT44						Yes				None
463	MT45						Yes				None
464	MT46						Yes				None
465	MT58						Yes				None
466	MT59						Yes				None
467	MT60						Yes				None
468	MT61						Yes				None
469	MT62						Yes				None
470	MT63						Yes				None
471	MT64						Yes				None
472	MT71						Yes				None
473	MT72						Yes				None
474	MT73						Yes				None
475	MT74						Yes				None
476	MT81						Yes				None
477	M304A						Yes				None
478	M305A						Yes				None
479	M306A						Yes				None
480	M307A						Yes				None
481	M387						Yes				None
482	M388						Yes				None
483	M389						Yes				None
484	M390						Yes				None
485	M470						Yes				None
486	M471						Yes				None
487	M472						Yes				None
488	M473						Yes				None
489	MT53						Yes				None
490	MT54						Yes				None
491	MT55						Yes				None
492	MT56						Yes				None
493	M301A						Yes				None
494	M302A						Yes				None
495	M303A						Yes				None
496	M384						Yes				None
497	M385						Yes				None
498	M386						Yes				None
499	M467						Yes				None
500	M468						Yes				None
501	M469						Yes				None
502	MT50						Yes				None
503	MT51						Yes				None
504	MT52						Yes				None
505	M273						Yes				None
506	M275						Yes				None
507	M276						Yes				None



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**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
508	M277						Yes				None
509	M278						Yes				None
510	M319						Yes				None
511	M320						Yes				None
512	M321						Yes				None
513	M356						Yes				None
514	M358						Yes				None
515	M359						Yes				None
516	M360						Yes				None
517	M361						Yes				None
518	M402						Yes				None
519	M403						Yes				None
520	M404						Yes				None
521	M439						Yes				None
522	M441						Yes				None
523	M442						Yes				None
524	M443						Yes				None
525	M444						Yes				None
526	M485						Yes				None
527	M486						Yes				None
528	M487						Yes				None
529	MT22						Yes				None
530	MT24						Yes				None
531	MT25						Yes				None
532	MT26						Yes				None
533	MT27						Yes				None
534	MT68						Yes				None
535	MT69						Yes				None
536	MT70						Yes				None
537	M31						Yes				None
538	M33						Yes				None
539	M34A						Yes				None
540	M60						Yes				None
541	M61						Yes				None
542	M62						Yes				None
543	M103						Yes				None
544	M104						Yes				None
545	M105						Yes				None
546	M136						Yes				None
547	M137						Yes				None
548	M138						Yes				None
549	M181						Yes				None
550	M182						Yes				None
551	M183						Yes				None
552	M214						Yes				None
553	M215						Yes				None
554	M216						Yes				None
555	M259						Yes				None
556	M260						Yes				None
557	M261						Yes				None
558	M292						Yes				None
559	M293						Yes				None
560	M294						Yes				None
561	MP1A						Yes				None
562	MP2A						Yes				None
563	MP3A						Yes				None
564	MP4A						Yes				None





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### Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
565	M						Yes				None
566	MP1C						Yes				None
567	MP						Yes				None
568	MP2B						Yes				None
569	MP2C						Yes				None
570	MA						Yes				None
571	MP3B						Yes				None
572	MP3C						Yes				None
573	MC						Yes				None
574	MP4B						Yes				None
575	MP4C						Yes				None
576	MP1B						Yes				None
577	M313						Yes				None
578	M314						Yes				None
579	M315						Yes				None
580	M316						Yes				None
581	M610	BenPIN	BenPIN				Yes	Default			None
582	M611	BenPIN	BenPIN				Yes				None
583	M612	BenPIN	BenPIN				Yes				None
584	M613	BenPIN	BenPIN				Yes				None
585	M45A						Yes				None
586	M68						Yes				None
587	M74B						Yes				None
588	M75B						Yes				None
589	M110						Yes				None
590	M144						Yes				None
591	M148						Yes				None
592	M150						Yes				None
593	M188						Yes				None
594	M222						Yes				None
595	M226						Yes				None
596	M228						Yes				None
597	M266						Yes				None
598	M300						Yes				None
599	M304						Yes				None
600	M306						Yes				None

### Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N111	N125	N54	N41	Y	Two Way	-.005
2	N72	N60A	N247	N227	Y	Two Way	-.005
3	N241	N255	N182	N162	Y	Two Way	-.005
4	N176	N190	N117	N97	Y	Two Way	-.005
5	N116	N114	N115	N121	Y	Two Way	-.005
6	N104	N102	N103	N122	Y	Two Way	-.005
7	N52A	N50	N52	N62	Y	Two Way	-.005
8	N80	N60	N79A	N78	Y	Two Way	-.005
9	N232	N233	N252	N234	Y	Two Way	-.005
10	N246	N251	N245	N244	Y	Two Way	-.005

### Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N111	N125	N54	N41	Y	Two Way	-.01
2	N72	N60A	N247	N227	Y	Two Way	-.01
3	N241	N255	N182	N162	Y	Two Way	-.01





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**Member Area Loads (BLC 40 : Structure Di) (Continued)**

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
4	N176	N190	N117	N97	Y	Two Way	-.01
5	N116	N114	N115	N121	Y	Two Way	-.01
6	N104	N102	N103	N122	Y	Two Way	-.01
7	N52A	N50	N52	N62	Y	Two Way	-.01
8	N80	N60	N79A	N78	Y	Two Way	-.01
9	N232	N233	N252	N234	Y	Two Way	-.01
10	N246	N251	N245	N244	Y	Two Way	-.01

**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	R4	max	10778.574	12	2643.067	24	10559.886	12	.047	5	.917	5	.106	12
2		min	-5139.164	6	335.677	6	-4963.588	6	-.099	12	-.884	11	-.049	6
3	R4A	max	372.549	6	106.108	23	460.33	6	.009	6	.486	6	.109	24
4		min	-12737.177	24	21.642	6	-12811.916	24	-.108	24	-.572	12	-.005	6
5	R1	max	10532.492	8	2577.764	20	4564.132	2	.095	8	.746	8	.105	8
6		min	-4715.661	2	359.44	2	-10340.005	8	-.043	2	-.738	2	-.046	2
7	R1A	max	41.715	2	104.439	20	12426.746	20	.104	20	.612	8	.105	20
8		min	-12346.051	20	22.574	2	-145.045	2	-.006	2	-.509	2	-.002	2
9	R2	max	4207.368	12	3246.148	18	4651.236	12	.13	6	1.486	8	.043	12
10		min	-13557.779	6	498.127	12	-14099.55	6	-.04	12	-1.477	2	-.134	6
11	R2A	max	16375.991	18	119.813	18	16398.434	18	.139	18	.568	8	.006	12
12		min	198.308	12	28.178	12	352.082	12	.003	12	-.617	2	-.142	18
13	R3	max	3832.513	8	3295.361	14	13893.914	2	.038	8	1.482	6	.037	8
14		min	-13489.259	2	539.702	8	-4151.494	8	-.132	2	-1.47	12	-.13	2
15	R3A	max	16626.911	14	120.975	14	-684.569	8	-.005	9	.659	6	.002	8
16		min	553.172	8	29.757	8	-16606.707	14	-.142	15	-.646	12	-.143	14
17	Totals:	max	7778.733	10	11454.532	18	8477.402	1						
18		min	-7778.704	4	4984.851	12	-8477.44	7						

