Crown Castle
300 Barr Harbor Drive
Suite 300
Conshohocken, PA 19428

May 30, 2024

Via Fedex # 776622154980

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

RE: **Notice of Exempt Modification for Verizon Wireless: 5000180082**
Crown Site ID# 876331
115 North Mountain Road, New Britain, CT 06053
Latitude: 41° 40′ 35.72″/ Longitude: -72° 49′ 17.09″

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains twelve (12) antennas at the 90-foot mount on the existing 118.9-foot monopole tower located at 115 North Mountain Road, New Britain, CT 06053. The property is owned by March 17 LLC and the tower is owned by Crown Castle. Cellco Partnership d/b/a Verizon Wireless now intends to remove nine (9) antennas and replace with nine (9) new antennas with 3 remaining antennas and ancillary antenna equipment. This Eligible Facilities Request for antenna modification/proposal of an existing telecommunications facility includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Planned Modification:

Tower:
Install New:
(3) SAMSUNG – SFG-ARM1AT01VZ ANTENNAS
(6) COMMSCOPE – NHH-65BR2B ANTENNAS
(3) SAMSUNG – SFG-ARR57201VZ RADIOS
(3) SAMSUNG – B2/B66A RRH ORAN (RF4439D-25A) RADIOS
(1) RFS/CELWAVE – 6X12 HYBRIFLEX CABLE
(1) RAYCAP – RVZDC-6627-PF-48 12 OVP BOX
(3) SIDE BY SIDE ANTENNA MOUNTS

Remove:
(6) ANDREW – HBXX-6517DS-A2M ANTENNAS
(2) AMPHENOL – BXA-70063-6CF ANTENNAS
(1) KATHREIN – 80010735V01 ANTENNAS
(3) NOKIA – UHBA B13 RRH 4X30 RADIOS
(3) NOKIA – UHIC B4 RRH 2X60-4R RADIOS
(1) RAYCAP – 6 OVP BOX

(1) 6X12 HYBRID CABLE

The facility was approved by City of New Britain Planning and Zoning on November 22, 1996.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Honorable Erin E. Stewart, Mayor, City of New Britain, Steven P. Schiller, City Planner, City of New Britain and March 17 LLC, Property Owner. Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modification 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 Communication 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, Cellco Partnership d/b/a Verizon Wireless respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jenifer Bachi.

Sincerely,

Jenifer Bachi
Permitting Specialist
300 Barr Harbor Drive, Ste. 300
Conshohocken, PA 19428
(610) 635-3221
Jenifer.bachi@crowncastle.com

Attachments are as follows:

Exhibit A – Original Facility Approval
Exhibit B – Property Card

Exhibit C – Property Map
Exhibit D – Construction Drawings
Exhibit E – Structural Analysis Report
Exhibit F – Mount Analysis Report
Exhibit G – Power Density / RF Emissions Report
Exhibit H – Recipient Mailing Records
Check #2960736 for $625 Application Fee

cc:

Via Fedex # 776622005636
Honorable Erin E. Stewart, Mayor
City of New Britain
27 West Main Street
New Britain, CT 06051
860-826-3308

Via Fedex # 776622073250
Steven P. Schiller, City Planner, AICP
City of New Britain
27 West Main Street
New Britain, CT 06051
860-826-3430

Via Fedex # 776622131875
March 17 LLC
PO Box 3040
One Liberty Square
New Britain, CT 06050
610-635-3221

Crown Castle, Tower Owner

Check Application Fee $625

THIS CHECK PRINTED ON DOCUCHECK GHOST PAPER AND HAS A GRAPHIC WATERMARK ON REVERSE SIDE

CROWN CASTLE USA INC.
2000 CORPORATE DRIVE
CANONSBURG PA 15317
724-416-2000

JPMorgan Chase Bank, N.A.
DALLAS TX
32-61/1110

2960736

SIX HUNDRED TWENTY FIVE AND 00/100********** DATE 05/10/24 $*******625.00

Pay To The Order Of Connecticut Siting Council
Ten Franklin Square
New Britain CT 06051

2695915

VP and Controller

VOID AFTER 180 DAYS

⑈2960736⑈ ⑆111000614⑆ 103410453⑈

Check No 2960736
Check Date 05/10/24

Stub 1 of 1

CKRQ 876331 664144 ZN	05/10/24	Invoice Summ	625.00		625.00
New Britain NW CT - VZN			625.00		625.00

EXHIBIT A

Original Facility Approval

10:AM (ELECT) WAYNE GLEIFERT

083

B 85

CITY OF NEW BRITAIN
DEPARTMENT OF LICENSES, PERMITS
AND INSPECTIONS
TELEPHONE: 826-3383

BUILDING/ZONING PERMIT

DATE 11/22/96

COST 112,000.

FEE 1,780.

APPLICANT Sprint PCS TEL. NO. 294-5609

ADDRESS 9 Barnes Indusrial Rd, Wallingford, CT 06492

PERMIT FOR: Construct 120' Monopole Tower, per engineered drawings/specifications.

LOCATION North Mountain Rd, Lot C

BUILDING DIMENSIONS ____ FT. WIDE BY ____ FT. LONG AND ____ FT. IN HEIGHT

BUILDING TYPE ____ USE GROUP ____ LOT SIZE ____ ZONE ____

OWNER October 24 Corporation

ADDRESS

CERT. OF OCCUPANCY REQUIRED YES___ NO✓

AS-BUILT SURVEY REQUIRED YES___ NO✓

THE MATCHING APPLICATION IS PART AND PARCEL OF THIS BUILDING PERMIT.

12-5-96

BUILDING OFFICIAL

WNUK

WHERE APPLICABLE SEPARATE PERMITS ARE REQUIRED FOR ELECTRICAL, PLUMBING AND MECHANICAL INSTALLATIONS.

APPLICANT'S COPY

MANDATORY INSPECTIONS REQUIRED

POST PERMIT FOR DURATION OF WORK

EXHIBIT B

Property Card

115 NORTH MOUNTAIN RD

Location	115 NORTH MOUNTAIN RD	**Mblu**	F2D/ 102/ / /
Acct#	66600115	**Owner**	MARCH 17 LLC
Assessment	$233,310	**Appraisal**	$333,300
PID	1134	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$234,100	$99,200	$333,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$163,870	$69,440	$233,310

Owner of Record

Owner	MARCH 17 LLC	**Sale Price**	$900,000
Co-Owner		**Certificate**	
Address	PO BOX 3040 ONE LIBERTY SQUARE NEW BRITAIN , CT 06050	**Book & Page**	2021/980
		Sale Date	06/12/2019
		Instrument	17

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
MARCH 17 LLC	$900,000		2021/980	17	06/12/2019
OCTOBER TWENTY FOUR INC	$550,000	1	1826/0309	19	09/29/2011
OCTOBER TWENTY FOUR INC	$0		0733/0284		02/02/1978
GIUSEPPE CACCAMO SALVATORE	$0		0431/0424		01/01/1900
	$0		0224/0239		01/01/1900

Building Information

Building 1 : Section 1

Year Built:

Building Photo

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

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Central Heat Sys	
Heat Type	
AC Type	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs	
Total Rooms	
Bath Style	
Kitchen Style	
Num Kitchens	
Whirlpool Tub	
Fireplaces	
Rec Room Finish	
Rec Room Qual	
Bsmt Garages	
Fireplaces	
Bldg Nbhd	
Fndtn Cndtn	
Basement	

(http://images.vgsi.com/photos/NewBritainCTPhotos//default.jpg)

Building Layout

Building Layout (ParcelSketch.ashx?pid=1134&bid=1593)

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

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	4400
Description	Ind Ld De
Zone	TP
Neighborhood	101G
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.82
Depth	
Assessed Value	$69,440
Appraised Value	$99,200

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV5	Conc Pad			256.00 S.F.	$3,100	1
FN3	Fence-6' Chain			150.00 L.F.	$1,500	1
CB3	PreCastConcCel			286.00 S.F.	$89,200	1
CB3	PreCastConcCel			360.00 S.F.	$140,300	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$234,100	$99,200	$333,300
2018	$234,100	$99,200	$333,300
2017	$234,100	$99,200	$333,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$163,870	$69,440	$233,310
2018	$163,870	$69,440	$233,310
2017	$163,870	$69,440	$233,310

EXHIBIT C

Property Map


Webster Resource Cent
Loon Lake Rd
Loon Lake Rd
Loon Lake Rd
84
Robindale Dr
Quinnipiac River
Yankee Expy
Yankee Expy
Hillhurst Ave
Elementar
Gaffney PreSchool
Quest Diagnostics
Quest Diagnostics 183...
84
Stanwood Dr

EXHIBIT D

Construction Drawings

verizon

VERIZON SITE NUMBER: 5000180082
VERIZON SITE NAME: NEW BRITAIN NW CT
VERIZON FUZE ID: 16232009
SITE TYPE: MONOPOLE
TOWER HEIGHT: 118'-0"

BUSINESS UNIT #: 876331
SITE ADDRESS: 115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053
COUNTY: HARTFORD
JURISDICTION: CITY OF NEW BRITAIN

SITE INFORMATION

CROWN CASTLE USA INC.	
SITE NAME:	NEW BRITAIN GRAVEL PIT
BU NUMBER:	876331
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	VERIZON WIRELESS 20 ALEXANDER DRIVE WALLINGFORD, CT 06492
SITE ADDRESS:	115 NORTH MOUNTAIN RD NEW BRITAIN, CT 06053
COUNTY:	HARTFORD
LATITUDE:	41° 40' 35.72" (41.67659°)
LONGITUDE:	-72° 49' 17.09" (-72.821414°)
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	350' AS PER FAA
AREA OF CONSTRUCTION:	EXISTING
CURRENT ZONING:	UNKNOWN
SECTION-BLOCK-LOT #:	09003089-F2D 102
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	MARCH 17 LLC PO BOX 3040 NEW BRITAIN, CT 06050
JURISDICTION:	CITY OF NEW BRITAIN 27 WEST MAIN STREET NEW BRITAIN, CT 06051
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER CO (800) 922-4455
TELCO PROVIDER:	ATT

PROJECT TEAM

A&E FIRM:	TOWER ENGINEERING PROFESIONALS 326 TRYON ROAD RALEIGH, NC 27603 (91) 661-6351
	SEAN B. SMITH - PROJECT MANAGER
	SCOTT C. BRANTLEY - CIVIL ENGINEER
CROWN CASTLE USA INC. DISTRICT CONTACTS:	1200 MACARTHUR BLVD, SUITE 200 MAHWAH, NJ 07430
	ALEXANDER MABBETT - PROJECT MANAGER ALEXANDER.MABBETT@CROWNCASTLE.COM
	HEATHER MILLER - A&E SPECIALIST HEATHER.MILLER@CROWN CASTLE.COM

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

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN
C-2	TOWER ELEVATIONS
C-3	ANTENNA PLANS
C-4	FINAL EQUIPMENT SCHEDULE
C-5	RFDS PLUMBING DIAGRAMS
C-6	EQUIPMENT DETAILS & SPECIFICATIONS
C-7	COLOR CODE MATRIX
G-1	GROUNDING DETAILS
ATTACTED	MOUNT MODIFICATION DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. 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.

CALL CONNECTICUT ONE CALL
(800) 922-4455 CBYD.COM
CALL 2 WORKING DAYS
BEFORE YOU DIG!

CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT	https://pmi.vzwsmart.com
SMART TOOL VENDOR PROJECT NUMBER	10222805
VzW MDG LOCATION ID:	**5000180082**

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

MOUNT MODIFICATION REQUIRED	**Y**

VzW APPROVED SMART KIT VENDORS

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

APPROVALS

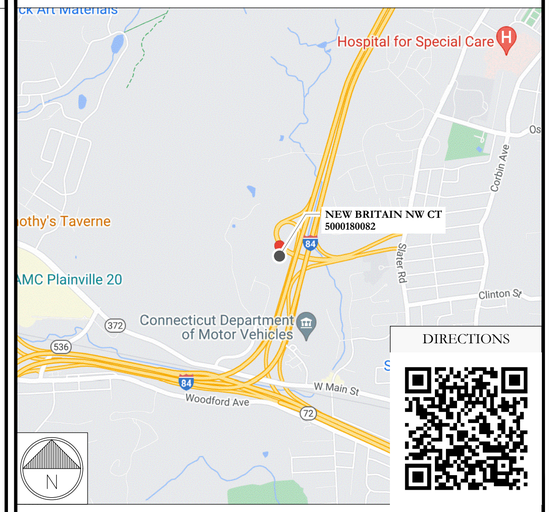
VERIZON SIGNATURE BLOCK

APPROVAL	SIGNATURE	DATE
SITE ACQUISITION		
CONSTRUCTION		
RADIO		
MICROWAVE		
TELCO		
EQUIPMENT		
PROJECT ADMINISTRATOR		
WO ADMINISTRATOR		

CROWN CASTLE USA INC. SINGNATURE BLOCK

APPROVAL		
SITE ACQUISITION		
PLANNER		
CONSTRUCTION		
PROJECT MANAGER		
UTILITY MANAGER		
LANDLORD		

LOCATION MAP



NO SCALE

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 (6) ANDREW - HBXX-6517DS-A2M ANTENAS
- REMOVE (2) AMPHENOL - BXA-70063-6CF ANTENAS
- REMOVE (1) KATHREIN - 80010735V01 ANTENA
- REMOVE (3) NOKIA - UHBA B13 RRH 4X30 RADIO
- REMOVE (3) NOKIA - UHIC B4 RRH 2X60-4R RADIO
- REMOVE (1) RAYCAP - 6 OVP BOX
- REMOVE (1) 6x12 HYBRID CABLE
- INSTALL (3) SAMSUNG - SFG-ARM1AT01VZ ANTENNAS
- INSTALL (6) COMMSCOPE - NHH-65B-R2B ANTENNAS
- INSTALL (3) SAMSUNG - SFG-ARR57201VZ
- INSTALL (3) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A) RADIO
- INSTALL (1) RFS/CELWAVE - 6x12 HYBRIFLEX CABLE
- INSTALL (1) RAYCAP - RVZDC-6627-PF-48 12 OVP BOX
- INSTALL (3) SIDE BY SIDE ANTENNA MOUNTS
- INSTALL MOUNT MODIFICATIONS PER MOUNT MODIFICATION DRAWING BY COLLIERS ENGINEERING AND DESIGN, DATED 02/14/2024

GROUND SCOPE OF WORK:
- NONE

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY COLLIERS ENGINEERING & DESIGN, DATED 02/13/24

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	2022 CONNECTICUT SBC/2021 IBC
MECHANICAL	2022 CONNECTICUT SBC/2021 IMC
ELECTRICAL	2022 CONNECTICUT SBC/2020 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	TELAMON
DATED:	04/30/2024
MOUNT ANALYSIS:	COLLIERS ENGINEERING & DESIGN
DATED:	02/02/2024
MOUNT MODIFICATIONS DWGS:	COLLIERS ENGINEERING & DESIGN
DATED:	02/13/2024
RFDS REVISION:	3
DATED:	09/26/2024
ORDER ID:	664144
REVISION:	0

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351
TEP JOB #: 25663.946311

VERIZON SITE NUMBER:
5000180082

BU #: **876331**
CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	04/12/24	SKK	CONSTRUCTION	SBS
1	05/29/24	SKK	CONSTRUCTION	SBS

STATE OF CONNECTICUT
SCOTT C. BRANTLEY
36536
LICENSED
PROFESSIONAL ENGINEER

05/29/24

SHEET NUMBER: T-1
REVISION: 1

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. 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.
2. "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 ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND 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).
5. 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."
6. 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.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: VERIZON
   TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. 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.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER..40 ksi
   #5 BARS AND LARGER..60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH......................3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
      #6 BARS AND LARGER..2"
      #5 BARS AND SMALLER..1–1/2"
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
      SLAB AND WALLS..3/4"
      BEAMS AND COLUMNS..1–1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

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

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC ON STRAIGHTS AND SCHEDULE 80 PVC UNDER ALL TRAFFIC EASEMENTS AND ALL ELBOWS/90s. ABOVE GRADE CONDUIT TO BE SCH 80 PVC OR IMC/RMC CONDUIT. EMT IS ALLOWED AT STUB UP LOCATIONS AND INDOORS ONLY.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "VERIZON".
30. 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
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**

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

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

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
RFDS	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.P.	WORK POINT

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

TOWER
ENGINEERING
PROFESSIONALS

326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351

TEP JOB #: 25663.946311

VERIZON SITE NUMBER:
5000180082

BU #: **876331**
CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	04/12/24	SKK	CONSTRUCTION	SBS
1	05/29/24	SKK	CONSTRUCTION	SBS

35536

05/29/24

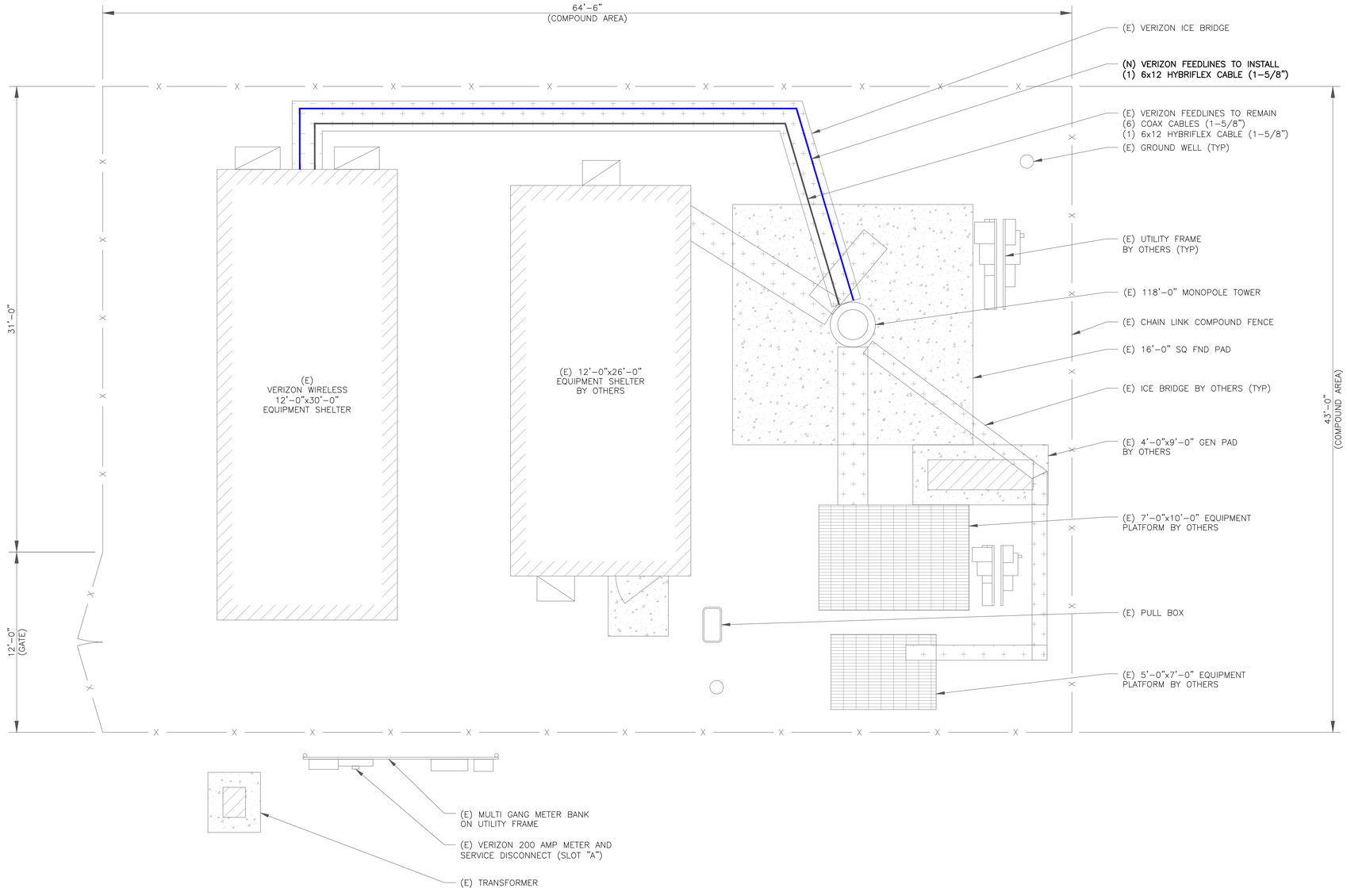
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-2

REVISION: 1

NOTE:
SITE PLAN SHOWN BELOW WAS REPRODUCED FROM INFORMATION PROVIDED BY CROWN CASTLE. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.

FLOODPLAIN NOTE:
THE TOWER IS LOCATED IN ZONE "X" AREAS OF MINIMAL FLOODING ACCORDING TO FEMA COMMUNITY PANEL #09003C0487G, DATED 05/16/2017.



1 SITE PLAN
SCALE: 4' 3' 2' 1' 0 4'
1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

N

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351

TEP JOB #: 25663.946311

VERIZON SITE NUMBER:
5000180082

BU #: **876331**
CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	04/12/24	SKK	CONSTRUCTION	SBS
1	05/29/24	SKK	CONSTRUCTION	SBS

STATE OF CONNECTICUT
SCOTT C. BRANTLEY
35536
LICENSED
PROFESSIONAL ENGINEER

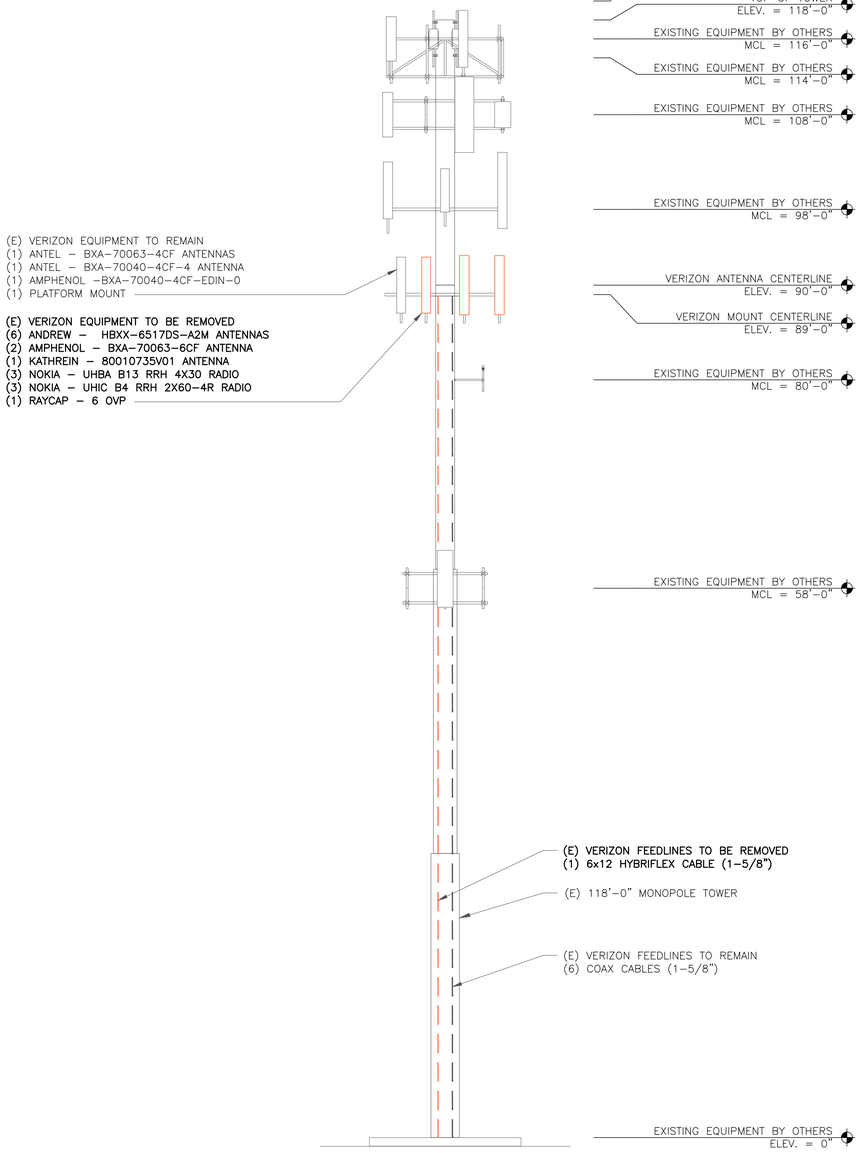
05/29/24

SHEET NUMBER: C-1

REVISION: 1

VERIZON EQUIPMENT
ANTENNA CL: 90'-0"
MOUNT CL: 89'-0"

FAA APPROVED HEIGHT:
120'-0"



1 EXISTING TOWER ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'-0" (FULL SIZE) 1/16"=1'-0" (11x17)

INSTALLER NOTE:

EXISTING AND PROPOSED ANTENNA /EQUIPMENT POSITIONING SHOWN PER MOUNT ANALYSIS. FIELD CONDITIONS MAY VARY.

TOWER ANALYSIS NOTES:

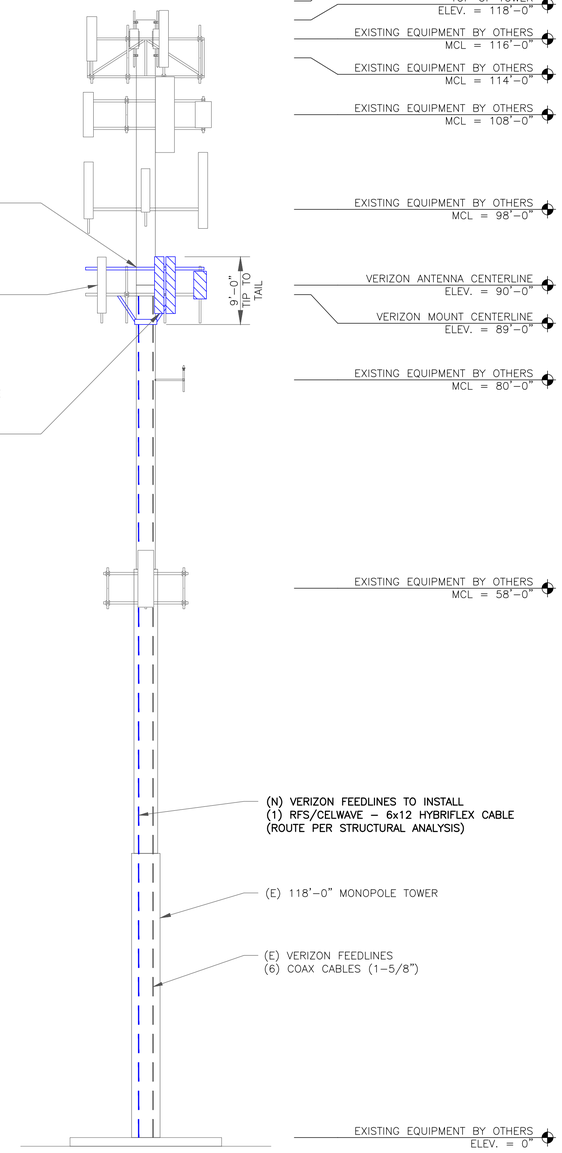
1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING TOWER ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE TOWER ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED TOWER MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

MOUNT ANALYSIS NOTES:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY COLLIERS ENGINEERING & DESIGN, DATED 02/13/24



2 FINAL TOWER ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'-0" (FULL SIZE) 1/16"=1'-0" (11x17)

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351
TEP JOB #: 25663.946311

VERIZON SITE NUMBER:
5000180082

BU #: **876331**
CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	04/12/24	SKK	CONSTRUCTION	SBS
1	05/29/24	SKK	CONSTRUCTION	SBS

STATE OF CONNECTICUT
SCOTT C. BRANTLEY
35536
LICENSED PROFESSIONAL ENGINEER

05/29/24

SHEET NUMBER: C-2

REVISION: 1

INSTALLER NOTE:

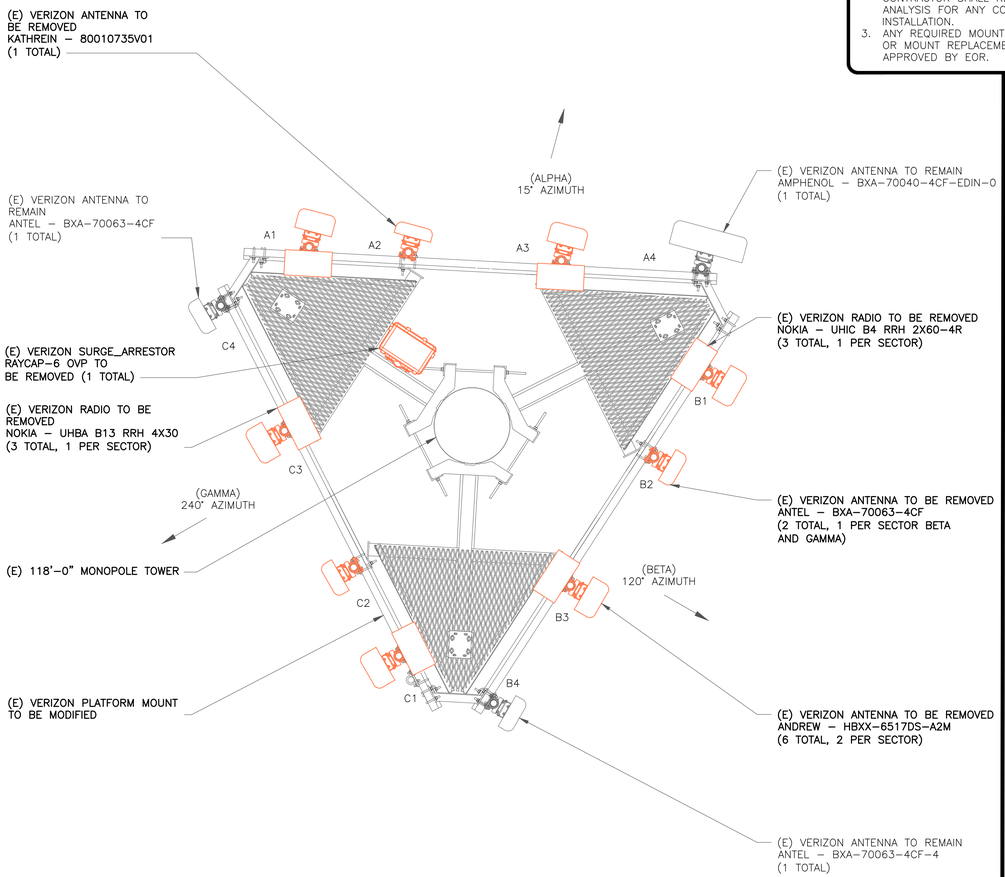
NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY COLLIERS ENGINEERING & DESIGN, DATED 02/13/24

INSTALLER NOTE:

EXISTING AND PROPOSED ANTENNA AND EQUIPMENT POSITIONING SHOWN PER MOUNT ANALYSIS. FIELD CONDITIONS MAY VARY.

MOUNT ANALYSIS NOTES:

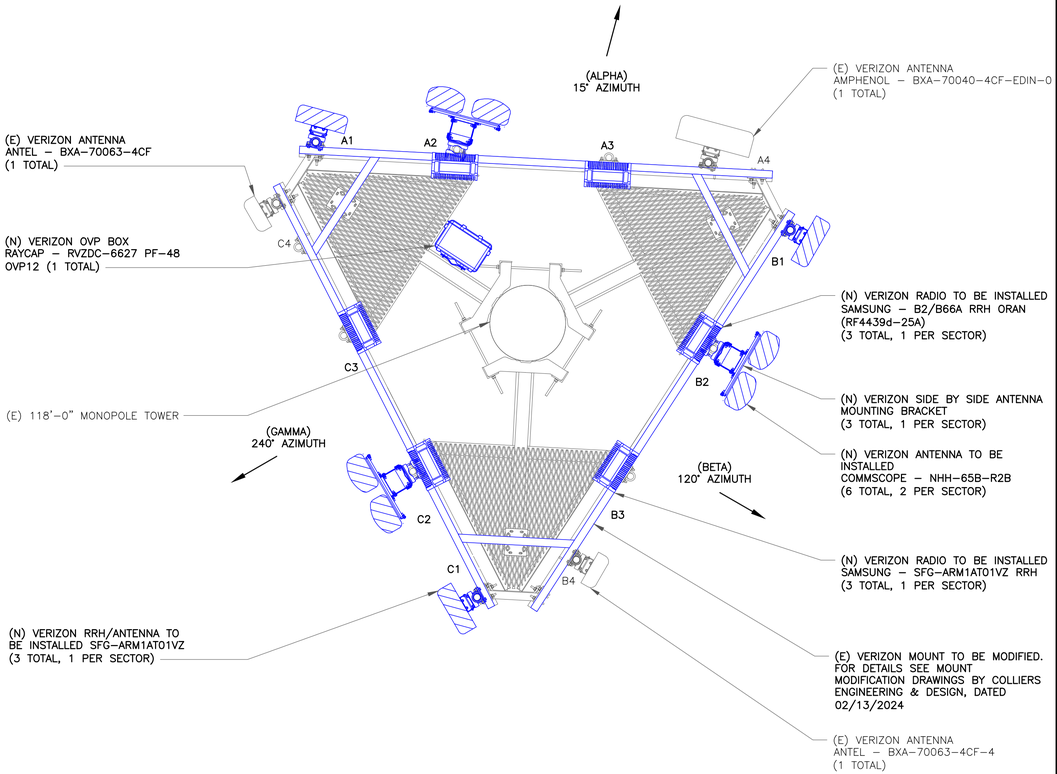
1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.



1 EXISTING ANTENNA PLAN

SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)

N



2 FINAL ANTENNA PLAN

SCALE: 2' 1' 0 2' 1/2"=1'–0" (FULL SIZE) 1/4"=1'–0" (11x17)

N

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351
TEP JOB #: 25663.946311

VERIZON SITE NUMBER:
5000180082

BU #: **876331**
CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	04/12/24	SKK	CONSTRUCTION	SBS
1	05/29/24	SKK	CONSTRUCTION	SBS

STATE OF CONNECTICUT
SCOTT C. BRANTLEY
35586
LICENSED PROFESSIONAL ENGINEER

05/29/24

SHEET NUMBER: C-3

REVISION: 1

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

POSITION	ANTENNA				RADIO			DIPLEXER			TMA		SURGE PROTECTION		CABLES			
	TECH	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
A1	5G	(N) SAMSUNG – SFG–ARM1AT01VZ	15°	90'–0"	–	–	–	–	–	–	–	–	1	(N) RAYCAP – RVZDC–6627–PF–48	1	(N) HYBRID CABLE	1–5/8"	140'
A2	700 850 AWS	(N) COMMSCOPE – NHH–65B–R2B	15°	90'–0"	1	(N) SAMSUNG – B2/B66A RRH ORAN (RF4439d–25A)	TOWER	–	–	–	–	–	–	–	–	–	–	–
	700 850 1900	(N) COMMSCOPE – NHH–65B–R2B	15°	90'–0"														
A3	–	–	–	–	1	(N) SAMSUNG – SFG–ARM1AT01VZ	TOWER	–	–	–	–	–	–	–	–	–	–	–
A4	–	(E) AMPHENOL – BXA–70040–4CF–EDIN–0	15°	90'–0"	–	–	–	–	–	–	–	–	–	–	2	(E) COAX CABLE	1–5/8"	140'
B1	5G	(N) SAMSUNG – SFG–ARM1AT01VZ	120°	90'–0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B2	700 850 AWS	(N) COMMSCOPE – NHH–65B–R2B	120°	90'–0"	1	(N) SAMSUNG – B2/B66A RRH ORAN (RF4439d–25A)	TOWER	–	–	–	–	–	–	–	–	–	–	–
	700 850 1900	(N) COMMSCOPE – NHH–65B–R2B	120°	90'–0"														
B3	–	–	–	–	1	(N) SAMSUNG – SFG–ARM1AT01VZ	TOWER	–	–	–	–	–	–	–	–	–	–	–
B4	–	(E) ANTEL – BXA–70063–4CF	120°	90'–0"	–	–	–	–	–	–	–	–	–	–	2	(E) COAX CABLE	1–5/8"	140'
C1	5G	(N) SAMSUNG – SFG–ARM1AT01VZ	240°	90'–0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C2	700 850 AWS	(N) COMMSCOPE – NHH–65B–R2B	240°	90'–0"	1	(N) SAMSUNG – B2/B66A RRH ORAN (RF4439d–25A)	TOWER	–	–	–	–	–	–	–	–	–	–	–
	700 850 1900	(N) COMMSCOPE – NHH–65B–R2B	240°	90'–0"														
C3	–	–	–	–	1	(N) SAMSUNG – SFG–ARM1AT01VZ	TOWER	–	–	–	–	–	–	–	–	–	–	–
C4	–	(E) ANTEL – BXA–70063–4CF	240°	90'–0"	–	–	–	–	–	–	–	–	–	–	2	(E) COAX CABLE	1–5/8"	140'

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351
TEP JOB #: 25663.946311

VERIZON SITE NUMBER:
5000180082

BU #: **876331**
CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-0" MONOPOLE

ISSUED FOR:

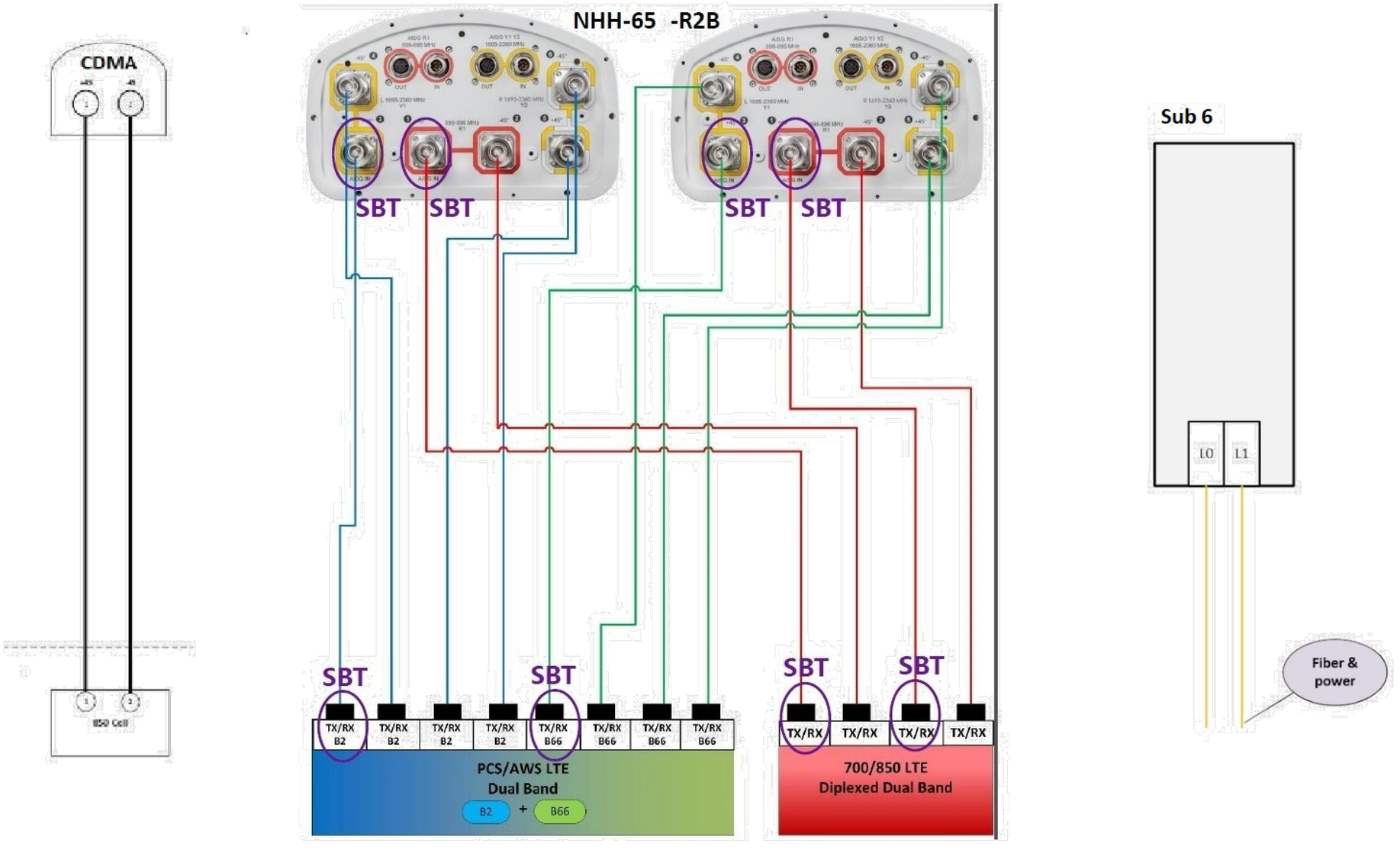
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	04/12/24	SKK	CONSTRUCTION	SBS
1	05/29/24	SKK	CONSTRUCTION	SBS

STATE OF CONNECTICUT
SCOTT C. BRANKER
35536
LICENSED PROFESSIONAL ENGINEER

05/29/24

SHEET NUMBER: C-4

REVISION: 1



1 PROPOSED RFDS PLUMBING DIAGRAM
SCALE: NOT TO SCALE

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351
TEP JOB #: 25663.946311

VERIZON SITE NUMBER:
5000180082

BU #: **876331**
CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

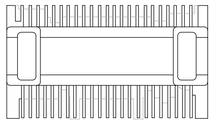
EXISTING 118'-0" MONOPOLE

ISSUED FOR:

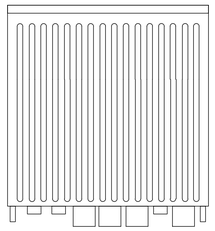
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	04/12/24	SKK	CONSTRUCTION	SBS
1	05/29/24	SKK	CONSTRUCTION	SBS

STATE OF CONNECTICUT
SCOTT C. BRANTLEY
35536
LICENSED PROFESSIONAL ENGINEER
05/29/24

SHEET NUMBER: C-5
REVISION: 1



PLAN

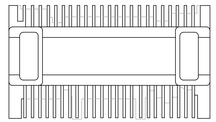


FRONT

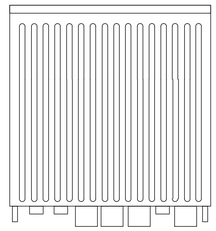
SAMSUNG – RF4439D-25A
WEIGHT: 74.7 LBS
SIZE (HxWxD): 14.96X14.96X10.04 IN.

NOTE:
1. MOUNTING OF RRH TO PIPE MAST SHALL BE PER MANUFACTURER DIRECTION.

1 SAMSUNG – RF4439D-25A
SCALE: NOT TO SCALE



PLAN



FRONT

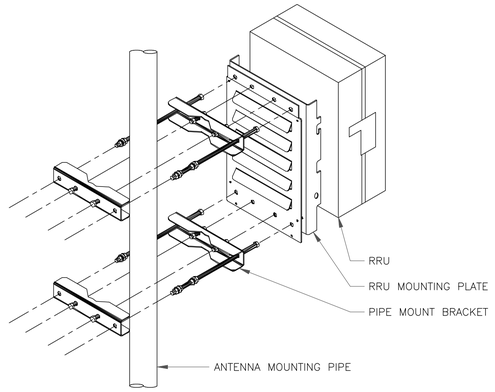
SAMSUNG – RF4461D-13A
WEIGHT: 79.10 LBS
SIZE (HxWxD): 14.96X14.96X10.23 IN.

NOTE:
1. MOUNTING OF RRH TO PIPE MAST SHALL BE PER MANUFACTURER DIRECTION.

2 SAMSUNG – RF4461D-13A
SCALE: NOT TO SCALE

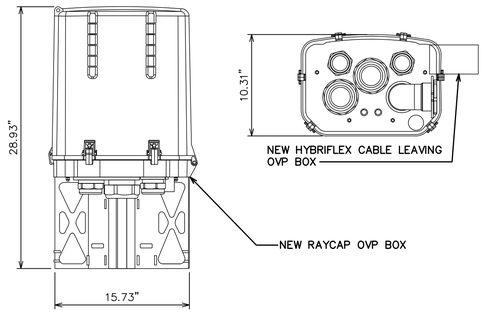
INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRUs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRU PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.
4. ANTENNA NOT SHOWN FOR CLARITY



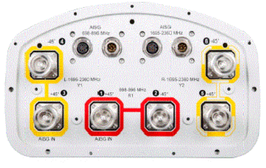
3 RRU MOUNTING DETAIL
SCALE: NOT TO SCALE

FRONT **TOP**



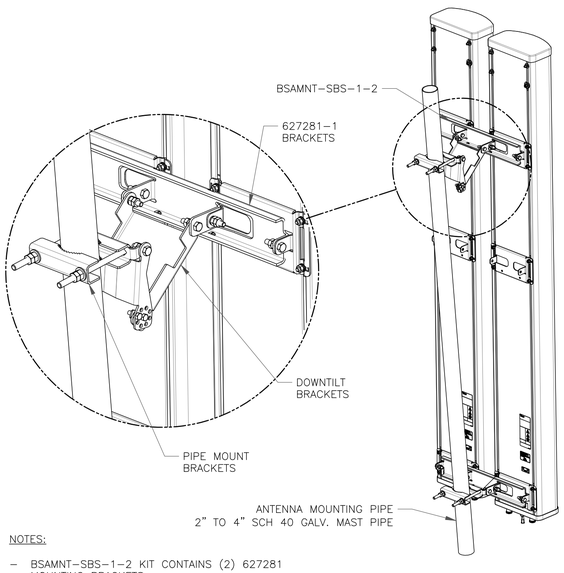
RAYCAP – RVZDC-6627-PF-48
WEIGHT: 32.00 LBS
SIZE (HxWxD): 28.93x15.73x10.31 IN.

4 RAYCAP – RVZDC-6627-PF-48
SCALE: NOT TO SCALE



COMMSCOPE – NHH-65B-R2B ANTENNA
WEIGHT: 43.70 LBS
SIZE (HxWxD): 72.00x11.90x7.10 IN.

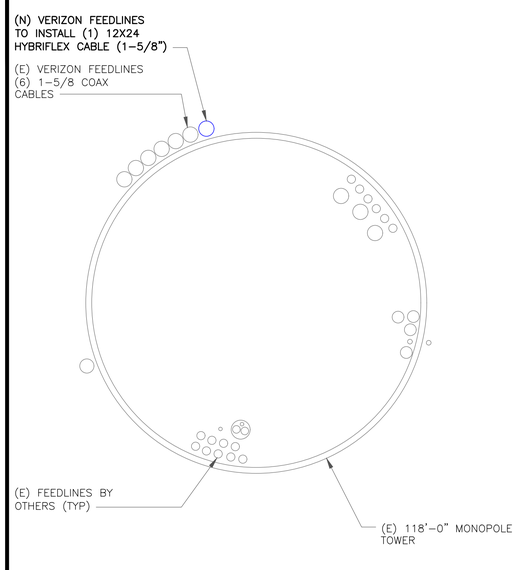
5 COMMSCOPE – NNH-65B-R2B
SCALE: NOT TO SCALE



NOTES:

- BSAMNT-SBS-1-2 KIT CONTAINS (2) 627281 MOUNTING BRACKETS.
- TORQUE THE M10 BOLT ASSEMBLY TO 37 N.m. PER MANUFACTURE'S RECOMMENDATIONS.

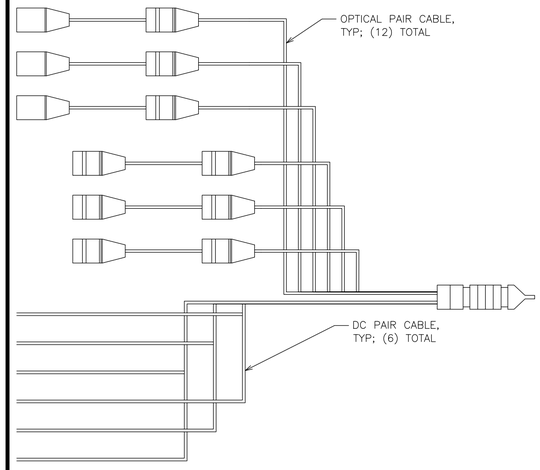
6 COMMSCOPE – BSAMNT-SBS-1-2
SCALE: NOT TO SCALE



NOTE:
1. ROUTE NEW CABLES PER PASSING STRUCTURAL ANALYSIS.

7 BASE LEVEL DETAIL
SCALE: NOT TO SCALE

N



RFS/CELWAVE – HB158-21U6S12-XXXM-01
WEIGHT: 1.7 LBS/FT
DIAMETER: 1.99" (±.1")
COAX EQUIVALENT: 1⅝"

8 NOT USED
SCALE: NOT TO SCALE

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CROWN CASTLE
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MAHWAH, NJ 07430

TOWER ENGINEERING PROFESSIONALS
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VERIZON SITE NUMBER:
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CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

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EXISTING 118'-0" MONOPOLE

ISSUED FOR:

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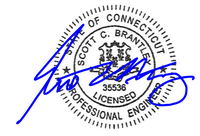

05/29/24

SHEET NUMBER: C-6

REVISION: 1

Azimuth (1) Alpha					
Cell (850 CDMA)	Red				
PCS2 (1900 LTE)	Pink	Red	Pink		
700 LTE	Lt. Green	Red	Lt. Green		
850 LTE	Purple	Red	Purple		
2100 LTE	Orange	Red	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Red	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Red	Lt. Green	Purple
5G 28GHz	Brown	Red	Brown		
5G 39GHz	Blue	Red	Blue		
LAA	Gray	Red	Gray		
CBRS	White	Red	White		
L-Sub6 (C-Band)	Red	Red	Red		

Azimuth (2) Beta					
Cell (850 CDMA)	Blue				
PCS2 (1900 LTE)	Pink	Blue	Pink		
700 LTE	Lt. Green	Blue	Lt. Green		
850 LTE	Purple	Blue	Purple		
2100 LTE	Orange	Blue	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Blue	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Blue	Lt. Green	Purple
5G 28GHz	Brown	Blue	Brown		
5G 39GHz	Blue	Blue	Blue		
LAA	Gray	Blue	Gray		
CBRS	White	Blue	White		
L-Sub6 (C-Band)	Red	Blue	Red		

Azimuth (3) Gamma					
Cell (850 CDMA)	Yellow				
PCS2 (1900 LTE)	Pink	Yellow	Pink		
700 LTE	Lt. Green	Yellow	Lt. Green		
850 LTE	Purple	Yellow	Purple		
2100 LTE	Orange	Yellow	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Yellow	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Yellow	Lt. Green	Purple
5G 28GHz	Brown	Yellow	Brown		
5G 39GHz	Blue	Yellow	Blue		
LAA	Gray	Yellow	Gray		
CBRS	White	Yellow	White		
L-Sub6 (C-Band)	Red	Yellow	Red		

Azimuth (4) Delta					
Cell (850 CDMA)	Orange				
PCS2 (1900 LTE)	Pink	Orange	Pink		
700 LTE	Lt. Green	Orange	Lt. Green		
850 LTE	Purple	Orange	Purple		
2100 LTE	Orange	Orange	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Orange	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Orange	Lt. Green	Purple
5G 28GHz	Brown	Orange	Brown		
5G 39GHz	Blue	Orange	Blue		
LAA	Gray	Orange	Gray		
CBRS	White	Orange	White		
L-Sub6 (C-Band)	Red	Orange	Red		

Azimuth (5) Epsilon					
Cell (850 CDMA)	White				
PCS2 (1900 LTE)	Pink	White	Pink		
700 LTE	Lt. Green	White	Lt. Green		
850 LTE	Purple	White	Purple		
2100 LTE	Orange	White	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	White	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	White	Lt. Green	Purple
5G 28GHz	Brown	White	Brown		
5G 39GHz	Blue	White	Blue		
LAA	Gray	White	Gray		
CBRS	White	White	White		
L-Sub6 (C-Band)	Red	White	Red		

Azimuth (6) Zeta					
Cell (850 CDMA)	Gray				
PCS2 (1900 LTE)	Pink	Gray	Pink		
700 LTE	Lt. Green	Gray	Lt. Green		
850 LTE	Purple	Gray	Purple		
2100 LTE	Orange	Gray	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Gray	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Gray	Lt. Green	Purple
5G 28GHz	Brown	Gray	Brown		
5G 39GHz	Blue	Gray	Blue		
LAA	Gray	Gray	Gray		
CBRS	White	Gray	White		
L-Sub6 (C-Band)	Red	Gray	Red		

1 COLOR CODE MATRIX
SCALE: NOT TO SCALE

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

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VERIZON SITE NUMBER:
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CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

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ISSUED FOR:

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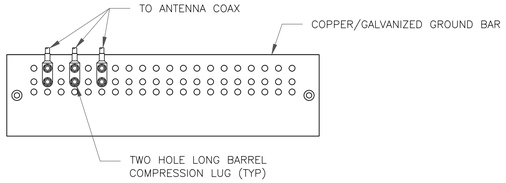
1	05/29/24	SKK	CONSTRUCTION	SBS

STATE OF CONNECTICUT
SCOTT C. BRANTLEY
35536
LICENSED PROFESSIONAL ENGINEER

05/29/24

SHEET NUMBER: C-7

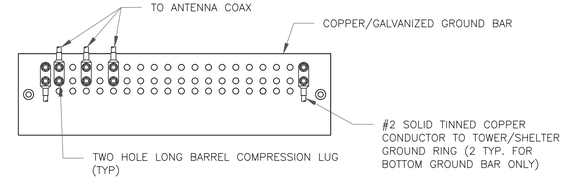
REVISION: 1



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

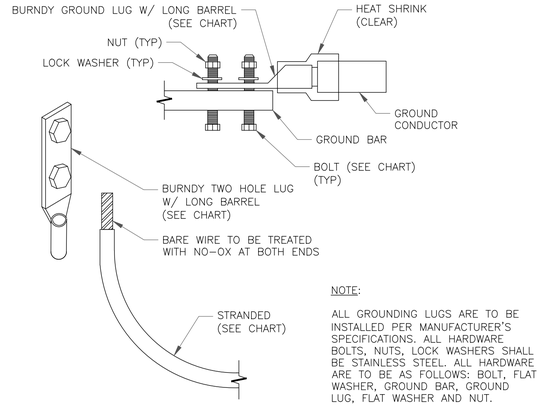


NOTES:

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

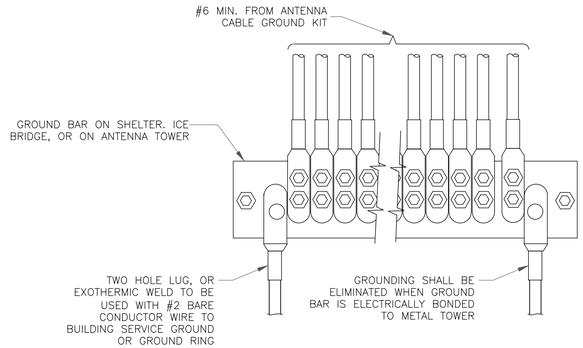
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" – 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" – 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" – 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" – 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" – 16 NC SS 2 BOLT



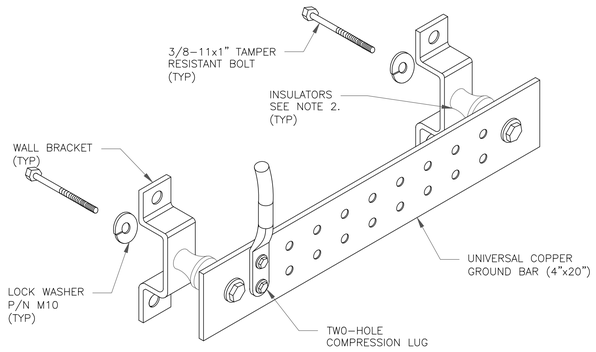
NOTE:

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.

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

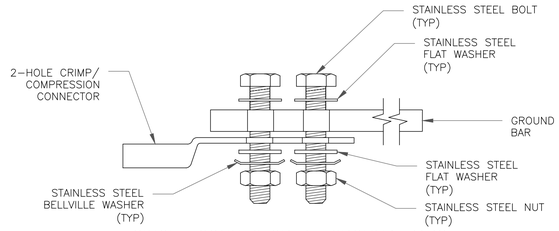


NOTES:

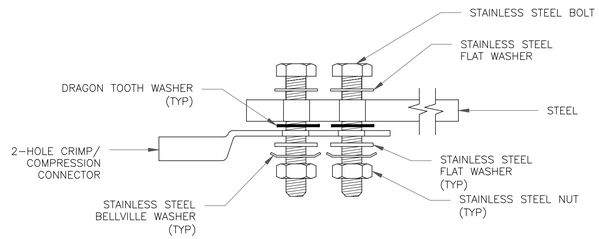
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

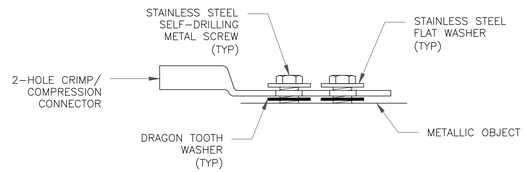
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

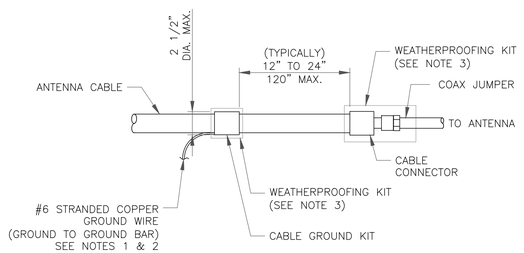


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

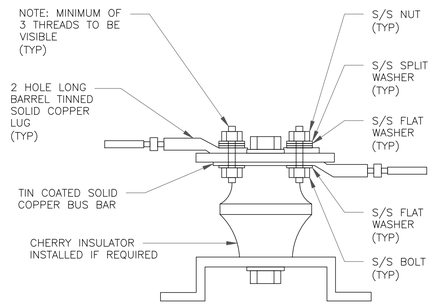
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



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.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351
TEP JOB #: 25663.946311

VERIZON SITE NUMBER:
5000180082

BU #: **876331**
CROWN CASTLE SITE NAME
NEW BRITAIN GRAVEL PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	04/12/24	SKK	CONSTRUCTION	SBS
1	05/29/24	SKK	CONSTRUCTION	SBS

05/29/24

SHEET NUMBER: G-1

REVISION: 1

MOUNT MODIFICATION DRAWINGS
EXISTING 12.58' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 876331

CARRIER SITE NAME: NEW BRITAIN NW CT
CARRIER SITE NUMBER: 5000180082
FUZE ID: 16232009

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

LATITUDE: 41.67659000° N
LONGITUDE: 72.82141400° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 350.25'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.50 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_S = .195
LONG TERM MCER GROUND MOTION, S_1 = .055

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10222805
VZW MDG #: 5000180082
ANALYSIS DATE: 2/13/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

Colliers Engineering & Design

www.colliersengineering.com

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SCALE: AS SHOWN | JOB NUMBER: 21777239

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
1	2/13/2024	ISSUED FOR CONSTRUCTION	GA	DX
0	6/11/2021	ISSUED FOR CONSTRUCTION	JRF	PMA

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
02/19/2024
COLLIERS ENGINEERING & DESIGN CT, P.C.

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

SITE NAME:

NEW BRITAIN NW CT
5000180082

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: TITLE SHEET

SHEET NUMBER: ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
1		VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	291	291
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISON	H42-0501-06	STANDOFF CLAMP BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
					TOTAL:	945

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

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CT PE.0033733

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HARTFORD COUNTY

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STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
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SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. 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/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

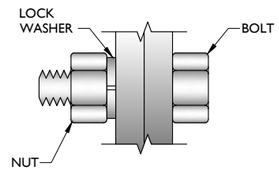
1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)				
BOLT DIAMETER	**STANDARD HOLE**	**SHORT SLOT**	**MIN. EDGE DISTANCE**	**SPACING**
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

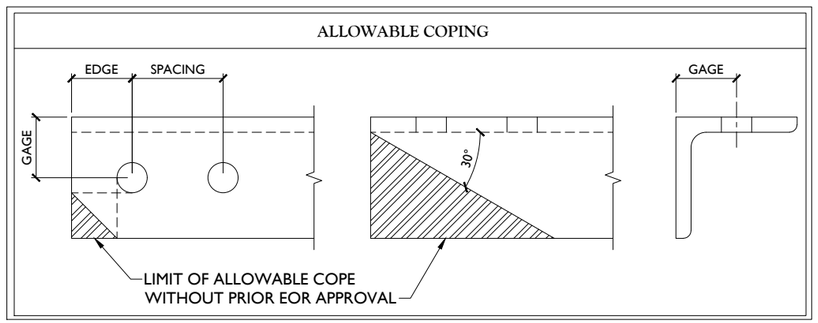
WORKABLE GAGES (IN.)	
LEG	**GAGE**
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.



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CERTIFICATE #0033733

SITE NAME:

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5000180082

115 NORTH MOUNTAIN ROAD
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HARTFORD COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
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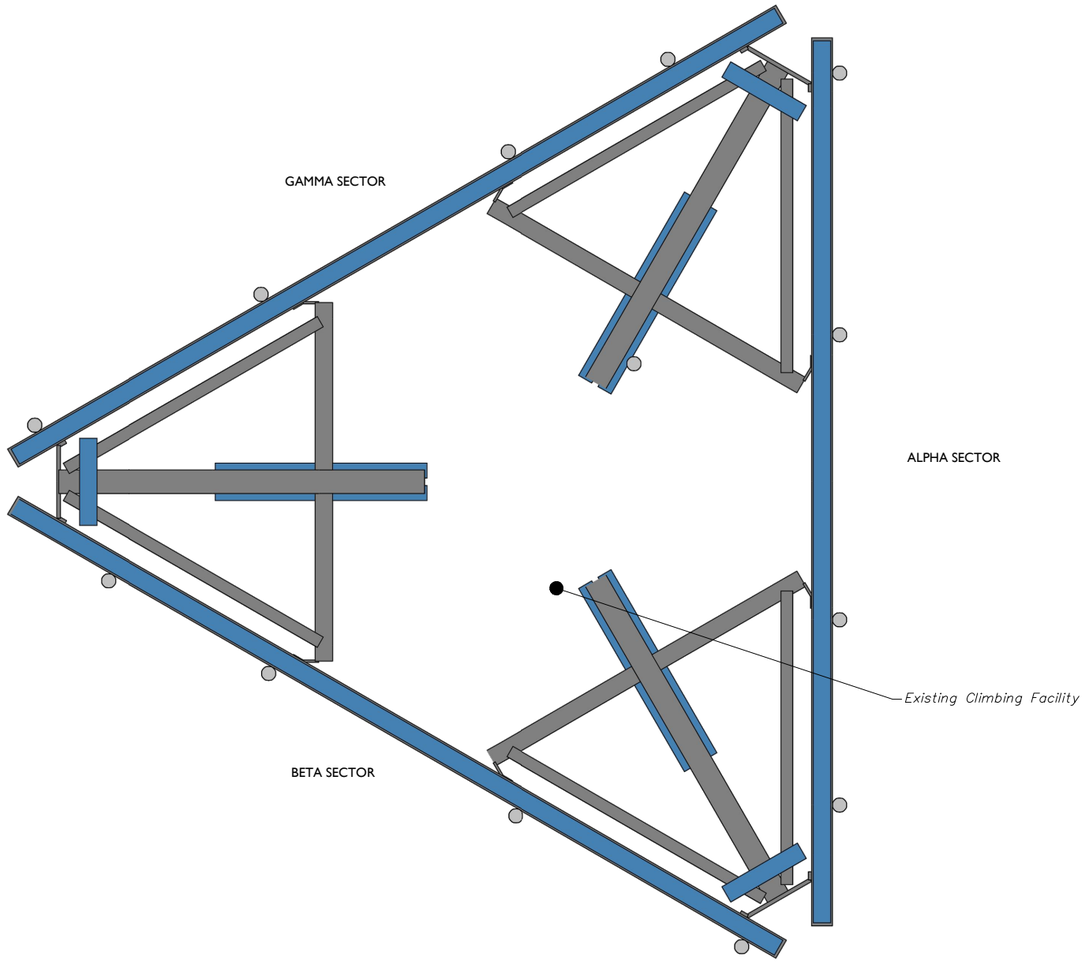
SHEET TITLE: GENERAL NOTES

SHEET NUMBER: SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



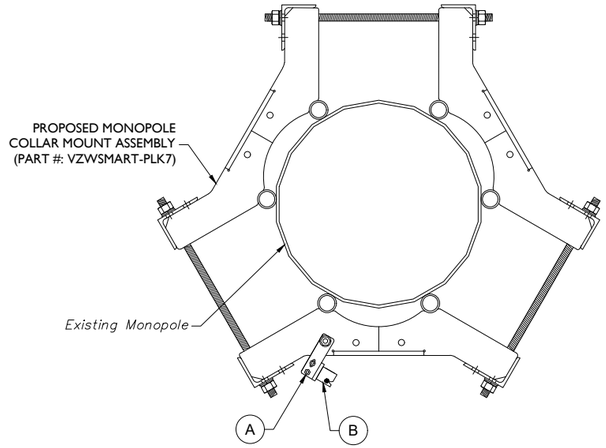
1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY ROAMING NETWORKS, INC. ON 3/30/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (89'-00") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.

2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

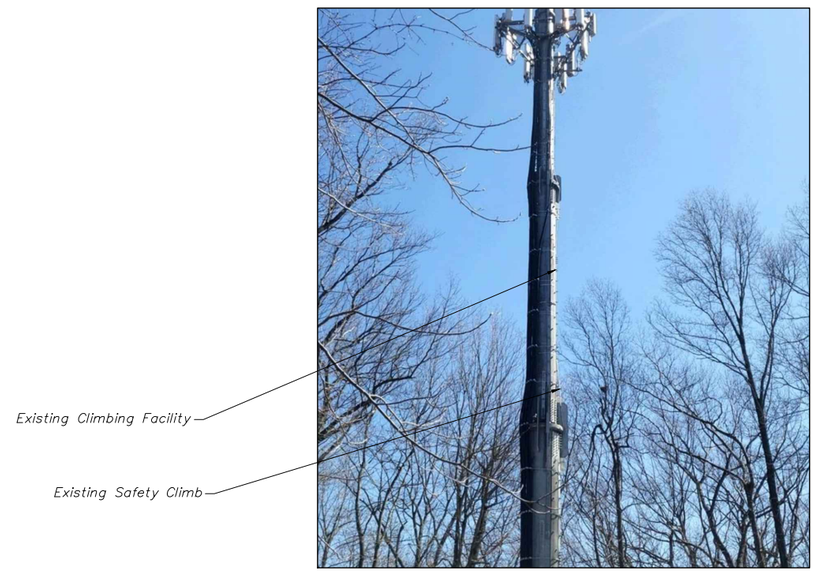


ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	H42-0501-06	STANDOFF CLAMP BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE : N.T.S.

NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.



CLIMBING FACILITY PHOTO

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE :	JOB NUMBER :
AS SHOWN	21777239

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	2/13/2024	ISSUED FOR CONSTRUCTION	GA	DX
0	6/11/2021	ISSUED FOR CONSTRUCTION	JRF	PMA

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
02/19/2024
COLLIERS ENGINEERING & DESIGN CT, P.C.
CERTIFICATE NO. PEC.0033731

SITE NAME:

NEW BRITAIN NW CT
5000180082

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
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SHEET TITLE :
CLIMBING FACILITY DETAIL

SHEET NUMBER :
SCF-1

LEGEND:

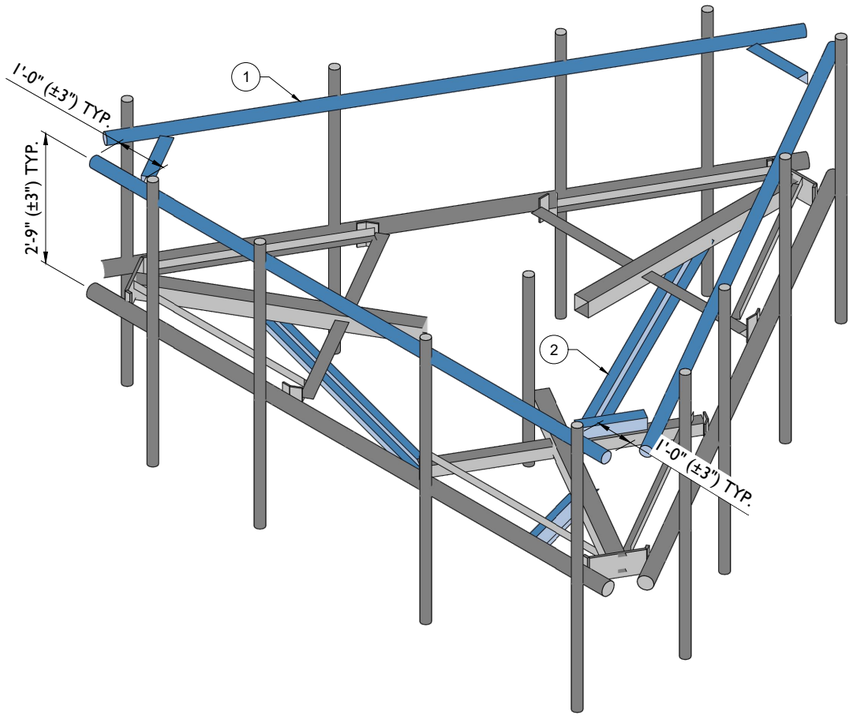
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	89'-00"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN.
2		1	PROPOSED KICKER KIT (PART #: VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.

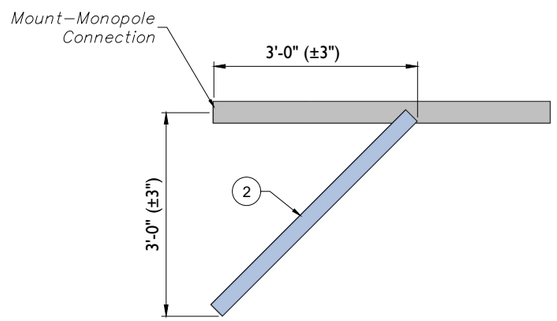
GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.

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SCALE :	JOB NUMBER :
AS SHOWN	21777239

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	2/13/2024	ISSUED FOR CONSTRUCTION	GA	DX
0	6/11/2021	ISSUED FOR CONSTRUCTION	JRF	PMA

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER

02/19/2024

COLLIERS ENGINEERING & DESIGN CT, P.C.
CERTIFICATE 0033733

SITE NAME:

NEW BRITAIN NW CT
5000180082

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

Colliers Engineering & Design

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1055 Washington Boulevard

Stamford, CT 06901
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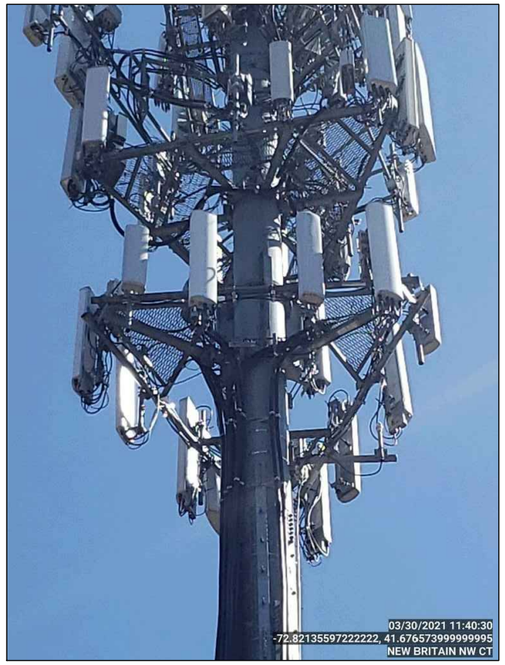
SHEET TITLE :

MODIFICATION DETAILS

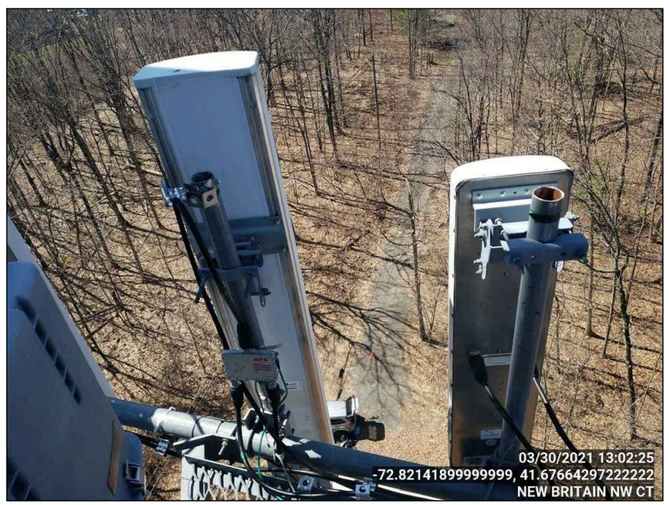
SHEET NUMBER :

SS-1



MOUNT PHOTO 1

MOUNT PHOTO 2



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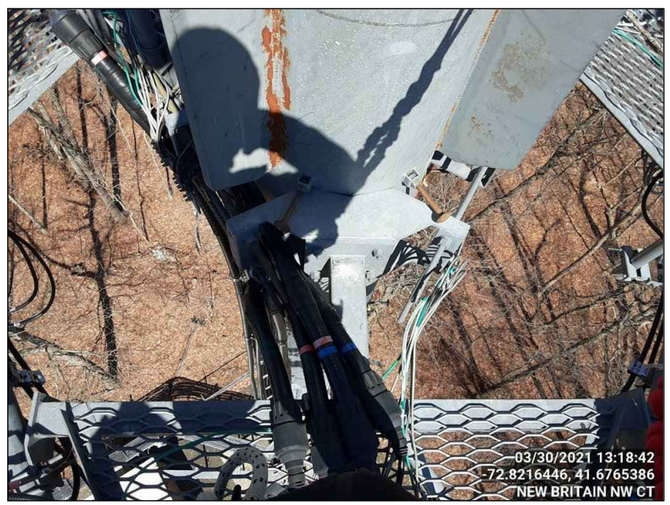

MOUNT PHOTO 4

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SCALE: AS SHOWN

JOB NUMBER: 21777239

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	2/13/2024	ISSUED FOR CONSTRUCTION	GA	DX
0	6/11/2021	ISSUED FOR CONSTRUCTION	JRF	PMA

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02/19/2024

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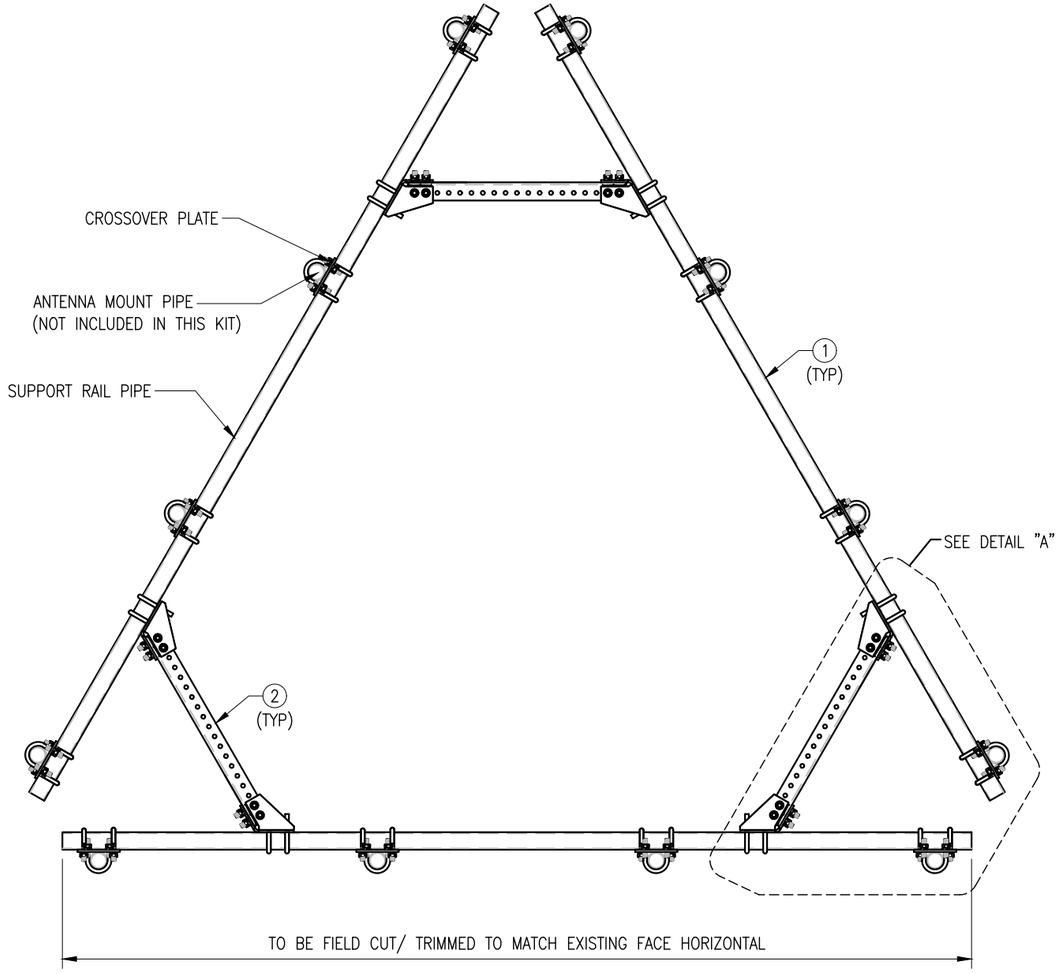
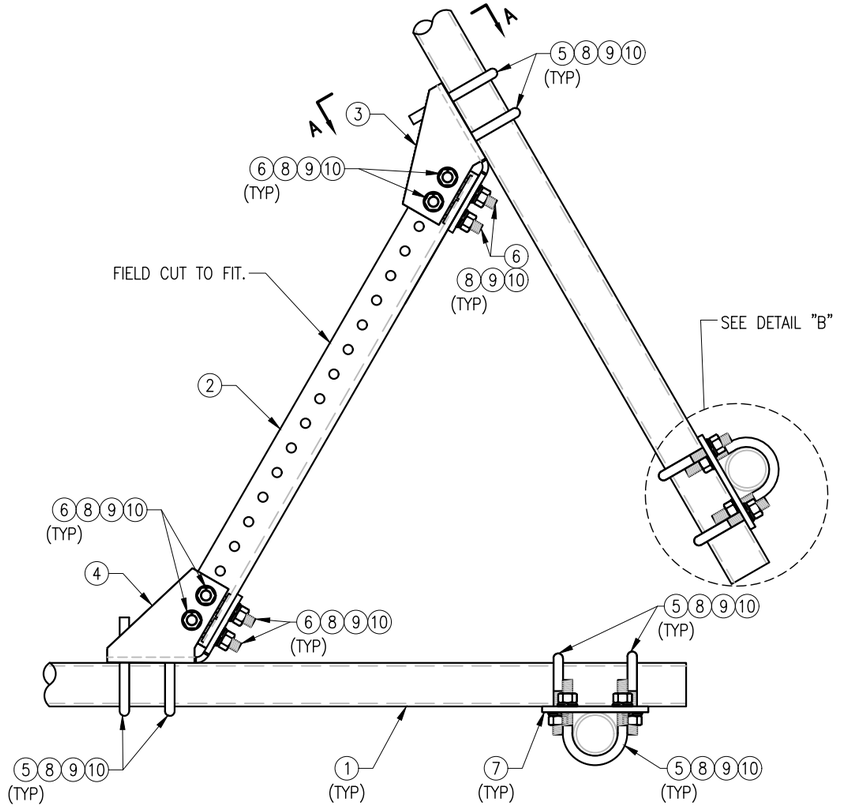
SHEET TITLE: MOUNT PHOTOS

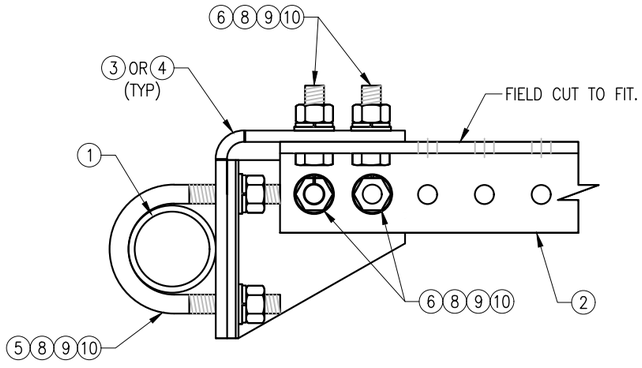
SHEET NUMBER: SS-2



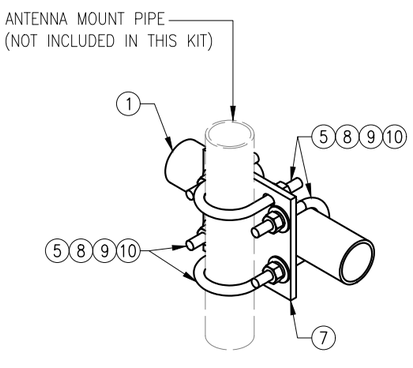
PLAN VIEW



DETAIL "A"



SECTION "A–A"



DETAIL "B"

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

VZW SMART–PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875–12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'–6" A53 GR–B	PLK1–F1	292
2	3	L33375–3	L 3" X 3" X 3/8" X 3'–0" A36	PLK1–F1	66
3	3	CBP–L	CORNER BENT PLATE BRACKET	PLK1–F2	28
4	3	CBP–R	CORNER BENT PLATE BRACKET	PLK1–F2	28
5	60	MS02–625–300–500	RU–BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC–1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375–857	PL 3/8" X 8 1/2" X 7'–0" A36	PLK1–F3	77
8	144	FW–625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW–625	5/8" HDG LOCK WASHER	---	3
10	144	NUT–625	5/8" HDG HEX NUT	---	17
				GALVANIZED WT	504

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DRAWN BY: H.R | CHECKED BY: HMA

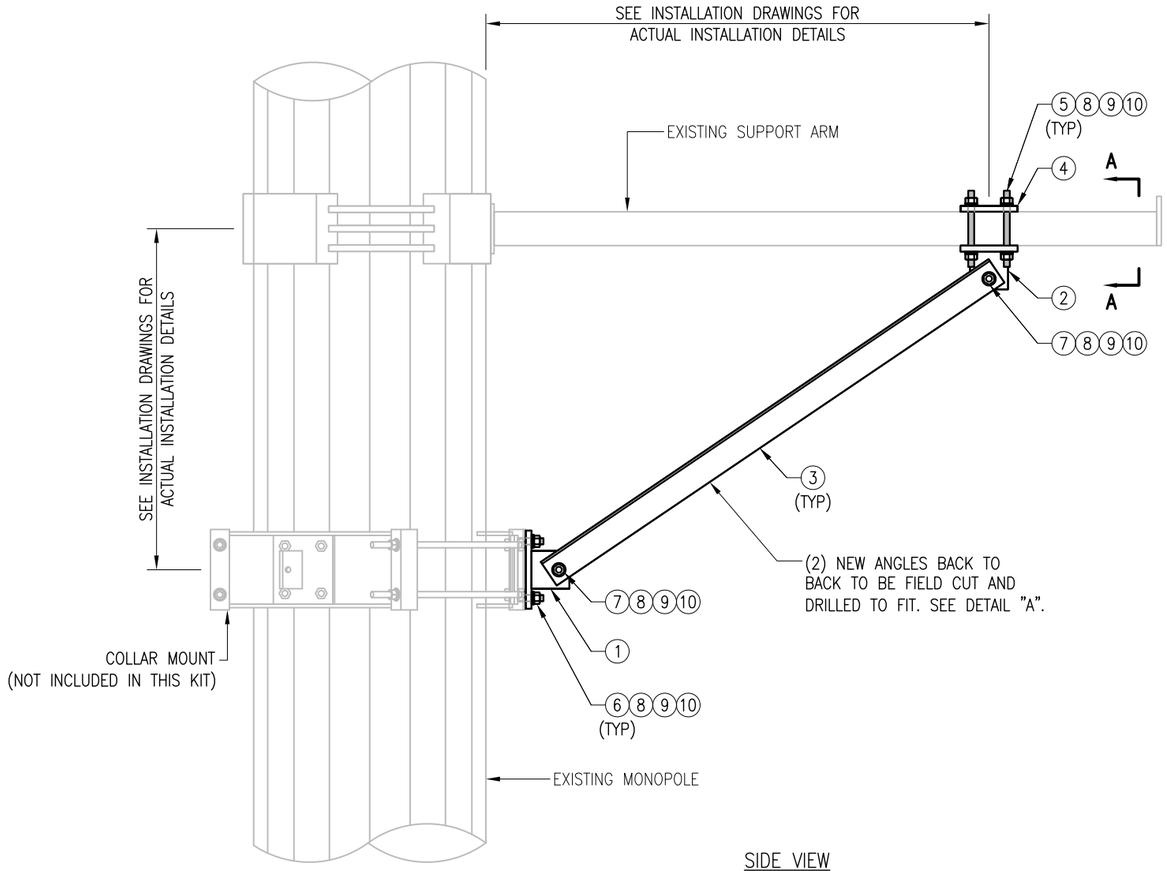
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
VZWSMART–PLK1
SUPPORT RAIL KIT

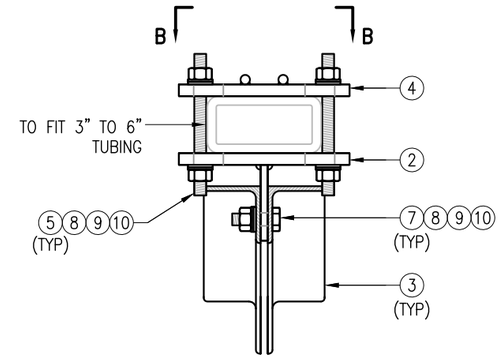
SHEET NUMBER: VZWSMART–PLK1

REV #: 0

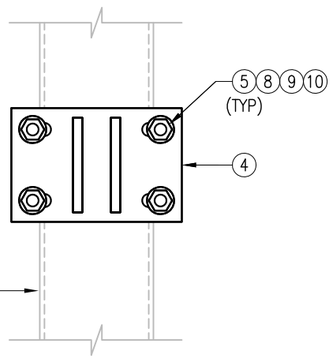
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



SIDE VIEW
KICKER KIT

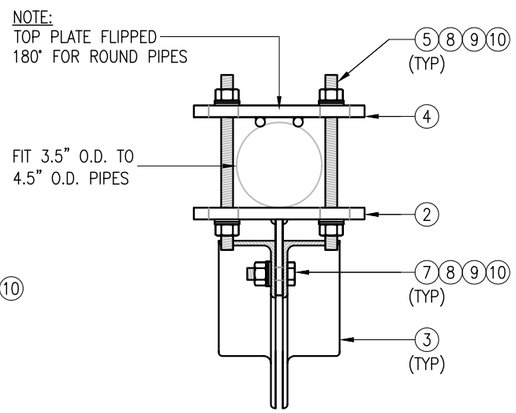


SECTION "A–A"
RECT. HSS MOUNTING

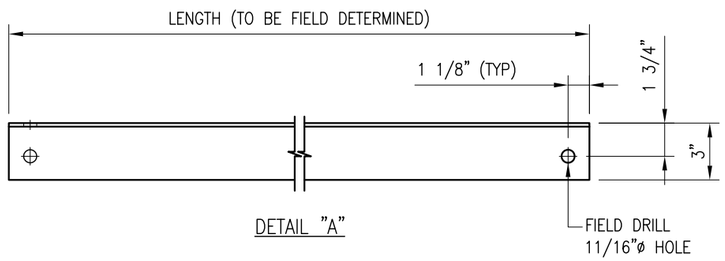


SECTION "B–B"

NOTE:
TOP PLATE FLIPPED 180° FOR ROUND PIPES



SECTION "A–A"
ROUND PIPE MOUNTING



DETAIL "A"

NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT–DIPPED GALVANIZED PER ASTM A123.
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE

VZWSMART–PLK5 (KICKER KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	BRKW–XXX	BRACKET WELDMENT A36	PLK5–F3	43.8
2	3	BRKW–XXXX	BRACKET WELDMENT A36	PLK5–F2	35.7
3	6	L331875–8	L 3" X 3" X 3/16" X 8'–0" A36	PLK5–F4	182.9
4	3	PL–KI	PL 5/8" X 6" X 9" A36	PLK5–F1	29.0
5	12	---	THREADED ROD 5/8" DIA. X 1'–0" F1554–36 HDG	---	--
6	6	---	BOLT 5/8" X 2" A325	---	--
7	12	---	BOLT 5/8" X 2 1/2" A325	---	--
8	42	FW–625	5/8" HDG USS FLAT WASHER	---	3
9	42	LW–625	5/8" HDG LOCK WASHER	---	1
10	42	NUT–625	5/8" HDG HEX NUT	---	5
				GALVANIZED WT	291

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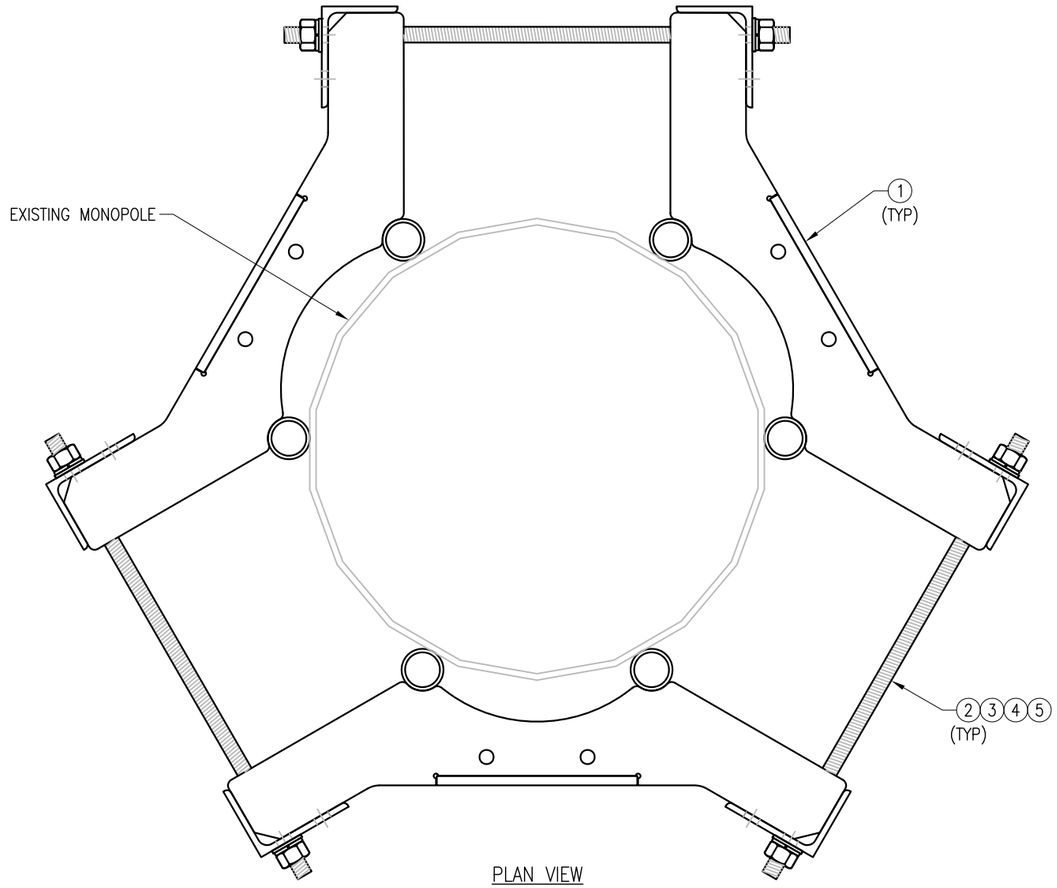
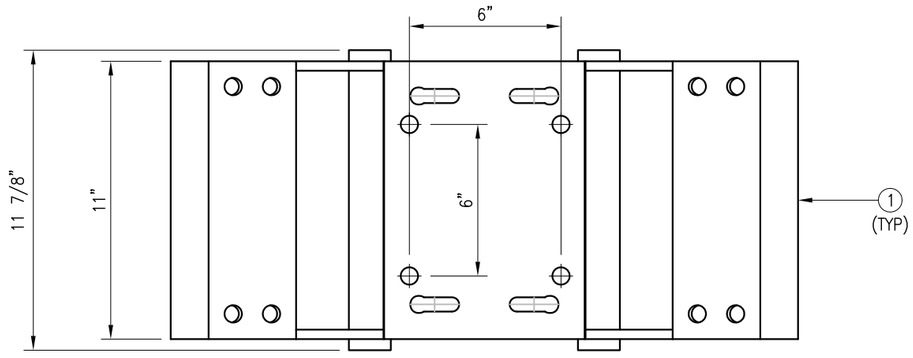
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	05/08/20

SHEET TITLE:
VZWSMART–PLK5
KICKER KIT

SHEET NUMBER: VZWSMART–PLK5
REV #: 0



PLAN VIEW
MONOPOLE COLLAR MOUNT ASSEMBLY



FRONT VIEW

NOTES:
1. FIT 12" TO 45" DIA MONOPOLE.
2. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	150

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	05/11/20

SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7

REV #: 0

EXHIBIT E

Structural Analysis Report

Date: **March 30, 2024**

Telamon
319 Chapanoke Road, Suite 118
Raleigh, NC 27603
(405) 348-5460

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Site Number:	5000180082
	Site Name:	New Britain NW CT
Crown Castle Designation:	**BU Number:**	876331
	Site Name:	NEW BRITAIN GRAVEL PIT
	JDE Job Number:	2109266
	Work Order Number:	2290286
	Order Number:	664144 Rev. 0
Engineering Firm Designation:	**Telamon Project Number:**	42285-876331-2290286-01-STR
Site Data:	**115 North Mountain Rd, NEW BRITAIN, Hartford County, CT**	
	Latitude *41° 40' 35.72"*, Longitude *-72° 49' 17.09"*	
	118 Foot - Monopole Tower	

Telamon 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 - 95.4%**

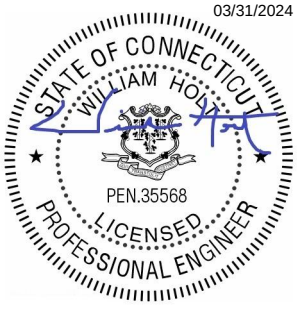
This analysis utilizes an ultimate 3-second gust wind speed of 117 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Neelkanth Khaire

Respectfully submitted by:

William Holt, P.E.
Director of Engineering & Site Development

03/31/2024



License No. 35568 Expires: 01/31/2025
Firm No. 2086 Expires: 01/18/2025

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 118 ft Monopole tower designed by Rohn. The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	117 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	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)
85.0	90.0	1	antel	BXA-70040-6CF-EDIN-2 w/ Mount Pipe	7	1-5/8
		2	antel	BXA-70063-6CF-2 w/ Mount Pipe		
		6	commscope	NHH-65B-R2B w/ Mount Pipe		
		1	raycap	RVZDC-6627-PF-48		
		3	samsung telecommunications	MT6413-77A w/ Mount Pipe		
		3	samsung telecommunications	RF4439D-25A		
		3	samsung telecommunications	RF4461D-13A		
		1	tower mounts	Platform Mount [LP303-1_KCKR-HR-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)
116.0	117.0	3	alcatel lucent	800MHZ 2X50W RRH W/FILTER	-	-
	116.0	1	tower mounts	Pipe Mount [PM 601-3]		
	113.0	3	alcatel lucent	PCS 1900MHZ 4X45W-65MHZ		
114.0	116.0	3	alcatel lucent	TD-RRH8X20-25	4 1	1-1/4 1/2
		1	rfs celwave	APXV9ERR18-C-A20 w/ Mount Pipe		
		2	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe		
		1	Andrew	VHLP1-23		
		1	samsung telecommunications	WIMAX DAP HEAD		
	114.0	1	tower mounts	Platform Mount [LP 502-1]		
108.0	108.0	1	tower mounts	Platform Mount [LP 303-1_KCKR-HR-1]	6 3	7/8 1-5/8
		3	commscope	SDX1926Q-43		
		3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe		
		3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	ericsson	RRUS 4415 B25		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
98.0	100.0	2	cci antennas	DMP65R-BU6D w/ Mount Pipe	9 2 2 1	7/8 13/16 3/8 Conduit
		1	cci antennas	DMP65R-BU8D w/ Mount Pipe		
		2	cci antennas	TPA65R-BU6D_CCIV2 w/ Mount Pipe		
		1	cci antennas	TPA65R-BU8D_CCIV2 w/ Mount Pipe		
		3	ericsson	AIR 6419 B77G w/ Mount Pipe		
		3	ericsson	AIR 6449 B77D w/ Mount Pipe		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14_CCIV2		
		3	ericsson	RRUS 8843 B2/B66A_CCIV2		
		1	raycap	DC9-48-60-24-8C-EV		
	98.0	1	raycap	DC6-48-60-18-8F		
		1	tower mounts	Miscellaneous [NA 507-1]		
		1	tower mounts	Platform Mount [LP 712-1]		
80.0	81.0	1	lucent	KS24019-L112A	1	1/2
	80.0	1	tower mounts	Side Arm Mount [SO 701-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
58.0	62.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
	59.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
	58.0	1	commscope	MC-PK8-DSH Platform Mount		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1947809	CCISITES
4-GEOTECHNICAL REPORTS	2192549	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2268906	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3259703	CCISITES
4-POST-MODIFICATION INSPECTION	3684848	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4858411	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5371260	CCISITES
4-POST-MODIFICATION INSPECTION	5407775	CCISITES
4-POST-MODIFICATION INSPECTION	5596857	CCISITES
4-TOWER MANUFACTURER DRAWINGS	5875885	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5907683	CCISITES
4-POST-MODIFICATION INSPECTION	6131239	CCISITES

3.1) Analysis Method

tnxTower (version 8.2.4.3), 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 presented 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. Telamon 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	118 - 113	Pole	TP24x24x0.25	Pole	2.3%	Pass
L2	113 - 108	Pole	TP24x24x0.25	Pole	6.7%	Pass
L3	108 - 103	Pole	TP24x24x0.25	Pole	16.7%	Pass
L4	103 - 98	Pole	TP24x24x0.25	Pole	26.3%	Pass
L5	98 - 93	Pole	TP24x24x0.25	Pole	45.2%	Pass
L6	93 - 90	Pole	TP24x24x0.25	Pole	55.1%	Pass
L7	90 - 85	Pole	TP24x24x0.375	Pole	46.0%	Pass
L8	85 - 80	Pole	TP24x24x0.375	Pole	62.1%	Pass
L9	80 - 76.5	Pole	TP24x24x0.375	Pole	72.1%	Pass
L10	76.5 - 76.25	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	52.4%	Pass
L11	76.25 - 74	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	57.0%	Pass
L12	74 - 73.75	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	56.5%	Pass
L13	73.75 - 68.88	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	66.7%	Pass
L14	68.88 - 68.63	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	68.8%	Pass
L15	68.63 - 64.5	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	77.8%	Pass
L16	64.5 - 64.25	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	67.4%	Pass
L17	64.25 - 63	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	69.8%	Pass
L18	63 - 62.75	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	72.5%	Pass
L19	62.75 - 60	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	78.0%	Pass
L20	60 - 59.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	49.4%	Pass
L21	59.75 - 54.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	56.8%	Pass
L22	54.75 - 49.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	64.6%	Pass
L23	49.75 - 49.25	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	65.3%	Pass
L24	49.25 - 49	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	60.2%	Pass
L25	49 - 44	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	67.4%	Pass
L26	44 - 42	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	70.4%	Pass
L27	42 - 41.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	62.2%	Pass
L28	41.75 - 36.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	68.8%	Pass
L29	36.75 - 34.5	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	71.8%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L30	34.5 - 34.25	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	64.1%	Pass
L31	34.25 - 34	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	64.4%	Pass
L32	34 - 33.75	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	72.5%	Pass
L33	33.75 - 30	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	77.6%	Pass
L34	30 - 29.75	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	70.2%	Pass
L35	29.75 - 28.5	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	71.8%	Pass
L36	28.5 - 28.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	59.6%	Pass
L37	28.25 - 23.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	64.9%	Pass
L38	23.25 - 23	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	60.9%	Pass
L39	23 - 21.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	62.4%	Pass
L40	21.5 - 21.25	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	75.0%	Pass
L41	21.25 - 19	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	77.7%	Pass
L42	19 - 18.75	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	65.8%	Pass
L43	18.75 - 18.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	66.1%	Pass
L44	18.5 - 18.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	67.8%	Pass
L45	18.25 - 13.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	73.1%	Pass
L46	13.25 - 12.7	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	73.7%	Pass
L47	12.7 - 12.45	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	76.8%	Pass
L48	12.45 - 11.5	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	77.9%	Pass
L49	11.5 - 11.25	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	68.9%	Pass
L50	11.25 - 10.5	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	69.6%	Pass
L51	10.5 - 10.25	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	65.6%	Pass
L52	10.25 - 7.5	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	68.2%	Pass
L53	7.5 - 7.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	66.0%	Pass
L54	7.25 - 6.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	66.9%	Pass
L55	6.25 - 6	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	67.2%	Pass
L56	6 - 3.83	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	69.2%	Pass
L57	3.83 - 3.58	Pole + Reinf.	TP36x36x1.75	Reinf. 24 Compression	57.9%	Pass
L58	3.58 - 3.33	Pole + Reinf.	TP36x36x1.75	Reinf. 24 Compression	58.1%	Pass
L59	3.33 - 2.75	Pole + Reinf.	TP36x36x1.75	Reinf. 24 Compression	58.6%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L60	2.75 - 2.5	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	62.8%	Pass
L61	2.5 - 2	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	63.2%	Pass
L62	2 - 1.75	Pole + Reinf.	TP36x36x1.45	Reinf. 24 Compression	70.5%	Pass
L63	1.75 - 0	Pole + Reinf.	TP36x36x1.45	Reinf. 24 Compression	72.1%	Pass
					Summary	
				Pole	72.8%	Pass
				Reinforcement	78.0%	Pass
				Overall	78.0%	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Bolts	90	8.2	Pass
1	Flange Plate		9.9	Pass
1	Bridge Stiffeners		19.8	Pass
1	Flange Bolts	60	17.1	Pass
1	Flange Plate		34.8	Pass
1	Bridge Stiffeners		38.0	Pass
1	Flange Bolts	30	22.8	Pass
1	Flange Plate		51.3	Pass
1	Bridge Stiffeners		50.4	Pass
1	Anchor Rods	0	84.7	Pass
1	Base Plate	0	55.3	Pass
1	Base Foundation (Structure)	0	95.4	Pass
1	Base Foundation (Soil Interaction)	0	9.9	Pass

Structure Rating (max from all components) =	**95.4%**

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

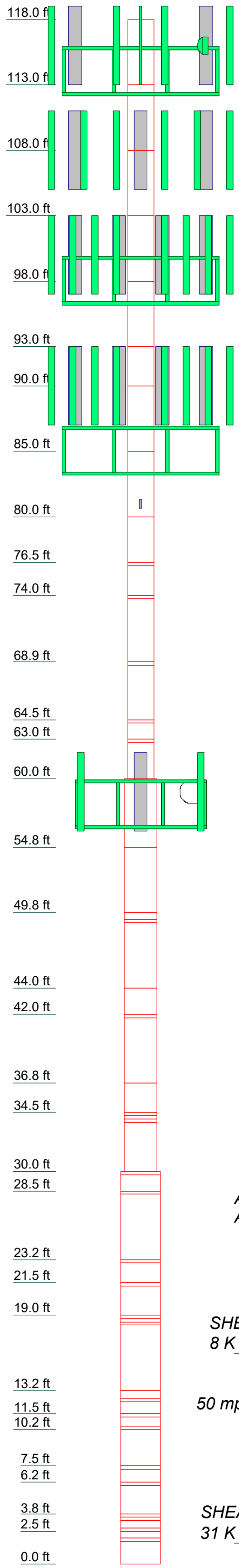
4.1) Recommendations

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	Size	Length (ft)	Grade	Weight (K)
1	P24x0.25	5.000		0.3
2	P24x0.25	5.000		0.3
3	P24x0.25	5.000		0.3
4	P24x0.25	5.000		0.3
5	P24x0.25	5.000		0.3
6	P24x0.25	3.000		0.2
7	P24x0.375	5.000		0.5
8	P24x0.375	5.000		0.5
9	[illegible]	[illegible]		0.3
10–12	[illegible]	[illegible]		[illegible]
13	[illegible]	4.870		1.0
14	[illegible]	[illegible]		0.0
15	[illegible]	4.130		0.6
16–20	[illegible]	[illegible]	A572-42	[illegible]
21	[illegible]	5.000		1.1
22	[illegible]	5.000		1.1
23–24	[illegible]	[illegible]		[illegible]
25	[illegible]	5.000		1.2
26–27	[illegible]	[illegible]		[illegible]
28	[illegible]	5.000		1.4
29–36	[illegible]	[illegible]		[illegible]
37	[illegible]	5.000		1.6
38–44	[illegible]	[illegible]		[illegible]
45	[illegible]	5.000		1.6
46–63	[illegible]	[illegible]		[illegible]
				24.2



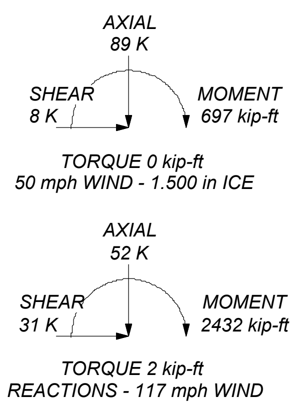
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-42	42 ksi	60 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 117 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 0.000 ft
8. TOWER RATING: 78.0%

ALL REACTIONS ARE FACTORED



Telamon 319 Chapanoke Rd, Sute 118 Raleigh, NC 27603 Phone: (405) 348-5460 FAX: (405) 341-6334	Job: **BU #876331 - NEW BRITAIN GRAVEL PIT**
	Project: **42285-876331-2290286-01-STR**
	Client: Crown Castle — Drawn by: RSR — App'd:
	Code: TIA-222-H — Date: 03/29/24 — Scale: NTS
	Path: — Dwg No. E-1

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 Hartford County, Connecticut.
- Tower base elevation above sea level: 350.000 ft.
- Basic wind speed of 117 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- Nominal ice thickness of 1.500 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.000 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50.000 °F.
- Deflections calculated using a wind speed of 60 mph.
- TOWER RATING: 78.0%.
- 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		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Horizontals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Consider Moments - Diagonals	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
	Use Moment Magnification		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Stress Ratios		Retension Guys To Initial Tension		Offset Girt At Foundation
√	Use Code Safety Factors - Guys	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Escalate Ice	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Always Use Max Kz	√	Project Wind Area of Appurtenances		Use TIA-222-H Bracing Resist. Exemption
	Use Special Wind Profile	√	Alternative Appurt. EPA Calculation		Use TIA-222-H Tension Splice Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Poles
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination	√	Include Shear-Torsion Interaction
	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Always Use Sub-Critical Flow
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Use Top Mounted Sockets
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Pole Without Linear Attachments
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole With Shroud Or No Appurtenances
	Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules		Outside and Inside Corner Radii Are Known

Pole Section Geometry

Section	*Elevation* *ft*	*Section Length* *ft*	*Pole Size*	*Pole Grade*	*Socket Length* *ft*
L1	118.000-113.000	5.000	P24x0.25	A572-42 (42 ksi)	
L2	113.000-108.000	5.000	P24x0.25	A572-42 (42 ksi)	
L3	108.000-103.000	5.000	P24x0.25	A572-42	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L4	103.000-98.000	5.000	P24x0.25	(42 ksi) A572-42 (42 ksi)	
L5	98.000-93.000	5.000	P24x0.25	A572-42 (42 ksi)	
L6	93.000-90.000	3.000	P24x0.25	A572-42 (42 ksi)	
L7	90.000-85.000	5.000	P24x0.375	A572-42 (42 ksi)	
L8	85.000-80.000	5.000	P24x0.375	A572-42 (42 ksi)	
L9	80.000-76.500	3.500	P24x0.375	A572-42 (42 ksi)	
L10	76.500-76.250	0.250	P24x0.5875	A572-42 (42 ksi)	
L11	76.250-74.000	2.250	P24x0.5875	A572-42 (42 ksi)	
L12	74.000-73.750	0.250	P24x0.9	A572-42 (42 ksi)	
L13	73.750-68.880	4.870	P24x0.9	A572-42 (42 ksi)	
L14	68.880-68.630	0.250	P24x0.575	A572-42 (42 ksi)	
L15	68.630-64.500	4.130	P24x0.575	A572-42 (42 ksi)	
L16	64.500-64.250	0.250	P24x1.05	A572-42 (42 ksi)	
L17	64.250-63.000	1.250	P24x1.05	A572-42 (42 ksi)	
L18	63.000-62.750	0.250	P24x1	A572-42 (42 ksi)	
L19	62.750-60.000	2.750	P24x1	A572-42 (42 ksi)	
L20	60.000-59.750	0.250	P30x0.675	A572-42 (42 ksi)	
L21	59.750-54.750	5.000	P30x0.675	A572-42 (42 ksi)	
L22	54.750-49.750	5.000	P30x0.675	A572-42 (42 ksi)	
L23	49.750-49.250	0.500	P30x0.675	A572-42 (42 ksi)	
L24	49.250-49.000	0.250	P30x0.875	A572-42 (42 ksi)	
L25	49.000-44.000	5.000	P30x0.875	A572-42 (42 ksi)	
L26	44.000-42.000	2.000	P30x0.875	A572-42 (42 ksi)	
L27	42.000-41.750	0.250	P30x1	A572-42 (42 ksi)	
L28	41.750-36.750	5.000	P30x1	A572-42 (42 ksi)	
L29	36.750-34.500	2.250	P30x1	A572-42 (42 ksi)	
L30	34.500-34.250	0.250	P30x1.05	A572-42 (42 ksi)	
L31	34.250-34.000	0.250	P30x1.05	A572-42 (42 ksi)	
L32	34.000-33.750	0.250	P30x0.95	A572-42 (42 ksi)	
L33	33.750-30.000	3.750	P30x0.95	A572-42 (42 ksi)	
L34	30.000-29.750	0.250	P36x0.7	A572-42 (42 ksi)	
L35	29.750-28.500	1.250	P36x0.7	A572-42 (42 ksi)	
L36	28.500-28.250	0.250	P36x0.8375	A572-42 (42 ksi)	
L37	28.250-23.250	5.000	P36x0.8375	A572-42 (42 ksi)	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L38	23.250-23.000	0.250	P36x0.975	A572-42 (42 ksi)	
L39	23.000-21.500	1.500	P36x0.975	A572-42 (42 ksi)	
L40	21.500-21.250	0.250	P36x0.825	A572-42 (42 ksi)	
L41	21.250-19.000	2.250	P36x0.825	A572-42 (42 ksi)	
L42	19.000-18.750	0.250	P36x0.975	A572-42 (42 ksi)	
L43	18.750-18.500	0.250	P36x0.975	A572-42 (42 ksi)	
L44	18.500-18.250	0.250	P36x0.925	A572-42 (42 ksi)	
L45	18.250-13.250	5.000	P36x0.925	A572-42 (42 ksi)	
L46	13.250-12.700	0.550	P36x0.925	A572-42 (42 ksi)	
L47	12.700-12.450	0.250	P36x0.9	A572-42 (42 ksi)	
L48	12.450-11.500	0.950	P36x0.9	A572-42 (42 ksi)	
L49	11.500-11.250	0.250	P36x0.9	A572-42 (42 ksi)	
L50	11.250-10.500	0.750	P36x0.9	A572-42 (42 ksi)	
L51	10.500-10.250	0.250	P36x1.325	A572-42 (42 ksi)	
L52	10.250-7.500	2.750	P36x1.325	A572-42 (42 ksi)	
L53	7.500-7.250	0.250	P36x1.4	A572-42 (42 ksi)	
L54	7.250-6.250	1.000	P36x1.4	A572-42 (42 ksi)	
L55	6.250-6.000	0.250	P36x1.4	A572-42 (42 ksi)	
L56	6.000-3.830	2.170	P36x1.4	A572-42 (42 ksi)	
L57	3.830-3.580	0.250	P36x1.75	A572-42 (42 ksi)	
L58	3.580-3.330	0.250	P36x1.75	A572-42 (42 ksi)	
L59	3.330-2.750	0.580	P36x1.75	A572-42 (42 ksi)	
L60	2.750-2.500	0.250	P36x1.675	A572-42 (42 ksi)	
L61	2.500-2.000	0.500	P36x1.675	A572-42 (42 ksi)	
L62	2.000-1.750	0.250	P36x1.45	A572-42 (42 ksi)	
L63	1.750-0.000	1.750	P36x1.45	A572-42 (42 ksi)	

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	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
L1 118.000-113.000				1	1	1			
L2 113.000-108.000				1	1	1			
L3 108.000-103.000				1	1	1			
L4 103.000-98.000				1	1	1			
L5 98.000-				1	1	1			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	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
93.000									
L6 93.000-90.000				1	1	1			
L7 90.000-85.000				1	1	1			
L8 85.000-80.000				1	1	1			
L9 80.000-76.500				1	1	1			
L10 76.500-76.250				1	1	0.956504			
L11 76.250-74.000				1	1	0.956504			
L12 74.000-73.750				1	1	0.938319			
L13 73.750-68.880				1	1	0.938319			
L14 68.880-68.630				1	1	0.976776			
L15 68.630-64.500				1	1	0.976776			
L16 64.500-64.250				1	1	0.928414			
L17 64.250-63.000				1	1	0.928414			
L18 63.000-62.750				1	1	0.941576			
L19 62.750-60.000				1	1	0.941576			
L20 60.000-59.750				1	1	1.03516			
L21 59.750-54.750				1	1	1.03516			
L22 54.750-49.750				1	1	1.03516			
L23 49.750-49.250				1	1	1.03516			
L24 49.250-49.000				1	1	0.878975			
L25 49.000-44.000				1	1	0.878975			
L26 44.000-42.000				1	1	0.878975			
L27 42.000-41.750				1	1	0.871204			
L28 41.750-36.750				1	1	0.871204			
L29 36.750-34.500				1	1	0.871204			
L30 34.500-34.250				1	1	0.925395			
L31 34.250-34.000				1	1	0.925395			
L32 34.000-33.750				1	1	0.915478			
L33 33.750-30.000				1	1	0.915478			
L34 30.000-29.750				1	1	1.02978			
L35 29.750-28.500				1	1	1.02978			
L36 28.500-28.250				1	1	1.01			
L37 28.250-23.250				1	1	1.01			
L38 23.250-23.000				1	1	0.982823			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	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
L39 23.000-21.500				1	1	0.982823			
L40 21.500-21.250				1	1	1.00849			
L41 21.250-19.000				1	1	1.00849			
L42 19.000-18.750				1	1	0.982823			
L43 18.750-18.500				1	1	0.982823			
L44 18.500-18.250				1	1	0.951079			
L45 18.250-13.250				1	1	0.951079			
L46 13.250-12.700				1	1	0.951079			
L47 12.700-12.450				1	1	0.98184			
L48 12.450-11.500				1	1	0.98184			
L49 11.500-11.250				1	1	1.07001			
L50 11.250-10.500				1	1	1.07001			
L51 10.500-10.250				1	1	0.839628			
L52 10.250-7.500				1	1	0.839628			
L53 7.500-7.250				1	1	0.829373			
L54 7.250-6.250				1	1	0.829373			
L55 6.250-6.000				1	1	0.829373			
L56 6.000-3.830				1	1	0.829373			
L57 3.830-3.580				1	1	0.704621			
L58 3.580-3.330				1	1	0.704621			
L59 3.330-2.750				1	1	0.704621			
L60 2.750-2.500				1	1	0.668126			
L61 2.500-2.000				1	1	0.668126			
L62 2.000-1.750				1	1	0.680998			
L63 1.750-0.000				1	1	0.680998			

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 klf
*										
LDF7-50A(1-5/8)	A	No	Surface Ar (CaAa)	85.000 - 0.000	6	6	0.050 0.340	1.980		0.001
MLC HYBRID 6X12 LI(1-1/2)	A	No	Surface Ar (CaAa)	85.000 - 0.000	1	1	0.300 0.350	1.550		0.002
*										

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 klf
LDF4-50A(1/2)	B	No	Surface Ar (CaAa)	80.000 - 0.000	1	1	0.320 0.320	0.625		0.000
*										
CU12PSM9P6XXX(1-1/2)	A	No	Surface Ar (CaAa)	58.000 - 0.000	1	1	-0.450 -0.450	1.600		0.002
*										
*										
Bent PL 10"x1"	A	No	Surface Af (CaAa)	30.000 - 1.750	1	1	0.000 0.050	10.000	22.000	0.000
Bent PL 10"x1"	B	No	Surface Af (CaAa)	30.000 - 1.750	1	1	-0.050 0.000	10.000	22.000	0.000
Bent PL 10"x1"	C	No	Surface Af (CaAa)	30.000 - 1.750	1	1	0.000 0.050	10.000	22.000	0.000
*										
Bent PL 10"x1"	A	No	Surface Af (CaAa)	60.000 - 30.000	1	1	0.000 0.050	10.000	22.000	0.000
Bent PL 10"x1"	B	No	Surface Af (CaAa)	60.000 - 30.000	1	1	-0.050 0.000	10.000	22.000	0.000
Bent PL 10"x1"	C	No	Surface Af (CaAa)	60.000 - 30.000	1	1	0.000 0.050	10.000	22.000	0.000
*										
Bent PL 9"x0.75"	A	No	Surface Af (CaAa)	75.000 - 60.000	1	1	0.000 0.050	9.000	19.500	0.000
Bent PL 9"x0.75"	B	No	Surface Af (CaAa)	75.000 - 60.000	1	1	-0.050 0.000	9.000	19.500	0.000
Bent PL 9"x0.75"	C	No	Surface Af (CaAa)	75.000 - 60.000	1	1	0.000 0.050	9.000	19.500	0.000
*										
MS-450 (4.5" x 1" Plate)	A	No	Surface Af (CaAa)	20.500 - 0.000	1	1	0.300 0.350	4.500	11.000	0.000
MS-450 (4.5" x 1" Plate)	B	No	Surface Af (CaAa)	20.500 - 0.000	1	1	0.300 0.350	4.500	11.000	0.000
MS-450 (4.5" x 1" Plate)	C	No	Surface Af (CaAa)	20.500 - 0.000	1	1	0.300 0.350	4.500	11.000	0.000
*										
MS-400 (4" x 0.75" Plate)	A	No	Surface Af (CaAa)	35.500 - 30.500	1	1	0.200 0.250	4.000	9.500	0.000
MS-400 (4" x 0.75" Plate)	B	No	Surface Af (CaAa)	35.500 - 30.500	1	1	0.300 0.350	4.000	9.500	0.000
MS-400 (4" x 0.75" Plate)	C	No	Surface Af (CaAa)	35.500 - 30.500	1	1	0.300 0.350	4.000	9.500	0.000
*										
MS-400 (4" x 0.75" Plate)	A	No	Surface Af (CaAa)	65.500 - 60.500	1	1	0.300 0.350	4.000	9.500	0.000
MS-400 (4" x 0.75" Plate)	B	No	Surface Af (CaAa)	65.500 - 60.500	1	1	0.300 0.350	4.000	9.500	0.000
MS-400 (4" x 0.75" Plate)	C	No	Surface Af (CaAa)	65.500 - 60.500	1	1	0.300 0.350	4.000	9.500	0.000
*										
6" x 1" Plate	A	No	Surface Af (CaAa)	25.500 - 0.000	1	1	-0.500 -0.450	6.000	14.000	0.000
6" x 1" Plate	C	No	Surface Af (CaAa)	25.500 - 0.000	1	1	0.000 0.050	6.000	14.000	0.000
*										
4" x 0.75" Plate	A	No	Surface Af (CaAa)	43.000 - 33.000	1	1	-0.200 -0.150	4.000	9.500	0.000
4" x 0.75" Plate	B	No	Surface Af (CaAa)	43.000 - 33.000	1	1	-0.200 -0.150	4.000	9.500	0.000
4" x 0.75" Plate	C	No	Surface Af (CaAa)	43.000 - 33.000	1	1	-0.200 -0.150	4.000	9.500	0.000
*										
3.75" x 1" Plate	A	No	Surface Af (CaAa)	63.000 - 60.250	1	1	0.000 0.050	3.750	9.500	0.000
3.75" x 1" Plate	B	No	Surface Af (CaAa)	63.000 - 60.250	1	1	0.000 0.050	3.750	9.500	0.000
3.75" x 1" Plate	C	No	Surface Af (CaAa)	63.000 - 60.250	1	1	0.000 0.050	3.750	9.500	0.000
*										

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 klf
4.5" x 1" Plate	A	No	Surface Af (CaAa)	70.250 - 63.000	1	1	0.000 0.050	4.500	11.000	0.000
4.5" x 1" Plate	B	No	Surface Af (CaAa)	70.250 - 63.000	1	1	0.000 0.050	4.500	11.000	0.000
4.5" x 1" Plate	C	No	Surface Af (CaAa)	70.250 - 63.000	1	1	0.000 0.050	4.500	11.000	0.000
*										
4.5" x 1" Plate	A	No	Surface Af (CaAa)	29.542 - 19.500	1	1	-0.200 -0.150	4.500	11.000	0.000
4.5" x 1" Plate	B	No	Surface Af (CaAa)	30.000 - 20.000	1	1	-0.200 -0.150	4.500	11.000	0.000
4.5" x 1" Plate	C	No	Surface Af (CaAa)	30.000 - 20.000	1	1	-0.200 -0.150	4.500	11.000	0.000
*										
4" x 0.75" Plate	A	No	Surface Af (CaAa)	51.083 - 30.083	1	1	-0.500 -0.450	4.000	9.500	0.000
4" x 0.75" Plate	C	No	Surface Af (CaAa)	51.083 - 30.083	1	1	0.000 0.050	4.000	9.500	0.000
*										
4.5" x 1" Plate	A	No	Surface Af (CaAa)	29.500 - 17.000	1	1	0.000 0.050	4.500	11.000	0.000
4.5" x 1" Plate	C	No	Surface Af (CaAa)	29.500 - 17.000	1	1	0.000 0.050	4.500	11.000	0.000
*										
4.5" x 1" Plate	A	No	Surface Af (CaAa)	78.000 - 67.000	1	1	-0.200 -0.150	4.500	11.000	0.000
4.5" x 1" Plate	B	No	Surface Af (CaAa)	78.000 - 67.000	1	1	-0.200 -0.150	4.500	11.000	0.000
4.5" x 1" Plate	C	No	Surface Af (CaAa)	78.000 - 67.000	1	1	-0.200 -0.150	4.500	11.000	0.000
*										
7" x 1.25" Plate	B	No	Surface Af (CaAa)	14.875 - 5.875	1	1	-0.500 -0.450	7.000	16.500	0.000
*										
**										
**										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF4-50A(1/2)	B	No	No	Inside Pole	114.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
HB114-1-08U4-M5J(1-1/4)	B	No	No	Inside Pole	114.000 - 0.000	3	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
HB114-21U3M12-XXXF(1-1/4)	B	No	No	Inside Pole	114.000 - 0.000	1	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
*									
AL5-50(7/8)	B	No	No	Inside Pole	108.000 - 0.000	6	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
HCS 6X12 4AWG(1-5/8)	B	No	No	Inside Pole	108.000 - 0.000	1	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
							2" Ice	0.000	0.002
MLE HYBRID	B	No	No	Inside Pole	108.000 -	1	No Ice	0.000	0.001

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
9POWER/18FIBER RL 2(1-5/8)					0.000		1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
HCS 6X12 4AWG(1-5/8)	B	No	No	Inside Pole	108.000 - 0.000	1	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
							2" Ice	0.000	0.002
*									
LDF5-50A(7/8)	C	No	No	Inside Pole	98.000 - 0.000	6	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	98.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
PWRT-608-S(13/16")	C	No	No	Inside Pole	98.000 - 0.000	2	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
PWRT-606-S(7/8)	C	No	No	Inside Pole	98.000 - 0.000	3	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
FB-L98B-235-XXX(3/8)	C	No	No	Inside Pole	98.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
2" Rigid Conduit	C	No	No	Inside Pole	98.000 - 0.000	1	No Ice	0.000	0.003
							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003
							2" Ice	0.000	0.003
*									
**									
**									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	118.000-113.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.005
		C	0.000	0.000	0.000	0.000	0.000
L2	113.000-108.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.026
		C	0.000	0.000	0.000	0.000	0.000
L3	108.000-103.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.064
		C	0.000	0.000	0.000	0.000	0.000
L4	103.000-98.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.064
		C	0.000	0.000	0.000	0.000	0.000
L5	98.000-93.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.064
		C	0.000	0.000	0.000	0.000	0.044
L6	93.000-90.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.038
		C	0.000	0.000	0.000	0.000	0.026
L7	90.000-85.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.064
		C	0.000	0.000	0.000	0.000	0.044

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L8	85.000-80.000	A	0.000	0.000	6.715	0.000	0.034
		B	0.000	0.000	0.000	0.000	0.064
		C	0.000	0.000	0.000	0.000	0.044
L9	80.000-76.500	A	0.000	0.000	5.825	0.000	0.024
		B	0.000	0.000	1.344	0.000	0.045
		C	0.000	0.000	1.125	0.000	0.031
L10	76.500-76.250	A	0.000	0.000	0.523	0.000	0.002
		B	0.000	0.000	0.203	0.000	0.003
		C	0.000	0.000	0.188	0.000	0.002
L11	76.250-74.000	A	0.000	0.000	6.083	0.000	0.015
		B	0.000	0.000	3.201	0.000	0.029
		C	0.000	0.000	3.061	0.000	0.020
L12	74.000-73.750	A	0.000	0.000	0.867	0.000	0.002
		B	0.000	0.000	0.546	0.000	0.003
		C	0.000	0.000	0.531	0.000	0.002
L13	73.750-68.880	A	0.000	0.000	17.803	0.000	0.033
		B	0.000	0.000	11.567	0.000	0.063
		C	0.000	0.000	11.263	0.000	0.043
L14	68.880-68.630	A	0.000	0.000	1.035	0.000	0.002
		B	0.000	0.000	0.715	0.000	0.003
		C	0.000	0.000	0.699	0.000	0.002
L15	68.630-64.500	A	0.000	0.000	15.775	0.000	0.028
		B	0.000	0.000	10.486	0.000	0.053
		C	0.000	0.000	10.228	0.000	0.036
L16	64.500-64.250	A	0.000	0.000	0.986	0.000	0.002
		B	0.000	0.000	0.665	0.000	0.003
		C	0.000	0.000	0.650	0.000	0.002
L17	64.250-63.000	A	0.000	0.000	4.928	0.000	0.008
		B	0.000	0.000	3.327	0.000	0.016
		C	0.000	0.000	3.249	0.000	0.011
L18	63.000-62.750	A	0.000	0.000	0.931	0.000	0.002
		B	0.000	0.000	0.610	0.000	0.003
		C	0.000	0.000	0.595	0.000	0.002
L19	62.750-60.000	A	0.000	0.000	9.846	0.000	0.019
		B	0.000	0.000	6.325	0.000	0.035
		C	0.000	0.000	6.153	0.000	0.024
L20	60.000-59.750	A	0.000	0.000	0.752	0.000	0.002
		B	0.000	0.000	0.432	0.000	0.003
		C	0.000	0.000	0.417	0.000	0.002
L21	59.750-54.750	A	0.000	0.000	15.568	0.000	0.041
		B	0.000	0.000	8.646	0.000	0.064
		C	0.000	0.000	8.333	0.000	0.044
L22	54.750-49.750	A	0.000	0.000	16.737	0.000	0.046
		B	0.000	0.000	8.646	0.000	0.064
		C	0.000	0.000	9.222	0.000	0.044
L23	49.750-49.250	A	0.000	0.000	1.918	0.000	0.005
		B	0.000	0.000	0.865	0.000	0.006
		C	0.000	0.000	1.167	0.000	0.004
L24	49.250-49.000	A	0.000	0.000	0.959	0.000	0.002
		B	0.000	0.000	0.432	0.000	0.003
		C	0.000	0.000	0.583	0.000	0.002
L25	49.000-44.000	A	0.000	0.000	19.182	0.000	0.046
		B	0.000	0.000	8.646	0.000	0.064
		C	0.000	0.000	11.667	0.000	0.044
L26	44.000-42.000	A	0.000	0.000	8.339	0.000	0.018
		B	0.000	0.000	4.125	0.000	0.026
		C	0.000	0.000	5.333	0.000	0.018
L27	42.000-41.750	A	0.000	0.000	1.126	0.000	0.002
		B	0.000	0.000	0.599	0.000	0.003
		C	0.000	0.000	0.750	0.000	0.002
L28	41.750-36.750	A	0.000	0.000	22.515	0.000	0.046
		B	0.000	0.000	11.979	0.000	0.064
		C	0.000	0.000	15.000	0.000	0.044
L29	36.750-34.500	A	0.000	0.000	10.684	0.000	0.021
		B	0.000	0.000	5.943	0.000	0.029
		C	0.000	0.000	7.303	0.000	0.020
L30	34.500-34.250	A	0.000	0.000	1.264	0.000	0.002
		B	0.000	0.000	0.737	0.000	0.003
		C	0.000	0.000	0.888	0.000	0.002

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L31	34.250-34.000	A	0.000	0.000	1.264	0.000	0.002
		B	0.000	0.000	0.737	0.000	0.003
		C	0.000	0.000	0.888	0.000	0.002
L32	34.000-33.750	A	0.000	0.000	1.264	0.000	0.002
		B	0.000	0.000	0.737	0.000	0.003
		C	0.000	0.000	0.888	0.000	0.002
L33	33.750-30.000	A	0.000	0.000	16.627	0.000	0.034
		B	0.000	0.000	8.781	0.000	0.048
		C	0.000	0.000	10.991	0.000	0.033
L34	30.000-29.750	A	0.000	0.000	0.792	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	0.604	0.000	0.002
L35	29.750-28.500	A	0.000	0.000	5.494	0.000	0.011
		B	0.000	0.000	3.099	0.000	0.016
		C	0.000	0.000	3.771	0.000	0.011
L36	28.500-28.250	A	0.000	0.000	1.167	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	0.792	0.000	0.002
L37	28.250-23.250	A	0.000	0.000	25.598	0.000	0.046
		B	0.000	0.000	12.396	0.000	0.064
		C	0.000	0.000	18.083	0.000	0.044
L38	23.250-23.000	A	0.000	0.000	1.417	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	1.042	0.000	0.002
L39	23.000-21.500	A	0.000	0.000	8.505	0.000	0.014
		B	0.000	0.000	3.719	0.000	0.019
		C	0.000	0.000	6.250	0.000	0.013
L40	21.500-21.250	A	0.000	0.000	1.417	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	1.042	0.000	0.002
L41	21.250-19.000	A	0.000	0.000	13.507	0.000	0.021
		B	0.000	0.000	5.953	0.000	0.029
		C	0.000	0.000	9.750	0.000	0.020
L42	19.000-18.750	A	0.000	0.000	1.417	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	1.042	0.000	0.002
L43	18.750-18.500	A	0.000	0.000	1.417	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	1.042	0.000	0.002
L44	18.500-18.250	A	0.000	0.000	1.417	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	1.042	0.000	0.002
L45	18.250-13.250	A	0.000	0.000	25.536	0.000	0.046
		B	0.000	0.000	13.982	0.000	0.064
		C	0.000	0.000	18.021	0.000	0.044
L46	13.250-12.700	A	0.000	0.000	2.706	0.000	0.005
		B	0.000	0.000	1.900	0.000	0.007
		C	0.000	0.000	1.879	0.000	0.005
L47	12.700-12.450	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.864	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002
L48	12.450-11.500	A	0.000	0.000	4.674	0.000	0.009
		B	0.000	0.000	3.282	0.000	0.012
		C	0.000	0.000	3.246	0.000	0.008
L49	11.500-11.250	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.864	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002
L50	11.250-10.500	A	0.000	0.000	3.690	0.000	0.007
		B	0.000	0.000	2.591	0.000	0.010
		C	0.000	0.000	2.562	0.000	0.007
L51	10.500-10.250	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.864	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002
L52	10.250-7.500	A	0.000	0.000	13.529	0.000	0.025
		B	0.000	0.000	9.501	0.000	0.035
		C	0.000	0.000	9.396	0.000	0.024
L53	7.500-7.250	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.864	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L54	7.250-6.250	A	0.000	0.000	4.920	0.000	0.009
		B	0.000	0.000	3.455	0.000	0.013
		C	0.000	0.000	3.417	0.000	0.009
L55	6.250-6.000	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.864	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002
L56	6.000-3.830	A	0.000	0.000	10.676	0.000	0.020
		B	0.000	0.000	5.502	0.000	0.028
		C	0.000	0.000	7.414	0.000	0.019
L57	3.830-3.580	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002
L58	3.580-3.330	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002
L59	3.330-2.750	A	0.000	0.000	2.853	0.000	0.005
		B	0.000	0.000	1.438	0.000	0.007
		C	0.000	0.000	1.982	0.000	0.005
L60	2.750-2.500	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002
L61	2.500-2.000	A	0.000	0.000	2.460	0.000	0.005
		B	0.000	0.000	1.240	0.000	0.006
		C	0.000	0.000	1.708	0.000	0.004
L62	2.000-1.750	A	0.000	0.000	1.230	0.000	0.002
		B	0.000	0.000	0.620	0.000	0.003
		C	0.000	0.000	0.854	0.000	0.002
L63	1.750-0.000	A	0.000	0.000	5.693	0.000	0.016
		B	0.000	0.000	1.422	0.000	0.022
		C	0.000	0.000	3.062	0.000	0.015

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	118.000-113.000	A	1.445	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.005
		C		0.000	0.000	0.000	0.000	0.000
L2	113.000-108.000	A	1.439	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.026
		C		0.000	0.000	0.000	0.000	0.000
L3	108.000-103.000	A	1.432	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.064
		C		0.000	0.000	0.000	0.000	0.000
L4	103.000-98.000	A	1.425	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.064
		C		0.000	0.000	0.000	0.000	0.000
L5	98.000-93.000	A	1.418	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.064
		C		0.000	0.000	0.000	0.000	0.044
L6	93.000-90.000	A	1.412	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.038
		C		0.000	0.000	0.000	0.000	0.026
L7	90.000-85.000	A	1.406	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.064
		C		0.000	0.000	0.000	0.000	0.044
L8	85.000-80.000	A	1.397	0.000	0.000	11.344	0.000	0.150
		B		0.000	0.000	0.000	0.000	0.064
		C		0.000	0.000	0.000	0.000	0.044
L9	80.000-76.500	A	1.390	0.000	0.000	9.339	0.000	0.118
		B		0.000	0.000	2.601	0.000	0.070
		C		0.000	0.000	1.409	0.000	0.044
L10	76.500-76.250	A	1.387	0.000	0.000	0.801	0.000	0.010
		B		0.000	0.000	0.320	0.000	0.006
		C		0.000	0.000	0.235	0.000	0.004

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L11	76.250-74.000	A	1.384	0.000	0.000	8.725	0.000	0.100
		B		0.000	0.000	4.397	0.000	0.070
		C		0.000	0.000	3.634	0.000	0.053
L12	74.000-73.750	A	1.382	0.000	0.000	1.180	0.000	0.013
		B		0.000	0.000	0.700	0.000	0.010
		C		0.000	0.000	0.615	0.000	0.008
L13	73.750-68.880	A	1.377	0.000	0.000	24.101	0.000	0.263
		B		0.000	0.000	14.742	0.000	0.198
		C		0.000	0.000	13.097	0.000	0.162
L14	68.880-68.630	A	1.372	0.000	0.000	1.384	0.000	0.015
		B		0.000	0.000	0.903	0.000	0.012
		C		0.000	0.000	0.819	0.000	0.010
L15	68.630-64.500	A	1.368	0.000	0.000	21.199	0.000	0.233
		B		0.000	0.000	13.271	0.000	0.178
		C		0.000	0.000	11.884	0.000	0.148
L16	64.500-64.250	A	1.363	0.000	0.000	1.322	0.000	0.015
		B		0.000	0.000	0.843	0.000	0.011
		C		0.000	0.000	0.759	0.000	0.010
L17	64.250-63.000	A	1.362	0.000	0.000	6.610	0.000	0.073
		B		0.000	0.000	4.213	0.000	0.057
		C		0.000	0.000	3.794	0.000	0.048
L18	63.000-62.750	A	1.360	0.000	0.000	1.267	0.000	0.014
		B		0.000	0.000	0.787	0.000	0.011
		C		0.000	0.000	0.704	0.000	0.009
L19	62.750-60.000	A	1.357	0.000	0.000	13.429	0.000	0.153
		B		0.000	0.000	8.159	0.000	0.117
		C		0.000	0.000	7.241	0.000	0.097
L20	60.000-59.750	A	1.353	0.000	0.000	1.047	0.000	0.011
		B		0.000	0.000	0.568	0.000	0.008
		C		0.000	0.000	0.484	0.000	0.006
L21	59.750-54.750	A	1.347	0.000	0.000	22.307	0.000	0.240
		B		0.000	0.000	11.340	0.000	0.151
		C		0.000	0.000	9.681	0.000	0.115
L22	54.750-49.750	A	1.335	0.000	0.000	24.251	0.000	0.260
		B		0.000	0.000	11.316	0.000	0.150
		C		0.000	0.000	10.913	0.000	0.124
L23	49.750-49.250	A	1.328	0.000	0.000	2.764	0.000	0.029
		B		0.000	0.000	1.130	0.000	0.015
		C		0.000	0.000	1.432	0.000	0.015
L24	49.250-49.000	A	1.327	0.000	0.000	1.382	0.000	0.014
		B		0.000	0.000	0.565	0.000	0.007
		C		0.000	0.000	0.716	0.000	0.008
L25	49.000-44.000	A	1.319	0.000	0.000	27.594	0.000	0.284
		B		0.000	0.000	11.285	0.000	0.149
		C		0.000	0.000	14.306	0.000	0.150
L26	44.000-42.000	A	1.309	0.000	0.000	11.867	0.000	0.120
		B		0.000	0.000	5.357	0.000	0.067
		C		0.000	0.000	6.565	0.000	0.067
L27	42.000-41.750	A	1.306	0.000	0.000	1.589	0.000	0.016
		B		0.000	0.000	0.776	0.000	0.009
		C		0.000	0.000	0.927	0.000	0.009
L28	41.750-36.750	A	1.297	0.000	0.000	31.727	0.000	0.316
		B		0.000	0.000	15.490	0.000	0.184
		C		0.000	0.000	18.510	0.000	0.185
L29	36.750-34.500	A	1.285	0.000	0.000	14.935	0.000	0.148
		B		0.000	0.000	7.647	0.000	0.089
		C		0.000	0.000	9.006	0.000	0.089
L30	34.500-34.250	A	1.280	0.000	0.000	1.754	0.000	0.017
		B		0.000	0.000	0.945	0.000	0.011
		C		0.000	0.000	1.096	0.000	0.011
L31	34.250-34.000	A	1.279	0.000	0.000	1.754	0.000	0.017
		B		0.000	0.000	0.945	0.000	0.011
		C		0.000	0.000	1.096	0.000	0.011
L32	34.000-33.750	A	1.278	0.000	0.000	1.753	0.000	0.017
		B		0.000	0.000	0.945	0.000	0.011
		C		0.000	0.000	1.096	0.000	0.011
L33	33.750-30.000	A	1.271	0.000	0.000	23.301	0.000	0.233
		B		0.000	0.000	11.264	0.000	0.137
		C		0.000	0.000	13.453	0.000	0.137

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L34	30.000-29.750	A	1.262	0.000	0.000	1.135	0.000	0.012
		B		0.000	0.000	0.782	0.000	0.009
		C		0.000	0.000	0.704	0.000	0.007
L35	29.750-28.500	A	1.259	0.000	0.000	7.579	0.000	0.075
		B		0.000	0.000	3.909	0.000	0.046
		C		0.000	0.000	4.491	0.000	0.045
L36	28.500-28.250	A	1.256	0.000	0.000	1.601	0.000	0.016
		B		0.000	0.000	0.781	0.000	0.009
		C		0.000	0.000	0.946	0.000	0.009
L37	28.250-23.250	A	1.244	0.000	0.000	34.764	0.000	0.330
		B		0.000	0.000	15.599	0.000	0.181
		C		0.000	0.000	21.715	0.000	0.205
L38	23.250-23.000	A	1.230	0.000	0.000	1.906	0.000	0.018
		B		0.000	0.000	0.778	0.000	0.009
		C		0.000	0.000	1.255	0.000	0.011
L39	23.000-21.500	A	1.226	0.000	0.000	11.426	0.000	0.105
		B		0.000	0.000	4.666	0.000	0.054
		C		0.000	0.000	7.529	0.000	0.068
L40	21.500-21.250	A	1.221	0.000	0.000	1.903	0.000	0.017
		B		0.000	0.000	0.777	0.000	0.009
		C		0.000	0.000	1.254	0.000	0.011
L41	21.250-19.000	A	1.213	0.000	0.000	18.147	0.000	0.163
		B		0.000	0.000	7.584	0.000	0.084
		C		0.000	0.000	11.875	0.000	0.105
L42	19.000-18.750	A	1.206	0.000	0.000	1.923	0.000	0.017
		B		0.000	0.000	0.801	0.000	0.009
		C		0.000	0.000	1.277	0.000	0.011
L43	18.750-18.500	A	1.204	0.000	0.000	1.923	0.000	0.017
		B		0.000	0.000	0.800	0.000	0.009
		C		0.000	0.000	1.277	0.000	0.011
L44	18.500-18.250	A	1.202	0.000	0.000	1.922	0.000	0.017
		B		0.000	0.000	0.800	0.000	0.009
		C		0.000	0.000	1.277	0.000	0.011
L45	18.250-13.250	A	1.184	0.000	0.000	34.692	0.000	0.310
		B		0.000	0.000	17.742	0.000	0.190
		C		0.000	0.000	21.844	0.000	0.192
L46	13.250-12.700	A	1.161	0.000	0.000	3.668	0.000	0.033
		B		0.000	0.000	2.353	0.000	0.024
		C		0.000	0.000	2.262	0.000	0.020
L47	12.700-12.450	A	1.158	0.000	0.000	1.666	0.000	0.015
		B		0.000	0.000	1.069	0.000	0.011
		C		0.000	0.000	1.028	0.000	0.009
L48	12.450-11.500	A	1.152	0.000	0.000	6.324	0.000	0.056
		B		0.000	0.000	4.057	0.000	0.041
		C		0.000	0.000	3.903	0.000	0.034
L49	11.500-11.250	A	1.146	0.000	0.000	1.662	0.000	0.015
		B		0.000	0.000	1.067	0.000	0.011
		C		0.000	0.000	1.026	0.000	0.009
L50	11.250-10.500	A	1.141	0.000	0.000	4.982	0.000	0.044
		B		0.000	0.000	3.197	0.000	0.032
		C		0.000	0.000	3.076	0.000	0.027
L51	10.500-10.250	A	1.136	0.000	0.000	1.659	0.000	0.014
		B		0.000	0.000	1.065	0.000	0.011
		C		0.000	0.000	1.025	0.000	0.009
L52	10.250-7.500	A	1.118	0.000	0.000	18.189	0.000	0.157
		B		0.000	0.000	11.679	0.000	0.116
		C		0.000	0.000	11.241	0.000	0.096
L53	7.500-7.250	A	1.098	0.000	0.000	1.647	0.000	0.014
		B		0.000	0.000	1.058	0.000	0.010
		C		0.000	0.000	1.019	0.000	0.009
L54	7.250-6.250	A	1.088	0.000	0.000	6.577	0.000	0.055
		B		0.000	0.000	4.226	0.000	0.041
		C		0.000	0.000	4.069	0.000	0.034
L55	6.250-6.000	A	1.077	0.000	0.000	1.641	0.000	0.014
		B		0.000	0.000	1.055	0.000	0.010
		C		0.000	0.000	1.016	0.000	0.008
L56	6.000-3.830	A	1.054	0.000	0.000	14.179	0.000	0.117
		B		0.000	0.000	6.888	0.000	0.070
		C		0.000	0.000	8.786	0.000	0.072

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L57	3.830-3.580	A	1.025	0.000	0.000	1.624	0.000	0.013
		B		0.000	0.000	0.773	0.000	0.008
		C		0.000	0.000	1.008	0.000	0.008
L58	3.580-3.330	A	1.017	0.000	0.000	1.622	0.000	0.013
		B		0.000	0.000	0.772	0.000	0.008
		C		0.000	0.000	1.007	0.000	0.008
L59	3.330-2.750	A	1.004	0.000	0.000	3.754	0.000	0.030
		B		0.000	0.000	1.787	0.000	0.018
		C		0.000	0.000	2.331	0.000	0.018
L60	2.750-2.500	A	0.990	0.000	0.000	1.613	0.000	0.013
		B		0.000	0.000	0.768	0.000	0.008
		C		0.000	0.000	1.003	0.000	0.008
L61	2.500-2.000	A	0.975	0.000	0.000	3.218	0.000	0.025
		B		0.000	0.000	1.532	0.000	0.015
		C		0.000	0.000	2.001	0.000	0.015
L62	2.000-1.750	A	0.957	0.000	0.000	1.603	0.000	0.012
		B		0.000	0.000	0.763	0.000	0.007
		C		0.000	0.000	0.998	0.000	0.008
L63	1.750-0.000	A	0.887	0.000	0.000	7.842	0.000	0.065
		B		0.000	0.000	2.043	0.000	0.034
		C		0.000	0.000	3.683	0.000	0.035

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	118.000-113.000	0.000	0.000	0.000	0.000
L2	113.000-108.000	0.000	0.000	0.000	0.000
L3	108.000-103.000	0.000	0.000	0.000	0.000
L4	103.000-98.000	0.000	0.000	0.000	0.000
L5	98.000-93.000	0.000	0.000	0.000	0.000
L6	93.000-90.000	0.000	0.000	0.000	0.000
L7	90.000-85.000	0.000	0.000	0.000	0.000
L8	85.000-80.000	-3.897	-5.599	-2.921	-4.384
L9	80.000-76.500	-2.563	-3.957	-1.697	-3.339
L10	76.500-76.250	-1.884	-2.909	-1.383	-2.720
L11	76.250-74.000	-1.238	-1.929	-1.186	-2.313
L12	74.000-73.750	-1.039	-1.636	-1.027	-1.985
L13	73.750-68.880	-0.982	-1.546	-0.974	-1.882
L14	68.880-68.630	-0.861	-1.355	-0.861	-1.663
L15	68.630-64.500	-0.936	-1.473	-0.934	-1.802
L16	64.500-64.250	-0.903	-1.421	-0.902	-1.738
L17	64.250-63.000	-0.903	-1.421	-0.902	-1.738
L18	63.000-62.750	-0.958	-1.507	-0.944	-1.819
L19	62.750-60.000	-0.998	-1.571	-0.983	-1.894
L20	60.000-59.750	-1.454	-2.298	-1.434	-2.758
L21	59.750-54.750	-1.594	-2.203	-1.722	-2.555
L22	54.750-49.750	-1.755	-1.451	-1.957	-1.694
L23	49.750-49.250	-1.962	0.219	-2.160	0.091
L24	49.250-49.000	-1.962	0.219	-2.160	0.091
L25	49.000-44.000	-1.962	0.219	-2.160	0.090
L26	44.000-42.000	-1.793	0.200	-1.980	0.081
L27	42.000-41.750	-1.650	0.184	-1.827	0.075
L28	41.750-36.750	-1.650	0.184	-1.827	0.074
L29	36.750-34.500	-1.666	0.196	-1.833	0.090
L30	34.500-34.250	-1.683	0.209	-1.840	0.109
L31	34.250-34.000	-1.683	0.209	-1.840	0.108
L32	34.000-33.750	-1.683	0.209	-1.840	0.108
L33	33.750-30.000	-1.890	0.194	-2.063	0.075
L34	30.000-29.750	-0.402	-2.297	-0.717	-2.627
L35	29.750-28.500	-1.948	-1.495	-2.186	-1.785
L36	28.500-28.250	-2.232	-1.339	-2.457	-1.620
L37	28.250-23.250	-2.393	-0.013	-2.604	-0.293
L38	23.250-23.000	-2.562	1.383	-2.759	1.111

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L39	23.000-21.500	-2.562	1.383	-2.759	1.111
L40	21.500-21.250	-2.562	1.383	-2.759	1.111
L41	21.250-19.000	-2.641	1.358	-2.800	1.087
L42	19.000-18.750	-2.557	1.380	-2.713	1.093
L43	18.750-18.500	-2.557	1.380	-2.713	1.093
L44	18.500-18.250	-2.557	1.380	-2.713	1.093
L45	18.250-13.250	-2.426	0.795	-2.552	0.530
L46	13.250-12.700	-2.854	-0.112	-2.918	-0.292
L47	12.700-12.450	-2.854	-0.112	-2.918	-0.292
L48	12.450-11.500	-2.854	-0.112	-2.919	-0.293
L49	11.500-11.250	-2.854	-0.112	-2.919	-0.293
L50	11.250-10.500	-2.854	-0.112	-2.919	-0.293
L51	10.500-10.250	-2.854	-0.112	-2.919	-0.294
L52	10.250-7.500	-2.854	-0.112	-2.920	-0.295
L53	7.500-7.250	-2.854	-0.112	-2.920	-0.296
L54	7.250-6.250	-2.854	-0.112	-2.921	-0.297
L55	6.250-6.000	-2.854	-0.112	-2.921	-0.298
L56	6.000-3.830	-2.044	1.074	-2.197	0.757
L57	3.830-3.580	-1.991	1.151	-2.149	0.825
L58	3.580-3.330	-1.991	1.151	-2.149	0.825
L59	3.330-2.750	-1.991	1.151	-2.149	0.825
L60	2.750-2.500	-1.991	1.151	-2.149	0.825
L61	2.500-2.000	-1.991	1.151	-2.149	0.825
L62	2.000-1.750	-1.991	1.151	-2.149	0.825
L63	1.750-0.000	-2.763	2.342	-2.894	1.705

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
L8	19	LDF7-50A(1-5/8)	80.00 - 85.00	1.0000	1.0000
L8	22	MLC HYBRID 6X12 LI(1-1/2)	80.00 - 85.00	1.0000	1.0000
L9	19	LDF7-50A(1-5/8)	76.50 - 80.00	1.0000	1.0000
L9	22	MLC HYBRID 6X12 LI(1-1/2)	76.50 - 80.00	1.0000	1.0000
L9	24	LDF4-50A(1/2)	76.50 - 80.00	1.0000	1.0000
L9	79	4.5" x 1" Plate	76.50 - 78.00	1.0000	1.0000
L9	80	4.5" x 1" Plate	76.50 - 78.00	1.0000	1.0000
L9	81	4.5" x 1" Plate	76.50 - 78.00	1.0000	1.0000
L10	19	LDF7-50A(1-5/8)	76.25 - 76.50	1.0000	1.0000
L10	22	MLC HYBRID 6X12 LI(1-1/2)	76.25 - 76.50	1.0000	1.0000
L10	24	LDF4-50A(1/2)	76.25 - 76.50	1.0000	1.0000
L10	79	4.5" x 1" Plate	76.25 - 76.50	1.0000	1.0000
L10	80	4.5" x 1" Plate	76.25 - 76.50	1.0000	1.0000
L10	81	4.5" x 1" Plate	76.25 - 76.50	1.0000	1.0000
L11	19	LDF7-50A(1-5/8)	74.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L11	22	MLC HYBRID 6X12 LI(1-1/2)	76.25 74.00 - 76.25	1.0000	1.0000
L11	24	LDF4-50A(1/2)	74.00 - 76.25	1.0000	1.0000
L11	38	Bent PL 9"x0.75"	74.00 - 75.00	1.0000	1.0000
L11	39	Bent PL 9"x0.75"	74.00 - 75.00	1.0000	1.0000
L11	40	Bent PL 9"x0.75"	74.00 - 75.00	1.0000	1.0000
L11	79	4.5" x 1" Plate	74.00 - 76.25	1.0000	1.0000
L11	80	4.5" x 1" Plate	74.00 - 76.25	1.0000	1.0000
L11	81	4.5" x 1" Plate	74.00 - 76.25	1.0000	1.0000
L12	19	LDF7-50A(1-5/8)	73.75 - 74.00	1.0000	1.0000
L12	22	MLC HYBRID 6X12 LI(1-1/2)	73.75 - 74.00	1.0000	1.0000
L12	24	LDF4-50A(1/2)	73.75 - 74.00	1.0000	1.0000
L12	38	Bent PL 9"x0.75"	73.75 - 74.00	1.0000	1.0000
L12	39	Bent PL 9"x0.75"	73.75 - 74.00	1.0000	1.0000
L12	40	Bent PL 9"x0.75"	73.75 - 74.00	1.0000	1.0000
L12	79	4.5" x 1" Plate	73.75 - 74.00	1.0000	1.0000
L12	80	4.5" x 1" Plate	73.75 - 74.00	1.0000	1.0000
L12	81	4.5" x 1" Plate	73.75 - 74.00	1.0000	1.0000
L13	19	LDF7-50A(1-5/8)	68.88 - 73.75	1.0000	1.0000
L13	22	MLC HYBRID 6X12 LI(1-1/2)	68.88 - 73.75	1.0000	1.0000
L13	24	LDF4-50A(1/2)	68.88 - 73.75	1.0000	1.0000
L13	38	Bent PL 9"x0.75"	68.88 - 73.75	1.0000	1.0000
L13	39	Bent PL 9"x0.75"	68.88 - 73.75	1.0000	1.0000
L13	40	Bent PL 9"x0.75"	68.88 - 73.75	1.0000	1.0000
L13	65	4.5" x 1" Plate	68.88 - 70.25	1.0000	1.0000
L13	66	4.5" x 1" Plate	68.88 - 70.25	1.0000	1.0000
L13	67	4.5" x 1" Plate	68.88 - 70.25	1.0000	1.0000
L13	79	4.5" x 1" Plate	68.88 - 73.75	1.0000	1.0000
L13	80	4.5" x 1" Plate	68.88 - 73.75	1.0000	1.0000
L13	81	4.5" x 1" Plate	68.88 - 73.75	1.0000	1.0000
L14	19	LDF7-50A(1-5/8)	68.63 - 68.88	1.0000	1.0000
L14	22	MLC HYBRID 6X12 LI(1-1/2)	68.63 - 68.88	1.0000	1.0000
L14	24	LDF4-50A(1/2)	68.63 - 68.88	1.0000	1.0000
L14	38	Bent PL 9"x0.75"	68.63 - 68.88	1.0000	1.0000
L14	39	Bent PL 9"x0.75"	68.63 - 68.88	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L14	40	Bent PL 9"x0.75"	68.63 - 68.88	1.0000	1.0000
L14	65	4.5" x 1" Plate	68.63 - 68.88	1.0000	1.0000
L14	66	4.5" x 1" Plate	68.63 - 68.88	1.0000	1.0000
L14	67	4.5" x 1" Plate	68.63 - 68.88	1.0000	1.0000
L14	79	4.5" x 1" Plate	68.63 - 68.88	1.0000	1.0000
L14	80	4.5" x 1" Plate	68.63 - 68.88	1.0000	1.0000
L14	81	4.5" x 1" Plate	68.63 - 68.88	1.0000	1.0000
L15	19	LDF7-50A(1-5/8)	64.50 - 68.63	1.0000	1.0000
L15	22	MLC HYBRID 6X12 LI(1-1/2)	64.50 - 68.63	1.0000	1.0000
L15	24	LDF4-50A(1/2)	64.50 - 68.63	1.0000	1.0000
L15	38	Bent PL 9"x0.75"	64.50 - 68.63	1.0000	1.0000
L15	39	Bent PL 9"x0.75"	64.50 - 68.63	1.0000	1.0000
L15	40	Bent PL 9"x0.75"	64.50 - 68.63	1.0000	1.0000
L15	50	MS-400 (4" x 0.75" Plate)	64.50 - 65.50	1.0000	1.0000
L15	51	MS-400 (4" x 0.75" Plate)	64.50 - 65.50	1.0000	1.0000
L15	52	MS-400 (4" x 0.75" Plate)	64.50 - 65.50	1.0000	1.0000
L15	65	4.5" x 1" Plate	64.50 - 68.63	1.0000	1.0000
L15	66	4.5" x 1" Plate	64.50 - 68.63	1.0000	1.0000
L15	67	4.5" x 1" Plate	64.50 - 68.63	1.0000	1.0000
L15	79	4.5" x 1" Plate	67.00 - 68.63	1.0000	1.0000
L15	80	4.5" x 1" Plate	67.00 - 68.63	1.0000	1.0000
L15	81	4.5" x 1" Plate	67.00 - 68.63	1.0000	1.0000
L16	19	LDF7-50A(1-5/8)	64.25 - 64.50	1.0000	1.0000
L16	22	MLC HYBRID 6X12 LI(1-1/2)	64.25 - 64.50	1.0000	1.0000
L16	24	LDF4-50A(1/2)	64.25 - 64.50	1.0000	1.0000
L16	38	Bent PL 9"x0.75"	64.25 - 64.50	1.0000	1.0000
L16	39	Bent PL 9"x0.75"	64.25 - 64.50	1.0000	1.0000
L16	40	Bent PL 9"x0.75"	64.25 - 64.50	1.0000	1.0000
L16	50	MS-400 (4" x 0.75" Plate)	64.25 - 64.50	1.0000	1.0000
L16	51	MS-400 (4" x 0.75" Plate)	64.25 - 64.50	1.0000	1.0000
L16	52	MS-400 (4" x 0.75" Plate)	64.25 - 64.50	1.0000	1.0000
L16	65	4.5" x 1" Plate	64.25 - 64.50	1.0000	1.0000
L16	66	4.5" x 1" Plate	64.25 - 64.50	1.0000	1.0000
L16	67	4.5" x 1" Plate	64.25 - 64.50	1.0000	1.0000
L17	19	LDF7-50A(1-5/8)	63.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L17	22	MLC HYBRID 6X12 LI(1-1/2)	64.25 63.00 - 64.25	1.0000	1.0000
L17	24	LDF4-50A(1/2)	63.00 - 64.25	1.0000	1.0000
L17	38	Bent PL 9"x0.75"	63.00 - 64.25	1.0000	1.0000
L17	39	Bent PL 9"x0.75"	63.00 - 64.25	1.0000	1.0000
L17	40	Bent PL 9"x0.75"	63.00 - 64.25	1.0000	1.0000
L17	50	MS-400 (4" x 0.75" Plate)	63.00 - 64.25	1.0000	1.0000
L17	51	MS-400 (4" x 0.75" Plate)	63.00 - 64.25	1.0000	1.0000
L17	52	MS-400 (4" x 0.75" Plate)	63.00 - 64.25	1.0000	1.0000
L17	65	4.5" x 1" Plate	63.00 - 64.25	1.0000	1.0000
L17	66	4.5" x 1" Plate	63.00 - 64.25	1.0000	1.0000
L17	67	4.5" x 1" Plate	63.00 - 64.25	1.0000	1.0000
L18	19	LDF7-50A(1-5/8)	62.75 - 63.00	1.0000	1.0000
L18	22	MLC HYBRID 6X12 LI(1-1/2)	62.75 - 63.00	1.0000	1.0000
L18	24	LDF4-50A(1/2)	62.75 - 63.00	1.0000	1.0000
L18	38	Bent PL 9"x0.75"	62.75 - 63.00	1.0000	1.0000
L18	39	Bent PL 9"x0.75"	62.75 - 63.00	1.0000	1.0000
L18	40	Bent PL 9"x0.75"	62.75 - 63.00	1.0000	1.0000
L18	50	MS-400 (4" x 0.75" Plate)	62.75 - 63.00	1.0000	1.0000
L18	51	MS-400 (4" x 0.75" Plate)	62.75 - 63.00	1.0000	1.0000
L18	52	MS-400 (4" x 0.75" Plate)	62.75 - 63.00	1.0000	1.0000
L18	61	3.75" x 1" Plate	62.75 - 63.00	1.0000	1.0000
L18	62	3.75" x 1" Plate	62.75 - 63.00	1.0000	1.0000
L18	63	3.75" x 1" Plate	62.75 - 63.00	1.0000	1.0000
L19	19	LDF7-50A(1-5/8)	60.00 - 62.75	1.0000	1.0000
L19	22	MLC HYBRID 6X12 LI(1-1/2)	60.00 - 62.75	1.0000	1.0000
L19	24	LDF4-50A(1/2)	60.00 - 62.75	1.0000	1.0000
L19	38	Bent PL 9"x0.75"	60.00 - 62.75	1.0000	1.0000
L19	39	Bent PL 9"x0.75"	60.00 - 62.75	1.0000	1.0000
L19	40	Bent PL 9"x0.75"	60.00 - 62.75	1.0000	1.0000
L19	50	MS-400 (4" x 0.75" Plate)	60.50 - 62.75	1.0000	1.0000
L19	51	MS-400 (4" x 0.75" Plate)	60.50 - 62.75	1.0000	1.0000
L19	52	MS-400 (4" x 0.75" Plate)	60.50 - 62.75	1.0000	1.0000
L19	61	3.75" x 1" Plate	60.25 - 62.75	1.0000	1.0000
L19	62	3.75" x 1" Plate	60.25 - 62.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L19	63	3.75" x 1" Plate	60.25 - 62.75	1.0000	1.0000
L20	19	LDF7-50A(1-5/8)	59.75 - 60.00	1.0000	1.0000
L20	22	MLC HYBRID 6X12 LI(1-1/2)	59.75 - 60.00	1.0000	1.0000
L20	24	LDF4-50A(1/2)	59.75 - 60.00	1.0000	1.0000
L20	34	Bent PL 10"x1"	59.75 - 60.00	1.0000	1.0000
L20	35	Bent PL 10"x1"	59.75 - 60.00	1.0000	1.0000
L20	36	Bent PL 10"x1"	59.75 - 60.00	1.0000	1.0000
L21	19	LDF7-50A(1-5/8)	54.75 - 59.75	1.0000	1.0000
L21	22	MLC HYBRID 6X12 LI(1-1/2)	54.75 - 59.75	1.0000	1.0000
L21	24	LDF4-50A(1/2)	54.75 - 59.75	1.0000	1.0000
L21	26	CU12PSM9P6XXX(1-1/2)	54.75 - 58.00	1.0000	1.0000
L21	34	Bent PL 10"x1"	54.75 - 59.75	1.0000	1.0000
L21	35	Bent PL 10"x1"	54.75 - 59.75	1.0000	1.0000
L21	36	Bent PL 10"x1"	54.75 - 59.75	1.0000	1.0000
L22	19	LDF7-50A(1-5/8)	49.75 - 54.75	1.0000	1.0000
L22	22	MLC HYBRID 6X12 LI(1-1/2)	49.75 - 54.75	1.0000	1.0000
L22	24	LDF4-50A(1/2)	49.75 - 54.75	1.0000	1.0000
L22	26	CU12PSM9P6XXX(1-1/2)	49.75 - 54.75	1.0000	1.0000
L22	34	Bent PL 10"x1"	49.75 - 54.75	1.0000	1.0000
L22	35	Bent PL 10"x1"	49.75 - 54.75	1.0000	1.0000
L22	36	Bent PL 10"x1"	49.75 - 54.75	1.0000	1.0000
L22	73	4" x 0.75" Plate	49.75 - 51.08	1.0000	1.0000
L22	74	4" x 0.75" Plate	49.75 - 51.08	1.0000	1.0000
L23	19	LDF7-50A(1-5/8)	49.25 - 49.75	1.0000	1.0000
L23	22	MLC HYBRID 6X12 LI(1-1/2)	49.25 - 49.75	1.0000	1.0000
L23	24	LDF4-50A(1/2)	49.25 - 49.75	1.0000	1.0000
L23	26	CU12PSM9P6XXX(1-1/2)	49.25 - 49.75	1.0000	1.0000
L23	34	Bent PL 10"x1"	49.25 - 49.75	1.0000	1.0000
L23	35	Bent PL 10"x1"	49.25 - 49.75	1.0000	1.0000
L23	36	Bent PL 10"x1"	49.25 - 49.75	1.0000	1.0000
L23	73	4" x 0.75" Plate	49.25 - 49.75	1.0000	1.0000
L23	74	4" x 0.75" Plate	49.25 - 49.75	1.0000	1.0000
L24	19	LDF7-50A(1-5/8)	49.00 - 49.25	1.0000	1.0000
L24	22	MLC HYBRID 6X12 LI(1-1/2)	49.00 - 49.25	1.0000	1.0000
L24	24	LDF4-50A(1/2)	49.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	26	CU12PSM9P6XXX(1-1/2)	49.25 49.00 - 49.25	1.0000	1.0000
L24	34	Bent PL 10"x1"	49.00 - 49.25	1.0000	1.0000
L24	35	Bent PL 10"x1"	49.00 - 49.25	1.0000	1.0000
L24	36	Bent PL 10"x1"	49.00 - 49.25	1.0000	1.0000
L24	73	4" x 0.75" Plate	49.00 - 49.25	1.0000	1.0000
L24	74	4" x 0.75" Plate	49.00 - 49.25	1.0000	1.0000
L25	19	LDF7-50A(1-5/8)	44.00 - 49.00	1.0000	1.0000
L25	22	MLC HYBRID 6X12 LI(1-1/2)	44.00 - 49.00	1.0000	1.0000
L25	24	LDF4-50A(1/2)	44.00 - 49.00	1.0000	1.0000
L25	26	CU12PSM9P6XXX(1-1/2)	44.00 - 49.00	1.0000	1.0000
L25	34	Bent PL 10"x1"	44.00 - 49.00	1.0000	1.0000
L25	35	Bent PL 10"x1"	44.00 - 49.00	1.0000	1.0000
L25	36	Bent PL 10"x1"	44.00 - 49.00	1.0000	1.0000
L25	73	4" x 0.75" Plate	44.00 - 49.00	1.0000	1.0000
L25	74	4" x 0.75" Plate	44.00 - 49.00	1.0000	1.0000
L26	19	LDF7-50A(1-5/8)	42.00 - 44.00	1.0000	1.0000
L26	22	MLC HYBRID 6X12 LI(1-1/2)	42.00 - 44.00	1.0000	1.0000
L26	24	LDF4-50A(1/2)	42.00 - 44.00	1.0000	1.0000
L26	26	CU12PSM9P6XXX(1-1/2)	42.00 - 44.00	1.0000	1.0000
L26	34	Bent PL 10"x1"	42.00 - 44.00	1.0000	1.0000
L26	35	Bent PL 10"x1"	42.00 - 44.00	1.0000	1.0000
L26	36	Bent PL 10"x1"	42.00 - 44.00	1.0000	1.0000
L26	57	4" x 0.75" Plate	42.00 - 43.00	1.0000	1.0000
L26	58	4" x 0.75" Plate	42.00 - 43.00	1.0000	1.0000
L26	59	4" x 0.75" Plate	42.00 - 43.00	1.0000	1.0000
L26	73	4" x 0.75" Plate	42.00 - 44.00	1.0000	1.0000
L26	74	4" x 0.75" Plate	42.00 - 44.00	1.0000	1.0000
L27	19	LDF7-50A(1-5/8)	41.75 - 42.00	1.0000	1.0000
L27	22	MLC HYBRID 6X12 LI(1-1/2)	41.75 - 42.00	1.0000	1.0000
L27	24	LDF4-50A(1/2)	41.75 - 42.00	1.0000	1.0000
L27	26	CU12PSM9P6XXX(1-1/2)	41.75 - 42.00	1.0000	1.0000
L27	34	Bent PL 10"x1"	41.75 - 42.00	1.0000	1.0000
L27	35	Bent PL 10"x1"	41.75 - 42.00	1.0000	1.0000
L27	36	Bent PL 10"x1"	41.75 - 42.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L27	57	4" x 0.75" Plate	41.75 - 42.00	1.0000	1.0000
L27	58	4" x 0.75" Plate	41.75 - 42.00	1.0000	1.0000
L27	59	4" x 0.75" Plate	41.75 - 42.00	1.0000	1.0000
L27	73	4" x 0.75" Plate	41.75 - 42.00	1.0000	1.0000
L27	74	4" x 0.75" Plate	41.75 - 42.00	1.0000	1.0000
L28	19	LDF7-50A(1-5/8)	36.75 - 41.75	1.0000	1.0000
L28	22	MLC HYBRID 6X12 LI(1-1/2)	36.75 - 41.75	1.0000	1.0000
L28	24	LDF4-50A(1/2)	36.75 - 41.75	1.0000	1.0000
L28	26	CU12PSM9P6XXX(1-1/2)	36.75 - 41.75	1.0000	1.0000
L28	34	Bent PL 10"x1"	36.75 - 41.75	1.0000	1.0000
L28	35	Bent PL 10"x1"	36.75 - 41.75	1.0000	1.0000
L28	36	Bent PL 10"x1"	36.75 - 41.75	1.0000	1.0000
L28	57	4" x 0.75" Plate	36.75 - 41.75	1.0000	1.0000
L28	58	4" x 0.75" Plate	36.75 - 41.75	1.0000	1.0000
L28	59	4" x 0.75" Plate	36.75 - 41.75	1.0000	1.0000
L28	73	4" x 0.75" Plate	36.75 - 41.75	1.0000	1.0000
L28	74	4" x 0.75" Plate	36.75 - 41.75	1.0000	1.0000
L29	19	LDF7-50A(1-5/8)	34.50 - 36.75	1.0000	1.0000
L29	22	MLC HYBRID 6X12 LI(1-1/2)	34.50 - 36.75	1.0000	1.0000
L29	24	LDF4-50A(1/2)	34.50 - 36.75	1.0000	1.0000
L29	26	CU12PSM9P6XXX(1-1/2)	34.50 - 36.75	1.0000	1.0000
L29	34	Bent PL 10"x1"	34.50 - 36.75	1.0000	1.0000
L29	35	Bent PL 10"x1"	34.50 - 36.75	1.0000	1.0000
L29	36	Bent PL 10"x1"	34.50 - 36.75	1.0000	1.0000
L29	46	MS-400 (4" x 0.75" Plate)	34.50 - 35.50	1.0000	1.0000
L29	47	MS-400 (4" x 0.75" Plate)	34.50 - 35.50	1.0000	1.0000
L29	48	MS-400 (4" x 0.75" Plate)	34.50 - 35.50	1.0000	1.0000
L29	57	4" x 0.75" Plate	34.50 - 36.75	1.0000	1.0000
L29	58	4" x 0.75" Plate	34.50 - 36.75	1.0000	1.0000
L29	59	4" x 0.75" Plate	34.50 - 36.75	1.0000	1.0000
L29	73	4" x 0.75" Plate	34.50 - 36.75	1.0000	1.0000
L29	74	4" x 0.75" Plate	34.50 - 36.75	1.0000	1.0000
L30	19	LDF7-50A(1-5/8)	34.25 - 34.50	1.0000	1.0000
L30	22	MLC HYBRID 6X12 LI(1-1/2)	34.25 - 34.50	1.0000	1.0000
L30	24	LDF4-50A(1/2)	34.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L30	26	CU12PSM9P6XXX(1-1/2)	34.50 34.25 - 34.50	1.0000	1.0000
L30	34	Bent PL 10"x1"	34.25 - 34.50	1.0000	1.0000
L30	35	Bent PL 10"x1"	34.25 - 34.50	1.0000	1.0000
L30	36	Bent PL 10"x1"	34.25 - 34.50	1.0000	1.0000
L30	46	MS-400 (4" x 0.75" Plate)	34.25 - 34.50	1.0000	1.0000
L30	47	MS-400 (4" x 0.75" Plate)	34.25 - 34.50	1.0000	1.0000
L30	48	MS-400 (4" x 0.75" Plate)	34.25 - 34.50	1.0000	1.0000
L30	57	4" x 0.75" Plate	34.25 - 34.50	1.0000	1.0000
L30	58	4" x 0.75" Plate	34.25 - 34.50	1.0000	1.0000
L30	59	4" x 0.75" Plate	34.25 - 34.50	1.0000	1.0000
L30	73	4" x 0.75" Plate	34.25 - 34.50	1.0000	1.0000
L30	74	4" x 0.75" Plate	34.25 - 34.50	1.0000	1.0000
L31	19	LDF7-50A(1-5/8)	34.00 - 34.25	1.0000	1.0000
L31	22	MLC HYBRID 6X12 LI(1-1/2)	34.00 - 34.25	1.0000	1.0000
L31	24	LDF4-50A(1/2)	34.00 - 34.25	1.0000	1.0000
L31	26	CU12PSM9P6XXX(1-1/2)	34.00 - 34.25	1.0000	1.0000
L31	34	Bent PL 10"x1"	34.00 - 34.25	1.0000	1.0000
L31	35	Bent PL 10"x1"	34.00 - 34.25	1.0000	1.0000
L31	36	Bent PL 10"x1"	34.00 - 34.25	1.0000	1.0000
L31	46	MS-400 (4" x 0.75" Plate)	34.00 - 34.25	1.0000	1.0000
L31	47	MS-400 (4" x 0.75" Plate)	34.00 - 34.25	1.0000	1.0000
L31	48	MS-400 (4" x 0.75" Plate)	34.00 - 34.25	1.0000	1.0000
L31	57	4" x 0.75" Plate	34.00 - 34.25	1.0000	1.0000
L31	58	4" x 0.75" Plate	34.00 - 34.25	1.0000	1.0000
L31	59	4" x 0.75" Plate	34.00 - 34.25	1.0000	1.0000
L31	73	4" x 0.75" Plate	34.00 - 34.25	1.0000	1.0000
L31	74	4" x 0.75" Plate	34.00 - 34.25	1.0000	1.0000
L32	19	LDF7-50A(1-5/8)	33.75 - 34.00	1.0000	1.0000
L32	22	MLC HYBRID 6X12 LI(1-1/2)	33.75 - 34.00	1.0000	1.0000
L32	24	LDF4-50A(1/2)	33.75 - 34.00	1.0000	1.0000
L32	26	CU12PSM9P6XXX(1-1/2)	33.75 - 34.00	1.0000	1.0000
L32	34	Bent PL 10"x1"	33.75 - 34.00	1.0000	1.0000
L32	35	Bent PL 10"x1"	33.75 - 34.00	1.0000	1.0000
L32	36	Bent PL 10"x1"	33.75 - 34.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L32	46	MS-400 (4" x 0.75" Plate)	33.75 - 34.00	1.0000	1.0000
L32	47	MS-400 (4" x 0.75" Plate)	33.75 - 34.00	1.0000	1.0000
L32	48	MS-400 (4" x 0.75" Plate)	33.75 - 34.00	1.0000	1.0000
L32	57	4" x 0.75" Plate	33.75 - 34.00	1.0000	1.0000
L32	58	4" x 0.75" Plate	33.75 - 34.00	1.0000	1.0000
L32	59	4" x 0.75" Plate	33.75 - 34.00	1.0000	1.0000
L32	73	4" x 0.75" Plate	33.75 - 34.00	1.0000	1.0000
L32	74	4" x 0.75" Plate	33.75 - 34.00	1.0000	1.0000
L33	19	LDF7-50A(1-5/8)	30.00 - 33.75	1.0000	1.0000
L33	22	MLC HYBRID 6X12 LI(1-1/2)	30.00 - 33.75	1.0000	1.0000
L33	24	LDF4-50A(1/2)	30.00 - 33.75	1.0000	1.0000
L33	26	CU12PSM9P6XXX(1-1/2)	30.00 - 33.75	1.0000	1.0000
L33	34	Bent PL 10"x1"	30.00 - 33.75	1.0000	1.0000
L33	35	Bent PL 10"x1"	30.00 - 33.75	1.0000	1.0000
L33	36	Bent PL 10"x1"	30.00 - 33.75	1.0000	1.0000
L33	46	MS-400 (4" x 0.75" Plate)	30.50 - 33.75	1.0000	1.0000
L33	47	MS-400 (4" x 0.75" Plate)	30.50 - 33.75	1.0000	1.0000
L33	48	MS-400 (4" x 0.75" Plate)	30.50 - 33.75	1.0000	1.0000
L33	57	4" x 0.75" Plate	33.00 - 33.75	1.0000	1.0000
L33	58	4" x 0.75" Plate	33.00 - 33.75	1.0000	1.0000
L33	59	4" x 0.75" Plate	33.00 - 33.75	1.0000	1.0000
L33	73	4" x 0.75" Plate	30.08 - 33.75	1.0000	1.0000
L33	74	4" x 0.75" Plate	30.08 - 33.75	1.0000	1.0000
L34	19	LDF7-50A(1-5/8)	29.75 - 30.00	1.0000	1.0000
L34	22	MLC HYBRID 6X12 LI(1-1/2)	29.75 - 30.00	1.0000	1.0000
L34	24	LDF4-50A(1/2)	29.75 - 30.00	1.0000	1.0000
L34	26	CU12PSM9P6XXX(1-1/2)	29.75 - 30.00	1.0000	1.0000
L34	30	Bent PL 10"x1"	29.75 - 30.00	1.0000	1.0000
L34	31	Bent PL 10"x1"	29.75 - 30.00	1.0000	1.0000
L34	32	Bent PL 10"x1"	29.75 - 30.00	1.0000	1.0000
L34	70	4.5" x 1" Plate	29.75 - 30.00	1.0000	1.0000
L34	71	4.5" x 1" Plate	29.75 - 30.00	1.0000	1.0000
L35	19	LDF7-50A(1-5/8)	28.50 - 29.75	1.0000	1.0000
L35	22	MLC HYBRID 6X12 LI(1-1/2)	28.50 - 29.75	1.0000	1.0000
L35	24	LDF4-50A(1/2)	28.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L35	26	CU12PSM9P6XXX(1-1/2)	29.75 28.50 - 29.75	1.0000	1.0000
L35	30	Bent PL 10"x1"	28.50 - 29.75	1.0000	1.0000
L35	31	Bent PL 10"x1"	28.50 - 29.75	1.0000	1.0000
L35	32	Bent PL 10"x1"	28.50 - 29.75	1.0000	1.0000
L35	69	4.5" x 1" Plate	28.50 - 29.54	1.0000	1.0000
L35	70	4.5" x 1" Plate	28.50 - 29.75	1.0000	1.0000
L35	71	4.5" x 1" Plate	28.50 - 29.75	1.0000	1.0000
L35	76	4.5" x 1" Plate	28.50 - 29.50	1.0000	1.0000
L35	77	4.5" x 1" Plate	28.50 - 29.50	1.0000	1.0000
L36	19	LDF7-50A(1-5/8)	28.25 - 28.50	1.0000	1.0000
L36	22	MLC HYBRID 6X12 LI(1-1/2)	28.25 - 28.50	1.0000	1.0000
L36	24	LDF4-50A(1/2)	28.25 - 28.50	1.0000	1.0000
L36	26	CU12PSM9P6XXX(1-1/2)	28.25 - 28.50	1.0000	1.0000
L36	30	Bent PL 10"x1"	28.25 - 28.50	1.0000	1.0000
L36	31	Bent PL 10"x1"	28.25 - 28.50	1.0000	1.0000
L36	32	Bent PL 10"x1"	28.25 - 28.50	1.0000	1.0000
L36	69	4.5" x 1" Plate	28.25 - 28.50	1.0000	1.0000
L36	70	4.5" x 1" Plate	28.25 - 28.50	1.0000	1.0000
L36	71	4.5" x 1" Plate	28.25 - 28.50	1.0000	1.0000
L36	76	4.5" x 1" Plate	28.25 - 28.50	1.0000	1.0000
L36	77	4.5" x 1" Plate	28.25 - 28.50	1.0000	1.0000
L37	19	LDF7-50A(1-5/8)	23.25 - 28.25	1.0000	1.0000
L37	22	MLC HYBRID 6X12 LI(1-1/2)	23.25 - 28.25	1.0000	1.0000
L37	24	LDF4-50A(1/2)	23.25 - 28.25	1.0000	1.0000
L37	26	CU12PSM9P6XXX(1-1/2)	23.25 - 28.25	1.0000	1.0000
L37	30	Bent PL 10"x1"	23.25 - 28.25	1.0000	1.0000
L37	31	Bent PL 10"x1"	23.25 - 28.25	1.0000	1.0000
L37	32	Bent PL 10"x1"	23.25 - 28.25	1.0000	1.0000
L37	54	6" x 1" Plate	23.25 - 25.50	1.0000	1.0000
L37	55	6" x 1" Plate	23.25 - 25.50	1.0000	1.0000
L37	69	4.5" x 1" Plate	23.25 - 28.25	1.0000	1.0000
L37	70	4.5" x 1" Plate	23.25 - 28.25	1.0000	1.0000
L37	71	4.5" x 1" Plate	23.25 - 28.25	1.0000	1.0000
L37	76	4.5" x 1" Plate	23.25 - 28.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L37	77	4.5" x 1" Plate	23.25 - 28.25	1.0000	1.0000
L38	19	LDF7-50A(1-5/8)	23.00 - 23.25	1.0000	1.0000
L38	22	MLC HYBRID 6X12 LI(1-1/2)	23.00 - 23.25	1.0000	1.0000
L38	24	LDF4-50A(1/2)	23.00 - 23.25	1.0000	1.0000
L38	26	CU12PSM9P6XXX(1-1/2)	23.00 - 23.25	1.0000	1.0000
L38	30	Bent PL 10"x1"	23.00 - 23.25	1.0000	1.0000
L38	31	Bent PL 10"x1"	23.00 - 23.25	1.0000	1.0000
L38	32	Bent PL 10"x1"	23.00 - 23.25	1.0000	1.0000
L38	54	6" x 1" Plate	23.00 - 23.25	1.0000	1.0000
L38	55	6" x 1" Plate	23.00 - 23.25	1.0000	1.0000
L38	69	4.5" x 1" Plate	23.00 - 23.25	1.0000	1.0000
L38	70	4.5" x 1" Plate	23.00 - 23.25	1.0000	1.0000
L38	71	4.5" x 1" Plate	23.00 - 23.25	1.0000	1.0000
L38	76	4.5" x 1" Plate	23.00 - 23.25	1.0000	1.0000
L38	77	4.5" x 1" Plate	23.00 - 23.25	1.0000	1.0000
L39	19	LDF7-50A(1-5/8)	21.50 - 23.00	1.0000	1.0000
L39	22	MLC HYBRID 6X12 LI(1-1/2)	21.50 - 23.00	1.0000	1.0000
L39	24	LDF4-50A(1/2)	21.50 - 23.00	1.0000	1.0000
L39	26	CU12PSM9P6XXX(1-1/2)	21.50 - 23.00	1.0000	1.0000
L39	30	Bent PL 10"x1"	21.50 - 23.00	1.0000	1.0000
L39	31	Bent PL 10"x1"	21.50 - 23.00	1.0000	1.0000
L39	32	Bent PL 10"x1"	21.50 - 23.00	1.0000	1.0000
L39	54	6" x 1" Plate	21.50 - 23.00	1.0000	1.0000
L39	55	6" x 1" Plate	21.50 - 23.00	1.0000	1.0000
L39	69	4.5" x 1" Plate	21.50 - 23.00	1.0000	1.0000
L39	70	4.5" x 1" Plate	21.50 - 23.00	1.0000	1.0000
L39	71	4.5" x 1" Plate	21.50 - 23.00	1.0000	1.0000
L39	76	4.5" x 1" Plate	21.50 - 23.00	1.0000	1.0000
L39	77	4.5" x 1" Plate	21.50 - 23.00	1.0000	1.0000
L40	19	LDF7-50A(1-5/8)	21.25 - 21.50	1.0000	1.0000
L40	22	MLC HYBRID 6X12 LI(1-1/2)	21.25 - 21.50	1.0000	1.0000
L40	24	LDF4-50A(1/2)	21.25 - 21.50	1.0000	1.0000
L40	26	CU12PSM9P6XXX(1-1/2)	21.25 - 21.50	1.0000	1.0000
L40	30	Bent PL 10"x1"	21.25 - 21.50	1.0000	1.0000
L40	31	Bent PL 10"x1"	21.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L40	32	Bent PL 10"x1"	21.50 21.25 - 21.50	1.0000	1.0000
L40	54	6" x 1" Plate	21.25 - 21.50	1.0000	1.0000
L40	55	6" x 1" Plate	21.25 - 21.50	1.0000	1.0000
L40	69	4.5" x 1" Plate	21.25 - 21.50	1.0000	1.0000
L40	70	4.5" x 1" Plate	21.25 - 21.50	1.0000	1.0000
L40	71	4.5" x 1" Plate	21.25 - 21.50	1.0000	1.0000
L40	76	4.5" x 1" Plate	21.25 - 21.50	1.0000	1.0000
L40	77	4.5" x 1" Plate	21.25 - 21.50	1.0000	1.0000
L41	19	LDF7-50A(1-5/8)	19.00 - 21.25	1.0000	1.0000
L41	22	MLC HYBRID 6X12 LI(1-1/2)	19.00 - 21.25	1.0000	1.0000
L41	24	LDF4-50A(1/2)	19.00 - 21.25	1.0000	1.0000
L41	26	CU12PSM9P6XXX(1-1/2)	19.00 - 21.25	1.0000	1.0000
L41	30	Bent PL 10"x1"	19.00 - 21.25	1.0000	1.0000
L41	31	Bent PL 10"x1"	19.00 - 21.25	1.0000	1.0000
L41	32	Bent PL 10"x1"	19.00 - 21.25	1.0000	1.0000
L41	42	MS-450 (4.5" x 1" Plate)	19.00 - 20.50	1.0000	1.0000
L41	43	MS-450 (4.5" x 1" Plate)	19.00 - 20.50	1.0000	1.0000
L41	44	MS-450 (4.5" x 1" Plate)	19.00 - 20.50	1.0000	1.0000
L41	54	6" x 1" Plate	19.00 - 21.25	1.0000	1.0000
L41	55	6" x 1" Plate	19.00 - 21.25	1.0000	1.0000
L41	69	4.5" x 1" Plate	19.50 - 21.25	1.0000	1.0000
L41	70	4.5" x 1" Plate	20.00 - 21.25	1.0000	1.0000
L41	71	4.5" x 1" Plate	20.00 - 21.25	1.0000	1.0000
L41	76	4.5" x 1" Plate	19.00 - 21.25	1.0000	1.0000
L41	77	4.5" x 1" Plate	19.00 - 21.25	1.0000	1.0000
L42	19	LDF7-50A(1-5/8)	18.75 - 19.00	1.0000	1.0000
L42	22	MLC HYBRID 6X12 LI(1-1/2)	18.75 - 19.00	1.0000	1.0000
L42	24	LDF4-50A(1/2)	18.75 - 19.00	1.0000	1.0000
L42	26	CU12PSM9P6XXX(1-1/2)	18.75 - 19.00	1.0000	1.0000
L42	30	Bent PL 10"x1"	18.75 - 19.00	1.0000	1.0000
L42	31	Bent PL 10"x1"	18.75 - 19.00	1.0000	1.0000
L42	32	Bent PL 10"x1"	18.75 - 19.00	1.0000	1.0000
L42	42	MS-450 (4.5" x 1" Plate)	18.75 - 19.00	1.0000	1.0000
L42	43	MS-450 (4.5" x 1" Plate)	18.75 - 19.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L42	44	MS-450 (4.5" x 1" Plate)	18.75 - 19.00	1.0000	1.0000
L42	54	6" x 1" Plate	18.75 - 19.00	1.0000	1.0000
L42	55	6" x 1" Plate	18.75 - 19.00	1.0000	1.0000
L42	76	4.5" x 1" Plate	18.75 - 19.00	1.0000	1.0000
L42	77	4.5" x 1" Plate	18.75 - 19.00	1.0000	1.0000
L43	19	LDF7-50A(1-5/8)	18.50 - 18.75	1.0000	1.0000
L43	22	MLC HYBRID 6X12 LI(1-1/2)	18.50 - 18.75	1.0000	1.0000
L43	24	LDF4-50A(1/2)	18.50 - 18.75	1.0000	1.0000
L43	26	CU12PSM9P6XXX(1-1/2)	18.50 - 18.75	1.0000	1.0000
L43	30	Bent PL 10"x1"	18.50 - 18.75	1.0000	1.0000
L43	31	Bent PL 10"x1"	18.50 - 18.75	1.0000	1.0000
L43	32	Bent PL 10"x1"	18.50 - 18.75	1.0000	1.0000
L43	42	MS-450 (4.5" x 1" Plate)	18.50 - 18.75	1.0000	1.0000
L43	43	MS-450 (4.5" x 1" Plate)	18.50 - 18.75	1.0000	1.0000
L43	44	MS-450 (4.5" x 1" Plate)	18.50 - 18.75	1.0000	1.0000
L43	54	6" x 1" Plate	18.50 - 18.75	1.0000	1.0000
L43	55	6" x 1" Plate	18.50 - 18.75	1.0000	1.0000
L43	76	4.5" x 1" Plate	18.50 - 18.75	1.0000	1.0000
L43	77	4.5" x 1" Plate	18.50 - 18.75	1.0000	1.0000
L44	19	LDF7-50A(1-5/8)	18.25 - 18.50	1.0000	1.0000
L44	22	MLC HYBRID 6X12 LI(1-1/2)	18.25 - 18.50	1.0000	1.0000
L44	24	LDF4-50A(1/2)	18.25 - 18.50	1.0000	1.0000
L44	26	CU12PSM9P6XXX(1-1/2)	18.25 - 18.50	1.0000	1.0000
L44	30	Bent PL 10"x1"	18.25 - 18.50	1.0000	1.0000
L44	31	Bent PL 10"x1"	18.25 - 18.50	1.0000	1.0000
L44	32	Bent PL 10"x1"	18.25 - 18.50	1.0000	1.0000
L44	42	MS-450 (4.5" x 1" Plate)	18.25 - 18.50	1.0000	1.0000
L44	43	MS-450 (4.5" x 1" Plate)	18.25 - 18.50	1.0000	1.0000
L44	44	MS-450 (4.5" x 1" Plate)	18.25 - 18.50	1.0000	1.0000
L44	54	6" x 1" Plate	18.25 - 18.50	1.0000	1.0000
L44	55	6" x 1" Plate	18.25 - 18.50	1.0000	1.0000
L44	76	4.5" x 1" Plate	18.25 - 18.50	1.0000	1.0000
L44	77	4.5" x 1" Plate	18.25 - 18.50	1.0000	1.0000
L45	19	LDF7-50A(1-5/8)	13.25 - 18.25	1.0000	1.0000
L45	22	MLC HYBRID 6X12 LI(1-	13.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		1/2)	18.25		
L45	24	LDF4-50A(1/2)	13.25 - 18.25	1.0000	1.0000
L45	26	CU12PSM9P6XXX(1-1/2)	13.25 - 18.25	1.0000	1.0000
L45	30	Bent PL 10"x1"	13.25 - 18.25	1.0000	1.0000
L45	31	Bent PL 10"x1"	13.25 - 18.25	1.0000	1.0000
L45	32	Bent PL 10"x1"	13.25 - 18.25	1.0000	1.0000
L45	42	MS-450 (4.5" x 1" Plate)	13.25 - 18.25	1.0000	1.0000
L45	43	MS-450 (4.5" x 1" Plate)	13.25 - 18.25	1.0000	1.0000
L45	44	MS-450 (4.5" x 1" Plate)	13.25 - 18.25	1.0000	1.0000
L45	54	6" x 1" Plate	13.25 - 18.25	1.0000	1.0000
L45	55	6" x 1" Plate	13.25 - 18.25	1.0000	1.0000
L45	76	4.5" x 1" Plate	17.00 - 18.25	1.0000	1.0000
L45	77	4.5" x 1" Plate	17.00 - 18.25	1.0000	1.0000
L45	83	7" x 1.25" Plate	13.25 - 18.25	1.0000	1.0000
L46	19	LDF7-50A(1-5/8)	12.70 - 14.88	1.0000	1.0000
L46	22	MLC HYBRID 6X12 LI(1-1/2)	12.70 - 13.25	1.0000	1.0000
L46	24	LDF4-50A(1/2)	12.70 - 13.25	1.0000	1.0000
L46	26	CU12PSM9P6XXX(1-1/2)	12.70 - 13.25	1.0000	1.0000
L46	30	Bent PL 10"x1"	12.70 - 13.25	1.0000	1.0000
L46	31	Bent PL 10"x1"	12.70 - 13.25	1.0000	1.0000
L46	32	Bent PL 10"x1"	12.70 - 13.25	1.0000	1.0000
L46	42	MS-450 (4.5" x 1" Plate)	12.70 - 13.25	1.0000	1.0000
L46	43	MS-450 (4.5" x 1" Plate)	12.70 - 13.25	1.0000	1.0000
L46	44	MS-450 (4.5" x 1" Plate)	12.70 - 13.25	1.0000	1.0000
L46	54	6" x 1" Plate	12.70 - 13.25	1.0000	1.0000
L46	55	6" x 1" Plate	12.70 - 13.25	1.0000	1.0000
L46	83	7" x 1.25" Plate	12.70 - 13.25	1.0000	1.0000
L47	19	LDF7-50A(1-5/8)	12.45 - 12.70	1.0000	1.0000
L47	22	MLC HYBRID 6X12 LI(1-1/2)	12.45 - 12.70	1.0000	1.0000
L47	24	LDF4-50A(1/2)	12.45 - 12.70	1.0000	1.0000
L47	26	CU12PSM9P6XXX(1-1/2)	12.45 - 12.70	1.0000	1.0000
L47	30	Bent PL 10"x1"	12.45 - 12.70	1.0000	1.0000
L47	31	Bent PL 10"x1"	12.45 - 12.70	1.0000	1.0000
L47	32	Bent PL 10"x1"	12.45 - 12.70	1.0000	1.0000
L47	42	MS-450 (4.5" x 1" Plate)	12.45 - 12.70	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L47	43	MS-450 (4.5" x 1" Plate)	12.45 - 12.70	1.0000	1.0000
L47	44	MS-450 (4.5" x 1" Plate)	12.45 - 12.70	1.0000	1.0000
L47	54	6" x 1" Plate	12.45 - 12.70	1.0000	1.0000
L47	55	6" x 1" Plate	12.45 - 12.70	1.0000	1.0000
L47	83	7" x 1.25" Plate	12.45 - 12.70	1.0000	1.0000
L48	19	LDF7-50A(1-5/8)	11.50 - 12.45	1.0000	1.0000
L48	22	MLC HYBRID 6X12 LI(1-1/2)	11.50 - 12.45	1.0000	1.0000
L48	24	LDF4-50A(1/2)	11.50 - 12.45	1.0000	1.0000
L48	26	CU12PSM9P6XXX(1-1/2)	11.50 - 12.45	1.0000	1.0000
L48	30	Bent PL 10"x1"	11.50 - 12.45	1.0000	1.0000
L48	31	Bent PL 10"x1"	11.50 - 12.45	1.0000	1.0000
L48	32	Bent PL 10"x1"	11.50 - 12.45	1.0000	1.0000
L48	42	MS-450 (4.5" x 1" Plate)	11.50 - 12.45	1.0000	1.0000
L48	43	MS-450 (4.5" x 1" Plate)	11.50 - 12.45	1.0000	1.0000
L48	44	MS-450 (4.5" x 1" Plate)	11.50 - 12.45	1.0000	1.0000
L48	54	6" x 1" Plate	11.50 - 12.45	1.0000	1.0000
L48	55	6" x 1" Plate	11.50 - 12.45	1.0000	1.0000
L48	83	7" x 1.25" Plate	11.50 - 12.45	1.0000	1.0000
L49	19	LDF7-50A(1-5/8)	11.25 - 11.50	1.0000	1.0000
L49	22	MLC HYBRID 6X12 LI(1-1/2)	11.25 - 11.50	1.0000	1.0000
L49	24	LDF4-50A(1/2)	11.25 - 11.50	1.0000	1.0000
L49	26	CU12PSM9P6XXX(1-1/2)	11.25 - 11.50	1.0000	1.0000
L49	30	Bent PL 10"x1"	11.25 - 11.50	1.0000	1.0000
L49	31	Bent PL 10"x1"	11.25 - 11.50	1.0000	1.0000
L49	32	Bent PL 10"x1"	11.25 - 11.50	1.0000	1.0000
L49	42	MS-450 (4.5" x 1" Plate)	11.25 - 11.50	1.0000	1.0000
L49	43	MS-450 (4.5" x 1" Plate)	11.25 - 11.50	1.0000	1.0000
L49	44	MS-450 (4.5" x 1" Plate)	11.25 - 11.50	1.0000	1.0000
L49	54	6" x 1" Plate	11.25 - 11.50	1.0000	1.0000
L49	55	6" x 1" Plate	11.25 - 11.50	1.0000	1.0000
L49	83	7" x 1.25" Plate	11.25 - 11.50	1.0000	1.0000
L50	19	LDF7-50A(1-5/8)	10.50 - 11.25	1.0000	1.0000
L50	22	MLC HYBRID 6X12 LI(1-1/2)	10.50 - 11.25	1.0000	1.0000
L50	24	LDF4-50A(1/2)	10.50 - 11.25	1.0000	1.0000
L50	26	CU12PSM9P6XXX(1-1/2)	10.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L50	30	Bent PL 10"x1"	11.25 - 10.50	1.0000	1.0000
L50	31	Bent PL 10"x1"	11.25 - 10.50	1.0000	1.0000
L50	32	Bent PL 10"x1"	11.25 - 10.50	1.0000	1.0000
L50	42	MS-450 (4.5" x 1" Plate)	11.25 - 10.50	1.0000	1.0000
L50	43	MS-450 (4.5" x 1" Plate)	11.25 - 10.50	1.0000	1.0000
L50	44	MS-450 (4.5" x 1" Plate)	11.25 - 10.50	1.0000	1.0000
L50	54	6" x 1" Plate	11.25 - 10.50	1.0000	1.0000
L50	55	6" x 1" Plate	11.25 - 10.50	1.0000	1.0000
L50	83	7" x 1.25" Plate	11.25 - 10.50	1.0000	1.0000
L51	19	LDF7-50A(1-5/8)	10.25 - 10.50	1.0000	1.0000
L51	22	MLC HYBRID 6X12 LI(1-1/2)	10.25 - 10.50	1.0000	1.0000
L51	24	LDF4-50A(1/2)	10.25 - 10.50	1.0000	1.0000
L51	26	CU12PSM9P6XXX(1-1/2)	10.25 - 10.50	1.0000	1.0000
L51	30	Bent PL 10"x1"	10.25 - 10.50	1.0000	1.0000
L51	31	Bent PL 10"x1"	10.25 - 10.50	1.0000	1.0000
L51	32	Bent PL 10"x1"	10.25 - 10.50	1.0000	1.0000
L51	42	MS-450 (4.5" x 1" Plate)	10.25 - 10.50	1.0000	1.0000
L51	43	MS-450 (4.5" x 1" Plate)	10.25 - 10.50	1.0000	1.0000
L51	44	MS-450 (4.5" x 1" Plate)	10.25 - 10.50	1.0000	1.0000
L51	54	6" x 1" Plate	10.25 - 10.50	1.0000	1.0000
L51	55	6" x 1" Plate	10.25 - 10.50	1.0000	1.0000
L51	83	7" x 1.25" Plate	10.25 - 10.50	1.0000	1.0000
L52	19	LDF7-50A(1-5/8)	7.50 - 10.25	1.0000	1.0000
L52	22	MLC HYBRID 6X12 LI(1-1/2)	7.50 - 10.25	1.0000	1.0000
L52	24	LDF4-50A(1/2)	7.50 - 10.25	1.0000	1.0000
L52	26	CU12PSM9P6XXX(1-1/2)	7.50 - 10.25	1.0000	1.0000
L52	30	Bent PL 10"x1"	7.50 - 10.25	1.0000	1.0000
L52	31	Bent PL 10"x1"	7.50 - 10.25	1.0000	1.0000
L52	32	Bent PL 10"x1"	7.50 - 10.25	1.0000	1.0000
L52	42	MS-450 (4.5" x 1" Plate)	7.50 - 10.25	1.0000	1.0000
L52	43	MS-450 (4.5" x 1" Plate)	7.50 - 10.25	1.0000	1.0000
L52	44	MS-450 (4.5" x 1" Plate)	7.50 - 10.25	1.0000	1.0000
L52	54	6" x 1" Plate	7.50 - 10.25	1.0000	1.0000
L52	55	6" x 1" Plate	7.50 - 10.25	1.0000	1.0000
L52	83	7" x 1.25" Plate	7.50 - 10.25	1.0000	1.0000
L53	19	LDF7-50A(1-5/8)	7.25 - 7.50	1.0000	1.0000
L53	22	MLC HYBRID 6X12 LI(1-1/2)	7.25 - 7.50	1.0000	1.0000
L53	24	LDF4-50A(1/2)	7.25 - 7.50	1.0000	1.0000
L53	26	CU12PSM9P6XXX(1-1/2)	7.25 - 7.50	1.0000	1.0000
L53	30	Bent PL 10"x1"	7.25 - 7.50	1.0000	1.0000
L53	31	Bent PL 10"x1"	7.25 - 7.50	1.0000	1.0000
L53	32	Bent PL 10"x1"	7.25 - 7.50	1.0000	1.0000
L53	42	MS-450 (4.5" x 1" Plate)	7.25 - 7.50	1.0000	1.0000
L53	43	MS-450 (4.5" x 1" Plate)	7.25 - 7.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L53	44	MS-450 (4.5" x 1" Plate)	7.25 - 7.50	1.0000	1.0000
L53	54	6" x 1" Plate	7.25 - 7.50	1.0000	1.0000
L53	55	6" x 1" Plate	7.25 - 7.50	1.0000	1.0000
L53	83	7" x 1.25" Plate	7.25 - 7.50	1.0000	1.0000
L54	19	LDF7-50A(1-5/8)	6.25 - 7.25	1.0000	1.0000
L54	22	MLC HYBRID 6X12 LI(1-1/2)	6.25 - 7.25	1.0000	1.0000
L54	24	LDF4-50A(1/2)	6.25 - 7.25	1.0000	1.0000
L54	26	CU12PSM9P6XXX(1-1/2)	6.25 - 7.25	1.0000	1.0000
L54	30	Bent PL 10"x1"	6.25 - 7.25	1.0000	1.0000
L54	31	Bent PL 10"x1"	6.25 - 7.25	1.0000	1.0000
L54	32	Bent PL 10"x1"	6.25 - 7.25	1.0000	1.0000
L54	42	MS-450 (4.5" x 1" Plate)	6.25 - 7.25	1.0000	1.0000
L54	43	MS-450 (4.5" x 1" Plate)	6.25 - 7.25	1.0000	1.0000
L54	44	MS-450 (4.5" x 1" Plate)	6.25 - 7.25	1.0000	1.0000
L54	54	6" x 1" Plate	6.25 - 7.25	1.0000	1.0000
L54	55	6" x 1" Plate	6.25 - 7.25	1.0000	1.0000
L54	83	7" x 1.25" Plate	6.25 - 7.25	1.0000	1.0000
L55	19	LDF7-50A(1-5/8)	6.00 - 6.25	1.0000	1.0000
L55	22	MLC HYBRID 6X12 LI(1-1/2)	6.00 - 6.25	1.0000	1.0000
L55	24	LDF4-50A(1/2)	6.00 - 6.25	1.0000	1.0000
L55	26	CU12PSM9P6XXX(1-1/2)	6.00 - 6.25	1.0000	1.0000
L55	30	Bent PL 10"x1"	6.00 - 6.25	1.0000	1.0000
L55	31	Bent PL 10"x1"	6.00 - 6.25	1.0000	1.0000
L55	32	Bent PL 10"x1"	6.00 - 6.25	1.0000	1.0000
L55	42	MS-450 (4.5" x 1" Plate)	6.00 - 6.25	1.0000	1.0000
L55	43	MS-450 (4.5" x 1" Plate)	6.00 - 6.25	1.0000	1.0000
L55	44	MS-450 (4.5" x 1" Plate)	6.00 - 6.25	1.0000	1.0000
L55	54	6" x 1" Plate	6.00 - 6.25	1.0000	1.0000
L55	55	6" x 1" Plate	6.00 - 6.25	1.0000	1.0000
L55	83	7" x 1.25" Plate	6.00 - 6.25	1.0000	1.0000
L56	19	LDF7-50A(1-5/8)	3.83 - 6.00	1.0000	1.0000
L56	22	MLC HYBRID 6X12 LI(1-1/2)	3.83 - 6.00	1.0000	1.0000
L56	24	LDF4-50A(1/2)	3.83 - 6.00	1.0000	1.0000
L56	26	CU12PSM9P6XXX(1-1/2)	3.83 - 6.00	1.0000	1.0000
L56	30	Bent PL 10"x1"	3.83 - 6.00	1.0000	1.0000
L56	31	Bent PL 10"x1"	3.83 - 6.00	1.0000	1.0000
L56	32	Bent PL 10"x1"	3.83 - 6.00	1.0000	1.0000
L56	42	MS-450 (4.5" x 1" Plate)	3.83 - 6.00	1.0000	1.0000
L56	43	MS-450 (4.5" x 1" Plate)	3.83 - 6.00	1.0000	1.0000
L56	44	MS-450 (4.5" x 1" Plate)	3.83 - 6.00	1.0000	1.0000
L56	54	6" x 1" Plate	3.83 - 6.00	1.0000	1.0000
L56	55	6" x 1" Plate	3.83 - 6.00	1.0000	1.0000
L56	83	7" x 1.25" Plate	5.88 - 6.00	1.0000	1.0000
L57	19	LDF7-50A(1-5/8)	3.58 - 3.83	1.0000	1.0000
L57	22	MLC HYBRID 6X12 LI(1-1/2)	3.58 - 3.83	1.0000	1.0000
L57	24	LDF4-50A(1/2)	3.58 - 3.83	1.0000	1.0000
L57	26	CU12PSM9P6XXX(1-1/2)	3.58 - 3.83	1.0000	1.0000
L57	30	Bent PL 10"x1"	3.58 - 3.83	1.0000	1.0000
L57	31	Bent PL 10"x1"	3.58 - 3.83	1.0000	1.0000
L57	32	Bent PL 10"x1"	3.58 - 3.83	1.0000	1.0000
L57	42	MS-450 (4.5" x 1" Plate)	3.58 - 3.83	1.0000	1.0000
L57	43	MS-450 (4.5" x 1" Plate)	3.58 - 3.83	1.0000	1.0000
L57	44	MS-450 (4.5" x 1" Plate)	3.58 - 3.83	1.0000	1.0000
L57	54	6" x 1" Plate	3.58 - 3.83	1.0000	1.0000
L57	55	6" x 1" Plate	3.58 - 3.83	1.0000	1.0000
L58	19	LDF7-50A(1-5/8)	3.33 - 3.58	1.0000	1.0000
L58	22	MLC HYBRID 6X12 LI(1-1/2)	3.33 - 3.58	1.0000	1.0000
L58	24	LDF4-50A(1/2)	3.33 - 3.58	1.0000	1.0000
L58	26	CU12PSM9P6XXX(1-1/2)	3.33 - 3.58	1.0000	1.0000
L58	30	Bent PL 10"x1"	3.33 - 3.58	1.0000	1.0000
L58	31	Bent PL 10"x1"	3.33 - 3.58	1.0000	1.0000
L58	32	Bent PL 10"x1"	3.33 - 3.58	1.0000	1.0000
L58	42	MS-450 (4.5" x 1" Plate)	3.33 - 3.58	1.0000	1.0000
L58	43	MS-450 (4.5" x 1" Plate)	3.33 - 3.58	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L58	44	MS-450 (4.5" x 1" Plate)	3.33 - 3.58	1.0000	1.0000
L58	54	6" x 1" Plate	3.33 - 3.58	1.0000	1.0000
L58	55	6" x 1" Plate	3.33 - 3.58	1.0000	1.0000
L59	19	LDF7-50A(1-5/8)	2.75 - 3.33	1.0000	1.0000
L59	22	MLC HYBRID 6X12 LI(1-1/2)	2.75 - 3.33	1.0000	1.0000
L59	24	LDF4-50A(1/2)	2.75 - 3.33	1.0000	1.0000
L59	26	CU12PSM9P6XXX(1-1/2)	2.75 - 3.33	1.0000	1.0000
L59	30	Bent PL 10"x1"	2.75 - 3.33	1.0000	1.0000
L59	31	Bent PL 10"x1"	2.75 - 3.33	1.0000	1.0000
L59	32	Bent PL 10"x1"	2.75 - 3.33	1.0000	1.0000
L59	42	MS-450 (4.5" x 1" Plate)	2.75 - 3.33	1.0000	1.0000
L59	43	MS-450 (4.5" x 1" Plate)	2.75 - 3.33	1.0000	1.0000
L59	44	MS-450 (4.5" x 1" Plate)	2.75 - 3.33	1.0000	1.0000
L59	54	6" x 1" Plate	2.75 - 3.33	1.0000	1.0000
L59	55	6" x 1" Plate	2.75 - 3.33	1.0000	1.0000
L60	19	LDF7-50A(1-5/8)	2.50 - 2.75	1.0000	1.0000
L60	22	MLC HYBRID 6X12 LI(1-1/2)	2.50 - 2.75	1.0000	1.0000
L60	24	LDF4-50A(1/2)	2.50 - 2.75	1.0000	1.0000
L60	26	CU12PSM9P6XXX(1-1/2)	2.50 - 2.75	1.0000	1.0000
L60	30	Bent PL 10"x1"	2.50 - 2.75	1.0000	1.0000
L60	31	Bent PL 10"x1"	2.50 - 2.75	1.0000	1.0000
L60	32	Bent PL 10"x1"	2.50 - 2.75	1.0000	1.0000
L60	42	MS-450 (4.5" x 1" Plate)	2.50 - 2.75	1.0000	1.0000
L60	43	MS-450 (4.5" x 1" Plate)	2.50 - 2.75	1.0000	1.0000
L60	44	MS-450 (4.5" x 1" Plate)	2.50 - 2.75	1.0000	1.0000
L60	54	6" x 1" Plate	2.50 - 2.75	1.0000	1.0000
L60	55	6" x 1" Plate	2.50 - 2.75	1.0000	1.0000
L61	19	LDF7-50A(1-5/8)	2.00 - 2.50	1.0000	1.0000
L61	22	MLC HYBRID 6X12 LI(1-1/2)	2.00 - 2.50	1.0000	1.0000
L61	24	LDF4-50A(1/2)	2.00 - 2.50	1.0000	1.0000
L61	26	CU12PSM9P6XXX(1-1/2)	2.00 - 2.50	1.0000	1.0000
L61	30	Bent PL 10"x1"	2.00 - 2.50	1.0000	1.0000
L61	31	Bent PL 10"x1"	2.00 - 2.50	1.0000	1.0000
L61	32	Bent PL 10"x1"	2.00 - 2.50	1.0000	1.0000
L61	42	MS-450 (4.5" x 1" Plate)	2.00 - 2.50	1.0000	1.0000
L61	43	MS-450 (4.5" x 1" Plate)	2.00 - 2.50	1.0000	1.0000
L61	44	MS-450 (4.5" x 1" Plate)	2.00 - 2.50	1.0000	1.0000
L61	54	6" x 1" Plate	2.00 - 2.50	1.0000	1.0000
L61	55	6" x 1" Plate	2.00 - 2.50	1.0000	1.0000
L62	19	LDF7-50A(1-5/8)	1.75 - 2.00	1.0000	1.0000
L62	22	MLC HYBRID 6X12 LI(1-1/2)	1.75 - 2.00	1.0000	1.0000
L62	24	LDF4-50A(1/2)	1.75 - 2.00	1.0000	1.0000
L62	26	CU12PSM9P6XXX(1-1/2)	1.75 - 2.00	1.0000	1.0000
L62	30	Bent PL 10"x1"	1.75 - 2.00	1.0000	1.0000
L62	31	Bent PL 10"x1"	1.75 - 2.00	1.0000	1.0000
L62	32	Bent PL 10"x1"	1.75 - 2.00	1.0000	1.0000
L62	42	MS-450 (4.5" x 1" Plate)	1.75 - 2.00	1.0000	1.0000
L62	43	MS-450 (4.5" x 1" Plate)	1.75 - 2.00	1.0000	1.0000
L62	44	MS-450 (4.5" x 1" Plate)	1.75 - 2.00	1.0000	1.0000
L62	54	6" x 1" Plate	1.75 - 2.00	1.0000	1.0000
L62	55	6" x 1" Plate	1.75 - 2.00	1.0000	1.0000
L63	19	LDF7-50A(1-5/8)	0.00 - 1.75	1.0000	1.0000
L63	22	MLC HYBRID 6X12 LI(1-1/2)	0.00 - 1.75	1.0000	1.0000
L63	24	LDF4-50A(1/2)	0.00 - 1.75	1.0000	1.0000
L63	26	CU12PSM9P6XXX(1-1/2)	0.00 - 1.75	1.0000	1.0000
L63	42	MS-450 (4.5" x 1" Plate)	0.00 - 1.75	1.0000	1.0000
L63	43	MS-450 (4.5" x 1" Plate)	0.00 - 1.75	1.0000	1.0000
L63	44	MS-450 (4.5" x 1" Plate)	0.00 - 1.75	1.0000	1.0000
L63	54	6" x 1" Plate	0.00 - 1.75	1.0000	1.0000
L63	55	6" x 1" Plate	0.00 - 1.75	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
L9	79	4.5" x 1" Plate	76.50 - 78.00	Auto	1.0000
L9	80	4.5" x 1" Plate	76.50 - 78.00	Auto	1.0000
L9	81	4.5" x 1" Plate	76.50 - 78.00	Auto	1.0000
L10	79	4.5" x 1" Plate	76.25 - 76.50	Auto	1.0000
L10	80	4.5" x 1" Plate	76.25 - 76.50	Auto	1.0000
L10	81	4.5" x 1" Plate	76.25 - 76.50	Auto	1.0000
L11	38	Bent PL 9"x0.75"	74.00 - 75.00	Auto	1.0000
L11	39	Bent PL 9"x0.75"	74.00 - 75.00	Auto	1.0000
L11	40	Bent PL 9"x0.75"	74.00 - 75.00	Auto	1.0000
L11	79	4.5" x 1" Plate	74.00 - 76.25	Auto	1.0000
L11	80	4.5" x 1" Plate	74.00 - 76.25	Auto	1.0000
L11	81	4.5" x 1" Plate	74.00 - 76.25	Auto	1.0000
L12	38	Bent PL 9"x0.75"	73.75 - 74.00	Auto	1.0000
L12	39	Bent PL 9"x0.75"	73.75 - 74.00	Auto	1.0000
L12	40	Bent PL 9"x0.75"	73.75 - 74.00	Auto	1.0000
L12	79	4.5" x 1" Plate	73.75 - 74.00	Auto	1.0000
L12	80	4.5" x 1" Plate	73.75 - 74.00	Auto	1.0000
L12	81	4.5" x 1" Plate	73.75 - 74.00	Auto	1.0000
L13	38	Bent PL 9"x0.75"	68.88 - 73.75	Auto	1.0000
L13	39	Bent PL 9"x0.75"	68.88 - 73.75	Auto	1.0000
L13	40	Bent PL 9"x0.75"	68.88 - 73.75	Auto	1.0000
L13	65	4.5" x 1" Plate	68.88 - 70.25	Auto	1.0000
L13	66	4.5" x 1" Plate	68.88 - 70.25	Auto	1.0000
L13	67	4.5" x 1" Plate	68.88 - 70.25	Auto	1.0000
L13	79	4.5" x 1" Plate	68.88 - 73.75	Auto	1.0000
L13	80	4.5" x 1" Plate	68.88 - 73.75	Auto	1.0000
L13	81	4.5" x 1" Plate	68.88 - 73.75	Auto	1.0000
L14	38	Bent PL 9"x0.75"	68.63 - 68.88	Auto	1.0000
L14	39	Bent PL 9"x0.75"	68.63 - 68.88	Auto	1.0000
L14	40	Bent PL 9"x0.75"	68.63 - 68.88	Auto	1.0000
L14	65	4.5" x 1" Plate	68.63 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L14	66	4.5" x 1" Plate	68.88 68.63 - 68.88	Auto	1.0000
L14	67	4.5" x 1" Plate	68.63 - 68.88	Auto	1.0000
L14	79	4.5" x 1" Plate	68.63 - 68.88	Auto	1.0000
L14	80	4.5" x 1" Plate	68.63 - 68.88	Auto	1.0000
L14	81	4.5" x 1" Plate	68.63 - 68.88	Auto	1.0000
L15	38	Bent PL 9"x0.75"	64.50 - 68.63	Auto	1.0000
L15	39	Bent PL 9"x0.75"	64.50 - 68.63	Auto	1.0000
L15	40	Bent PL 9"x0.75"	64.50 - 68.63	Auto	1.0000
L15	50	MS-400 (4" x 0.75" Plate)	64.50 - 65.50	Auto	1.0000
L15	51	MS-400 (4" x 0.75" Plate)	64.50 - 65.50	Auto	1.0000
L15	52	MS-400 (4" x 0.75" Plate)	64.50 - 65.50	Auto	1.0000
L15	65	4.5" x 1" Plate	64.50 - 68.63	Auto	1.0000
L15	66	4.5" x 1" Plate	64.50 - 68.63	Auto	1.0000
L15	67	4.5" x 1" Plate	64.50 - 68.63	Auto	1.0000
L15	79	4.5" x 1" Plate	67.00 - 68.63	Auto	1.0000
L15	80	4.5" x 1" Plate	67.00 - 68.63	Auto	1.0000
L15	81	4.5" x 1" Plate	67.00 - 68.63	Auto	1.0000
L16	38	Bent PL 9"x0.75"	64.25 - 64.50	Auto	1.0000
L16	39	Bent PL 9"x0.75"	64.25 - 64.50	Auto	1.0000
L16	40	Bent PL 9"x0.75"	64.25 - 64.50	Auto	1.0000
L16	50	MS-400 (4" x 0.75" Plate)	64.25 - 64.50	Auto	1.0000
L16	51	MS-400 (4" x 0.75" Plate)	64.25 - 64.50	Auto	1.0000
L16	52	MS-400 (4" x 0.75" Plate)	64.25 - 64.50	Auto	1.0000
L16	65	4.5" x 1" Plate	64.25 - 64.50	Auto	1.0000
L16	66	4.5" x 1" Plate	64.25 - 64.50	Auto	1.0000
L16	67	4.5" x 1" Plate	64.25 - 64.50	Auto	1.0000
L17	38	Bent PL 9"x0.75"	63.00 - 64.25	Auto	1.0000
L17	39	Bent PL 9"x0.75"	63.00 - 64.25	Auto	1.0000
L17	40	Bent PL 9"x0.75"	63.00 - 64.25	Auto	1.0000
L17	50	MS-400 (4" x 0.75" Plate)	63.00 - 64.25	Auto	1.0000
L17	51	MS-400 (4" x 0.75" Plate)	63.00 - 64.25	Auto	1.0000
L17	52	MS-400 (4" x 0.75" Plate)	63.00 - 64.25	Auto	1.0000
L17	65	4.5" x 1" Plate	63.00 - 64.25	Auto	1.0000
L17	66	4.5" x 1" Plate	63.00 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L17	67	4.5" x 1" Plate	64.25 63.00 - 64.25	Auto	1.0000
L18	38	Bent PL 9"x0.75"	62.75 - 63.00	Auto	1.0000
L18	39	Bent PL 9"x0.75"	62.75 - 63.00	Auto	1.0000
L18	40	Bent PL 9"x0.75"	62.75 - 63.00	Auto	1.0000
L18	50	MS-400 (4" x 0.75" Plate)	62.75 - 63.00	Auto	1.0000
L18	51	MS-400 (4" x 0.75" Plate)	62.75 - 63.00	Auto	1.0000
L18	52	MS-400 (4" x 0.75" Plate)	62.75 - 63.00	Auto	1.0000
L18	61	3.75" x 1" Plate	62.75 - 63.00	Auto	1.0000
L18	62	3.75" x 1" Plate	62.75 - 63.00	Auto	1.0000
L18	63	3.75" x 1" Plate	62.75 - 63.00	Auto	1.0000
L19	38	Bent PL 9"x0.75"	60.00 - 62.75	Auto	1.0000
L19	39	Bent PL 9"x0.75"	60.00 - 62.75	Auto	1.0000
L19	40	Bent PL 9"x0.75"	60.00 - 62.75	Auto	1.0000
L19	50	MS-400 (4" x 0.75" Plate)	60.50 - 62.75	Auto	1.0000
L19	51	MS-400 (4" x 0.75" Plate)	60.50 - 62.75	Auto	1.0000
L19	52	MS-400 (4" x 0.75" Plate)	60.50 - 62.75	Auto	1.0000
L19	61	3.75" x 1" Plate	60.25 - 62.75	Auto	1.0000
L19	62	3.75" x 1" Plate	60.25 - 62.75	Auto	1.0000
L19	63	3.75" x 1" Plate	60.25 - 62.75	Auto	1.0000
L20	34	Bent PL 10"x1"	59.75 - 60.00	Auto	1.0000
L20	35	Bent PL 10"x1"	59.75 - 60.00	Auto	1.0000
L20	36	Bent PL 10"x1"	59.75 - 60.00	Auto	1.0000
L21	34	Bent PL 10"x1"	54.75 - 59.75	Auto	1.0000
L21	35	Bent PL 10"x1"	54.75 - 59.75	Auto	1.0000
L21	36	Bent PL 10"x1"	54.75 - 59.75	Auto	1.0000
L22	34	Bent PL 10"x1"	49.75 - 54.75	Auto	1.0000
L22	35	Bent PL 10"x1"	49.75 - 54.75	Auto	1.0000
L22	36	Bent PL 10"x1"	49.75 - 54.75	Auto	1.0000
L22	73	4" x 0.75" Plate	49.75 - 51.08	Auto	1.0000
L22	74	4" x 0.75" Plate	49.75 - 51.08	Auto	1.0000
L23	34	Bent PL 10"x1"	49.25 - 49.75	Auto	1.0000
L23	35	Bent PL 10"x1"	49.25 - 49.75	Auto	1.0000
L23	36	Bent PL 10"x1"	49.25 - 49.75	Auto	1.0000
L23	73	4" x 0.75" Plate	49.25 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L23	74	4" x 0.75" Plate	49.75 - 49.25	Auto	1.0000
L24	34	Bent PL 10"x1"	49.75 - 49.00	Auto	1.0000
L24	35	Bent PL 10"x1"	49.25 - 49.00	Auto	1.0000
L24	36	Bent PL 10"x1"	49.25 - 49.00	Auto	1.0000
L24	73	4" x 0.75" Plate	49.25 - 49.00	Auto	1.0000
L24	74	4" x 0.75" Plate	49.25 - 49.00	Auto	1.0000
L25	34	Bent PL 10"x1"	49.25 - 44.00	Auto	1.0000
L25	35	Bent PL 10"x1"	49.00 - 44.00	Auto	1.0000
L25	36	Bent PL 10"x1"	49.00 - 44.00	Auto	1.0000
L25	73	4" x 0.75" Plate	49.00 - 44.00	Auto	1.0000
L25	74	4" x 0.75" Plate	49.00 - 44.00	Auto	1.0000
L26	34	Bent PL 10"x1"	44.00 - 42.00	Auto	1.0000
L26	35	Bent PL 10"x1"	44.00 - 42.00	Auto	1.0000
L26	36	Bent PL 10"x1"	44.00 - 42.00	Auto	1.0000
L26	57	4" x 0.75" Plate	44.00 - 43.00	Auto	1.0000
L26	58	4" x 0.75" Plate	44.00 - 43.00	Auto	1.0000
L26	59	4" x 0.75" Plate	44.00 - 43.00	Auto	1.0000
L26	73	4" x 0.75" Plate	44.00 - 42.00	Auto	1.0000
L26	74	4" x 0.75" Plate	44.00 - 42.00	Auto	1.0000
L27	34	Bent PL 10"x1"	42.00 - 41.75	Auto	1.0000
L27	35	Bent PL 10"x1"	42.00 - 41.75	Auto	1.0000
L27	36	Bent PL 10"x1"	42.00 - 41.75	Auto	1.0000
L27	57	4" x 0.75" Plate	42.00 - 41.75	Auto	1.0000
L27	58	4" x 0.75" Plate	42.00 - 41.75	Auto	1.0000
L27	59	4" x 0.75" Plate	42.00 - 41.75	Auto	1.0000
L27	73	4" x 0.75" Plate	42.00 - 41.75	Auto	1.0000
L27	74	4" x 0.75" Plate	42.00 - 41.75	Auto	1.0000
L28	34	Bent PL 10"x1"	41.75 - 36.75	Auto	1.0000
L28	35	Bent PL 10"x1"	41.75 - 36.75	Auto	1.0000
L28	36	Bent PL 10"x1"	41.75 - 36.75	Auto	1.0000
L28	57	4" x 0.75" Plate	41.75 - 36.75	Auto	1.0000
L28	58	4" x 0.75" Plate	41.75 - 36.75	Auto	1.0000
L28	59	4" x 0.75" Plate	41.75 - 36.75	Auto	1.0000
L28	73	4" x 0.75" Plate	41.75 - 36.75 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L28	74	4" x 0.75" Plate	41.75 - 36.75	Auto	1.0000
L29	34	Bent PL 10"x1"	41.75 - 34.50	Auto	1.0000
L29	35	Bent PL 10"x1"	36.75 - 34.50	Auto	1.0000
L29	36	Bent PL 10"x1"	36.75 - 34.50	Auto	1.0000
L29	46	MS-400 (4" x 0.75" Plate)	36.75 - 34.50	Auto	1.0000
L29	47	MS-400 (4" x 0.75" Plate)	35.50 - 34.50	Auto	1.0000
L29	48	MS-400 (4" x 0.75" Plate)	35.50 - 34.50	Auto	1.0000
L29	57	4" x 0.75" Plate	35.50 - 34.50	Auto	1.0000
L29	58	4" x 0.75" Plate	36.75 - 34.50	Auto	1.0000
L29	59	4" x 0.75" Plate	36.75 - 34.50	Auto	1.0000
L29	73	4" x 0.75" Plate	36.75 - 34.50	Auto	1.0000
L29	74	4" x 0.75" Plate	36.75 - 34.50	Auto	1.0000
L30	34	Bent PL 10"x1"	34.25 - 34.50	Auto	1.0000
L30	35	Bent PL 10"x1"	34.25 - 34.50	Auto	1.0000
L30	36	Bent PL 10"x1"	34.25 - 34.50	Auto	1.0000
L30	46	MS-400 (4" x 0.75" Plate)	34.25 - 34.50	Auto	1.0000
L30	47	MS-400 (4" x 0.75" Plate)	34.25 - 34.50	Auto	1.0000
L30	48	MS-400 (4" x 0.75" Plate)	34.25 - 34.50	Auto	1.0000
L30	57	4" x 0.75" Plate	34.25 - 34.50	Auto	1.0000
L30	58	4" x 0.75" Plate	34.25 - 34.50	Auto	1.0000
L30	59	4" x 0.75" Plate	34.25 - 34.50	Auto	1.0000
L30	73	4" x 0.75" Plate	34.25 - 34.50	Auto	1.0000
L30	74	4" x 0.75" Plate	34.25 - 34.50	Auto	1.0000
L31	34	Bent PL 10"x1"	34.00 - 34.25	Auto	1.0000
L31	35	Bent PL 10"x1"	34.00 - 34.25	Auto	1.0000
L31	36	Bent PL 10"x1"	34.00 - 34.25	Auto	1.0000
L31	46	MS-400 (4" x 0.75" Plate)	34.00 - 34.25	Auto	1.0000
L31	47	MS-400 (4" x 0.75" Plate)	34.00 - 34.25	Auto	1.0000
L31	48	MS-400 (4" x 0.75" Plate)	34.00 - 34.25	Auto	1.0000
L31	57	4" x 0.75" Plate	34.00 - 34.25	Auto	1.0000
L31	58	4" x 0.75" Plate	34.00 - 34.25	Auto	1.0000
L31	59	4" x 0.75" Plate	34.00 - 34.25	Auto	1.0000
L31	73	4" x 0.75" Plate	34.00 - 34.25	Auto	1.0000
L31	74	4" x 0.75" Plate	34.00 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L32	34	Bent PL 10"x1"	34.25 33.75 - 34.00	Auto	1.0000
L32	35	Bent PL 10"x1"	33.75 - 34.00	Auto	1.0000
L32	36	Bent PL 10"x1"	33.75 - 34.00	Auto	1.0000
L32	46	MS-400 (4" x 0.75" Plate)	33.75 - 34.00	Auto	1.0000
L32	47	MS-400 (4" x 0.75" Plate)	33.75 - 34.00	Auto	1.0000
L32	48	MS-400 (4" x 0.75" Plate)	33.75 - 34.00	Auto	1.0000
L32	57	4" x 0.75" Plate	33.75 - 34.00	Auto	1.0000
L32	58	4" x 0.75" Plate	33.75 - 34.00	Auto	1.0000
L32	59	4" x 0.75" Plate	33.75 - 34.00	Auto	1.0000
L32	73	4" x 0.75" Plate	33.75 - 34.00	Auto	1.0000
L32	74	4" x 0.75" Plate	33.75 - 34.00	Auto	1.0000
L33	34	Bent PL 10"x1"	30.00 - 33.75	Auto	1.0000
L33	35	Bent PL 10"x1"	30.00 - 33.75	Auto	1.0000
L33	36	Bent PL 10"x1"	30.00 - 33.75	Auto	1.0000
L33	46	MS-400 (4" x 0.75" Plate)	30.50 - 33.75	Auto	1.0000
L33	47	MS-400 (4" x 0.75" Plate)	30.50 - 33.75	Auto	1.0000
L33	48	MS-400 (4" x 0.75" Plate)	30.50 - 33.75	Auto	1.0000
L33	57	4" x 0.75" Plate	33.00 - 33.75	Auto	1.0000
L33	58	4" x 0.75" Plate	33.00 - 33.75	Auto	1.0000
L33	59	4" x 0.75" Plate	33.00 - 33.75	Auto	1.0000
L33	73	4" x 0.75" Plate	30.08 - 33.75	Auto	1.0000
L33	74	4" x 0.75" Plate	30.08 - 33.75	Auto	1.0000
L34	30	Bent PL 10"x1"	29.75 - 30.00	Auto	1.0000
L34	31	Bent PL 10"x1"	29.75 - 30.00	Auto	1.0000
L34	32	Bent PL 10"x1"	29.75 - 30.00	Auto	1.0000
L34	70	4.5" x 1" Plate	29.75 - 30.00	Auto	1.0000
L34	71	4.5" x 1" Plate	29.75 - 30.00	Auto	1.0000
L35	30	Bent PL 10"x1"	28.50 - 29.75	Auto	1.0000
L35	31	Bent PL 10"x1"	28.50 - 29.75	Auto	1.0000
L35	32	Bent PL 10"x1"	28.50 - 29.75	Auto	1.0000
L35	69	4.5" x 1" Plate	28.50 - 29.54	Auto	1.0000
L35	70	4.5" x 1" Plate	28.50 - 29.75	Auto	1.0000
L35	71	4.5" x 1" Plate	28.50 - 29.75	Auto	1.0000
L35	76	4.5" x 1" Plate	28.50 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L35	77	4.5" x 1" Plate	29.50 28.50 - 29.50	Auto	1.0000
L36	30	Bent PL 10"x1"	28.25 - 28.50	Auto	1.0000
L36	31	Bent PL 10"x1"	28.25 - 28.50	Auto	1.0000
L36	32	Bent PL 10"x1"	28.25 - 28.50	Auto	1.0000
L36	69	4.5" x 1" Plate	28.25 - 28.50	Auto	1.0000
L36	70	4.5" x 1" Plate	28.25 - 28.50	Auto	1.0000
L36	71	4.5" x 1" Plate	28.25 - 28.50	Auto	1.0000
L36	76	4.5" x 1" Plate	28.25 - 28.50	Auto	1.0000
L36	77	4.5" x 1" Plate	28.25 - 28.50	Auto	1.0000
L37	30	Bent PL 10"x1"	23.25 - 28.25	Auto	1.0000
L37	31	Bent PL 10"x1"	23.25 - 28.25	Auto	1.0000
L37	32	Bent PL 10"x1"	23.25 - 28.25	Auto	1.0000
L37	54	6" x 1" Plate	23.25 - 25.50	Auto	1.0000
L37	55	6" x 1" Plate	23.25 - 25.50	Auto	1.0000
L37	69	4.5" x 1" Plate	23.25 - 28.25	Auto	1.0000
L37	70	4.5" x 1" Plate	23.25 - 28.25	Auto	1.0000
L37	71	4.5" x 1" Plate	23.25 - 28.25	Auto	1.0000
L37	76	4.5" x 1" Plate	23.25 - 28.25	Auto	1.0000
L37	77	4.5" x 1" Plate	23.25 - 28.25	Auto	1.0000
L38	30	Bent PL 10"x1"	23.00 - 23.25	Auto	1.0000
L38	31	Bent PL 10"x1"	23.00 - 23.25	Auto	1.0000
L38	32	Bent PL 10"x1"	23.00 - 23.25	Auto	1.0000
L38	54	6" x 1" Plate	23.00 - 23.25	Auto	1.0000
L38	55	6" x 1" Plate	23.00 - 23.25	Auto	1.0000
L38	69	4.5" x 1" Plate	23.00 - 23.25	Auto	1.0000
L38	70	4.5" x 1" Plate	23.00 - 23.25	Auto	1.0000
L38	71	4.5" x 1" Plate	23.00 - 23.25	Auto	1.0000
L38	76	4.5" x 1" Plate	23.00 - 23.25	Auto	1.0000
L38	77	4.5" x 1" Plate	23.00 - 23.25	Auto	1.0000
L39	30	Bent PL 10"x1"	21.50 - 23.00	Auto	1.0000
L39	31	Bent PL 10"x1"	21.50 - 23.00	Auto	1.0000
L39	32	Bent PL 10"x1"	21.50 - 23.00	Auto	1.0000
L39	54	6" x 1" Plate	21.50 - 23.00	Auto	1.0000
L39	55	6" x 1" Plate	21.50 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L39	69	4.5" x 1" Plate	23.00 - 21.50	Auto	1.0000
L39	70	4.5" x 1" Plate	23.00 - 21.50	Auto	1.0000
L39	71	4.5" x 1" Plate	23.00 - 21.50	Auto	1.0000
L39	76	4.5" x 1" Plate	23.00 - 21.50	Auto	1.0000
L39	77	4.5" x 1" Plate	23.00 - 21.50	Auto	1.0000
L40	30	Bent PL 10"x1"	23.00 - 21.25	Auto	1.0000
L40	31	Bent PL 10"x1"	21.50 - 21.25	Auto	1.0000
L40	32	Bent PL 10"x1"	21.50 - 21.25	Auto	1.0000
L40	54	6" x 1" Plate	21.50 - 21.25	Auto	1.0000
L40	55	6" x 1" Plate	21.50 - 21.25	Auto	1.0000
L40	69	4.5" x 1" Plate	21.50 - 21.25	Auto	1.0000
L40	70	4.5" x 1" Plate	21.50 - 21.25	Auto	1.0000
L40	71	4.5" x 1" Plate	21.50 - 21.25	Auto	1.0000
L40	76	4.5" x 1" Plate	21.50 - 21.25	Auto	1.0000
L40	77	4.5" x 1" Plate	21.50 - 21.25	Auto	1.0000
L41	30	Bent PL 10"x1"	21.25 - 19.00	Auto	1.0000
L41	31	Bent PL 10"x1"	21.25 - 19.00	Auto	1.0000
L41	32	Bent PL 10"x1"	21.25 - 19.00	Auto	1.0000
L41	42	MS-450 (4.5" x 1" Plate)	21.25 - 19.00	Auto	1.0000
L41	43	MS-450 (4.5" x 1" Plate)	20.50 - 19.00	Auto	1.0000
L41	44	MS-450 (4.5" x 1" Plate)	20.50 - 19.00	Auto	1.0000
L41	54	6" x 1" Plate	20.50 - 19.00	Auto	1.0000
L41	55	6" x 1" Plate	21.25 - 19.00	Auto	1.0000
L41	69	4.5" x 1" Plate	21.25 - 19.50	Auto	1.0000
L41	70	4.5" x 1" Plate	21.25 - 20.00	Auto	1.0000
L41	71	4.5" x 1" Plate	21.25 - 20.00	Auto	1.0000
L41	76	4.5" x 1" Plate	21.25 - 19.00	Auto	1.0000
L41	77	4.5" x 1" Plate	21.25 - 19.00	Auto	1.0000
L42	30	Bent PL 10"x1"	21.25 - 18.75	Auto	1.0000
L42	31	Bent PL 10"x1"	19.00 - 18.75	Auto	1.0000
L42	32	Bent PL 10"x1"	19.00 - 18.75	Auto	1.0000
L42	42	MS-450 (4.5" x 1" Plate)	19.00 - 18.75	Auto	1.0000
L42	43	MS-450 (4.5" x 1" Plate)	19.00 - 18.75	Auto	1.0000
L42	44	MS-450 (4.5" x 1" Plate)	19.00 - 18.75	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L42	54	6" x 1" Plate	19.00 18.75 -	Auto	1.0000
L42	55	6" x 1" Plate	19.00 18.75 -	Auto	1.0000
L42	76	4.5" x 1" Plate	19.00 18.75 -	Auto	1.0000
L42	77	4.5" x 1" Plate	19.00 18.75 -	Auto	1.0000
L43	30	Bent PL 10"x1"	19.00 18.50 -	Auto	1.0000
L43	31	Bent PL 10"x1"	18.75 18.50 -	Auto	1.0000
L43	32	Bent PL 10"x1"	18.75 18.50 -	Auto	1.0000
L43	42	MS-450 (4.5" x 1" Plate)	18.75 18.50 -	Auto	1.0000
L43	43	MS-450 (4.5" x 1" Plate)	18.75 18.50 -	Auto	1.0000
L43	44	MS-450 (4.5" x 1" Plate)	18.75 18.50 -	Auto	1.0000
L43	54	6" x 1" Plate	18.75 18.50 -	Auto	1.0000
L43	55	6" x 1" Plate	18.75 18.50 -	Auto	1.0000
L43	76	4.5" x 1" Plate	18.75 18.50 -	Auto	1.0000
L43	77	4.5" x 1" Plate	18.75 18.50 -	Auto	1.0000
L44	30	Bent PL 10"x1"	18.75 18.25 -	Auto	1.0000
L44	31	Bent PL 10"x1"	18.50 18.25 -	Auto	1.0000
L44	32	Bent PL 10"x1"	18.50 18.25 -	Auto	1.0000
L44	42	MS-450 (4.5" x 1" Plate)	18.50 18.25 -	Auto	1.0000
L44	43	MS-450 (4.5" x 1" Plate)	18.50 18.25 -	Auto	1.0000
L44	44	MS-450 (4.5" x 1" Plate)	18.50 18.25 -	Auto	1.0000
L44	54	6" x 1" Plate	18.50 18.25 -	Auto	1.0000
L44	55	6" x 1" Plate	18.50 18.25 -	Auto	1.0000
L44	76	4.5" x 1" Plate	18.50 18.25 -	Auto	1.0000
L44	77	4.5" x 1" Plate	18.50 18.25 -	Auto	1.0000
L45	30	Bent PL 10"x1"	18.50 13.25 -	Auto	1.0000
L45	31	Bent PL 10"x1"	18.25 13.25 -	Auto	1.0000
L45	32	Bent PL 10"x1"	18.25 13.25 -	Auto	1.0000
L45	42	MS-450 (4.5" x 1" Plate)	18.25 13.25 -	Auto	1.0000
L45	43	MS-450 (4.5" x 1" Plate)	18.25 13.25 -	Auto	1.0000
L45	44	MS-450 (4.5" x 1" Plate)	18.25 13.25 -	Auto	1.0000
L45	54	6" x 1" Plate	18.25 13.25 -	Auto	1.0000
L45	55	6" x 1" Plate	18.25 13.25 -	Auto	1.0000
L45	76	4.5" x 1" Plate	18.25 17.00 -	Auto	1.0000
L45	77	4.5" x 1" Plate	18.25 17.00 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L45	83	7" x 1.25" Plate	18.25 - 13.25	Auto	1.0000
L46	30	Bent PL 10"x1"	14.88 - 12.70	Auto	1.0000
L46	31	Bent PL 10"x1"	13.25 - 12.70	Auto	1.0000
L46	32	Bent PL 10"x1"	13.25 - 12.70	Auto	1.0000
L46	42	MS-450 (4.5" x 1" Plate)	13.25 - 12.70	Auto	1.0000
L46	43	MS-450 (4.5" x 1" Plate)	13.25 - 12.70	Auto	1.0000
L46	44	MS-450 (4.5" x 1" Plate)	13.25 - 12.70	Auto	1.0000
L46	54	6" x 1" Plate	13.25 - 12.70	Auto	1.0000
L46	55	6" x 1" Plate	13.25 - 12.70	Auto	1.0000
L46	83	7" x 1.25" Plate	13.25 - 12.70	Auto	1.0000
L47	30	Bent PL 10"x1"	12.70 - 12.45	Auto	1.0000
L47	31	Bent PL 10"x1"	12.70 - 12.45	Auto	1.0000
L47	32	Bent PL 10"x1"	12.70 - 12.45	Auto	1.0000
L47	42	MS-450 (4.5" x 1" Plate)	12.70 - 12.45	Auto	1.0000
L47	43	MS-450 (4.5" x 1" Plate)	12.70 - 12.45	Auto	1.0000
L47	44	MS-450 (4.5" x 1" Plate)	12.70 - 12.45	Auto	1.0000
L47	54	6" x 1" Plate	12.70 - 12.45	Auto	1.0000
L47	55	6" x 1" Plate	12.70 - 12.45	Auto	1.0000
L47	83	7" x 1.25" Plate	12.70 - 12.45	Auto	1.0000
L48	30	Bent PL 10"x1"	12.45 - 11.50	Auto	1.0000
L48	31	Bent PL 10"x1"	12.45 - 11.50	Auto	1.0000
L48	32	Bent PL 10"x1"	12.45 - 11.50	Auto	1.0000
L48	42	MS-450 (4.5" x 1" Plate)	12.45 - 11.50	Auto	1.0000
L48	43	MS-450 (4.5" x 1" Plate)	12.45 - 11.50	Auto	1.0000
L48	44	MS-450 (4.5" x 1" Plate)	12.45 - 11.50	Auto	1.0000
L48	54	6" x 1" Plate	12.45 - 11.50	Auto	1.0000
L48	55	6" x 1" Plate	12.45 - 11.50	Auto	1.0000
L48	83	7" x 1.25" Plate	12.45 - 11.50	Auto	1.0000
L49	30	Bent PL 10"x1"	11.50 - 11.25	Auto	1.0000
L49	31	Bent PL 10"x1"	11.50 - 11.25	Auto	1.0000
L49	32	Bent PL 10"x1"	11.50 - 11.25	Auto	1.0000
L49	42	MS-450 (4.5" x 1" Plate)	11.50 - 11.25	Auto	1.0000
L49	43	MS-450 (4.5" x 1" Plate)	11.50 - 11.25	Auto	1.0000
L49	44	MS-450 (4.5" x 1" Plate)	11.50 - 11.25	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L49	54	6" x 1" Plate	11.50 11.25 - 11.50	Auto	1.0000
L49	55	6" x 1" Plate	11.25 - 11.50	Auto	1.0000
L49	83	7" x 1.25" Plate	11.25 - 11.50	Auto	1.0000
L50	30	Bent PL 10"x1"	10.50 - 11.25	Auto	1.0000
L50	31	Bent PL 10"x1"	10.50 - 11.25	Auto	1.0000
L50	32	Bent PL 10"x1"	10.50 - 11.25	Auto	1.0000
L50	42	MS-450 (4.5" x 1" Plate)	10.50 - 11.25	Auto	1.0000
L50	43	MS-450 (4.5" x 1" Plate)	10.50 - 11.25	Auto	1.0000
L50	44	MS-450 (4.5" x 1" Plate)	10.50 - 11.25	Auto	1.0000
L50	54	6" x 1" Plate	10.50 - 11.25	Auto	1.0000
L50	55	6" x 1" Plate	10.50 - 11.25	Auto	1.0000
L50	83	7" x 1.25" Plate	10.50 - 11.25	Auto	1.0000
L51	30	Bent PL 10"x1"	10.25 - 10.50	Auto	1.0000
L51	31	Bent PL 10"x1"	10.25 - 10.50	Auto	1.0000
L51	32	Bent PL 10"x1"	10.25 - 10.50	Auto	1.0000
L51	42	MS-450 (4.5" x 1" Plate)	10.25 - 10.50	Auto	1.0000
L51	43	MS-450 (4.5" x 1" Plate)	10.25 - 10.50	Auto	1.0000
L51	44	MS-450 (4.5" x 1" Plate)	10.25 - 10.50	Auto	1.0000
L51	54	6" x 1" Plate	10.25 - 10.50	Auto	1.0000
L51	55	6" x 1" Plate	10.25 - 10.50	Auto	1.0000
L51	83	7" x 1.25" Plate	10.25 - 10.50	Auto	1.0000
L52	30	Bent PL 10"x1"	7.50 - 10.25	Auto	1.0000
L52	31	Bent PL 10"x1"	7.50 - 10.25	Auto	1.0000
L52	32	Bent PL 10"x1"	7.50 - 10.25	Auto	1.0000
L52	42	MS-450 (4.5" x 1" Plate)	7.50 - 10.25	Auto	1.0000
L52	43	MS-450 (4.5" x 1" Plate)	7.50 - 10.25	Auto	1.0000
L52	44	MS-450 (4.5" x 1" Plate)	7.50 - 10.25	Auto	1.0000
L52	54	6" x 1" Plate	7.50 - 10.25	Auto	1.0000
L52	55	6" x 1" Plate	7.50 - 10.25	Auto	1.0000
L52	83	7" x 1.25" Plate	7.50 - 10.25	Auto	1.0000
L53	30	Bent PL 10"x1"	7.25 - 7.50	Auto	1.0000
L53	31	Bent PL 10"x1"	7.25 - 7.50	Auto	1.0000
L53	32	Bent PL 10"x1"	7.25 - 7.50	Auto	1.0000
L53	42	MS-450 (4.5" x 1" Plate)	7.25 - 7.50	Auto	1.0000
L53	43	MS-450 (4.5" x 1" Plate)	7.25 - 7.50	Auto	1.0000
L53	44	MS-450 (4.5" x 1" Plate)	7.25 - 7.50	Auto	1.0000
L53	54	6" x 1" Plate	7.25 - 7.50	Auto	1.0000
L53	55	6" x 1" Plate	7.25 - 7.50	Auto	1.0000
L53	83	7" x 1.25" Plate	7.25 - 7.50	Auto	1.0000
L54	30	Bent PL 10"x1"	6.25 - 7.25	Auto	1.0000
L54	31	Bent PL 10"x1"	6.25 - 7.25	Auto	1.0000
L54	32	Bent PL 10"x1"	6.25 - 7.25	Auto	1.0000
L54	42	MS-450 (4.5" x 1" Plate)	6.25 - 7.25	Auto	1.0000
L54	43	MS-450 (4.5" x 1" Plate)	6.25 - 7.25	Auto	1.0000
L54	44	MS-450 (4.5" x 1" Plate)	6.25 - 7.25	Auto	1.0000
L54	54	6" x 1" Plate	6.25 - 7.25	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L54	55	6" x 1" Plate	6.25 - 7.25	Auto	1.0000
L54	83	7" x 1.25" Plate	6.25 - 7.25	Auto	1.0000
L55	30	Bent PL 10"x1"	6.00 - 6.25	Auto	1.0000
L55	31	Bent PL 10"x1"	6.00 - 6.25	Auto	1.0000
L55	32	Bent PL 10"x1"	6.00 - 6.25	Auto	1.0000
L55	42	MS-450 (4.5" x 1" Plate)	6.00 - 6.25	Auto	1.0000
L55	43	MS-450 (4.5" x 1" Plate)	6.00 - 6.25	Auto	1.0000
L55	44	MS-450 (4.5" x 1" Plate)	6.00 - 6.25	Auto	1.0000
L55	54	6" x 1" Plate	6.00 - 6.25	Auto	1.0000
L55	55	6" x 1" Plate	6.00 - 6.25	Auto	1.0000
L55	83	7" x 1.25" Plate	6.00 - 6.25	Auto	1.0000
L56	30	Bent PL 10"x1"	3.83 - 6.00	Auto	1.0000
L56	31	Bent PL 10"x1"	3.83 - 6.00	Auto	1.0000
L56	32	Bent PL 10"x1"	3.83 - 6.00	Auto	1.0000
L56	42	MS-450 (4.5" x 1" Plate)	3.83 - 6.00	Auto	1.0000
L56	43	MS-450 (4.5" x 1" Plate)	3.83 - 6.00	Auto	1.0000
L56	44	MS-450 (4.5" x 1" Plate)	3.83 - 6.00	Auto	1.0000
L56	54	6" x 1" Plate	3.83 - 6.00	Auto	1.0000
L56	55	6" x 1" Plate	3.83 - 6.00	Auto	1.0000
L56	83	7" x 1.25" Plate	5.88 - 6.00	Auto	1.0000
L57	30	Bent PL 10"x1"	3.58 - 3.83	Auto	1.0000
L57	31	Bent PL 10"x1"	3.58 - 3.83	Auto	1.0000
L57	32	Bent PL 10"x1"	3.58 - 3.83	Auto	1.0000
L57	42	MS-450 (4.5" x 1" Plate)	3.58 - 3.83	Auto	1.0000
L57	43	MS-450 (4.5" x 1" Plate)	3.58 - 3.83	Auto	1.0000
L57	44	MS-450 (4.5" x 1" Plate)	3.58 - 3.83	Auto	1.0000
L57	54	6" x 1" Plate	3.58 - 3.83	Auto	1.0000
L57	55	6" x 1" Plate	3.58 - 3.83	Auto	1.0000
L58	30	Bent PL 10"x1"	3.33 - 3.58	Auto	1.0000
L58	31	Bent PL 10"x1"	3.33 - 3.58	Auto	1.0000
L58	32	Bent PL 10"x1"	3.33 - 3.58	Auto	1.0000
L58	42	MS-450 (4.5" x 1" Plate)	3.33 - 3.58	Auto	1.0000
L58	43	MS-450 (4.5" x 1" Plate)	3.33 - 3.58	Auto	1.0000
L58	44	MS-450 (4.5" x 1" Plate)	3.33 - 3.58	Auto	1.0000
L58	54	6" x 1" Plate	3.33 - 3.58	Auto	1.0000
L58	55	6" x 1" Plate	3.33 - 3.58	Auto	1.0000
L59	30	Bent PL 10"x1"	2.75 - 3.33	Auto	1.0000
L59	31	Bent PL 10"x1"	2.75 - 3.33	Auto	1.0000
L59	32	Bent PL 10"x1"	2.75 - 3.33	Auto	1.0000
L59	42	MS-450 (4.5" x 1" Plate)	2.75 - 3.33	Auto	1.0000
L59	43	MS-450 (4.5" x 1" Plate)	2.75 - 3.33	Auto	1.0000
L59	44	MS-450 (4.5" x 1" Plate)	2.75 - 3.33	Auto	1.0000
L59	54	6" x 1" Plate	2.75 - 3.33	Auto	1.0000
L59	55	6" x 1" Plate	2.75 - 3.33	Auto	1.0000
L60	30	Bent PL 10"x1"	2.50 - 2.75	Auto	1.0000
L60	31	Bent PL 10"x1"	2.50 - 2.75	Auto	1.0000
L60	32	Bent PL 10"x1"	2.50 - 2.75	Auto	1.0000
L60	42	MS-450 (4.5" x 1" Plate)	2.50 - 2.75	Auto	1.0000
L60	43	MS-450 (4.5" x 1" Plate)	2.50 - 2.75	Auto	1.0000
L60	44	MS-450 (4.5" x 1" Plate)	2.50 - 2.75	Auto	1.0000
L60	54	6" x 1" Plate	2.50 - 2.75	Auto	1.0000
L60	55	6" x 1" Plate	2.50 - 2.75	Auto	1.0000
L61	30	Bent PL 10"x1"	2.00 - 2.50	Auto	1.0000
L61	31	Bent PL 10"x1"	2.00 - 2.50	Auto	1.0000
L61	32	Bent PL 10"x1"	2.00 - 2.50	Auto	1.0000
L61	42	MS-450 (4.5" x 1" Plate)	2.00 - 2.50	Auto	1.0000
L61	43	MS-450 (4.5" x 1" Plate)	2.00 - 2.50	Auto	1.0000
L61	44	MS-450 (4.5" x 1" Plate)	2.00 - 2.50	Auto	1.0000
L61	54	6" x 1" Plate	2.00 - 2.50	Auto	1.0000
L61	55	6" x 1" Plate	2.00 - 2.50	Auto	1.0000
L62	30	Bent PL 10"x1"	1.75 - 2.00	Auto	1.0000
L62	31	Bent PL 10"x1"	1.75 - 2.00	Auto	1.0000
L62	32	Bent PL 10"x1"	1.75 - 2.00	Auto	1.0000
L62	42	MS-450 (4.5" x 1" Plate)	1.75 - 2.00	Auto	1.0000
L62	43	MS-450 (4.5" x 1" Plate)	1.75 - 2.00	Auto	1.0000
L62	44	MS-450 (4.5" x 1" Plate)	1.75 - 2.00	Auto	1.0000
L62	54	6" x 1" Plate	1.75 - 2.00	Auto	1.0000
L62	55	6" x 1" Plate	1.75 - 2.00	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L63	42	MS-450 (4.5" x 1" Plate)	0.00 - 1.75	Auto	1.0000
L63	43	MS-450 (4.5" x 1" Plate)	0.00 - 1.75	Auto	1.0000
L63	44	MS-450 (4.5" x 1" Plate)	0.00 - 1.75	Auto	1.0000
L63	54	6" x 1" Plate	0.00 - 1.75	Auto	1.0000
L63	55	6" x 1" Plate	0.00 - 1.75	Auto	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
PCS 1900MHZ 4X45W-65MHZ	A	From Leg	1.000 0.000 -3.000	0.000	116.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.322 2.527 2.739 3.185	2.238 2.441 2.651 3.093	0.060 0.083 0.110 0.173
PCS 1900MHZ 4X45W-65MHZ	B	From Leg	1.000 0.000 -3.000	0.000	116.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.322 2.527 2.739 3.185	2.238 2.441 2.651 3.093	0.060 0.083 0.110 0.173
PCS 1900MHZ 4X45W-65MHZ	C	From Leg	1.000 0.000 -3.000	0.000	116.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.322 2.527 2.739 3.185	2.238 2.441 2.651 3.093	0.060 0.083 0.110 0.173
800MHZ 2X50W RRH W/FILTER	A	From Leg	1.000 0.000 1.000	0.000	116.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.058 2.240 2.429 2.829	1.932 2.109 2.293 2.684	0.064 0.086 0.111 0.172
800MHZ 2X50W RRH W/FILTER	B	From Leg	1.000 0.000 1.000	0.000	116.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.058 2.240 2.429 2.829	1.932 2.109 2.293 2.684	0.064 0.086 0.111 0.172
800MHZ 2X50W RRH W/FILTER	C	From Leg	1.000 0.000 1.000	0.000	116.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.058 2.240 2.429 2.829	1.932 2.109 2.293 2.684	0.064 0.086 0.111 0.172
Pipe Mount [PM 601-3]	C	None		0.000	116.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.170 3.790 4.420 5.760	3.170 3.790 4.420 5.760	0.195 0.232 0.279 0.401
*									
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.601 5.045 5.500 6.442	4.011 4.448 4.894 5.819	0.095 0.160 0.235 0.419
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.601 5.045 5.500 6.442	4.011 4.448 4.894 5.819	0.095 0.160 0.235 0.419

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXV9ERR18-C-A20 w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.601 5.045 5.500 6.442	4.011 4.448 4.894 5.819	0.095 0.160 0.235 0.419
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.091 4.480 4.880 5.712	2.862 3.229 3.607 4.396	0.077 0.127 0.185 0.331
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.091 4.480 4.880 5.712	2.862 3.229 3.607 4.396	0.077 0.127 0.185 0.331
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.091 4.480 4.880 5.712	2.862 3.229 3.607 4.396	0.077 0.127 0.185 0.331
TD-RRH8X20-25	A	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.045 4.298 4.557 5.098	1.535 1.714 1.901 2.295	0.070 0.097 0.128 0.201
TD-RRH8X20-25	B	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.045 4.298 4.557 5.098	1.535 1.714 1.901 2.295	0.070 0.097 0.128 0.201
TD-RRH8X20-25	C	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.045 4.298 4.557 5.098	1.535 1.714 1.901 2.295	0.070 0.097 0.128 0.201
WIMAX DAP HEAD	B	From Leg	4.000 0.000 2.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.547 1.704 1.868 2.219	0.684 0.800 0.923 1.193	0.033 0.045 0.058 0.094
(2) 4' x 2" Pipe Mount	A	From Leg	4.000 0.000 0.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.785 1.028 1.281 1.814	0.785 1.028 1.281 1.814	0.029 0.035 0.044 0.072
(2) 4' x 2" Pipe Mount	B	From Leg	4.000 0.000 0.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.785 1.028 1.281 1.814	0.785 1.028 1.281 1.814	0.029 0.035 0.044 0.072
(2) 4' x 2" Pipe Mount	C	From Leg	4.000 0.000 0.000	0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.785 1.028 1.281 1.814	0.785 1.028 1.281 1.814	0.029 0.035 0.044 0.072
Platform Mount [LP 502-1]	C	None		0.000	114.000	No Ice 1/2" Ice 1" Ice 2" Ice	18.280 23.540 28.530 38.850	18.280 23.540 28.530 38.850	0.925 1.435 2.070 3.714
*									
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice	5.187 5.594 6.016 6.904	2.705 3.038 3.385 4.122	0.128 0.174 0.227 0.354

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	5.187 5.594 6.016 6.904	2.705 3.038 3.385 4.122	0.128 0.174 0.227 0.354
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	5.187 5.594 6.016 6.904	2.705 3.038 3.385 4.122	0.128 0.174 0.227 0.354
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	14.694 15.455 16.230 17.816	6.873 7.554 8.247 9.670	0.186 0.315 0.458 0.788
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	14.694 15.455 16.230 17.816	6.873 7.554 8.247 9.670	0.186 0.315 0.458 0.788
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	14.694 15.455 16.230 17.816	6.873 7.554 8.247 9.670	0.186 0.315 0.458 0.788
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.763 4.117 4.480 5.236	3.146 3.489 3.842 4.577	0.194 0.252 0.320 0.485
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.763 4.117 4.480 5.236	3.146 3.489 3.842 4.577	0.194 0.252 0.320 0.485
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.763 4.117 4.480 5.236	3.146 3.489 3.842 4.577	0.194 0.252 0.320 0.485
SDX1926Q-43	A	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.241 0.306 0.379 0.547	0.101 0.144 0.195 0.318	0.006 0.009 0.012 0.023
SDX1926Q-43	B	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.241 0.306 0.379 0.547	0.101 0.144 0.195 0.318	0.006 0.009 0.012 0.023
SDX1926Q-43	C	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.241 0.306 0.379 0.547	0.101 0.144 0.195 0.318	0.006 0.009 0.012 0.023
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.970 2.147 2.331 2.721	1.587 1.749 1.918 2.280	0.073 0.093 0.116 0.170
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice	1.970 2.147 2.331 2.721	1.587 1.749 1.918 2.280	0.073 0.093 0.116 0.170

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.970 2.147 2.331 2.721	1.587 1.749 1.918 2.280	0.073 0.093 0.116 0.170
RRUS 4415 B25	A	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.644 1.804 1.972 2.329	0.679 0.791 0.913 1.183	0.044 0.056 0.071 0.109
RRUS 4415 B25	B	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.644 1.804 1.972 2.329	0.679 0.791 0.913 1.183	0.044 0.056 0.071 0.109
RRUS 4415 B25	C	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.644 1.804 1.972 2.329	0.679 0.791 0.913 1.183	0.044 0.056 0.071 0.109
KRY 112 144/1	A	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.350 0.426 0.509 0.698	0.175 0.234 0.301 0.456	0.011 0.014 0.019 0.032
KRY 112 144/1	B	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.350 0.426 0.509 0.698	0.175 0.234 0.301 0.456	0.011 0.014 0.019 0.032
KRY 112 144/1	C	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.350 0.426 0.509 0.698	0.175 0.234 0.301 0.456	0.011 0.014 0.019 0.032
8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.000	108.000	No Ice 1/2" Ice 1" Ice 2" Ice	28.310 35.690 43.110 58.210	28.310 35.690 43.110 58.210	1.770 2.297 2.943 4.603
*									
AIR 6419 B77G w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.325 4.740 5.173 6.094	2.492 2.841 3.209 3.999	0.078 0.110 0.147 0.241
AIR 6419 B77G w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice	4.325 4.740 5.173	2.492 2.841 3.209	0.078 0.110 0.147

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice	6.094	3.999	0.241
						2" Ice			
AIR 6419 B77G w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.325 4.740 5.173 6.094	2.492 2.841 3.209 3.999	0.078 0.110 0.147 0.241
DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	11.961 12.703 13.461 15.024	5.969 6.627 7.300 8.695	0.115 0.201 0.298 0.529
DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	11.961 12.703 13.461 15.024	5.969 6.627 7.300 8.695	0.115 0.201 0.298 0.529
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	15.886 16.815 17.760 19.697	7.889 8.735 9.597 11.367	0.139 0.252 0.380 0.679
TPA65R-BU6D_CCIV2 w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	11.961 12.703 13.461 15.024	5.969 6.627 7.300 8.695	0.094 0.181 0.278 0.509
TPA65R-BU6D_CCIV2 w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	11.961 12.703 13.461 15.024	5.969 6.627 7.300 8.695	0.094 0.181 0.278 0.509
TPA65R-BU8D_CCIV2 w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	15.886 16.815 17.760 19.697	7.889 8.735 9.597 11.367	0.120 0.234 0.361 0.660
AIR 6449 B77D w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.583 3.920 4.272 5.018	2.307 2.602 2.912 3.574	0.095 0.130 0.173 0.277
AIR 6449 B77D w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.583 3.920 4.272 5.018	2.307 2.602 2.912 3.574	0.095 0.130 0.173 0.277
AIR 6449 B77D w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.583 3.920 4.272 5.018	2.307 2.602 2.912 3.574	0.095 0.130 0.173 0.277
RRUS 4478 B14_CCIV2	A	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.021 2.200 2.386 2.780	1.246 1.396 1.554 1.891	0.059 0.077 0.097 0.147
RRUS 4478 B14_CCIV2	B	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.021 2.200 2.386 2.780	1.246 1.396 1.554 1.891	0.059 0.077 0.097 0.147
RRUS 4478 B14_CCIV2	C	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice 1/2" Ice Ice	2.021 2.200 2.386	1.246 1.396 1.554	0.059 0.077 0.097