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

Member	Shape	Code	Loc[ft]	LC	Shear	Loc[ft]	Dir	LC	phi*Pnc	phi*Pnt	phi*Mn	phi*Mn	Cb	Eqn	
1	M222	L3X3X6	.734	2.761	1	.326	2.761	y	7	66460....	66465	2.243	5.174	1	H2-1
2	M300	L3X3X6	.732	2.761	10	.302	2.761	y	4	66460....	66465	2.243	5.174	1	H2-1
3	MP2A	PIPE 2.0	.678	6.526	1	.186	6.526		3	14916....	32130	1.872	1.872	2...	H1-1b
4	MP2C	PIPE 2.0	.653	6.526	10	.223	6.526		1	14916....	32130	1.872	1.872	1...	H1-1b
5	M110	L3X3X6	.620	2.761	7	.269	2.761	z	7	66460....	66465	2.243	5.174	1	H2-1
6	MP3C	PIPE 2.0	.608	6.526	7	.160	2.947		6	14916....	32130	1.872	1.872	1...	H1-1b
7	M188	L3X3X6	.595	2.761	10	.302	2.761	z	4	66460....	66465	2.243	5.174	1...	H2-1
8	M68	L3X3X6	.575	2.761	1	.292	2.761	y	1	66460....	66465	2.243	5.174	1...	H2-1
9	MP3B	PIPE 2.0	.560	6.526	5	.145	2.947		4	14916....	32130	1.872	1.872	2...	H1-1b
10	MP2B	PIPE 2.0	.548	6.526	7	.202	6.526		11	14916....	32130	1.872	1.872	1...	H1-1b
11	MP3A	PIPE 2.0	.538	6.526	1	.125	6.526		7	14916....	32130	1.872	1.872	2...	H1-1b
12	M266	L3X3X6	.532	2.761	1	.287	2.761	z	1	66460....	66465	2.243	5.174	1	H2-1
13	MP1C	PIPE 2.0	.522	6.526	10	.209	6.316		4	14916....	32130	1.872	1.872	1...	H1-1b
14	MP1A	PIPE 2.0	.518	6.526	1	.239	6.526		6	14916....	32130	1.872	1.872	2...	H1-1b
15	MP4C	PIPE 2.0	.495	6.526	8	.206	6.526		6	14916....	32130	1.872	1.872	2...	H1-1b
16	MP4B	PIPE 2.0	.495	6.526	5	.206	6.526		3	14916....	32130	1.872	1.872	2...	H1-1b
17	M314	PIPE 2.5	.480	11.0...	1	.412	11.0...		1	24514....	50715	3.596	3.596	1...	H3-6
18	M480	PL3/8x1.0	.472	.917	14	.023	.917	y	12	12266....	16875	.132	.352	2...	H1-1a
19	M397	PL3/8x1.0	.464	.917	18	.024	.917	y	7	12266....	16875	.132	.352	2...	H1-1a
20	M479	PL3/8x1.0	.454	.958	14	.031	.958	y	1	11908....	16875	.132	.352	2...	H1-1a
21	M484	PL3/8x4.0	.450	.917	14	.024	.917	y	6	49065....	67500	.527	5.46	1...	H1-1a
22	M396	PL3/8x1.0	.448	.958	18	.035	.958	y	7	11908....	16875	.132	.352	2...	H1-1a
23	M401	PL3/8x4.0	.432	.917	18	.024	.917	y	2	49065....	67500	.527	5.625	1...	H1-1a





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

Member	Shape	Code	Loc[ft]	LC	Shear	Loc[ft]	Dir	LC	phi*Pnc	phi*Pnt	phi*Mn	phi*Mn	Cb	Eqn
81	M356	PL1/2x4.0	.293	.422	6	.147	.348	y	10	74422....	90000	.938	7.5	3...H1-1b
82	M292	PL1/2x2.375	.292	0	15	.089	0	y	10	36034....	37406.25	.39	1.851	1...H1-1b
83	M181	PL1/2x2.375	.291	0	17	.073	0	y	10	36034....	37406.25	.39	1.851	1...H1-1b
84	M62	PL1/2x2.375	.291	0	22	.067	0	y	1	36034....	37406.25	.39	1.851	1...H1-1b
85	M259	PL1/2x2.375	.289	0	15	.066	0	y	6	36034....	37406.25	.39	1.851	1...H1-1b
86	M215	PL1/2x2.375	.286	0	19	.047	0	y	4	36034....	37406.25	.39	1.851	1...H1-1b
87	M487	PL1/2x4.0	.285	.917	1	.020	.917	y	11	75217....	90000	.938	7.5	1...H1-1b
88	MT65	PL3/8x4.0	.280	.958	24	.035	0	y	8	47631....	67500	.527	5.625	1...H1-1a
89	M514	PIPE 1.5	.279	8.034	10	.102	8.034		10	14114....	23593.5	1.105	1.105	3...H1-1b
90	M316A	PL3/8x4.0	.275	.958	20	.034	0	y	12	47631....	67500	.527	5.625	1...H1-1a
91	M516	PIPE 1.5	.275	0	7	.090	8.034		1	14114....	23593.5	1.105	1.105	2...H1-1b
92	M441	PL1/2x4.0	.274	.885	3	.043	.885	z	2	73047....	90000	.938	7.5	2...H1-1b
93	M293	PL1/2x2.375	.273	0	16	.047	0	y	1	36034....	37406.25	.39	1.851	1...H1-1b
94	M182	PL1/2x2.375	.272	0	16	.060	0	y	7	36034....	37406.25	.39	1.851	1...H1-1b
95	M105	PL1/2x2.375	.271	0	23	.071	0	y	7	36034....	37406.25	.39	1.851	1...H1-1b
96	M220	PL3/8x3.0	.271	0	7	.154	.605	y	4	32152....	35437.5	.277	2.215	1...H1-1b
97	M260	PL1/2x2.375	.270	0	13	.057	0	y	4	36034....	37406.25	.39	1.851	1...H1-1b
98	M511	PIPE 1.5	.263	0	1	.095	.211		7	14114....	23593.5	1.105	1.105	3...H1-1b
99	M363	PL3/8x4.0	.263	0	6	.018	.495	y	11	44585.04	67500	.527	5.625	2...H1-1a
100	M362	PL3/8x4.0	.263	1.006	6	.015	.265	y	12	45983....	67500	.527	5.625	1...H1-1a
101	M445	PL3/8x4.0	.259	1.006	2	.013	.582	y	2	45983....	67500	.527	5.625	1...H1-1a
102	M446	PL3/8x4.0	.259	0	2	.018	.495	y	9	44585.04	67500	.527	5.625	2...H1-1a
103	M144	L3X3X6	.256	0	16	.170	2.761	y	22	65547....	66465	2.243	5.174	1...H2-1
104	M513	PIPE 1.5	.255	8.034	10	.093	7.822		10	14114....	23593.5	1.105	1.105	3...H1-1b
105	M54	HSS4X3X4	.255	1.675	12	.122	1.675	z	1	83040....	91665	8.19	10.001	1...H1-1b
106	M491	PL3/8x1.0	.253	.871	15	.014	0	y	11	12655.26	16875	.132	.352	1.9H1-1a
107	M515	PIPE 1.5	.253	8.034	7	.086	7.822		1	14114....	23593.5	1.105	1.105	2...H1-1b
108	MT81	PL3/8x1.0	.252	1.264	23	.014	0	y	11	9199.382	16875	.132	.352	2...H1-1a
109	M408	PL3/8x1.0	.252	.871	18	.016	.871	y	7	12655.26	16875	.132	.352	1.9H1-1a
110	MT22	PL1/2x4.0	.248	.422	12	.191	.348	y	2	74422....	90000	.938	7.5	3...H1-1b
111	MT71	PL3/8x1.0	.247	1.295	24	.037	0	y	12	8930.596	16875	.132	.352	2...H1-1a
112	M456	PL3/8x1.0	.246	1.045	14	.021	.468	y	9	11146....	16875	.132	.352	2...H1-1a
113	M332	PL3/8x1.0	.246	1.264	20	.014	0	y	8	9199.382	16875	.132	.352	2...H1-1a
114	M130	HSS4X3X4	.245	1.675	8	.136	1.675	z	7	83040....	91665	8.19	10.001	1...H1-1b
115	M489	PL3/8x1.0	.245	.871	15	.021	0	y	11	12655.26	16875	.132	.352	1...H1-1a
116	M373	PL3/8x1.0	.244	1.045	18	.022	.468	y	11	11146....	16875	.132	.352	2...H1-1a
117	M273	PL1/2x4.0	.244	.422	8	.217	.348	y	6	74422....	90000	.938	7.5	3...H1-1b
118	M448	PL3/8x4.0	.243	.742	14	.037	.742	y	2	54763....	67500	.527	5.625	1...H1-1a
119	M406	PL3/8x1.0	.243	.871	18	.023	.871	y	7	12655.26	16875	.132	.352	1...H1-1a
120	M365	PL3/8x4.0	.243	.742	18	.039	0	y	11	54763....	67500	.527	5.362	1...H1-1a
121	MT73	PL3/8x1.0	.242	1.295	23	.021	0	y	12	8930.596	16875	.132	.352	2...H1-1a
122	M322	PL3/8x1.0	.242	1.295	20	.039	0	y	8	8930.596	16875	.132	.352	2...H1-1a
123	M584	PIPE 2.0	.239	9.158	7	.137	9.158		7	4678.524	32130	1.872	1.872	3...H1-1b
124	M509	PIPE 1.5	.239	8.034	19	.050	8.034		1	14114....	23593.5	1.105	1.105	3...H1-1b
125	M298	PL3/8x3.0	.238	0	4	.158	.605	y	1	32152....	35437.5	.277	2.215	1...H1-1b
126	M324	PL3/8x1.0	.236	1.295	20	.021	0	y	8	8930.596	16875	.132	.352	2...H1-1a
127	M104	PL1/2x2.375	.233	0	7	.035	0	y	7	36034....	37406.25	.39	1.851	1...H1-1b
128	M403	PL1/2x4.0	.232	.958	6	.026	.958	y	8	73973....	90000	.938	7.5	1...H1-1b
129	M60	PL1/2x2.375	.231	0	13	.061	0	y	7	36034....	37406.25	.39	1.851	1...H1-1b
130	M61	PL1/2x2.375	.224	0	1	.028	0	y	10	36034....	37406.25	.39	1.851	1...H1-1b
131	M103	PL1/2x2.375	.224	0	19	.069	0	y	1	36034....	37406.25	.39	1.851	1...H1-1b
132	M486	PL1/2x4.0	.219	.958	1	.025	.958	y	11	73973....	90000	.938	7.5	1...H1-1b
133	MT70	PL1/2x4.0	.219	.917	11	.011	0	y	12	75217....	90000	.938	7.5	1...H1-1b
134	MT24	PL1/2x4.0	.217	.885	5	.040	.885	z	11	73047....	90000	.938	7.5	2...H1-1b
135	M31	PL1/2x2.375	.213	0	13	.043	0	y	1	36034....	37406.25	.39	1.851	1...H1-1b
136	M275	PL1/2x4.0	.212	.885	8	.040	.885	z	8	73047....	90000	.938	7.5	2...H1-1b
137	M136	PL1/2x2.375	.211	0	19	.054	0	y	7	36034....	37406.25	.39	1.851	1...H1-1b