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft		C_AA_A *Front* ft^2	C_AA_A *Side* ft^2	*Weight* K
						1" Ice	2.780	1.891	0.147
						2" Ice			
RRUS 8843 B2/B66A_CCIV2	A	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice	1.980	1.695	0.075
						1/2" Ice	2.157	1.861	0.096
						1" Ice	2.341	2.035	0.119
						2" Ice	2.733	2.405	0.176
RRUS 8843 B2/B66A_CCIV2	B	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice	1.980	1.695	0.075
						1/2" Ice	2.157	1.861	0.096
						1" Ice	2.341	2.035	0.119
						2" Ice	2.733	2.405	0.176
RRUS 8843 B2/B66A_CCIV2	C	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice	1.980	1.695	0.075
						1/2" Ice	2.157	1.861	0.096
						1" Ice	2.341	2.035	0.119
						2" Ice	2.733	2.405	0.176
DC9-48-60-24-8C-EV	A	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice	2.737	4.785	0.026
						1/2" Ice	2.963	5.065	0.063
						1" Ice	3.196	5.352	0.104
						2" Ice	3.684	5.948	0.200
DC6-48-60-18-8F	B	From Leg	4.000 0.000 0.000	0.000	98.000	No Ice	0.917	0.917	0.019
						1/2" Ice	1.458	1.458	0.037
						1" Ice	1.643	1.643	0.057
						2" Ice	2.042	2.042	0.105
RRUS 4449 B5/B12	A	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice	1.968	1.408	0.071
						1/2" Ice	2.144	1.564	0.090
						1" Ice	2.328	1.727	0.111
						2" Ice	2.718	2.075	0.163
RRUS 4449 B5/B12	B	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice	1.968	1.408	0.071
						1/2" Ice	2.144	1.564	0.090
						1" Ice	2.328	1.727	0.111
						2" Ice	2.718	2.075	0.163
RRUS 4449 B5/B12	C	From Leg	4.000 0.000 2.000	0.000	98.000	No Ice	1.968	1.408	0.071
						1/2" Ice	2.144	1.564	0.090
						1" Ice	2.328	1.727	0.111
						2" Ice	2.718	2.075	0.163
2' x 2" Pipe Mount	A	From Leg	2.000 0.000 1.000	0.000	98.000	No Ice	0.023	0.023	0.007
						1/2" Ice	0.049	0.049	0.008
						1" Ice	0.085	0.085	0.009
						2" Ice	0.186	0.186	0.013
3' x 2" Pipe Mount	B	From Leg	2.000 0.000 1.000	0.000	98.000	No Ice	0.583	0.583	0.011
						1/2" Ice	0.770	0.770	0.017
						1" Ice	0.967	0.967	0.024
						2" Ice	1.388	1.388	0.047
Side Arm Mount [SO 301-3]	C	None		0.000	98.000	No Ice	1.640	1.640	0.069
						1/2" Ice	2.340	2.340	0.098
						1" Ice	3.100	3.100	0.140
						2" Ice	4.840	4.840	0.274
6' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	98.000	No Ice	1.425	1.425	0.022
						1/2" Ice	1.925	1.925	0.033
						1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
6' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	98.000	No Ice	1.425	1.425	0.022
						1/2" Ice	1.925	1.925	0.033
						1" Ice	2.294	2.294	0.048

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice 2" Ice	3.060	3.060	0.090
6' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.425 1.925 2.294 3.060	1.425 1.925 2.294 3.060	0.022 0.033 0.048 0.090
Miscellaneous [NA 507-1]	C	None		0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.560 6.390 8.180 11.660	4.560 6.390 8.180 11.660	0.245 0.311 0.402 0.657
Platform Mount [LP 712-1]	C	None		0.000	98.000	No Ice 1/2" Ice 1" Ice 2" Ice	24.560 27.920 31.270 37.980	24.560 27.920 31.270 37.980	1.335 1.915 2.548 3.971
*									
BXA-70040-6CF-EDIN-2 w/ Mount Pipe	A	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	12.928 13.648 14.384 15.900	5.678 6.296 6.930 8.242	0.079 0.174 0.281 0.530
BXA-70063-6CF-2 w/ Mount Pipe	B	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	7.344 8.076 8.826 10.377	5.513 6.219 6.943 8.442	0.058 0.115 0.183 0.351
BXA-70063-6CF-2 w/ Mount Pipe	C	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	7.344 8.076 8.826 10.377	5.513 6.219 6.943 8.442	0.058 0.115 0.183 0.351
MT6413-77A w/ Mount Pipe	A	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.996 4.310 4.634 5.312	2.155 2.555 2.971 3.851	0.070 0.103 0.141 0.234
MT6413-77A w/ Mount Pipe	B	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.996 4.310 4.634 5.312	2.155 2.555 2.971 3.851	0.070 0.103 0.141 0.234
MT6413-77A w/ Mount Pipe	C	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.996 4.310 4.634 5.312	2.155 2.555 2.971 3.851	0.070 0.103 0.141 0.234
(2) NHH-65B-R2B w/ Mount Pipe	A	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.095 4.483 4.880 5.701	3.295 3.672 4.058 4.857	0.069 0.132 0.205 0.385
(2) NHH-65B-R2B w/ Mount Pipe	B	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.095 4.483 4.880 5.701	3.295 3.672 4.058 4.857	0.069 0.132 0.205 0.385
(2) NHH-65B-R2B w/ Mount Pipe	C	From Leg	4.000 0.000 5.000	0.000	85.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.095 4.483 4.880 5.701	3.295 3.672 4.058 4.857	0.069 0.132 0.205 0.385
RVZDC-6627-PF-48	A	From Leg	4.000 0.000	0.000	85.000	No Ice 1/2"	3.792 4.044	2.514 2.727	0.032 0.063

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			5.000			Ice	4.303	2.947	0.099
						1" Ice	4.844	3.417	0.181
						2" Ice			
RF4439D-25A	A	From Leg	4.000	0.000	85.000	No Ice	1.865	1.252	0.075
			0.000			1/2"	2.035	1.394	0.093
			5.000			Ice	2.212	1.544	0.114
						1" Ice	2.589	1.866	0.165
						2" Ice			
RF4439D-25A	B	From Leg	4.000	0.000	85.000	No Ice	1.865	1.252	0.075
			0.000			1/2"	2.035	1.394	0.093
			5.000			Ice	2.212	1.544	0.114
						1" Ice	2.589	1.866	0.165
						2" Ice			
RF4439D-25A	C	From Leg	4.000	0.000	85.000	No Ice	1.865	1.252	0.075
			0.000			1/2"	2.035	1.394	0.093
			5.000			Ice	2.212	1.544	0.114
						1" Ice	2.589	1.866	0.165
						2" Ice			
RF4461D-13A	A	From Leg	4.000	0.000	85.000	No Ice	1.865	1.275	0.079
			0.000			1/2"	2.035	1.419	0.098
			5.000			Ice	2.212	1.570	0.119
						1" Ice	2.589	1.894	0.171
						2" Ice			
RF4461D-13A	B	From Leg	4.000	0.000	85.000	No Ice	1.865	1.275	0.079
			0.000			1/2"	2.035	1.419	0.098
			5.000			Ice	2.212	1.570	0.119
						1" Ice	2.589	1.894	0.171
						2" Ice			
RF4461D-13A	C	From Leg	4.000	0.000	85.000	No Ice	1.865	1.275	0.079
			0.000			1/2"	2.035	1.419	0.098
			5.000			Ice	2.212	1.570	0.119
						1" Ice	2.589	1.894	0.171
						2" Ice			
4' x 2" Pipe Mount	A	From Leg	2.000	0.000	85.000	No Ice	0.785	0.785	0.029
			0.000			1/2"	1.028	1.028	0.035
			1.000			Ice	1.281	1.281	0.044
						1" Ice	1.814	1.814	0.072
						2" Ice			
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.000	85.000	No Ice	28.310	28.310	1.770
						1/2"	35.690	35.690	2.297
						Ice	43.110	43.110	2.943
						1" Ice	58.210	58.210	4.603
						2" Ice			
*									
KS24019-L112A	A	From Leg	3.000	0.000	80.000	No Ice	0.141	0.141	0.005
			0.000			1/2"	0.198	0.198	0.007
			1.000			Ice	0.262	0.262	0.009
						1" Ice	0.415	0.415	0.018
						2" Ice			
Side Arm Mount [SO 701-1]	A	From Leg	1.500	0.000	80.000	No Ice	0.850	1.670	0.065
			0.000			1/2"	1.140	2.340	0.079
			0.000			Ice	1.430	3.010	0.093
						1" Ice	2.010	4.350	0.121
						2" Ice			
*									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000	0.000	58.000	No Ice	8.009	4.233	0.108
			0.000			1/2"	8.518	4.689	0.194
			1.000			Ice	9.038	5.156	0.292
						1" Ice	10.109	6.122	0.522
						2" Ice			
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000	0.000	58.000	No Ice	8.009	4.233	0.108
			0.000			1/2"	8.518	4.689	0.194
			1.000			Ice	9.038	5.156	0.292
						1" Ice	10.109	6.122	0.522
						2" Ice			

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft		C_AA_A *Front* ft^2	C_AA_A *Side* ft^2	*Weight* K
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	8.009 8.518 9.038 10.109	4.233 4.689 5.156 6.122	0.108 0.194 0.292 0.522
TA08025-B605	A	From Leg	4.000 0.000 4.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.226 2.411 2.604 3.012	1.189 1.331 1.480 1.800	0.075 0.095 0.117 0.172
TA08025-B605	B	From Leg	4.000 0.000 4.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.226 2.411 2.604 3.012	1.189 1.331 1.480 1.800	0.075 0.095 0.117 0.172
TA08025-B605	C	From Leg	4.000 0.000 4.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.226 2.411 2.604 3.012	1.189 1.331 1.480 1.800	0.075 0.095 0.117 0.172
TA08025-B604	A	From Leg	4.000 0.000 4.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	1.033 1.168 1.310 1.617	0.064 0.081 0.100 0.148
TA08025-B604	B	From Leg	4.000 0.000 4.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	1.033 1.168 1.310 1.617	0.064 0.081 0.100 0.148
TA08025-B604	C	From Leg	4.000 0.000 4.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	1.033 1.168 1.310 1.617	0.064 0.081 0.100 0.148
RDIDC-9181-PF-48	A	From Leg	4.000 0.000 1.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.867 2.037 2.215 2.593	1.067 1.204 1.348 1.659	0.022 0.038 0.057 0.104
(2) 8' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
(2) 8' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
(2) 8' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
Commscope MC-PK8-DSH	C	None		0.000	58.000	No Ice 1/2" Ice 1" Ice 2" Ice	34.240 62.950 91.660 149.080	34.240 62.950 91.660 149.080	1.749 2.099 2.450 3.151

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
**********IMG MODEL**									
Bridge Stiffener (84'' x 9'' x 1.25'')	A	From Leg	1.000 0.000 0.000	0.000	90.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	7.758 8.290 8.830 9.931	0.030 0.061 0.099 0.194
Bridge Stiffener (84'' x 9'' x 1.25'')	B	From Leg	1.000 0.000 0.000	0.000	90.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	7.758 8.290 8.830 9.931	0.030 0.061 0.099 0.194
Bridge Stiffener (84'' x 9'' x 1.25'')	C	From Leg	1.000 0.000 0.000	0.000	90.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	7.758 8.290 8.830 9.931	0.030 0.061 0.099 0.194
*									
Bridge Stiffener (84'' x 13.5'' x 1.25'')	A	From Leg	1.000 0.000 0.000	0.000	60.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	10.753 11.282 11.819 12.913	0.040 0.084 0.134 0.256
Bridge Stiffener (84'' x 13.5'' x 1.25'')	B	From Leg	1.000 0.000 0.000	0.000	60.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	10.753 11.282 11.819 12.913	0.040 0.084 0.134 0.256
Bridge Stiffener (84'' x 13.5'' x 1.25'')	C	From Leg	1.000 0.000 0.000	0.000	60.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	10.753 11.282 11.819 12.913	0.040 0.084 0.134 0.256
*									
Bridge Stiffener (84'' x 13.5'' x 1.25'')	A	From Leg	1.000 0.000 0.000	0.000	30.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	10.753 11.282 11.819 12.913	0.040 0.084 0.134 0.256
Bridge Stiffener (84'' x 13.5'' x 1.25'')	B	From Leg	1.000 0.000 0.000	0.000	30.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	10.753 11.282 11.819 12.913	0.040 0.084 0.134 0.256
Bridge Stiffener (84'' x 13.5'' x 1.25'')	C	From Leg	1.000 0.000 0.000	0.000	30.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.458 2.254 3.062 4.489	10.753 11.282 11.819 12.913	0.040 0.084 0.134 0.256
*									
Bridge Stiffener (48.875'' x 12'' x 1'')	A	From Leg	1.000 0.000 0.000	0.000	60.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.679 1.147 1.533 2.146	5.172 5.503 5.840 6.536	0.015 0.038 0.065 0.133
Bridge Stiffener (48.875'' x 12'' x 1'')	B	From Leg	1.000 0.000 0.000	0.000	60.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.679 1.147 1.533 2.146	5.172 5.503 5.840 6.536	0.015 0.038 0.065 0.133
Bridge Stiffener (48.875'' x 12'' x 1'')	C	From Leg	1.000 0.000 0.000	0.000	60.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.679 1.147 1.533 2.146	5.172 5.503 5.840 6.536	0.015 0.038 0.065 0.133
*									

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Bridge Stiffener (66.125" x 14.5" x 1")	A	From Leg	1.000 0.000 0.000	0.000	30.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.918 1.546 2.186 3.139	8.600 9.037 9.481 10.390	0.025 0.061 0.103 0.204
Bridge Stiffener (66.125" x 14.5" x 1")	B	From Leg	1.000 0.000 0.000	0.000	30.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.918 1.546 2.186 3.139	8.600 9.037 9.481 10.390	0.025 0.061 0.103 0.204
Bridge Stiffener (66.125" x 14.5" x 1")	C	From Leg	1.000 0.000 0.000	0.000	30.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.918 1.546 2.186 3.139	8.600 9.037 9.481 10.390	0.025 0.061 0.103 0.204
***									
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Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
Andrew VHLP1-23	B	Paraboloid w/Shroud (HP)	From Leg	4.000 0.000 2.000	30.000		114.000	1.275	No Ice 1/2" Ice 1" Ice 2" Ice	1.277 1.449 1.621 1.966	0.014 0.022 0.029 0.044
*											
*											

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	118 - 113	Pole	Max Tension	39	0.000	0.000	-0.000
			Max. Compression	26	-7.691	-0.519	-0.297
			Max. Mx	8	-3.083	-7.546	-0.245
			Max. My	14	-3.084	-0.323	-7.427
			Max. Vy	20	-3.415	7.066	0.013
			Max. Vx	2	-3.422	-0.111	7.188
			Max. Torque	4			-0.368
L2	113 - 108	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-8.327	-0.527	-0.291
			Max. Mx	8	-3.477	-25.344	-0.430
			Max. My	14	-3.478	-0.494	-25.198
			Max. Vy	20	-3.709	24.877	0.273
			Max. Vx	2	-3.716	0.075	25.032
			Max. Torque	4			-0.368
L3	108 - 103	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-18.322	-0.544	-0.279
			Max. Mx	8	-8.206	-63.581	-0.622
			Max. My	14	-8.208	-0.679	-63.406
			Max. Vy	20	-7.794	63.122	0.548
			Max. Vx	2	-7.801	0.265	63.315
			Max. Torque	4			-0.368
L4	103 - 98	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-19.000	-0.561	-0.265
			Max. Mx	8	-8.656	-103.235	-0.815
			Max. My	14	-8.658	-0.864	-103.030
			Max. Vy	20	-8.073	102.784	0.823
			Max. Vx	2	-8.080	0.456	103.014
			Max. Torque	4			-0.368
L5	98 - 93	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-29.701	-2.036	-0.294
			Max. Mx	8	-13.141	-178.033	-1.503
			Max. My	14	-13.151	-1.822	-176.465
			Max. Vy	20	-13.619	176.807	1.465
			Max. Vx	2	-13.486	0.736	176.439
			Max. Torque	2			-1.136
L6	93 - 90	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-30.138	-2.047	-0.280
			Max. Mx	8	-13.466	-219.089	-1.802
			Max. My	2	-13.474	1.035	217.101
			Max. Vy	20	-13.763	217.866	1.819
			Max. Vx	2	-13.631	1.035	217.101
			Max. Torque	2			-1.136
L7	90 - 85	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-31.485	-2.063	-0.255
			Max. Mx	8	-14.272	-290.882	-2.300
			Max. My	2	-14.279	1.535	288.241
			Max. Vy	20	-14.489	289.666	2.408
			Max. Vx	2	-14.357	1.535	288.241
			Max. Torque	2			-1.136
L8	85 - 80	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-40.899	-1.931	1.417
			Max. Mx	8	-18.603	-392.321	-2.383
			Max. My	2	-18.596	2.077	391.792
			Max. Vy	20	-18.269	391.186	3.423
			Max. Vx	2	-18.366	2.077	391.792
			Max. Torque	24			-1.427
L9	80 - 76.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.830	-1.848	1.849
			Max. Mx	8	-19.256	-456.715	-2.511
			Max. My	2	-19.252	2.457	456.669
			Max. Vy	20	-18.481	455.635	4.061
			Max. Vx	2	-18.543	2.457	456.669
			Max. Torque	22			-1.534
L10	76.5 - 76.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.904	-1.842	1.856
			Max. Mx	8	-19.320	-461.331	-2.535
			Max. My	2	-19.316	2.484	461.304
			Max. Vy	20	-18.494	460.257	4.092
			Max. Vx	2	-18.544	2.484	461.304
			Max. Torque	22			-1.534
L11	76.25 - 74	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-42.616	-1.787	1.910
			Max. Mx	8	-19.792	-503.139	-2.750
			Max. My	2	-19.787	2.728	503.279
			Max. Vy	20	-18.723	502.132	4.368
			Max. Vx	14	18.772	-3.625	-501.653
			Max. Torque	22			-1.533
L12	74 - 73.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-42.721	-1.781	1.917
			Max. Mx	8	-19.871	-507.815	-2.774
			Max. My	2	-19.867	2.755	507.974
			Max. Vy	20	-18.744	506.816	4.399
			Max. Vx	14	18.794	-3.648	-506.346
			Max. Torque	22			-1.533
L13	73.75 - 68.88	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-44.797	-1.659	2.037
			Max. Mx	8	-21.281	-600.309	-3.240
			Max. My	2	-21.277	3.283	600.810
			Max. Vy	20	-19.292	599.451	4.995
			Max. Vx	14	19.357	-4.092	-599.203
			Max. Torque	22			-1.533
L14	68.88 - 68.63	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-44.888	-1.652	2.043
			Max. Mx	8	-21.340	-605.128	-3.264
			Max. My	2	-21.337	3.310	605.646
			Max. Vy	20	-19.311	604.277	5.026

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	19.378	-4.115	-604.042
			Max. Torque	22			-1.533
L15	68.63 - 64.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-46.343	-1.547	2.138
			Max. Mx	8	-22.237	-685.634	-3.660
			Max. My	2	-22.234	3.758	686.397
			Max. Vy	8	19.714	-685.634	-3.660
			Max. Vx	14	19.797	-4.489	-684.892
			Max. Torque	22			-1.533
L16	64.5 - 64.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-46.462	-1.540	2.143
			Max. Mx	8	-22.330	-690.560	-3.684
			Max. My	2	-22.326	3.785	691.338
			Max. Vy	8	19.731	-690.560	-3.684
			Max. Vx	14	19.814	-4.511	-689.841
			Max. Torque	22			-1.532
L17	64.25 - 63	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-47.058	-1.507	2.167
			Max. Mx	8	-22.735	-715.300	-3.803
			Max. My	2	-22.732	3.921	716.140
			Max. Vy	8	19.879	-715.300	-3.803
			Max. Vx	14	19.961	-4.624	-714.687
			Max. Torque	22			-1.532
L18	63 - 62.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-47.175	-1.501	2.172
			Max. Mx	8	-22.822	-720.269	-3.827
			Max. My	2	-22.820	3.948	721.121
			Max. Vy	8	19.899	-720.269	-3.827
			Max. Vx	14	19.981	-4.647	-719.677
			Max. Torque	22			-1.532
L19	62.75 - 60	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.436	-1.429	2.225
			Max. Mx	8	-23.701	-775.362	-4.090
			Max. My	2	-23.699	4.246	776.335
			Max. Vy	8	20.198	-775.362	-4.090
			Max. Vx	14	20.280	-4.895	-775.004
			Max. Torque	22			-1.532
L20	60 - 59.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-49.373	-1.421	2.232
			Max. Mx	8	-23.953	-780.623	-4.113
			Max. My	2	-23.951	4.273	781.607
			Max. Vy	8	21.071	-780.623	-4.113
			Max. Vx	14	21.152	-4.917	-780.286
			Max. Torque	22			-1.532
L21	59.75 - 54.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-57.163	-1.232	2.777
			Max. Mx	8	-28.617	-897.977	-4.448
			Max. My	2	-28.614	4.835	899.414
			Max. Vy	8	24.363	-897.977	-4.448
			Max. Vx	14	24.472	-5.350	-898.046
			Max. Torque	22			-1.682
L22	54.75 - 49.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-59.299	-1.012	2.903
			Max. Mx	8	-30.182	-1021.070	-4.912
			Max. My	2	-30.179	5.402	1022.818
			Max. Vy	8	24.916	-1021.070	-4.912
			Max. Vx	14	25.021	-5.776	-1021.700
			Max. Torque	22			-1.682
L23	49.75 - 49.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-59.517	-0.985	2.911
			Max. Mx	8	-30.344	-1033.530	-4.959
			Max. My	2	-30.341	5.459	1035.308
			Max. Vy	8	24.966	-1033.530	-4.959
			Max. Vx	14	25.068	-5.819	-1034.214
			Max. Torque	22			-1.682
L24	49.25 - 49	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-59.633	-0.972	2.916
			Max. Mx	8	-30.431	-1039.771	-4.982
			Max. My	2	-30.428	5.487	1041.563
			Max. Vy	8	24.992	-1039.771	-4.982
			Max. Vx	14	25.092	-5.840	-1040.481
			Max. Torque	22			-1.682
L25	49 - 44	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-61.937	-0.706	2.995
			Max. Mx	8	-32.109	-1166.062	-5.445
			Max. My	2	-32.106	6.053	1168.152
			Max. Vy	8	25.560	-1166.062	-5.445
			Max. Vx	14	25.634	-6.264	-1167.235
			Max. Torque	22			-1.681
L26	44 - 42	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-62.878	-0.600	3.027
			Max. Mx	8	-32.786	-1217.353	-5.630
			Max. My	2	-32.784	6.279	1219.562
			Max. Vy	8	25.779	-1217.353	-5.630
			Max. Vx	14	25.843	-6.433	-1218.675
			Max. Torque	22			-1.681
L27	42 - 41.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-63.007	-0.587	3.031
			Max. Mx	8	-32.886	-1223.796	-5.653
			Max. My	2	-32.884	6.307	1226.019
			Max. Vy	8	25.798	-1223.796	-5.653
			Max. Vx	14	25.862	-6.454	-1225.135
			Max. Torque	22			-1.681
L28	41.75 - 36.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-65.591	-0.324	3.110
			Max. Mx	8	-34.756	-1354.084	-6.114
			Max. My	2	-34.754	6.871	1356.604
			Max. Vy	8	26.353	-1354.084	-6.114
			Max. Vx	14	26.397	-6.874	-1355.716
			Max. Torque	22			-1.681
L29	36.75 - 34.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-66.771	-0.206	3.144
			Max. Mx	8	-35.603	-1413.593	-6.321
			Max. My	2	-35.602	7.125	1416.243
			Max. Vy	8	26.594	-1413.593	-6.321
			Max. Vx	2	-26.632	7.125	1416.243
			Max. Torque	22			-1.681
L30	34.5 - 34.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-66.914	-0.193	3.148
			Max. Mx	8	-35.715	-1420.238	-6.344
			Max. My	2	-35.714	7.153	1422.903
			Max. Vy	8	26.610	-1420.238	-6.344
			Max. Vx	2	-26.648	7.153	1422.903
			Max. Torque	22			-1.681
L31	34.25 - 34	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-67.057	-0.180	3.151
			Max. Mx	8	-35.819	-1426.890	-6.367
			Max. My	2	-35.817	7.181	1429.569
			Max. Vy	8	26.637	-1426.890	-6.367
			Max. Vx	2	-26.675	7.181	1429.569
			Max. Torque	22			-1.681
L32	34 - 33.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-67.191	-0.167	3.155
			Max. Mx	8	-35.914	-1433.549	-6.390
			Max. My	2	-35.912	7.209	1436.242
			Max. Vy	8	26.664	-1433.549	-6.390
			Max. Vx	2	-26.701	7.209	1436.242
			Max. Torque	22			-1.681
L33	33.75 - 30	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-69.119	0.028	3.209
			Max. Mx	8	-37.329	-1534.165	-6.735
			Max. My	2	-37.327	7.630	1537.063
			Max. Vy	8	27.043	-1534.165	-6.735
			Max. Vx	2	-27.076	7.630	1537.063

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	22			-1.681
L34	30 - 29.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.172	0.036	3.217
			Max. Mx	8	-37.654	-1541.141	-6.757
			Max. My	2	-37.653	7.659	1544.053
			Max. Vy	8	27.938	-1541.141	-6.757
			Max. Vx	2	-27.971	7.659	1544.053
			Max. Torque	22			-1.680
L35	29.75 - 28.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.825	0.102	3.252
			Max. Mx	8	-38.119	-1576.131	-6.870
			Max. My	2	-38.118	7.802	1579.114
			Max. Vy	8	28.094	-1576.131	-6.870
			Max. Vx	2	-28.126	7.802	1579.114
			Max. Torque	22			-1.680
L36	28.5 - 28.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.970	0.116	3.259
			Max. Mx	8	-38.236	-1583.151	-6.893
			Max. My	2	-38.235	7.831	1586.147
			Max. Vy	8	28.112	-1583.151	-6.893
			Max. Vx	2	-28.143	7.831	1586.147
			Max. Torque	22			-1.680
L37	28.25 - 23.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-73.907	0.440	3.351
			Max. Mx	8	-40.394	-1725.122	-7.342
			Max. My	2	-40.393	8.401	1728.367
			Max. Vy	8	28.717	-1725.122	-7.342
			Max. Vx	2	-28.739	8.401	1728.367
			Max. Torque	22			-1.680
L38	23.25 - 23	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-74.068	0.458	3.353
			Max. Mx	8	-40.520	-1732.298	-7.365
			Max. My	2	-40.519	8.430	1735.555
			Max. Vy	8	28.739	-1732.298	-7.365
			Max. Vx	2	-28.760	8.430	1735.555
			Max. Torque	22			-1.680
L39	23 - 21.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-75.034	0.569	3.366
			Max. Mx	8	-41.232	-1775.515	-7.499
			Max. My	2	-41.231	8.600	1778.839
			Max. Vy	8	28.932	-1775.515	-7.499
			Max. Vx	2	-28.953	8.600	1778.839
			Max. Torque	22			-1.680
L40	21.5 - 21.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-75.180	0.588	3.368
			Max. Mx	8	-41.349	-1782.744	-7.522
			Max. My	2	-41.348	8.629	1786.078
			Max. Vy	8	28.948	-1782.744	-7.522
			Max. Vx	2	-28.968	8.629	1786.078
			Max. Torque	22			-1.680
L41	21.25 - 19	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-76.514	0.759	3.388
			Max. Mx	8	-42.306	-1848.124	-7.724
			Max. My	2	-42.306	8.885	1851.552
			Max. Vy	8	29.216	-1848.124	-7.724
			Max. Vx	2	-29.231	8.885	1851.552
			Max. Torque	22			-1.680
L42	19 - 18.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-76.674	0.777	3.391
			Max. Mx	8	-42.436	-1855.424	-7.746
			Max. My	2	-42.435	8.913	1858.862
			Max. Vy	8	29.232	-1855.424	-7.746
			Max. Vx	2	-29.247	8.913	1858.862
			Max. Torque	22			-1.680
L43	18.75 - 18.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-76.834	0.796	3.393
			Max. Mx	8	-42.556	-1862.731	-7.768
			Max. My	2	-42.556	8.941	1866.178

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	29.260	-1862.731	-7.768
			Max. Vx	2	-29.275	8.941	1866.178
			Max. Torque	22			-1.680
L44	18.5 - 18.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-76.985	0.814	3.395
			Max. Mx	8	-42.668	-1870.045	-7.791
			Max. My	2	-42.668	8.970	1873.502
			Max. Vy	8	29.288	-1870.045	-7.791
			Max. Vx	2	-29.303	8.970	1873.502
			Max. Torque	22			-1.680
L45	18.25 - 13.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-79.956	1.126	3.488
			Max. Mx	8	-44.911	-2017.660	-8.237
			Max. My	2	-44.910	9.536	2021.306
			Max. Vy	8	29.801	-2017.660	-8.237
			Max. Vx	2	-29.815	9.536	2021.306
			Max. Torque	22			-1.680
L46	13.25 - 12.7	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.283	1.157	3.506
			Max. Mx	8	-45.163	-2034.049	-8.286
			Max. My	2	-45.162	9.598	2037.716
			Max. Vy	8	29.847	-2034.049	-8.286
			Max. Vx	2	-29.861	9.598	2037.716
			Max. Torque	22			-1.680
L47	12.7 - 12.45	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.432	1.170	3.515
			Max. Mx	8	-45.279	-2041.509	-8.308
			Max. My	2	-45.279	9.627	2045.184
			Max. Vy	8	29.867	-2041.509	-8.308
			Max. Vx	2	-29.880	9.627	2045.184
			Max. Torque	22			-1.680
L48	12.45 - 11.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.996	1.222	3.545
			Max. Mx	8	-45.703	-2069.906	-8.393
			Max. My	2	-45.703	9.734	2073.617
			Max. Vy	8	29.966	-2069.906	-8.393
			Max. Vx	2	-29.980	9.734	2073.617
			Max. Torque	22			-1.680
L49	11.5 - 11.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.153	1.236	3.553
			Max. Mx	8	-45.833	-2077.394	-8.415
			Max. My	2	-45.832	9.762	2081.114
			Max. Vy	8	29.979	-2077.394	-8.415
			Max. Vx	2	-29.993	9.762	2081.114
			Max. Torque	22			-1.680
L50	11.25 - 10.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.624	1.277	3.577
			Max. Mx	8	-46.195	-2099.890	-8.482
			Max. My	2	-46.195	9.847	2103.638
			Max. Vy	8	30.056	-2099.890	-8.482
			Max. Vx	2	-30.070	9.847	2103.638
			Max. Torque	22			-1.680
L51	10.5 - 10.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.796	1.290	3.585
			Max. Mx	8	-46.338	-2107.400	-8.504
			Max. My	2	-46.337	9.875	2111.158
			Max. Vy	8	30.073	-2107.400	-8.504
			Max. Vx	2	-30.087	9.875	2111.158
			Max. Torque	22			-1.680
L52	10.25 - 7.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.682	1.437	3.672
			Max. Mx	8	-47.831	-2190.433	-8.748
			Max. My	2	-47.831	10.184	2194.293
			Max. Vy	8	30.362	-2190.433	-8.748
			Max. Vx	2	-30.376	10.184	2194.293
			Max. Torque	22			-1.680
L53	7.5 - 7.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.858	1.450	3.680

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-47.981	-2198.019	-8.770
			Max. My	2	-47.981	10.212	2201.889
			Max. Vy	8	30.374	-2198.019	-8.770
			Max. Vx	2	-30.388	10.212	2201.889
			Max. Torque	22			-1.680
L54	7.25 - 6.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-84.559	1.502	3.710
			Max. Mx	8	-48.542	-2228.425	-8.858
			Max. My	2	-48.542	10.325	2232.333
			Max. Vy	8	30.482	-2228.425	-8.858
			Max. Vx	2	-30.497	10.325	2232.333
			Max. Torque	22			-1.680
L55	6.25 - 6	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-84.734	1.515	3.718
			Max. Mx	8	-48.689	-2236.042	-8.880
			Max. My	2	-48.689	10.353	2239.959
			Max. Vy	8	30.499	-2236.042	-8.880
			Max. Vx	2	-30.513	10.353	2239.959
			Max. Torque	22			-1.680
L56	6 - 3.83	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.227	1.636	3.748
			Max. Mx	8	-49.913	-2302.418	-9.072
			Max. My	2	-49.913	10.596	2306.417
			Max. Vy	8	30.722	-2302.418	-9.072
			Max. Vx	2	-30.737	10.596	2306.417
			Max. Torque	22			-1.680
L57	3.83 - 3.58	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.405	1.650	3.752
			Max. Mx	8	-50.068	-2310.094	-9.094
			Max. My	2	-50.068	10.624	2314.103
			Max. Vy	8	30.737	-2310.094	-9.094
			Max. Vx	2	-30.751	10.624	2314.103
			Max. Torque	22			-1.680
L58	3.58 - 3.33	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.582	1.664	3.755
			Max. Mx	8	-50.216	-2317.777	-9.116
			Max. My	2	-50.216	10.652	2321.795
			Max. Vy	8	30.762	-2317.777	-9.116
			Max. Vx	2	-30.777	10.652	2321.795
			Max. Torque	22			-1.680
L59	3.33 - 2.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.992	1.695	3.762
			Max. Mx	8	-50.557	-2335.626	-9.167
			Max. My	2	-50.557	10.717	2339.666
			Max. Vy	8	30.824	-2335.626	-9.167
			Max. Vx	2	-30.839	10.717	2339.666
			Max. Torque	22			-1.680
L60	2.75 - 2.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-87.156	1.708	3.766
			Max. Mx	8	-50.694	-2343.330	-9.189
			Max. My	2	-50.694	10.745	2347.380
			Max. Vy	8	30.846	-2343.330	-9.189
			Max. Vx	2	-30.860	10.745	2347.380
			Max. Torque	22			-1.680
L61	2.5 - 2	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-87.483	1.735	3.772
			Max. Mx	8	-50.964	-2358.757	-9.233
			Max. My	2	-50.964	10.801	2362.826
			Max. Vy	8	30.898	-2358.757	-9.233
			Max. Vx	2	-30.913	10.801	2362.826
			Max. Torque	22			-1.680
L62	2 - 1.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-87.632	1.748	3.775
			Max. Mx	8	-51.088	-2366.479	-9.256
			Max. My	2	-51.088	10.829	2370.558
			Max. Vy	8	30.920	-2366.479	-9.256
			Max. Vx	2	-30.935	10.829	2370.558
			Max. Torque	22			-1.680
L63	1.75 - 0	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-88.612	1.832	3.795
			Max. Mx	8	-51.934	-2420.689	-9.409
			Max. My	2	-51.934	11.025	2424.836
			Max. Vy	8	31.089	-2420.689	-9.409
			Max. Vx	2	-31.106	11.025	2424.836
			Max. Torque	22			-1.680

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	88.612	0.020	8.244
	Max. H_x	20	51.948	30.460	0.110
	Max. H_z	2	51.948	0.097	31.083
	Max. M_x	2	2424.836	0.097	31.083
	Max. M_z	8	2420.689	-31.066	-0.097
	Max. Torsion	10	1.608	-26.737	-15.532
	Min. Vert	19	38.961	26.443	-15.263
	Min. H_x	8	51.948	-31.066	-0.097
	Min. H_z	14	51.948	-0.092	-30.821
	Min. M_x	14	-2420.408	-0.092	-30.821
	Min. M_z	20	-2407.260	30.460	0.110
	Min. Torsion	22	-1.680	26.836	15.594

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	43.290	0.000	0.000	-0.992	0.297	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	51.948	-0.097	-31.083	-2424.836	11.025	1.136
0.9 Dead+1.0 Wind 0 deg - No Ice	38.961	-0.097	-31.083	-2403.521	10.834	1.125
1.2 Dead+1.0 Wind 30 deg - No Ice	51.948	15.419	-26.907	-2097.322	-1198.495	0.369
0.9 Dead+1.0 Wind 30 deg - No Ice	38.961	15.419	-26.907	-2078.852	-1188.203	0.363
1.2 Dead+1.0 Wind 60 deg - No Ice	51.948	27.053	-15.600	-1211.351	-2102.109	-0.502
0.9 Dead+1.0 Wind 60 deg - No Ice	38.961	27.053	-15.600	-1200.584	-2084.005	-0.502
1.2 Dead+1.0 Wind 90 deg - No Ice	51.948	31.066	0.097	9.410	-2420.689	-1.236
0.9 Dead+1.0 Wind 90 deg - No Ice	38.961	31.066	0.097	9.619	-2399.794	-1.230
1.2 Dead+1.0 Wind 120 deg - No Ice	51.948	26.737	15.532	1216.252	-2093.050	-1.608
0.9 Dead+1.0 Wind 120 deg - No Ice	38.961	26.737	15.532	1205.999	-2074.958	-1.598
1.2 Dead+1.0 Wind 150 deg - No Ice	51.948	15.456	26.750	2099.778	-1215.538	-1.543
0.9 Dead+1.0 Wind 150 deg - No Ice	38.961	15.456	26.750	2081.877	-1205.059	-1.531
1.2 Dead+1.0 Wind 180 deg - No Ice	51.948	0.092	30.821	2420.408	-9.814	-1.099
0.9 Dead+1.0 Wind 180 deg - No Ice	38.961	0.092	30.821	2399.734	-9.791	-1.088
1.2 Dead+1.0 Wind 210 deg - No Ice	51.948	-15.252	26.590	2088.589	1197.469	-0.401

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
0.9 Dead+1.0 Wind 210 deg - No Ice	38.961	-15.252	26.590	2070.784	1187.009	-0.394
1.2 Dead+1.0 Wind 240 deg - No Ice	51.948	-26.443	15.263	1200.141	2084.621	0.435
0.9 Dead+1.0 Wind 240 deg - No Ice	38.961	-26.443	15.263	1190.039	2066.435	0.436
1.2 Dead+1.0 Wind 270 deg - No Ice	51.948	-30.460	-0.110	-13.532	2407.260	1.299
0.9 Dead+1.0 Wind 270 deg - No Ice	38.961	-30.460	-0.110	-13.085	2386.251	1.293
1.2 Dead+1.0 Wind 300 deg - No Ice	51.948	-26.836	-15.594	-1223.827	2101.517	1.680
0.9 Dead+1.0 Wind 300 deg - No Ice	38.961	-26.836	-15.594	-1212.901	2083.212	1.669
1.2 Dead+1.0 Wind 330 deg - No Ice	51.948	-15.486	-26.803	-2100.439	1215.176	1.614
0.9 Dead+1.0 Wind 330 deg - No Ice	38.961	-15.486	-26.803	-2081.906	1204.537	1.601
1.2 Dead+1.0 Ice+1.0 Temp	88.612	0.000	-0.000	-3.795	1.832	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	88.612	-0.020	-8.244	-695.879	4.137	0.330
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	88.612	4.099	-7.135	-602.458	-341.441	0.136
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	88.612	7.159	-4.126	-348.837	-597.433	-0.098
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	88.612	8.247	0.020	-1.683	-690.045	-0.309
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	88.612	7.109	4.120	343.179	-596.656	-0.428
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	88.612	4.116	7.119	595.470	-345.120	-0.428
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	88.612	0.019	8.208	687.313	-0.300	-0.319
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	88.612	-4.077	7.090	593.412	344.996	-0.136
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	88.612	-7.055	4.069	339.318	597.555	0.089
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	88.612	-8.144	-0.023	-6.680	690.749	0.324
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	88.612	-7.127	-4.132	-352.136	601.860	0.438
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	88.612	-4.114	-7.116	-603.264	348.742	0.439
Dead+Wind 0 deg - Service	43.290	-0.024	-7.700	-598.281	2.912	0.286
Dead+Wind 30 deg - Service	43.290	3.820	-6.665	-517.570	-295.151	0.099
Dead+Wind 60 deg - Service	43.290	6.701	-3.864	-299.244	-517.833	-0.117
Dead+Wind 90 deg - Service	43.290	7.696	0.024	1.593	-596.337	-0.304
Dead+Wind 120 deg - Service	43.290	6.623	3.848	298.998	-515.594	-0.402
Dead+Wind 150 deg - Service	43.290	3.829	6.627	516.731	-299.348	-0.388
Dead+Wind 180 deg - Service	43.290	0.023	7.635	595.743	-2.218	-0.276
Dead+Wind 210 deg - Service	43.290	-3.778	6.587	513.969	295.292	-0.100
Dead+Wind 240 deg - Service	43.290	-6.550	3.781	295.029	513.909	0.107
Dead+Wind 270 deg - Service	43.290	-7.545	-0.027	-4.054	593.415	0.319
Dead+Wind 300 deg - Service	43.290	-6.648	-3.863	-302.314	518.081	0.412
Dead+Wind 330 deg - Service	43.290	-3.836	-6.640	-518.338	299.654	0.399

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.000	-43.290	0.000	0.000	43.290	0.000	0.000%
2	-0.097	-51.948	-31.083	0.097	51.948	31.083	0.000%
3	-0.097	-38.961	-31.083	0.097	38.961	31.083	0.000%
4	15.419	-51.948	-26.907	-15.419	51.948	26.907	0.000%
5	15.419	-38.961	-26.907	-15.419	38.961	26.907	0.000%
6	27.053	-51.948	-15.600	-27.053	51.948	15.600	0.000%
7	27.053	-38.961	-15.600	-27.053	38.961	15.600	0.000%
8	31.066	-51.948	0.097	-31.066	51.948	-0.097	0.000%
9	31.066	-38.961	0.097	-31.066	38.961	-0.097	0.000%
10	26.737	-51.948	15.532	-26.737	51.948	-15.532	0.000%
11	26.737	-38.961	15.532	-26.737	38.961	-15.532	0.000%
12	15.456	-51.948	26.750	-15.456	51.948	-26.750	0.000%
13	15.456	-38.961	26.750	-15.456	38.961	-26.750	0.000%
14	0.092	-51.948	30.821	-0.092	51.948	-30.821	0.000%
15	0.092	-38.961	30.821	-0.092	38.961	-30.821	0.000%
16	-15.252	-51.948	26.590	15.252	51.948	-26.590	0.000%
17	-15.252	-38.961	26.590	15.252	38.961	-26.590	0.000%
18	-26.443	-51.948	15.263	26.443	51.948	-15.263	0.000%
19	-26.443	-38.961	15.263	26.443	38.961	-15.263	0.000%
20	-30.460	-51.948	-0.110	30.460	51.948	0.110	0.000%
21	-30.460	-38.961	-0.110	30.460	38.961	0.110	0.000%
22	-26.836	-51.948	-15.594	26.836	51.948	15.594	0.000%
23	-26.836	-38.961	-15.594	26.836	38.961	15.594	0.000%
24	-15.486	-51.948	-26.803	15.486	51.948	26.803	0.000%
25	-15.486	-38.961	-26.803	15.486	38.961	26.803	0.000%
26	0.000	-88.612	0.000	-0.000	88.612	0.000	0.000%
27	-0.020	-88.612	-8.244	0.020	88.612	8.244	0.000%
28	4.099	-88.612	-7.135	-4.099	88.612	7.135	0.000%
29	7.159	-88.612	-4.126	-7.159	88.612	4.126	0.000%
30	8.247	-88.612	0.020	-8.247	88.612	-0.020	0.000%
31	7.109	-88.612	4.120	-7.109	88.612	-4.120	0.000%
32	4.116	-88.612	7.119	-4.116	88.612	-7.119	0.000%
33	0.019	-88.612	8.208	-0.019	88.612	-8.208	0.000%
34	-4.077	-88.612	7.090	4.077	88.612	-7.090	0.000%
35	-7.055	-88.612	4.069	7.055	88.612	-4.069	0.000%
36	-8.144	-88.612	-0.023	8.144	88.612	0.023	0.000%
37	-7.127	-88.612	-4.132	7.127	88.612	4.132	0.000%
38	-4.114	-88.612	-7.116	4.114	88.612	7.116	0.000%
39	-0.024	-43.290	-7.700	0.024	43.290	7.700	0.000%
40	3.820	-43.290	-6.665	-3.820	43.290	6.665	0.000%
41	6.701	-43.290	-3.864	-6.701	43.290	3.864	0.000%
42	7.696	-43.290	0.024	-7.696	43.290	-0.024	0.000%
43	6.623	-43.290	3.848	-6.623	43.290	-3.848	0.000%
44	3.829	-43.290	6.627	-3.829	43.290	-6.627	0.000%
45	0.023	-43.290	7.635	-0.023	43.290	-7.635	0.000%
46	-3.778	-43.290	6.587	3.778	43.290	-6.587	0.000%
47	-6.550	-43.290	3.781	6.550	43.290	-3.781	0.000%
48	-7.545	-43.290	-0.027	7.545	43.290	0.027	0.000%
49	-6.648	-43.290	-3.863	6.648	43.290	3.863	0.000%
50	-3.836	-43.290	-6.640	3.836	43.290	6.640	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	5	0.00000001	0.00021555
3	Yes	5	0.00000001	0.00010182
4	Yes	6	0.00000001	0.00016158
5	Yes	6	0.00000001	0.00005603
6	Yes	6	0.00000001	0.00016325
7	Yes	6	0.00000001	0.00005656
8	Yes	5	0.00000001	0.00022655
9	Yes	5	0.00000001	0.00010740
10	Yes	6	0.00000001	0.00015523

11	Yes	6	0.00000001	0.00005356
12	Yes	6	0.00000001	0.00017121
13	Yes	6	0.00000001	0.00005946
14	Yes	5	0.00000001	0.00028220
15	Yes	5	0.00000001	0.00013461
16	Yes	6	0.00000001	0.00015671
17	Yes	6	0.00000001	0.00005433
18	Yes	6	0.00000001	0.00015752
19	Yes	6	0.00000001	0.00005461
20	Yes	5	0.00000001	0.00032184
21	Yes	5	0.00000001	0.00015447
22	Yes	6	0.00000001	0.00017287
23	Yes	6	0.00000001	0.00006000
24	Yes	6	0.00000001	0.00015555
25	Yes	6	0.00000001	0.00005363
26	Yes	4	0.00000001	0.00027033
27	Yes	6	0.00000001	0.00037117
28	Yes	6	0.00000001	0.00040560
29	Yes	6	0.00000001	0.00040589
30	Yes	6	0.00000001	0.00036974
31	Yes	6	0.00000001	0.00040233
32	Yes	6	0.00000001	0.00040329
33	Yes	6	0.00000001	0.00036509
34	Yes	6	0.00000001	0.00039674
35	Yes	6	0.00000001	0.00039676
36	Yes	6	0.00000001	0.00036619
37	Yes	6	0.00000001	0.00040700
38	Yes	6	0.00000001	0.00040551
39	Yes	4	0.00000001	0.00050607
40	Yes	5	0.00000001	0.00006197
41	Yes	5	0.00000001	0.00006254
42	Yes	4	0.00000001	0.00051048
43	Yes	5	0.00000001	0.00005584
44	Yes	5	0.00000001	0.00006997
45	Yes	4	0.00000001	0.00051298
46	Yes	5	0.00000001	0.00005713
47	Yes	5	0.00000001	0.00005750
48	Yes	4	0.00000001	0.00053884
49	Yes	5	0.00000001	0.00007112
50	Yes	5	0.00000001	0.00005616

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	118 - 113	13.295	49	0.991	0.003
L2	113 - 108	12.259	49	0.991	0.003
L3	108 - 103	11.225	49	0.986	0.003
L4	103 - 98	10.199	49	0.974	0.003
L5	98 - 93	9.191	49	0.952	0.003
L6	93 - 90	8.213	49	0.914	0.003
L7	90 - 85	7.648	49	0.883	0.002
L8	85 - 80	6.747	49	0.837	0.002
L9	80 - 76.5	5.902	49	0.775	0.002
L10	76.5 - 76.25	5.353	49	0.721	0.001
L11	76.25 - 74	5.315	49	0.718	0.001
L12	74 - 73.75	4.983	49	0.693	0.001
L13	73.75 - 68.88	4.947	49	0.691	0.001
L14	68.88 - 68.63	4.264	49	0.647	0.001
L15	68.63 - 64.5	4.230	49	0.644	0.001
L16	64.5 - 64.25	3.700	49	0.579	0.001
L17	64.25 - 63	3.670	49	0.577	0.001
L18	63 - 62.75	3.521	49	0.565	0.001
L19	62.75 - 60	3.491	49	0.562	0.001
L20	60 - 59.75	3.176	49	0.532	0.001
L21	59.75 - 54.75	3.148	49	0.530	0.001
L22	54.75 - 49.75	2.616	49	0.486	0.001

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L23	49.75 - 49.25	2.133	49	0.435	0.001
L24	49.25 - 49	2.088	49	0.430	0.001
L25	49 - 44	2.066	49	0.428	0.001
L26	44 - 42	1.641	49	0.382	0.000
L27	42 - 41.75	1.485	49	0.362	0.000
L28	41.75 - 36.75	1.466	49	0.360	0.000
L29	36.75 - 34.5	1.114	49	0.313	0.000
L30	34.5 - 34.25	0.972	49	0.290	0.000
L31	34.25 - 34	0.956	49	0.287	0.000
L32	34 - 33.75	0.942	49	0.285	0.000
L33	33.75 - 30	0.927	49	0.282	0.000
L34	30 - 29.75	0.722	49	0.239	0.000
L35	29.75 - 28.5	0.709	49	0.237	0.000
L36	28.5 - 28.25	0.649	49	0.226	0.000
L37	28.25 - 23.25	0.637	49	0.224	0.000
L38	23.25 - 23	0.423	49	0.183	0.000
L39	23 - 21.5	0.414	49	0.181	0.000
L40	21.5 - 21.25	0.359	49	0.170	0.000
L41	21.25 - 19	0.350	49	0.168	0.000
L42	19 - 18.75	0.276	49	0.147	0.000
L43	18.75 - 18.5	0.268	49	0.145	0.000
L44	18.5 - 18.25	0.260	49	0.143	0.000
L45	18.25 - 13.25	0.253	49	0.141	0.000
L46	13.25 - 12.7	0.127	49	0.098	0.000
L47	12.7 - 12.45	0.116	49	0.093	0.000
L48	12.45 - 11.5	0.112	49	0.090	0.000
L49	11.5 - 11.25	0.095	49	0.081	0.000
L50	11.25 - 10.5	0.090	49	0.079	0.000
L51	10.5 - 10.25	0.079	49	0.072	0.000
L52	10.25 - 7.5	0.075	49	0.070	0.000
L53	7.5 - 7.25	0.040	49	0.051	0.000
L54	7.25 - 6.25	0.037	49	0.049	0.000
L55	6.25 - 6	0.028	49	0.042	0.000
L56	6 - 3.83	0.026	49	0.041	0.000
L57	3.83 - 3.58	0.011	49	0.025	0.000
L58	3.58 - 3.33	0.009	49	0.024	0.000
L59	3.33 - 2.75	0.008	49	0.022	0.000
L60	2.75 - 2.5	0.006	49	0.019	0.000
L61	2.5 - 2	0.005	49	0.017	0.000
L62	2 - 1.75	0.003	49	0.014	0.000
L63	1.75 - 0	0.002	49	0.013	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.000	Andrew VHLP1-23	49	12.881	0.991	0.003	126950
114.000	APXVSPP18-C-A20 w/ Mount Pipe	49	12.466	0.991	0.003	126950
108.000	AIR6449 B41_T-MOBILE w/ Mount Pipe	49	11.225	0.986	0.003	36593
98.000	AIR 6419 B77G w/ Mount Pipe	49	9.191	0.952	0.003	9570
90.000	Bridge Stiffener (84" x 9" x 1.25")	49	7.648	0.883	0.002	5940
85.000	BXA-70040-6CF-EDIN-2 w/ Mount Pipe	49	6.747	0.837	0.002	5289
80.000	KS24019-L112A	49	5.902	0.775	0.002	4114
60.000	Bridge Stiffener (84" x 13.5" x 1.25")	49	3.176	0.532	0.001	5893
58.000	MX08FRO665-21 w/ Mount Pipe	49	2.957	0.515	0.001	6234
30.000	Bridge Stiffener (84" x 13.5" x 1.25")	49	0.722	0.239	0.000	5751

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	118 - 113	54.047	22	4.032	0.013
L2	113 - 108	49.830	22	4.031	0.013
L3	108 - 103	45.622	22	4.014	0.012
L4	103 - 98	41.446	22	3.966	0.012
L5	98 - 93	37.342	22	3.876	0.012
L6	93 - 90	33.364	22	3.721	0.010
L7	90 - 85	31.068	22	3.592	0.009
L8	85 - 80	27.404	22	3.405	0.008
L9	80 - 76.5	23.968	22	3.151	0.007
L10	76.5 - 76.25	21.739	22	2.932	0.006
L11	76.25 - 74	21.586	22	2.921	0.006
L12	74 - 73.75	20.234	22	2.817	0.005
L13	73.75 - 68.88	20.087	22	2.808	0.005
L14	68.88 - 68.63	17.312	22	2.632	0.005
L15	68.63 - 64.5	17.175	22	2.617	0.005
L16	64.5 - 64.25	15.024	22	2.354	0.004
L17	64.25 - 63	14.901	22	2.345	0.004
L18	63 - 62.75	14.294	22	2.294	0.004
L19	62.75 - 60	14.174	22	2.284	0.004
L20	60 - 59.75	12.895	22	2.161	0.003
L21	59.75 - 54.75	12.782	22	2.152	0.003
L22	54.75 - 49.75	10.620	22	1.973	0.003
L23	49.75 - 49.25	8.660	22	1.768	0.002
L24	49.25 - 49	8.476	22	1.746	0.002
L25	49 - 44	8.384	22	1.737	0.002
L26	44 - 42	6.661	22	1.552	0.002
L27	42 - 41.75	6.028	22	1.471	0.002
L28	41.75 - 36.75	5.951	22	1.462	0.002
L29	36.75 - 34.5	4.519	22	1.270	0.002
L30	34.5 - 34.25	3.942	22	1.177	0.001
L31	34.25 - 34	3.881	22	1.167	0.001
L32	34 - 33.75	3.820	22	1.157	0.001
L33	33.75 - 30	3.760	22	1.146	0.001
L34	30 - 29.75	2.928	22	0.972	0.001
L35	29.75 - 28.5	2.877	22	0.963	0.001
L36	28.5 - 28.25	2.631	22	0.916	0.001
L37	28.25 - 23.25	2.584	22	0.909	0.001
L38	23.25 - 23	1.718	22	0.743	0.001
L39	23 - 21.5	1.679	22	0.736	0.001
L40	21.5 - 21.25	1.455	22	0.690	0.001
L41	21.25 - 19	1.419	22	0.681	0.001
L42	19 - 18.75	1.118	22	0.598	0.001
L43	18.75 - 18.5	1.086	22	0.590	0.001
L44	18.5 - 18.25	1.056	22	0.582	0.001
L45	18.25 - 13.25	1.026	22	0.573	0.001
L46	13.25 - 12.7	0.517	22	0.396	0.000
L47	12.7 - 12.45	0.472	22	0.376	0.000
L48	12.45 - 11.5	0.453	22	0.366	0.000
L49	11.5 - 11.25	0.384	22	0.330	0.000
L50	11.25 - 10.5	0.367	22	0.320	0.000
L51	10.5 - 10.25	0.319	22	0.291	0.000
L52	10.25 - 7.5	0.303	22	0.284	0.000
L53	7.5 - 7.25	0.162	22	0.206	0.000
L54	7.25 - 6.25	0.152	22	0.199	0.000
L55	6.25 - 6	0.113	22	0.172	0.000
L56	6 - 3.83	0.104	22	0.165	0.000
L57	3.83 - 3.58	0.043	22	0.103	0.000
L58	3.58 - 3.33	0.038	22	0.097	0.000
L59	3.33 - 2.75	0.033	22	0.091	0.000
L60	2.75 - 2.5	0.023	22	0.077	0.000
L61	2.5 - 2	0.019	22	0.071	0.000
L62	2 - 1.75	0.012	22	0.058	0.000
L63	1.75 - 0	0.009	22	0.051	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.000	Andrew VHLP1-23	22	52.360	4.033	0.013	33523
114.000	APXVSPP18-C-A20 w/ Mount Pipe	22	50.673	4.032	0.013	33523
108.000	AIR6449 B41_T-MOBILE w/ Mount Pipe	22	45.622	4.014	0.012	9289
98.000	AIR 6419 B77G w/ Mount Pipe	22	37.342	3.876	0.012	2394
90.000	Bridge Stiffener (84" x 9" x 1.25")	22	31.068	3.592	0.009	1481
85.000	BXA-70040-6CF-EDIN-2 w/ Mount Pipe	22	27.404	3.405	0.008	1314
80.000	KS24019-L112A	22	23.968	3.151	0.007	1019
60.000	Bridge Stiffener (84" x 13.5" x 1.25")	22	12.895	2.161	0.003	1453
58.000	MX08FRO665-21 w/ Mount Pipe	22	12.004	2.093	0.003	1537
30.000	Bridge Stiffener (84" x 13.5" x 1.25")	22	2.928	0.972	0.001	1416

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	118 - 113 (1)	P24x0.25	5.000	0.000	0.0	18.653	-3.081	662.265	0.005
L2	113 - 108 (2)	P24x0.25	5.000	0.000	0.0	18.653	-3.475	662.265	0.005
L3	108 - 103 (3)	P24x0.25	5.000	0.000	0.0	18.653	-8.204	662.265	0.012
L4	103 - 98 (4)	P24x0.25	5.000	0.000	0.0	18.653	-8.654	662.265	0.013
L5	98 - 93 (5)	P24x0.25	5.000	0.000	0.0	18.653	-13.136	662.265	0.020
L6	93 - 90 (6)	P24x0.25	3.000	0.000	0.0	18.653	-13.462	662.265	0.020
L7	90 - 85 (7)	P24x0.375	5.000	0.000	0.0	27.833	-14.268	1052.070	0.014
L8	85 - 80 (8)	P24x0.375	5.000	0.000	0.0	27.833	-18.595	1052.070	0.018
L9	80 - 76.5 (9)	P24x0.375	3.500	0.000	0.0	27.833	-19.246	1052.070	0.018
L10	76.5 - 76.25 (10)	P24x0.5875	0.250	0.000	0.0	43.212	-19.310	1633.420	0.012
L11	76.25 - 74 (11)	P24x0.5875	2.250	0.000	0.0	43.212	-19.782	1633.420	0.012
L12	74 - 73.75 (12)	P24x0.9	0.250	0.000	0.0	65.314	-19.861	2468.860	0.008
L13	73.75 - 68.88 (13)	P24x0.9	4.870	0.000	0.0	65.314	-21.272	2468.860	0.009
L14	68.88 - 68.63 (14)	P24x0.575	0.250	0.000	0.0	42.315	-21.332	1599.520	0.013
L15	68.63 - 64.5 (15)	P24x0.575	4.130	0.000	0.0	42.315	-22.227	1599.520	0.014
L16	64.5 - 64.25 (16)	P24x1.05	0.250	0.000	0.0	75.704	-22.320	2861.630	0.008
L17	64.25 - 63 (17)	P24x1.05	1.250	0.000	0.0	75.704	-22.725	2861.630	0.008
L18	63 - 62.75 (18)	P24x1	0.250	0.000	0.0	72.257	-22.813	2731.300	0.008
L19	62.75 - 60 (19)	P24x1	2.750	0.000	0.0	72.257	-23.692	2731.300	0.009
L20	60 - 59.75 (20)	P30x0.675	0.250	0.000	0.0	62.186	-23.944	2350.630	0.010
L21	59.75 - 54.75 (21)	P30x0.675	5.000	0.000	0.0	62.186	-28.608	2350.630	0.012
L22	54.75 - 49.75	P30x0.675	5.000	0.000	0.0	62.186	-30.173	2350.630	0.013

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L23	49.75 - 49.25 (22)	P30x0.675	0.500	0.000	0.0	62.186	-30.335	2350.630	0.013
L24	49.25 - 49 (23)	P30x0.875	0.250	0.000	0.0	80.062	-30.422	3026.330	0.010
L25	49 - 44 (24)	P30x0.875	5.000	0.000	0.0	80.062	-32.101	3026.330	0.011
L26	44 - 42 (25)	P30x0.875	2.000	0.000	0.0	80.062	-32.779	3026.330	0.011
L27	42 - 41.75 (26)	P30x1	0.250	0.000	0.0	91.106	-32.880	3443.810	0.010
L28	41.75 - 36.75 (27)	P30x1	5.000	0.000	0.0	91.106	-34.750	3443.810	0.010
L29	36.75 - 34.5 (28)	P30x1	2.250	0.000	0.0	91.106	-35.598	3443.810	0.010
L30	34.5 - 34.25 (29)	P30x1.05	0.250	0.000	0.0	95.497	-35.710	3609.770	0.010
L31	34.25 - 34 (30)	P30x1.05	0.250	0.000	0.0	95.497	-35.814	3609.770	0.010
L32	34 - 33.75 (31)	P30x0.95	0.250	0.000	0.0	86.700	-35.908	3277.260	0.011
L33	33.75 - 30 (32)	P30x0.95	3.750	0.000	0.0	86.700	-37.324	3277.260	0.011
L34	30 - 29.75 (33)	P36x0.7	0.250	0.000	0.0	77.629	-37.650	2934.370	0.013
L35	29.75 - 28.5 (34)	P36x0.7	1.250	0.000	0.0	77.629	-38.115	2934.370	0.013
L36	28.5 - 28.25 (35)	P36x0.8375	0.250	0.000	0.0	92.516	-38.232	3497.090	0.011
L37	28.25 - 23.25 (36)	P36x0.8375	5.000	0.000	0.0	92.516	-40.390	3497.090	0.012
L38	23.25 - 23 (37)	P36x0.975	0.250	0.000	0.0	107.283	-40.517	4055.310	0.010
L39	23 - 21.5 (38)	P36x0.975	1.500	0.000	0.0	107.283	-41.229	4055.310	0.010
L40	21.5 - 21.25 (39)	P36x0.825	0.250	0.000	0.0	91.167	-41.346	3446.110	0.012
L41	21.25 - 19 (40)	P36x0.825	2.250	0.000	0.0	91.167	-42.304	3446.110	0.012
L42	19 - 18.75 (41)	P36x0.975	0.250	0.000	0.0	107.283	-42.434	4055.310	0.010
L43	18.75 - 18.5 (42)	P36x0.975	0.250	0.000	0.0	107.283	-42.554	4055.310	0.010
L44	18.5 - 18.25 (43)	P36x0.925	0.250	0.000	0.0	101.927	-42.666	3852.840	0.011
L45	18.25 - 13.25 (44)	P36x0.925	5.000	0.000	0.0	101.927	-44.909	3852.840	0.012
L46	13.25 - 12.7 (45)	P36x0.925	0.550	0.000	0.0	101.927	-45.162	3852.840	0.012
L47	12.7 - 12.45 (46)	P36x0.9	0.250	0.000	0.0	99.243	-45.278	3751.380	0.012
L48	12.45 - 11.5 (47)	P36x0.9	0.950	0.000	0.0	99.243	-45.702	3751.380	0.012
L49	11.5 - 11.25 (48)	P36x0.9	0.250	0.000	0.0	99.243	-45.832	3751.380	0.012
L50	11.25 - 10.5 (49)	P36x0.9	0.750	0.000	0.0	99.243	-46.194	3751.380	0.012
L51	10.5 - 10.25 (50)	P36x1.325	0.250	0.000	0.0	144.339	-46.337	5456.000	0.008
L52	10.25 - 7.5 (51)	P36x1.325	2.750	0.000	0.0	144.339	-47.830	5456.000	0.009
L53	7.5 - 7.25 (52)	P36x1.4	0.250	0.000	0.0	152.179	-47.980	5752.360	0.008
L54	7.25 - 6.25 (53)	P36x1.4	1.000	0.000	0.0	152.179	-48.542	5752.360	0.008
L55	6.25 - 6 (54)	P36x1.4	0.250	0.000	0.0	152.179	-48.689	5752.360	0.008
L56	6 - 3.83 (55)	P36x1.4	2.170	0.000	0.0	152.179	-49.913	5752.360	0.009
L57	3.83 - 3.58 (56)	P36x1.75	0.250	0.000	0.0	188.299	-50.068	7117.710	0.007

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L58	3.58 - 3.33 (58)	P36x1.75	0.250	0.000	0.0	188.299	-50.216	7117.710	0.007
L59	3.33 - 2.75 (59)	P36x1.75	0.580	0.000	0.0	188.299	-50.556	7117.710	0.007
L60	2.75 - 2.5 (60)	P36x1.675	0.250	0.000	0.0	180.624	-50.694	6827.580	0.007
L61	2.5 - 2 (61)	P36x1.675	0.500	0.000	0.0	180.624	-50.964	6827.580	0.007
L62	2 - 1.75 (62)	P36x1.45	0.250	0.000	0.0	157.386	-51.088	5949.190	0.009
L63	1.75 - 0 (63)	P36x1.45	1.750	0.000	0.0	157.386	-51.934	5949.190	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	118 - 113 (1)	P24x0.25	7.639	396.683	0.019	0.000	396.683	0.000
L2	113 - 108 (2)	P24x0.25	25.532	396.683	0.064	0.000	396.683	0.000
L3	108 - 103 (3)	P24x0.25	63.867	396.683	0.161	0.000	396.683	0.000
L4	103 - 98 (4)	P24x0.25	103.619	396.683	0.261	0.000	396.683	0.000
L5	98 - 93 (5)	P24x0.25	178.607	396.683	0.450	0.000	396.683	0.000
L6	93 - 90 (6)	P24x0.25	219.775	396.683	0.554	0.000	396.683	0.000
L7	90 - 85 (7)	P24x0.375	291.756	623.717	0.468	0.000	623.717	0.000
L8	85 - 80 (8)	P24x0.375	393.733	623.717	0.631	0.000	623.717	0.000
L9	80 - 76.5 (9)	P24x0.375	458.543	623.717	0.735	0.000	623.717	0.000
L10	76.5 - 76.25 (10)	P24x0.5875	463.196	1014.625	0.457	0.000	1014.625	0.000
L11	76.25 - 74 (11)	P24x0.5875	505.318	1014.625	0.498	0.000	1014.625	0.000
L12	74 - 73.75 (12)	P24x0.9	510.029	1513.550	0.337	0.000	1513.550	0.000
L13	73.75 - 68.88 (13)	P24x0.9	603.173	1513.550	0.399	0.000	1513.550	0.000
L14	68.88 - 68.63 (14)	P24x0.575	608.024	994.092	0.612	0.000	994.092	0.000
L15	68.63 - 64.5 (15)	P24x0.575	689.093	994.092	0.693	0.000	994.092	0.000
L16	64.5 - 64.25 (16)	P24x1.05	694.059	1743.283	0.398	0.000	1743.283	0.000
L17	64.25 - 63 (17)	P24x1.05	718.990	1743.283	0.412	0.000	1743.283	0.000
L18	63 - 62.75 (18)	P24x1	723.997	1667.400	0.434	0.000	1667.400	0.000
L19	62.75 - 60 (19)	P24x1	779.510	1667.400	0.468	0.000	1667.400	0.000
L20	60 - 59.75 (20)	P30x0.675	784.810	1828.800	0.429	0.000	1828.800	0.000
L21	59.75 - 54.75 (21)	P30x0.675	903.075	1828.800	0.494	0.000	1828.800	0.000
L22	54.75 - 49.75 (22)	P30x0.675	1027.025	1828.800	0.562	0.000	1828.800	0.000
L23	49.75 - 49.25 (23)	P30x0.675	1039.575	1828.800	0.568	0.000	1828.800	0.000
L24	49.25 - 49 (24)	P30x0.875	1045.858	2338.733	0.447	0.000	2338.733	0.000
L25	49 - 44 (25)	P30x0.875	1172.967	2338.733	0.502	0.000	2338.733	0.000
L26	44 - 42 (26)	P30x0.875	1224.575	2338.733	0.524	0.000	2338.733	0.000
L27	42 - 41.75 (27)	P30x1	1231.050	2650.200	0.465	0.000	2650.200	0.000
L28	41.75 - 36.75 (28)	P30x1	1362.100	2650.200	0.514	0.000	2650.200	0.000
L29	36.75 - 34.5 (29)	P30x1	1421.933	2650.200	0.537	0.000	2650.200	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L30	34.5 - 34.25 (30)	P30x1.05	1428.617	2773.242	0.515	0.000	2773.242	0.000
L31	34.25 - 34 (31)	P30x1.05	1435.308	2773.242	0.518	0.000	2773.242	0.000
L32	34 - 33.75 (32)	P30x0.95	1442.000	2526.275	0.571	0.000	2526.275	0.000
L33	33.75 - 30 (33)	P30x0.95	1543.117	2526.275	0.611	0.000	2526.275	0.000
L34	30 - 29.75 (34)	P36x0.7	1550.133	2705.167	0.573	0.000	2705.167	0.000
L35	29.75 - 28.5 (35)	P36x0.7	1585.292	2705.167	0.586	0.000	2705.167	0.000
L36	28.5 - 28.25 (36)	P36x0.8375	1592.342	3262.400	0.488	0.000	3262.400	0.000
L37	28.25 - 23.25 (37)	P36x0.8375	1734.950	3262.400	0.532	0.000	3262.400	0.000
L38	23.25 - 23 (38)	P36x0.975	1742.158	3768.633	0.462	0.000	3768.633	0.000
L39	23 - 21.5 (39)	P36x0.975	1785.550	3768.633	0.474	0.000	3768.633	0.000
L40	21.5 - 21.25 (40)	P36x0.825	1792.808	3215.975	0.557	0.000	3215.975	0.000
L41	21.25 - 19 (41)	P36x0.825	1858.417	3215.975	0.578	0.000	3215.975	0.000
L42	19 - 18.75 (42)	P36x0.975	1865.742	3768.633	0.495	0.000	3768.633	0.000
L43	18.75 - 18.5 (43)	P36x0.975	1873.075	3768.633	0.497	0.000	3768.633	0.000
L44	18.5 - 18.25 (44)	P36x0.925	1880.408	3585.492	0.524	0.000	3585.492	0.000
L45	18.25 - 13.25 (45)	P36x0.925	2028.408	3585.492	0.566	0.000	3585.492	0.000
L46	13.25 - 12.7 (46)	P36x0.925	2044.833	3585.492	0.570	0.000	3585.492	0.000
L47	12.7 - 12.45 (47)	P36x0.9	2052.308	3493.517	0.587	0.000	3493.517	0.000
L48	12.45 - 11.5 (48)	P36x0.9	2080.767	3493.517	0.596	0.000	3493.517	0.000
L49	11.5 - 11.25 (49)	P36x0.9	2088.267	3493.517	0.598	0.000	3493.517	0.000
L50	11.25 - 10.5 (50)	P36x0.9	2110.800	3493.517	0.604	0.000	3493.517	0.000
L51	10.5 - 10.25 (51)	P36x1.325	2118.325	5020.775	0.422	0.000	5020.775	0.000
L52	10.25 - 7.5 (52)	P36x1.325	2201.483	5020.775	0.438	0.000	5020.775	0.000
L53	7.5 - 7.25 (53)	P36x1.4	2209.075	5282.358	0.418	0.000	5282.358	0.000
L54	7.25 - 6.25 (54)	P36x1.4	2239.517	5282.358	0.424	0.000	5282.358	0.000
L55	6.25 - 6 (55)	P36x1.4	2247.142	5282.358	0.425	0.000	5282.358	0.000
L56	6 - 3.83 (56)	P36x1.4	2313.575	5282.358	0.438	0.000	5282.358	0.000
L57	3.83 - 3.58 (57)	P36x1.75	2321.258	6472.133	0.359	0.000	6472.133	0.000
L58	3.58 - 3.33 (58)	P36x1.75	2328.942	6472.133	0.360	0.000	6472.133	0.000
L59	3.33 - 2.75 (59)	P36x1.75	2346.808	6472.133	0.363	0.000	6472.133	0.000
L60	2.75 - 2.5 (60)	P36x1.675	2354.517	6221.441	0.378	0.000	6221.441	0.000
L61	2.5 - 2 (61)	P36x1.675	2369.950	6221.441	0.381	0.000	6221.441	0.000
L62	2 - 1.75 (62)	P36x1.45	2377.675	5455.433	0.436	0.000	5455.433	0.000
L63	1.75 - 0 (63)	P36x1.45	2431.900	5455.433	0.446	0.000	5455.433	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	118 - 113 (1)	P24x0.25	3.432	201.861	0.017	0.089	324.229	0.000
L2	113 - 108 (2)	P24x0.25	3.725	201.861	0.018	0.089	324.229	0.000
L3	108 - 103 (3)	P24x0.25	7.812	201.861	0.039	0.089	324.229	0.000
L4	103 - 98 (4)	P24x0.25	8.091	201.861	0.040	0.089	324.229	0.000
L5	98 - 93 (5)	P24x0.25	13.655	201.861	0.068	0.826	324.229	0.003
L6	93 - 90 (6)	P24x0.25	13.799	201.861	0.068	0.826	324.229	0.003
L7	90 - 85 (7)	P24x0.375	14.525	315.621	0.046	0.825	655.567	0.001
L8	85 - 80 (8)	P24x0.375	18.363	315.621	0.058	1.282	655.567	0.002
L9	80 - 76.5 (9)	P24x0.375	18.606	315.621	0.059	1.531	655.567	0.002
L10	76.5 - 76.25 (10)	P24x0.5875	18.608	490.025	0.038	1.531	1008.667	0.002
L11	76.25 - 74 (11)	P24x0.5875	18.831	490.025	0.038	1.530	1008.667	0.002
L12	74 - 73.75 (12)	P24x0.9	18.853	740.658	0.025	1.530	1504.208	0.001
L13	73.75 - 68.88 (13)	P24x0.9	19.393	740.658	0.026	1.530	1504.208	0.001
L14	68.88 - 68.63 (14)	P24x0.575	19.413	479.855	0.040	1.530	988.258	0.002
L15	68.63 - 64.5 (15)	P24x0.575	19.852	479.855	0.041	1.532	988.258	0.002
L16	64.5 - 64.25 (16)	P24x1.05	19.870	858.489	0.023	1.532	1732.200	0.001
L17	64.25 - 63 (17)	P24x1.05	20.016	858.489	0.023	1.532	1732.200	0.001
L18	63 - 62.75 (18)	P24x1	20.036	819.390	0.024	1.532	1656.908	0.001
L19	62.75 - 60 (19)	P24x1	20.334	819.390	0.025	1.532	1656.908	0.001
L20	60 - 59.75 (20)	P30x0.675	21.208	705.188	0.030	1.532	1818.117	0.001
L21	59.75 - 54.75 (21)	P30x0.675	24.509	705.188	0.035	1.682	1818.117	0.001
L22	54.75 - 49.75 (22)	P30x0.675	25.061	705.188	0.036	1.682	1818.117	0.001
L23	49.75 - 49.25 (23)	P30x0.675	25.110	705.188	0.036	1.682	1818.117	0.001
L24	49.25 - 49 (24)	P30x0.875	25.135	907.898	0.028	1.681	2324.783	0.001
L25	49 - 44 (25)	P30x0.875	25.691	907.898	0.028	1.681	2324.783	0.001
L26	44 - 42 (26)	P30x0.875	25.907	907.898	0.029	1.681	2324.783	0.001
L27	42 - 41.75 (27)	P30x1	25.926	1033.140	0.025	1.681	2634.142	0.001
L28	41.75 - 36.75 (28)	P30x1	26.475	1033.140	0.026	1.681	2634.142	0.001
L29	36.75 - 34.5 (29)	P30x1	26.711	1033.140	0.026	1.681	2634.142	0.001
L30	34.5 - 34.25 (30)	P30x1.05	26.727	1082.930	0.025	1.681	2756.317	0.001
L31	34.25 - 34 (31)	P30x1.05	26.753	1082.930	0.025	1.681	2756.317	0.001
L32	34 - 33.75 (32)	P30x0.95	26.779	983.179	0.027	1.681	2511.067	0.001
L33	33.75 - 30 (33)	P30x0.95	27.144	983.179	0.028	1.680	2511.067	0.001
L34	30 - 29.75 (34)	P36x0.7	28.040	880.310	0.032	1.680	2732.058	0.001
L35	29.75 - 28.5 (35)	P36x0.7	28.197	880.310	0.032	1.680	2732.058	0.001
L36	28.5 - 28.25 (36)	P36x0.8375	28.214	1049.130	0.027	1.680	3243.300	0.001
L37	28.25 - 23.25 (37)	P36x0.8375	28.806	1049.130	0.027	1.680	3243.300	0.001
L38	23.25 - 23 (38)	P36x0.975	28.826	1216.590	0.024	1.680	3746.308	0.000
L39	23 - 21.5 (39)	P36x0.975	29.013	1216.590	0.024	1.680	3746.308	0.000
L40	21.5 - 21.25 (40)	P36x0.825	29.027	1033.830	0.028	1.680	3197.167	0.001
L41	21.25 - 19	P36x0.825	29.279	1033.830	0.028	1.680	3197.167	0.001

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L42	19 - 18.75 (41)	P36x0.975	29.294	1216.590	0.024	1.680	3746.308	0.000
L43	18.75 - 18.5 (42)	P36x0.975	29.320	1216.590	0.024	1.680	3746.308	0.000
L44	18.5 - 18.25 (43)	P36x0.925	29.346	1155.850	0.025	1.680	3564.342	0.000
L45	18.25 - 13.25 (44)	P36x0.925	29.834	1155.850	0.026	1.680	3564.342	0.000
L46	13.25 - 12.7 (45)	P36x0.925	29.877	1155.850	0.026	1.680	3564.342	0.000
L47	12.7 - 12.45 (46)	P36x0.9	29.895	1125.410	0.027	1.680	3472.958	0.000
L48	12.45 - 11.5 (47)	P36x0.9	29.991	1125.410	0.027	1.680	3472.958	0.000
L49	11.5 - 11.25 (48)	P36x0.9	30.002	1125.410	0.027	1.680	3472.958	0.000
L50	11.25 - 10.5 (49)	P36x0.9	30.076	1125.410	0.027	1.680	3472.958	0.000
L51	10.5 - 10.25 (50)	P36x1.325	30.091	1636.800	0.018	1.680	4989.892	0.000
L52	10.25 - 7.5 (51)	P36x1.325	30.369	1636.800	0.019	1.680	4989.892	0.000
L53	7.5 - 7.25 (52)	P36x1.4	30.379	1725.710	0.018	1.680	5249.558	0.000
L54	7.25 - 6.25 (53)	P36x1.4	30.484	1725.710	0.018	1.680	5249.558	0.000
L55	6.25 - 6 (54)	P36x1.4	30.498	1725.710	0.018	1.680	5249.558	0.000
L56	6 - 3.83 (55)	P36x1.4	30.712	1725.710	0.018	1.680	5249.558	0.000
L57	3.83 - 3.58 (56)	P36x1.75	30.726	2135.310	0.014	1.680	6429.867	0.000
L58	3.58 - 3.33 (57)	P36x1.75	30.750	2135.310	0.014	1.680	6429.867	0.000
L59	3.33 - 2.75 (58)	P36x1.75	30.810	2135.310	0.014	1.680	6429.867	0.000
L60	2.75 - 2.5 (59)	P36x1.675	30.830	2048.280	0.015	1.680	6181.283	0.000
L61	2.5 - 2 (60)	P36x1.675	30.880	2048.280	0.015	1.680	6181.283	0.000
L62	2 - 1.75 (61)	P36x1.45	30.901	1784.760	0.017	1.680	5421.342	0.000
L63	1.75 - 0 (62)	P36x1.45	31.061	1784.760	0.017	1.680	5421.342	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	118 - 113 (1)	0.005	0.019	0.000	0.017	0.000	0.024	1.050	
L2	113 - 108 (2)	0.005	0.064	0.000	0.018	0.000	0.070	1.050	
L3	108 - 103 (3)	0.012	0.161	0.000	0.039	0.000	0.175	1.050	
L4	103 - 98 (4)	0.013	0.261	0.000	0.040	0.000	0.276	1.050	
L5	98 - 93 (5)	0.020	0.450	0.000	0.068	0.003	0.475	1.050	
L6	93 - 90 (6)	0.020	0.554	0.000	0.068	0.003	0.579	1.050	
L7	90 - 85 (7)	0.014	0.468	0.000	0.046	0.001	0.484	1.050	
L8	85 - 80 (8)	0.018	0.631	0.000	0.058	0.002	0.653	1.050	
L9	80 - 76.5 (9)	0.018	0.735	0.000	0.059	0.002	0.757	1.050	
L10	76.5 - 76.25 (10)	0.012	0.457	0.000	0.038	0.002	0.470	1.050	
L11	76.25 - 74 (11)	0.012	0.498	0.000	0.038	0.002	0.512	1.050	
L12	74 - 73.75 (12)	0.008	0.337	0.000	0.025	0.001	0.346	1.050	
L13	73.75 - 68.88 (13)	0.009	0.399	0.000	0.026	0.001	0.408	1.050	
L14	68.88 - 68.63 (14)	0.013	0.612	0.000	0.040	0.002	0.627	1.050	

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L15	68.63 - 64.5 (15)	0.014	0.693	0.000	0.041	0.002	0.709	1.050	
L16	64.5 - 64.25 (16)	0.008	0.398	0.000	0.023	0.001	0.407	1.050	
L17	64.25 - 63 (17)	0.008	0.412	0.000	0.023	0.001	0.421	1.050	
L18	63 - 62.75 (18)	0.008	0.434	0.000	0.024	0.001	0.443	1.050	
L19	62.75 - 60 (19)	0.009	0.468	0.000	0.025	0.001	0.477	1.050	
L20	60 - 59.75 (20)	0.010	0.429	0.000	0.030	0.001	0.440	1.050	
L21	59.75 - 54.75 (21)	0.012	0.494	0.000	0.035	0.001	0.507	1.050	
L22	54.75 - 49.75 (22)	0.013	0.562	0.000	0.036	0.001	0.576	1.050	
L23	49.75 - 49.25 (23)	0.013	0.568	0.000	0.036	0.001	0.583	1.050	
L24	49.25 - 49 (24)	0.010	0.447	0.000	0.028	0.001	0.458	1.050	
L25	49 - 44 (25)	0.011	0.502	0.000	0.028	0.001	0.513	1.050	
L26	44 - 42 (26)	0.011	0.524	0.000	0.029	0.001	0.535	1.050	
L27	42 - 41.75 (27)	0.010	0.465	0.000	0.025	0.001	0.475	1.050	
L28	41.75 - 36.75 (28)	0.010	0.514	0.000	0.026	0.001	0.525	1.050	
L29	36.75 - 34.5 (29)	0.010	0.537	0.000	0.026	0.001	0.548	1.050	
L30	34.5 - 34.25 (30)	0.010	0.515	0.000	0.025	0.001	0.526	1.050	
L31	34.25 - 34 (31)	0.010	0.518	0.000	0.025	0.001	0.528	1.050	
L32	34 - 33.75 (32)	0.011	0.571	0.000	0.027	0.001	0.583	1.050	
L33	33.75 - 30 (33)	0.011	0.611	0.000	0.028	0.001	0.623	1.050	
L34	30 - 29.75 (34)	0.013	0.573	0.000	0.032	0.001	0.587	1.050	
L35	29.75 - 28.5 (35)	0.013	0.586	0.000	0.032	0.001	0.600	1.050	
L36	28.5 - 28.25 (36)	0.011	0.488	0.000	0.027	0.001	0.500	1.050	
L37	28.25 - 23.25 (37)	0.012	0.532	0.000	0.027	0.001	0.544	1.050	
L38	23.25 - 23 (38)	0.010	0.462	0.000	0.024	0.000	0.473	1.050	
L39	23 - 21.5 (39)	0.010	0.474	0.000	0.024	0.000	0.485	1.050	
L40	21.5 - 21.25 (40)	0.012	0.557	0.000	0.028	0.001	0.570	1.050	
L41	21.25 - 19 (41)	0.012	0.578	0.000	0.028	0.001	0.591	1.050	
L42	19 - 18.75 (42)	0.010	0.495	0.000	0.024	0.000	0.506	1.050	
L43	18.75 - 18.5 (43)	0.010	0.497	0.000	0.024	0.000	0.508	1.050	
L44	18.5 - 18.25 (44)	0.011	0.524	0.000	0.025	0.000	0.536	1.050	
L45	18.25 - 13.25 (45)	0.012	0.566	0.000	0.026	0.000	0.578	1.050	
L46	13.25 - 12.7 (46)	0.012	0.570	0.000	0.026	0.000	0.583	1.050	
L47	12.7 - 12.45 (47)	0.012	0.587	0.000	0.027	0.000	0.600	1.050	
L48	12.45 - 11.5 (48)	0.012	0.596	0.000	0.027	0.000	0.609	1.050	
L49	11.5 - 11.25 (49)	0.012	0.598	0.000	0.027	0.000	0.611	1.050	
L50	11.25 - 10.5 (50)	0.012	0.604	0.000	0.027	0.000	0.617	1.050	

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L51	10.5 - 10.25 (51)	0.008	0.422	0.000	0.018	0.000	0.431	1.050	
L52	10.25 - 7.5 (52)	0.009	0.438	0.000	0.019	0.000	0.448	1.050	
L53	7.5 - 7.25 (53)	0.008	0.418	0.000	0.018	0.000	0.427	1.050	
L54	7.25 - 6.25 (54)	0.008	0.424	0.000	0.018	0.000	0.433	1.050	
L55	6.25 - 6 (55)	0.008	0.425	0.000	0.018	0.000	0.434	1.050	
L56	6 - 3.83 (56)	0.009	0.438	0.000	0.018	0.000	0.447	1.050	
L57	3.83 - 3.58 (57)	0.007	0.359	0.000	0.014	0.000	0.366	1.050	
L58	3.58 - 3.33 (58)	0.007	0.360	0.000	0.014	0.000	0.367	1.050	
L59	3.33 - 2.75 (59)	0.007	0.363	0.000	0.014	0.000	0.370	1.050	
L60	2.75 - 2.5 (60)	0.007	0.378	0.000	0.015	0.000	0.386	1.050	
L61	2.5 - 2 (61)	0.007	0.381	0.000	0.015	0.000	0.389	1.050	
L62	2 - 1.75 (62)	0.009	0.436	0.000	0.017	0.000	0.445	1.050	
L63	1.75 - 0 (63)	0.009	0.446	0.000	0.017	0.000	0.455	1.050	