Company : Network Building + Consulting  
 Designer : Connor Rice, EIT  
 Job Number : Project No. 10070199  
 Model Name : 467564-VZW\_MT\_LO\_H

Aug 17, 2021  
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 Checked By: \_\_\_\_\_

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

Member	Shape	Code	Loc[ft]	LC	Shear	Loc[ft]	Dir	LC	phi*Pnc	phi*Pnt	phi*Mn	phi*Mn	Cb	Eqn
138	M305	PL3/8x3.0	.201	0	1	.172	.605	y	4	32152....	35437.5	.277	2.215	1...H1-1b
139	MT38	PL3/8x1.0	.201	0	12	.052	.265	y	11	11496....	16875	.132	.352	2...H1-1b
140	M321	PL1/2x4.0	.200	.917	8	.013	0	y	8	75217....	90000	.938	7.5	1...H1-1b
141	M313	PIPE 2.5	.198	11.4...	7	.220	11.4...		7	24514....	50715	3.596	3.596	2...H1-1b
142	M149	PL3/8x3.0	.197	0	7	.079	.605	y	9	32152....	35437.5	.277	2.215	1...H1-1b
143	M477	PL3/8x1.0	.195	.917	14	.016	.917	y	16	12266....	16875	.132	.352	2...H1-1b
144	M447	PL3/8x4.0	.195	.667	14	.023	0	y	9	57024.39	67500	.527	5.625	1...H1-1b*
145	M289A	PL3/8x1.0	.194	0	8	.050	.265	y	8	11496....	16875	.132	.352	2...H1-1b
146	M227	PL3/8x3.0	.193	0	4	.182	.605	y	7	32152....	35437.5	.277	2.215	1...H1-1b
147	M394	PL3/8x1.0	.193	.917	18	.017	.917	y	19	12266....	16875	.132	.352	2...H1-1b
148	M364	PL3/8x4.0	.192	.667	18	.024	0	y	11	57024.39	67500	.527	5.473	1...H1-1b*
149	MT74	PL3/8x1.0	.189	0	24	.008	0	y	5	12655.26	16875	.132	.352	1...H1-1b*
150	M387	PL3/8x0.625	.188	.349	6	.020	.349	y	6	10070....	10546....	.082	.137	2...H1-1b
151	M33	PL1/2x2.375	.187	0	23	.045	0	y	1	36034....	37406.25	.39	1.851	1...H1-1b
152	MT72	PL3/8x1.0	.186	0	24	.012	0	y	5	12655.26	16875	.132	.352	1...H1-1b*
153	M325	PL3/8x1.0	.184	0	20	.007	0	y	15	12655.26	16875	.132	.352	1...H1-1b*
154	M323	PL3/8x1.0	.181	0	20	.009	0	y	15	12655.26	16875	.132	.352	1...H1-1b*
155	MT29	PL3/8x4.0	.181	0	12	.027	.495	y	1	44585.04	67500	.527	5.625	2...H1-1b*
156	M66	PL3/8x3.0	.179	0	1	.107	.605	y	11	32152....	35437.5	.277	2.215	1...H1-1b
157	M458	PL3/8x1.0	.176	.731	14	.035	.731	y	9	13777....	16875	.132	.352	2...H1-1b*
158	MT69	PL1/2x4.0	.176	.958	11	.013	.958	y	4	73973....	90000	.938	7.5	1...H1-1b
159	M280	PL3/8x4.0	.176	0	8	.031	.495	y	7	44585.04	67500	.527	5.625	2...H1-1b*
160	M137	PL1/2x2.375	.175	0	21	.053	0	y	7	36034....	37406.25	.39	1.851	1...H1-1b
161	M470	PL3/8x0.625	.174	.349	2	.019	.349	y	2	10070....	10546....	.082	.137	2...H1-1b
162	M375	PL3/8x1.0	.174	.731	18	.037	.731	y	11	13777....	16875	.132	.352	2...H1-1b*
163	MT28	PL3/8x4.0	.173	.609	12	.017	.609	y	12	45983....	67500	.527	5.625	1...H1-1b*
164	M457	PL3/8x1.0	.172	.667	14	.024	.667	y	9	14256....	16875	.132	.352	2...H1-1b*
165	M389	PL3/8x0.625	.172	.287	6	.026	.287	y	6	10221....	10546....	.082	.137	2...H1-1b
166	M402	PL1/2x4.0	.170	.958	6	.030	.958	y	8	73973....	90000	.938	7.5	1...H1-1b
167	M374	PL3/8x1.0	.170	.667	18	.023	.667	y	11	14256....	16875	.132	.352	2...H1-1b*
168	M320	PL1/2x4.0	.170	.958	8	.015	0	y	7	73973....	90000	.938	7.5	1...H1-1b
169	M279	PL3/8x4.0	.167	.609	8	.021	.609	y	7	45983....	67500	.527	5.625	1...H1-1b*
170	M472	PL3/8x0.625	.165	.287	2	.025	.287	y	2	10221....	10546....	.082	.137	2...H1-1b
171	M485	PL1/2x4.0	.163	.958	2	.029	.958	y	11	73973....	90000	.938	7.5	1...H1-1b
172	M476	PL3/8x1.0	.162	.958	14	.016	.958	y	4	11908....	16875	.132	.352	2...H1-1b
173	MT31	PL3/8x4.0	.160	.742	24	.056	0	y	2	54763....	67500	.527	5.625	1...H1-1b*
174	M393	PL3/8x1.0	.159	.958	18	.017	.958	y	7	11908....	16875	.132	.352	2...H1-1b
175	M368	PL3/8x1.0	.155	.989	6	.039	.26	y	6	11644....	16875	.132	.352	2...H1-1b
176	M282	PL3/8x4.0	.154	.742	20	.058	0	y	7	54763....	67500	.527	5.625	1...H1-1b*
177	MT39	PL3/8x1.0	.154	1.045	24	.021	1.045	y	2	11146....	16875	.132	.352	2...H1-1b*
178	M538	PL3/16x1.5	.153	0	7	.013	0	y	16	4405.961	12656.25	.049	.396	1...H1-1b*
179	M359	PL1/2x4.0	.153	0	1	.025	1.028	y	8	71831....	90000	.938	7.5	1...H1-1b
180	MT60	PL3/8x1.0	.149	.917	23	.017	.917	y	24	12266....	16875	.132	.352	2...H1-1b
181	M290A	PL3/8x1.0	.148	1.045	20	.023	1.045	y	7	11146....	16875	.132	.352	2...H1-1b*
182	M544	PL3/16x1.5	.147	0	7	.010	0	y	18	4405.961	12656.25	.049	.396	2...H1-1b*
183	M451	PL3/8x1.0	.147	.989	2	.037	.26	y	2	11644....	16875	.132	.352	2...H1-1b
184	M517	PL3/16x1.5	.146	0	4	.012	1.604	y	13	4405.961	12656.25	.049	.348	1 H1-1b*
185	M510	PIPE 1.5	.145	0	4	.046	8.034		12	14114....	23593.5	1.105	1.105	2...H1-1b
186	M311A	PL3/8x1.0	.144	.917	20	.017	.917	y	20	12266....	16875	.132	.352	2...H1-1b
187	MT30	PL3/8x4.0	.144	.667	24	.036	0	y	1	57024.39	67500	.527	5.625	1...H1-1b*
188	MT68	PL1/2x4.0	.140	.958	12	.015	.958	y	4	73973....	90000	.938	7.5	1...H1-1b
189	M386	PL3/4x0.375	.140	.527	6	.024	0	y	1	11262....	12645	.096	.199	2...H1-1b
190	MT53	PL3/8x0.625	.139	.349	11	.018	.349	y	11	10070....	10546....	.082	.137	2...H1-1b
191	M319	PL1/2x4.0	.139	.958	8	.017	0	y	7	73973....	90000	.938	7.5	1...H1-1b
192	M442	PL1/2x4.0	.139	0	10	.023	1.028	y	11	71831....	90000	.938	7.5	1...H1-1b
193	M281	PL3/8x4.0	.139	.667	20	.040	0	y	7	57024.39	67500	.527	5.625	2...H1-1b*
194	M388	PL3/8x0.625	.133	.44	6	.017	.44	y	1	9800.276	10546....	.082	.137	2...H1-1b





Company : Network Building + Consulting  
 Designer : Connor Rice, EIT  
 Job Number : Project No. 10070199  
 Model Name : 467564-VZW\_MT\_LO\_H

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

Member	Shape	Code	Loc[ft]	LC	Shear	Loc[ft]	Dir	LC	phi*Pnc	phi*Pnt	phi*Mn	phi*Mn	Cb	Eqn	
252	M521	PL3/16x1.5	.087	0	7	.007	0	y	19	4405.961	12656.25	.049	.396	1...	H1-1b
253	MT51	PL3/4x0.375	.086	.422	19	.014	.422	y	24	11738....	12645	.096	.199	2...	H1-1b
254	M519	PL3/16x1.5	.086	0	1	.006	0	y	16	4405.961	12656.25	.049	.396	1.7	H1-1b
255	M371	PL3/8x1.0	.086	.718	12	.018	0	y	7	13873....	16875	.132	.352	2...	H1-1b*
256	M529	PL3/16x1.5	.086	0	7	.005	1.604	y	13	4405.961	12656.25	.049	.348	1	H1-1b
257	M520	PL3/16x1.5	.085	0	7	.007	0	y	19	4405.961	12656.25	.049	.396	1...	H1-1b
258	M287	PL3/8x1.0	.085	.655	2	.014	.655	y	18	14336....	16875	.132	.352	2...	H1-1b*
259	M302A	PL3/4x0.375	.085	.422	17	.015	.422	y	19	11738....	12645	.096	.199	2...	H1-1b
260	M288	PL3/8x1.0	.084	.718	2	.011	0	y	7	13873....	16875	.132	.352	2.2	H1-1b*
261	M453	PL3/8x1.0	.084	.655	8	.017	.655	y	11	14336....	16875	.132	.352	2...	H1-1b*
262	M74C	PL3/8x3.0	.083	0	12	.141	.605	y	1	32152....	35437.5	.277	2.215	2...	H1-1b
263	M454	PL3/8x1.0	.082	0	2	.017	.718	y	11	13873....	16875	.132	.352	2...	H1-1b
264	M466	PL7/8x0.375	.081	.51	7	.018	0	y	10	13379....	14765....	.115	.269	2...	H1-1b
265	M518	PL3/16x1.5	.079	0	1	.006	0	y	13	4405.961	12656.25	.049	.396	1...	H1-1b
266	M522	PL3/16x1.5	.079	0	7	.008	0	y	19	4405.961	12656.25	.049	.396	1...	H1-1b
267	M539	PL3/16x1.5	.079	0	4	.006	1.604	y	16	4405.961	12656.25	.049	.348	1	H1-1b
268	M540	PL3/16x1.5	.078	0	4	.006	1.604	y	18	4405.961	12656.25	.049	.348	1	H1-1b
269	M535	PL3/16x1.5	.075	1.604	4	.006	0	y	16	4405.961	12656.25	.049	.348	1	H1-1b
270	MT56	PL3/8x0.625	.075	0	11	.003	0	y	11	10058....	10546....	.082	.137	1...	H1-1b
271	M536	PL3/16x1.5	.072	1.604	4	.007	0	y	16	4405.961	12656.25	.049	.348	1	H1-1b
272	MT45	PL3/8x1.0	.071	0	6	.013	.735	y	1	13745....	16875	.132	.352	2...	H1-1b
273	M307A	PL3/8x0.625	.071	0	8	.002	0	y	9	10058....	10546....	.082	.137	1...	H1-1b
274	M541	PL3/16x1.5	.071	0	4	.007	1.604	y	18	4405.961	12656.25	.049	.348	1	H1-1b
275	M462	PL3/8x1.0	.070	0	8	.021	0	y	11	13745....	16875	.132	.352	2...	H1-1b
276	M533	PL3/16x1.5	.070	1.604	10	.005	0	y	16	4405.961	12656.25	.049	.348	1	H1-1b
277	MT49	PL7/8x0.375	.069	.51	19	.015	.51	y	14	13379....	14765....	.115	.269	2...	H1-1b
278	M532	PL3/16x1.5	.069	1.604	4	.005	0	y	13	4405.961	12656.25	.049	.348	1	H1-1b
279	M534	PL3/16x1.5	.069	1.604	4	.006	0	y	16	4405.961	12656.25	.049	.348	1	H1-1b
280	M296A	PL3/8x1.0	.068	0	2	.016	.735	y	7	13745....	16875	.132	.352	2...	H1-1b
281	M542	PL3/16x1.5	.067	0	4	.005	1.604	y	18	4405.961	12656.25	.049	.348	1	H1-1b
282	M379	PL3/8x1.0	.067	0	12	.022	0	y	1	13745....	16875	.132	.352	2...	H1-1b
283	M300A	PL7/8x0.375	.067	.51	14	.018	.51	y	7	13379....	14765....	.115	.269	2...	H1-1b
284	M384	PL3/4x0.375	.066	.631	1	.016	.631	y	12	10712....	12645	.096	.199	1...	H1-1b
285	M464	PL7/8x0.375	.066	0	20	.020	0	y	10	12800.22	14765....	.115	.269	2...	H1-1b*
286	M381	PL7/8x0.375	.066	0	24	.019	0	y	9	12800.22	14765....	.115	.269	2...	H1-1b*
287	M543	PL3/16x1.5	.063	0	4	.005	1.604	y	18	4405.961	12656.25	.049	.342	1...	H1-1b
288	MT47	PL7/8x0.375	.062	0	18	.016	.613	y	1	12800.22	14765....	.115	.269	2...	H1-1b*
289	M298A	PL7/8x0.375	.061	0	14	.019	.613	y	7	12800.22	14765....	.115	.269	2...	H1-1b*
290	M467	PL3/4x0.375	.058	.631	10	.015	.631	y	1	10712....	12645	.096	.199	1...	H1-1b
291	M382	PL7/8x0.375	.055	.756	1	.014	.756	y	12	11883....	14765....	.115	.269	1...	H1-1b
292	MT50	PL3/4x0.375	.051	0	6	.016	.631	y	11	10712....	12645	.096	.199	1...	H1-1b
293	M378	PL3/8x1.0	.050	1.028	12	.022	0	y	6	11301....	16875	.132	.352	1...	H1-1b
294	M465	PL7/8x0.375	.049	.756	19	.015	.756	y	2	11883....	14765....	.115	.269	2...	H1-1b
295	M301A	PL3/4x0.375	.049	.631	15	.016	.631	y	8	10712....	12645	.096	.199	1...	H1-1b
296	M461	PL3/8x1.0	.047	1.028	8	.024	0	y	2	11301....	16875	.132	.352	1...	H1-1b
297	MT48	PL7/8x0.375	.047	.756	17	.016	.756	y	12	11883....	14765....	.115	.269	2...	H1-1b
298	M380	PL3/8x1.0	.046	.496	1	.016	0	y	11	12428....	16875	.132	.352	1...	H1-1b
299	M299A	PL7/8x0.375	.046	.756	15	.018	.756	y	8	11883....	14765....	.115	.269	2...	H1-1b
300	MT44	PL3/8x1.0	.045	1.028	6	.027	0	y	12	11301....	16875	.132	.352	1...	H1-1b
301	M463	PL3/8x1.0	.043	0	19	.018	0	y	2	12428....	16875	.132	.352	2...	H1-1b
302	MT46	PL3/8x1.0	.041	0	17	.020	0	y	12	12428....	16875	.132	.352	2...	H1-1b
303	M295A	PL3/8x1.0	.040	1.028	2	.029	0	y	8	11301....	16875	.132	.352	1...	H1-1b
304	M297A	PL3/8x1.0	.039	0	15	.022	0	y	8	12428....	16875	.132	.352	2...	H1-1b
305	M613	Corner Su...	.007	0	1	.404	1.208	z	1	51771.32	54632....	1.672	2.377	1...	H1-1b*
306	M612	Corner Su...	.007	0	10	.417	1.208	z	10	51771.32	54632....	1.672	2.377	1...	H1-1b*
307	M610	Corner Su...	.007	1.208	1	.278	1.208	z	7	51771.32	54632....	1.672	2.377	1...	H1-1b*
308	M481	PL3/8x1.0	.006	0	12	.001	0	y	9	12655.26	16875	.132	.352	2...	H1-1b