Section Capacity Table

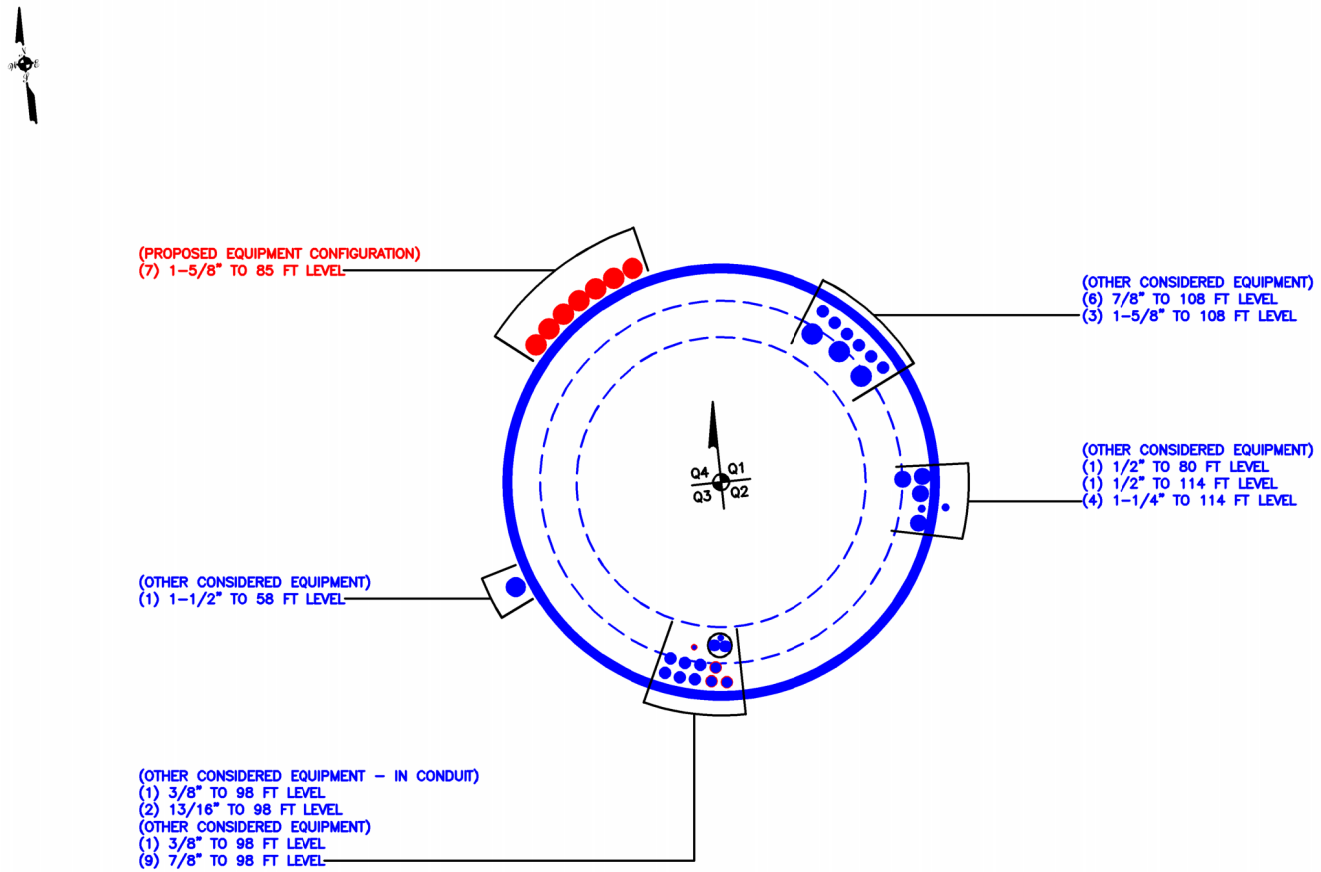
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	118 - 113	Pole	P24x0.25	1	-3.081	695.378	2.3	Pass
L2	113 - 108	Pole	P24x0.25	2	-3.475	695.378	6.7	Pass
L3	108 - 103	Pole	P24x0.25	3	-8.204	695.378	16.7	Pass
L4	103 - 98	Pole	P24x0.25	4	-8.654	695.378	26.3	Pass
L5	98 - 93	Pole	P24x0.25	5	-13.136	695.378	45.2	Pass
L6	93 - 90	Pole	P24x0.25	6	-13.462	695.378	55.2	Pass
L7	90 - 85	Pole	P24x0.375	7	-14.268	1104.674	46.1	Pass
L8	85 - 80	Pole	P24x0.375	8	-18.595	1104.674	62.1	Pass
L9	80 - 76.5	Pole	P24x0.375	9	-19.246	1104.674	72.1	Pass
L10	76.5 - 76.25	Pole	P24x0.5875	10	-19.310	1715.091	44.8	Pass
L11	76.25 - 74	Pole	P24x0.5875	11	-19.782	1715.091	48.7	Pass
L12	74 - 73.75	Pole	P24x0.9	12	-19.861	2592.303	32.9	Pass
L13	73.75 - 68.88	Pole	P24x0.9	13	-21.272	2592.303	38.8	Pass
L14	68.88 - 68.63	Pole	P24x0.575	14	-21.332	1679.496	59.7	Pass
L15	68.63 - 64.5	Pole	P24x0.575	15	-22.227	1679.496	67.5	Pass
L16	64.5 - 64.25	Pole	P24x1.05	16	-22.320	3004.711	38.7	Pass
L17	64.25 - 63	Pole	P24x1.05	17	-22.725	3004.711	40.1	Pass
L18	63 - 62.75	Pole	P24x1	18	-22.813	2867.865	42.2	Pass
L19	62.75 - 60	Pole	P24x1	19	-23.692	2867.865	45.4	Pass
L20	60 - 59.75	Pole	P30x0.675	20	-23.944	2468.162	41.9	Pass
L21	59.75 - 54.75	Pole	P30x0.675	21	-28.608	2468.162	48.3	Pass
L22	54.75 - 49.75	Pole	P30x0.675	22	-30.173	2468.162	54.8	Pass
L23	49.75 - 49.25	Pole	P30x0.675	23	-30.335	2468.162	55.5	Pass
L24	49.25 - 49	Pole	P30x0.875	24	-30.422	3177.646	43.6	Pass
L25	49 - 44	Pole	P30x0.875	25	-32.101	3177.646	48.9	Pass
L26	44 - 42	Pole	P30x0.875	26	-32.779	3177.646	51.0	Pass
L27	42 - 41.75	Pole	P30x1	27	-32.880	3616.000	45.2	Pass
L28	41.75 - 36.75	Pole	P30x1	28	-34.750	3616.000	50.0	Pass
L29	36.75 - 34.5	Pole	P30x1	29	-35.598	3616.000	52.2	Pass
L30	34.5 - 34.25	Pole	P30x1.05	30	-35.710	3790.258	50.1	Pass
L31	34.25 - 34	Pole	P30x1.05	31	-35.814	3790.258	50.3	Pass
L32	34 - 33.75	Pole	P30x0.95	32	-35.908	3441.123	55.5	Pass
L33	33.75 - 30	Pole	P30x0.95	33	-37.324	3441.123	59.3	Pass
L34	30 - 29.75	Pole	P36x0.7	34	-37.650	3081.088	55.9	Pass
L35	29.75 - 28.5	Pole	P36x0.7	35	-38.115	3081.088	57.2	Pass
L36	28.5 - 28.25	Pole	P36x0.8375	36	-38.232	3671.944	47.6	Pass
L37	28.25 - 23.25	Pole	P36x0.8375	37	-40.390	3671.944	51.8	Pass
L38	23.25 - 23	Pole	P36x0.975	38	-40.517	4258.075	45.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L39	23 - 21.5	Pole	P36x0.975	39	-41.229	4258.075	46.1	Pass
L40	21.5 - 21.25	Pole	P36x0.825	40	-41.346	3618.415	54.3	Pass
L41	21.25 - 19	Pole	P36x0.825	41	-42.304	3618.415	56.3	Pass
L42	19 - 18.75	Pole	P36x0.975	42	-42.434	4258.075	48.2	Pass
L43	18.75 - 18.5	Pole	P36x0.975	43	-42.554	4258.075	48.4	Pass
L44	18.5 - 18.25	Pole	P36x0.925	44	-42.666	4045.482	51.1	Pass
L45	18.25 - 13.25	Pole	P36x0.925	45	-44.909	4045.482	55.1	Pass
L46	13.25 - 12.7	Pole	P36x0.925	46	-45.162	4045.482	55.5	Pass
L47	12.7 - 12.45	Pole	P36x0.9	47	-45.278	3938.949	57.2	Pass
L48	12.45 - 11.5	Pole	P36x0.9	48	-45.702	3938.949	58.0	Pass
L49	11.5 - 11.25	Pole	P36x0.9	49	-45.832	3938.949	58.2	Pass
L50	11.25 - 10.5	Pole	P36x0.9	50	-46.194	3938.949	58.8	Pass
L51	10.5 - 10.25	Pole	P36x1.325	51	-46.337	5728.800	41.0	Pass
L52	10.25 - 7.5	Pole	P36x1.325	52	-47.830	5728.800	42.6	Pass
L53	7.5 - 7.25	Pole	P36x1.4	53	-47.980	6039.977	40.7	Pass
L54	7.25 - 6.25	Pole	P36x1.4	54	-48.542	6039.977	41.2	Pass
L55	6.25 - 6	Pole	P36x1.4	55	-48.689	6039.977	41.4	Pass
L56	6 - 3.83	Pole	P36x1.4	56	-49.913	6039.977	42.6	Pass
L57	3.83 - 3.58	Pole	P36x1.75	57	-50.068	7473.595	34.8	Pass
L58	3.58 - 3.33	Pole	P36x1.75	58	-50.216	7473.595	35.0	Pass
L59	3.33 - 2.75	Pole	P36x1.75	59	-50.556	7473.595	35.2	Pass
L60	2.75 - 2.5	Pole	P36x1.675	60	-50.694	7168.958	36.8	Pass
L61	2.5 - 2	Pole	P36x1.675	61	-50.964	7168.958	37.0	Pass
L62	2 - 1.75	Pole	P36x1.45	62	-51.088	6246.649	42.4	Pass
L63	1.75 - 0	Pole	P36x1.45	63	-51.934	6246.649	43.3	Pass
							Summary	
						Pole (L9)	72.1	Pass
						RATING =	**72.1**	**Pass**

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

APPENDIX B

BASE LEVEL DRAWING


(PROPOSED EQUIPMENT CONFIGURATION)
(7) 1-5/8" TO 85 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(6) 7/8" TO 108 FT LEVEL
(3) 1-5/8" TO 108 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 80 FT LEVEL
(1) 1/2" TO 114 FT LEVEL
(4) 1-1/4" TO 114 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/2" TO 58 FT LEVEL
(OTHER CONSIDERED EQUIPMENT - IN CONDUIT)
(1) 3/8" TO 98 FT LEVEL
(2) 13/16" TO 98 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 98 FT LEVEL
(9) 7/8" TO 98 FT LEVEL
Q4
Q1
Q3
Q2

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876331

Work Order: 2290286

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	118	28		0	24	24	0.25		A572-42
2	90	30		0	24.00	24	0.375		A572-42
3	60	30		0	30.00	30	0.375		A572-42
4	30	30		0	36.00	36	0.375		A572-42

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	3.83	30	plate	A	3	0	135	225															
2	30	60	plate	B	3				0	135	225												
3	60	74	plate	C	3							0	135	225									
4	2	19	plate	MS-450 (1.1875")	2										65	295							
5	2	7.5	plate	MS-450 (1.1875")	1												180						
6	7.5	12.7	plate	FP 1.25x4	1													200					
7	12.7	19	plate	MS-450 (1.1875")	1														180				
8	30	34.5	plate	MS-400 (1.1875")	3															45	180	295	
9	60	64.5	plate	MS-400 (1.1875")	3	65	180	295															
10	2.75	23.25	plate	CCI-AFP-060100	2				30	310													
11	34	42	plate	CCI-SFP-040075	3						75	205	320										
12	60	63	plate	FP 3.75x1	3									90	195	320							
13	63	68.88	plate	CCI-SFP-045100	3												90	195	320				
14	0	3.75	plate	FP 1.25x7.25	3															34	214	304	
15	0	3.75	plate	FP 1.25x7	1																		124
16	21.5	28.5	plate	CCI-SFP-045100	3	90	200	330															
17	30	49.25	plate	CCI-SFP-040075	2				100	270													
18	68.88	76.5	plate	CCI-SFP-045100	3						40	160	275										
19	18.5	30	plate	FP 4x1	1									50									
20	18.5	30	plate	CCI-SFP-045100	1										253								
21	0	10.5	plate	FP 1.25x5.5	2											106	350						
22	0	6.25	plate	FP 1.25x9.25	1													169					
23	6.25	11.5	plate	FP 1.25x7	1														160				
24	0	10.5	plate	FP 1.25x8	1															282			
25	0	7.5	solid round	1.75" Williams R71	2																106	350	
26																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	9.67599	1.01526	9.82365	0.50763154	None	n/a	None	n/a	24.000	8.555	1.1875	A572-65
2	9.67599	1.01526	9.82365	0.50763154	None	n/a	None	n/a	24.000	8.555	1.1875	A572-65
3	8.734	0.76149	6.65085	0.380745	None	n/a	None	n/a	24.000	5.699	1.1875	A572-65
4	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.625	3.250	1.1875	A572-65
5	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.625	3.250	1.1875	A572-65
6	1.25	4	5	2	None	n/a	None	n/a	20.625	5.000	0.0000	A572-65
7	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.625	3.250	1.1875	A572-65
8	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.875	2.063	1.1875	A572-65
9	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.875	2.063	1.1875	A572-65
10	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
11	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.000	2.063	1.1875	A572-65
12	3.75	1	3.75	0.5	None	n/a	None	n/a	16.000	2.500	1.1875	A572-65
13	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
14	1.25	7.25	9.0625	3.625	None	n/a	None	n/a	0.000	9.063	0.0000	A572-65
15	1.25	7	8.75	3.5	None	n/a	None	n/a	0.000	8.750	0.0000	A572-65
16	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
17	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.000	2.063	1.1875	A572-65
18	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
19	4	1	4	0.5	None	n/a	None	n/a	20.000	2.750	1.1875	A572-65
20	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
21	1.25	5.5	6.875	2.75	None	n/a	None	n/a	0.000	6.875	0.0000	A572-65
22	1.25	9.25	11.5625	4.625	None	n/a	None	n/a	0.000	11.563	0.0000	A572-65
23	1.25	7	8.75	3.5	None	n/a	None	n/a	0.000	8.750	0.0000	A572-65
24	1.25	8	10	4	None	n/a	None	n/a	27.000	10.000	0.0000	A572-65
25	-	-	2.76117	9.625	None	n/a	None	n/a	6.000	2.761	0.0000	A722-07

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)
A	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
B	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
C	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
FP 1.25x4	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
FP 3.75x1	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
FP 1.25x7.25	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
FP 1.25x7	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
FP 4x1	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
FP 1.25x5.5	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
FP 1.25x9.25	Top	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-
FP 1.25x7	Top	-	-	-	-	-	None	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	None	-	-	-	-	-	-	-
FP 1.25x8	Top	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-
1.75" Williams R71	Top	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-

TNX Geometry Input

Increment (ft): 5 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	118 - 113	5		0	24.000	24.000	0.25	A572-42	1.000
2	113 - 108	5		0	24.000	24.000	0.25	A572-42	1.000
3	108 - 103	5		0	24.000	24.000	0.25	A572-42	1.000
4	103 - 98	5		0	24.000	24.000	0.25	A572-42	1.000
5	98 - 93	5		0	24.000	24.000	0.25	A572-42	1.000
6	93 - 90	3	0	0	24.000	24.000	0.25	A572-42	1.000
7	90 - 85	5		0	24.000	24.000	0.375	A572-42	1.000
8	85 - 80	5		0	24.000	24.000	0.375	A572-42	1.000
9	80 - 76.5	3.5		0	24.000	24.000	0.375	A572-42	1.000
10	76.5 - 76.25	0.25		0	24.000	24.000	0.5875	A572-42	0.957
11	76.25 - 74	2.25		0	24.000	24.000	0.5875	A572-42	0.957
12	74 - 73.75	0.25		0	24.000	24.000	0.9	A572-42	0.938
13	73.75 - 68.88	4.87		0	24.000	24.000	0.9	A572-42	0.938
14	68.88 - 68.63	0.25		0	24.000	24.000	0.575	A572-42	0.977
15	68.63 - 64.5	4.13		0	24.000	24.000	0.575	A572-42	0.977
16	64.5 - 64.25	0.25		0	24.000	24.000	1.05	A572-42	0.928
17	64.25 - 63	1.25		0	24.000	24.000	1.05	A572-42	0.928
18	63 - 62.75	0.25		0	24.000	24.000	1	A572-42	0.942
19	62.75 - 60	2.75	0	0	24.000	24.000	1	A572-42	0.942
20	60 - 59.75	0.25		0	30.000	30.000	0.675	A572-42	1.035
21	59.75 - 54.75	5		0	30.000	30.000	0.675	A572-42	1.035
22	54.75 - 49.75	5		0	30.000	30.000	0.675	A572-42	1.035
23	49.75 - 49.25	0.5		0	30.000	30.000	0.675	A572-42	1.035
24	49.25 - 49	0.25		0	30.000	30.000	0.875	A572-42	0.879
25	49 - 44	5		0	30.000	30.000	0.875	A572-42	0.879
26	44 - 42	2		0	30.000	30.000	0.875	A572-42	0.879
27	42 - 41.75	0.25		0	30.000	30.000	1	A572-42	0.871
28	41.75 - 36.75	5		0	30.000	30.000	1	A572-42	0.871
29	36.75 - 34.5	2.25		0	30.000	30.000	1	A572-42	0.871
30	34.5 - 34.25	0.25		0	30.000	30.000	1.05	A572-42	0.925
31	34.25 - 34	0.25		0	30.000	30.000	1.05	A572-42	0.925
32	34 - 33.75	0.25		0	30.000	30.000	0.95	A572-42	0.915
33	33.75 - 30	3.75	0	0	30.000	30.000	0.95	A572-42	0.915
34	30 - 29.75	0.25		0	36.000	36.000	0.7	A572-42	1.030
35	29.75 - 28.5	1.25		0	36.000	36.000	0.7	A572-42	1.030
36	28.5 - 28.25	0.25		0	36.000	36.000	0.8375	A572-42	1.010
37	28.25 - 23.25	5		0	36.000	36.000	0.8375	A572-42	1.010
38	23.25 - 23	0.25		0	36.000	36.000	0.975	A572-42	0.983
39	23 - 21.5	1.5		0	36.000	36.000	0.975	A572-42	0.983
40	21.5 - 21.25	0.25		0	36.000	36.000	0.825	A572-42	1.008
41	21.25 - 19	2.25		0	36.000	36.000	0.825	A572-42	1.008
42	19 - 18.75	0.25		0	36.000	36.000	0.975	A572-42	0.983
43	18.75 - 18.5	0.25		0	36.000	36.000	0.975	A572-42	0.983
44	18.5 - 18.25	0.25		0	36.000	36.000	0.925	A572-42	0.951
45	18.25 - 13.25	5		0	36.000	36.000	0.925	A572-42	0.951
46	13.25 - 12.7	0.55		0	36.000	36.000	0.925	A572-42	0.951
47	12.7 - 12.45	0.25		0	36.000	36.000	0.9	A572-42	0.982
48	12.45 - 11.5	0.95		0	36.000	36.000	0.9	A572-42	0.982
49	11.5 - 11.25	0.25		0	36.000	36.000	0.9	A572-42	1.070
50	11.25 - 10.5	0.75		0	36.000	36.000	0.9	A572-42	1.070
51	10.5 - 10.25	0.25		0	36.000	36.000	1.325	A572-42	0.840
52	10.25 - 7.5	2.75		0	36.000	36.000	1.325	A572-42	0.840
53	7.5 - 7.25	0.25		0	36.000	36.000	1.4	A572-42	0.829
54	7.25 - 6.25	1		0	36.000	36.000	1.4	A572-42	0.829
55	6.25 - 6	0.25		0	36.000	36.000	1.4	A572-42	0.829
56	6 - 3.83	2.17		0	36.000	36.000	1.4	A572-42	0.829
57	3.83 - 3.58	0.25		0	36.000	36.000	1.75	A572-42	0.705
58	3.58 - 3.33	0.25		0	36.000	36.000	1.75	A572-42	0.705
59	3.33 - 2.75	0.58		0	36.000	36.000	1.75	A572-42	0.705
60	2.75 - 2.5	0.25		0	36.000	36.000	1.675	A572-42	0.668
61	2.5 - 2	0.5		0	36.000	36.000	1.675	A572-42	0.668
62	2 - 1.75	0.25		0	36.000	36.000	1.45	A572-42	0.681
63	1.75 - 0	1.75		0	36.000	36.000	1.45	A572-42	0.681

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	118 - 113	3.08	7.64	3.43
2	113 - 108	3.47	25.53	3.73
3	108 - 103	8.20	63.87	7.81
4	103 - 98	8.65	103.62	8.09
5	98 - 93	13.14	178.61	13.66
6	93 - 90	13.46	219.78	13.80
7	90 - 85	14.27	291.76	14.53
8	85 - 80	18.59	393.73	18.36
9	80 - 76.5	19.25	458.54	18.61
10	76.5 - 76.25	19.31	463.20	18.61
11	76.25 - 74	19.78	505.32	18.83
12	74 - 73.75	19.86	510.03	18.85
13	73.75 - 68.88	21.27	603.17	19.39
14	68.88 - 68.63	21.33	608.02	19.41
15	68.63 - 64.5	22.23	689.09	19.85
16	64.5 - 64.25	22.32	694.06	19.87
17	64.25 - 63	22.73	718.99	20.02
18	63 - 62.75	22.81	724.00	20.04
19	62.75 - 60	23.69	779.51	20.33
20	60 - 59.75	23.94	784.81	21.21
21	59.75 - 54.75	28.61	903.07	24.51
22	54.75 - 49.75	30.17	1027.03	25.06
23	49.75 - 49.25	30.34	1039.57	25.11
24	49.25 - 49	30.42	1045.85	25.13
25	49 - 44	32.10	1172.97	25.69
26	44 - 42	32.78	1224.57	25.91
27	42 - 41.75	32.88	1231.05	25.93
28	41.75 - 36.75	34.75	1362.10	26.48
29	36.75 - 34.5	35.60	1421.94	26.71
30	34.5 - 34.25	35.71	1428.62	26.73
31	34.25 - 34	35.81	1435.31	26.75
32	34 - 33.75	35.91	1442.00	26.78
33	33.75 - 30	37.32	1543.12	27.14
34	30 - 29.75	37.65	1550.13	28.04
35	29.75 - 28.5	38.11	1585.29	28.20
36	28.5 - 28.25	38.23	1592.34	28.21
37	28.25 - 23.25	40.39	1734.95	28.81
38	23.25 - 23	40.52	1742.16	28.83
39	23 - 21.5	41.23	1785.55	29.01
40	21.5 - 21.25	41.35	1792.81	29.03
41	21.25 - 19	42.30	1858.42	29.28
42	19 - 18.75	42.43	1865.74	29.29
43	18.75 - 18.5	42.55	1873.07	29.32
44	18.5 - 18.25	42.67	1880.41	29.35
45	18.25 - 13.25	44.91	2028.41	29.83
46	13.25 - 12.7	45.16	2044.84	29.88
47	12.7 - 12.45	45.28	2052.31	29.90
48	12.45 - 11.5	45.70	2080.76	29.99
49	11.5 - 11.25	45.83	2088.26	30.00
50	11.25 - 10.5	46.19	2110.80	30.08
51	10.5 - 10.25	46.34	2118.32	30.09
52	10.25 - 7.5	47.83	2201.48	30.37
53	7.5 - 7.25	47.98	2209.08	30.38
54	7.25 - 6.25	48.54	2239.52	30.48
55	6.25 - 6	48.69	2247.14	30.50
56	6 - 3.83	49.91	2313.58	30.71
57	3.83 - 3.58	50.07	2321.26	30.73
58	3.58 - 3.33	50.22	2328.95	30.75
59	3.33 - 2.75	50.56	2346.81	30.81
60	2.75 - 2.5	50.69	2354.51	30.83
61	2.5 - 2	50.96	2369.95	30.88
62	2 - 1.75	51.09	2377.67	30.90
63	1.75 - 0	51.93	2431.90	31.06

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
118 - 113	Pole	TP24x24x0.25	Pole	2.3%	Pass
113 - 108	Pole	TP24x24x0.25	Pole	6.7%	Pass
108 - 103	Pole	TP24x24x0.25	Pole	16.7%	Pass
103 - 98	Pole	TP24x24x0.25	Pole	26.3%	Pass
98 - 93	Pole	TP24x24x0.25	Pole	45.2%	Pass
93 - 90	Pole	TP24x24x0.25	Pole	55.1%	Pass
90 - 85	Pole	TP24x24x0.375	Pole	46.0%	Pass
85 - 80	Pole	TP24x24x0.375	Pole	62.1%	Pass
80 - 76.5	Pole	TP24x24x0.375	Pole	72.1%	Pass
76.5 - 76.25	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	52.4%	Pass
76.25 - 74	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	57.0%	Pass
74 - 73.75	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	56.5%	Pass
73.75 - 68.88	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	66.7%	Pass
68.88 - 68.63	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	68.8%	Pass
68.63 - 64.5	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	77.8%	Pass
64.5 - 64.25	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	67.4%	Pass
64.25 - 63	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	69.8%	Pass
63 - 62.75	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	72.5%	Pass
62.75 - 60	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	78.0%	Pass
60 - 59.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	49.4%	Pass
59.75 - 54.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	56.8%	Pass
54.75 - 49.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	64.6%	Pass
49.75 - 49.25	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	65.3%	Pass
49.25 - 49	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	60.2%	Pass
49 - 44	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	67.4%	Pass
44 - 42	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	70.4%	Pass
42 - 41.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	62.2%	Pass
41.75 - 36.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	68.8%	Pass
36.75 - 34.5	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	71.8%	Pass
34.5 - 34.25	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	64.1%	Pass
34.25 - 34	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	64.4%	Pass
34 - 33.75	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	72.5%	Pass
33.75 - 30	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	77.6%	Pass
30 - 29.75	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	70.2%	Pass
29.75 - 28.5	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	71.8%	Pass
28.5 - 28.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	59.6%	Pass
28.25 - 23.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	64.9%	Pass
23.25 - 23	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	60.9%	Pass
23 - 21.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	62.4%	Pass
21.5 - 21.25	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	75.0%	Pass
21.25 - 19	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	77.7%	Pass
19 - 18.75	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	65.8%	Pass
18.75 - 18.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	66.1%	Pass
18.5 - 18.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	67.8%	Pass
18.25 - 13.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	73.1%	Pass
13.25 - 12.7	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	73.7%	Pass
12.7 - 12.45	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	76.8%	Pass
12.45 - 11.5	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	77.9%	Pass
11.5 - 11.25	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	68.9%	Pass
11.25 - 10.5	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	69.6%	Pass
10.5 - 10.25	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	65.6%	Pass
10.25 - 7.5	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	68.2%	Pass
7.5 - 7.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	66.0%	Pass
7.25 - 6.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	66.9%	Pass
6.25 - 6	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	67.2%	Pass
6 - 3.83	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	69.2%	Pass
3.83 - 3.58	Pole + Reinf.	TP36x36x1.75	Reinf. 24 Compression	57.9%	Pass
3.58 - 3.33	Pole + Reinf.	TP36x36x1.75	Reinf. 24 Compression	58.1%	Pass
3.33 - 2.75	Pole + Reinf.	TP36x36x1.75	Reinf. 24 Compression	58.6%	Pass
2.75 - 2.5	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	62.8%	Pass
2.5 - 2	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	63.2%	Pass
2 - 1.75	Pole + Reinf.	TP36x36x1.45	Reinf. 24 Compression	70.5%	Pass
1.75 - 0	Pole + Reinf.	TP36x36x1.45	Reinf. 24 Compression	72.1%	Pass
				Summary	
			Pole	72.8%	Pass
			Reinforcement	78.0%	Pass
			Overall	78.0%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*																								
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25
118 - 113	1315	n/a	1315	18.65	n/a	18.65	2.3%																									
113 - 108	1315	n/a	1315	18.65	n/a	18.65	6.7%																									
108 - 103	1315	n/a	1315	18.65	n/a	18.65	16.7%																									
103 - 98	1315	n/a	1315	18.65	n/a	18.65	26.3%																									
98 - 93	1315	n/a	1315	18.65	n/a	18.65	45.2%																									
93 - 90	1315	n/a	1315	18.65	n/a	18.65	55.1%																									
90 - 85	1942	n/a	1942	27.83	n/a	27.83	46.0%																									
85 - 80	1942	n/a	1942	27.83	n/a	27.83	62.1%																									
80 - 76.5	1942	n/a	1942	27.83	n/a	27.83	72.1%																									
76.5 - 76.25	1943	1016	2959	27.83	13.50	41.33	48.0%																		52.4%							
76.25 - 74	1943	1016	2959	27.83	13.50	41.33	52.3%																		57.0%							
74 - 73.75	1946	2432	4377	27.83	33.45	61.29	36.5%			56.5%															41.8%							
73.75 - 68.88	1946	2432	4377	27.83	33.45	61.29	43.0%			66.7%															49.3%							
68.88 - 68.63	1944	966	2909	27.83	13.50	41.33	64.4%													68.8%												
68.63 - 64.5	1944	966	2909	27.83	13.50	41.33	72.8%													77.8%												
64.5 - 64.25	1946	3035	4980	27.83	42.45	70.29	43.4%			67.4%						51.5%				47.9%												
64.25 - 63	1946	3035	4980	27.83	42.45	70.29	44.9%			69.8%						53.4%				49.6%												
63 - 62.75	1946	2881	4827	27.83	40.20	68.04	46.7%			72.5%						55.5%			56.1%													
62.75 - 60	1946	2881	4827	27.83	40.20	68.04	50.2%			78.0%						59.8%			60.4%													
60 - 59.75	3835	2908	6743	34.90	29.47	64.37	47.0%		49.4%																							
59.75 - 54.75	3835	2908	6743	34.90	29.47	64.37	54.1%		56.8%																							
54.75 - 49.75	3835	2908	6743	34.90	29.47	64.37	61.4%		64.6%																							
49.75 - 49.25	3835	2908	6743	34.90	29.47	64.37	62.2%		65.3%																							
49.25 - 49	3865	4725	8590	34.90	35.47	70.37	51.1%		60.2%															58.6%							
49 - 44	3865	4725	8590	34.90	35.47	70.37	57.2%		67.4%															65.6%							
44 - 42	3865	4725	8590	34.90	35.47	70.37	59.7%		70.4%															68.5%							
42 - 41.75	3853	5807	9660	34.90	44.47	79.37	52.8%		62.2%									61.2%						60.2%							
41.75 - 36.75	3853	5807	9660	34.90	44.47	79.37	58.3%		68.8%									67.7%						66.5%							
36.75 - 34.5	3853	5807	9660	34.90	44.47	79.37	60.9%		71.8%									70.6%						69.4%							
34.5 - 34.25	3830	6099	9929	34.90	53.47	88.37	56.9%		63.5%						64.1%			64.0%						63.5%							
34.25 - 34	3830	6099	9929	34.90	53.47	88.37	57.1%		63.8%						64.4%			64.3%						63.8%							
34 - 33.75	3843	5260	9103	34.90	44.47	79.37	64.6%		71.7%						72.5%									71.7%							
33.75 - 30	3843	5260	9103	34.90	44.47	79.37	69.1%		76.7%						77.6%									76.7%							
30 - 29.75	6661	5382	12043	41.97	37.97	79.94	62.9%	70.2%																		59.9%	58.9%					
29.75 - 28.5	6661	5382	12043	41.97	37.97	79.94	64.3%	71.8%																		61.2%	60.2%					
28.5 - 28.25	6662	7690	14352	41.97	51.47	93.44	54.4%	59.6%															55.1%			52.9%	52.3%					
28.25 - 23.25	6662	7690	14352	41.97	51.47	93.44	59.2%	64.9%															59.9%			57.6%	57.0%					
23.25 - 23	6697	9842	16539	41.97	63.47	105.44	53.5%	60.9%									45.9%						54.8%			50.3%	51.2%					
23 - 21.5	6697	9842	16539	41.97	63.47	105.44	54.8%	62.4%									47.1%						56.2%			51.5%	52.5%					
21.5 - 21.25	6724	7313	14037	41.97	49.97	91.94	65.8%	75.0%									54.7%									59.0%	59.7%					
21.25 - 19	6724	7313	14037	41.97	49.97	91.94	68.2%	77.7%									56.7%									61.2%	61.9%					
19 - 18.75	6701	9731	16433	41.97	63.47	105.44	57.8%	65.8%			55.1%			53.7%			49.0%									53.1%	53.0%					
18.75 - 18.5	6701	9731	16433	41.97	63.47	105.44	58.0%	66.1%			55.3%			53.9%			49.2%									53.3%	53.2%					
18.5 - 18.25	6681	8998	15679	41.97	54.97	96.94	60.2%	67.8%			63.8%			55.1%			52.6%															
18.25 - 13.25	6681	8998	15679	41.97	54.97	96.94	64.9%	73.1%			68.8%			59.5%			56.8%															
13.25 - 12.7	6681	8998	15679	41.97	54.97	96.94	65.4%	73.7%			69.3%			59.9%			57.2%															
12.7 - 12.45	6696	8570	15266	41.97	55.47	97.44	68.1%	76.8%			68.5%		56.4%				58.0%															
12.45 - 11.5	6696	8570	15266	41.97	55.47	97.44	69.1%	77.9%			69.4%		57.1%				58.8%															
11.5 - 11.25	6664	8760	15424	41.97	64.22	106.19	66.5%	67.3%			68.9%		50.3%				55.5%												41.2%			
11.25 - 10.5	6664	8760	15424	41.97	64.22	106.19	67.2%	68.0%			69.6%		50.9%				56.1%												41.7%			
10.5 - 10.25	6738	15243	21981	41.97	79.22	121.19	50.2%	59.8%			52.9%		53.8%				46.2%											42.2%		65.6%		
10.25 - 7.5	6738	15243	21981	41.97	79.22	121.19	52.2%	62.1%			54.9%		55.9%				48.0%											43.9%		68.2%		
7.5 - 7.25	6660	16176	22836	41.97	84.24	126.21	47.3%	64.5%			51.1%	55.7%					45.4%											38.2%		66.0%	28.4%	
7.25 - 6.25	6660	16176	22836	41.97	84.24	126.21	47.9%	65.4%			51.8%	56.5%					46.0%											38.8%		66.9%	28.7%	
6.25 - 6	6660	16176	22836	41.97	84.24	126.21	48.1%	65.6%			51.9%	56.7%					46.2%											38.9%		67.2%	28.8%	
6 - 3.83	6660	16176	22836	41.97	84.24	126.21	49.5%	67.5%			53.5%	58.4%					47.6%											40.0%		69.2%	29.7%	
3.83 - 3.58	6659	21016	27676	41.97	90.71	132.68	41.3%				44.7%	56.5%					41.7%				48.4%	37.4%						34.6%		57.9%	26.9%	
3.58 - 3.33	6659	21016	27676	41.97	90.71	132.68	41.5%				44.9%	56.7%					41.8%				48.6%	37.5%						34.7%		58.1%	27.0%	
3.33 - 2.75	6659	21016	27676	41.97	90.71	132.68	41.8%				45.2%	57.1%					42.2%				49.0%	37.8%						35.0%		58.6%	27.2%	
2.75 - 2.5	6662	19912	26574	41.97	78.71	120.68	44.2%				50.3%	59.0%									51.4%	38.8%						40.3%		62.8%	30.9%	
2.5 - 2	6662	19912	26574	41.97	78.71	120.68	44.5%				50.6%	59.3%									51.8%	39.1%						40.6%		63.2%	31.1%	
2 - 1.75	6660	16770	23430	41.97	65.21	107.18	50.4%														59.0%	43.6%						44.7%		70.5%	34.5%	
1.75 - 0	6660	16770	23430	41.97	65.21	107.18	51.6%														60.4%	44.6%						45.7%		72.1%	35.3%	

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

Monopole Flange Plate Connection

Elevation = 90 ft.

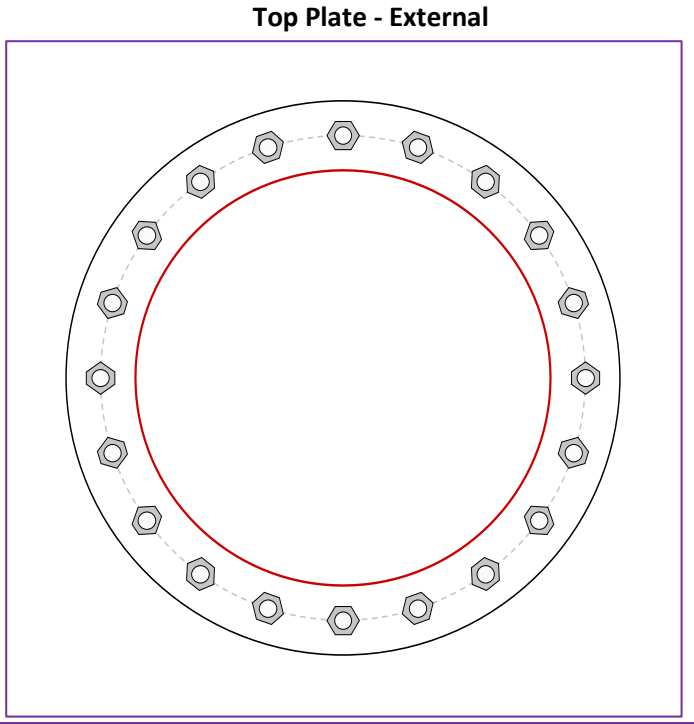
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	664144 Rev . 0

TIA-222 Revision	H

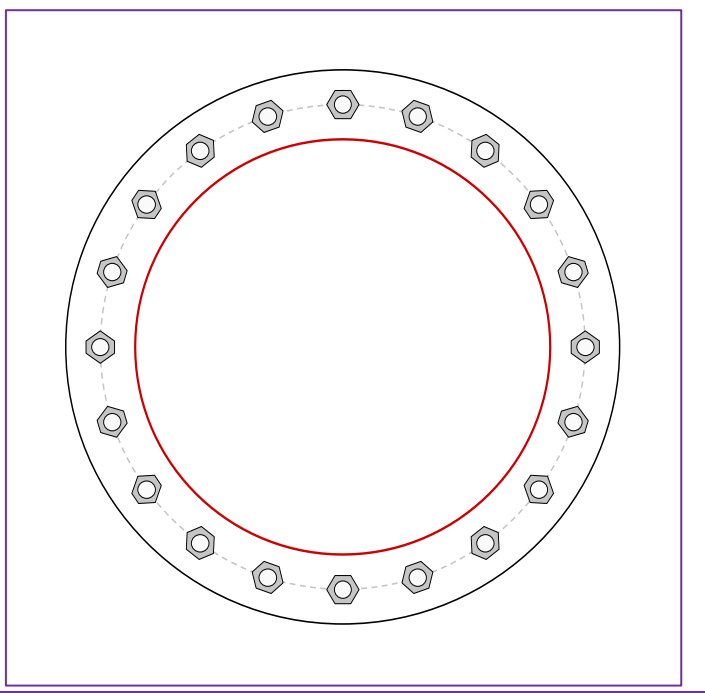
Applied Loads to Flange Connections		Applied Loads to Bridge Stiffeners	
Moment (kip-ft)	62.84	Moment (kip-ft)	156.94
Axial Force (kips)	13.46	Axial Force (kips)	0.00
Shear Force (kips)	13.80	Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 28" BC

Top Plate Data

32" OD x 1.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

32" OD x 1.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

24" x 0.25" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

24" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bridge Stiffener Group 1 Data

(3) Welded, 4.5''x1.25'', A572-65, Lu=5.125", Upper Plate Width=9'', Lower Plate Width=9'', Neglect Flange in MOI: No

Analysis Results

Bolt Capacity

Max Load (kips)	4.71	
Allowable (kips)	54.53	
Stress Rating:	**8.2%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	3.37	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**9.9%**	**Pass**
Tension Side Stress Rating:	**3.5%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	3.37	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**9.9%**	**Pass**
Tension Side Stress Rating:	**3.5%**	**Pass**

Bridge Stiffener Group 1 Analysis Capacity

Max Compression (kip):	66.96	
Max Tension (kip):	66.96	
Comp. Capacity (kip):	322.81	
Tens. Capacity (kip):	329.06	(Yield)
Comp. Stress Rating:	**19.8%**	**Pass**
Tens. Stress Rating:	**19.4%**	**Pass**

Welded Bridge Stiffener Design

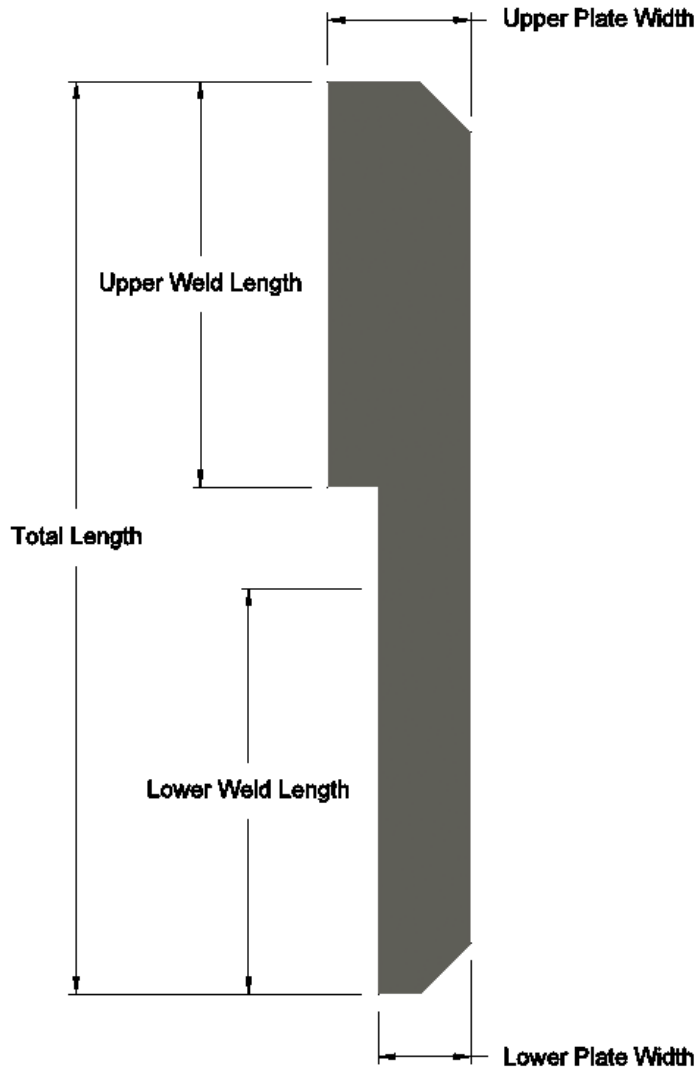
Elevation = 90 ft.

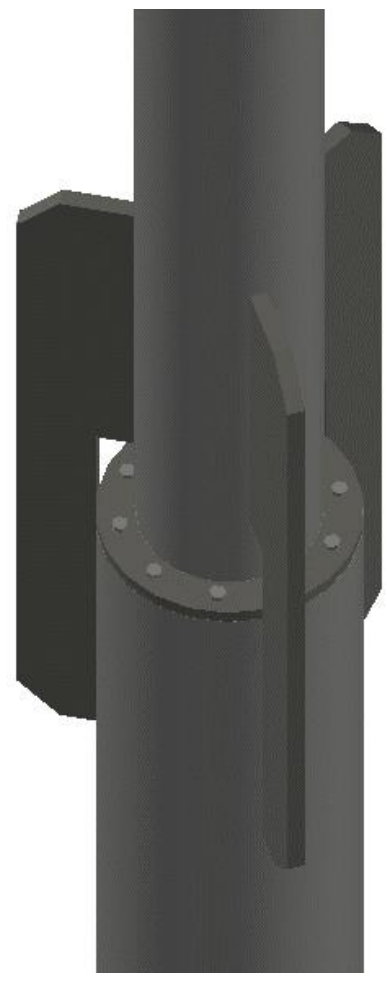
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	664144 Rev . 0

TIA-222 Revision	H

Applied Loads to Design Groups	
Moment (kip-ft)	156.94
Axial Force (kips)	0.00
Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*





Design Properties

Bridge Stiffener Group 1 Data

(3) Welded, 4.5''x1.25'', A572-65, Lu=5.125", Upper Plate Width=9'', Lower Plate Width=9'', Neglect Flange in MOI: No

Total Length:	84	in
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Exx:	70	ksi
Upper Weld Length:	39.6875	in
Upper Plate Width:	9	in
Lower Weld Length:	39.6875	in
Lower Plate Width:	9	in
Stiffener Front EPA (No Ice):	7.10	ft²
Stiffener Side EPA (No Ice):	1.46	ft²
Stiffener Front EPA (1/2'' Ice):	7.55	ft²
Stiffener Side EPA (1/2'' Ice):	2.66	ft²
Stiffener Weight (No Ice):	0.245	kip
Stiffener Weight (1/2'' Ice):	0.271	kip

Upper Weld Size:	***Good***
Upper Weld Rating:	**9.90%**
Lower Weld Size:	***Good***
Lower Weld Rating:	**9.90%**
Top Plate Lateral-Torsional Buckling Rating:	**1.63%**
Top Plate Tension Yield Rating:	**3.30%**
Top Plate Tension Rupture Rating:	**3.57%**
Top Plate Interaction Rating:	**1.76%**
Bottom Plate Lateral-Torsional Buckling Rating:	**1.63%**
Bottom Plate Tension Yield Rating:	**3.30%**
Bottom Plate Tension Rupture Rating:	**3.57%**
Bottom Plate Interaction Rating:	**1.76%**
Top Pole Punching Shear Rating:	**8.68%**
Bottom Pole Punching Shear Rating:	**5.78%**

Monopole Flange Plate Connection

Elevation = 60 ft.

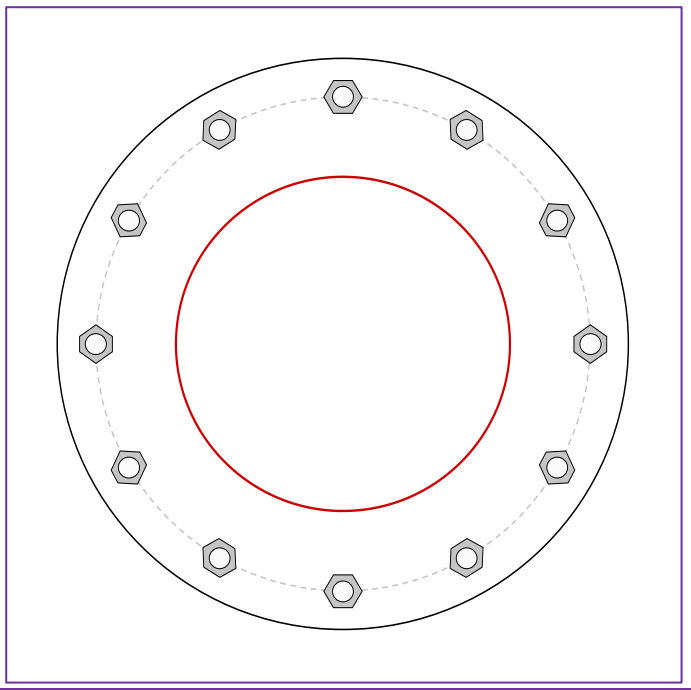
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	664144 Rev . 0

TIA-222 Revision	H

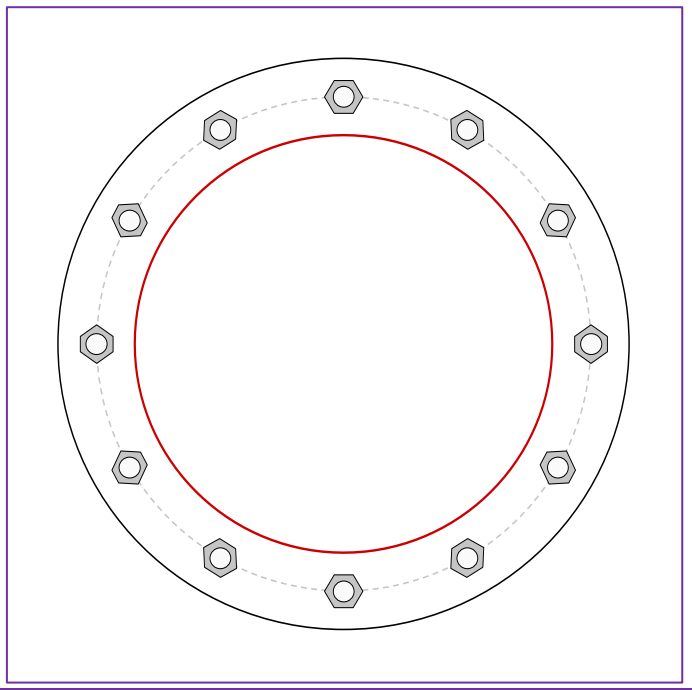
Applied Loads to Flange Connections		Applied Loads to Bridge Stiffeners	
Moment (kip-ft)	218.60	Moment (kip-ft)	560.91
Axial Force (kips)	23.69	Axial Force (kips)	0.00
Shear Force (kips)	20.33	Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(12) 1-1/2" ø bolts (A325 N; Fy=81 ksi, Fu=120 ksi) on 35.5" BC

Top Plate Data

41" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

41" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

24" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

30" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bridge Stiffener Group 1 Data

(3) Welded, 4.5''x1.25'', A572-65, Lu=5.125", Upper Plate Width=13.5'', Lower Plate Width=10.5'', Neglect Flange in MOI: No

Bridge Stiffener Group 2 Data

(3) Welded, 3''x1'', A572-65, Lu=5.625", Upper Plate Width=12'', Lower Plate Width=9'', Neglect Flange in MOI: No

Analysis Results

Bolt Capacity

Max Load (kips)	22.64	
Allowable (kips)	126.87	
Stress Rating:	**17.0%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	11.85	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**34.8%**	**Pass**
Tension Side Stress Rating:	**18.7%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	5.82	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**17.1%**	**Pass**
Tension Side Stress Rating:	**5.8%**	**Pass**

Bridge Stiffener Group 1 Analysis Capacity

Max Compression (kip):	128.71	
Max Tension (kip):	128.71	
Comp. Capacity (kip):	322.81	
Tens. Capacity (kip):	329.06	(Yield)
Comp. Stress Rating:	**38.0%**	**Pass**
Tens. Stress Rating:	**37.3%**	**Pass**

Bridge Stiffener Group 2 Analysis Capacity

Max Compression (kip):	66.43	
Max Tension (kip):	66.43	
Comp. Capacity (kip):	169.28	
Tens. Capacity (kip):	175.50	(Yield)
Comp. Stress Rating:	**37.4%**	**Pass**
Tens. Stress Rating:	**36.1%**	**Pass**

Welded Bridge Stiffener Design

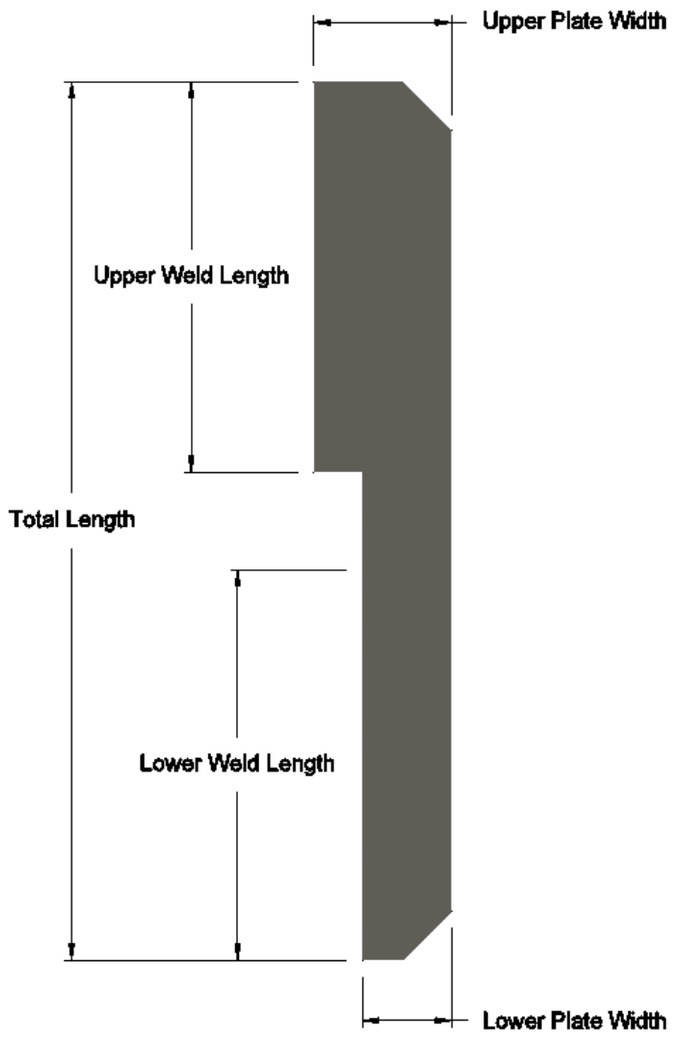
Elevation = 60 ft.

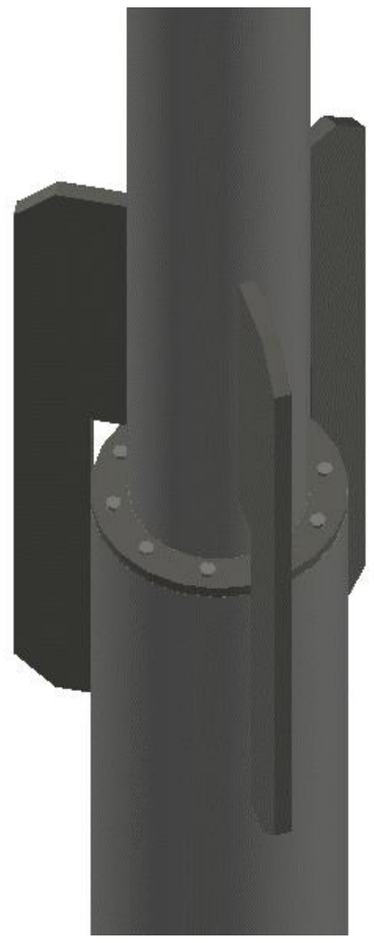
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	664144 Rev . 0

TIA-222 Revision	H

Applied Loads to Design Groups	
Moment (kip-ft)	560.91
Axial Force (kips)	0.00
Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*





Design Properties

Bridge Stiffener Group 1 Data

(3) Welded, 4.5''x1.25'', A572-65, Lu=5.125", Upper Plate Width=13.5'', Lower Plate Width=10.5'', Neglect Flange in MOI: No

Total Length:	84	in
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Exx:	70	ksi
Upper Weld Length:	39.1875	in
Upper Plate Width:	13.5	in
Lower Weld Length:	39.1875	in
Lower Plate Width:	10.5	in
Stiffener Front EPA (No Ice):	9.48	ft²
Stiffener Side EPA (No Ice):	1.46	ft²
Stiffener Front EPA (1/2'' Ice):	9.98	ft²
Stiffener Side EPA (1/2'' Ice):	2.66	ft²
Stiffener Weight (No Ice):	0.354	kip
Stiffener Weight (1/2'' Ice):	0.391	kip

Upper Weld Size:	***Good***
Upper Weld Rating:	**22.09%**
Lower Weld Size:	***Good***
Lower Weld Rating:	**20.04%**
Top Plate Lateral-Torsional Buckling Rating:	**5.62%**
Top Plate Tension Yield Rating:	**6.42%**
Top Plate Tension Rupture Rating:	**6.95%**
Top Plate Interaction Rating:	**6.12%**
Bottom Plate Lateral-Torsional Buckling Rating:	**3.98%**
Bottom Plate Tension Yield Rating:	**6.42%**
Bottom Plate Tension Rupture Rating:	**6.95%**
Bottom Plate Interaction Rating:	**4.49%**
Top Pole Punching Shear Rating:	**19.01%**
Bottom Pole Punching Shear Rating:	**13.94%**

Bridge Stiffener Group 2 Data

(3) Welded, 3''x1'', A572-65, Lu=5.625", Upper Plate Width=12'', Lower Plate Width=9'', Neglect Flange in MOI: No

Total Length:	48.875	in
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Exx:	70	ksi
Upper Weld Length:	23.25	in
Upper Plate Width:	12	in
Lower Weld Length:	20	in
Lower Plate Width:	9	in
Stiffener Front EPA (No Ice):	4.49	ft²
Stiffener Side EPA (No Ice):	0.68	ft²
Stiffener Front EPA (1/2'' Ice):	4.83	ft²
Stiffener Side EPA (1/2'' Ice):	1.38	ft²
Stiffener Weight (No Ice):	0.145	kip
Stiffener Weight (1/2'' Ice):	0.164	kip

Upper Weld Size:	***Good***
Upper Weld Rating:	**24.44%**
Lower Weld Size:	***Good***
Lower Weld Rating:	**25.40%**
Top Plate Lateral-Torsional Buckling Rating:	**9.35%**
Top Plate Tension Yield Rating:	**6.98%**
Top Plate Tension Rupture Rating:	**7.56%**
Top Plate Interaction Rating:	**9.95%**
Bottom Plate Lateral-Torsional Buckling Rating:	**8.63%**
Bottom Plate Tension Yield Rating:	**8.11%**
Bottom Plate Tension Rupture Rating:	**8.79%**
Bottom Plate Interaction Rating:	**9.44%**
Top Pole Punching Shear Rating:	**26.01%**
Bottom Pole Punching Shear Rating:	**25.11%**

Monopole Flange Plate Connection

Elevation = 30 ft.

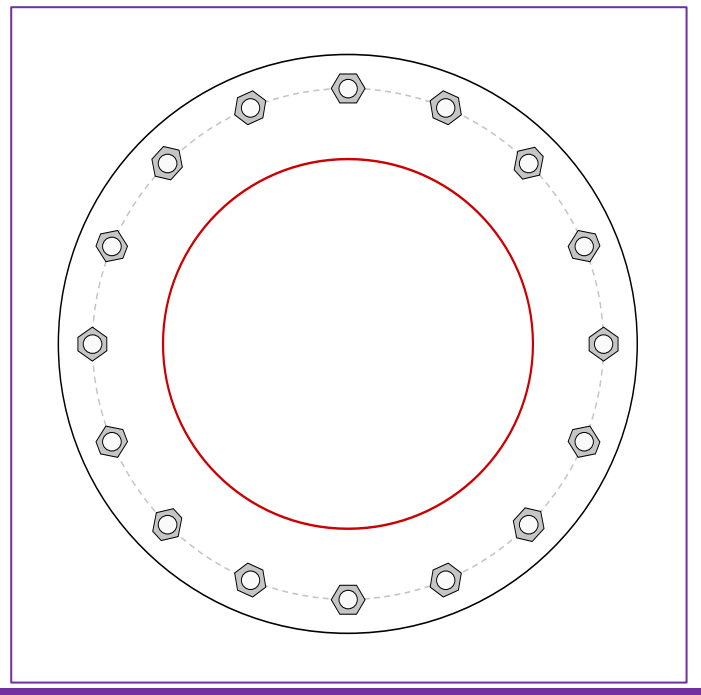
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	664144 Rev . 0

TIA-222 Revision	H

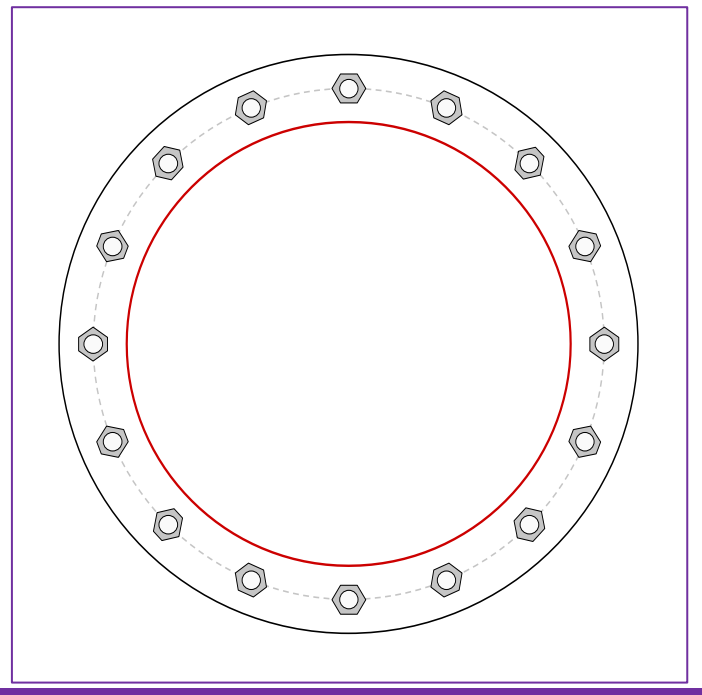
Applied Loads to Flange Connections		Applied Loads to Bridge Stiffeners	
Moment (kip-ft)	452.19	Moment (kip-ft)	1090.94
Axial Force (kips)	37.33	Axial Force (kips)	0.00
Shear Force (kips)	27.14	Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(16) 1-1/2" ø bolts (A325 N; Fy=81 ksi, Fu=120 ksi) on 41.5" BC

Top Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

30" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

36" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bridge Stiffener Group 1 Data

(3) Welded, 4.5''x1.25'', A572-65, Lu=6.125", Upper Plate Width=13.5'', Lower Plate Width=10.5'', Neglect Flange in MOI: No

Bridge Stiffener Group 2 Data

(3) Welded, 5.5''x1'', A572-65, Lu=5.625", Upper Plate Width=14.5'', Lower Plate Width=11.5'', Neglect Flange in MOI: No

Analysis Results

Bolt Capacity

Max Load (kips)	30.34	
Allowable (kips)	126.87	
Stress Rating:	**22.8%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	17.47	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**51.3%**	**Pass**
Tension Side Stress Rating:	**27.1%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	8.35	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**24.5%**	**Pass**
Tension Side Stress Rating:	**8.8%**	**Pass**

Bridge Stiffener Group 1 Analysis Capacity

Max Compression (kip):	164.97	
Max Tension (kip):	164.97	
Comp. Capacity (kip):	320.17	
Tens. Capacity (kip):	329.06	(Yield)
Comp. Stress Rating:	**49.1%**	**Pass**
Tens. Stress Rating:	**47.7%**	**Pass**

Bridge Stiffener Group 2 Analysis Capacity

Max Compression (kip):	164.38	
Max Tension (kip):	164.38	
Comp. Capacity (kip):	310.35	
Tens. Capacity (kip):	321.75	(Yield)
Comp. Stress Rating:	**50.4%**	**Pass**
Tens. Stress Rating:	**48.7%**	**Pass**

Welded Bridge Stiffener Design

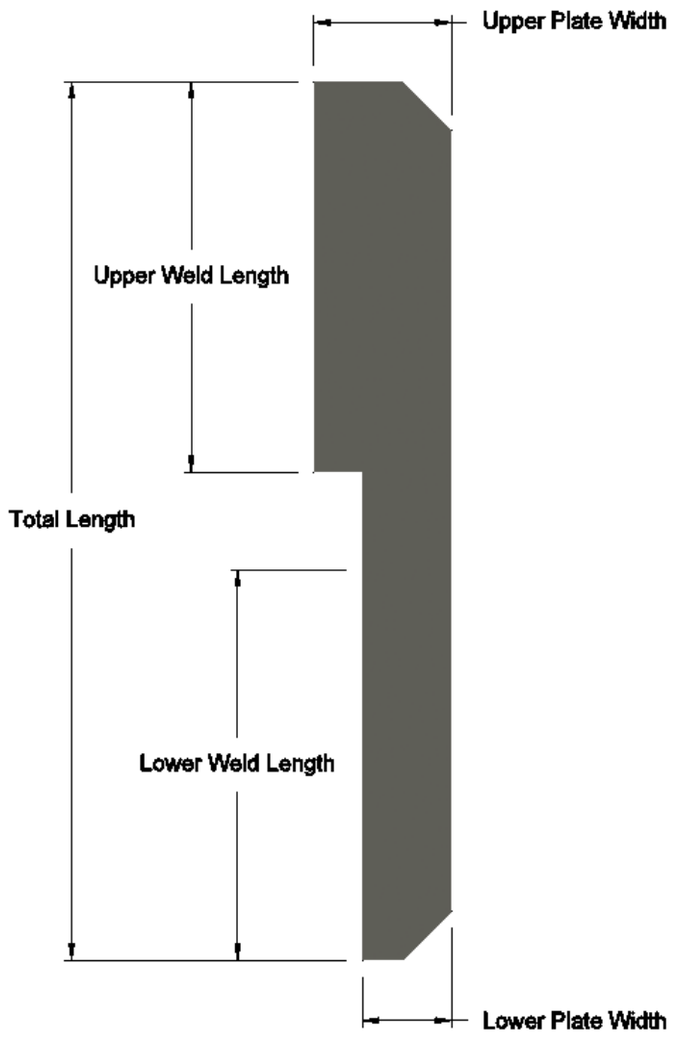
Elevation = 30 ft.

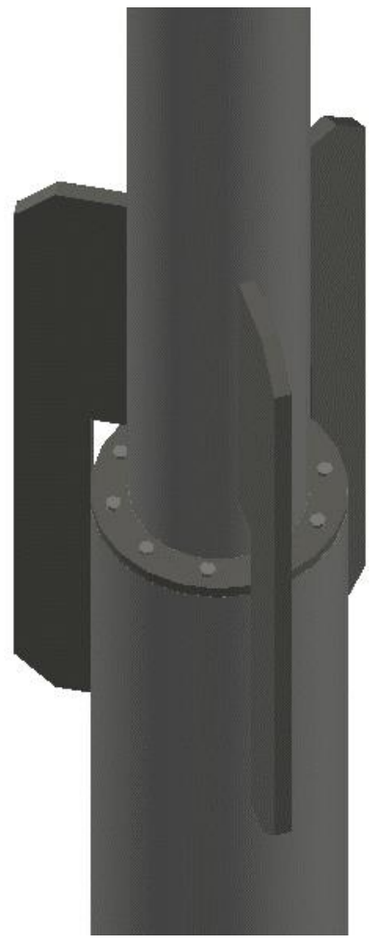
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	664144 Rev . 0

TIA-222 Revision	H

Applied Loads to Design Groups	
Moment (kip-ft)	1090.94
Axial Force (kips)	0.00
Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*





Design Properties

Bridge Stiffener Group 1 Data

(3) Welded, 4.5''x1.25'', A572-65, Lu=6.125", Upper Plate Width=13.5'', Lower Plate Width=10.5'', Neglect Flange in MOI: No

Total Length:	84	in
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Exx:	70	ksi
Upper Weld Length:	39.1875	in
Upper Plate Width:	13.5	in
Lower Weld Length:	39.1875	in
Lower Plate Width:	10.5	in
Stiffener Front EPA (No Ice):	9.48	ft²
Stiffener Side EPA (No Ice):	1.46	ft²
Stiffener Front EPA (1/2'' Ice):	9.98	ft²
Stiffener Side EPA (1/2'' Ice):	2.66	ft²
Stiffener Weight (No Ice):	0.354	kip
Stiffener Weight (1/2'' Ice):	0.391	kip

Upper Weld Size:	***Good***
Upper Weld Rating:	**28.31%**
Lower Weld Size:	***Good***
Lower Weld Rating:	**25.69%**
Top Plate Lateral-Torsional Buckling Rating:	**7.20%**
Top Plate Tension Yield Rating:	**8.22%**
Top Plate Tension Rupture Rating:	**8.91%**
Top Plate Interaction Rating:	**8.03%**
Bottom Plate Lateral-Torsional Buckling Rating:	**5.10%**
Bottom Plate Tension Yield Rating:	**8.22%**
Bottom Plate Tension Rupture Rating:	**8.91%**
Bottom Plate Interaction Rating:	**5.93%**
Top Pole Punching Shear Rating:	**24.36%**
Bottom Pole Punching Shear Rating:	**17.86%**

Bridge Stiffener Group 2 Data

(3) Welded, 5.5''x1'', A572-65, Lu=5.625", Upper Plate Width=14.5'', Lower Plate Width=11.5'', Neglect Flange in MOI: No

Total Length:	66.125	in
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Exx:	70	ksi
Upper Weld Length:	32.25	in
Upper Plate Width:	14.5	in
Lower Weld Length:	28.25	in
Lower Plate Width:	11.5	in
Stiffener Front EPA (No Ice):	7.69	ft²
Stiffener Side EPA (No Ice):	0.92	ft²
Stiffener Front EPA (1/2'' Ice):	8.12	ft²
Stiffener Side EPA (1/2'' Ice):	1.86	ft²
Stiffener Weight (No Ice):	0.243	kip
Stiffener Weight (1/2'' Ice):	0.274	kip

Upper Weld Size:	***Good***
Upper Weld Rating:	**38.34%**
Lower Weld Size:	***Good***
Lower Weld Rating:	**40.40%**
Top Plate Lateral-Torsional Buckling Rating:	**14.71%**
Top Plate Tension Yield Rating:	**12.45%**
Top Plate Tension Rupture Rating:	**13.48%**
Top Plate Interaction Rating:	**16.62%**
Bottom Plate Lateral-Torsional Buckling Rating:	**13.33%**
Bottom Plate Tension Yield Rating:	**14.21%**
Bottom Plate Tension Rupture Rating:	**15.39%**
Bottom Plate Interaction Rating:	**15.82%**
Top Pole Punching Shear Rating:	**37.43%**
Bottom Pole Punching Shear Rating:	**36.33%**

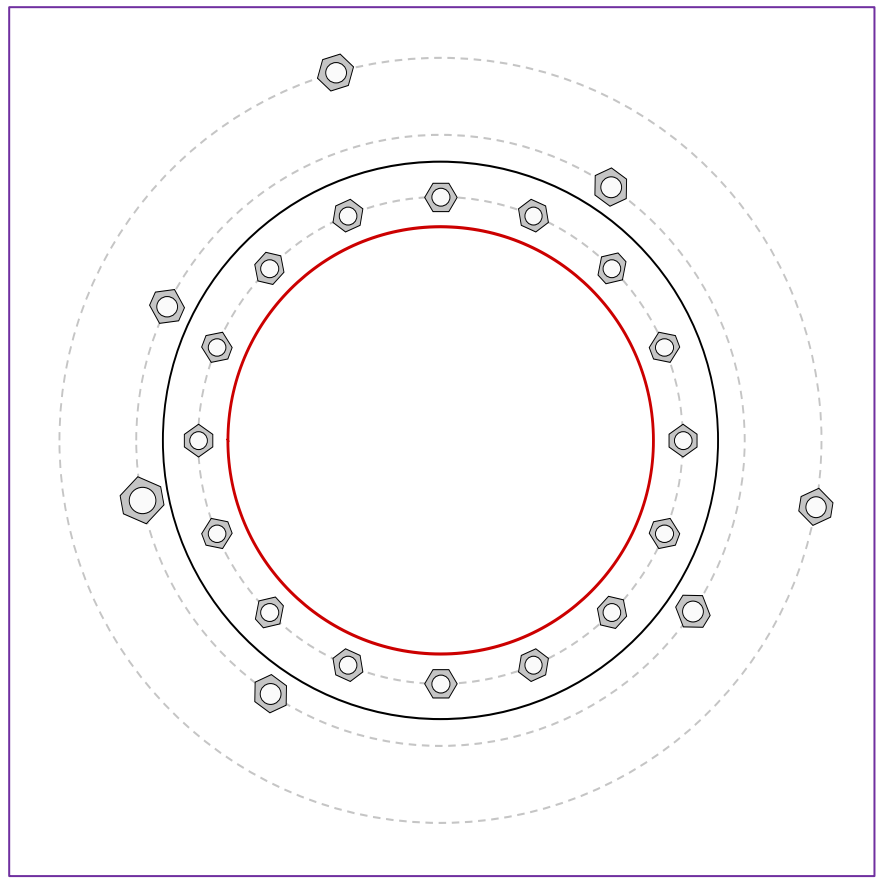
Monopole Base Plate Connection

Site Info	
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	664144 Rev . 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
l_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	2431.91
Axial Force (kips)	51.94
Shear Force (kips)	31.06

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (16) 1-1/2" ø bolts (A354-BC N; Fy=109 ksi, Fu=125 ksi) on 41" BC

GROUP 2: (4) 1-3/4" ø bolts (Dywidag 150 ksi N N; Fy=120 ksi, Fu=125 ksi) on 51.5" BC
pos. (deg): 56, 154, 236, 326

GROUP 3: (1) 2-1/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 51.5" BC
pos. (deg): 191.3

GROUP 4: (2) 1-3/4" ø bolts (Williams R71 N N; Fy=120 ksi, Fu=125 ksi) on 64.5" BC
pos. (deg): 106, 350

Base Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

N/A

Pole Data

36" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

GROUP 1:			
	Pu_t = 80.52	ϕPn_t = 132.19	**Stress Rating**
	Vu = 1.94	ϕVn = 82.83	**58.0%**
	Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:			
	Pu_t = 185.38	ϕPn_t = 241.88	**Stress Rating**
	Vu = 0	ϕVn = 120.94	**73.0%**
	Mu = n/a	ϕMn = n/a	**Pass**
GROUP 3:			
	Pu_t = 191.5	ϕPn_t = 304.69	**Stress Rating**
	Vu = 0	ϕVn = 186.38	**59.9%**
	Mu = n/a	ϕMn = n/a	**Pass**
GROUP 4:			
	Pu_t = 216.75	ϕPn_t = 243.75	**Stress Rating**
	Vu = 0	ϕVn = 121.88	**84.7%**
	Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	18.81	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	**55.3%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

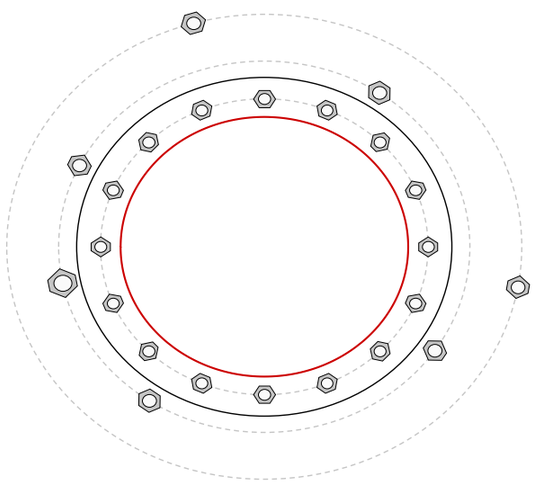
note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	Yes	No	
2	No	No	No	No	No	
3	No	No	No	No	No	
4	No	No	No	No	No	

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	I_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	1.5	A354-BC	41	0.55	0	N-Included		No
2	1	22.5	1.5	A354-BC	41	0.55	0	N-Included		No
3	1	45	1.5	A354-BC	41	0.55	0	N-Included		No
4	1	67.5	1.5	A354-BC	41	0.55	0	N-Included		No
5	1	90	1.5	A354-BC	41	0.55	0	N-Included		No
6	1	112.5	1.5	A354-BC	41	0.55	0	N-Included		No
7	1	135	1.5	A354-BC	41	0.55	0	N-Included		No
8	1	157.5	1.5	A354-BC	41	0.55	0	N-Included		No
9	1	180	1.5	A354-BC	41	0.55	0	N-Included		No
10	1	202.5	1.5	A354-BC	41	0.55	0	N-Included		No
11	1	225	1.5	A354-BC	41	0.55	0	N-Included		No
12	1	247.5	1.5	A354-BC	41	0.55	0	N-Included		No
13	1	270	1.5	A354-BC	41	0.55	0	N-Included		No
14	1	292.5	1.5	A354-BC	41	0.55	0	N-Included		No
15	1	315	1.5	A354-BC	41	0.55	0	N-Included		No
16	1	337.5	1.5	A354-BC	41	0.55	0	N-Included		No
17	2	56	1.75	Dywidag 150 ksi N	51.5	0.5	0	N-Included	2.58	No
18	2	154	1.75	Dywidag 150 ksi N	51.5	0.5	0	N-Included	2.58	No
19	2	236	1.75	Dywidag 150 ksi N	51.5	0.5	0	N-Included	2.58	No
20	2	326	1.75	Dywidag 150 ksi N	51.5	0.5	0	N-Included	2.58	No
21	3	191.3	2.25	A193 Gr. B7	51.5	0.5	0	N-Included		No
22	4	106	1.75	Williams R71 N	64.5	0.5	0	N-Included	2.6	No
23	4	350	1.75	Williams R71 N	64.5	0.5	0	N-Included	2.6	No

Plot Graphic



Pier and Pad Foundation

BU # :	876331
Site Name:	NEW BRITAIN GR
App. Number:	664144 Rev.0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	51.96	kips
Base Shear, Vu_comp:	31.04	kips
Moment, M_u:	2431.91	ft-kips
Tower Height, **H**:	118	ft
BP Dist. Above Fdn, bp_{dist}:	1.5	in
Bolt Circle / Bearing Plate Width, **BC**:	41	in

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
*Pad Flexure (kip*ft)*	4029.63	1718.93	**40.6%**	**Pass**
Pad Shear - 1-way (kips)	1064.77	316.92	**28.3%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	8059.26	0.00	**0.0%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Structural Rating*:	**40.6%**

Pad Properties		
Depth, **D**:	4	ft
Pad Width, W_1:	16	ft
Pad Thickness, **T**:	6	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	17	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	150	pcf
Ultimate Gross Bearing, Qult:	30.000	ksf
Cohesion, **Cu**:	10.000	ksf
Friction Angle, φ:	0	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.3	
Neglected Depth, **N**:	4.167	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Pile Foundation

Checks the capacity of pile foundation configurations for monopoles or self-support towers with individual foundations in Rev. F, G, and H.

BU #:	876331
Site Name:	NEW BRITAIN GRAVEL PIT
Order:	664144 Rev.0

Tower Type:	Monopole
TIA Revision:	H

Top & Bot. Pad Rein. Different?: ☐

Factored Design Reactions At Base		
Moment, M:	2431.91	ft-kips
Axial, Pu:	51.96	kips
Shear, Sc:	31.04	kips
Load Eccentricity, Ecc:	0	in
Bolt Circle / Bearing Plate Width, BC:	41	in

Pile Properties		
Pile Shape:	Round	
Pile Material:	Steel	
Length of Pile, Lpile:	33	ft
Pile Diameter:	1.375	in
Pile (Soil) Capacity Given?	Yes	
Steel Grade, Fy:	150	ksi
Rebar Quantity, Pquan:		

Pile Group		
Group Configuration:	Asymmetric	
Orientation of Neutral Axis, θ:	0	deg
Group Efficiency Given in Geotech?	No	

Program Calculated Group Efficiency, Eg: 1.00

Pile Cap		
Cap Type:	Block	
Depth to Bottom of Block, D:	4.00	ft
Thickness of Block, T:	6.00	ft
Block Width, Wx:	16.00	ft
Block Length, Wy:	16.00	ft
Pad Rebar Size (Bot.), Spad:	8	
Pad Rebar Quantity (X-direction) (Bot.), Mpad:	17	
Pad Rebar Quantity (Y-direction) (Bot.), $Mpad_y$:	17	

Material Properties		
Rebar Grade, Fy:	60	ksi
Concrete Strength, Fc:	3	ksi
Clear Cover, cc:	3	in

Soil Properties		
Groundwater Depth, GW:	100.00	ft
Soil Unit Weight:	150	pcf
Cohesion, Co:	10	ksf
Friction Angle, ϕ:	0	deg
Neglected Depth, ND:	1	ft
Negative Friction Force (per pile), Sw:		kips
SPT Blow Count, N_{blows}:		

Design Checks				
	Capacity	*Demand*	*Rating**	*Check*
PILE CHECKS				
Pile Tensile Strength (kips):	178.19	178.54	**95.4%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Structural Rating:	**95.4%**

Click here to enter group information and pile coordinates

Ultimate Pile Capacities		
Ultimate Compression, Cn:	170	kips
Ultimate Tension, Tn:	170	kips

Per CCIsites Doc. # 2268906

Pier and Pad Foundation

BU # :	876331
Site Name:	NEW BRITAIN GR
App. Number:	664144 Rev.0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions

Compression, P_{comp}:	51.96	kips
Base Shear, Vu_comp:	31.04	kips
Moment, M_u:	0	ft-kips
Tower Height, **H**:	118	ft
BP Dist. Above Fdn, bp_{dist}:	1.5	in
Bolt Circle / Bearing Plate Width, **BC**:	41	in

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	1029.82	31.04	**2.9%**	**Pass**
Bearing Pressure (ksf)	22.50	1.43	**6.1%**	**Pass**
*Overturning (kip*ft)*	1932.69	190.12	**9.8%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Soil Rating*:	**9.8%**

Pad Properties

Depth, **D**:	4	ft
Pad Width, W_1:	16	ft
Pad Thickness, **T**:	6	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	17	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties

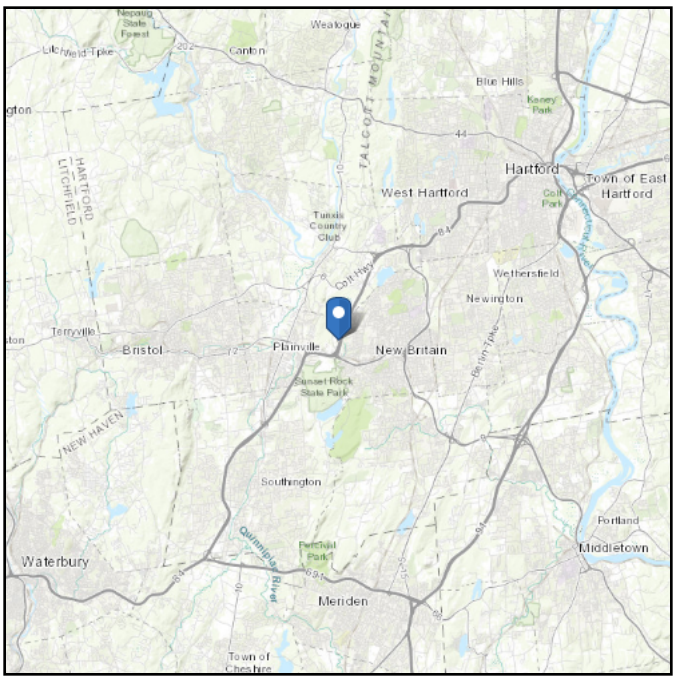
Total Soil Unit Weight, γ:	150	pcf
Ultimate Gross Bearing, Qult:	30.000	ksf
Cohesion, **Cu**:	10.000	ksf
Friction Angle, φ:	0	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.3	
Neglected Depth, **N**:	0.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.676589
Risk Category:	II	**Longitude:**	-72.821414
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	350.5291888252014 ft (NAVD 88)



Wind

Results:

Wind Speed	117 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Fri Mar 22 2024

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

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

Seismic

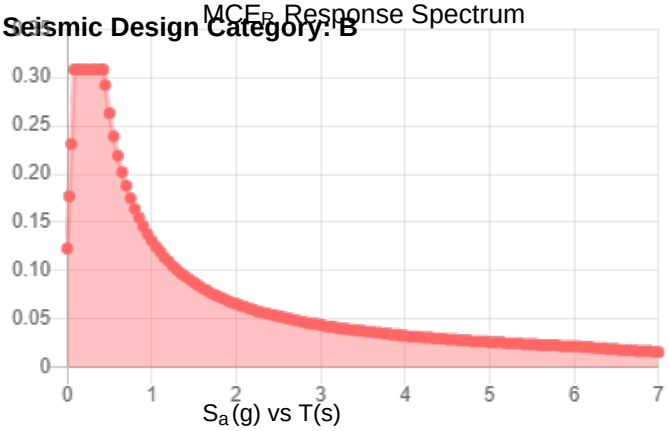
Site Soil Class: D - Default (see Section 11.4.3)

Results:

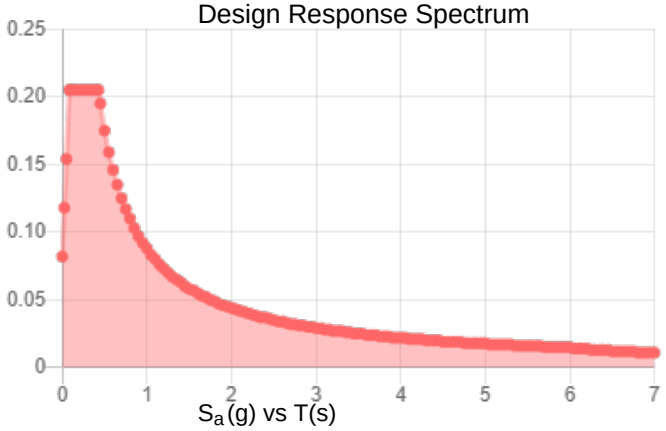
S_S :	0.192	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.105
F_v :	2.4	PGA_M :	0.166
S_{MS} :	0.308	F_{PGA} :	1.591
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.205	C_v :	0.7

Seismic Design Category: B

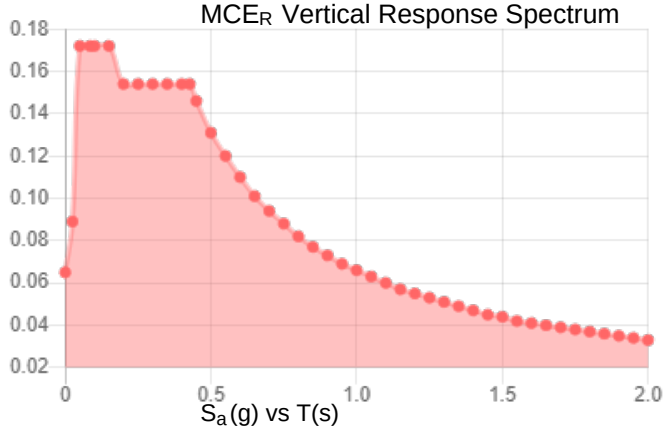
MCE_R Response Spectrum



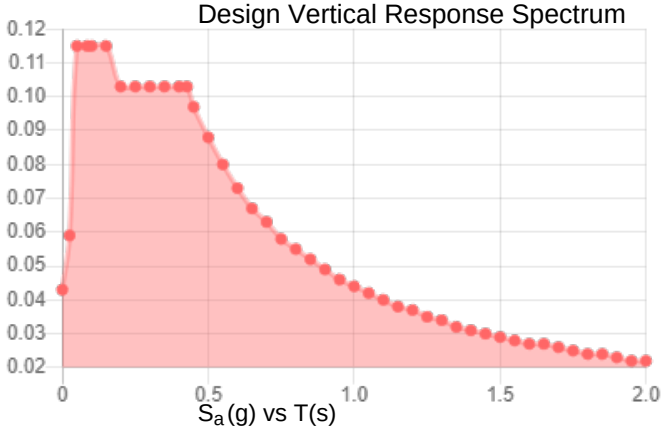
Design Response Spectrum



MCE_R Vertical Response Spectrum



Design Vertical Response Spectrum



Data Accessed: **Fri Mar 22 2024**

Date Source:

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

Ice

Results:

Ice Thickness:	1.50 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Mar 22 2024

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

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

EXHIBIT F

Mount Analysis Report

Colliers Engineering & Design, Architecture, Landscape
Architecture, Surveying, CT P.C.
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
peter.albano@collierseng.com

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10222805
Colliers Engineering & Design Project #: 21777239 (Rev 1)

February 13, 2024

Site Information	*Site ID:*	*5000180082-VZW / NEW BRITAIN NW CT*
	Site Name:	*NEW BRITAIN NW CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*115 North Mountain Road* *New Britain, Connecticut 06053* *Hartford County*
	Latitude:	*41.676590°*
	Longitude:	*-72.821414°*
Structure Information	*Tower Type:*	*Monopole*
	Mount Type:	*12.58-Ft Platform*

FUZE ID # 16232009

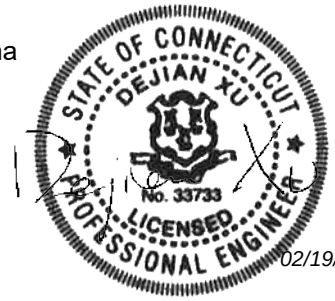
Analysis Results

Platform: **45.4% Pass w/ Modifications***

***Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

******Contractor PMI Requirements*:**
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com
For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Gianna Argentina



02/19/2024

Executive Summary:

The objective of this report is to summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

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: 674978* *Dated September 26, 2023*
Mount Mapping Report	*Roaming Networks Inc. Site ID: PSLC:535831* *Dated March 30, 2021*
Previous Mount Analysis	*Colliers Engineering & Design, Project #: 21777239 (Rev 1), dated February 2, 2024*
Mount Modification Drawings	*Colliers Engineering & Design, Project #: 21777239 (Rev 1), dated February 13, 2024*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	120 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.50 in
	Risk Category:	II
	Exposure Category:	B
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.987
Seismic Parameters:	S_S:	0.195 g
	S_1:	0.055 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Load, Lv:	250 lbs.
	Maintenance Load, Lm:	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
89.00	90.00	6	Commscope	NHH-65B-R2B	Added
		3	Samsung	MT6413-77A	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	
		1	Raycap	RVZDC-6627-PF-48	
		1	Amphenol Antel	BXA-70040-4CF-EDIN-0	Retained
		1	Antel	BXA-70063-4CF	
		1	Antel	BXA-70063-4CF-4	

The recent mount mapping reported existing OVP units. 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 unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design 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 Colliers Engineering & Design 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.

   Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

   The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, 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. Colliers Engineering & Design 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

8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design.

Analysis Results:

Component	Utilization %	Pass/Fail
Standoff Horizontal	18.9 %	Pass
Platform Crossmember	45.4 %	Pass
Corner Plate	29.6 %	Pass
Grating Support	19.3 %	Pass
Cross Arm Plate	23.3 %	Pass
Face Horizontal	13.1 %	Pass
Mount Pipe	18.4 %	Pass
MOD Support Rail	10.3 %	Pass
MOD Corner Bracket	13.0 %	Pass
MOD Kicker	10.3 %	Pass
Mount Connection	28.5 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**45.4%**

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector B Standoff	89	N3	390	2764	0.322	1.024	636	3435	0.541	0.309
Sector A Standoff	89	N30A	397	2827	0.324	1.206	718	3676	0.593	0.370
Sector C Standoff	89	N59	350	2800	0.249	1.159	450	3506	0.484	0.335
Sector B Bottom Reinforcement	86	N193	1538	1494	0.000	0.000	3187	3127	0.000	0.000
Sector A Bottom Reinforcement	86	N195	1563	1519	0.000	0.000	3414	3354	0.000	0.000
Sector C Bottom Reinforcement	86	N197	1538	1494	0.000	0.000	3227	3167	0.000	0.000

Notes:
- Axial loads act along the axis of the tower
- Lateral reactions act perpendicular to the tower
- Moment loads introduce bending moment to the tower
- Torsion loads introduce twisting moment to the tower
- Batch solutions by individual load cases are included at the end of this document

Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	30.2	30.2	43.9	43.9
0.5	39.0	39.0	58.4	58.4
1	46.8	46.8	72.0	72.0

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 3 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

The existing mount will be **SUFFICIENT** for the final loading configuration (attachment 2) after the modifications detailed in attachment 3 are successfully completed.

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.

Attachments:

1. **Contractor Required PMI Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Modification Drawings
4. Mount Photos
5. Mount Mapping Report (for reference only)
6. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com
For additional questions and support, please reach out to pmisupport@colliersengineering.com

---

MDG #: 5000180082 SMART Project #: 10222805 Fuze Project ID: 16232009

Purpose – to upload the proper documentation to the SMART Tool in order to allow the SMART Tool engineering vendor 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 or the mount modification, this includes safety issues.

Base Requirements:

- If installation of the modification will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide "as built drawings" showing contractor's name, preparer's signature, and date. Any deviations from the drawings (proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the post-modification passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo shall be time and date stamped.
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is 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. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: **https://pmi.vzwsmart.com**

Photo Requirements:

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation of the modifications.
  - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed

- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to modification.
  - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation of modifications. Each entire sector must be in one photo to show the interconnection of members.
    - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.
- Photos of each installed modification per the modification drawings; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the distances (relative distance between collars) of the installed modifications from the appropriate reference locations shown in the modification drawings.
- Photos showing the installed modifications onto the tower (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, an elevation measurement shall be provided before the elevation change.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by the SMART Tool vendor.
    - If the materials are as specified on the drawings
        - The contractor shall provide the packing list, or the materials certifications for the materials utilized to perform the mount modification
        - Commscope, Metrosite, Perfect Vision, Sabre, and Site Pro have all agreed to support Verizon vendors with the necessary material certifications
    - If seeking permission to use an equivalent
        - It is required that the SMART Tool engineering vendor approval of such is included in the contractor submission package. There may be an additional charge for approval if the equivalent submission doesn't meet specifications as prescribed in the drawings.

☐ All hardware has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified on the SMART Tool engineering vendor Mount Modification Drawings and included in the material certification folder is a packing list or invoice for these materials.

OR

☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

Antenna & Equipment Placement and Geometry Confirmation:

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

☐ The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

Comments:

Was the mount modification completed in conjunction with the equipment change / installation?

☐ Yes ☐ No

Special Instructions / Validation as required from the MA or Mod Drawings:

Issue:

Install proposed OVP on existing equipment pipe on standoff between alpha and gamma sector.

Response:

Special Instruction Confirmation:

☐ The contractor has read and acknowledges the above special instructions.

Comments:

Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

Contractor to certify the condition of the safety climb and verify no damage when leaving the site:

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Comments:

Certifying Individual:

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

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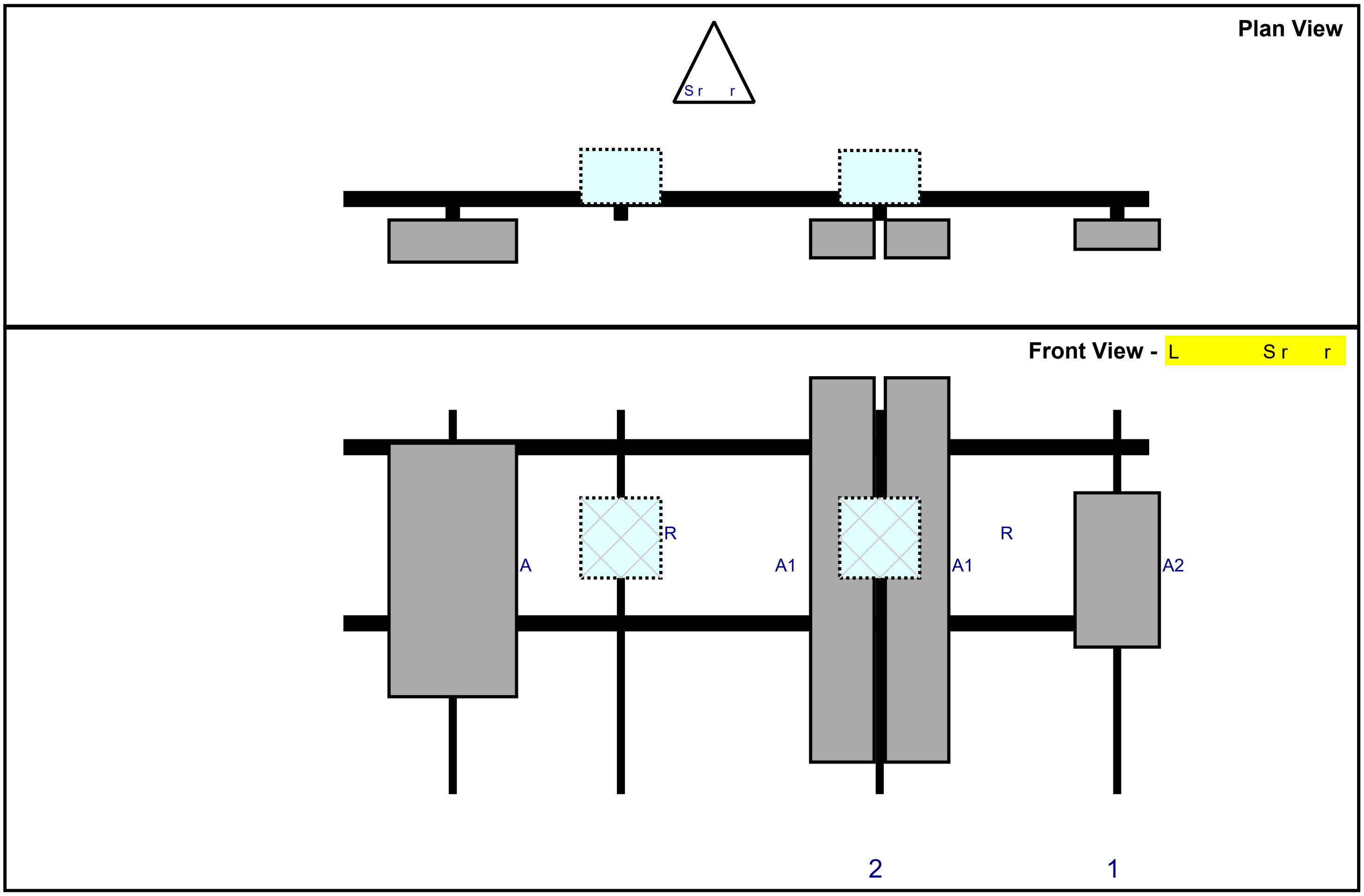
M E	.		P 1



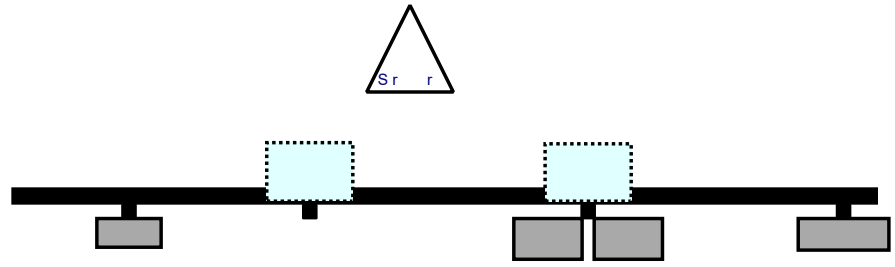
R	M d	d	D r L.	P	P P	A P	.A r T.	A O	S	d
A2	MT 1 A	2 .	1 .	1	1	r			Add d	
A1	B R2B	2	11.	1 .	2	r			Add d	
A1	B R2B	2	11.	1 .	2	r			Add d	
R	R d 2 A	1	1	1 .	2	B d 2			Add d	
R	R 1d 1 A	1	1	2		B d 2			Add d	
A	B A ED	.	2 .	2 .		r			R d	2 21
M1	R D 2 P	2 .	1 .		M r				Add d	

S r **B** 21 22

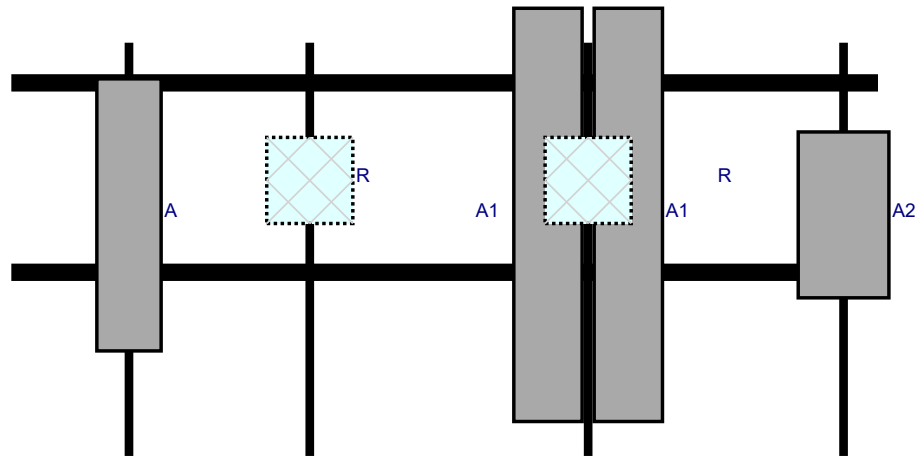
Sr r T M 1 222

M E . P 2

Plan View



Front View - L Sr r



R	M d		d	D r L.	P P	A r T.	.A O	A S	d
A2	MT 1 A	2 .	1 .	1	1	r		Add d	
A1	B R2B	2	11.	1 .	2	r		Add d	
A1	B R2B	2	11.	1 .	2	r		Add d	
R	R d 2 A	1	1	1 .	2	B d 2		Add d	
R	R 1d 1 A	1	1	2		B d 2		Add d	
A	B A	.	11.2	2 .		r		R d	2 21

Structure: 5000180082-VZW - NEW BRITAIN NW CT

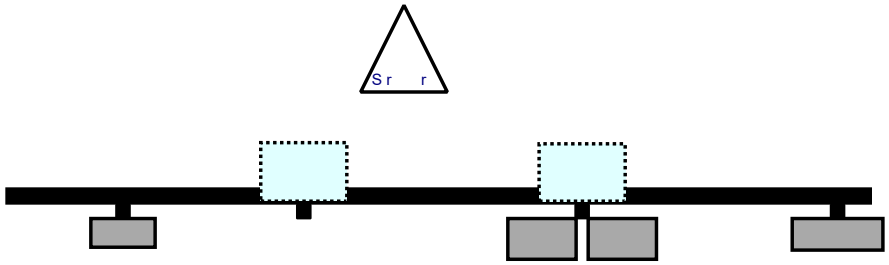
S r **C** 21 2 2

Sr r T M 1 222

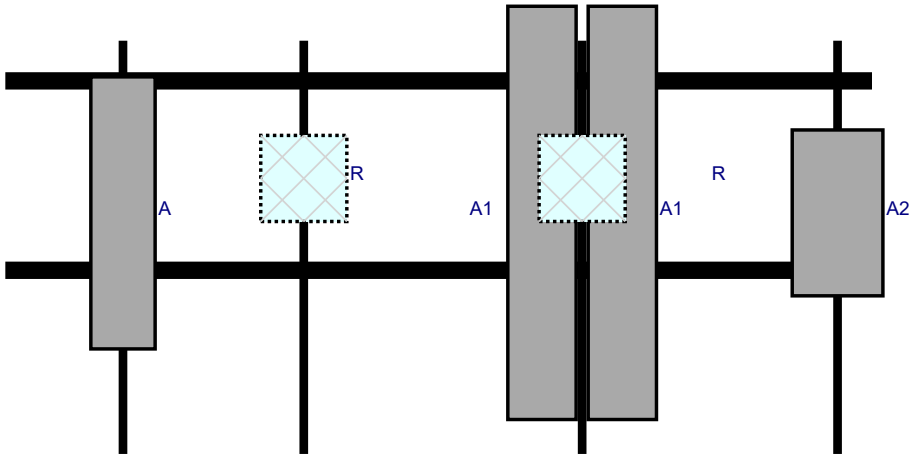
M E . P

Colliers Engineering & Design

Plan View



Front View - L Sr r



R	M d		d	D r L.	P P	A r T.	.A O	A S	d
A2	MT 1 A	2 .	1 .	1	1	r		Add d	
A1	B R2B	2	11.	1 .	2	r		Add d	
A1	B R2B	2	11.	1 .	2	r		Add d	
R	R d 2 A	1	1	1 .	2	B d 2		Add d	
R	R 1d 1 A	1	1	2		B d 2		Add d	
A	B A	.	11.2	2 .		r		R d	2 21

MOUNT MODIFICATION DRAWINGS
EXISTING 12.58' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 876331

CARRIER SITE NAME: NEW BRITAIN NW CT
CARRIER SITE NUMBER: 5000180082
FUZE ID: 16232009

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

LATITUDE: 41.67659000° N
LONGITUDE: 72.82141400° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 350.25'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.50 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_S = .195
LONG TERM MCER GROUND MOTION, S_1 = .055

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10222805
VZW MDG #: 5000180082
ANALYSIS DATE: 2/13/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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NEW BRITAIN, CT 06053
HARTFORD COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
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SHEET TITLE : TITLE SHEET

SHEET NUMBER : ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
1		VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	291	291
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISON	H42-0501-06	STANDOFF CLAMP BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
					TOTAL:	945

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

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SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. 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/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO

      PETER.ALBANO@COLLIERSENG.COM

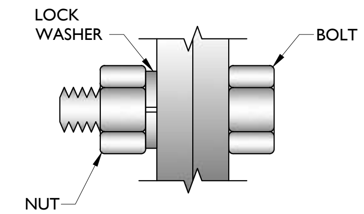
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

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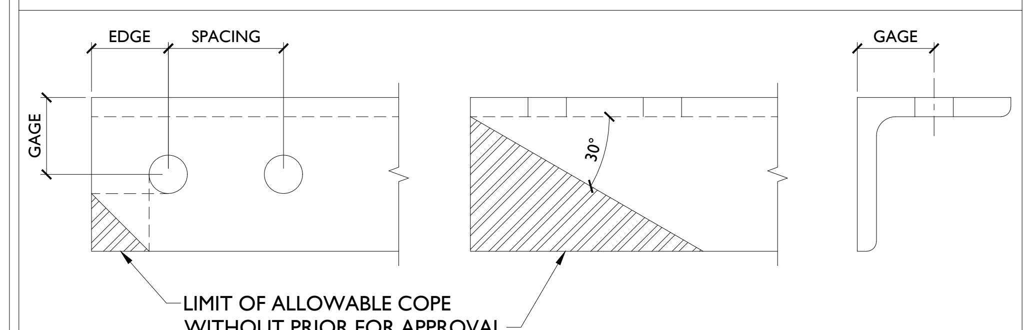

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SHEET TITLE : GENERAL NOTES

SHEET NUMBER : SGN-1

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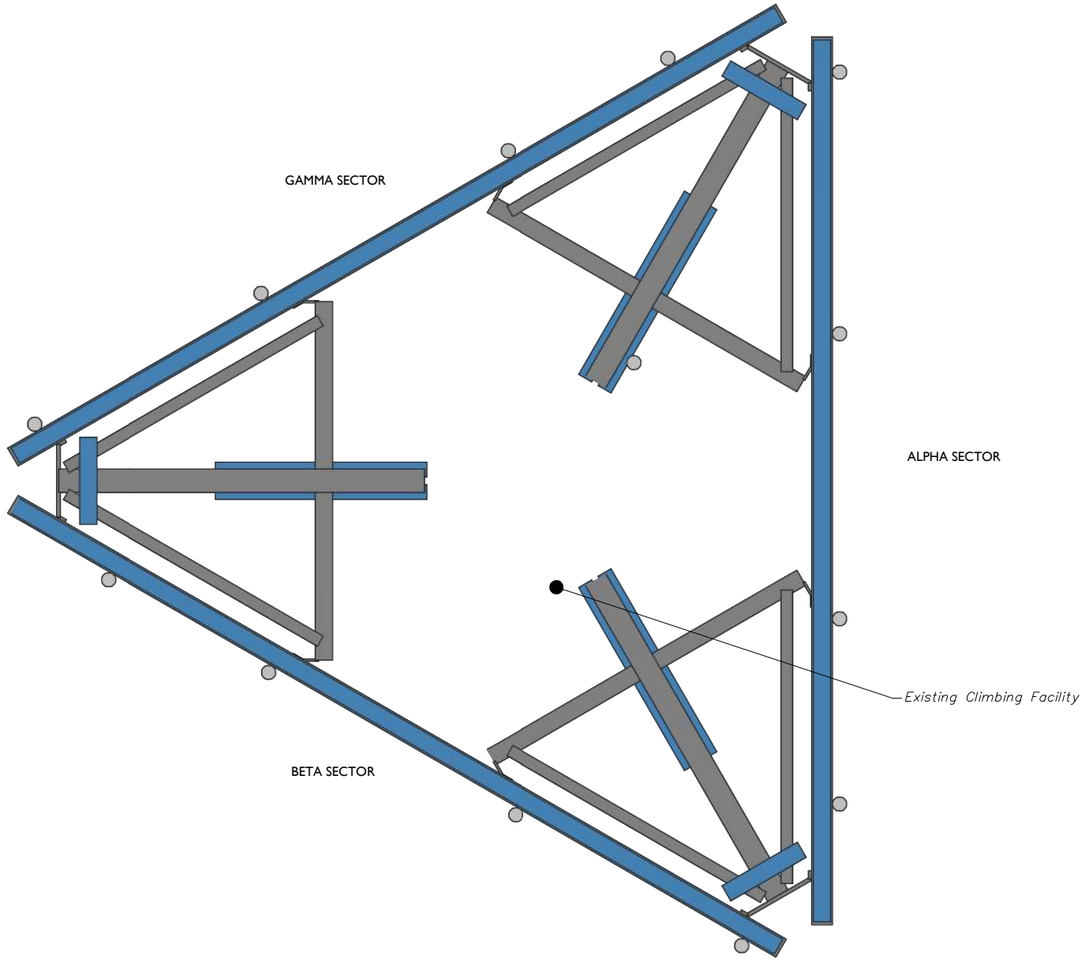


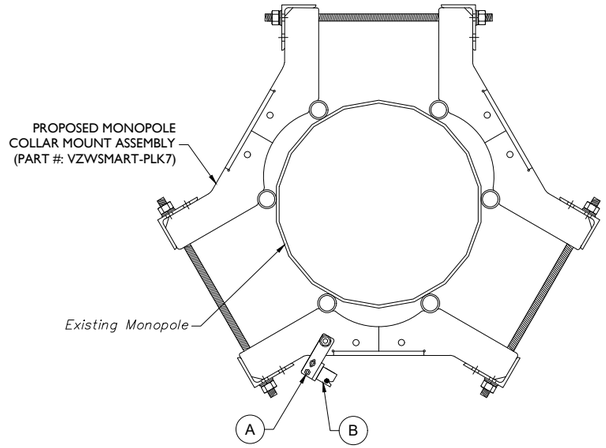
1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY ROAMING NETWORKS, INC. ON 3/30/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (89'-00") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.

2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

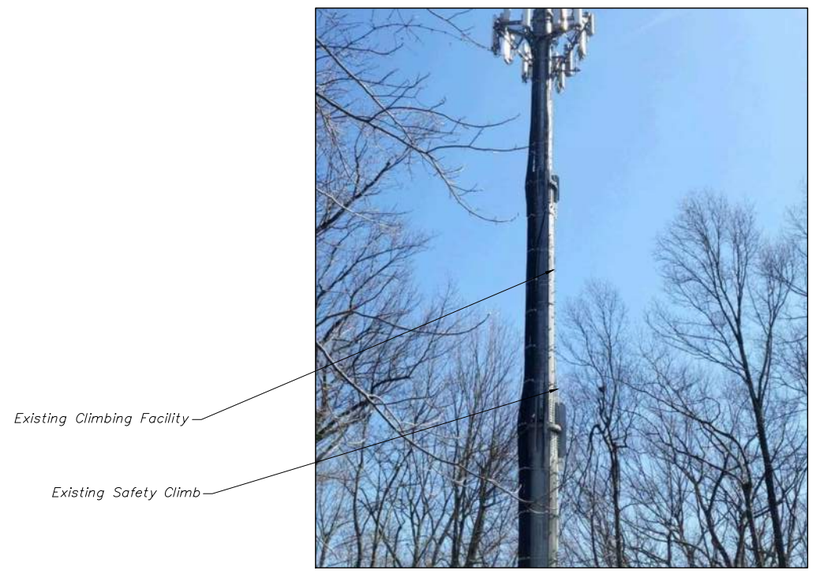


ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	H42-0501-06	STANDOFF CLAMP BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE : N.T.S.

NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.



CLIMBING FACILITY PHOTO

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SHEET TITLE :

CLIMBING FACILITY DETAIL

SHEET NUMBER :

SCF-1

LEGEND:

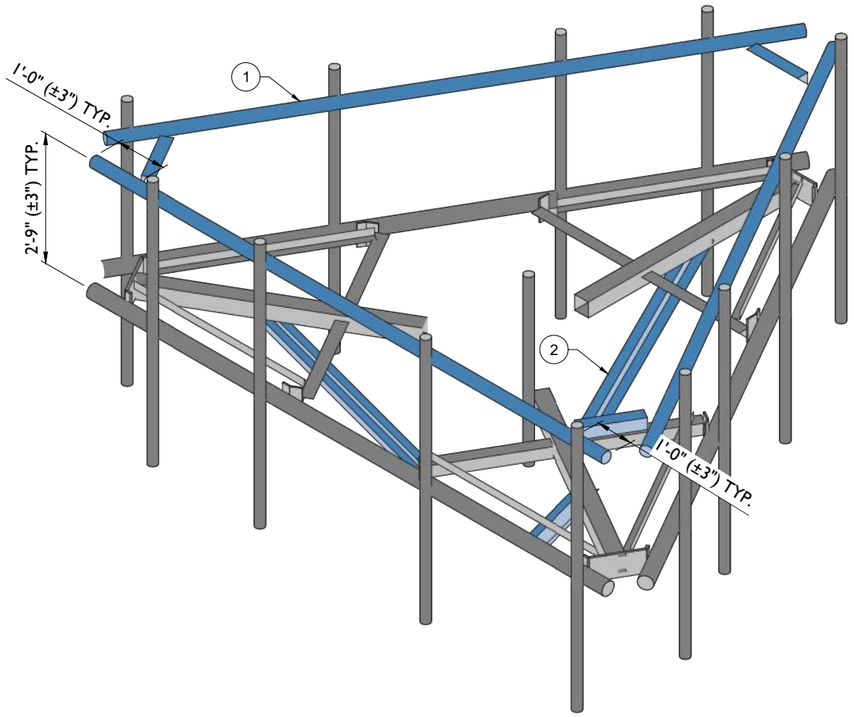
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	89'-00"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN.
2		1	PROPOSED KICKER KIT (PART #: VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.

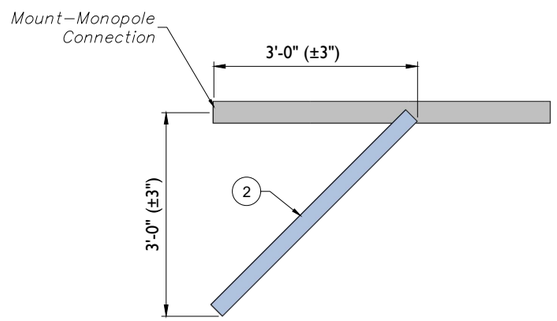
GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.

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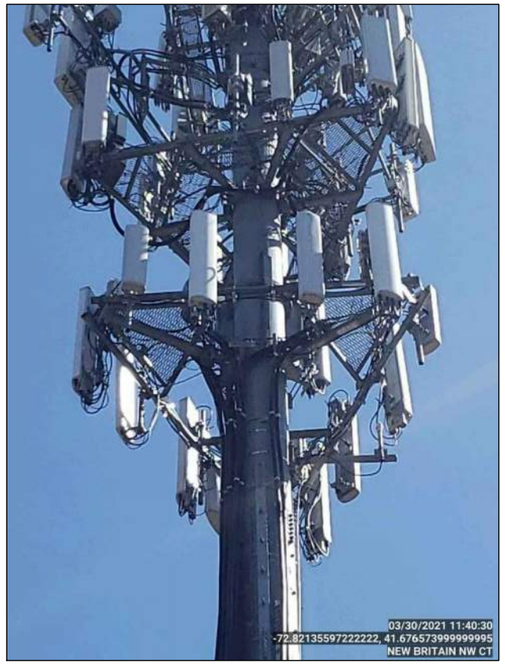
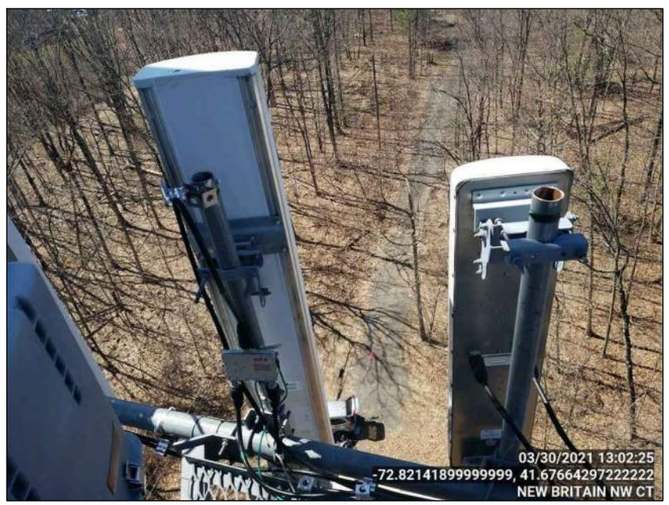
SHEET TITLE : MODIFICATION DETAILS

SHEET NUMBER : SS-1



MOUNT PHOTO 1

MOUNT PHOTO 2



MOUNT PHOTO 3

MOUNT PHOTO 4

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0	6/11/2021	ISSUED FOR CONSTRUCTION	JRF	PMA

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. JPC.0000131

SITE NAME:

NEW BRITAIN NW CT
5000180082

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

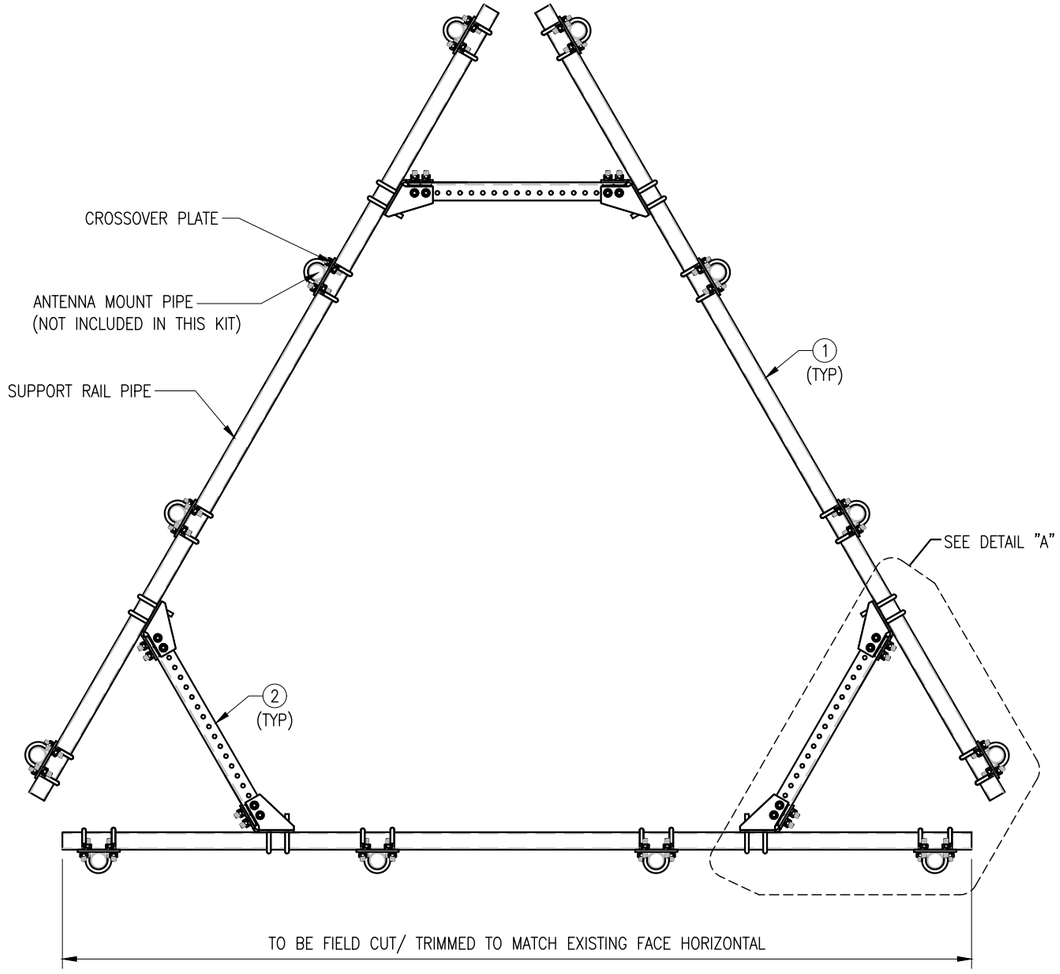
Colliers Engineering & Design

STAMFORD
1055 Washington Boulevard

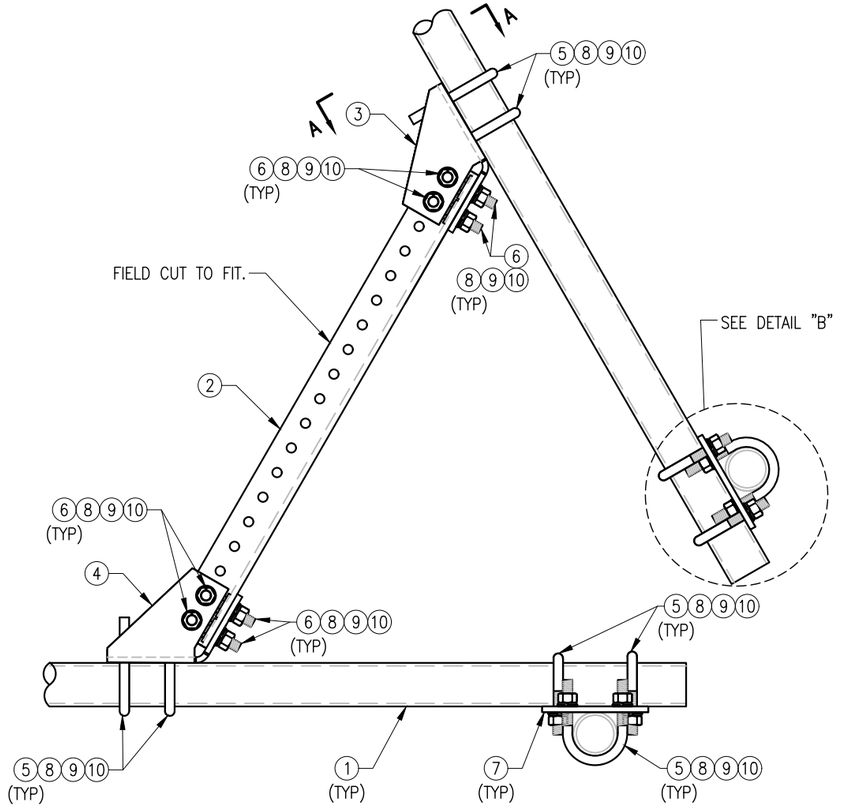
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE : MOUNT PHOTOS

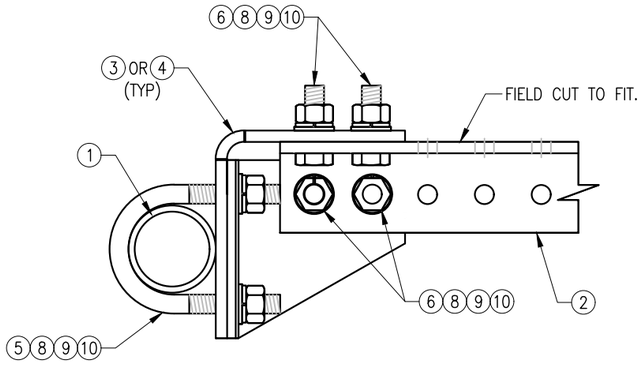
SHEET NUMBER : SS-2



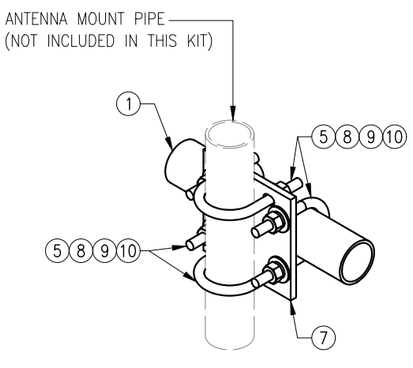
PLAN VIEW



DETAIL "A"



SECTION "A–A"



DETAIL "B"

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

VZW SMART–PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875–12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'–6" A53 GR–B	PLK1–F1	292
2	3	L33375–3	L 3" X 3" X 3/8" X 3'–0" A36	PLK1–F1	66
3	3	CBP–L	CORNER BENT PLATE BRACKET	PLK1–F2	28
4	3	CBP–R	CORNER BENT PLATE BRACKET	PLK1–F2	28
5	60	MS02–625–300–500	RU–BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC–1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375–857	PL 3/8" X 8 1/2" X 7'–0" A36	PLK1–F3	77
8	144	FW–625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW–625	5/8" HDG LOCK WASHER	---	3
10	144	NUT–625	5/8" HDG HEX NUT	---	17
				GALVANIZED WT	504

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: H.R | CHECKED BY: HMA

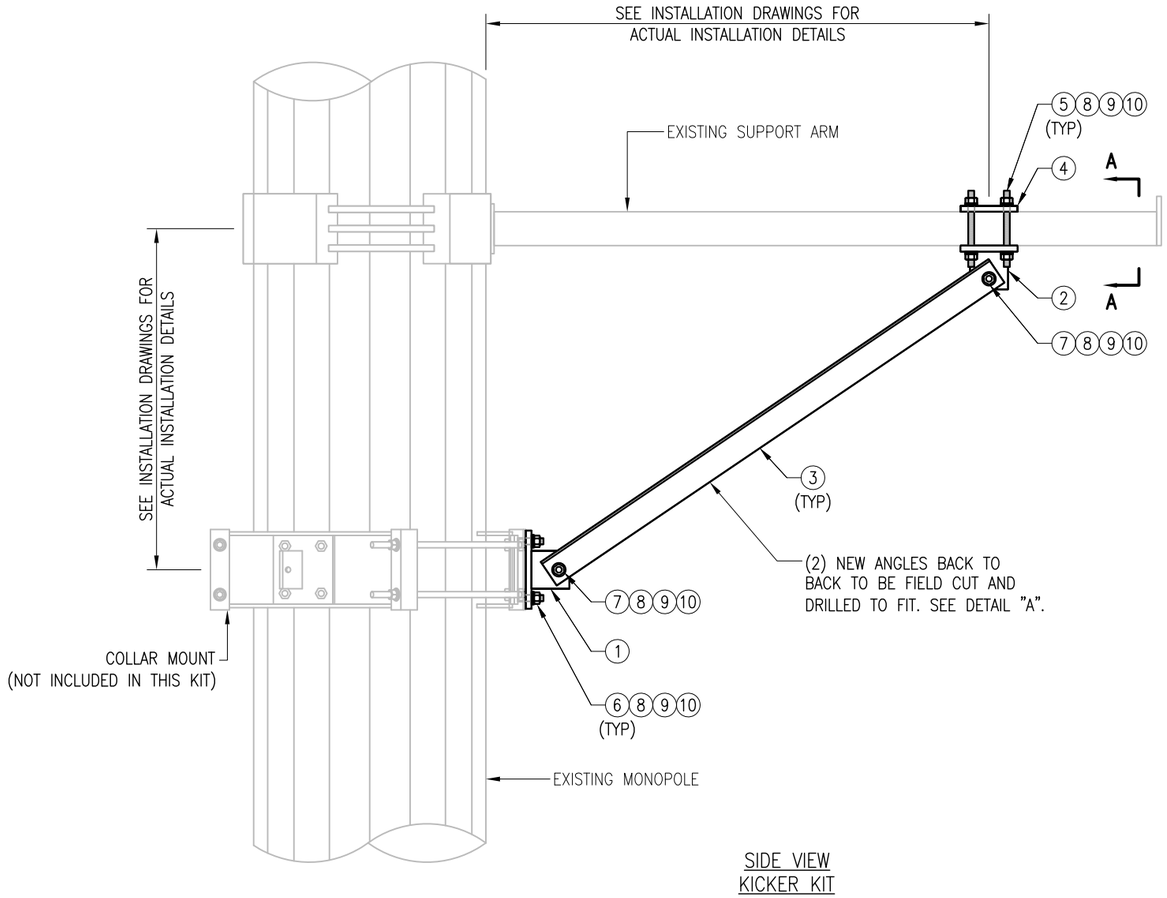
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
VZWSMART–PLK1
SUPPORT RAIL KIT

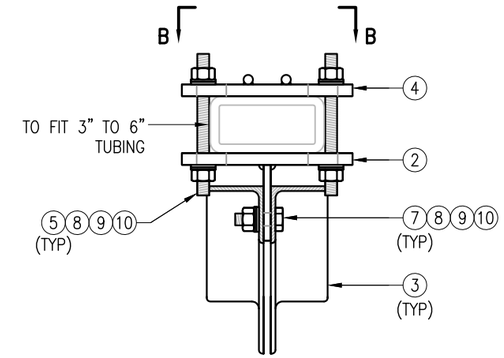
SHEET NUMBER: VZWSMART–PLK1

REV #: 0

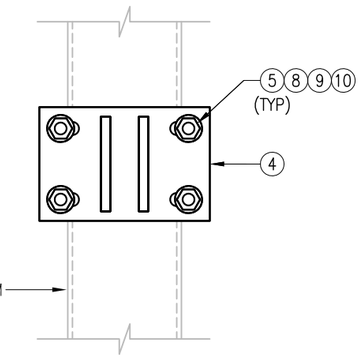
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



SIDE VIEW
KICKER KIT

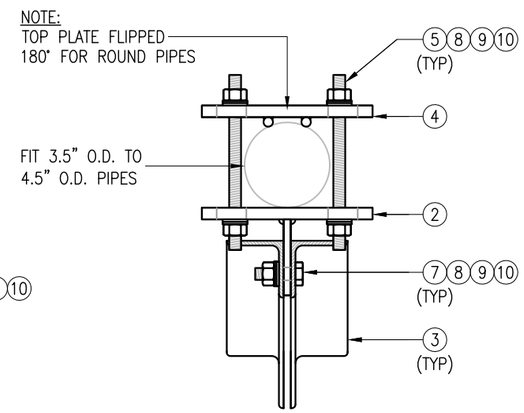


SECTION "A–A"
RECT. HSS MOUNTING

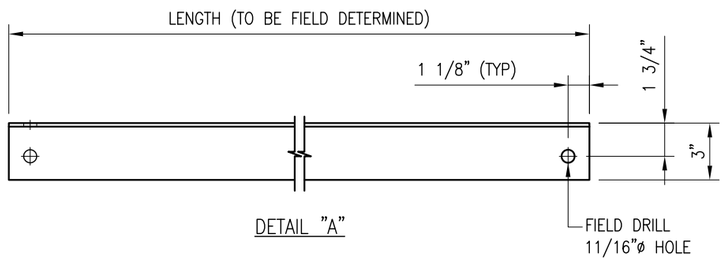


SECTION "B–B"

NOTE:
TOP PLATE FLIPPED 180° FOR ROUND PIPES



SECTION "A–A"
ROUND PIPE MOUNTING



DETAIL "A"

NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT–DIPPED GALVANIZED PER ASTM A123.
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE

VZWSMART–PLK5 (KICKER KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	BRKW–XXX	BRACKET WELDMENT A36	PLK5–F3	43.8
2	3	BRKW–XXXX	BRACKET WELDMENT A36	PLK5–F2	35.7
3	6	L331875–8	L 3" X 3" X 3/16" X 8'–0" A36	PLK5–F4	182.9
4	3	PL–KI	PL 5/8" X 6" X 9" A36	PLK5–F1	29.0
5	12	---	THREADED ROD 5/8" DIA. X 1'–0" F1554–36 HDG	---	--
6	6	---	BOLT 5/8" X 2" A325	---	--
7	12	---	BOLT 5/8" X 2 1/2" A325	---	--
8	42	FW–625	5/8" HDG USS FLAT WASHER	---	3
9	42	LW–625	5/8" HDG LOCK WASHER	---	1
10	42	NUT–625	5/8" HDG HEX NUT	---	5
				GALVANIZED WT	291

VzW
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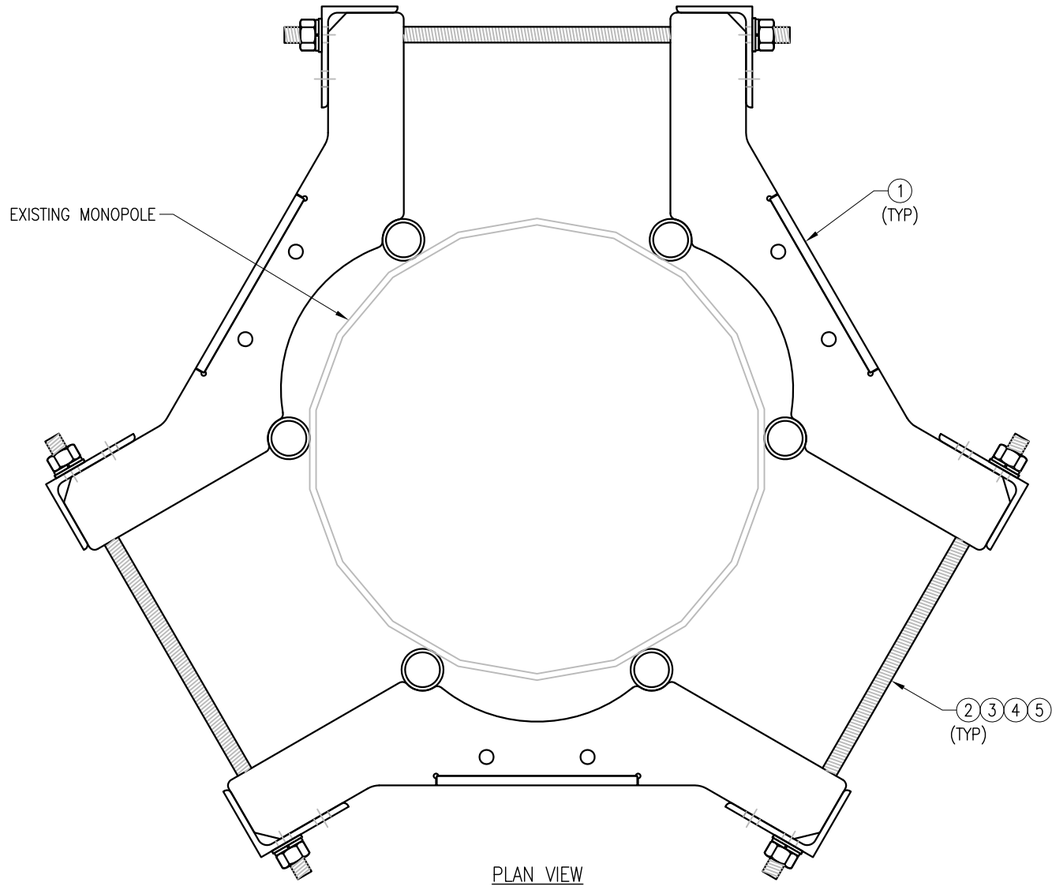
DRAWN BY: MN | CHECKED BY: HMA/KW

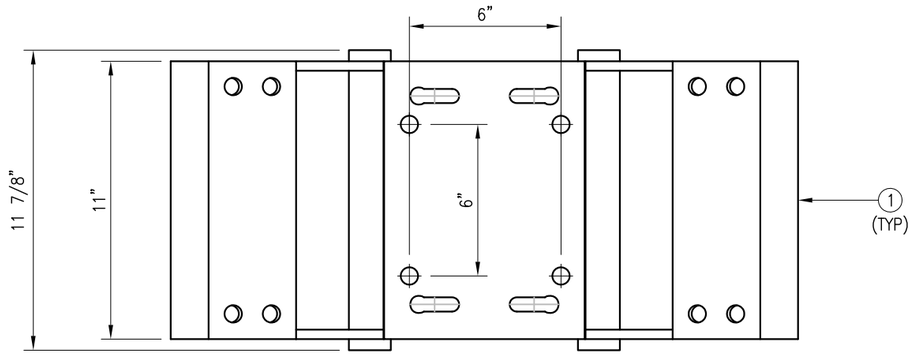
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	05/08/20

SHEET TITLE:
VZWSMART–PLK5
KICKER KIT

SHEET NUMBER: VZWSMART–PLK5
REV #: 0



PLAN VIEW
MONOPOLE COLLAR MOUNT ASSEMBLY



FRONT VIEW

NOTES:
1. FIT 12" TO 45" DIA MONOPOLE.
2. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	150

VzW
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DRAWN BY: BT | CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	05/11/20

SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7

REV #: 0


03/30/2021 11:39:04
-72.82135597222222, 41.676573999999995
NEW BRITAIN NW CT


03/30/2021 13:35:27
-72.8216446, 41.6765386
NEW BRITAIN NW CT

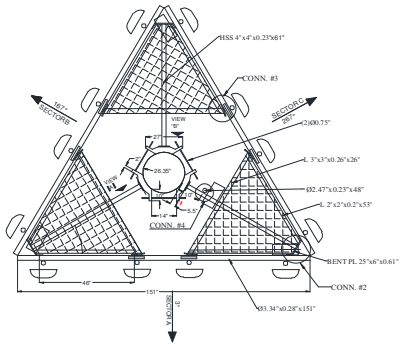
V3.0 Updated on 8-31-2020

PAUL J. FORD & COMPANY

Antenna Mount Mapping Form (PATENT PENDING)

FCC # 1012421

Tower Owner:	CCI	**Mapping Date:**	03/30/2021
Site Name:	CCI: New Britain Gravel Pit, VZW: NEW BRITAIN NW CT	**Tower Type:**	Monopole
Site Number or ID:	PSLC: 535831	**Tower Height (Ft.):**	N/A
Mapping Contractor:	Roaming Networks Inc.	**Mount Elevation (Ft.):**	86.15



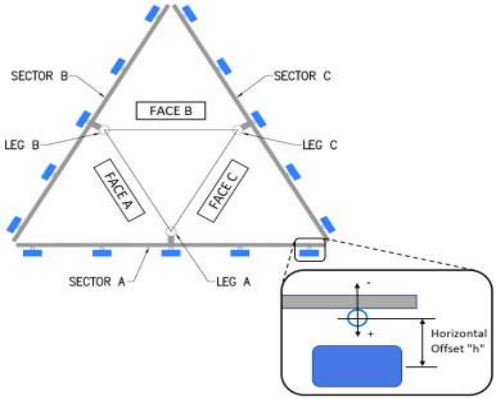
Overall Mount Schematic

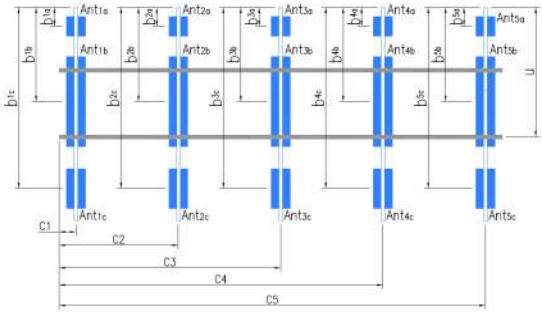
Mount Pipe Configuration and Geometries [Unit = Inches]

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	PIPE Ø 2.39"x0.2"x72"	40.00	6.00	C1	PIPE Ø 2.39"x0.2"x72"	40.00	6.00
A2	PIPE Ø 2.39"x0.2"x72"	40.00	50.50	C2	PIPE Ø 2.39"x0.2"x72"	40.00	50.50
A3	PIPE Ø 2.39"x0.2"x72"	40.00	99.00	C3	PIPE Ø 2.39"x0.2"x72"	40.00	99.00
A4	PIPE Ø 2.39"x0.2"x72"	40.00	130.50	C4	PIPE Ø 2.39"x0.2"x72"	40.00	130.50
A5				C5			
A6				C6			
B1	PIPE Ø 2.39"x0.2"x72"	40.00	6.00	D1			
B2	PIPE Ø 2.39"x0.2"x72"	40.00	50.50	D2			
B3	PIPE Ø 2.39"x0.2"x72"	40.00	99.00	D3			
B4	PIPE Ø 2.39"x0.2"x72"	40.00	130.50	D4			
B5				D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	0.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	10.4
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	
Please enter additional infomation or comments below.	

Tower Face Width at Mount Elev. (ft.):		Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	26.35



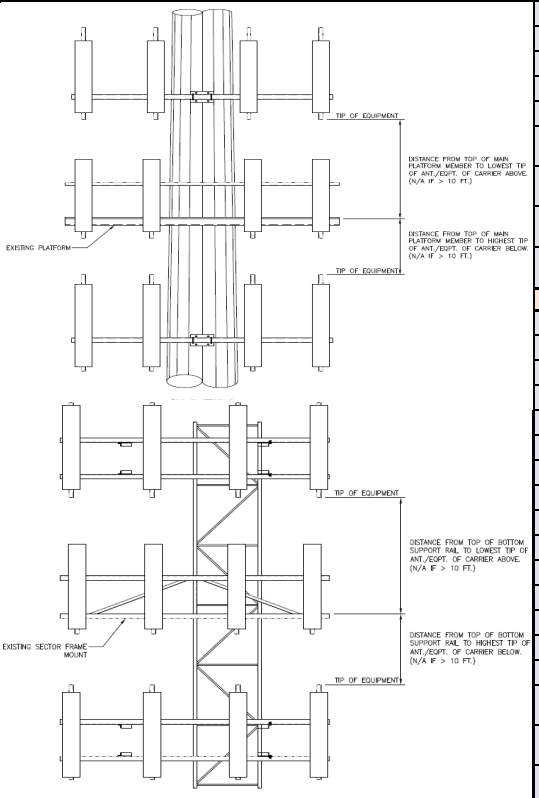


Antenna Layout (Looking Out From Tower)

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Mounting Locations [Units are inches and degrees] Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photos of antennas Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	HBXX-6517DS-A2M	6.50	3.30	74.90		86.6917	33.50	9.00	3.00	11,14,15
Ant_{1c}	B4 RRH2x60-4R	10.63	5.74	36.60		88.3167	14.00	7.00		12,13
Ant_{2a}										
Ant_{2b}	80010735V01	11.90	3.90	76.10		86.65	34.00	10.50	3.00	16,17,18
Ant_{2c}	RFS	6.75	1.00	4.75		87.8583	19.50	2.75		19,20
Ant_{3a}										
Ant_{3b}	HBXX-6517DS-A2M	6.50	3.30	74.90		87.1917	27.50	8.00	3.00	4,7,8
Ant_{3c}	RFS	6.75	1.00	4.75		88.65	10.00	2.75		5,6
Ant_{4a}										
Ant_{4b}	BXA-70040-4CF-EDIN	24.00	8.00	36.00		87.275	26.50	12.50	3.00	9,10
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	RRFDC-3315-PF-48	15.73	10.30	28.93						190,191
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	3.00	Deg	Leg A:		Deg
Sector B:	167.00	Deg	Leg B:		Deg
Sector C:	267.00	Deg	Leg C:		Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information		
Location:	167.00 Deg	Sector B
Climbing Facility	Corrosion Type:	Good condition.
	Access:	Climbing path was unobstructed.
	Condition:	Missing safety cable.



Sector B										
Ant_{1a}										
Ant_{1b}	HBXX-6517DS-A2M	6.50	3.30	74.90		86.6917	33.50	9.00	167.00	11,14,15
Ant_{1c}	B4 RRH2x60-4R	10.63	5.74	36.60		88.3167	14.00	7.00		12,13
Ant_{2a}										
Ant_{2b}	80010735V01	11.90	3.90	76.10		86.65	34.00	10.50	167.00	16,17,18
Ant_{2c}	RFS	6.75	1.00	4.75		87.8583	19.50	2.75		19,20
Ant_{3a}										
Ant_{3b}	HBXX-6517DS-A2M	6.50	3.30	74.90		87.1917	27.50	8.00	167.00	4,7,8
Ant_{3c}	RFS	6.75	1.00	4.75		88.65	10.00	2.75		5,6
Ant_{4a}										
Ant_{4b}	Unknown	12.00	4.00	50.00		89.4833			167.00	163
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	HBXX-6517DS-A2M	6.50	3.30	74.90		86.6917	33.50	9.00	267.00	11,14,15
Ant_{1c}	B4 RRH2x60-4R	10.63	5.74	36.60		88.3167	14.00	7.00		12,13
Ant_{2a}										
Ant_{2b}	80010735V01	11.90	3.90	76.10		86.65	34.00	10.50	267.00	16,17,18
Ant_{2c}	RFS	6.75	1.00	4.75		87.8583	19.50	2.75		19,20
Ant_{3a}										
Ant_{3b}	HBXX-6517DS-A2M	6.50	3.30	74.90		87.1917	27.50	8.00	267.00	4,7,8
Ant_{3c}	RFS	6.75	1.00	4.75		88.65	10.00	2.75		5,6
Ant_{4a}										
Ant_{4b}	Unknown	12.00	4.00	50.00		89.4833			267.00	173
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

1		
2		
3		
4		
5		
6		
7		
8		

Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

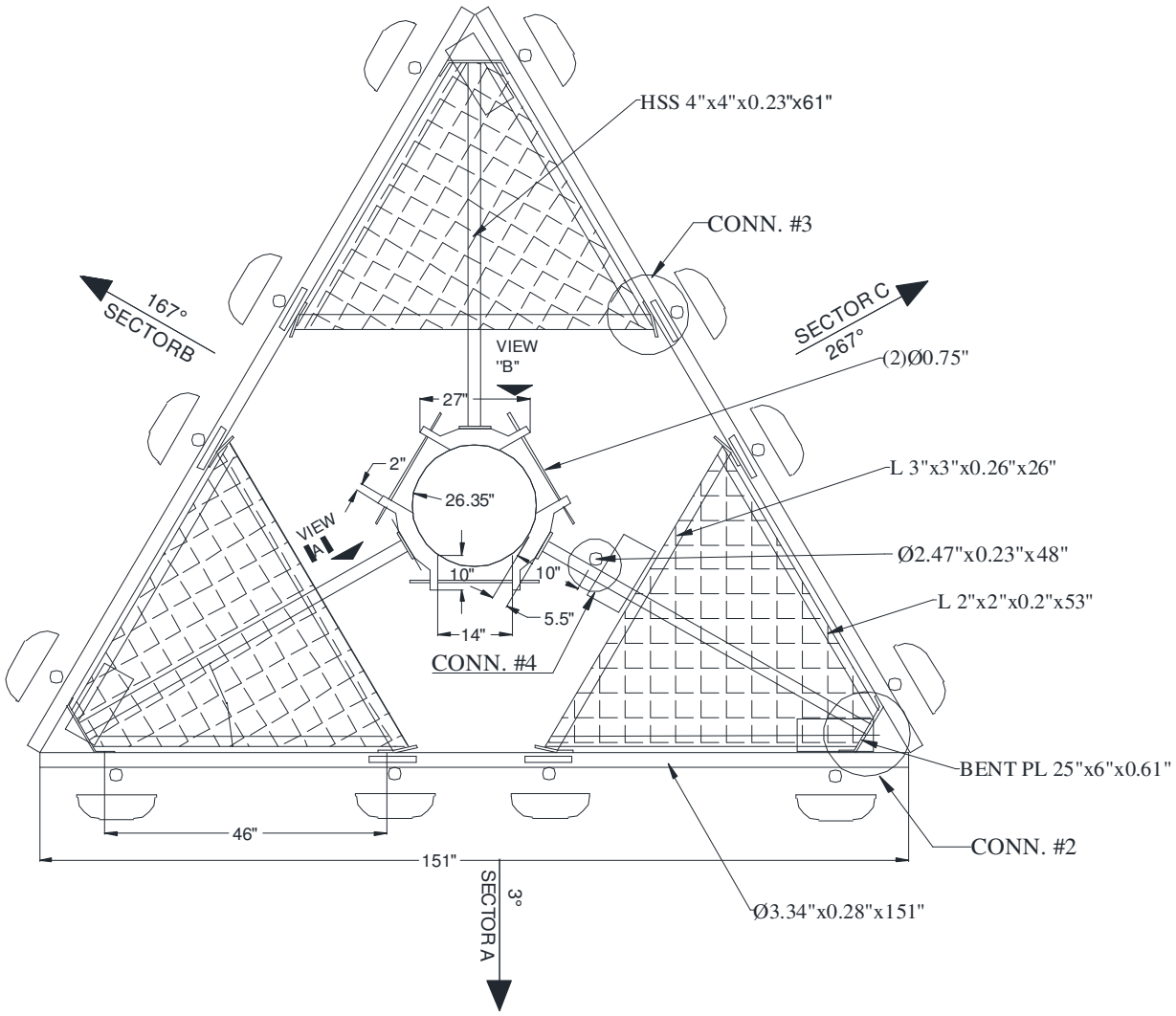
PAUL J. FORD & COMPANY

Antenna Mount Mapping Form (PATENT PENDING)

FCC # 1012421

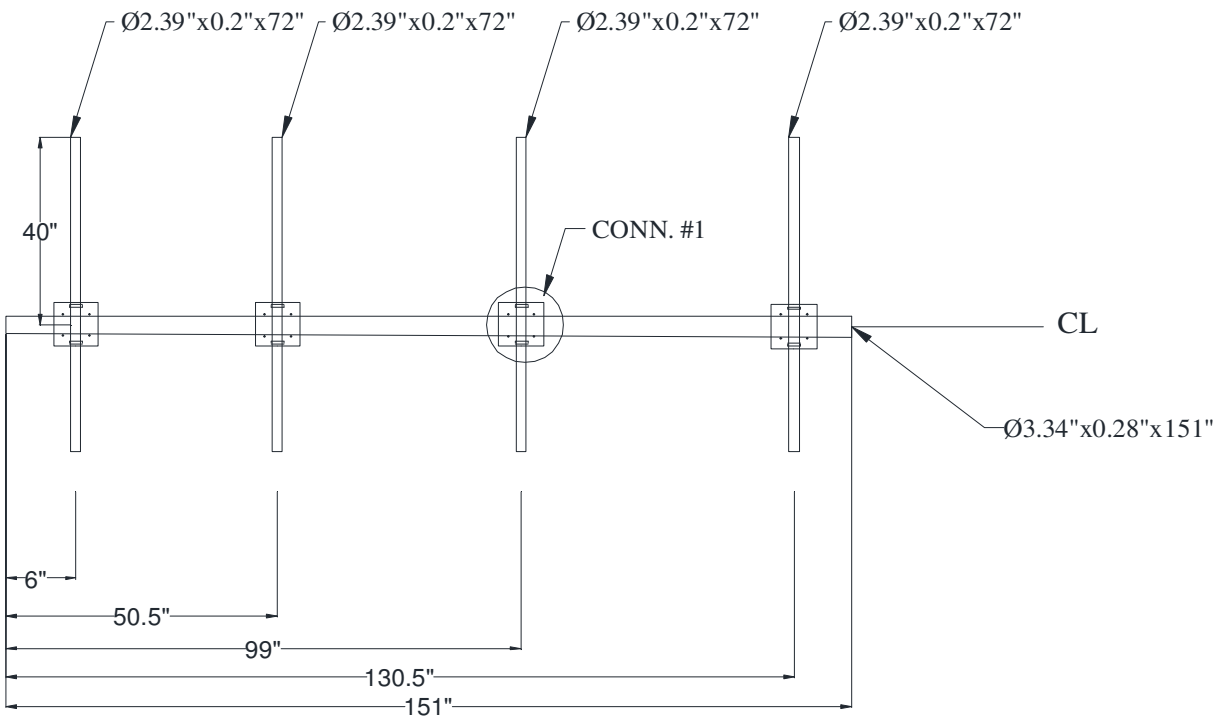
Tower Owner:	CCI	**Mapping Date:**	03/30/2021
Site Name:	CCI: New Britain Gravel Pit, VZW: NEW BRITAIN NW CT	**Tower Type:**	Monopole
Site Number or ID:	PSLC: 535831	**Tower Height (Ft.):**	N/A
Mapping Contractor:	Roaming Networks Inc.	**Mount Elevation (Ft.):**	86.15

Please Insert Sketches of the Antenna Mount



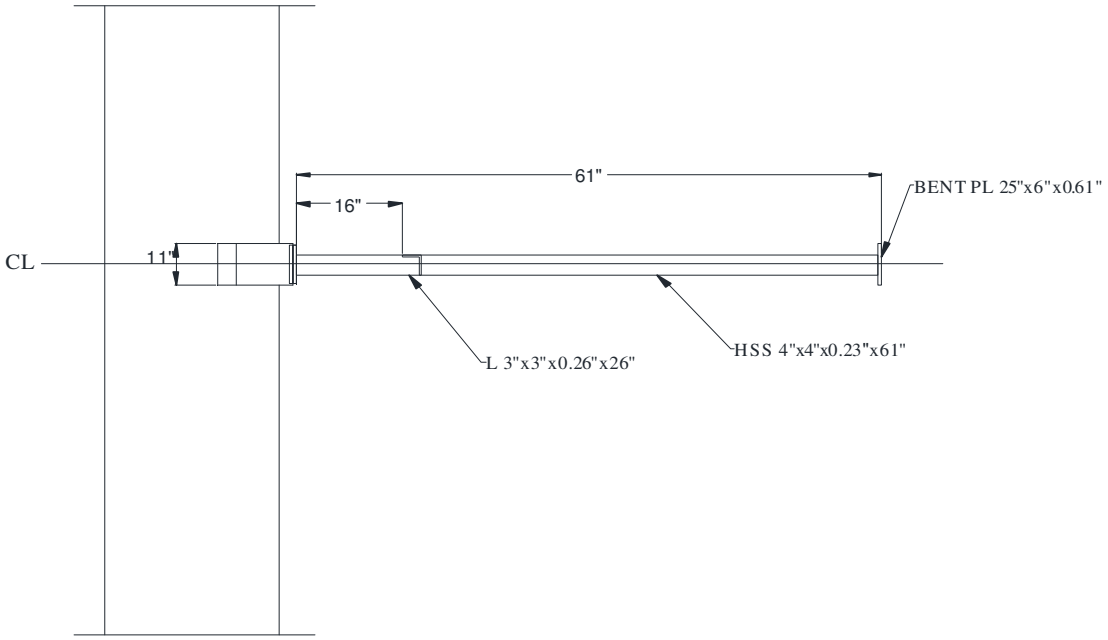
Overall Mount Schematic

Please Insert Sketches of the Antenna Mount, cont'd

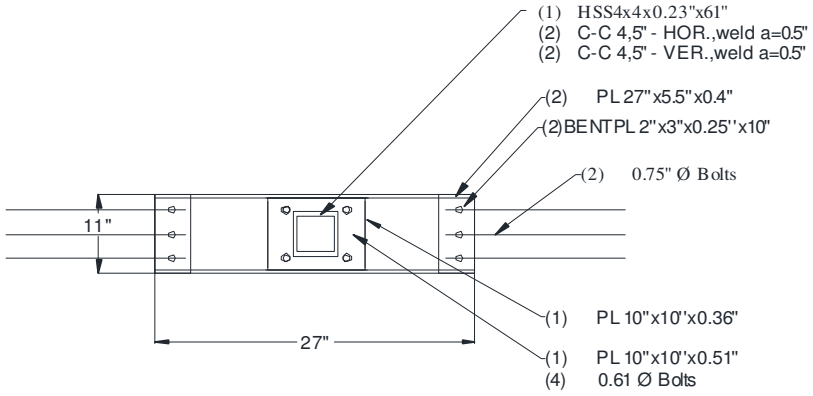


SECTOR A, B, C

Please Insert Sketches of the Antenna Mount, cont'd

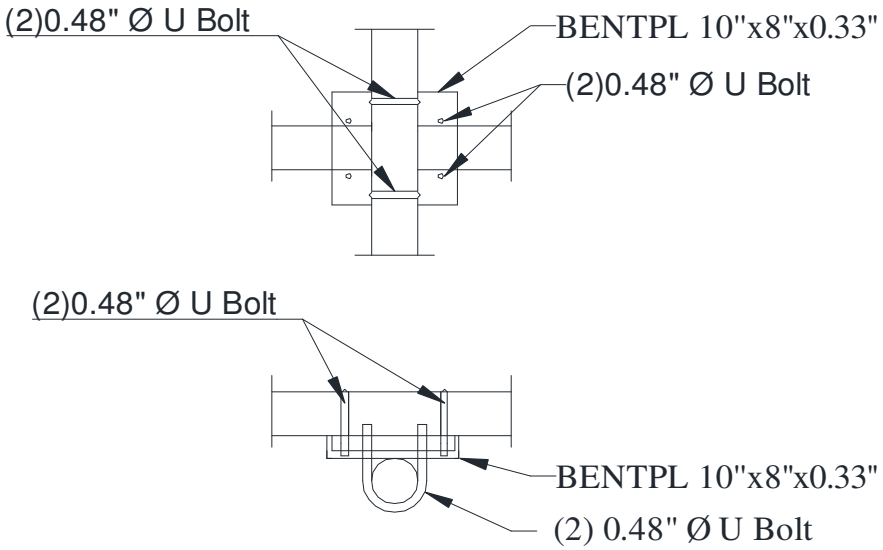


VIEW "A"

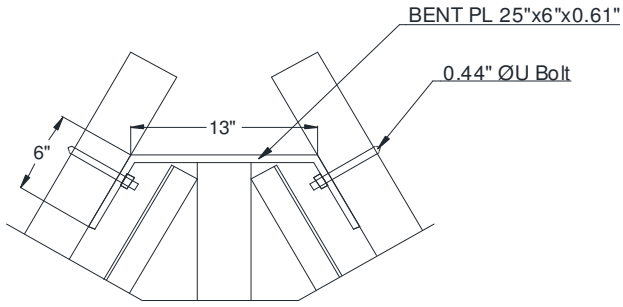


VIEW "B"

Please Insert Sketches of the Antenna Mount, cont'd

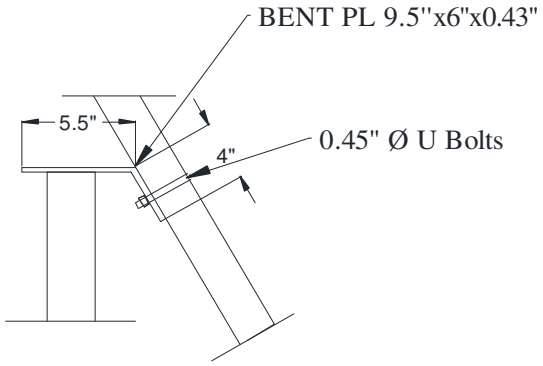


CONN. #1

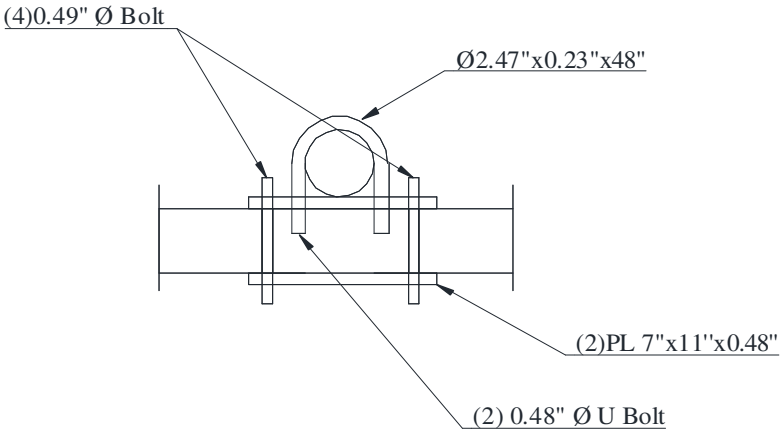


CONN. #2

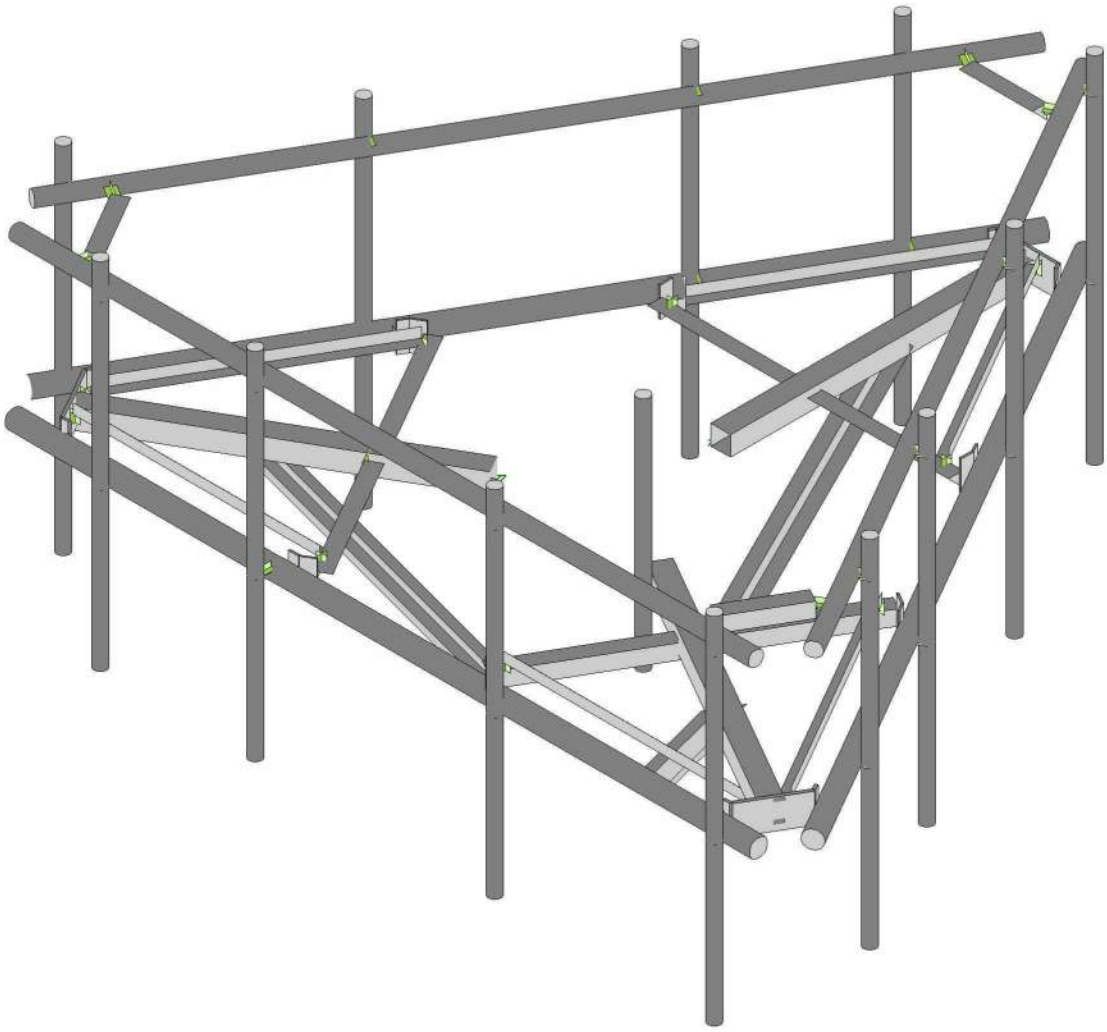
Please Insert Sketches of the Antenna Mount, cont'd



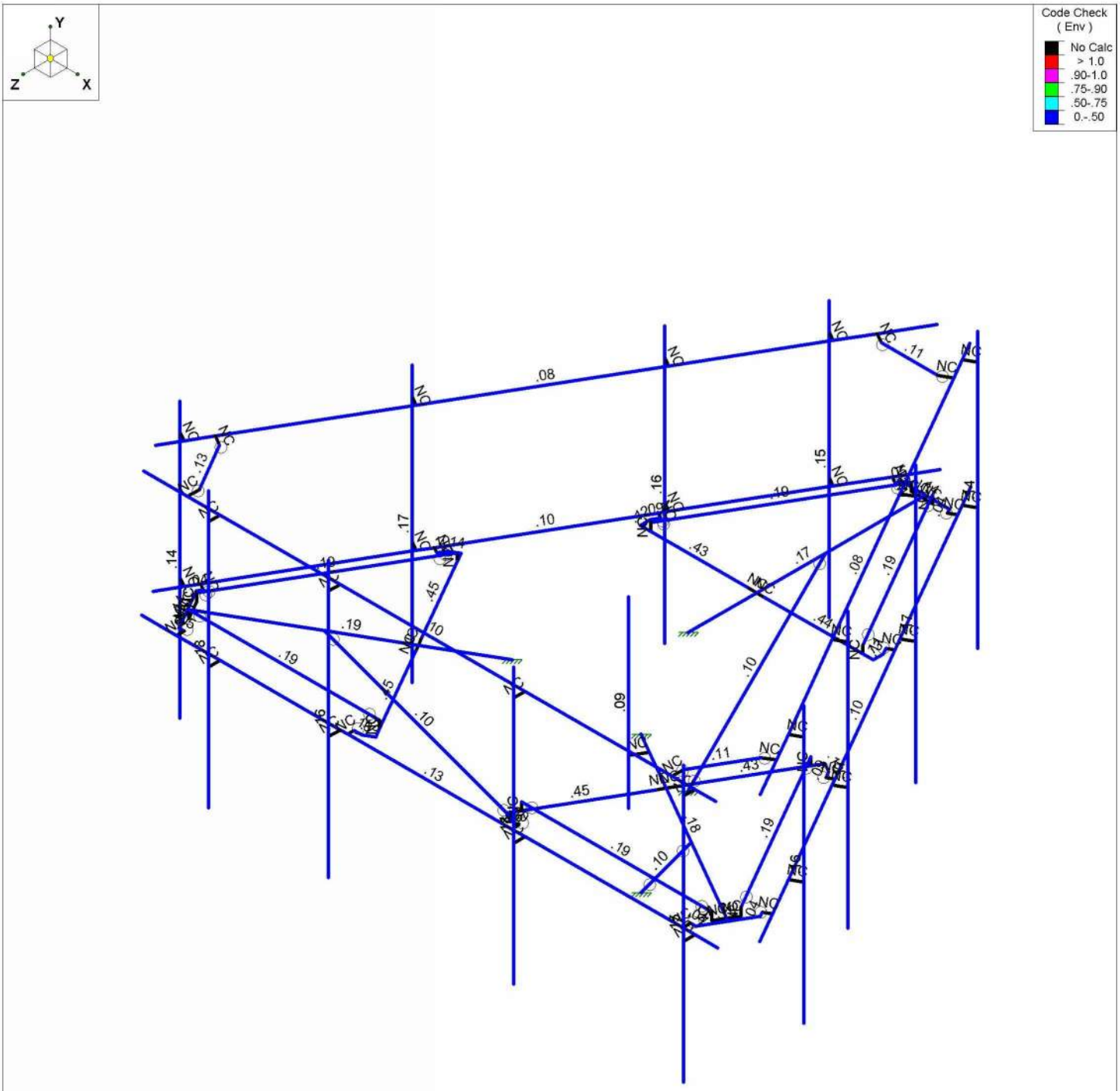
CONN. #3



CONN. #4



Colliers Engineering & Des...	5000180082-VZW_MT_LO_H	SK - 1
		Feb 13, 2024 at 1:55 PM
		5000180082-VZW_MT_LO_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des...		SK - 2
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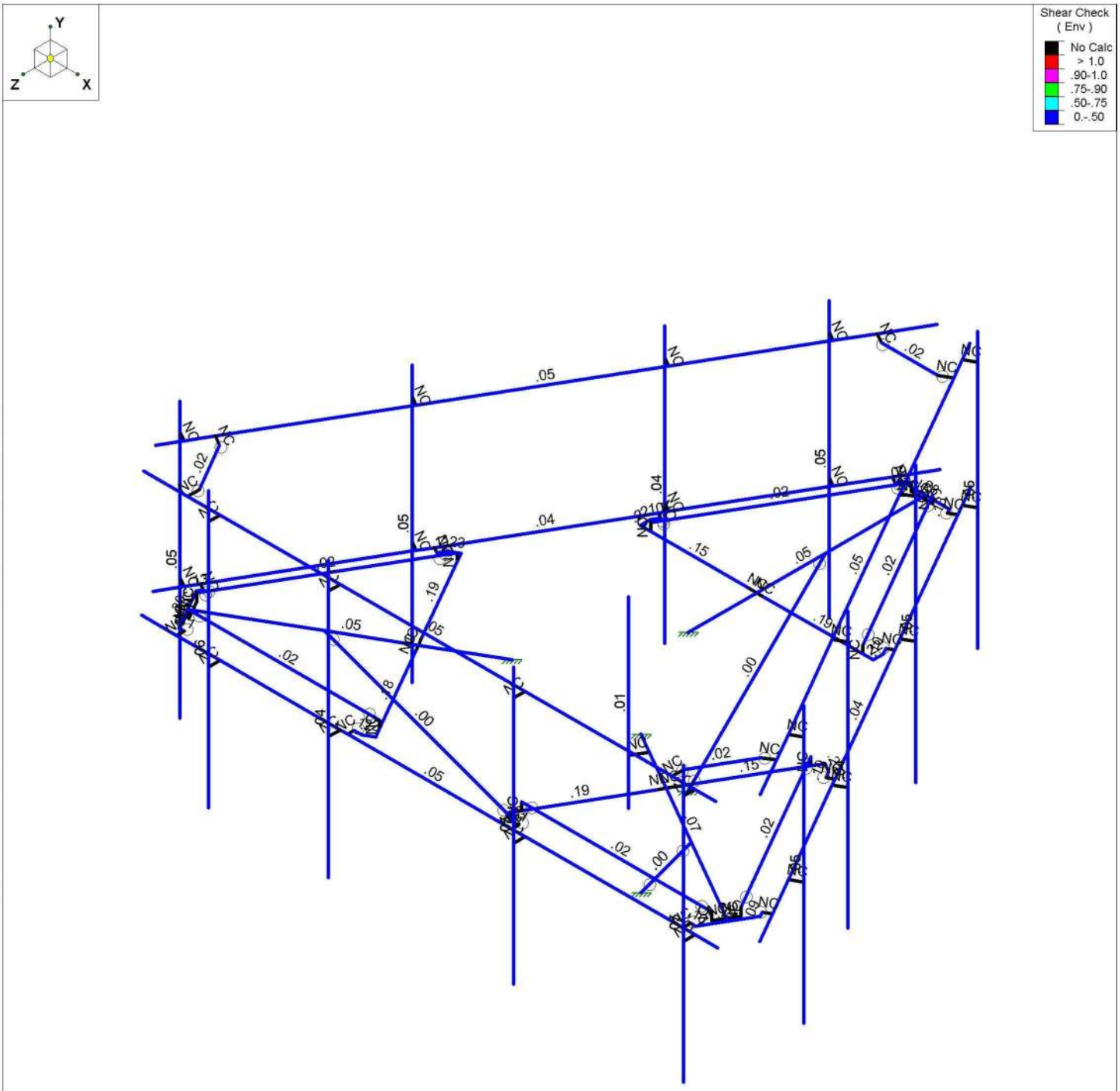


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des...	5000180082-VZW_MT_LO_H	SK - 3
		Feb 13, 2024 at 1:55 PM
		5000180082-VZW_MT_LO_H.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					93			
2	Antenna Di	None					93			
3	Antenna Wo (0 Deg)	None					93			
4	Antenna Wo (30 Deg)	None					93			
5	Antenna Wo (60 Deg)	None					93			
6	Antenna Wo (90 Deg)	None					93			
7	Antenna Wo (120 Deg)	None					93			
8	Antenna Wo (150 Deg)	None					93			
9	Antenna Wo (180 Deg)	None					93			
10	Antenna Wo (210 Deg)	None					93			
11	Antenna Wo (240 Deg)	None					93			
12	Antenna Wo (270 Deg)	None					93			
13	Antenna Wo (300 Deg)	None					93			
14	Antenna Wo (330 Deg)	None					93			
15	Antenna Wi (0 Deg)	None					93			
16	Antenna Wi (30 Deg)	None					93			
17	Antenna Wi (60 Deg)	None					93			
18	Antenna Wi (90 Deg)	None					93			
19	Antenna Wi (120 Deg)	None					93			
20	Antenna Wi (150 Deg)	None					93			
21	Antenna Wi (180 Deg)	None					93			
22	Antenna Wi (210 Deg)	None					93			
23	Antenna Wi (240 Deg)	None					93			
24	Antenna Wi (270 Deg)	None					93			
25	Antenna Wi (300 Deg)	None					93			
26	Antenna Wi (330 Deg)	None					93			
27	Antenna Wm (0 Deg)	None					93			
28	Antenna Wm (30 Deg)	None					93			
29	Antenna Wm (60 Deg)	None					93			
30	Antenna Wm (90 Deg)	None					93			
31	Antenna Wm (120 Deg)	None					93			
32	Antenna Wm (150 Deg)	None					93			
33	Antenna Wm (180 Deg)	None					93			
34	Antenna Wm (210 Deg)	None					93			
35	Antenna Wm (240 Deg)	None					93			
36	Antenna Wm (270 Deg)	None					93			
37	Antenna Wm (300 Deg)	None					93			
38	Antenna Wm (330 Deg)	None					93			
39	Structure D	None		-1					3	
40	Structure Di	None						61	3	
41	Structure Wo (0 Deg)	None						122		
42	Structure Wo (30 Deg)	None						122		
43	Structure Wo (60 Deg)	None						122		
44	Structure Wo (90 Deg)	None						122		
45	Structure Wo (120 D...	None						122		
46	Structure Wo (150 D...	None						122		
47	Structure Wo (180 D...	None						122		
48	Structure Wo (210 D...	None						122		
49	Structure Wo (240 D...	None						122		
50	Structure Wo (270 D...	None						122		
51	Structure Wo (300 D...	None						122		
52	Structure Wo (330 D...	None						122		
53	Structure Wi (0 Deg)	None						122		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
54	Structure Wi (30 Deg)	None						122		
55	Structure Wi (60 Deg)	None						122		
56	Structure Wi (90 Deg)	None						122		
57	Structure Wi (120 De...	None						122		
58	Structure Wi (150 De...	None						122		
59	Structure Wi (180 De...	None						122		
60	Structure Wi (210 De...	None						122		
61	Structure Wi (240 De...	None						122		
62	Structure Wi (270 De...	None						122		
63	Structure Wi (300 De...	None						122		
64	Structure Wi (330 De...	None						122		
65	Structure Wm (0 Deg)	None						122		
66	Structure Wm (30 De...	None						122		
67	Structure Wm (60 De...	None						122		
68	Structure Wm (90 De...	None						122		
69	Structure Wm (120 D...	None						122		
70	Structure Wm (150 D...	None						122		
71	Structure Wm (180 D...	None						122		
72	Structure Wm (210 D...	None						122		
73	Structure Wm (240 D...	None						122		
74	Structure Wm (270 D...	None						122		
75	Structure Wm (300 D...	None						122		
76	Structure Wm (330 D...	None						122		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					93			
82	Antenna Eh (0 Deg)	None					62			
83	Antenna Eh (90 Deg)	None					62			
84	Structure Ev	ELY		-.042					3	
85	Structure Eh (0 Deg)	ELZ			-.104				3	
86	Structure Eh (90 Deg)	ELX	.104						3	
87	BLC 39 Transient Are...	None						30		
88	BLC 40 Transient Are...	None						30		
89	BLC 84 Transient Are...	None						30		
90	BLC 85 Transient Are...	None						30		
91	BLC 86 Transient Are...	None						30		

Load Combinations

	Description	So...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.2D+1.0Wo (0 Deg)	Yes	Y		1	1.2	39	1.2	3	1	41	1														
2	1.2D+1.0Wo (30 Deg)	Yes	Y		1	1.2	39	1.2	4	1	42	1														
3	1.2D+1.0Wo (60 Deg)	Yes	Y		1	1.2	39	1.2	5	1	43	1														
4	1.2D+1.0Wo (90 Deg)	Yes	Y		1	1.2	39	1.2	6	1	44	1														
5	1.2D+1.0Wo (120 Deg)	Yes	Y		1	1.2	39	1.2	7	1	45	1														
6	1.2D+1.0Wo (150 Deg)	Yes	Y		1	1.2	39	1.2	8	1	46	1														
7	1.2D+1.0Wo (180 Deg)	Yes	Y		1	1.2	39	1.2	9	1	47	1														
8	1.2D+1.0Wo (210 Deg)	Yes	Y		1	1.2	39	1.2	10	1	48	1														
9	1.2D+1.0Wo (240 Deg)	Yes	Y		1	1.2	39	1.2	11	1	49	1														
10	1.2D+1.0Wo (270 Deg)	Yes	Y		1	1.2	39	1.2	12	1	50	1														
11	1.2D+1.0Wo (300 Deg)	Yes	Y		1	1.2	39	1.2	13	1	51	1														
12	1.2D+1.0Wo (330 Deg)	Yes	Y		1	1.2	39	1.2	14	1	52	1														
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1										
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1										

Load Combinations (Continued)