Company : Network Building + Consulting  
 Designer : Connor Rice, EIT  
 Job Number : Project No. 10070199  
 Model Name : 467564-VZW\_MT\_LO\_H

Aug 17, 2021  
 10:43 AM  
 Checked By: \_\_\_\_\_

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

Member	Shape	Code	Loc[ft]	LC	Shear	Loc[ft]	Dir	LC	phi*Pnc	phi*Pnt	phi*Mn	phi*Mn	Cb	Eqn
309	MT64	PL3/8x1.0	.006	0	9	.001	0	y	12	12655.26	16875	.132	.352	2...H1-1b
310	M315A	PL3/8x1.0	.006	0	12	.001	0	y	9	12655.26	16875	.132	.352	2...H1-1b
311	M398	PL3/8x1.0	.006	0	9	.001	0	y	12	12655.26	16875	.132	.352	2...H1-1b
312	M611	Corner Su...	.006	.604	12	.246	0	z	1	51771.32	54632....	1.672	1.486	1...H1-1b
313	M284	PL3/8x1.0	.002	.872	11	.000	.872	y	22	12640....	16875	.132	.352	2...H1-1b
314	MT33	PL3/8x1.0	.002	.872	9	.000	.872	y	22	12640....	16875	.132	.352	2...H1-1b
315	M367	PL3/8x1.0	.002	.872	8	.000	.872	y	19	12640....	16875	.132	.352	2...H1-1b
316	M450	PL3/8x1.0	.002	.872	12	.000	.872	y	16	12640....	16875	.132	.352	2...H1-1b
317	M366	PL3/8x1.0	.002	.943	9	.000	.943	y	24	12037....	16875	.132	.352	1...H1-1b
318	M449	PL3/8x1.0	.002	.943	11	.000	.943	y	24	12037....	16875	.132	.352	1...H1-1b
319	M283	PL3/8x1.0	.002	.943	12	.000	.943	y	24	12037....	16875	.132	.352	1...H1-1b
320	MT32	PL3/8x1.0	.002	.943	8	.000	.943	y	24	12037....	16875	.132	.352	1...H1-1b
321	M357	PL3/8x4.0	.001	.874	20	.000	.874	y	9	50515....	67500	.527	5.625	2...H1-1b
322	M440	PL3/8x4.0	.001	.874	24	.000	.874	y	12	50515....	67500	.527	5.625	2...H1-1b
323	M274	PL3/8x4.0	.001	.874	18	.000	.874	y	12	50515....	67500	.527	5.625	2...H1-1b
324	MT23	PL3/8x4.0	.001	.874	14	.000	.874	y	9	50515....	67500	.527	5.625	2...H1-1b



### Connection Check Summary

Site Name	Cromwell Se CT
Site ID	467564
NB+C Project No.	100819

Connection Properties				Joint Reactions			
Plate Properties				Shear	$F_y$	3340	lbs
Thickness	t	0.75	in		Tension	$F_x$	760
Plate length	L	8	in	Bending	$F_z$	42787	lbs
Plate Grade	$F_y$	36	ksi	Bending	$M_z$	0.386	k-ft
Connected Part Dimensions	Width	4	in	Torsion	$M_y$	2.44	k-ft
	Height	16	in	Connection Capacities (% Usage)			
Horizontal Bolt Separation	$d_x$	6	in	Plate Capacity	Shear	19.4%	Pass
Vertical Bolt Separation	$d_y$	10	in		Bending	72.0%	Pass
Bolt Properties				Bolt Capacity	Shear	3.5%	Pass
Bolt Grade		A325			Tension	32.3%	Pass
Bolt Diameter	$d_b$	0.625	in	Weld Capacity	% Usage	49.8%	Pass
Number of Bolts	$N_b$	8	Bolts				
Weld Properties							
Weld Shape		Line					
Height	d	16	in				
Standoff Arm Width	b	4	in				
Fillet Weld Size	a	1/4	in				



## Mount Desktop – Post Modification Inspection (PMI) Report Requirements

### Documents & Photos Required from Contractor – **New Mount Passing MA**

---

**Purpose** – to provide Network Building + Consulting the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

#### **Base Requirements:**

- Any special photos outside of the standard requirements will be indicated on the passing MA
- Verification that loading is as communicated in the Mount Analysis. NOTE If loading is different than what is conveyed in the modification drawing contact Network Building + Consulting immediately.
- Verification that the New Mount Installed is as specified in the MA
- Each photo should be time and date stamped
- Photos should be high resolution and submitted in a Zip File and should be organized in the file structure as depicted in Schedule A attached.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope.
- The photos in the file structure should be uploaded to <https://pmi.vzwsmart.com> as depicted on the drawings

#### **Photo Requirements:**

- Base and “During Installation Photos”
  - Base pictures include
    - Photo of Gate Signs showing the tower owner, site name, and number
    - Photo of carrier shelter showing the carrier site name and number if available
    - Photos of the galvanizing compound and/or paint used (if applicable), clearly showing the label and name
  - “During Installation Photos if provided - must be placed only in this folder
- Photos taken at ground level
  - Overall tower structure before and after installation of the modifications
  - Photos of the appropriate mount before and after installation of the new mount;
- Photos taken at Mount Elevation
  - Photos showing each individual sector before and also after installation of equipment.
    - These photos should also certify that the placement and geometry of the equipment on the mount is as depicted on the sketch and table in the mount analysis
  - Photos showing the newly installed mount that is as specified in the Mount Analysis















**Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:**

**Issue:**

- Contractor to remove existing mount and replace with (1) Quad-Platform Mount (Site Pro 1 PN#: F4P-14W) and (1) Support Rail Kit (Site Pro Part #: F4P-HRK14).
- Contractor to install (4) P2.0 STD (2.375 OD) x 8'-0" long mount pipes per sector.