	Description	So...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0Di + 1.0Wi (120 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0Di + 1.0Wi (150 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1.0Wi (180 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1.0Wi (210 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1.0Wi (240 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1.0Wi (270 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0Di + 1.0Wi (300 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1.0Wi (330 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 + 1.0Wm (0 D...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 + 1.0Wm (30 ...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 + 1.0Wm (60 ...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 + 1.0Wm (90 ...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 + 1.0Wm (12...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 + 1.0Wm (15...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0Wm (18...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0Wm (21...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0Wm (24...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0Wm (27...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0Wm (33...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0Wm (0 D...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0Wm (30 ...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0Wm (60 ...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0Wm (90 ...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0Wm (12...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0Wm (15...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0Wm (18...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0Wm (21...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0Wm (24...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0Wm (27...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0Wm (33...	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	1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		ELZ	1	E...					
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	.5	ELZ	.866	E...	.5				
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	.866	ELZ	.5	E...	.866				
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	ELZ		E...	1				
56	1.2D + 1.0Ev + 1.0Eh (120 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	.866	ELZ	-.5	E...	.866				
57	1.2D + 1.0Ev + 1.0Eh (150 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.866	83	.5	ELZ	-.866	E...	.5				
58	1.2D + 1.0Ev + 1.0Eh (180 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		ELZ	-1	E...					
59	1.2D + 1.0Ev + 1.0Eh (210 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.866	83	-.5	ELZ	-.866	E...	-.5				
60	1.2D + 1.0Ev + 1.0Eh (240 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.866	ELZ	-.5	E...	-.866				
61	1.2D + 1.0Ev + 1.0Eh (270 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	ELZ		E...	-1				
62	1.2D + 1.0Ev + 1.0Eh (300 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.866	ELZ	.5	E...	-.866				
63	1.2D + 1.0Ev + 1.0Eh (330 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	-.5	ELZ	.866	E...	-.5				
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		ELZ	1	E...					
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	.5	ELZ	.866	E...	.5				
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	.866	ELZ	.5	E...	.866				
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	ELZ		E...	1				
68	0.9D - 1.0Ev + 1.0Eh (120 De...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	.866	ELZ	-.5	E...	.866				
69	0.9D - 1.0Ev + 1.0Eh (150 De...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.866	83	.5	ELZ	-.866	E...	.5				
70	0.9D - 1.0Ev + 1.0Eh (180 De...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		ELZ	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh (210 De...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.866	83	-.5	ELZ	-.866	E...	-.5				

Load Combinations (Continued)

	Description	So...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
72	0.9D - 1.0Ev + 1.0Eh (240 De..	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.866	ELZ	-.5	E...	-.866				
73	0.9D - 1.0Ev + 1.0Eh (270 De..	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	ELZ		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh (300 De..	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.866	ELZ	.5	E...	-.866				
75	0.9D - 1.0Ev + 1.0Eh (330 De..	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	-.5	ELZ	.866	E...	-.5				

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizontal	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Standoff Horizontal	HSS4X4X4	Beam	SquareTub...	A500 Gr.B R...	Typical	3.37	7.8	7.8	12.8
3	Corner Plate	PL5/8X6	Beam	RECT	A36 Gr.36	Typical	3.75	.122	11.25	.456
4	Platform Crossmember	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
5	Grating Support	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
6	Mount Pipe	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Cross Arm Plate	PL3/8x6	Beam	RECT	A36 Gr.36	Typical	2.25	.026	6.75	.101
8	Dual Antenna Mount Pipe	PIPE_2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
9	MOD Support Rail	PIPE_2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
10	MOD Corner Bracket	L3X3X4	Column	Pipe	A36 Gr.36	Typical	1.44	1.23	1.23	.031
11	MOD Kicker	LL3x3x3x6	Column	Pipe	A36 Gr.36	Typical	2.18	4.97	1.9	.027

Hot Rolled Steel Properties

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

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M4	N3	N27			Standoff Horiz...	Beam	SquareTube A...	A500 Gr.B...	Typical
2	M10	N101	N103A		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
3	M43	N102	N5		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
4	M46	N86C	N87A			Corner Plate	Beam	RECT	A36 Gr.36	Typical
5	M35A	N7	N30			RIGID	None	None	RIGID	Typical
6	M36A	N6	N29			RIGID	None	None	RIGID	Typical
7	M51B	N87C	N6			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
8	M52B	N7	N87B			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
9	M52	N87B	N88C			RIGID	None	None	RIGID	Typical
10	M58	N102	N24			RIGID	None	None	RIGID	Typical
11	M59	N24	N103A			RIGID	None	None	RIGID	Typical
12	M76	N101	N105			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
13	M77	N105	N131			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
14	M79	N131	N86A			RIGID	None	None	RIGID	Typical
15	M80	N87A	N135			Corner Plate	Beam	RECT	A36 Gr.36	Typical
16	M83	N135	N86D			RIGID	None	None	RIGID	Typical
17	M84	N5	N104A			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
18	M85	N104A	N144			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
19	M88	N144	N86B			RIGID	None	None	RIGID	Typical
20	M91	N86C	N148			Corner Plate	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
21	M92	N148	N86E			RIGID	None	None	RIGID	Typical
22	M50	N88C	N88A			RIGID	None	None	RIGID	Typical
23	M51	N88A	N86G			RIGID	None	None	RIGID	Typical
24	M51A	N87C	N86G			RIGID	None	None	RIGID	Typical
25	M25	N30A	N35			Standoff Horiz...	Beam	SquareTube A...	A500 Gr.B...	Typical
26	M26	N39	N41		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
27	M27	N40	N31		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
28	M28	N50	N51			Corner Plate	Beam	RECT	A36 Gr.36	Typical
29	M29	N33	N38			RIGID	None	None	RIGID	Typical
30	M30	N32	N37			RIGID	None	None	RIGID	Typical
31	M31	N55	N32			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
32	M32	N33	N57			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
33	M33	N57	N58			RIGID	None	None	RIGID	Typical
34	M34	N40	N34			RIGID	None	None	RIGID	Typical
35	M35	N34	N41			RIGID	None	None	RIGID	Typical
36	M36	N39	N43			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
37	M37	N43	N44			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
38	M38	N44	N48			RIGID	None	None	RIGID	Typical
39	M39	N51	N45			Corner Plate	Beam	RECT	A36 Gr.36	Typical
40	M40	N45	N52			RIGID	None	None	RIGID	Typical
41	M41	N31	N42			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
42	M42	N42	N46			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
43	M43A	N46	N49			RIGID	None	None	RIGID	Typical
44	M44	N50	N47			Corner Plate	Beam	RECT	A36 Gr.36	Typical
45	M45	N47	N53			RIGID	None	None	RIGID	Typical
46	M46A	N58	N54			RIGID	None	None	RIGID	Typical
47	M47	N54	N56			RIGID	None	None	RIGID	Typical
48	M48	N55	N56			RIGID	None	None	RIGID	Typical
49	M49	N59	N64			Standoff Horiz...	Beam	SquareTube A...	A500 Gr.B...	Typical
50	M50A	N68	N70		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
51	M51C	N69	N60		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
52	M52A	N79	N80			Corner Plate	Beam	RECT	A36 Gr.36	Typical
53	M53	N62	N67			RIGID	None	None	RIGID	Typical
54	M54	N61	N66			RIGID	None	None	RIGID	Typical
55	M55	N84	N61			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
56	M56	N62	N86			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
57	M57	N86	N87			RIGID	None	None	RIGID	Typical
58	M58A	N69	N63			RIGID	None	None	RIGID	Typical
59	M59A	N63	N70			RIGID	None	None	RIGID	Typical
60	M60	N68	N72			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
61	M61	N72	N73			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
62	M62	N73	N77			RIGID	None	None	RIGID	Typical
63	M63	N80	N74			Corner Plate	Beam	RECT	A36 Gr.36	Typical
64	M64	N74	N81			RIGID	None	None	RIGID	Typical
65	M65	N60	N71			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
66	M66	N71	N75			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
67	M67	N75	N78			RIGID	None	None	RIGID	Typical
68	M68	N79	N76			Corner Plate	Beam	RECT	A36 Gr.36	Typical
69	M69	N76	N82			RIGID	None	None	RIGID	Typical
70	M70	N87	N83			RIGID	None	None	RIGID	Typical
71	M71	N83	N85			RIGID	None	None	RIGID	Typical
72	M72	N84	N85			RIGID	None	None	RIGID	Typical
73	M73	N88	N87D			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
74	M74	N92	N91			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
75	M75	N96	N95			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
76	M76A	N95A	N96A			RIGID	None	None	RIGID	Typical
77	MP1A	N97	N98			Mount Pipe	Column	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
78	M78	N99	N100			RIGID	None	None	RIGID	Typical
79	MP2A	N101A	N102A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
80	M80A	N103	N104			RIGID	None	None	RIGID	Typical
81	MP3A	N105A	N106			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
82	M82	N107	N108			RIGID	None	None	RIGID	Typical
83	MP4A	N109	N110			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
84	M84A	N112	N113			RIGID	None	None	RIGID	Typical
85	MP1C	N114	N115			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
86	M86	N116	N117			RIGID	None	None	RIGID	Typical
87	MP2C	N118	N119			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
88	M88A	N120	N121			RIGID	None	None	RIGID	Typical
89	MP3C	N122	N123			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
90	M90	N124	N125			RIGID	None	None	RIGID	Typical
91	MP4C	N126	N127			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
92	M92A	N129	N130			RIGID	None	None	RIGID	Typical
93	MP1B	N131A	N132			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
94	M94	N133	N134			RIGID	None	None	RIGID	Typical
95	MP2B	N135A	N136			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
96	M96	N137	N138			RIGID	None	None	RIGID	Typical
97	MP3B	N139	N140			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
98	M98	N141	N142			RIGID	None	None	RIGID	Typical
99	MP4B	N143	N144A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
100	M102	N148A	N149			RIGID	None	None	RIGID	Typical
101	M103	N151	N150			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
102	M104	N152	N151A			MOD Support ...	Column	Pipe	A53 Gr.B	Typical
103	M105	N153	N154			RIGID	None	None	RIGID	Typical
104	M106	N155	N156			RIGID	None	None	RIGID	Typical
105	M107	N157	N158			RIGID	None	None	RIGID	Typical
106	M108	N159	N160			RIGID	None	None	RIGID	Typical
107	M109	N163	N161			RIGID	None	None	RIGID	Typical
108	M110	N164	N162			RIGID	None	None	RIGID	Typical
109	M112	N167	N168			RIGID	None	None	RIGID	Typical
110	M113	N169	N170			RIGID	None	None	RIGID	Typical
111	M114	N171	N172			RIGID	None	None	RIGID	Typical
112	M115	N173	N174			RIGID	None	None	RIGID	Typical
113	M116	N177	N175			RIGID	None	None	RIGID	Typical
114	M117	N178	N176			RIGID	None	None	RIGID	Typical
115	M119	N181	N182			RIGID	None	None	RIGID	Typical
116	M120	N183	N184			RIGID	None	None	RIGID	Typical
117	M121	N185	N186			RIGID	None	None	RIGID	Typical
118	M122	N187	N188			RIGID	None	None	RIGID	Typical
119	M123	N191	N189			RIGID	None	None	RIGID	Typical
120	M124	N192	N190			RIGID	None	None	RIGID	Typical
121	M125	N191	N164		180	MOD Corner B...	Column	Pipe	A36 Gr.36	Typical
122	M126	N163	N178		180	MOD Corner B...	Column	Pipe	A36 Gr.36	Typical
123	M127	N177	N192		180	MOD Corner B...	Column	Pipe	A36 Gr.36	Typical
124	M128	N193	N194			MOD Kicker	Column	Pipe	A36 Gr.36	Typical
125	M129	N195	N196			MOD Kicker	Column	Pipe	A36 Gr.36	Typical
126	M130	N197	N198			MOD Kicker	Column	Pipe	A36 Gr.36	Typical
127	M129A	N196A	N195A			MOD Support ...	Column	Pipe	A53 Gr.B	Typical
128	M130A	N198A	N197A			MOD Support ...	Column	Pipe	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M4						Yes				None
2	M10						Yes	Default			None
3	M43						Yes	Default			None
4	M46						Yes	Default			None
5	M35A						Yes	** NA **			None
6	M36A						Yes	** NA **			None
7	M51B	OOOOOX	OOOOOX				Yes	Default			None
8	M52B	OOOOOX	OOOOOX				Yes	Default			None
9	M52						Yes	** NA **			None
10	M58						Yes	** NA **			None
11	M59						Yes	** NA **			None
12	M76						Yes				None
13	M77						Yes				None
14	M79		BenPIN				Yes	** NA **			None
15	M80						Yes				None
16	M83		BenPIN				Yes	** NA **			None
17	M84						Yes				None
18	M85						Yes				None
19	M88		BenPIN				Yes	** NA **			None
20	M91						Yes				None
21	M92		BenPIN				Yes	** NA **			None
22	M50						Yes	** NA **			None
23	M51						Yes	** NA **			None
24	M51A						Yes	** NA **			None
25	M25						Yes				None
26	M26						Yes	Default			None
27	M27						Yes	Default			None
28	M28						Yes	Default			None
29	M29						Yes	** NA **			None
30	M30						Yes	** NA **			None
31	M31	OOOOOX	OOOOOX				Yes	Default			None
32	M32	OOOOOX	OOOOOX				Yes	Default			None
33	M33						Yes	** NA **			None
34	M34						Yes	** NA **			None
35	M35						Yes	** NA **			None
36	M36						Yes				None
37	M37						Yes				None
38	M38		BenPIN				Yes	** NA **			None
39	M39						Yes				None
40	M40		BenPIN				Yes	** NA **			None
41	M41						Yes				None
42	M42						Yes				None
43	M43A		BenPIN				Yes	** NA **			None
44	M44						Yes				None
45	M45		BenPIN				Yes	** NA **			None
46	M46A						Yes	** NA **			None
47	M47						Yes	** NA **			None
48	M48						Yes	** NA **			None
49	M49						Yes				None
50	M50A						Yes	Default			None
51	M51C						Yes	Default			None
52	M52A						Yes	Default			None
53	M53						Yes	** NA **			None
54	M54						Yes	** NA **			None
55	M55	OOOOOX	OOOOOX				Yes	Default			None
56	M56	OOOOOX	OOOOOX				Yes	Default			None
57	M57						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
58	M58A						Yes	** NA **			None
59	M59A						Yes	** NA **			None
60	M60						Yes				None
61	M61						Yes				None
62	M62		BenPIN				Yes	** NA **			None
63	M63						Yes				None
64	M64		BenPIN				Yes	** NA **			None
65	M65						Yes				None
66	M66						Yes				None
67	M67		BenPIN				Yes	** NA **			None
68	M68						Yes				None
69	M69		BenPIN				Yes	** NA **			None
70	M70						Yes	** NA **			None
71	M71						Yes	** NA **			None
72	M72						Yes	** NA **			None
73	M73						Yes				None
74	M74						Yes				None
75	M75						Yes				None
76	M76A						Yes	** NA **			None
77	MP1A						Yes	** NA **			None
78	M78						Yes	** NA **			None
79	MP2A						Yes	** NA **			None
80	M80A						Yes	** NA **			None
81	MP3A						Yes	** NA **			None
82	M82						Yes	** NA **			None
83	MP4A						Yes	** NA **			None
84	M84A						Yes	** NA **			None
85	MP1C						Yes	** NA **			None
86	M86						Yes	** NA **			None
87	MP2C						Yes	** NA **			None
88	M88A						Yes	** NA **			None
89	MP3C						Yes	** NA **			None
90	M90						Yes	** NA **			None
91	MP4C						Yes	** NA **			None
92	M92A						Yes	** NA **			None
93	MP1B						Yes	** NA **			None
94	M94						Yes	** NA **			None
95	MP2B						Yes	** NA **			None
96	M96						Yes	** NA **			None
97	MP3B						Yes	** NA **			None
98	M98						Yes	** NA **			None
99	MP4B						Yes	** NA **			None
100	M102						Yes	** NA **			None
101	M103						Yes	** NA **			None
102	M104						Yes	** NA **			None
103	M105						Yes	** NA **			None
104	M106						Yes	** NA **			None
105	M107						Yes	** NA **			None
106	M108						Yes	** NA **			None
107	M109		OOOOOO				Yes	** NA **			None
108	M110		OOOOOO				Yes	** NA **			None
109	M112						Yes	** NA **			None
110	M113						Yes	** NA **			None
111	M114						Yes	** NA **			None
112	M115						Yes	** NA **			None
113	M116		OOOOOO				Yes	** NA **			None
114	M117		OOOOOO				Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
115	M119						Yes	** NA **			None
116	M120						Yes	** NA **			None
117	M121						Yes	** NA **			None
118	M122						Yes	** NA **			None
119	M123		OOOOOO				Yes	** NA **			None
120	M124		OOOOOO				Yes	** NA **			None
121	M125						Yes	** NA **			None
122	M126						Yes	** NA **			None
123	M127						Yes	** NA **			None
124	M128	BenPIN	BenPIN				Yes	** NA **			None
125	M129	BenPIN	BenPIN				Yes	** NA **			None
126	M130	BenPIN	BenPIN				Yes	** NA **			None
127	M129A						Yes	** NA **			None
128	M130A						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	Y	-21.85	.5
2	MP2A	My	-.011	.5
3	MP2A	Mz	.013	.5
4	MP2A	Y	-21.85	4.5
5	MP2A	My	-.011	4.5
6	MP2A	Mz	.013	4.5
7	MP2B	Y	-21.85	.5
8	MP2B	My	-.009	.5
9	MP2B	Mz	-.014	.5
10	MP2B	Y	-21.85	4.5
11	MP2B	My	-.009	4.5
12	MP2B	Mz	-.014	4.5
13	MP2C	Y	-21.85	.5
14	MP2C	My	.017	.5
15	MP2C	Mz	-.001	.5
16	MP2C	Y	-21.85	4.5
17	MP2C	My	.017	4.5
18	MP2C	Mz	-.001	4.5
19	MP2A	Y	-21.85	.5
20	MP2A	My	-.011	.5
21	MP2A	Mz	-.013	.5
22	MP2A	Y	-21.85	4.5
23	MP2A	My	-.011	4.5
24	MP2A	Mz	-.013	4.5
25	MP2B	Y	-21.85	.5
26	MP2B	My	.015	.5
27	MP2B	Mz	-.007	.5
28	MP2B	Y	-21.85	4.5
29	MP2B	My	.015	4.5
30	MP2B	Mz	-.007	4.5
31	MP2C	Y	-21.85	.5
32	MP2C	My	-.001	.5
33	MP2C	Mz	.017	.5
34	MP2C	Y	-21.85	4.5
35	MP2C	My	-.001	4.5
36	MP2C	Mz	.017	4.5
37	MP1A	Y	-28.65	1.5
38	MP1A	My	-.014	1.5

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
39	MP1A	Mz	0	1.5
40	MP1A	Y	-28.65	3.5
41	MP1A	My	-.014	3.5
42	MP1A	Mz	0	3.5
43	MP1B	Y	-28.65	1.5
44	MP1B	My	.004	1.5
45	MP1B	Mz	-.014	1.5
46	MP1B	Y	-28.65	3.5
47	MP1B	My	.004	3.5
48	MP1B	Mz	-.014	3.5
49	MP1C	Y	-28.65	1.5
50	MP1C	My	.01	1.5
51	MP1C	Mz	.01	1.5
52	MP1C	Y	-28.65	3.5
53	MP1C	My	.01	3.5
54	MP1C	Mz	.01	3.5
55	MP2A	Y	-74.7	2
56	MP2A	My	.037	2
57	MP2A	Mz	0	2
58	MP2B	Y	-74.7	2
59	MP2B	My	-.01	2
60	MP2B	Mz	.036	2
61	MP2C	Y	-74.7	2
62	MP2C	My	-.026	2
63	MP2C	Mz	-.026	2
64	MP3A	Y	-79.1	2
65	MP3A	My	.04	2
66	MP3A	Mz	0	2
67	MP3B	Y	-79.1	2
68	MP3B	My	-.01	2
69	MP3B	Mz	.038	2
70	MP3C	Y	-79.1	2
71	MP3C	My	-.028	2
72	MP3C	Mz	-.028	2
73	M103	Y	-32	1.5
74	M103	My	0	1.5
75	M103	Mz	0	1.5
76	MP4A	Y	-12.5	1
77	MP4A	My	-.006	1
78	MP4A	Mz	0	1
79	MP4A	Y	-12.5	4
80	MP4A	My	-.006	4
81	MP4A	Mz	0	4
82	MP4C	Y	-4.95	1
83	MP4C	My	.002	1
84	MP4C	Mz	.002	1
85	MP4C	Y	-4.95	4
86	MP4C	My	.002	4
87	MP4C	Mz	.002	4
88	MP4B	Y	-4.95	1
89	MP4B	My	.000641	1
90	MP4B	Mz	-.002	1
91	MP4B	Y	-4.95	4
92	MP4B	My	.000641	4
93	MP4B	Mz	-.002	4

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	Y	-90.991	.5
2	MP2A	My	-.045	.5
3	MP2A	Mz	.053	.5
4	MP2A	Y	-90.991	4.5
5	MP2A	My	-.045	4.5
6	MP2A	Mz	.053	4.5
7	MP2B	Y	-90.991	.5
8	MP2B	My	-.039	.5
9	MP2B	Mz	-.058	.5
10	MP2B	Y	-90.991	4.5
11	MP2B	My	-.039	4.5
12	MP2B	Mz	-.058	4.5
13	MP2C	Y	-90.991	.5
14	MP2C	My	.07	.5
15	MP2C	Mz	-.005	.5
16	MP2C	Y	-90.991	4.5
17	MP2C	My	.07	4.5
18	MP2C	Mz	-.005	4.5
19	MP2A	Y	-90.991	.5
20	MP2A	My	-.045	.5
21	MP2A	Mz	-.053	.5
22	MP2A	Y	-90.991	4.5
23	MP2A	My	-.045	4.5
24	MP2A	Mz	-.053	4.5
25	MP2B	Y	-90.991	.5
26	MP2B	My	.063	.5
27	MP2B	Mz	-.03	.5
28	MP2B	Y	-90.991	4.5
29	MP2B	My	.063	4.5
30	MP2B	Mz	-.03	4.5
31	MP2C	Y	-90.991	.5
32	MP2C	My	-.005	.5
33	MP2C	Mz	.07	.5
34	MP2C	Y	-90.991	4.5
35	MP2C	My	-.005	4.5
36	MP2C	Mz	.07	4.5
37	MP1A	Y	-45.03	1.5
38	MP1A	My	-.023	1.5
39	MP1A	Mz	0	1.5
40	MP1A	Y	-45.03	3.5
41	MP1A	My	-.023	3.5
42	MP1A	Mz	0	3.5
43	MP1B	Y	-45.03	1.5
44	MP1B	My	.006	1.5
45	MP1B	Mz	-.022	1.5
46	MP1B	Y	-45.03	3.5
47	MP1B	My	.006	3.5
48	MP1B	Mz	-.022	3.5
49	MP1C	Y	-45.03	1.5
50	MP1C	My	.016	1.5
51	MP1C	Mz	.016	1.5
52	MP1C	Y	-45.03	3.5
53	MP1C	My	.016	3.5
54	MP1C	Mz	.016	3.5
55	MP2A	Y	-68.156	2
56	MP2A	My	.034	2
57	MP2A	Mz	0	2

Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
58	MP2B	Y	-68.156	2
59	MP2B	My	-.009	2
60	MP2B	Mz	.033	2
61	MP2C	Y	-68.156	2
62	MP2C	My	-.024	2
63	MP2C	Mz	-.024	2
64	MP3A	Y	-68.856	2
65	MP3A	My	.034	2
66	MP3A	Mz	0	2
67	MP3B	Y	-68.856	2
68	MP3B	My	-.009	2
69	MP3B	Mz	.033	2
70	MP3C	Y	-68.856	2
71	MP3C	My	-.024	2
72	MP3C	Mz	-.024	2
73	M103	Y	-113.987	1.5
74	M103	My	0	1.5
75	M103	Mz	0	1.5
76	MP4A	Y	-102.606	1
77	MP4A	My	-.051	1
78	MP4A	Mz	0	1
79	MP4A	Y	-102.606	4
80	MP4A	My	-.051	4
81	MP4A	Mz	0	4
82	MP4C	Y	-53.419	1
83	MP4C	My	.019	1
84	MP4C	Mz	.019	1
85	MP4C	Y	-53.419	4
86	MP4C	My	.019	4
87	MP4C	Mz	.019	4
88	MP4B	Y	-53.419	1
89	MP4B	My	.007	1
90	MP4B	Mz	-.026	1
91	MP4B	Y	-53.419	4
92	MP4B	My	.007	4
93	MP4B	Mz	-.026	4

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	.5
2	MP2A	Z	-80.766	.5
3	MP2A	Mx	-.047	.5
4	MP2A	X	0	4.5
5	MP2A	Z	-80.766	4.5
6	MP2A	Mx	-.047	4.5
7	MP2B	X	0	.5
8	MP2B	Z	-37.745	.5
9	MP2B	Mx	.024	.5
10	MP2B	X	0	4.5
11	MP2B	Z	-37.745	4.5
12	MP2B	Mx	.024	4.5
13	MP2C	X	0	.5
14	MP2C	Z	-57.712	.5
15	MP2C	Mx	.003	.5
16	MP2C	X	0	4.5
17	MP2C	Z	-57.712	4.5

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP2C	Mx	.003	4.5
19	MP2A	X	0	.5
20	MP2A	Z	-80.766	.5
21	MP2A	Mx	.047	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-80.766	4.5
24	MP2A	Mx	.047	4.5
25	MP2B	X	0	.5
26	MP2B	Z	-37.745	.5
27	MP2B	Mx	.013	.5
28	MP2B	X	0	4.5
29	MP2B	Z	-37.745	4.5
30	MP2B	Mx	.013	4.5
31	MP2C	X	0	.5
32	MP2C	Z	-57.712	.5
33	MP2C	Mx	-.044	.5
34	MP2C	X	0	4.5
35	MP2C	Z	-57.712	4.5
36	MP2C	Mx	-.044	4.5
37	MP1A	X	0	1.5
38	MP1A	Z	-47.002	1.5
39	MP1A	Mx	0	1.5
40	MP1A	X	0	3.5
41	MP1A	Z	-47.002	3.5
42	MP1A	Mx	0	3.5
43	MP1B	X	0	1.5
44	MP1B	Z	-18.553	1.5
45	MP1B	Mx	.009	1.5
46	MP1B	X	0	3.5
47	MP1B	Z	-18.553	3.5
48	MP1B	Mx	.009	3.5
49	MP1C	X	0	1.5
50	MP1C	Z	-31.756	1.5
51	MP1C	Mx	-.011	1.5
52	MP1C	X	0	3.5
53	MP1C	Z	-31.756	3.5
54	MP1C	Mx	-.011	3.5
55	MP2A	X	0	2
56	MP2A	Z	-46.11	2
57	MP2A	Mx	0	2
58	MP2B	X	0	2
59	MP2B	Z	-31.954	2
60	MP2B	Mx	-.015	2
61	MP2C	X	0	2
62	MP2C	Z	-38.524	2
63	MP2C	Mx	.014	2
64	MP3A	X	0	2
65	MP3A	Z	-55.629	2
66	MP3A	Mx	0	2
67	MP3B	X	0	2
68	MP3B	Z	-39.115	2
69	MP3B	Mx	-.019	2
70	MP3C	X	0	2
71	MP3C	Z	-46.779	2
72	MP3C	Mx	.017	2
73	M103	X	0	1.5
74	M103	Z	-92.787	1.5

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
75	M103	Mx	0	1.5
76	MP4A	X	0	1
77	MP4A	Z	-140.709	1
78	MP4A	Mx	0	1
79	MP4A	X	0	4
80	MP4A	Z	-140.709	4
81	MP4A	Mx	0	4
82	MP4C	X	0	1
83	MP4C	Z	-53.251	1
84	MP4C	Mx	-.019	1
85	MP4C	X	0	4
86	MP4C	Z	-53.251	4
87	MP4C	Mx	-.019	4
88	MP4B	X	0	1
89	MP4B	Z	-38.568	1
90	MP4B	Mx	.019	1
91	MP4B	X	0	4
92	MP4B	Z	-38.568	4
93	MP4B	Mx	.019	4

Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	34.619	.5
2	MP2A	Z	-59.963	.5
3	MP2A	Mx	-.052	.5
4	MP2A	X	34.619	4.5
5	MP2A	Z	-59.963	4.5
6	MP2A	Mx	-.052	4.5
7	MP2B	X	18.873	.5
8	MP2B	Z	-32.688	.5
9	MP2B	Mx	.013	.5
10	MP2B	X	18.873	4.5
11	MP2B	Z	-32.688	4.5
12	MP2B	Mx	.013	4.5
13	MP2C	X	38.839	.5
14	MP2C	Z	-67.271	.5
15	MP2C	Mx	.034	.5
16	MP2C	X	38.839	4.5
17	MP2C	Z	-67.271	4.5
18	MP2C	Mx	.034	4.5
19	MP2A	X	34.619	.5
20	MP2A	Z	-59.963	.5
21	MP2A	Mx	.018	.5
22	MP2A	X	34.619	4.5
23	MP2A	Z	-59.963	4.5
24	MP2A	Mx	.018	4.5
25	MP2B	X	18.873	.5
26	MP2B	Z	-32.688	.5
27	MP2B	Mx	.024	.5
28	MP2B	X	18.873	4.5
29	MP2B	Z	-32.688	4.5
30	MP2B	Mx	.024	4.5
31	MP2C	X	38.839	.5
32	MP2C	Z	-67.271	.5
33	MP2C	Mx	-.054	.5
34	MP2C	X	38.839	4.5

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
35	MP2C	Z	-67.271	4.5
36	MP2C	Mx	-.054	4.5
37	MP1A	X	19.69	1.5
38	MP1A	Z	-34.103	1.5
39	MP1A	Mx	-.01	1.5
40	MP1A	X	19.69	3.5
41	MP1A	Z	-34.103	3.5
42	MP1A	Mx	-.01	3.5
43	MP1B	X	9.276	1.5
44	MP1B	Z	-16.067	1.5
45	MP1B	Mx	.009	1.5
46	MP1B	X	9.276	3.5
47	MP1B	Z	-16.067	3.5
48	MP1B	Mx	.009	3.5
49	MP1C	X	22.48	1.5
50	MP1C	Z	-38.936	1.5
51	MP1C	Mx	-.006	1.5
52	MP1C	X	22.48	3.5
53	MP1C	Z	-38.936	3.5
54	MP1C	Mx	-.006	3.5
55	MP2A	X	21.158	2
56	MP2A	Z	-36.647	2
57	MP2A	Mx	.011	2
58	MP2B	X	15.977	2
59	MP2B	Z	-27.673	2
60	MP2B	Mx	-.015	2
61	MP2C	X	22.547	2
62	MP2C	Z	-39.052	2
63	MP2C	Mx	.006	2
64	MP3A	X	25.602	2
65	MP3A	Z	-44.344	2
66	MP3A	Mx	.013	2
67	MP3B	X	19.557	2
68	MP3B	Z	-33.874	2
69	MP3B	Mx	-.019	2
70	MP3C	X	27.222	2
71	MP3C	Z	-47.149	2
72	MP3C	Mx	.007	2
73	M103	X	41.499	1.5
74	M103	Z	-71.878	1.5
75	M103	Mx	0	1.5
76	MP4A	X	59.336	1
77	MP4A	Z	-102.774	1
78	MP4A	Mx	-.03	1
79	MP4A	X	59.336	4
80	MP4A	Z	-102.774	4
81	MP4A	Mx	-.03	4
82	MP4C	X	33.967	1
83	MP4C	Z	-58.833	1
84	MP4C	Mx	-.009	1
85	MP4C	X	33.967	4
86	MP4C	Z	-58.833	4
87	MP4C	Mx	-.009	4
88	MP4B	X	19.284	1
89	MP4B	Z	-33.401	1
90	MP4B	Mx	.019	1
91	MP4B	X	19.284	4

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
92	MP4B	Z	-33.401	4
93	MP4B	Mx	.019	4

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	39.997	.5
2	MP2A	Z	-23.092	.5
3	MP2A	Mx	-.033	.5
4	MP2A	X	39.997	4.5
5	MP2A	Z	-23.092	4.5
6	MP2A	Mx	-.033	4.5
7	MP2B	X	49.98	.5
8	MP2B	Z	-28.856	.5
9	MP2B	Mx	-.003	.5
10	MP2B	X	49.98	4.5
11	MP2B	Z	-28.856	4.5
12	MP2B	Mx	-.003	4.5
13	MP2C	X	67.271	.5
14	MP2C	Z	-38.839	.5
15	MP2C	Mx	.054	.5
16	MP2C	X	67.271	4.5
17	MP2C	Z	-38.839	4.5
18	MP2C	Mx	.054	4.5
19	MP2A	X	39.997	.5
20	MP2A	Z	-23.092	.5
21	MP2A	Mx	-.007	.5
22	MP2A	X	39.997	4.5
23	MP2A	Z	-23.092	4.5
24	MP2A	Mx	-.007	4.5
25	MP2B	X	49.98	.5
26	MP2B	Z	-28.856	.5
27	MP2B	Mx	.044	.5
28	MP2B	X	49.98	4.5
29	MP2B	Z	-28.856	4.5
30	MP2B	Mx	.044	4.5
31	MP2C	X	67.271	.5
32	MP2C	Z	-38.839	.5
33	MP2C	Mx	-.034	.5
34	MP2C	X	67.271	4.5
35	MP2C	Z	-38.839	4.5
36	MP2C	Mx	-.034	4.5
37	MP1A	X	20.9	1.5
38	MP1A	Z	-12.067	1.5
39	MP1A	Mx	-.01	1.5
40	MP1A	X	20.9	3.5
41	MP1A	Z	-12.067	3.5
42	MP1A	Mx	-.01	3.5
43	MP1B	X	27.502	1.5
44	MP1B	Z	-15.878	1.5
45	MP1B	Mx	.011	1.5
46	MP1B	X	27.502	3.5
47	MP1B	Z	-15.878	3.5
48	MP1B	Mx	.011	3.5
49	MP1C	X	38.936	1.5
50	MP1C	Z	-22.48	1.5
51	MP1C	Mx	.006	1.5

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
52	MP1C	X	38.936	3.5
53	MP1C	Z	-22.48	3.5
54	MP1C	Mx	.006	3.5
55	MP2A	X	30.078	2
56	MP2A	Z	-17.366	2
57	MP2A	Mx	.015	2
58	MP2B	X	33.363	2
59	MP2B	Z	-19.262	2
60	MP2B	Mx	-.014	2
61	MP2C	X	39.052	2
62	MP2C	Z	-22.547	2
63	MP2C	Mx	-.006	2
64	MP3A	X	36.68	2
65	MP3A	Z	-21.177	2
66	MP3A	Mx	.018	2
67	MP3B	X	40.512	2
68	MP3B	Z	-23.39	2
69	MP3B	Mx	-.017	2
70	MP3C	X	47.149	2
71	MP3C	Z	-27.222	2
72	MP3C	Mx	-.007	2
73	M103	X	63.4	1.5
74	M103	Z	-36.604	1.5
75	M103	Mx	0	1.5
76	MP4A	X	64.606	1
77	MP4A	Z	-37.3	1
78	MP4A	Mx	-.032	1
79	MP4A	X	64.606	4
80	MP4A	Z	-37.3	4
81	MP4A	Mx	-.032	4
82	MP4C	X	58.833	1
83	MP4C	Z	-33.967	1
84	MP4C	Mx	.009	1
85	MP4C	X	58.833	4
86	MP4C	Z	-33.967	4
87	MP4C	Mx	.009	4
88	MP4B	X	46.117	1
89	MP4B	Z	-26.625	1
90	MP4B	Mx	.019	1
91	MP4B	X	46.117	4
92	MP4B	Z	-26.625	4
93	MP4B	Mx	.019	4

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	34.657	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	-.017	.5
4	MP2A	X	34.657	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	-.017	4.5
7	MP2B	X	77.678	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	-.034	.5
10	MP2B	X	77.678	4.5
11	MP2B	Z	0	4.5

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
12	MP2B	Mx	-.034	4.5
13	MP2C	X	57.712	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	.044	.5
16	MP2C	X	57.712	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	.044	4.5
19	MP2A	X	34.657	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.017	.5
22	MP2A	X	34.657	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.017	4.5
25	MP2B	X	77.678	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	.054	.5
28	MP2B	X	77.678	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	.054	4.5
31	MP2C	X	57.712	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	-.003	.5
34	MP2C	X	57.712	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	-.003	4.5
37	MP1A	X	16.51	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	-.008	1.5
40	MP1A	X	16.51	3.5
41	MP1A	Z	0	3.5
42	MP1A	Mx	-.008	3.5
43	MP1B	X	44.96	1.5
44	MP1B	Z	0	1.5
45	MP1B	Mx	.006	1.5
46	MP1B	X	44.96	3.5
47	MP1B	Z	0	3.5
48	MP1B	Mx	.006	3.5
49	MP1C	X	31.756	1.5
50	MP1C	Z	0	1.5
51	MP1C	Mx	.011	1.5
52	MP1C	X	31.756	3.5
53	MP1C	Z	0	3.5
54	MP1C	Mx	.011	3.5
55	MP2A	X	30.938	2
56	MP2A	Z	0	2
57	MP2A	Mx	.015	2
58	MP2B	X	45.093	2
59	MP2B	Z	0	2
60	MP2B	Mx	-.006	2
61	MP2C	X	38.524	2
62	MP2C	Z	0	2
63	MP2C	Mx	-.014	2
64	MP3A	X	37.929	2
65	MP3A	Z	0	2
66	MP3A	Mx	.019	2
67	MP3B	X	54.443	2
68	MP3B	Z	0	2

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
69	MP3B	Mx	-.007	2
70	MP3C	X	46.779	2
71	MP3C	Z	0	2
72	MP3C	Mx	-.017	2
73	M103	X	73.208	1.5
74	M103	Z	0	1.5
75	M103	Mx	0	1.5
76	MP4A	X	52.564	1
77	MP4A	Z	0	1
78	MP4A	Mx	-.026	1
79	MP4A	X	52.564	4
80	MP4A	Z	0	4
81	MP4A	Mx	-.026	4
82	MP4C	X	53.251	1
83	MP4C	Z	0	1
84	MP4C	Mx	.019	1
85	MP4C	X	53.251	4
86	MP4C	Z	0	4
87	MP4C	Mx	.019	4
88	MP4B	X	67.934	1
89	MP4B	Z	0	1
90	MP4B	Mx	.009	1
91	MP4B	X	67.934	4
92	MP4B	Z	0	4
93	MP4B	Mx	.009	4

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	39.997	.5
2	MP2A	Z	23.092	.5
3	MP2A	Mx	-.007	.5
4	MP2A	X	39.997	4.5
5	MP2A	Z	23.092	4.5
6	MP2A	Mx	-.007	4.5
7	MP2B	X	67.271	.5
8	MP2B	Z	38.839	.5
9	MP2B	Mx	-.054	.5
10	MP2B	X	67.271	4.5
11	MP2B	Z	38.839	4.5
12	MP2B	Mx	-.054	4.5
13	MP2C	X	32.688	.5
14	MP2C	Z	18.873	.5
15	MP2C	Mx	.024	.5
16	MP2C	X	32.688	4.5
17	MP2C	Z	18.873	4.5
18	MP2C	Mx	.024	4.5
19	MP2A	X	39.997	.5
20	MP2A	Z	23.092	.5
21	MP2A	Mx	-.033	.5
22	MP2A	X	39.997	4.5
23	MP2A	Z	23.092	4.5
24	MP2A	Mx	-.033	4.5
25	MP2B	X	67.271	.5
26	MP2B	Z	38.839	.5
27	MP2B	Mx	.034	.5
28	MP2B	X	67.271	4.5

Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2B	Z	38.839	4.5
30	MP2B	Mx	.034	4.5
31	MP2C	X	32.688	.5
32	MP2C	Z	18.873	.5
33	MP2C	Mx	.013	.5
34	MP2C	X	32.688	4.5
35	MP2C	Z	18.873	4.5
36	MP2C	Mx	.013	4.5
37	MP1A	X	20.9	1.5
38	MP1A	Z	12.067	1.5
39	MP1A	Mx	-.01	1.5
40	MP1A	X	20.9	3.5
41	MP1A	Z	12.067	3.5
42	MP1A	Mx	-.01	3.5
43	MP1B	X	38.936	1.5
44	MP1B	Z	22.48	1.5
45	MP1B	Mx	-.006	1.5
46	MP1B	X	38.936	3.5
47	MP1B	Z	22.48	3.5
48	MP1B	Mx	-.006	3.5
49	MP1C	X	16.067	1.5
50	MP1C	Z	9.276	1.5
51	MP1C	Mx	.009	1.5
52	MP1C	X	16.067	3.5
53	MP1C	Z	9.276	3.5
54	MP1C	Mx	.009	3.5
55	MP2A	X	30.078	2
56	MP2A	Z	17.366	2
57	MP2A	Mx	.015	2
58	MP2B	X	39.052	2
59	MP2B	Z	22.547	2
60	MP2B	Mx	.006	2
61	MP2C	X	27.673	2
62	MP2C	Z	15.977	2
63	MP2C	Mx	-.015	2
64	MP3A	X	36.68	2
65	MP3A	Z	21.177	2
66	MP3A	Mx	.018	2
67	MP3B	X	47.149	2
68	MP3B	Z	27.222	2
69	MP3B	Mx	.007	2
70	MP3C	X	33.874	2
71	MP3C	Z	19.557	2
72	MP3C	Mx	-.019	2
73	M103	X	71.878	1.5
74	M103	Z	41.499	1.5
75	M103	Mx	0	1.5
76	MP4A	X	64.606	1
77	MP4A	Z	37.3	1
78	MP4A	Mx	-.032	1
79	MP4A	X	64.606	4
80	MP4A	Z	37.3	4
81	MP4A	Mx	-.032	4
82	MP4C	X	33.401	1
83	MP4C	Z	19.284	1
84	MP4C	Mx	.019	1
85	MP4C	X	33.401	4

Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
86	MP4C	Z	19.284	4
87	MP4C	Mx	.019	4
88	MP4B	X	58.833	1
89	MP4B	Z	33.967	1
90	MP4B	Mx	-.009	1
91	MP4B	X	58.833	4
92	MP4B	Z	33.967	4
93	MP4B	Mx	-.009	4

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	34.619	.5
2	MP2A	Z	59.963	.5
3	MP2A	Mx	.018	.5
4	MP2A	X	34.619	4.5
5	MP2A	Z	59.963	4.5
6	MP2A	Mx	.018	4.5
7	MP2B	X	28.856	.5
8	MP2B	Z	49.98	.5
9	MP2B	Mx	-.044	.5
10	MP2B	X	28.856	4.5
11	MP2B	Z	49.98	4.5
12	MP2B	Mx	-.044	4.5
13	MP2C	X	18.873	.5
14	MP2C	Z	32.688	.5
15	MP2C	Mx	.013	.5
16	MP2C	X	18.873	4.5
17	MP2C	Z	32.688	4.5
18	MP2C	Mx	.013	4.5
19	MP2A	X	34.619	.5
20	MP2A	Z	59.963	.5
21	MP2A	Mx	-.052	.5
22	MP2A	X	34.619	4.5
23	MP2A	Z	59.963	4.5
24	MP2A	Mx	-.052	4.5
25	MP2B	X	28.856	.5
26	MP2B	Z	49.98	.5
27	MP2B	Mx	.003	.5
28	MP2B	X	28.856	4.5
29	MP2B	Z	49.98	4.5
30	MP2B	Mx	.003	4.5
31	MP2C	X	18.873	.5
32	MP2C	Z	32.688	.5
33	MP2C	Mx	.024	.5
34	MP2C	X	18.873	4.5
35	MP2C	Z	32.688	4.5
36	MP2C	Mx	.024	4.5
37	MP1A	X	19.69	1.5
38	MP1A	Z	34.103	1.5
39	MP1A	Mx	-.01	1.5
40	MP1A	X	19.69	3.5
41	MP1A	Z	34.103	3.5
42	MP1A	Mx	-.01	3.5
43	MP1B	X	15.878	1.5
44	MP1B	Z	27.502	1.5
45	MP1B	Mx	-.011	1.5

Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	MP1B	X	15.878	3.5
47	MP1B	Z	27.502	3.5
48	MP1B	Mx	-.011	3.5
49	MP1C	X	9.276	1.5
50	MP1C	Z	16.067	1.5
51	MP1C	Mx	.009	1.5
52	MP1C	X	9.276	3.5
53	MP1C	Z	16.067	3.5
54	MP1C	Mx	.009	3.5
55	MP2A	X	21.158	2
56	MP2A	Z	36.647	2
57	MP2A	Mx	.011	2
58	MP2B	X	19.262	2
59	MP2B	Z	33.363	2
60	MP2B	Mx	.014	2
61	MP2C	X	15.977	2
62	MP2C	Z	27.673	2
63	MP2C	Mx	-.015	2
64	MP3A	X	25.602	2
65	MP3A	Z	44.344	2
66	MP3A	Mx	.013	2
67	MP3B	X	23.39	2
68	MP3B	Z	40.512	2
69	MP3B	Mx	.017	2
70	MP3C	X	19.557	2
71	MP3C	Z	33.874	2
72	MP3C	Mx	-.019	2
73	M103	X	46.394	1.5
74	M103	Z	80.356	1.5
75	M103	Mx	0	1.5
76	MP4A	X	59.336	1
77	MP4A	Z	102.774	1
78	MP4A	Mx	-.03	1
79	MP4A	X	59.336	4
80	MP4A	Z	102.774	4
81	MP4A	Mx	-.03	4
82	MP4C	X	19.284	1
83	MP4C	Z	33.401	1
84	MP4C	Mx	.019	1
85	MP4C	X	19.284	4
86	MP4C	Z	33.401	4
87	MP4C	Mx	.019	4
88	MP4B	X	26.625	1
89	MP4B	Z	46.117	1
90	MP4B	Mx	-.019	1
91	MP4B	X	26.625	4
92	MP4B	Z	46.117	4
93	MP4B	Mx	-.019	4

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	.5
2	MP2A	Z	80.766	.5
3	MP2A	Mx	.047	.5
4	MP2A	X	0	4.5
5	MP2A	Z	80.766	4.5

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
6	MP2A	Mx	.047	4.5
7	MP2B	X	0	.5
8	MP2B	Z	37.745	.5
9	MP2B	Mx	-.024	.5
10	MP2B	X	0	4.5
11	MP2B	Z	37.745	4.5
12	MP2B	Mx	-.024	4.5
13	MP2C	X	0	.5
14	MP2C	Z	57.712	.5
15	MP2C	Mx	-.003	.5
16	MP2C	X	0	4.5
17	MP2C	Z	57.712	4.5
18	MP2C	Mx	-.003	4.5
19	MP2A	X	0	.5
20	MP2A	Z	80.766	.5
21	MP2A	Mx	-.047	.5
22	MP2A	X	0	4.5
23	MP2A	Z	80.766	4.5
24	MP2A	Mx	-.047	4.5
25	MP2B	X	0	.5
26	MP2B	Z	37.745	.5
27	MP2B	Mx	-.013	.5
28	MP2B	X	0	4.5
29	MP2B	Z	37.745	4.5
30	MP2B	Mx	-.013	4.5
31	MP2C	X	0	.5
32	MP2C	Z	57.712	.5
33	MP2C	Mx	.044	.5
34	MP2C	X	0	4.5
35	MP2C	Z	57.712	4.5
36	MP2C	Mx	.044	4.5
37	MP1A	X	0	1.5
38	MP1A	Z	47.002	1.5
39	MP1A	Mx	0	1.5
40	MP1A	X	0	3.5
41	MP1A	Z	47.002	3.5
42	MP1A	Mx	0	3.5
43	MP1B	X	0	1.5
44	MP1B	Z	18.553	1.5
45	MP1B	Mx	-.009	1.5
46	MP1B	X	0	3.5
47	MP1B	Z	18.553	3.5
48	MP1B	Mx	-.009	3.5
49	MP1C	X	0	1.5
50	MP1C	Z	31.756	1.5
51	MP1C	Mx	.011	1.5
52	MP1C	X	0	3.5
53	MP1C	Z	31.756	3.5
54	MP1C	Mx	.011	3.5
55	MP2A	X	0	2
56	MP2A	Z	46.11	2
57	MP2A	Mx	0	2
58	MP2B	X	0	2
59	MP2B	Z	31.954	2
60	MP2B	Mx	.015	2
61	MP2C	X	0	2
62	MP2C	Z	38.524	2

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP2C	Mx	-.014	2
64	MP3A	X	0	2
65	MP3A	Z	55.629	2
66	MP3A	Mx	0	2
67	MP3B	X	0	2
68	MP3B	Z	39.115	2
69	MP3B	Mx	.019	2
70	MP3C	X	0	2
71	MP3C	Z	46.779	2
72	MP3C	Mx	-.017	2
73	M103	X	0	1.5
74	M103	Z	92.787	1.5
75	M103	Mx	0	1.5
76	MP4A	X	0	1
77	MP4A	Z	140.709	1
78	MP4A	Mx	0	1
79	MP4A	X	0	4
80	MP4A	Z	140.709	4
81	MP4A	Mx	0	4
82	MP4C	X	0	1
83	MP4C	Z	53.251	1
84	MP4C	Mx	.019	1
85	MP4C	X	0	4
86	MP4C	Z	53.251	4
87	MP4C	Mx	.019	4
88	MP4B	X	0	1
89	MP4B	Z	38.568	1
90	MP4B	Mx	-.019	1
91	MP4B	X	0	4
92	MP4B	Z	38.568	4
93	MP4B	Mx	-.019	4

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-34.619	.5
2	MP2A	Z	59.963	.5
3	MP2A	Mx	.052	.5
4	MP2A	X	-34.619	4.5
5	MP2A	Z	59.963	4.5
6	MP2A	Mx	.052	4.5
7	MP2B	X	-18.873	.5
8	MP2B	Z	32.688	.5
9	MP2B	Mx	-.013	.5
10	MP2B	X	-18.873	4.5
11	MP2B	Z	32.688	4.5
12	MP2B	Mx	-.013	4.5
13	MP2C	X	-38.839	.5
14	MP2C	Z	67.271	.5
15	MP2C	Mx	-.034	.5
16	MP2C	X	-38.839	4.5
17	MP2C	Z	67.271	4.5
18	MP2C	Mx	-.034	4.5
19	MP2A	X	-34.619	.5
20	MP2A	Z	59.963	.5
21	MP2A	Mx	-.018	.5
22	MP2A	X	-34.619	4.5

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP2A	Z	59.963	4.5
24	MP2A	Mx	-.018	4.5
25	MP2B	X	-18.873	.5
26	MP2B	Z	32.688	.5
27	MP2B	Mx	-.024	.5
28	MP2B	X	-18.873	4.5
29	MP2B	Z	32.688	4.5
30	MP2B	Mx	-.024	4.5
31	MP2C	X	-38.839	.5
32	MP2C	Z	67.271	.5
33	MP2C	Mx	.054	.5
34	MP2C	X	-38.839	4.5
35	MP2C	Z	67.271	4.5
36	MP2C	Mx	.054	4.5
37	MP1A	X	-19.69	1.5
38	MP1A	Z	34.103	1.5
39	MP1A	Mx	.01	1.5
40	MP1A	X	-19.69	3.5
41	MP1A	Z	34.103	3.5
42	MP1A	Mx	.01	3.5
43	MP1B	X	-9.276	1.5
44	MP1B	Z	16.067	1.5
45	MP1B	Mx	-.009	1.5
46	MP1B	X	-9.276	3.5
47	MP1B	Z	16.067	3.5
48	MP1B	Mx	-.009	3.5
49	MP1C	X	-22.48	1.5
50	MP1C	Z	38.936	1.5
51	MP1C	Mx	.006	1.5
52	MP1C	X	-22.48	3.5
53	MP1C	Z	38.936	3.5
54	MP1C	Mx	.006	3.5
55	MP2A	X	-21.158	2
56	MP2A	Z	36.647	2
57	MP2A	Mx	-.011	2
58	MP2B	X	-15.977	2
59	MP2B	Z	27.673	2
60	MP2B	Mx	.015	2
61	MP2C	X	-22.547	2
62	MP2C	Z	39.052	2
63	MP2C	Mx	-.006	2
64	MP3A	X	-25.602	2
65	MP3A	Z	44.344	2
66	MP3A	Mx	-.013	2
67	MP3B	X	-19.557	2
68	MP3B	Z	33.874	2
69	MP3B	Mx	.019	2
70	MP3C	X	-27.222	2
71	MP3C	Z	47.149	2
72	MP3C	Mx	-.007	2
73	M103	X	-41.499	1.5
74	M103	Z	71.878	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-59.336	1
77	MP4A	Z	102.774	1
78	MP4A	Mx	.03	1
79	MP4A	X	-59.336	4

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
80	MP4A	Z	102.774	4
81	MP4A	Mx	.03	4
82	MP4C	X	-33.967	1
83	MP4C	Z	58.833	1
84	MP4C	Mx	.009	1
85	MP4C	X	-33.967	4
86	MP4C	Z	58.833	4
87	MP4C	Mx	.009	4
88	MP4B	X	-19.284	1
89	MP4B	Z	33.401	1
90	MP4B	Mx	-.019	1
91	MP4B	X	-19.284	4
92	MP4B	Z	33.401	4
93	MP4B	Mx	-.019	4

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-39.997	.5
2	MP2A	Z	23.092	.5
3	MP2A	Mx	.033	.5
4	MP2A	X	-39.997	4.5
5	MP2A	Z	23.092	4.5
6	MP2A	Mx	.033	4.5
7	MP2B	X	-49.98	.5
8	MP2B	Z	28.856	.5
9	MP2B	Mx	.003	.5
10	MP2B	X	-49.98	4.5
11	MP2B	Z	28.856	4.5
12	MP2B	Mx	.003	4.5
13	MP2C	X	-67.271	.5
14	MP2C	Z	38.839	.5
15	MP2C	Mx	-.054	.5
16	MP2C	X	-67.271	4.5
17	MP2C	Z	38.839	4.5
18	MP2C	Mx	-.054	4.5
19	MP2A	X	-39.997	.5
20	MP2A	Z	23.092	.5
21	MP2A	Mx	.007	.5
22	MP2A	X	-39.997	4.5
23	MP2A	Z	23.092	4.5
24	MP2A	Mx	.007	4.5
25	MP2B	X	-49.98	.5
26	MP2B	Z	28.856	.5
27	MP2B	Mx	-.044	.5
28	MP2B	X	-49.98	4.5
29	MP2B	Z	28.856	4.5
30	MP2B	Mx	-.044	4.5
31	MP2C	X	-67.271	.5
32	MP2C	Z	38.839	.5
33	MP2C	Mx	.034	.5
34	MP2C	X	-67.271	4.5
35	MP2C	Z	38.839	4.5
36	MP2C	Mx	.034	4.5
37	MP1A	X	-20.9	1.5
38	MP1A	Z	12.067	1.5
39	MP1A	Mx	.01	1.5

Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
40	MP1A	X	-20.9	3.5
41	MP1A	Z	12.067	3.5
42	MP1A	Mx	.01	3.5
43	MP1B	X	-27.502	1.5
44	MP1B	Z	15.878	1.5
45	MP1B	Mx	-.011	1.5
46	MP1B	X	-27.502	3.5
47	MP1B	Z	15.878	3.5
48	MP1B	Mx	-.011	3.5
49	MP1C	X	-38.936	1.5
50	MP1C	Z	22.48	1.5
51	MP1C	Mx	-.006	1.5
52	MP1C	X	-38.936	3.5
53	MP1C	Z	22.48	3.5
54	MP1C	Mx	-.006	3.5
55	MP2A	X	-30.078	2
56	MP2A	Z	17.366	2
57	MP2A	Mx	-.015	2
58	MP2B	X	-33.363	2
59	MP2B	Z	19.262	2
60	MP2B	Mx	.014	2
61	MP2C	X	-39.052	2
62	MP2C	Z	22.547	2
63	MP2C	Mx	.006	2
64	MP3A	X	-36.68	2
65	MP3A	Z	21.177	2
66	MP3A	Mx	-.018	2
67	MP3B	X	-40.512	2
68	MP3B	Z	23.39	2
69	MP3B	Mx	.017	2
70	MP3C	X	-47.149	2
71	MP3C	Z	27.222	2
72	MP3C	Mx	.007	2
73	M103	X	-63.4	1.5
74	M103	Z	36.604	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-64.606	1
77	MP4A	Z	37.3	1
78	MP4A	Mx	.032	1
79	MP4A	X	-64.606	4
80	MP4A	Z	37.3	4
81	MP4A	Mx	.032	4
82	MP4C	X	-58.833	1
83	MP4C	Z	33.967	1
84	MP4C	Mx	-.009	1
85	MP4C	X	-58.833	4
86	MP4C	Z	33.967	4
87	MP4C	Mx	-.009	4
88	MP4B	X	-46.117	1
89	MP4B	Z	26.625	1
90	MP4B	Mx	-.019	1
91	MP4B	X	-46.117	4
92	MP4B	Z	26.625	4
93	MP4B	Mx	-.019	4

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-34.657	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	.017	.5
4	MP2A	X	-34.657	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	.017	4.5
7	MP2B	X	-77.678	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	.034	.5
10	MP2B	X	-77.678	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	.034	4.5
13	MP2C	X	-57.712	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	-.044	.5
16	MP2C	X	-57.712	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	-.044	4.5
19	MP2A	X	-34.657	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.017	.5
22	MP2A	X	-34.657	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.017	4.5
25	MP2B	X	-77.678	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	-.054	.5
28	MP2B	X	-77.678	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	-.054	4.5
31	MP2C	X	-57.712	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	.003	.5
34	MP2C	X	-57.712	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	.003	4.5
37	MP1A	X	-16.51	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	.008	1.5
40	MP1A	X	-16.51	3.5
41	MP1A	Z	0	3.5
42	MP1A	Mx	.008	3.5
43	MP1B	X	-44.96	1.5
44	MP1B	Z	0	1.5
45	MP1B	Mx	-.006	1.5
46	MP1B	X	-44.96	3.5
47	MP1B	Z	0	3.5
48	MP1B	Mx	-.006	3.5
49	MP1C	X	-31.756	1.5
50	MP1C	Z	0	1.5
51	MP1C	Mx	-.011	1.5
52	MP1C	X	-31.756	3.5
53	MP1C	Z	0	3.5
54	MP1C	Mx	-.011	3.5
55	MP2A	X	-30.938	2
56	MP2A	Z	0	2
57	MP2A	Mx	-.015	2

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
58	MP2B	X	-45.093	2
59	MP2B	Z	0	2
60	MP2B	Mx	.006	2
61	MP2C	X	-38.524	2
62	MP2C	Z	0	2
63	MP2C	Mx	.014	2
64	MP3A	X	-37.929	2
65	MP3A	Z	0	2
66	MP3A	Mx	-.019	2
67	MP3B	X	-54.443	2
68	MP3B	Z	0	2
69	MP3B	Mx	.007	2
70	MP3C	X	-46.779	2
71	MP3C	Z	0	2
72	MP3C	Mx	.017	2
73	M103	X	-73.208	1.5
74	M103	Z	0	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-52.564	1
77	MP4A	Z	0	1
78	MP4A	Mx	.026	1
79	MP4A	X	-52.564	4
80	MP4A	Z	0	4
81	MP4A	Mx	.026	4
82	MP4C	X	-53.251	1
83	MP4C	Z	0	1
84	MP4C	Mx	-.019	1
85	MP4C	X	-53.251	4
86	MP4C	Z	0	4
87	MP4C	Mx	-.019	4
88	MP4B	X	-67.934	1
89	MP4B	Z	0	1
90	MP4B	Mx	-.009	1
91	MP4B	X	-67.934	4
92	MP4B	Z	0	4
93	MP4B	Mx	-.009	4

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-39.997	.5
2	MP2A	Z	-23.092	.5
3	MP2A	Mx	.007	.5
4	MP2A	X	-39.997	4.5
5	MP2A	Z	-23.092	4.5
6	MP2A	Mx	.007	4.5
7	MP2B	X	-67.271	.5
8	MP2B	Z	-38.839	.5
9	MP2B	Mx	.054	.5
10	MP2B	X	-67.271	4.5
11	MP2B	Z	-38.839	4.5
12	MP2B	Mx	.054	4.5
13	MP2C	X	-32.688	.5
14	MP2C	Z	-18.873	.5
15	MP2C	Mx	-.024	.5
16	MP2C	X	-32.688	4.5
17	MP2C	Z	-18.873	4.5

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP2C	Mx	-.024	4.5
19	MP2A	X	-39.997	.5
20	MP2A	Z	-23.092	.5
21	MP2A	Mx	.033	.5
22	MP2A	X	-39.997	4.5
23	MP2A	Z	-23.092	4.5
24	MP2A	Mx	.033	4.5
25	MP2B	X	-67.271	.5
26	MP2B	Z	-38.839	.5
27	MP2B	Mx	-.034	.5
28	MP2B	X	-67.271	4.5
29	MP2B	Z	-38.839	4.5
30	MP2B	Mx	-.034	4.5
31	MP2C	X	-32.688	.5
32	MP2C	Z	-18.873	.5
33	MP2C	Mx	-.013	.5
34	MP2C	X	-32.688	4.5
35	MP2C	Z	-18.873	4.5
36	MP2C	Mx	-.013	4.5
37	MP1A	X	-20.9	1.5
38	MP1A	Z	-12.067	1.5
39	MP1A	Mx	.01	1.5
40	MP1A	X	-20.9	3.5
41	MP1A	Z	-12.067	3.5
42	MP1A	Mx	.01	3.5
43	MP1B	X	-38.936	1.5
44	MP1B	Z	-22.48	1.5
45	MP1B	Mx	.006	1.5
46	MP1B	X	-38.936	3.5
47	MP1B	Z	-22.48	3.5
48	MP1B	Mx	.006	3.5
49	MP1C	X	-16.067	1.5
50	MP1C	Z	-9.276	1.5
51	MP1C	Mx	-.009	1.5
52	MP1C	X	-16.067	3.5
53	MP1C	Z	-9.276	3.5
54	MP1C	Mx	-.009	3.5
55	MP2A	X	-30.078	2
56	MP2A	Z	-17.366	2
57	MP2A	Mx	-.015	2
58	MP2B	X	-39.052	2
59	MP2B	Z	-22.547	2
60	MP2B	Mx	-.006	2
61	MP2C	X	-27.673	2
62	MP2C	Z	-15.977	2
63	MP2C	Mx	.015	2
64	MP3A	X	-36.68	2
65	MP3A	Z	-21.177	2
66	MP3A	Mx	-.018	2
67	MP3B	X	-47.149	2
68	MP3B	Z	-27.222	2
69	MP3B	Mx	-.007	2
70	MP3C	X	-33.874	2
71	MP3C	Z	-19.557	2
72	MP3C	Mx	.019	2
73	M103	X	-71.878	1.5
74	M103	Z	-41.499	1.5

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
75	M103	Mx	0	1.5
76	MP4A	X	-64.606	1
77	MP4A	Z	-37.3	1
78	MP4A	Mx	.032	1
79	MP4A	X	-64.606	4
80	MP4A	Z	-37.3	4
81	MP4A	Mx	.032	4
82	MP4C	X	-33.401	1
83	MP4C	Z	-19.284	1
84	MP4C	Mx	-.019	1
85	MP4C	X	-33.401	4
86	MP4C	Z	-19.284	4
87	MP4C	Mx	-.019	4
88	MP4B	X	-58.833	1
89	MP4B	Z	-33.967	1
90	MP4B	Mx	.009	1
91	MP4B	X	-58.833	4
92	MP4B	Z	-33.967	4
93	MP4B	Mx	.009	4

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-34.619	.5
2	MP2A	Z	-59.963	.5
3	MP2A	Mx	-.018	.5
4	MP2A	X	-34.619	4.5
5	MP2A	Z	-59.963	4.5
6	MP2A	Mx	-.018	4.5
7	MP2B	X	-28.856	.5
8	MP2B	Z	-49.98	.5
9	MP2B	Mx	.044	.5
10	MP2B	X	-28.856	4.5
11	MP2B	Z	-49.98	4.5
12	MP2B	Mx	.044	4.5
13	MP2C	X	-18.873	.5
14	MP2C	Z	-32.688	.5
15	MP2C	Mx	-.013	.5
16	MP2C	X	-18.873	4.5
17	MP2C	Z	-32.688	4.5
18	MP2C	Mx	-.013	4.5
19	MP2A	X	-34.619	.5
20	MP2A	Z	-59.963	.5
21	MP2A	Mx	.052	.5
22	MP2A	X	-34.619	4.5
23	MP2A	Z	-59.963	4.5
24	MP2A	Mx	.052	4.5
25	MP2B	X	-28.856	.5
26	MP2B	Z	-49.98	.5
27	MP2B	Mx	-.003	.5
28	MP2B	X	-28.856	4.5
29	MP2B	Z	-49.98	4.5
30	MP2B	Mx	-.003	4.5
31	MP2C	X	-18.873	.5
32	MP2C	Z	-32.688	.5
33	MP2C	Mx	-.024	.5
34	MP2C	X	-18.873	4.5

Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
35	MP2C	Z	-32.688	4.5
36	MP2C	Mx	-.024	4.5
37	MP1A	X	-19.69	1.5
38	MP1A	Z	-34.103	1.5
39	MP1A	Mx	.01	1.5
40	MP1A	X	-19.69	3.5
41	MP1A	Z	-34.103	3.5
42	MP1A	Mx	.01	3.5
43	MP1B	X	-15.878	1.5
44	MP1B	Z	-27.502	1.5
45	MP1B	Mx	.011	1.5
46	MP1B	X	-15.878	3.5
47	MP1B	Z	-27.502	3.5
48	MP1B	Mx	.011	3.5
49	MP1C	X	-9.276	1.5
50	MP1C	Z	-16.067	1.5
51	MP1C	Mx	-.009	1.5
52	MP1C	X	-9.276	3.5
53	MP1C	Z	-16.067	3.5
54	MP1C	Mx	-.009	3.5
55	MP2A	X	-21.158	2
56	MP2A	Z	-36.647	2
57	MP2A	Mx	-.011	2
58	MP2B	X	-19.262	2
59	MP2B	Z	-33.363	2
60	MP2B	Mx	-.014	2
61	MP2C	X	-15.977	2
62	MP2C	Z	-27.673	2
63	MP2C	Mx	.015	2
64	MP3A	X	-25.602	2
65	MP3A	Z	-44.344	2
66	MP3A	Mx	-.013	2
67	MP3B	X	-23.39	2
68	MP3B	Z	-40.512	2
69	MP3B	Mx	-.017	2
70	MP3C	X	-19.557	2
71	MP3C	Z	-33.874	2
72	MP3C	Mx	.019	2
73	M103	X	-46.394	1.5
74	M103	Z	-80.356	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-59.336	1
77	MP4A	Z	-102.774	1
78	MP4A	Mx	.03	1
79	MP4A	X	-59.336	4
80	MP4A	Z	-102.774	4
81	MP4A	Mx	.03	4
82	MP4C	X	-19.284	1
83	MP4C	Z	-33.401	1
84	MP4C	Mx	-.019	1
85	MP4C	X	-19.284	4
86	MP4C	Z	-33.401	4
87	MP4C	Mx	-.019	4
88	MP4B	X	-26.625	1
89	MP4B	Z	-46.117	1
90	MP4B	Mx	.019	1
91	MP4B	X	-26.625	4

Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
92	MP4B	Z	-46.117	4
93	MP4B	Mx	.019	4

Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	.5
2	MP2A	Z	-24.02	.5
3	MP2A	Mx	-.014	.5
4	MP2A	X	0	4.5
5	MP2A	Z	-24.02	4.5
6	MP2A	Mx	-.014	4.5
7	MP2B	X	0	.5
8	MP2B	Z	-17.328	.5
9	MP2B	Mx	.011	.5
10	MP2B	X	0	4.5
11	MP2B	Z	-17.328	4.5
12	MP2B	Mx	.011	4.5
13	MP2C	X	0	.5
14	MP2C	Z	-20.434	.5
15	MP2C	Mx	.001	.5
16	MP2C	X	0	4.5
17	MP2C	Z	-20.434	4.5
18	MP2C	Mx	.001	4.5
19	MP2A	X	0	.5
20	MP2A	Z	-24.02	.5
21	MP2A	Mx	.014	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-24.02	4.5
24	MP2A	Mx	.014	4.5
25	MP2B	X	0	.5
26	MP2B	Z	-17.328	.5
27	MP2B	Mx	.006	.5
28	MP2B	X	0	4.5
29	MP2B	Z	-17.328	4.5
30	MP2B	Mx	.006	4.5
31	MP2C	X	0	.5
32	MP2C	Z	-20.434	.5
33	MP2C	Mx	-.016	.5
34	MP2C	X	0	4.5
35	MP2C	Z	-20.434	4.5
36	MP2C	Mx	-.016	4.5
37	MP1A	X	0	1.5
38	MP1A	Z	-11.823	1.5
39	MP1A	Mx	0	1.5
40	MP1A	X	0	3.5
41	MP1A	Z	-11.823	3.5
42	MP1A	Mx	0	3.5
43	MP1B	X	0	1.5
44	MP1B	Z	-5.637	1.5
45	MP1B	Mx	.003	1.5
46	MP1B	X	0	3.5
47	MP1B	Z	-5.637	3.5
48	MP1B	Mx	.003	3.5
49	MP1C	X	0	1.5
50	MP1C	Z	-8.508	1.5
51	MP1C	Mx	-.003	1.5

Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
52	MP1C	X	0	3.5
53	MP1C	Z	-8.508	3.5
54	MP1C	Mx	-.003	3.5
55	MP2A	X	0	2
56	MP2A	Z	-12.454	2
57	MP2A	Mx	0	2
58	MP2B	X	0	2
59	MP2B	Z	-9.055	2
60	MP2B	Mx	-.004	2
61	MP2C	X	0	2
62	MP2C	Z	-10.633	2
63	MP2C	Mx	.004	2
64	MP3A	X	0	2
65	MP3A	Z	-12.454	2
66	MP3A	Mx	0	2
67	MP3B	X	0	2
68	MP3B	Z	-9.191	2
69	MP3B	Mx	-.004	2
70	MP3C	X	0	2
71	MP3C	Z	-10.705	2
72	MP3C	Mx	.004	2
73	M103	X	0	1.5
74	M103	Z	-23.033	1.5
75	M103	Mx	0	1.5
76	MP4A	X	0	1
77	MP4A	Z	-27.537	1
78	MP4A	Mx	0	1
79	MP4A	X	0	4
80	MP4A	Z	-27.537	4
81	MP4A	Mx	0	4
82	MP4C	X	0	1
83	MP4C	Z	-11.431	1
84	MP4C	Mx	-.004	1
85	MP4C	X	0	4
86	MP4C	Z	-11.431	4
87	MP4C	Mx	-.004	4
88	MP4B	X	0	1
89	MP4B	Z	-8.773	1
90	MP4B	Mx	.004	1
91	MP4B	X	0	4
92	MP4B	Z	-8.773	4
93	MP4B	Mx	.004	4

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	11.113	.5
2	MP2A	Z	-19.249	.5
3	MP2A	Mx	-.017	.5
4	MP2A	X	11.113	4.5
5	MP2A	Z	-19.249	4.5
6	MP2A	Mx	-.017	4.5
7	MP2B	X	8.664	.5
8	MP2B	Z	-15.006	.5
9	MP2B	Mx	.006	.5
10	MP2B	X	8.664	4.5
11	MP2B	Z	-15.006	4.5

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
12	MP2B	Mx	.006	4.5
13	MP2C	X	11.77	.5
14	MP2C	Z	-20.386	.5
15	MP2C	Mx	.01	.5
16	MP2C	X	11.77	4.5
17	MP2C	Z	-20.386	4.5
18	MP2C	Mx	.01	4.5
19	MP2A	X	11.113	.5
20	MP2A	Z	-19.249	.5
21	MP2A	Mx	.006	.5
22	MP2A	X	11.113	4.5
23	MP2A	Z	-19.249	4.5
24	MP2A	Mx	.006	4.5
25	MP2B	X	8.664	.5
26	MP2B	Z	-15.006	.5
27	MP2B	Mx	.011	.5
28	MP2B	X	8.664	4.5
29	MP2B	Z	-15.006	4.5
30	MP2B	Mx	.011	4.5
31	MP2C	X	11.77	.5
32	MP2C	Z	-20.386	.5
33	MP2C	Mx	-.016	.5
34	MP2C	X	11.77	4.5
35	MP2C	Z	-20.386	4.5
36	MP2C	Mx	-.016	4.5
37	MP1A	X	5.083	1.5
38	MP1A	Z	-8.803	1.5
39	MP1A	Mx	-.003	1.5
40	MP1A	X	5.083	3.5
41	MP1A	Z	-8.803	3.5
42	MP1A	Mx	-.003	3.5
43	MP1B	X	2.818	1.5
44	MP1B	Z	-4.882	1.5
45	MP1B	Mx	.003	1.5
46	MP1B	X	2.818	3.5
47	MP1B	Z	-4.882	3.5
48	MP1B	Mx	.003	3.5
49	MP1C	X	5.689	1.5
50	MP1C	Z	-9.854	1.5
51	MP1C	Mx	-.001	1.5
52	MP1C	X	5.689	3.5
53	MP1C	Z	-9.854	3.5
54	MP1C	Mx	-.001	3.5
55	MP2A	X	5.772	2
56	MP2A	Z	-9.997	2
57	MP2A	Mx	.003	2
58	MP2B	X	4.527	2
59	MP2B	Z	-7.842	2
60	MP2B	Mx	-.004	2
61	MP2C	X	6.105	2
62	MP2C	Z	-10.574	2
63	MP2C	Mx	.002	2
64	MP3A	X	5.79	2
65	MP3A	Z	-10.028	2
66	MP3A	Mx	.003	2
67	MP3B	X	4.595	2
68	MP3B	Z	-7.959	2

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
69	MP3B	Mx	-.004	2
70	MP3C	X	6.11	2
71	MP3C	Z	-10.583	2
72	MP3C	Mx	.002	2
73	M103	X	9.965	1.5
74	M103	Z	-17.26	1.5
75	M103	Mx	0	1.5
76	MP4A	X	11.737	1
77	MP4A	Z	-20.328	1
78	MP4A	Mx	-.006	1
79	MP4A	X	11.737	4
80	MP4A	Z	-20.328	4
81	MP4A	Mx	-.006	4
82	MP4C	X	7.045	1
83	MP4C	Z	-12.202	1
84	MP4C	Mx	-.002	1
85	MP4C	X	7.045	4
86	MP4C	Z	-12.202	4
87	MP4C	Mx	-.002	4
88	MP4B	X	4.387	1
89	MP4B	Z	-7.598	1
90	MP4B	Mx	.004	1
91	MP4B	X	4.387	4
92	MP4B	Z	-7.598	4
93	MP4B	Mx	.004	4

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	16.143	.5
2	MP2A	Z	-9.32	.5
3	MP2A	Mx	-.014	.5
4	MP2A	X	16.143	4.5
5	MP2A	Z	-9.32	4.5
6	MP2A	Mx	-.014	4.5
7	MP2B	X	17.696	.5
8	MP2B	Z	-10.217	.5
9	MP2B	Mx	-.001	.5
10	MP2B	X	17.696	4.5
11	MP2B	Z	-10.217	4.5
12	MP2B	Mx	-.001	4.5
13	MP2C	X	20.386	.5
14	MP2C	Z	-11.77	.5
15	MP2C	Mx	.016	.5
16	MP2C	X	20.386	4.5
17	MP2C	Z	-11.77	4.5
18	MP2C	Mx	.016	4.5
19	MP2A	X	16.143	.5
20	MP2A	Z	-9.32	.5
21	MP2A	Mx	-.003	.5
22	MP2A	X	16.143	4.5
23	MP2A	Z	-9.32	4.5
24	MP2A	Mx	-.003	4.5
25	MP2B	X	17.696	.5
26	MP2B	Z	-10.217	.5
27	MP2B	Mx	.016	.5
28	MP2B	X	17.696	4.5

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2B	Z	-10.217	4.5
30	MP2B	Mx	.016	4.5
31	MP2C	X	20.386	.5
32	MP2C	Z	-11.77	.5
33	MP2C	Mx	-.01	.5
34	MP2C	X	20.386	4.5
35	MP2C	Z	-11.77	4.5
36	MP2C	Mx	-.01	4.5
37	MP1A	X	5.932	1.5
38	MP1A	Z	-3.425	1.5
39	MP1A	Mx	-.003	1.5
40	MP1A	X	5.932	3.5
41	MP1A	Z	-3.425	3.5
42	MP1A	Mx	-.003	3.5
43	MP1B	X	7.368	1.5
44	MP1B	Z	-4.254	1.5
45	MP1B	Mx	.003	1.5
46	MP1B	X	7.368	3.5
47	MP1B	Z	-4.254	3.5
48	MP1B	Mx	.003	3.5
49	MP1C	X	9.854	1.5
50	MP1C	Z	-5.689	1.5
51	MP1C	Mx	.001	1.5
52	MP1C	X	9.854	3.5
53	MP1C	Z	-5.689	3.5
54	MP1C	Mx	.001	3.5
55	MP2A	X	8.419	2
56	MP2A	Z	-4.861	2
57	MP2A	Mx	.004	2
58	MP2B	X	9.208	2
59	MP2B	Z	-5.316	2
60	MP2B	Mx	-.004	2
61	MP2C	X	10.574	2
62	MP2C	Z	-6.105	2
63	MP2C	Mx	-.002	2
64	MP3A	X	8.514	2
65	MP3A	Z	-4.915	2
66	MP3A	Mx	.004	2
67	MP3B	X	9.271	2
68	MP3B	Z	-5.353	2
69	MP3B	Mx	-.004	2
70	MP3C	X	10.583	2
71	MP3C	Z	-6.11	2
72	MP3C	Mx	-.002	2
73	M103	X	14.573	1.5
74	M103	Z	-8.414	1.5
75	M103	Mx	0	1.5
76	MP4A	X	13.29	1
77	MP4A	Z	-7.673	1
78	MP4A	Mx	-.007	1
79	MP4A	X	13.29	4
80	MP4A	Z	-7.673	4
81	MP4A	Mx	-.007	4
82	MP4C	X	12.202	1
83	MP4C	Z	-7.045	1
84	MP4C	Mx	.002	1
85	MP4C	X	12.202	4

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
86	MP4C	Z	-7.045	4
87	MP4C	Mx	.002	4
88	MP4B	X	9.9	1
89	MP4B	Z	-5.716	1
90	MP4B	Mx	.004	1
91	MP4B	X	9.9	4
92	MP4B	Z	-5.716	4
93	MP4B	Mx	.004	4

Member Point Loads (BLC 18 : Antenna Wi (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	16.847	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	-.008	.5
4	MP2A	X	16.847	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	-.008	4.5
7	MP2B	X	23.54	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	-.01	.5
10	MP2B	X	23.54	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	-.01	4.5
13	MP2C	X	20.434	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	.016	.5
16	MP2C	X	20.434	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	.016	4.5
19	MP2A	X	16.847	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.008	.5
22	MP2A	X	16.847	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.008	4.5
25	MP2B	X	23.54	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	.016	.5
28	MP2B	X	23.54	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	.016	4.5
31	MP2C	X	20.434	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	-.001	.5
34	MP2C	X	20.434	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	-.001	4.5
37	MP1A	X	5.193	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	-.003	1.5
40	MP1A	X	5.193	3.5
41	MP1A	Z	0	3.5
42	MP1A	Mx	-.003	3.5
43	MP1B	X	11.379	1.5
44	MP1B	Z	0	1.5
45	MP1B	Mx	.001	1.5

Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	MP1B	X	11.379	3.5
47	MP1B	Z	0	3.5
48	MP1B	Mx	.001	3.5
49	MP1C	X	8.508	1.5
50	MP1C	Z	0	1.5
51	MP1C	Mx	.003	1.5
52	MP1C	X	8.508	3.5
53	MP1C	Z	0	3.5
54	MP1C	Mx	.003	3.5
55	MP2A	X	8.811	2
56	MP2A	Z	0	2
57	MP2A	Mx	.004	2
58	MP2B	X	12.21	2
59	MP2B	Z	0	2
60	MP2B	Mx	-.002	2
61	MP2C	X	10.633	2
62	MP2C	Z	0	2
63	MP2C	Mx	-.004	2
64	MP3A	X	8.956	2
65	MP3A	Z	0	2
66	MP3A	Mx	.004	2
67	MP3B	X	12.22	2
68	MP3B	Z	0	2
69	MP3B	Mx	-.002	2
70	MP3C	X	10.705	2
71	MP3C	Z	0	2
72	MP3C	Mx	-.004	2
73	M103	X	16.827	1.5
74	M103	Z	0	1.5
75	M103	Mx	0	1.5
76	MP4A	X	11.282	1
77	MP4A	Z	0	1
78	MP4A	Mx	-.006	1
79	MP4A	X	11.282	4
80	MP4A	Z	0	4
81	MP4A	Mx	-.006	4
82	MP4C	X	11.431	1
83	MP4C	Z	0	1
84	MP4C	Mx	.004	1
85	MP4C	X	11.431	4
86	MP4C	Z	0	4
87	MP4C	Mx	.004	4
88	MP4B	X	14.09	1
89	MP4B	Z	0	1
90	MP4B	Mx	.002	1
91	MP4B	X	14.09	4
92	MP4B	Z	0	4
93	MP4B	Mx	.002	4

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	16.143	.5
2	MP2A	Z	9.32	.5
3	MP2A	Mx	-.003	.5
4	MP2A	X	16.143	4.5
5	MP2A	Z	9.32	4.5

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
6	MP2A	Mx	-.003	4.5
7	MP2B	X	20.386	.5
8	MP2B	Z	11.77	.5
9	MP2B	Mx	-.016	.5
10	MP2B	X	20.386	4.5
11	MP2B	Z	11.77	4.5
12	MP2B	Mx	-.016	4.5
13	MP2C	X	15.006	.5
14	MP2C	Z	8.664	.5
15	MP2C	Mx	.011	.5
16	MP2C	X	15.006	4.5
17	MP2C	Z	8.664	4.5
18	MP2C	Mx	.011	4.5
19	MP2A	X	16.143	.5
20	MP2A	Z	9.32	.5
21	MP2A	Mx	-.014	.5
22	MP2A	X	16.143	4.5
23	MP2A	Z	9.32	4.5
24	MP2A	Mx	-.014	4.5
25	MP2B	X	20.386	.5
26	MP2B	Z	11.77	.5
27	MP2B	Mx	.01	.5
28	MP2B	X	20.386	4.5
29	MP2B	Z	11.77	4.5
30	MP2B	Mx	.01	4.5
31	MP2C	X	15.006	.5
32	MP2C	Z	8.664	.5
33	MP2C	Mx	.006	.5
34	MP2C	X	15.006	4.5
35	MP2C	Z	8.664	4.5
36	MP2C	Mx	.006	4.5
37	MP1A	X	5.932	1.5
38	MP1A	Z	3.425	1.5
39	MP1A	Mx	-.003	1.5
40	MP1A	X	5.932	3.5
41	MP1A	Z	3.425	3.5
42	MP1A	Mx	-.003	3.5
43	MP1B	X	9.854	1.5
44	MP1B	Z	5.689	1.5
45	MP1B	Mx	-.001	1.5
46	MP1B	X	9.854	3.5
47	MP1B	Z	5.689	3.5
48	MP1B	Mx	-.001	3.5
49	MP1C	X	4.882	1.5
50	MP1C	Z	2.818	1.5
51	MP1C	Mx	.003	1.5
52	MP1C	X	4.882	3.5
53	MP1C	Z	2.818	3.5
54	MP1C	Mx	.003	3.5
55	MP2A	X	8.419	2
56	MP2A	Z	4.861	2
57	MP2A	Mx	.004	2
58	MP2B	X	10.574	2
59	MP2B	Z	6.105	2
60	MP2B	Mx	.002	2
61	MP2C	X	7.842	2
62	MP2C	Z	4.527	2

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP2C	Mx	-.004	2
64	MP3A	X	8.514	2
65	MP3A	Z	4.915	2
66	MP3A	Mx	.004	2
67	MP3B	X	10.583	2
68	MP3B	Z	6.11	2
69	MP3B	Mx	.002	2
70	MP3C	X	7.959	2
71	MP3C	Z	4.595	2
72	MP3C	Mx	-.004	2
73	M103	X	17.26	1.5
74	M103	Z	9.965	1.5
75	M103	Mx	0	1.5
76	MP4A	X	13.29	1
77	MP4A	Z	7.673	1
78	MP4A	Mx	-.007	1
79	MP4A	X	13.29	4
80	MP4A	Z	7.673	4
81	MP4A	Mx	-.007	4
82	MP4C	X	7.598	1
83	MP4C	Z	4.387	1
84	MP4C	Mx	.004	1
85	MP4C	X	7.598	4
86	MP4C	Z	4.387	4
87	MP4C	Mx	.004	4
88	MP4B	X	12.202	1
89	MP4B	Z	7.045	1
90	MP4B	Mx	-.002	1
91	MP4B	X	12.202	4
92	MP4B	Z	7.045	4
93	MP4B	Mx	-.002	4

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	11.113	.5
2	MP2A	Z	19.249	.5
3	MP2A	Mx	.006	.5
4	MP2A	X	11.113	4.5
5	MP2A	Z	19.249	4.5
6	MP2A	Mx	.006	4.5
7	MP2B	X	10.217	.5
8	MP2B	Z	17.696	.5
9	MP2B	Mx	-.016	.5
10	MP2B	X	10.217	4.5
11	MP2B	Z	17.696	4.5
12	MP2B	Mx	-.016	4.5
13	MP2C	X	8.664	.5
14	MP2C	Z	15.006	.5
15	MP2C	Mx	.006	.5
16	MP2C	X	8.664	4.5
17	MP2C	Z	15.006	4.5
18	MP2C	Mx	.006	4.5
19	MP2A	X	11.113	.5
20	MP2A	Z	19.249	.5
21	MP2A	Mx	-.017	.5
22	MP2A	X	11.113	4.5

Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP2A	Z	19.249	4.5
24	MP2A	Mx	-.017	4.5
25	MP2B	X	10.217	.5
26	MP2B	Z	17.696	.5
27	MP2B	Mx	.001	.5
28	MP2B	X	10.217	4.5
29	MP2B	Z	17.696	4.5
30	MP2B	Mx	.001	4.5
31	MP2C	X	8.664	.5
32	MP2C	Z	15.006	.5
33	MP2C	Mx	.011	.5
34	MP2C	X	8.664	4.5
35	MP2C	Z	15.006	4.5
36	MP2C	Mx	.011	4.5
37	MP1A	X	5.083	1.5
38	MP1A	Z	8.803	1.5
39	MP1A	Mx	-.003	1.5
40	MP1A	X	5.083	3.5
41	MP1A	Z	8.803	3.5
42	MP1A	Mx	-.003	3.5
43	MP1B	X	4.254	1.5
44	MP1B	Z	7.368	1.5
45	MP1B	Mx	-.003	1.5
46	MP1B	X	4.254	3.5
47	MP1B	Z	7.368	3.5
48	MP1B	Mx	-.003	3.5
49	MP1C	X	2.818	1.5
50	MP1C	Z	4.882	1.5
51	MP1C	Mx	.003	1.5
52	MP1C	X	2.818	3.5
53	MP1C	Z	4.882	3.5
54	MP1C	Mx	.003	3.5
55	MP2A	X	5.772	2
56	MP2A	Z	9.997	2
57	MP2A	Mx	.003	2
58	MP2B	X	5.316	2
59	MP2B	Z	9.208	2
60	MP2B	Mx	.004	2
61	MP2C	X	4.527	2
62	MP2C	Z	7.842	2
63	MP2C	Mx	-.004	2
64	MP3A	X	5.79	2
65	MP3A	Z	10.028	2
66	MP3A	Mx	.003	2
67	MP3B	X	5.353	2
68	MP3B	Z	9.271	2
69	MP3B	Mx	.004	2
70	MP3C	X	4.595	2
71	MP3C	Z	7.959	2
72	MP3C	Mx	-.004	2
73	M103	X	11.516	1.5
74	M103	Z	19.947	1.5
75	M103	Mx	0	1.5
76	MP4A	X	11.737	1
77	MP4A	Z	20.328	1
78	MP4A	Mx	-.006	1
79	MP4A	X	11.737	4

Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
80	MP4A	Z	20.328	4
81	MP4A	Mx	-.006	4
82	MP4C	X	4.387	1
83	MP4C	Z	7.598	1
84	MP4C	Mx	.004	1
85	MP4C	X	4.387	4
86	MP4C	Z	7.598	4
87	MP4C	Mx	.004	4
88	MP4B	X	5.716	1
89	MP4B	Z	9.9	1
90	MP4B	Mx	-.004	1
91	MP4B	X	5.716	4
92	MP4B	Z	9.9	4
93	MP4B	Mx	-.004	4