**Response:**

**Schedule A – Photo & Document File Structure**

-  VzW Site Number / Name
  -  Base & “During Installation” Photos
  -  Pre-Installation Photos
    -  Alpha
    -  Beta
    -  Gamma
    -  Ground Level
    -  Tape Drop
  -  Post-Installation Photos
    -  Alpha
    -  Beta
    -  Gamma
    -  Ground Level
    -  Tape Drop
    -  Photos of climbing facility and safety climb – If Present
-  Certifications – Submission of this document including certifications
-  Specific Required Additional Photos

Sector: **A**

8/17/2021

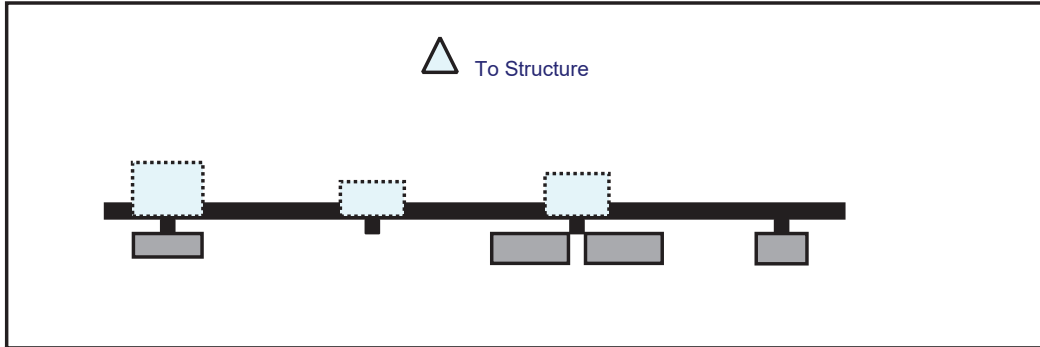
Structure Type: Self Support

10070199

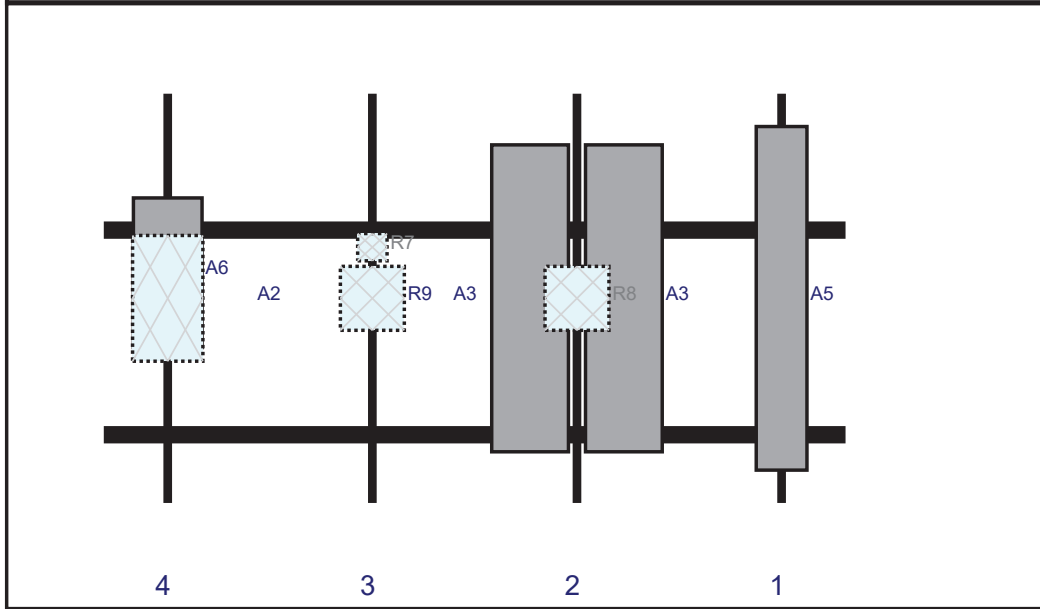
Mount Elev: 102.00

Page: 1

**Plan View**



**Front View**  
Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A5	LNx-6514DS-A1M	80.6	11.9	159	1	a	Front	48	0	Retained	03/24/2021
A3	JAHH-45B-R3B	72	18	111	2	a	Front	48	11	Added	
A3	JAHH-45B-R3B	72	18	111	2	b	Front	48	-11	Added	
R8	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	111	2	a	Behind	48	0	Added	
R7	CBC78T-DS-43	6.4	6.9	63	3	a	Behind	36	0	Added	
R9	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	63	3	a	Behind	48	0	Added	
A6	MT6407-77A	35.1	16.1	15	4	a	Front	42	0	Added	
A2	RHSDC-6627-PF-48	29.5	16.5	15	4	a	Behind	48	0	Added	

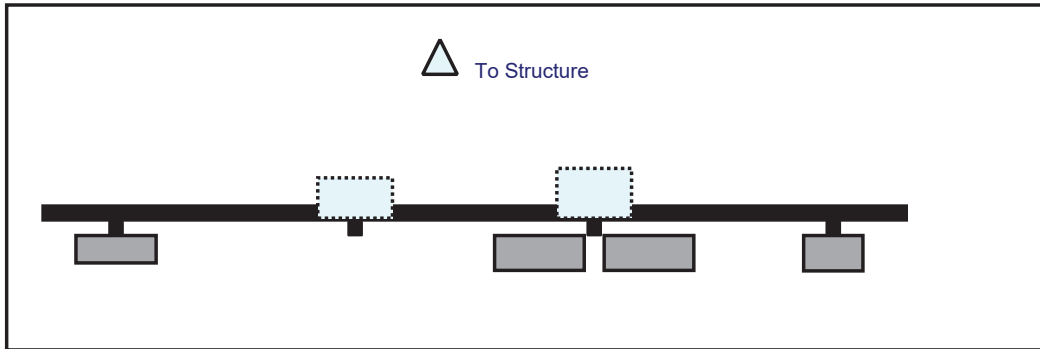
Sector: **B**  
 Structure Type: Self Support  
 Mount Elev: 102.00

10070199

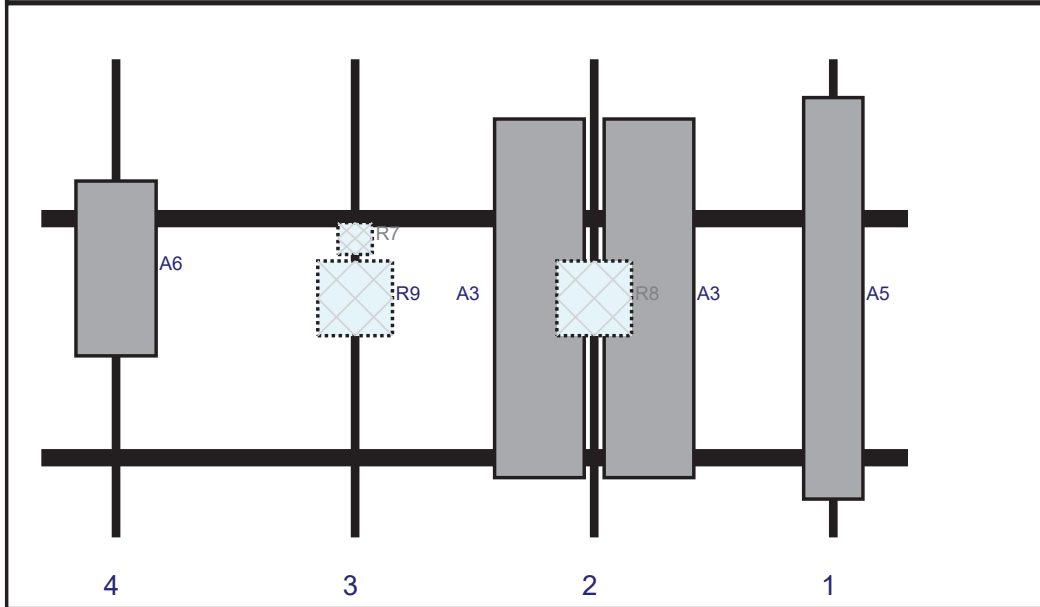
8/17/2021

Page: 2

Plan View



Front View  
 Looking at Structure



The existing LNX-6514DS-A1M antenna may be installed on position 4 of the adjacent empty face as shown in the attached proposed equipment layout

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A5	LNX-6514DS-A1M	80.6	11.9	159	1	a	Front	48	0	Retained	03/24/2021
A3	JAHH-45B-R3B	72	18	111	2	a	Front	48	11	Added	
A3	JAHH-45B-R3B	72	18	111	2	b	Front	48	-11	Added	
R8	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	111	2	a	Behind	48	0	Added	
R7	CBC78T-DS-43	6.4	6.9	63	3	a	Behind	36	0	Added	
R9	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	63	3	a	Behind	48	0	Added	
A6	MT6407-77A	35.1	16.1	15	4	a	Front	42	0	Added	

Sector: C

8/17/2021

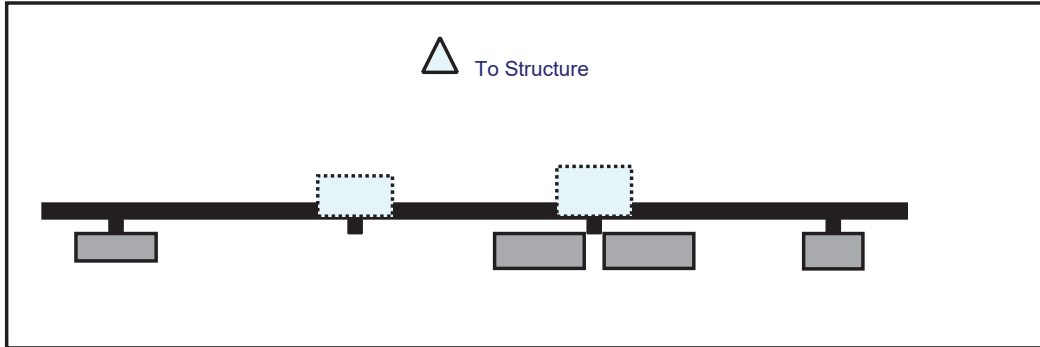
Structure Type: Self Support

10070199

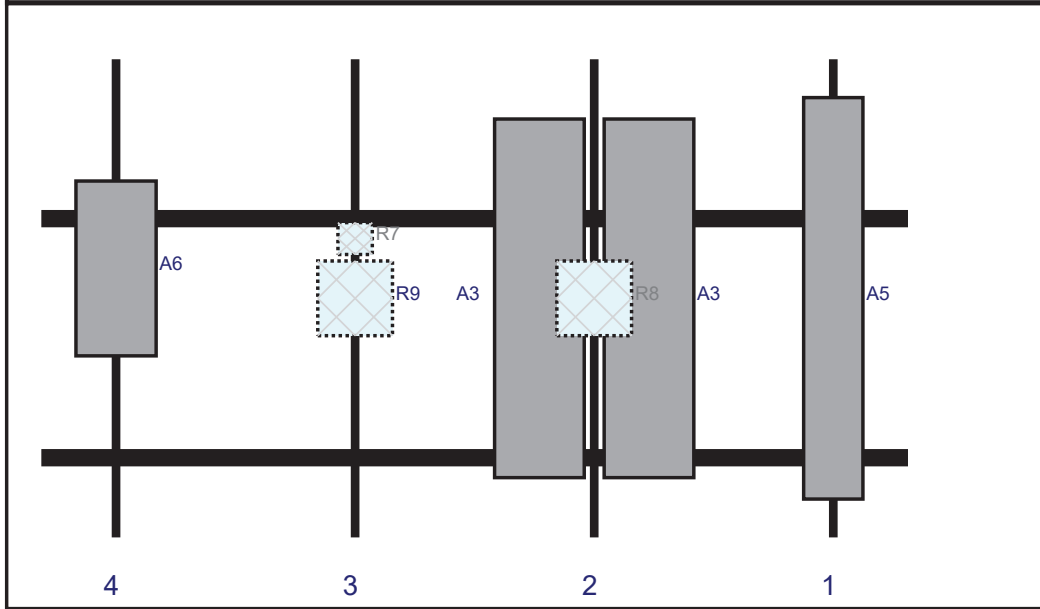
Mount Elev: 102.00

Page: 3

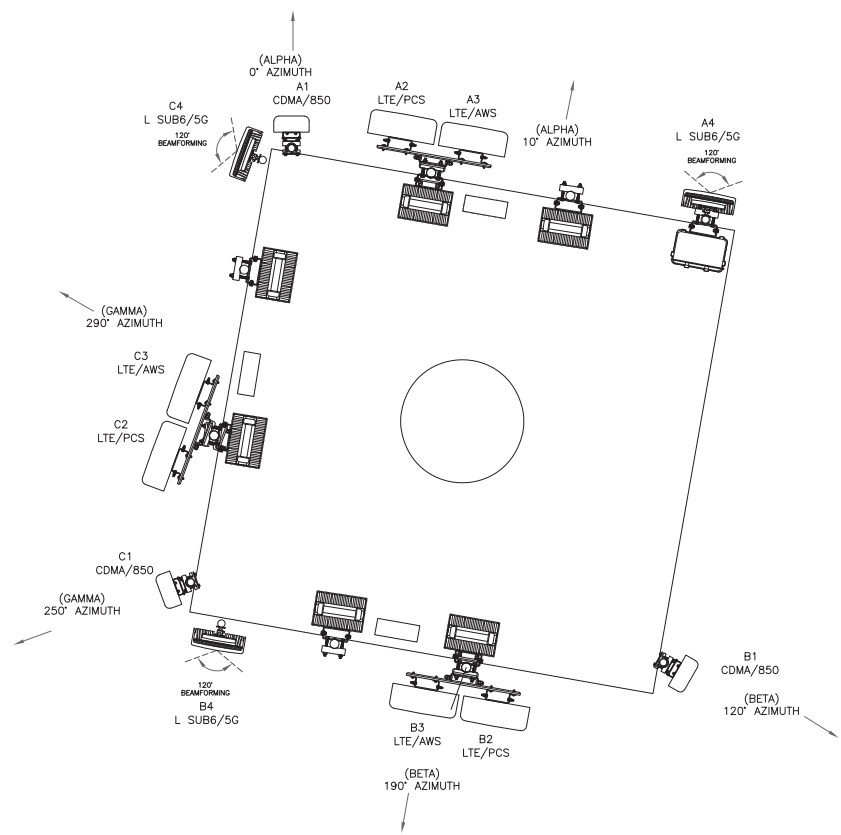
Plan View



Front View  
Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A5	LNx-6514DS-A1M	80.6	11.9	159	1	a	Front	48	0	Retained	03/24/2021
A3	JAHH-45B-R3B	72	18	111	2	a	Front	48	11	Added	
A3	JAHH-45B-R3B	72	18	111	2	b	Front	48	-11	Added	
R8	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	111	2	a	Behind	48	0	Added	
R7	CBC78T-DS-43	6.4	6.9	63	3	a	Behind	36	0	Added	
R9	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	63	3	a	Behind	48	0	Added	
A6	MT6407-77A	35.1	16.1	15	4	a	Front	42	0	Added	





# Exhibit F

## **Power Density/RF Emissions Report**

Site Name: **CROMWELL SE CT**  
 Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )	(%)
VZW 700	751	4	1009	4037	105	0.0132	0.5007	2.63%
VZW CDMA	874.8	2	429	858	105	0.0028	0.5832	0.48%
VZW Cellular	874	4	895	3581	105	0.0117	0.5827	2.00%
VZW PCS	1975	4	2294	9176	105	0.0299	1.0000	2.99%
VZW AWS	2120	4	2424	9698	105	0.0316	1.0000	3.16%
VZW CBAND	3730.08	4	6531	26125	105	0.0852	1.0000	8.52%

**Total Percentage of Maximum Permissible Exposure** 19.79%

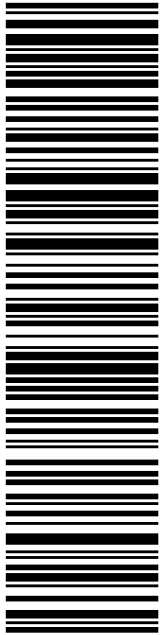
\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992  
 \*\*Calculation includes a -10 dB Off Beam Antenna Pattern Adjustment pursuant to Attachments B and C of the Siting Council's November 10, 2015 Memorandum for Exempt Modification filings

MHz = Megahertz  
 mW/cm<sup>2</sup> = milliwatts per square centimeter  
 ERP = Effective Radiated Power

Absolute worst case maximum values used.

# Exhibit F

## **Recipient Mailings**



**USPS TRACKING #**

**9405 5036 9930 0064 3106 87**

Electronic Rate Approved #038555749

**SHIP TO:**

SARAH SNELL  
1800 W PARK DR  
WESTBOROUGH MA 01581-3926

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

**Expected Delivery Date: 11/17/21**  
Ret#: CR-876364  
**0006**

**C006**

**P**

**US POSTAGE**  
Flat Rate Env  
\$8.70

**U.S. POSTAGE PAID**  
Click-N-Ship®

Mailed from 01566 10001000

**UNITED STATES POSTAL SERVICE®**

**Click-N-Ship®**

usps.com 9405 5036 9930 0064 3106 87 0061 5000 0010 1581

11/16/2021



Cut on dotted line.

### Instructions

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

### Click-N-Ship® Label Record

**USPS TRACKING # :**  
**9405 5036 9930 0064 3106 87**

Trans. #: 548531191	Priority Mail® Postage: <b>\$8.70</b>
Print Date: 11/16/2021	Total: <b>\$8.70</b>
Ship Date: 11/16/2021	
Expected Delivery Date: 11/17/2021	

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


Ref#: CR-876364

**To:** SARAH SNELL  
1800 W PARK DR  
WESTBOROUGH MA 01581-3926

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



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



**UNITED STATES  
POSTAL SERVICE®**

**Click-N-Ship®**

**P**

usps.com 9405 5036 9930 0064 3106 94 0061 5000 0010 6416  
**\$8.70**  
**US POSTAGE**  
 Flat Rate Envoy

U.S. POSTAGE PAID  
click-n-ship®

Mailed from 01566 10001000

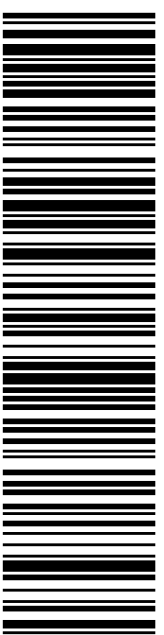
**PRIORITY MAIL 2-DAY™**

Expected Delivery Date: 11/19/21  
 Ref#: CR-876364  
**0006**

**C003**

SHIP TO: ALLAN SPOTTS  
 MAYOR OF CROMWELL  
 41 WEST ST  
 CROMWELL CT 06416-2180

**USPS TRACKING #**



**9405 5036 9930 0064 3106 94**

Electronic Rate Approved #038555749



Cut on dotted line.

### Instructions

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5. Mail your package on the "Ship Date" you selected when creating this label.

### Click-N-Ship® Label Record

**USPS TRACKING # :**  
**9405 5036 9930 0064 3106 94**

Trans. #: 548531191	Priority Mail® Postage: <b>\$8.70</b>
Print Date: 11/16/2021	Total: <b>\$8.70</b>
Ship Date: 11/16/2021	
Expected Delivery Date: 11/19/2021	

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

Ref#: CR-876364


**To:** ALLAN SPOTTS  
 MAYOR OF CROMWELL  
 41 WEST ST  
 CROMWELL CT 06416-2180

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



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





**UNITED STATES  
POSTAL SERVICE®**

**Click-N-Ship®**

**P**

usps.com 9405 5036 9930 0064 3107 24 0061 5000 0010 6416  
**\$8.70**  
**US POSTAGE**  
 Flat Rate Envoy

U.S. POSTAGE PAID  
Click-N-Ship®

Mailed from 01566 10001000

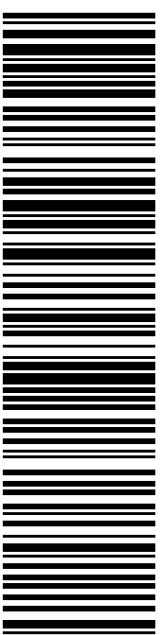
**PRIORITY MAIL 2-DAY™**

Expected Delivery Date: 11/19/21  
 Ref#: CR-876364  
**0006**

**C003**

SHIP TO:  
 ANTHONY J SALVATORE  
 41 WEST ST  
 CROMWELL CT 06416-2180

**USPS TRACKING #**



**9405 5036 9930 0064 3107 24**

Electronic Rate Approved #038555749



Cut on dotted line.

### Instructions

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### Click-N-Ship® Label Record

**USPS TRACKING # :**  
**9405 5036 9930 0064 3107 24**

Trans. #: 548531191	Priority Mail® Postage: <b>\$8.70</b>
Print Date: 11/16/2021	Total: <b>\$8.70</b>
Ship Date: 11/16/2021	
Expected Delivery Date: 11/19/2021	

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


Ref#: CR-876364

**To:** ANTHONY J SALVATORE  
 41 WEST ST  
 CROMWELL CT 06416-2180

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



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



**UNITED STATES  
POSTAL SERVICE®**

**Click-N-Ship®**

**P**

usps.com 9405 5036 9930 0064 3107 31 0061 5000 0010 6371  
**\$8.70**  
**US POSTAGE**  
 Flat Rate Envoy

U.S. POSTAGE PAID  
click-n-ship®

Mailed from 01566 10001000

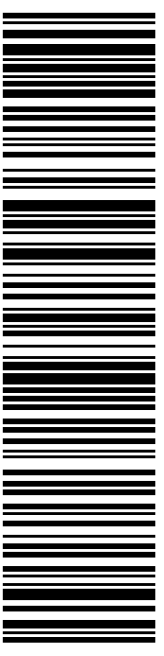
**PRIORITY MAIL 2-DAY™**

Expected Delivery Date: 11/19/21  
 Ref#: CR-876364  
**0006**

**B008**

SHIP TO:  
 S & S PARTNERS, INC.  
 PO BOX 734  
 OLD LYME CT 06371-0734

**USPS TRACKING #**



**9405 5036 9930 0064 3107 31**

Electronic Rate Approved #038555749



Cut on dotted line.

### Instructions

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

### Click-N-Ship® Label Record

**USPS TRACKING # :**  
**9405 5036 9930 0064 3107 31**

Trans. #: 548531191	Priority Mail® Postage: <b>\$8.70</b>
Print Date: 11/16/2021	Total: <b>\$8.70</b>
Ship Date: 11/16/2021	
Expected Delivery Date: 11/19/2021	

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

Ref#: CR-876364

**To:** S & S PARTNERS INC.  
 PO BOX 734  
 OLD LYME CT 06371-0734

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



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 Check the status of your shipment on the USPS Tracking® page at usps.com



826364



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

11/17/2021

02:59 PM

Product	Qty	Unit Price	Price
Prepaid Mail Westborough, MA 01581 Weight: 0 lb 2.00 oz Acceptance Date: Wed 11/17/2021 Tracking #: 9405 5036 9930 0064 3106 87	1		\$0.00
Prepaid Mail Cromwell, CT 06416 Weight: 0 lb 7.10 oz Acceptance Date: Wed 11/17/2021 Tracking #: 9405 5036 9930 0064 3106 94	1		\$0.00
Prepaid Mail Cromwell, CT 06416 Weight: 0 lb 7.10 oz Acceptance Date: Wed 11/17/2021 Tracking #: 9405 5036 9930 0064 3107 24	1		\$0.00
Prepaid Mail Cromwell, CT 06416 Weight: 0 lb 7.10 oz Acceptance Date: Wed 11/17/2021 Tracking #: 9405 5036 9930 0064 3107 00	1		\$0.00
Prepaid Mail Old Lyme, CT 06371 Weight: 0 lb 7.10 oz Acceptance Date: Wed 11/17/2021 Tracking #: 9405 5036 9930 0064 3107 31	1		\$0.00
Grand Total:			\$0.00