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	.5
2	MP2A	Z	24.02	.5
3	MP2A	Mx	.014	.5
4	MP2A	X	0	4.5
5	MP2A	Z	24.02	4.5
6	MP2A	Mx	.014	4.5
7	MP2B	X	0	.5
8	MP2B	Z	17.328	.5
9	MP2B	Mx	-.011	.5
10	MP2B	X	0	4.5
11	MP2B	Z	17.328	4.5
12	MP2B	Mx	-.011	4.5
13	MP2C	X	0	.5
14	MP2C	Z	20.434	.5
15	MP2C	Mx	-.001	.5
16	MP2C	X	0	4.5
17	MP2C	Z	20.434	4.5
18	MP2C	Mx	-.001	4.5
19	MP2A	X	0	.5
20	MP2A	Z	24.02	.5
21	MP2A	Mx	-.014	.5
22	MP2A	X	0	4.5
23	MP2A	Z	24.02	4.5
24	MP2A	Mx	-.014	4.5
25	MP2B	X	0	.5
26	MP2B	Z	17.328	.5
27	MP2B	Mx	-.006	.5
28	MP2B	X	0	4.5
29	MP2B	Z	17.328	4.5
30	MP2B	Mx	-.006	4.5
31	MP2C	X	0	.5
32	MP2C	Z	20.434	.5
33	MP2C	Mx	.016	.5
34	MP2C	X	0	4.5
35	MP2C	Z	20.434	4.5
36	MP2C	Mx	.016	4.5
37	MP1A	X	0	1.5
38	MP1A	Z	11.823	1.5
39	MP1A	Mx	0	1.5

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
40	MP1A	X	0	3.5
41	MP1A	Z	11.823	3.5
42	MP1A	Mx	0	3.5
43	MP1B	X	0	1.5
44	MP1B	Z	5.637	1.5
45	MP1B	Mx	-.003	1.5
46	MP1B	X	0	3.5
47	MP1B	Z	5.637	3.5
48	MP1B	Mx	-.003	3.5
49	MP1C	X	0	1.5
50	MP1C	Z	8.508	1.5
51	MP1C	Mx	.003	1.5
52	MP1C	X	0	3.5
53	MP1C	Z	8.508	3.5
54	MP1C	Mx	.003	3.5
55	MP2A	X	0	2
56	MP2A	Z	12.454	2
57	MP2A	Mx	0	2
58	MP2B	X	0	2
59	MP2B	Z	9.055	2
60	MP2B	Mx	.004	2
61	MP2C	X	0	2
62	MP2C	Z	10.633	2
63	MP2C	Mx	-.004	2
64	MP3A	X	0	2
65	MP3A	Z	12.454	2
66	MP3A	Mx	0	2
67	MP3B	X	0	2
68	MP3B	Z	9.191	2
69	MP3B	Mx	.004	2
70	MP3C	X	0	2
71	MP3C	Z	10.705	2
72	MP3C	Mx	-.004	2
73	M103	X	0	1.5
74	M103	Z	23.033	1.5
75	M103	Mx	0	1.5
76	MP4A	X	0	1
77	MP4A	Z	27.537	1
78	MP4A	Mx	0	1
79	MP4A	X	0	4
80	MP4A	Z	27.537	4
81	MP4A	Mx	0	4
82	MP4C	X	0	1
83	MP4C	Z	11.431	1
84	MP4C	Mx	.004	1
85	MP4C	X	0	4
86	MP4C	Z	11.431	4
87	MP4C	Mx	.004	4
88	MP4B	X	0	1
89	MP4B	Z	8.773	1
90	MP4B	Mx	-.004	1
91	MP4B	X	0	4
92	MP4B	Z	8.773	4
93	MP4B	Mx	-.004	4

Member Point Loads (BLC 22 : Antenna Wi (210 Deg))

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-11.113	.5
2	MP2A	Z	19.249	.5
3	MP2A	Mx	.017	.5
4	MP2A	X	-11.113	4.5
5	MP2A	Z	19.249	4.5
6	MP2A	Mx	.017	4.5
7	MP2B	X	-8.664	.5
8	MP2B	Z	15.006	.5
9	MP2B	Mx	-.006	.5
10	MP2B	X	-8.664	4.5
11	MP2B	Z	15.006	4.5
12	MP2B	Mx	-.006	4.5
13	MP2C	X	-11.77	.5
14	MP2C	Z	20.386	.5
15	MP2C	Mx	-.01	.5
16	MP2C	X	-11.77	4.5
17	MP2C	Z	20.386	4.5
18	MP2C	Mx	-.01	4.5
19	MP2A	X	-11.113	.5
20	MP2A	Z	19.249	.5
21	MP2A	Mx	-.006	.5
22	MP2A	X	-11.113	4.5
23	MP2A	Z	19.249	4.5
24	MP2A	Mx	-.006	4.5
25	MP2B	X	-8.664	.5
26	MP2B	Z	15.006	.5
27	MP2B	Mx	-.011	.5
28	MP2B	X	-8.664	4.5
29	MP2B	Z	15.006	4.5
30	MP2B	Mx	-.011	4.5
31	MP2C	X	-11.77	.5
32	MP2C	Z	20.386	.5
33	MP2C	Mx	.016	.5
34	MP2C	X	-11.77	4.5
35	MP2C	Z	20.386	4.5
36	MP2C	Mx	.016	4.5
37	MP1A	X	-5.083	1.5
38	MP1A	Z	8.803	1.5
39	MP1A	Mx	.003	1.5
40	MP1A	X	-5.083	3.5
41	MP1A	Z	8.803	3.5
42	MP1A	Mx	.003	3.5
43	MP1B	X	-2.818	1.5
44	MP1B	Z	4.882	1.5
45	MP1B	Mx	-.003	1.5
46	MP1B	X	-2.818	3.5
47	MP1B	Z	4.882	3.5
48	MP1B	Mx	-.003	3.5
49	MP1C	X	-5.689	1.5
50	MP1C	Z	9.854	1.5
51	MP1C	Mx	.001	1.5
52	MP1C	X	-5.689	3.5
53	MP1C	Z	9.854	3.5
54	MP1C	Mx	.001	3.5
55	MP2A	X	-5.772	2
56	MP2A	Z	9.997	2
57	MP2A	Mx	-.003	2

Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
58	MP2B	X	-4.527	2
59	MP2B	Z	7.842	2
60	MP2B	Mx	.004	2
61	MP2C	X	-6.105	2
62	MP2C	Z	10.574	2
63	MP2C	Mx	-.002	2
64	MP3A	X	-5.79	2
65	MP3A	Z	10.028	2
66	MP3A	Mx	-.003	2
67	MP3B	X	-4.595	2
68	MP3B	Z	7.959	2
69	MP3B	Mx	.004	2
70	MP3C	X	-6.11	2
71	MP3C	Z	10.583	2
72	MP3C	Mx	-.002	2
73	M103	X	-9.965	1.5
74	M103	Z	17.26	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-11.737	1
77	MP4A	Z	20.328	1
78	MP4A	Mx	.006	1
79	MP4A	X	-11.737	4
80	MP4A	Z	20.328	4
81	MP4A	Mx	.006	4
82	MP4C	X	-7.045	1
83	MP4C	Z	12.202	1
84	MP4C	Mx	.002	1
85	MP4C	X	-7.045	4
86	MP4C	Z	12.202	4
87	MP4C	Mx	.002	4
88	MP4B	X	-4.387	1
89	MP4B	Z	7.598	1
90	MP4B	Mx	-.004	1
91	MP4B	X	-4.387	4
92	MP4B	Z	7.598	4
93	MP4B	Mx	-.004	4

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-16.143	.5
2	MP2A	Z	9.32	.5
3	MP2A	Mx	.014	.5
4	MP2A	X	-16.143	4.5
5	MP2A	Z	9.32	4.5
6	MP2A	Mx	.014	4.5
7	MP2B	X	-17.696	.5
8	MP2B	Z	10.217	.5
9	MP2B	Mx	.001	.5
10	MP2B	X	-17.696	4.5
11	MP2B	Z	10.217	4.5
12	MP2B	Mx	.001	4.5
13	MP2C	X	-20.386	.5
14	MP2C	Z	11.77	.5
15	MP2C	Mx	-.016	.5
16	MP2C	X	-20.386	4.5
17	MP2C	Z	11.77	4.5

Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP2C	Mx	-.016	4.5
19	MP2A	X	-16.143	.5
20	MP2A	Z	9.32	.5
21	MP2A	Mx	.003	.5
22	MP2A	X	-16.143	4.5
23	MP2A	Z	9.32	4.5
24	MP2A	Mx	.003	4.5
25	MP2B	X	-17.696	.5
26	MP2B	Z	10.217	.5
27	MP2B	Mx	-.016	.5
28	MP2B	X	-17.696	4.5
29	MP2B	Z	10.217	4.5
30	MP2B	Mx	-.016	4.5
31	MP2C	X	-20.386	.5
32	MP2C	Z	11.77	.5
33	MP2C	Mx	.01	.5
34	MP2C	X	-20.386	4.5
35	MP2C	Z	11.77	4.5
36	MP2C	Mx	.01	4.5
37	MP1A	X	-5.932	1.5
38	MP1A	Z	3.425	1.5
39	MP1A	Mx	.003	1.5
40	MP1A	X	-5.932	3.5
41	MP1A	Z	3.425	3.5
42	MP1A	Mx	.003	3.5
43	MP1B	X	-7.368	1.5
44	MP1B	Z	4.254	1.5
45	MP1B	Mx	-.003	1.5
46	MP1B	X	-7.368	3.5
47	MP1B	Z	4.254	3.5
48	MP1B	Mx	-.003	3.5
49	MP1C	X	-9.854	1.5
50	MP1C	Z	5.689	1.5
51	MP1C	Mx	-.001	1.5
52	MP1C	X	-9.854	3.5
53	MP1C	Z	5.689	3.5
54	MP1C	Mx	-.001	3.5
55	MP2A	X	-8.419	2
56	MP2A	Z	4.861	2
57	MP2A	Mx	-.004	2
58	MP2B	X	-9.208	2
59	MP2B	Z	5.316	2
60	MP2B	Mx	.004	2
61	MP2C	X	-10.574	2
62	MP2C	Z	6.105	2
63	MP2C	Mx	.002	2
64	MP3A	X	-8.514	2
65	MP3A	Z	4.915	2
66	MP3A	Mx	-.004	2
67	MP3B	X	-9.271	2
68	MP3B	Z	5.353	2
69	MP3B	Mx	.004	2
70	MP3C	X	-10.583	2
71	MP3C	Z	6.11	2
72	MP3C	Mx	.002	2
73	M103	X	-14.573	1.5
74	M103	Z	8.414	1.5

Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
75	M103	Mx	0	1.5
76	MP4A	X	-13.29	1
77	MP4A	Z	7.673	1
78	MP4A	Mx	.007	1
79	MP4A	X	-13.29	4
80	MP4A	Z	7.673	4
81	MP4A	Mx	.007	4
82	MP4C	X	-12.202	1
83	MP4C	Z	7.045	1
84	MP4C	Mx	-.002	1
85	MP4C	X	-12.202	4
86	MP4C	Z	7.045	4
87	MP4C	Mx	-.002	4
88	MP4B	X	-9.9	1
89	MP4B	Z	5.716	1
90	MP4B	Mx	-.004	1
91	MP4B	X	-9.9	4
92	MP4B	Z	5.716	4
93	MP4B	Mx	-.004	4

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-16.847	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	.008	.5
4	MP2A	X	-16.847	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	.008	4.5
7	MP2B	X	-23.54	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	.01	.5
10	MP2B	X	-23.54	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	.01	4.5
13	MP2C	X	-20.434	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	-.016	.5
16	MP2C	X	-20.434	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	-.016	4.5
19	MP2A	X	-16.847	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.008	.5
22	MP2A	X	-16.847	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.008	4.5
25	MP2B	X	-23.54	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	-.016	.5
28	MP2B	X	-23.54	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	-.016	4.5
31	MP2C	X	-20.434	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	.001	.5
34	MP2C	X	-20.434	4.5

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
35	MP2C	Z	0	4.5
36	MP2C	Mx	.001	4.5
37	MP1A	X	-5.193	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	.003	1.5
40	MP1A	X	-5.193	3.5
41	MP1A	Z	0	3.5
42	MP1A	Mx	.003	3.5
43	MP1B	X	-11.379	1.5
44	MP1B	Z	0	1.5
45	MP1B	Mx	-.001	1.5
46	MP1B	X	-11.379	3.5
47	MP1B	Z	0	3.5
48	MP1B	Mx	-.001	3.5
49	MP1C	X	-8.508	1.5
50	MP1C	Z	0	1.5
51	MP1C	Mx	-.003	1.5
52	MP1C	X	-8.508	3.5
53	MP1C	Z	0	3.5
54	MP1C	Mx	-.003	3.5
55	MP2A	X	-8.811	2
56	MP2A	Z	0	2
57	MP2A	Mx	-.004	2
58	MP2B	X	-12.21	2
59	MP2B	Z	0	2
60	MP2B	Mx	.002	2
61	MP2C	X	-10.633	2
62	MP2C	Z	0	2
63	MP2C	Mx	.004	2
64	MP3A	X	-8.956	2
65	MP3A	Z	0	2
66	MP3A	Mx	-.004	2
67	MP3B	X	-12.22	2
68	MP3B	Z	0	2
69	MP3B	Mx	.002	2
70	MP3C	X	-10.705	2
71	MP3C	Z	0	2
72	MP3C	Mx	.004	2
73	M103	X	-16.827	1.5
74	M103	Z	0	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-11.282	1
77	MP4A	Z	0	1
78	MP4A	Mx	.006	1
79	MP4A	X	-11.282	4
80	MP4A	Z	0	4
81	MP4A	Mx	.006	4
82	MP4C	X	-11.431	1
83	MP4C	Z	0	1
84	MP4C	Mx	-.004	1
85	MP4C	X	-11.431	4
86	MP4C	Z	0	4
87	MP4C	Mx	-.004	4
88	MP4B	X	-14.09	1
89	MP4B	Z	0	1
90	MP4B	Mx	-.002	1
91	MP4B	X	-14.09	4

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
92	MP4B	Z	0	4
93	MP4B	Mx	-.002	4

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-16.143	.5
2	MP2A	Z	-9.32	.5
3	MP2A	Mx	.003	.5
4	MP2A	X	-16.143	4.5
5	MP2A	Z	-9.32	4.5
6	MP2A	Mx	.003	4.5
7	MP2B	X	-20.386	.5
8	MP2B	Z	-11.77	.5
9	MP2B	Mx	.016	.5
10	MP2B	X	-20.386	4.5
11	MP2B	Z	-11.77	4.5
12	MP2B	Mx	.016	4.5
13	MP2C	X	-15.006	.5
14	MP2C	Z	-8.664	.5
15	MP2C	Mx	-.011	.5
16	MP2C	X	-15.006	4.5
17	MP2C	Z	-8.664	4.5
18	MP2C	Mx	-.011	4.5
19	MP2A	X	-16.143	.5
20	MP2A	Z	-9.32	.5
21	MP2A	Mx	.014	.5
22	MP2A	X	-16.143	4.5
23	MP2A	Z	-9.32	4.5
24	MP2A	Mx	.014	4.5
25	MP2B	X	-20.386	.5
26	MP2B	Z	-11.77	.5
27	MP2B	Mx	-.01	.5
28	MP2B	X	-20.386	4.5
29	MP2B	Z	-11.77	4.5
30	MP2B	Mx	-.01	4.5
31	MP2C	X	-15.006	.5
32	MP2C	Z	-8.664	.5
33	MP2C	Mx	-.006	.5
34	MP2C	X	-15.006	4.5
35	MP2C	Z	-8.664	4.5
36	MP2C	Mx	-.006	4.5
37	MP1A	X	-5.932	1.5
38	MP1A	Z	-3.425	1.5
39	MP1A	Mx	.003	1.5
40	MP1A	X	-5.932	3.5
41	MP1A	Z	-3.425	3.5
42	MP1A	Mx	.003	3.5
43	MP1B	X	-9.854	1.5
44	MP1B	Z	-5.689	1.5
45	MP1B	Mx	.001	1.5
46	MP1B	X	-9.854	3.5
47	MP1B	Z	-5.689	3.5
48	MP1B	Mx	.001	3.5
49	MP1C	X	-4.882	1.5
50	MP1C	Z	-2.818	1.5
51	MP1C	Mx	-.003	1.5

Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
52	MP1C	X	-4.882	3.5
53	MP1C	Z	-2.818	3.5
54	MP1C	Mx	-.003	3.5
55	MP2A	X	-8.419	2
56	MP2A	Z	-4.861	2
57	MP2A	Mx	-.004	2
58	MP2B	X	-10.574	2
59	MP2B	Z	-6.105	2
60	MP2B	Mx	-.002	2
61	MP2C	X	-7.842	2
62	MP2C	Z	-4.527	2
63	MP2C	Mx	.004	2
64	MP3A	X	-8.514	2
65	MP3A	Z	-4.915	2
66	MP3A	Mx	-.004	2
67	MP3B	X	-10.583	2
68	MP3B	Z	-6.11	2
69	MP3B	Mx	-.002	2
70	MP3C	X	-7.959	2
71	MP3C	Z	-4.595	2
72	MP3C	Mx	.004	2
73	M103	X	-17.26	1.5
74	M103	Z	-9.965	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-13.29	1
77	MP4A	Z	-7.673	1
78	MP4A	Mx	.007	1
79	MP4A	X	-13.29	4
80	MP4A	Z	-7.673	4
81	MP4A	Mx	.007	4
82	MP4C	X	-7.598	1
83	MP4C	Z	-4.387	1
84	MP4C	Mx	-.004	1
85	MP4C	X	-7.598	4
86	MP4C	Z	-4.387	4
87	MP4C	Mx	-.004	4
88	MP4B	X	-12.202	1
89	MP4B	Z	-7.045	1
90	MP4B	Mx	.002	1
91	MP4B	X	-12.202	4
92	MP4B	Z	-7.045	4
93	MP4B	Mx	.002	4

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-11.113	.5
2	MP2A	Z	-19.249	.5
3	MP2A	Mx	-.006	.5
4	MP2A	X	-11.113	4.5
5	MP2A	Z	-19.249	4.5
6	MP2A	Mx	-.006	4.5
7	MP2B	X	-10.217	.5
8	MP2B	Z	-17.696	.5
9	MP2B	Mx	.016	.5
10	MP2B	X	-10.217	4.5
11	MP2B	Z	-17.696	4.5

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
12	MP2B	Mx	.016	4.5
13	MP2C	X	-8.664	.5
14	MP2C	Z	-15.006	.5
15	MP2C	Mx	-.006	.5
16	MP2C	X	-8.664	4.5
17	MP2C	Z	-15.006	4.5
18	MP2C	Mx	-.006	4.5
19	MP2A	X	-11.113	.5
20	MP2A	Z	-19.249	.5
21	MP2A	Mx	.017	.5
22	MP2A	X	-11.113	4.5
23	MP2A	Z	-19.249	4.5
24	MP2A	Mx	.017	4.5
25	MP2B	X	-10.217	.5
26	MP2B	Z	-17.696	.5
27	MP2B	Mx	-.001	.5
28	MP2B	X	-10.217	4.5
29	MP2B	Z	-17.696	4.5
30	MP2B	Mx	-.001	4.5
31	MP2C	X	-8.664	.5
32	MP2C	Z	-15.006	.5
33	MP2C	Mx	-.011	.5
34	MP2C	X	-8.664	4.5
35	MP2C	Z	-15.006	4.5
36	MP2C	Mx	-.011	4.5
37	MP1A	X	-5.083	1.5
38	MP1A	Z	-8.803	1.5
39	MP1A	Mx	.003	1.5
40	MP1A	X	-5.083	3.5
41	MP1A	Z	-8.803	3.5
42	MP1A	Mx	.003	3.5
43	MP1B	X	-4.254	1.5
44	MP1B	Z	-7.368	1.5
45	MP1B	Mx	.003	1.5
46	MP1B	X	-4.254	3.5
47	MP1B	Z	-7.368	3.5
48	MP1B	Mx	.003	3.5
49	MP1C	X	-2.818	1.5
50	MP1C	Z	-4.882	1.5
51	MP1C	Mx	-.003	1.5
52	MP1C	X	-2.818	3.5
53	MP1C	Z	-4.882	3.5
54	MP1C	Mx	-.003	3.5
55	MP2A	X	-5.772	2
56	MP2A	Z	-9.997	2
57	MP2A	Mx	-.003	2
58	MP2B	X	-5.316	2
59	MP2B	Z	-9.208	2
60	MP2B	Mx	-.004	2
61	MP2C	X	-4.527	2
62	MP2C	Z	-7.842	2
63	MP2C	Mx	.004	2
64	MP3A	X	-5.79	2
65	MP3A	Z	-10.028	2
66	MP3A	Mx	-.003	2
67	MP3B	X	-5.353	2
68	MP3B	Z	-9.271	2

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
69	MP3B	Mx	-.004	2
70	MP3C	X	-4.595	2
71	MP3C	Z	-7.959	2
72	MP3C	Mx	.004	2
73	M103	X	-11.516	1.5
74	M103	Z	-19.947	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-11.737	1
77	MP4A	Z	-20.328	1
78	MP4A	Mx	.006	1
79	MP4A	X	-11.737	4
80	MP4A	Z	-20.328	4
81	MP4A	Mx	.006	4
82	MP4C	X	-4.387	1
83	MP4C	Z	-7.598	1
84	MP4C	Mx	-.004	1
85	MP4C	X	-4.387	4
86	MP4C	Z	-7.598	4
87	MP4C	Mx	-.004	4
88	MP4B	X	-5.716	1
89	MP4B	Z	-9.9	1
90	MP4B	Mx	.004	1
91	MP4B	X	-5.716	4
92	MP4B	Z	-9.9	4
93	MP4B	Mx	.004	4

Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	.5
2	MP2A	Z	-5.048	.5
3	MP2A	Mx	-.003	.5
4	MP2A	X	0	4.5
5	MP2A	Z	-5.048	4.5
6	MP2A	Mx	-.003	4.5
7	MP2B	X	0	.5
8	MP2B	Z	-2.359	.5
9	MP2B	Mx	.001	.5
10	MP2B	X	0	4.5
11	MP2B	Z	-2.359	4.5
12	MP2B	Mx	.001	4.5
13	MP2C	X	0	.5
14	MP2C	Z	-3.607	.5
15	MP2C	Mx	.000213	.5
16	MP2C	X	0	4.5
17	MP2C	Z	-3.607	4.5
18	MP2C	Mx	.000213	4.5
19	MP2A	X	0	.5
20	MP2A	Z	-5.048	.5
21	MP2A	Mx	.003	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-5.048	4.5
24	MP2A	Mx	.003	4.5
25	MP2B	X	0	.5
26	MP2B	Z	-2.359	.5
27	MP2B	Mx	.000783	.5
28	MP2B	X	0	4.5

Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2B	Z	-2.359	4.5
30	MP2B	Mx	.000783	4.5
31	MP2C	X	0	.5
32	MP2C	Z	-3.607	.5
33	MP2C	Mx	-.003	.5
34	MP2C	X	0	4.5
35	MP2C	Z	-3.607	4.5
36	MP2C	Mx	-.003	4.5
37	MP1A	X	0	1.5
38	MP1A	Z	-2.938	1.5
39	MP1A	Mx	0	1.5
40	MP1A	X	0	3.5
41	MP1A	Z	-2.938	3.5
42	MP1A	Mx	0	3.5
43	MP1B	X	0	1.5
44	MP1B	Z	-1.16	1.5
45	MP1B	Mx	.00056	1.5
46	MP1B	X	0	3.5
47	MP1B	Z	-1.16	3.5
48	MP1B	Mx	.00056	3.5
49	MP1C	X	0	1.5
50	MP1C	Z	-1.985	1.5
51	MP1C	Mx	-.000702	1.5
52	MP1C	X	0	3.5
53	MP1C	Z	-1.985	3.5
54	MP1C	Mx	-.000702	3.5
55	MP2A	X	0	2
56	MP2A	Z	-2.882	2
57	MP2A	Mx	0	2
58	MP2B	X	0	2
59	MP2B	Z	-1.997	2
60	MP2B	Mx	-.000964	2
61	MP2C	X	0	2
62	MP2C	Z	-2.408	2
63	MP2C	Mx	.000851	2
64	MP3A	X	0	2
65	MP3A	Z	-3.477	2
66	MP3A	Mx	0	2
67	MP3B	X	0	2
68	MP3B	Z	-2.445	2
69	MP3B	Mx	-.001	2
70	MP3C	X	0	2
71	MP3C	Z	-2.924	2
72	MP3C	Mx	.001	2
73	M103	X	0	1.5
74	M103	Z	-5.799	1.5
75	M103	Mx	0	1.5
76	MP4A	X	0	1
77	MP4A	Z	-8.794	1
78	MP4A	Mx	0	1
79	MP4A	X	0	4
80	MP4A	Z	-8.794	4
81	MP4A	Mx	0	4
82	MP4C	X	0	1
83	MP4C	Z	-3.328	1
84	MP4C	Mx	-.001	1
85	MP4C	X	0	4

Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
86	MP4C	Z	-3.328	4
87	MP4C	Mx	-.001	4
88	MP4B	X	0	1
89	MP4B	Z	-2.41	1
90	MP4B	Mx	.001	1
91	MP4B	X	0	4
92	MP4B	Z	-2.41	4
93	MP4B	Mx	.001	4

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	2.164	.5
2	MP2A	Z	-3.748	.5
3	MP2A	Mx	-.003	.5
4	MP2A	X	2.164	4.5
5	MP2A	Z	-3.748	4.5
6	MP2A	Mx	-.003	4.5
7	MP2B	X	1.18	.5
8	MP2B	Z	-2.043	.5
9	MP2B	Mx	.000783	.5
10	MP2B	X	1.18	4.5
11	MP2B	Z	-2.043	4.5
12	MP2B	Mx	.000783	4.5
13	MP2C	X	2.427	.5
14	MP2C	Z	-4.204	.5
15	MP2C	Mx	.002	.5
16	MP2C	X	2.427	4.5
17	MP2C	Z	-4.204	4.5
18	MP2C	Mx	.002	4.5
19	MP2A	X	2.164	.5
20	MP2A	Z	-3.748	.5
21	MP2A	Mx	.001	.5
22	MP2A	X	2.164	4.5
23	MP2A	Z	-3.748	4.5
24	MP2A	Mx	.001	4.5
25	MP2B	X	1.18	.5
26	MP2B	Z	-2.043	.5
27	MP2B	Mx	.001	.5
28	MP2B	X	1.18	4.5
29	MP2B	Z	-2.043	4.5
30	MP2B	Mx	.001	4.5
31	MP2C	X	2.427	.5
32	MP2C	Z	-4.204	.5
33	MP2C	Mx	-.003	.5
34	MP2C	X	2.427	4.5
35	MP2C	Z	-4.204	4.5
36	MP2C	Mx	-.003	4.5
37	MP1A	X	1.231	1.5
38	MP1A	Z	-2.131	1.5
39	MP1A	Mx	-.000616	1.5
40	MP1A	X	1.231	3.5
41	MP1A	Z	-2.131	3.5
42	MP1A	Mx	-.000616	3.5
43	MP1B	X	.58	1.5
44	MP1B	Z	-1.004	1.5
45	MP1B	Mx	.00056	1.5

Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	MP1B	X	.58	3.5
47	MP1B	Z	-1.004	3.5
48	MP1B	Mx	.00056	3.5
49	MP1C	X	1.405	1.5
50	MP1C	Z	-2.434	1.5
51	MP1C	Mx	-.000364	1.5
52	MP1C	X	1.405	3.5
53	MP1C	Z	-2.434	3.5
54	MP1C	Mx	-.000364	3.5
55	MP2A	X	1.322	2
56	MP2A	Z	-2.29	2
57	MP2A	Mx	.000661	2
58	MP2B	X	.999	2
59	MP2B	Z	-1.73	2
60	MP2B	Mx	-.000965	2
61	MP2C	X	1.409	2
62	MP2C	Z	-2.441	2
63	MP2C	Mx	.000365	2
64	MP3A	X	1.6	2
65	MP3A	Z	-2.772	2
66	MP3A	Mx	.0008	2
67	MP3B	X	1.222	2
68	MP3B	Z	-2.117	2
69	MP3B	Mx	-.001	2
70	MP3C	X	1.701	2
71	MP3C	Z	-2.947	2
72	MP3C	Mx	.000441	2
73	M103	X	2.594	1.5
74	M103	Z	-4.492	1.5
75	M103	Mx	0	1.5
76	MP4A	X	3.709	1
77	MP4A	Z	-6.423	1
78	MP4A	Mx	-.002	1
79	MP4A	X	3.709	4
80	MP4A	Z	-6.423	4
81	MP4A	Mx	-.002	4
82	MP4C	X	2.123	1
83	MP4C	Z	-3.677	1
84	MP4C	Mx	-.000549	1
85	MP4C	X	2.123	4
86	MP4C	Z	-3.677	4
87	MP4C	Mx	-.000549	4
88	MP4B	X	1.205	1
89	MP4B	Z	-2.088	1
90	MP4B	Mx	.001	1
91	MP4B	X	1.205	4
92	MP4B	Z	-2.088	4
93	MP4B	Mx	.001	4

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	2.5	.5
2	MP2A	Z	-1.443	.5
3	MP2A	Mx	-.002	.5
4	MP2A	X	2.5	4.5
5	MP2A	Z	-1.443	4.5

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
6	MP2A	Mx	-.002	4.5
7	MP2B	X	3.124	.5
8	MP2B	Z	-1.803	.5
9	MP2B	Mx	-.000213	.5
10	MP2B	X	3.124	4.5
11	MP2B	Z	-1.803	4.5
12	MP2B	Mx	-.000213	4.5
13	MP2C	X	4.204	.5
14	MP2C	Z	-2.427	.5
15	MP2C	Mx	.003	.5
16	MP2C	X	4.204	4.5
17	MP2C	Z	-2.427	4.5
18	MP2C	Mx	.003	4.5
19	MP2A	X	2.5	.5
20	MP2A	Z	-1.443	.5
21	MP2A	Mx	-.000408	.5
22	MP2A	X	2.5	4.5
23	MP2A	Z	-1.443	4.5
24	MP2A	Mx	-.000408	4.5
25	MP2B	X	3.124	.5
26	MP2B	Z	-1.803	.5
27	MP2B	Mx	.003	.5
28	MP2B	X	3.124	4.5
29	MP2B	Z	-1.803	4.5
30	MP2B	Mx	.003	4.5
31	MP2C	X	4.204	.5
32	MP2C	Z	-2.427	.5
33	MP2C	Mx	-.002	.5
34	MP2C	X	4.204	4.5
35	MP2C	Z	-2.427	4.5
36	MP2C	Mx	-.002	4.5
37	MP1A	X	1.306	1.5
38	MP1A	Z	-.754	1.5
39	MP1A	Mx	-.000653	1.5
40	MP1A	X	1.306	3.5
41	MP1A	Z	-.754	3.5
42	MP1A	Mx	-.000653	3.5
43	MP1B	X	1.719	1.5
44	MP1B	Z	-.992	1.5
45	MP1B	Mx	.000702	1.5
46	MP1B	X	1.719	3.5
47	MP1B	Z	-.992	3.5
48	MP1B	Mx	.000702	3.5
49	MP1C	X	2.434	1.5
50	MP1C	Z	-1.405	1.5
51	MP1C	Mx	.000364	1.5
52	MP1C	X	2.434	3.5
53	MP1C	Z	-1.405	3.5
54	MP1C	Mx	.000364	3.5
55	MP2A	X	1.88	2
56	MP2A	Z	-1.085	2
57	MP2A	Mx	.00094	2
58	MP2B	X	2.085	2
59	MP2B	Z	-1.204	2
60	MP2B	Mx	-.000851	2
61	MP2C	X	2.441	2
62	MP2C	Z	-1.409	2

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP2C	Mx	-.000365	2
64	MP3A	X	2.292	2
65	MP3A	Z	-1.324	2
66	MP3A	Mx	.001	2
67	MP3B	X	2.532	2
68	MP3B	Z	-1.462	2
69	MP3B	Mx	-.001	2
70	MP3C	X	2.947	2
71	MP3C	Z	-1.701	2
72	MP3C	Mx	-.000441	2
73	M103	X	3.962	1.5
74	M103	Z	-2.288	1.5
75	M103	Mx	0	1.5
76	MP4A	X	4.038	1
77	MP4A	Z	-2.331	1
78	MP4A	Mx	-.002	1
79	MP4A	X	4.038	4
80	MP4A	Z	-2.331	4
81	MP4A	Mx	-.002	4
82	MP4C	X	3.677	1
83	MP4C	Z	-2.123	1
84	MP4C	Mx	.000549	1
85	MP4C	X	3.677	4
86	MP4C	Z	-2.123	4
87	MP4C	Mx	.000549	4
88	MP4B	X	2.882	1
89	MP4B	Z	-1.664	1
90	MP4B	Mx	.001	1
91	MP4B	X	2.882	4
92	MP4B	Z	-1.664	4
93	MP4B	Mx	.001	4

Member Point Loads (BLC 30 : Antenna Wm (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	2.166	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	-.001	.5
4	MP2A	X	2.166	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	-.001	4.5
7	MP2B	X	4.855	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	-.002	.5
10	MP2B	X	4.855	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	-.002	4.5
13	MP2C	X	3.607	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	.003	.5
16	MP2C	X	3.607	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	.003	4.5
19	MP2A	X	2.166	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.001	.5
22	MP2A	X	2.166	4.5

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.001	4.5
25	MP2B	X	4.855	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	.003	.5
28	MP2B	X	4.855	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	.003	4.5
31	MP2C	X	3.607	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	-.000213	.5
34	MP2C	X	3.607	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	-.000213	4.5
37	MP1A	X	1.032	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	-.000516	1.5
40	MP1A	X	1.032	3.5
41	MP1A	Z	0	3.5
42	MP1A	Mx	-.000516	3.5
43	MP1B	X	2.81	1.5
44	MP1B	Z	0	1.5
45	MP1B	Mx	.000364	1.5
46	MP1B	X	2.81	3.5
47	MP1B	Z	0	3.5
48	MP1B	Mx	.000364	3.5
49	MP1C	X	1.985	1.5
50	MP1C	Z	0	1.5
51	MP1C	Mx	.000702	1.5
52	MP1C	X	1.985	3.5
53	MP1C	Z	0	3.5
54	MP1C	Mx	.000702	3.5
55	MP2A	X	1.934	2
56	MP2A	Z	0	2
57	MP2A	Mx	.000967	2
58	MP2B	X	2.818	2
59	MP2B	Z	0	2
60	MP2B	Mx	-.000365	2
61	MP2C	X	2.408	2
62	MP2C	Z	0	2
63	MP2C	Mx	-.000851	2
64	MP3A	X	2.371	2
65	MP3A	Z	0	2
66	MP3A	Mx	.001	2
67	MP3B	X	3.403	2
68	MP3B	Z	0	2
69	MP3B	Mx	-.00044	2
70	MP3C	X	2.924	2
71	MP3C	Z	0	2
72	MP3C	Mx	-.001	2
73	M103	X	4.575	1.5
74	M103	Z	0	1.5
75	M103	Mx	0	1.5
76	MP4A	X	3.285	1
77	MP4A	Z	0	1
78	MP4A	Mx	-.002	1
79	MP4A	X	3.285	4

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
80	MP4A	Z	0	4
81	MP4A	Mx	-.002	4
82	MP4C	X	3.328	1
83	MP4C	Z	0	1
84	MP4C	Mx	.001	1
85	MP4C	X	3.328	4
86	MP4C	Z	0	4
87	MP4C	Mx	.001	4
88	MP4B	X	4.246	1
89	MP4B	Z	0	1
90	MP4B	Mx	.000549	1
91	MP4B	X	4.246	4
92	MP4B	Z	0	4
93	MP4B	Mx	.000549	4

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	2.5	.5
2	MP2A	Z	1.443	.5
3	MP2A	Mx	-.000408	.5
4	MP2A	X	2.5	4.5
5	MP2A	Z	1.443	4.5
6	MP2A	Mx	-.000408	4.5
7	MP2B	X	4.204	.5
8	MP2B	Z	2.427	.5
9	MP2B	Mx	-.003	.5
10	MP2B	X	4.204	4.5
11	MP2B	Z	2.427	4.5
12	MP2B	Mx	-.003	4.5
13	MP2C	X	2.043	.5
14	MP2C	Z	1.18	.5
15	MP2C	Mx	.001	.5
16	MP2C	X	2.043	4.5
17	MP2C	Z	1.18	4.5
18	MP2C	Mx	.001	4.5
19	MP2A	X	2.5	.5
20	MP2A	Z	1.443	.5
21	MP2A	Mx	-.002	.5
22	MP2A	X	2.5	4.5
23	MP2A	Z	1.443	4.5
24	MP2A	Mx	-.002	4.5
25	MP2B	X	4.204	.5
26	MP2B	Z	2.427	.5
27	MP2B	Mx	.002	.5
28	MP2B	X	4.204	4.5
29	MP2B	Z	2.427	4.5
30	MP2B	Mx	.002	4.5
31	MP2C	X	2.043	.5
32	MP2C	Z	1.18	.5
33	MP2C	Mx	.000784	.5
34	MP2C	X	2.043	4.5
35	MP2C	Z	1.18	4.5
36	MP2C	Mx	.000784	4.5
37	MP1A	X	1.306	1.5
38	MP1A	Z	.754	1.5
39	MP1A	Mx	-.000653	1.5

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
40	MP1A	X	1.306	3.5
41	MP1A	Z	.754	3.5
42	MP1A	Mx	-.000653	3.5
43	MP1B	X	2.434	1.5
44	MP1B	Z	1.405	1.5
45	MP1B	Mx	-.000364	1.5
46	MP1B	X	2.434	3.5
47	MP1B	Z	1.405	3.5
48	MP1B	Mx	-.000364	3.5
49	MP1C	X	1.004	1.5
50	MP1C	Z	.58	1.5
51	MP1C	Mx	.00056	1.5
52	MP1C	X	1.004	3.5
53	MP1C	Z	.58	3.5
54	MP1C	Mx	.00056	3.5
55	MP2A	X	1.88	2
56	MP2A	Z	1.085	2
57	MP2A	Mx	.00094	2
58	MP2B	X	2.441	2
59	MP2B	Z	1.409	2
60	MP2B	Mx	.000365	2
61	MP2C	X	1.73	2
62	MP2C	Z	.999	2
63	MP2C	Mx	-.000965	2
64	MP3A	X	2.292	2
65	MP3A	Z	1.324	2
66	MP3A	Mx	.001	2
67	MP3B	X	2.947	2
68	MP3B	Z	1.701	2
69	MP3B	Mx	.00044	2
70	MP3C	X	2.117	2
71	MP3C	Z	1.222	2
72	MP3C	Mx	-.001	2
73	M103	X	4.492	1.5
74	M103	Z	2.594	1.5
75	M103	Mx	0	1.5
76	MP4A	X	4.038	1
77	MP4A	Z	2.331	1
78	MP4A	Mx	-.002	1
79	MP4A	X	4.038	4
80	MP4A	Z	2.331	4
81	MP4A	Mx	-.002	4
82	MP4C	X	2.088	1
83	MP4C	Z	1.205	1
84	MP4C	Mx	.001	1
85	MP4C	X	2.088	4
86	MP4C	Z	1.205	4
87	MP4C	Mx	.001	4
88	MP4B	X	3.677	1
89	MP4B	Z	2.123	1
90	MP4B	Mx	-.000549	1
91	MP4B	X	3.677	4
92	MP4B	Z	2.123	4
93	MP4B	Mx	-.000549	4

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	2.164	.5
2	MP2A	Z	3.748	.5
3	MP2A	Mx	.001	.5
4	MP2A	X	2.164	4.5
5	MP2A	Z	3.748	4.5
6	MP2A	Mx	.001	4.5
7	MP2B	X	1.803	.5
8	MP2B	Z	3.124	.5
9	MP2B	Mx	-.003	.5
10	MP2B	X	1.803	4.5
11	MP2B	Z	3.124	4.5
12	MP2B	Mx	-.003	4.5
13	MP2C	X	1.18	.5
14	MP2C	Z	2.043	.5
15	MP2C	Mx	.000784	.5
16	MP2C	X	1.18	4.5
17	MP2C	Z	2.043	4.5
18	MP2C	Mx	.000784	4.5
19	MP2A	X	2.164	.5
20	MP2A	Z	3.748	.5
21	MP2A	Mx	-.003	.5
22	MP2A	X	2.164	4.5
23	MP2A	Z	3.748	4.5
24	MP2A	Mx	-.003	4.5
25	MP2B	X	1.803	.5
26	MP2B	Z	3.124	.5
27	MP2B	Mx	.000212	.5
28	MP2B	X	1.803	4.5
29	MP2B	Z	3.124	4.5
30	MP2B	Mx	.000212	4.5
31	MP2C	X	1.18	.5
32	MP2C	Z	2.043	.5
33	MP2C	Mx	.001	.5
34	MP2C	X	1.18	4.5
35	MP2C	Z	2.043	4.5
36	MP2C	Mx	.001	4.5
37	MP1A	X	1.231	1.5
38	MP1A	Z	2.131	1.5
39	MP1A	Mx	-.000616	1.5
40	MP1A	X	1.231	3.5
41	MP1A	Z	2.131	3.5
42	MP1A	Mx	-.000616	3.5
43	MP1B	X	.992	1.5
44	MP1B	Z	1.719	1.5
45	MP1B	Mx	-.000702	1.5
46	MP1B	X	.992	3.5
47	MP1B	Z	1.719	3.5
48	MP1B	Mx	-.000702	3.5
49	MP1C	X	.58	1.5
50	MP1C	Z	1.004	1.5
51	MP1C	Mx	.00056	1.5
52	MP1C	X	.58	3.5
53	MP1C	Z	1.004	3.5
54	MP1C	Mx	.00056	3.5
55	MP2A	X	1.322	2
56	MP2A	Z	2.29	2
57	MP2A	Mx	.000661	2

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
58	MP2B	X	1.204	2
59	MP2B	Z	2.085	2
60	MP2B	Mx	.000851	2
61	MP2C	X	.999	2
62	MP2C	Z	1.73	2
63	MP2C	Mx	-.000965	2
64	MP3A	X	1.6	2
65	MP3A	Z	2.772	2
66	MP3A	Mx	.0008	2
67	MP3B	X	1.462	2
68	MP3B	Z	2.532	2
69	MP3B	Mx	.001	2
70	MP3C	X	1.222	2
71	MP3C	Z	2.117	2
72	MP3C	Mx	-.001	2
73	M103	X	2.9	1.5
74	M103	Z	5.022	1.5
75	M103	Mx	0	1.5
76	MP4A	X	3.709	1
77	MP4A	Z	6.423	1
78	MP4A	Mx	-.002	1
79	MP4A	X	3.709	4
80	MP4A	Z	6.423	4
81	MP4A	Mx	-.002	4
82	MP4C	X	1.205	1
83	MP4C	Z	2.088	1
84	MP4C	Mx	.001	1
85	MP4C	X	1.205	4
86	MP4C	Z	2.088	4
87	MP4C	Mx	.001	4
88	MP4B	X	1.664	1
89	MP4B	Z	2.882	1
90	MP4B	Mx	-.001	1
91	MP4B	X	1.664	4
92	MP4B	Z	2.882	4
93	MP4B	Mx	-.001	4

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	.5
2	MP2A	Z	5.048	.5
3	MP2A	Mx	.003	.5
4	MP2A	X	0	4.5
5	MP2A	Z	5.048	4.5
6	MP2A	Mx	.003	4.5
7	MP2B	X	0	.5
8	MP2B	Z	2.359	.5
9	MP2B	Mx	-.001	.5
10	MP2B	X	0	4.5
11	MP2B	Z	2.359	4.5
12	MP2B	Mx	-.001	4.5
13	MP2C	X	0	.5
14	MP2C	Z	3.607	.5
15	MP2C	Mx	-.000213	.5
16	MP2C	X	0	4.5
17	MP2C	Z	3.607	4.5

Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP2C	Mx	-.000213	4.5
19	MP2A	X	0	.5
20	MP2A	Z	5.048	.5
21	MP2A	Mx	-.003	.5
22	MP2A	X	0	4.5
23	MP2A	Z	5.048	4.5
24	MP2A	Mx	-.003	4.5
25	MP2B	X	0	.5
26	MP2B	Z	2.359	.5
27	MP2B	Mx	-.000783	.5
28	MP2B	X	0	4.5
29	MP2B	Z	2.359	4.5
30	MP2B	Mx	-.000783	4.5
31	MP2C	X	0	.5
32	MP2C	Z	3.607	.5
33	MP2C	Mx	.003	.5
34	MP2C	X	0	4.5
35	MP2C	Z	3.607	4.5
36	MP2C	Mx	.003	4.5
37	MP1A	X	0	1.5
38	MP1A	Z	2.938	1.5
39	MP1A	Mx	0	1.5
40	MP1A	X	0	3.5
41	MP1A	Z	2.938	3.5
42	MP1A	Mx	0	3.5
43	MP1B	X	0	1.5
44	MP1B	Z	1.16	1.5
45	MP1B	Mx	-.00056	1.5
46	MP1B	X	0	3.5
47	MP1B	Z	1.16	3.5
48	MP1B	Mx	-.00056	3.5
49	MP1C	X	0	1.5
50	MP1C	Z	1.985	1.5
51	MP1C	Mx	.000702	1.5
52	MP1C	X	0	3.5
53	MP1C	Z	1.985	3.5
54	MP1C	Mx	.000702	3.5
55	MP2A	X	0	2
56	MP2A	Z	2.882	2
57	MP2A	Mx	0	2
58	MP2B	X	0	2
59	MP2B	Z	1.997	2
60	MP2B	Mx	.000964	2
61	MP2C	X	0	2
62	MP2C	Z	2.408	2
63	MP2C	Mx	-.000851	2
64	MP3A	X	0	2
65	MP3A	Z	3.477	2
66	MP3A	Mx	0	2
67	MP3B	X	0	2
68	MP3B	Z	2.445	2
69	MP3B	Mx	.001	2
70	MP3C	X	0	2
71	MP3C	Z	2.924	2
72	MP3C	Mx	-.001	2
73	M103	X	0	1.5
74	M103	Z	5.799	1.5

Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
75	M103	Mx	0	1.5
76	MP4A	X	0	1
77	MP4A	Z	8.794	1
78	MP4A	Mx	0	1
79	MP4A	X	0	4
80	MP4A	Z	8.794	4
81	MP4A	Mx	0	4
82	MP4C	X	0	1
83	MP4C	Z	3.328	1
84	MP4C	Mx	.001	1
85	MP4C	X	0	4
86	MP4C	Z	3.328	4
87	MP4C	Mx	.001	4
88	MP4B	X	0	1
89	MP4B	Z	2.41	1
90	MP4B	Mx	-.001	1
91	MP4B	X	0	4
92	MP4B	Z	2.41	4
93	MP4B	Mx	-.001	4

Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-2.164	.5
2	MP2A	Z	3.748	.5
3	MP2A	Mx	.003	.5
4	MP2A	X	-2.164	4.5
5	MP2A	Z	3.748	4.5
6	MP2A	Mx	.003	4.5
7	MP2B	X	-1.18	.5
8	MP2B	Z	2.043	.5
9	MP2B	Mx	-.000783	.5
10	MP2B	X	-1.18	4.5
11	MP2B	Z	2.043	4.5
12	MP2B	Mx	-.000783	4.5
13	MP2C	X	-2.427	.5
14	MP2C	Z	4.204	.5
15	MP2C	Mx	-.002	.5
16	MP2C	X	-2.427	4.5
17	MP2C	Z	4.204	4.5
18	MP2C	Mx	-.002	4.5
19	MP2A	X	-2.164	.5
20	MP2A	Z	3.748	.5
21	MP2A	Mx	-.001	.5
22	MP2A	X	-2.164	4.5
23	MP2A	Z	3.748	4.5
24	MP2A	Mx	-.001	4.5
25	MP2B	X	-1.18	.5
26	MP2B	Z	2.043	.5
27	MP2B	Mx	-.001	.5
28	MP2B	X	-1.18	4.5
29	MP2B	Z	2.043	4.5
30	MP2B	Mx	-.001	4.5
31	MP2C	X	-2.427	.5
32	MP2C	Z	4.204	.5
33	MP2C	Mx	.003	.5
34	MP2C	X	-2.427	4.5

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
35	MP2C	Z	4.204	4.5
36	MP2C	Mx	.003	4.5
37	MP1A	X	-1.231	1.5
38	MP1A	Z	2.131	1.5
39	MP1A	Mx	.000616	1.5
40	MP1A	X	-1.231	3.5
41	MP1A	Z	2.131	3.5
42	MP1A	Mx	.000616	3.5
43	MP1B	X	-.58	1.5
44	MP1B	Z	1.004	1.5
45	MP1B	Mx	-.00056	1.5
46	MP1B	X	-.58	3.5
47	MP1B	Z	1.004	3.5
48	MP1B	Mx	-.00056	3.5
49	MP1C	X	-1.405	1.5
50	MP1C	Z	2.434	1.5
51	MP1C	Mx	.000364	1.5
52	MP1C	X	-1.405	3.5
53	MP1C	Z	2.434	3.5
54	MP1C	Mx	.000364	3.5
55	MP2A	X	-1.322	2
56	MP2A	Z	2.29	2
57	MP2A	Mx	-.000661	2
58	MP2B	X	-.999	2
59	MP2B	Z	1.73	2
60	MP2B	Mx	.000965	2
61	MP2C	X	-1.409	2
62	MP2C	Z	2.441	2
63	MP2C	Mx	-.000365	2
64	MP3A	X	-1.6	2
65	MP3A	Z	2.772	2
66	MP3A	Mx	-.0008	2
67	MP3B	X	-1.222	2
68	MP3B	Z	2.117	2
69	MP3B	Mx	.001	2
70	MP3C	X	-1.701	2
71	MP3C	Z	2.947	2
72	MP3C	Mx	-.000441	2
73	M103	X	-2.594	1.5
74	M103	Z	4.492	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-3.709	1
77	MP4A	Z	6.423	1
78	MP4A	Mx	.002	1
79	MP4A	X	-3.709	4
80	MP4A	Z	6.423	4
81	MP4A	Mx	.002	4
82	MP4C	X	-2.123	1
83	MP4C	Z	3.677	1
84	MP4C	Mx	.000549	1
85	MP4C	X	-2.123	4
86	MP4C	Z	3.677	4
87	MP4C	Mx	.000549	4
88	MP4B	X	-1.205	1
89	MP4B	Z	2.088	1
90	MP4B	Mx	-.001	1
91	MP4B	X	-1.205	4

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
92	MP4B	Z	2.088	4
93	MP4B	Mx	-.001	4

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-2.5	.5
2	MP2A	Z	1.443	.5
3	MP2A	Mx	.002	.5
4	MP2A	X	-2.5	4.5
5	MP2A	Z	1.443	4.5
6	MP2A	Mx	.002	4.5
7	MP2B	X	-3.124	.5
8	MP2B	Z	1.803	.5
9	MP2B	Mx	.000213	.5
10	MP2B	X	-3.124	4.5
11	MP2B	Z	1.803	4.5
12	MP2B	Mx	.000213	4.5
13	MP2C	X	-4.204	.5
14	MP2C	Z	2.427	.5
15	MP2C	Mx	-.003	.5
16	MP2C	X	-4.204	4.5
17	MP2C	Z	2.427	4.5
18	MP2C	Mx	-.003	4.5
19	MP2A	X	-2.5	.5
20	MP2A	Z	1.443	.5
21	MP2A	Mx	.000408	.5
22	MP2A	X	-2.5	4.5
23	MP2A	Z	1.443	4.5
24	MP2A	Mx	.000408	4.5
25	MP2B	X	-3.124	.5
26	MP2B	Z	1.803	.5
27	MP2B	Mx	-.003	.5
28	MP2B	X	-3.124	4.5
29	MP2B	Z	1.803	4.5
30	MP2B	Mx	-.003	4.5
31	MP2C	X	-4.204	.5
32	MP2C	Z	2.427	.5
33	MP2C	Mx	.002	.5
34	MP2C	X	-4.204	4.5
35	MP2C	Z	2.427	4.5
36	MP2C	Mx	.002	4.5
37	MP1A	X	-1.306	1.5
38	MP1A	Z	.754	1.5
39	MP1A	Mx	.000653	1.5
40	MP1A	X	-1.306	3.5
41	MP1A	Z	.754	3.5
42	MP1A	Mx	.000653	3.5
43	MP1B	X	-1.719	1.5
44	MP1B	Z	.992	1.5
45	MP1B	Mx	-.000702	1.5
46	MP1B	X	-1.719	3.5
47	MP1B	Z	.992	3.5
48	MP1B	Mx	-.000702	3.5
49	MP1C	X	-2.434	1.5
50	MP1C	Z	1.405	1.5
51	MP1C	Mx	-.000364	1.5

Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
52	MP1C	X	-2.434	3.5
53	MP1C	Z	1.405	3.5
54	MP1C	Mx	-.000364	3.5
55	MP2A	X	-1.88	2
56	MP2A	Z	1.085	2
57	MP2A	Mx	-.00094	2
58	MP2B	X	-2.085	2
59	MP2B	Z	1.204	2
60	MP2B	Mx	.000851	2
61	MP2C	X	-2.441	2
62	MP2C	Z	1.409	2
63	MP2C	Mx	.000365	2
64	MP3A	X	-2.292	2
65	MP3A	Z	1.324	2
66	MP3A	Mx	-.001	2
67	MP3B	X	-2.532	2
68	MP3B	Z	1.462	2
69	MP3B	Mx	.001	2
70	MP3C	X	-2.947	2
71	MP3C	Z	1.701	2
72	MP3C	Mx	.000441	2
73	M103	X	-3.962	1.5
74	M103	Z	2.288	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-4.038	1
77	MP4A	Z	2.331	1
78	MP4A	Mx	.002	1
79	MP4A	X	-4.038	4
80	MP4A	Z	2.331	4
81	MP4A	Mx	.002	4
82	MP4C	X	-3.677	1
83	MP4C	Z	2.123	1
84	MP4C	Mx	-.000549	1
85	MP4C	X	-3.677	4
86	MP4C	Z	2.123	4
87	MP4C	Mx	-.000549	4
88	MP4B	X	-2.882	1
89	MP4B	Z	1.664	1
90	MP4B	Mx	-.001	1
91	MP4B	X	-2.882	4
92	MP4B	Z	1.664	4
93	MP4B	Mx	-.001	4

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-2.166	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	.001	.5
4	MP2A	X	-2.166	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	.001	4.5
7	MP2B	X	-4.855	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	.002	.5
10	MP2B	X	-4.855	4.5
11	MP2B	Z	0	4.5

Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
12	MP2B	Mx	.002	4.5
13	MP2C	X	-3.607	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	-.003	.5
16	MP2C	X	-3.607	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	-.003	4.5
19	MP2A	X	-2.166	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.001	.5
22	MP2A	X	-2.166	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.001	4.5
25	MP2B	X	-4.855	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	-.003	.5
28	MP2B	X	-4.855	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	-.003	4.5
31	MP2C	X	-3.607	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	.000213	.5
34	MP2C	X	-3.607	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	.000213	4.5
37	MP1A	X	-1.032	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	.000516	1.5
40	MP1A	X	-1.032	3.5
41	MP1A	Z	0	3.5
42	MP1A	Mx	.000516	3.5
43	MP1B	X	-2.81	1.5
44	MP1B	Z	0	1.5
45	MP1B	Mx	-.000364	1.5
46	MP1B	X	-2.81	3.5
47	MP1B	Z	0	3.5
48	MP1B	Mx	-.000364	3.5
49	MP1C	X	-1.985	1.5
50	MP1C	Z	0	1.5
51	MP1C	Mx	-.000702	1.5
52	MP1C	X	-1.985	3.5
53	MP1C	Z	0	3.5
54	MP1C	Mx	-.000702	3.5
55	MP2A	X	-1.934	2
56	MP2A	Z	0	2
57	MP2A	Mx	-.000967	2
58	MP2B	X	-2.818	2
59	MP2B	Z	0	2
60	MP2B	Mx	.000365	2
61	MP2C	X	-2.408	2
62	MP2C	Z	0	2
63	MP2C	Mx	.000851	2
64	MP3A	X	-2.371	2
65	MP3A	Z	0	2
66	MP3A	Mx	-.001	2
67	MP3B	X	-3.403	2
68	MP3B	Z	0	2

Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
69	MP3B	Mx	.00044	2
70	MP3C	X	-2.924	2
71	MP3C	Z	0	2
72	MP3C	Mx	.001	2
73	M103	X	-4.575	1.5
74	M103	Z	0	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-3.285	1
77	MP4A	Z	0	1
78	MP4A	Mx	.002	1
79	MP4A	X	-3.285	4
80	MP4A	Z	0	4
81	MP4A	Mx	.002	4
82	MP4C	X	-3.328	1
83	MP4C	Z	0	1
84	MP4C	Mx	-.001	1
85	MP4C	X	-3.328	4
86	MP4C	Z	0	4
87	MP4C	Mx	-.001	4
88	MP4B	X	-4.246	1
89	MP4B	Z	0	1
90	MP4B	Mx	-.000549	1
91	MP4B	X	-4.246	4
92	MP4B	Z	0	4
93	MP4B	Mx	-.000549	4

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-2.5	.5
2	MP2A	Z	-1.443	.5
3	MP2A	Mx	.000408	.5
4	MP2A	X	-2.5	4.5
5	MP2A	Z	-1.443	4.5
6	MP2A	Mx	.000408	4.5
7	MP2B	X	-4.204	.5
8	MP2B	Z	-2.427	.5
9	MP2B	Mx	.003	.5
10	MP2B	X	-4.204	4.5
11	MP2B	Z	-2.427	4.5
12	MP2B	Mx	.003	4.5
13	MP2C	X	-2.043	.5
14	MP2C	Z	-1.18	.5
15	MP2C	Mx	-.001	.5
16	MP2C	X	-2.043	4.5
17	MP2C	Z	-1.18	4.5
18	MP2C	Mx	-.001	4.5
19	MP2A	X	-2.5	.5
20	MP2A	Z	-1.443	.5
21	MP2A	Mx	.002	.5
22	MP2A	X	-2.5	4.5
23	MP2A	Z	-1.443	4.5
24	MP2A	Mx	.002	4.5
25	MP2B	X	-4.204	.5
26	MP2B	Z	-2.427	.5
27	MP2B	Mx	-.002	.5
28	MP2B	X	-4.204	4.5

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2B	Z	-2.427	4.5
30	MP2B	Mx	-.002	4.5
31	MP2C	X	-2.043	.5
32	MP2C	Z	-1.18	.5
33	MP2C	Mx	-.000784	.5
34	MP2C	X	-2.043	4.5
35	MP2C	Z	-1.18	4.5
36	MP2C	Mx	-.000784	4.5
37	MP1A	X	-1.306	1.5
38	MP1A	Z	-.754	1.5
39	MP1A	Mx	.000653	1.5
40	MP1A	X	-1.306	3.5
41	MP1A	Z	-.754	3.5
42	MP1A	Mx	.000653	3.5
43	MP1B	X	-2.434	1.5
44	MP1B	Z	-1.405	1.5
45	MP1B	Mx	.000364	1.5
46	MP1B	X	-2.434	3.5
47	MP1B	Z	-1.405	3.5
48	MP1B	Mx	.000364	3.5
49	MP1C	X	-1.004	1.5
50	MP1C	Z	-.58	1.5
51	MP1C	Mx	-.00056	1.5
52	MP1C	X	-1.004	3.5
53	MP1C	Z	-.58	3.5
54	MP1C	Mx	-.00056	3.5
55	MP2A	X	-1.88	2
56	MP2A	Z	-1.085	2
57	MP2A	Mx	-.00094	2
58	MP2B	X	-2.441	2
59	MP2B	Z	-1.409	2
60	MP2B	Mx	-.000365	2
61	MP2C	X	-1.73	2
62	MP2C	Z	-.999	2
63	MP2C	Mx	.000965	2
64	MP3A	X	-2.292	2
65	MP3A	Z	-1.324	2
66	MP3A	Mx	-.001	2
67	MP3B	X	-2.947	2
68	MP3B	Z	-1.701	2
69	MP3B	Mx	-.00044	2
70	MP3C	X	-2.117	2
71	MP3C	Z	-1.222	2
72	MP3C	Mx	.001	2
73	M103	X	-4.492	1.5
74	M103	Z	-2.594	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-4.038	1
77	MP4A	Z	-2.331	1
78	MP4A	Mx	.002	1
79	MP4A	X	-4.038	4
80	MP4A	Z	-2.331	4
81	MP4A	Mx	.002	4
82	MP4C	X	-2.088	1
83	MP4C	Z	-1.205	1
84	MP4C	Mx	-.001	1
85	MP4C	X	-2.088	4

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
86	MP4C	Z	-1.205	4
87	MP4C	Mx	-.001	4
88	MP4B	X	-3.677	1
89	MP4B	Z	-2.123	1
90	MP4B	Mx	.000549	1
91	MP4B	X	-3.677	4
92	MP4B	Z	-2.123	4
93	MP4B	Mx	.000549	4

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-2.164	.5
2	MP2A	Z	-3.748	.5
3	MP2A	Mx	-.001	.5
4	MP2A	X	-2.164	4.5
5	MP2A	Z	-3.748	4.5
6	MP2A	Mx	-.001	4.5
7	MP2B	X	-1.803	.5
8	MP2B	Z	-3.124	.5
9	MP2B	Mx	.003	.5
10	MP2B	X	-1.803	4.5
11	MP2B	Z	-3.124	4.5
12	MP2B	Mx	.003	4.5
13	MP2C	X	-1.18	.5
14	MP2C	Z	-2.043	.5
15	MP2C	Mx	-.000784	.5
16	MP2C	X	-1.18	4.5
17	MP2C	Z	-2.043	4.5
18	MP2C	Mx	-.000784	4.5
19	MP2A	X	-2.164	.5
20	MP2A	Z	-3.748	.5
21	MP2A	Mx	.003	.5
22	MP2A	X	-2.164	4.5
23	MP2A	Z	-3.748	4.5
24	MP2A	Mx	.003	4.5
25	MP2B	X	-1.803	.5
26	MP2B	Z	-3.124	.5
27	MP2B	Mx	-.000212	.5
28	MP2B	X	-1.803	4.5
29	MP2B	Z	-3.124	4.5
30	MP2B	Mx	-.000212	4.5
31	MP2C	X	-1.18	.5
32	MP2C	Z	-2.043	.5
33	MP2C	Mx	-.001	.5
34	MP2C	X	-1.18	4.5
35	MP2C	Z	-2.043	4.5
36	MP2C	Mx	-.001	4.5
37	MP1A	X	-1.231	1.5
38	MP1A	Z	-2.131	1.5
39	MP1A	Mx	.000616	1.5
40	MP1A	X	-1.231	3.5
41	MP1A	Z	-2.131	3.5
42	MP1A	Mx	.000616	3.5
43	MP1B	X	-.992	1.5
44	MP1B	Z	-1.719	1.5
45	MP1B	Mx	.000702	1.5

Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	MP1B	X	-.992	3.5
47	MP1B	Z	-1.719	3.5
48	MP1B	Mx	.000702	3.5
49	MP1C	X	-.58	1.5
50	MP1C	Z	-1.004	1.5
51	MP1C	Mx	-.00056	1.5
52	MP1C	X	-.58	3.5
53	MP1C	Z	-1.004	3.5
54	MP1C	Mx	-.00056	3.5
55	MP2A	X	-1.322	2
56	MP2A	Z	-2.29	2
57	MP2A	Mx	-.000661	2
58	MP2B	X	-1.204	2
59	MP2B	Z	-2.085	2
60	MP2B	Mx	-.000851	2
61	MP2C	X	-.999	2
62	MP2C	Z	-1.73	2
63	MP2C	Mx	.000965	2
64	MP3A	X	-1.6	2
65	MP3A	Z	-2.772	2
66	MP3A	Mx	-.0008	2
67	MP3B	X	-1.462	2
68	MP3B	Z	-2.532	2
69	MP3B	Mx	-.001	2
70	MP3C	X	-1.222	2
71	MP3C	Z	-2.117	2
72	MP3C	Mx	.001	2
73	M103	X	-2.9	1.5
74	M103	Z	-5.022	1.5
75	M103	Mx	0	1.5
76	MP4A	X	-3.709	1
77	MP4A	Z	-6.423	1
78	MP4A	Mx	.002	1
79	MP4A	X	-3.709	4
80	MP4A	Z	-6.423	4
81	MP4A	Mx	.002	4
82	MP4C	X	-1.205	1
83	MP4C	Z	-2.088	1
84	MP4C	Mx	-.001	1
85	MP4C	X	-1.205	4
86	MP4C	Z	-2.088	4
87	MP4C	Mx	-.001	4
88	MP4B	X	-1.664	1
89	MP4B	Z	-2.882	1
90	MP4B	Mx	.001	1
91	MP4B	X	-1.664	4
92	MP4B	Z	-2.882	4
93	MP4B	Mx	.001	4

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M73	Y	-500	%96

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M73	Y	-500	%67

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M73	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M73	Y	-250	%50

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	Y	-.909	.5
2	MP2A	My	-.000454	.5
3	MP2A	Mz	.00053	.5
4	MP2A	Y	-.909	4.5
5	MP2A	My	-.000454	4.5
6	MP2A	Mz	.00053	4.5
7	MP2B	Y	-.909	.5
8	MP2B	My	-.000395	.5
9	MP2B	Mz	-.000576	.5
10	MP2B	Y	-.909	4.5
11	MP2B	My	-.000395	4.5
12	MP2B	Mz	-.000576	4.5
13	MP2C	Y	-.909	.5
14	MP2C	My	.000696	.5
15	MP2C	Mz	-5.4e-5	.5
16	MP2C	Y	-.909	4.5
17	MP2C	My	.000696	4.5
18	MP2C	Mz	-5.4e-5	4.5
19	MP2A	Y	-.909	.5
20	MP2A	My	-.000454	.5
21	MP2A	Mz	-.00053	.5
22	MP2A	Y	-.909	4.5
23	MP2A	My	-.000454	4.5
24	MP2A	Mz	-.00053	4.5
25	MP2B	Y	-.909	.5
26	MP2B	My	.00063	.5
27	MP2B	Mz	-.000302	.5
28	MP2B	Y	-.909	4.5
29	MP2B	My	.00063	4.5
30	MP2B	Mz	-.000302	4.5
31	MP2C	Y	-.909	.5
32	MP2C	My	-5.4e-5	.5
33	MP2C	Mz	.000696	.5
34	MP2C	Y	-.909	4.5
35	MP2C	My	-5.4e-5	4.5
36	MP2C	Mz	.000696	4.5
37	MP1A	Y	-1.192	1.5
38	MP1A	My	-.000596	1.5
39	MP1A	Mz	0	1.5
40	MP1A	Y	-1.192	3.5
41	MP1A	My	-.000596	3.5
42	MP1A	Mz	0	3.5
43	MP1B	Y	-1.192	1.5
44	MP1B	My	.000154	1.5
45	MP1B	Mz	-.000576	1.5
46	MP1B	Y	-1.192	3.5
47	MP1B	My	.000154	3.5
48	MP1B	Mz	-.000576	3.5

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
49	MP1C	Y	-1.192	1.5
50	MP1C	My	.000421	1.5
51	MP1C	Mz	.000421	1.5
52	MP1C	Y	-1.192	3.5
53	MP1C	My	.000421	3.5
54	MP1C	Mz	.000421	3.5
55	MP2A	Y	-3.108	2
56	MP2A	My	.002	2
57	MP2A	Mz	0	2
58	MP2B	Y	-3.108	2
59	MP2B	My	-.000402	2
60	MP2B	Mz	.002	2
61	MP2C	Y	-3.108	2
62	MP2C	My	-.001	2
63	MP2C	Mz	-.001	2
64	MP3A	Y	-3.291	2
65	MP3A	My	.002	2
66	MP3A	Mz	0	2
67	MP3B	Y	-3.291	2
68	MP3B	My	-.000426	2
69	MP3B	Mz	.002	2
70	MP3C	Y	-3.291	2
71	MP3C	My	-.001	2
72	MP3C	Mz	-.001	2
73	M103	Y	-1.331	1.5
74	M103	My	0	1.5
75	M103	Mz	0	1.5
76	MP4A	Y	-.52	1
77	MP4A	My	-.00026	1
78	MP4A	Mz	0	1
79	MP4A	Y	-.52	4
80	MP4A	My	-.00026	4
81	MP4A	Mz	0	4
82	MP4C	Y	-.206	1
83	MP4C	My	7.3e-5	1
84	MP4C	Mz	7.3e-5	1
85	MP4C	Y	-.206	4
86	MP4C	My	7.3e-5	4
87	MP4C	Mz	7.3e-5	4
88	MP4B	Y	-.206	1
89	MP4B	My	2.7e-5	1
90	MP4B	Mz	-9.9e-5	1
91	MP4B	Y	-.206	4
92	MP4B	My	2.7e-5	4
93	MP4B	Mz	-9.9e-5	4

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	Z	-2.272	.5
2	MP2A	Mx	-.001	.5
3	MP2A	Z	-2.272	4.5
4	MP2A	Mx	-.001	4.5
5	MP2B	Z	-2.272	.5
6	MP2B	Mx	.001	.5
7	MP2B	Z	-2.272	4.5
8	MP2B	Mx	.001	4.5

Member Point Loads (BLC 82 : Antenna Eh (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP2C	Z	-2.272	.5
10	MP2C	Mx	.000134	.5
11	MP2C	Z	-2.272	4.5
12	MP2C	Mx	.000134	4.5
13	MP2A	Z	-2.272	.5
14	MP2A	Mx	.001	.5
15	MP2A	Z	-2.272	4.5
16	MP2A	Mx	.001	4.5
17	MP2B	Z	-2.272	.5
18	MP2B	Mx	.000754	.5
19	MP2B	Z	-2.272	4.5
20	MP2B	Mx	.000754	4.5
21	MP2C	Z	-2.272	.5
22	MP2C	Mx	-.002	.5
23	MP2C	Z	-2.272	4.5
24	MP2C	Mx	-.002	4.5
25	MP1A	Z	-2.98	1.5
26	MP1A	Mx	0	1.5
27	MP1A	Z	-2.98	3.5
28	MP1A	Mx	0	3.5
29	MP1B	Z	-2.98	1.5
30	MP1B	Mx	.001	1.5
31	MP1B	Z	-2.98	3.5
32	MP1B	Mx	.001	3.5
33	MP1C	Z	-2.98	1.5
34	MP1C	Mx	-.001	1.5
35	MP1C	Z	-2.98	3.5
36	MP1C	Mx	-.001	3.5
37	MP2A	Z	-7.769	2
38	MP2A	Mx	0	2
39	MP2B	Z	-7.769	2
40	MP2B	Mx	-.004	2
41	MP2C	Z	-7.769	2
42	MP2C	Mx	.003	2
43	MP3A	Z	-8.226	2
44	MP3A	Mx	0	2
45	MP3B	Z	-8.226	2
46	MP3B	Mx	-.004	2
47	MP3C	Z	-8.226	2
48	MP3C	Mx	.003	2
49	M103	Z	-3.328	1.5
50	M103	Mx	0	1.5
51	MP4A	Z	-1.3	1
52	MP4A	Mx	0	1
53	MP4A	Z	-1.3	4
54	MP4A	Mx	0	4
55	MP4C	Z	-.515	1
56	MP4C	Mx	-.000182	1
57	MP4C	Z	-.515	4
58	MP4C	Mx	-.000182	4
59	MP4B	Z	-.515	1
60	MP4B	Mx	.000249	1
61	MP4B	Z	-.515	4
62	MP4B	Mx	.000249	4

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	2.272	.5
2	MP2A	Mx	-.001	.5
3	MP2A	X	2.272	4.5
4	MP2A	Mx	-.001	4.5
5	MP2B	X	2.272	.5
6	MP2B	Mx	-.000986	.5
7	MP2B	X	2.272	4.5
8	MP2B	Mx	-.000986	4.5
9	MP2C	X	2.272	.5
10	MP2C	Mx	.002	.5
11	MP2C	X	2.272	4.5
12	MP2C	Mx	.002	4.5
13	MP2A	X	2.272	.5
14	MP2A	Mx	-.001	.5
15	MP2A	X	2.272	4.5
16	MP2A	Mx	-.001	4.5
17	MP2B	X	2.272	.5
18	MP2B	Mx	.002	.5
19	MP2B	X	2.272	4.5
20	MP2B	Mx	.002	4.5
21	MP2C	X	2.272	.5
22	MP2C	Mx	-.000134	.5
23	MP2C	X	2.272	4.5
24	MP2C	Mx	-.000134	4.5
25	MP1A	X	2.98	1.5
26	MP1A	Mx	-.001	1.5
27	MP1A	X	2.98	3.5
28	MP1A	Mx	-.001	3.5
29	MP1B	X	2.98	1.5
30	MP1B	Mx	.000386	1.5
31	MP1B	X	2.98	3.5
32	MP1B	Mx	.000386	3.5
33	MP1C	X	2.98	1.5
34	MP1C	Mx	.001	1.5
35	MP1C	X	2.98	3.5
36	MP1C	Mx	.001	3.5
37	MP2A	X	7.769	2
38	MP2A	Mx	.004	2
39	MP2B	X	7.769	2
40	MP2B	Mx	-.001	2
41	MP2C	X	7.769	2
42	MP2C	Mx	-.003	2
43	MP3A	X	8.226	2
44	MP3A	Mx	.004	2
45	MP3B	X	8.226	2
46	MP3B	Mx	-.001	2
47	MP3C	X	8.226	2
48	MP3C	Mx	-.003	2
49	M103	X	3.328	1.5
50	M103	Mx	0	1.5
51	MP4A	X	1.3	1
52	MP4A	Mx	-.00065	1
53	MP4A	X	1.3	4
54	MP4A	Mx	-.00065	4
55	MP4C	X	.515	1
56	MP4C	Mx	.000182	1
57	MP4C	X	.515	4

Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
58	MP4C	Mx	.000182	4
59	MP4B	X	.515	1
60	MP4B	Mx	6.7e-5	1
61	MP4B	X	.515	4
62	MP4B	Mx	6.7e-5	4

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N87B	N7	N6	Y	Two Way	-.005
2	N55	N57	N33	N32	Y	Two Way	-.005
3	N84	N86	N62	N61	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N87B	N7	N6	Y	Two Way	-.012
2	N55	N57	N33	N32	Y	Two Way	-.012
3	N84	N86	N62	N61	Y	Two Way	-.012

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N87B	N7	N6	Y	Two Way	-.000216
2	N55	N57	N33	N32	Y	Two Way	-.000216
3	N84	N86	N62	N61	Y	Two Way	-.000216

Member Area Loads (BLC 85 : Structure Eh (0 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N87B	N7	N6	Z	Two Way	-.000541
2	N55	N57	N33	N32	Z	Two Way	-.000541
3	N84	N86	N62	N61	Z	Two Way	-.000541

Member Area Loads (BLC 86 : Structure Eh (90 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N87B	N7	N6	X	Two Way	.000541
2	N55	N57	N33	N32	X	Two Way	.000541
3	N84	N86	N62	N61	X	Two Way	.000541

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	N3	max	692.215	10	-23.456	7	3434.209	13	-.027	7	1.024	4	.156	22
2		min	-685.343	4	-636.075	13	-601.308	7	-.521	13	-1.016	10	-.02	4
3	N30A	max	3189.587	21	-40.333	3	327.893	2	.353	21	1.206	12	.476	21
4		min	-517.207	3	-717.822	21	-1841.133	20	-.149	39	-1.19	6	.026	3
5	N59	max	547.67	11	40.143	11	573.953	1	.095	4	1.159	8	-.081	12
6		min	-3039.289	17	-758.183	29	-1809.639	19	-.377	46	-1.153	2	-.77	30
7	N193	max	26.731	10	3187.293	13	-709.694	7	0	75	0	4	0	10
8		min	-26.712	4	703.394	7	-3127.263	13	0	1	0	10	0	4
9	N195	max	-650.925	3	3413.648	21	1676.825	21	0	6	0	12	0	12
10		min	-2904.449	21	745.29	3	375.75	3	0	12	0	6	0	6
11	N197	max	2742.507	17	3226.743	17	1583.307	17	0	8	0	8	0	8
12		min	628.312	11	719.271	11	362.878	11	0	38	0	38	0	38
13	Totals:	max	2947.421	10	7810.506	17	3121.836	1						
14		min	-2947.419	4	2019.125	74	-3121.836	7						

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N3	-27.015	-390.319	2763.204	-.316	-.031	.063
2	1	N30A	411.004	-127.146	320.231	.048	.578	.098
3	1	N59	-346.253	-46.136	573.953	.086	-.713	-.092
4	1	N193	-.079	1537.877	-1494.057	0	0	0
5	1	N195	-802.996	945.925	490.145	0	0	0
6	1	N197	765.333	902.422	468.36	0	0	0
7	1	Totals:	-.007	2822.623	3121.836			
8	1	COG (ft):	X: .003	Y: .709	Z: .054			
9	2	N3	-183.051	-368.768	2659.826	-.299	-.027	.062
10	2	N30A	-300.658	-57.808	327.893	.054	-.036	.032
11	2	N59	-1342.556	-151.655	204.678	.074	-1.153	-.13
12	2	N193	-13.104	1489.265	-1448.334	0	0	0
13	2	N195	-678.568	787.624	406.744	0	0	0
14	2	N197	943.783	1123.966	575.677	0	0	0
15	2	Totals:	-1574.154	2822.624	2726.483			
16	2	COG (ft):	X: .003	Y: .709	Z: .054			
17	3	N3	-556.735	-301.024	2071.175	-.245	.696	.01
18	3	N30A	-517.207	-40.333	295.238	.037	.07	.026
19	3	N59	-2027.619	-256.873	-587.392	.095	-.535	-.16
20	3	N193	-22.795	1331.966	-1299.85	0	0	0
21	3	N195	-650.925	745.29	375.75	0	0	0
22	3	N197	1124.308	1343.6	675.611	0	0	0
23	3	Totals:	-2650.973	2822.625	1530.533			
24	3	COG (ft):	X: .003	Y: .709	Z: .054			
25	4	N3	-685.343	-210.667	1128.484	-.174	1.024	-.02
26	4	N30A	-450.017	-71.27	21.698	.051	-.007	.047
27	4	N59	-2315.15	-325.806	-1175.097	.095	.018	-.184
28	4	N193	-26.712	1126.905	-1108.119	0	0	0
29	4	N195	-716.258	816.166	398.551	0	0	0
30	4	N197	1246.061	1487.299	734.482	0	0	0
31	4	Totals:	-2947.419	2822.626	-.001			
32	4	COG (ft):	X: .003	Y: .709	Z: .054			
33	5	N3	-362.732	-122.189	235.226	-.105	.368	.013
34	5	N30A	-158.63	-133.034	-605.634	.123	-.789	.062
35	5	N59	-2441.271	-350.14	-1369.734	.028	-.182	-.218
36	5	N193	-23.102	930.121	-924.683	0	0	0
37	5	N195	-838.002	959.886	457.437	0	0	0
38	5	N197	1294.086	1537.981	746.894	0	0	0
39	5	Totals:	-2529.651	2822.626	-1460.493			
40	5	COG (ft):	X: .003	Y: .709	Z: .054			
41	6	N3	-36.814	-53.761	-342.587	-.051	-.176	.043
42	6	N30A	546.76	-217.167	-1208.535	.184	-1.19	.102
43	6	N59	-2274.148	-331.257	-1535.44	-.04	-.123	-.246
44	6	N193	-13.021	775.537	-778.942	0	0	0
45	6	N195	-994.696	1152.017	543.604	0	0	0
46	6	N197	1267.818	1497.257	716.729	0	0	0
47	6	Totals:	-1504.102	2822.626	-2605.171			
48	6	COG (ft):	X: .003	Y: .709	Z: .054			
49	7	N3	34.195	-23.456	-601.308	-.027	.038	.026
50	7	N30A	1519.745	-310.244	-1438.564	.189	-.562	.183
51	7	N59	-1547.223	-264.178	-1659.132	-.046	.719	-.235
52	7	N193	.043	703.394	-709.694	0	0	0
53	7	N195	-1163.536	1362.424	645.322	0	0	0
54	7	N197	1156.784	1354.685	641.541	0	0	0
55	7	Totals:	.008	2822.624	-3121.836			
56	7	COG (ft):	X: .003	Y: .709	Z: .054			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
57	8	N3	191.149	-45.081	-498.549	-.045	.034	.027
58	8	N30A	2231.229	-379.175	-1445.052	.184	.052	.249
59	8	N59	-551.683	-158.895	-1290.289	-.034	1.159	-.198
60	8	N193	12.987	751.872	-755.272	0	0	0
61	8	N195	-1288.016	1520.636	728.513	0	0	0
62	8	N197	978.49	1133.266	534.167	0	0	0
63	8	Totals:	1574.156	2822.623	-2726.483			
64	8	COG (ft):	X: .003	Y: .709	Z: .054			
65	9	N3	563.611	-113.198	91.007	-.099	-.689	.079
66	9	N30A	2447.615	-396.452	-1413.761	.2	-.055	.255
67	9	N59	134.254	-53.561	-497.79	-.054	.541	-.167
68	9	N193	22.935	909.243	-903.8	0	0	0
69	9	N195	-1315.521	1562.895	759.617	0	0	0
70	9	N197	798.08	913.696	434.193	0	0	0
71	9	Totals:	2650.974	2822.622	-1530.533			
72	9	COG (ft):	X: .003	Y: .709	Z: .054			
73	10	N3	692.215	-203.809	1034.369	-.17	-1.016	.109
74	10	N30A	2379.765	-365.701	-1140.566	.186	.022	.235
75	10	N59	422.571	15.641	89.536	-.055	-.012	-.144
76	10	N193	26.731	1114.466	-1095.676	0	0	0
77	10	N195	-1250.14	1492.004	736.838	0	0	0
78	10	N197	676.279	770.02	375.5	0	0	0
79	10	Totals:	2947.421	2822.621	.001			
80	10	COG (ft):	X: .003	Y: .709	Z: .054			
81	11	N3	369.49	-292.183	1926.59	-.239	-.36	.075
82	11	N30A	2089.685	-304.291	-512.769	.115	.804	.22
83	11	N59	547.67	40.143	285.191	.012	.188	-.109
84	11	N193	23.075	1311.3	-1279.175	0	0	0
85	11	N195	-1128.58	1348.381	677.778	0	0	0
86	11	N197	628.312	719.271	362.878	0	0	0
87	11	Totals:	2529.652	2822.621	1460.493			
88	11	COG (ft):	X: .003	Y: .709	Z: .054			
89	12	N3	42.62	-360.279	2503.794	-.292	.184	.046
90	12	N30A	1384.711	-220.38	89.717	.053	1.206	.179
91	12	N59	380.997	21.224	451.875	.08	.129	-.081
92	12	N193	13.188	1465.853	-1424.91	0	0	0
93	12	N195	-971.89	1156.352	591.78	0	0	0
94	12	N197	654.478	759.851	392.917	0	0	0
95	12	Totals:	1504.104	2822.622	2605.171			
96	12	COG (ft):	X: .003	Y: .709	Z: .054			
97	13	N3	-5.768	-636.075	3434.209	-.521	.004	.143
98	13	N30A	2551.363	-635.811	-1297.978	.304	.209	.43
99	13	N59	-2376.566	-357.413	-1126.97	.033	-.213	-.436
100	13	N193	-.002	3187.293	-3127.263	0	0	0
101	13	N195	-2745.089	3223.765	1591.758	0	0	0
102	13	N197	2576.061	3028.745	1494.291	0	0	0
103	13	Totals:	-.001	7810.505	968.046			
104	13	COG (ft):	X: -.025	Y: .675	Z: .099			
105	14	N3	-57.561	-629.58	3395.881	-.516	.017	.141
106	14	N30A	2327.72	-614.917	-1293.669	.305	.031	.411
107	14	N59	-2676.961	-389.079	-1242.348	.029	-.335	-.449
108	14	N193	-3.249	3172.042	-3112.383	0	0	0
109	14	N195	-2706.427	3175.699	1566.218	0	0	0
110	14	N197	2630.915	3096.341	1527.31	0	0	0
111	14	Totals:	-485.563	7810.505	841.008			
112	14	COG (ft):	X: -.025	Y: .675	Z: .099			
113	15	N3	-161.593	-609.307	3214.031	-.5	.21	.126

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
114	15	N30A	2248.554	-608.45	-1307.793	.301	.036	.407
115	15	N59	-2898.092	-420.482	-1476.614	.035	-.177	-.46
116	15	N193	-5.989	3124.673	-3066.829	0	0	0
117	15	N195	-2695.363	3160.646	1556.015	0	0	0
118	15	N197	2686.479	3163.426	1558.083	0	0	0
119	15	Totals:	-826.004	7810.506	476.893			
120	15	COG (ft):	X: -.025	Y: .675	Z: .099			
121	16	N3	-202.485	-581.569	2922.391	-.479	.31	.116
122	16	N30A	2265.806	-616.55	-1388.242	.306	.009	.412
123	16	N59	-3002.399	-442.026	-1667.657	.037	-.011	-.469
124	16	N193	-7.213	3061.208	-3006.947	0	0	0
125	16	N195	-2713.342	3179.915	1562.675	0	0	0
126	16	N197	2726.245	3209.527	1577.777	0	0	0
127	16	Totals:	-933.388	7810.506	-.002			
128	16	COG (ft):	X: -.025	Y: .675	Z: .099			
129	17	N3	-115.794	-554.047	2636.556	-.457	.143	.124
130	17	N30A	2364.981	-635.648	-1571.686	.327	-.196	.417
131	17	N59	-3039.289	-450.327	-1746.857	.021	-.033	-.478
132	17	N193	-6.109	2999.01	-2948.333	0	0	0
133	17	N195	-2751.971	3224.775	1581.855	0	0	0
134	17	N197	2742.507	3226.743	1583.307	0	0	0
135	17	Totals:	-805.676	7810.506	-465.158			
136	17	COG (ft):	X: -.025	Y: .675	Z: .099			
137	18	N3	-12.178	-533.223	2448.122	-.441	-.022	.133
138	18	N30A	2588.642	-662.218	-1757.25	.346	-.31	.43
139	18	N59	-2977.13	-444.355	-1792.442	.003	-.007	-.484
140	18	N193	-3.266	2951.409	-2902.548	0	0	0
141	18	N195	-2802.41	3285.924	1609.628	0	0	0
142	18	N197	2732.517	3212.969	1573.806	0	0	0
143	18	Totals:	-473.824	7810.506	-820.684			
144	18	COG (ft):	X: -.025	Y: .675	Z: .099			
145	19	N3	27.19	-524.433	2370.105	-.434	.004	.13
146	19	N30A	2886.819	-690.521	-1836.919	.35	-.149	.453
147	19	N59	-2755.35	-423.33	-1809.639	.001	.211	-.478
148	19	N193	.064	2930.797	-2882.305	0	0	0
149	19	N195	-2854.733	3350.548	1641.094	0	0	0
150	19	N197	2696.014	3167.444	1549.615	0	0	0
151	19	Totals:	.003	7810.505	-968.049			
152	19	COG (ft):	X: -.025	Y: .675	Z: .099			
153	20	N3	79.062	-530.939	2408.395	-.439	-.009	.132
154	20	N30A	3110.436	-711.375	-1841.133	.349	.029	.472
155	20	N59	-2455.014	-391.686	-1694.306	.005	.334	-.465
156	20	N193	3.305	2946.041	-2897.176	0	0	0
157	20	N195	-2893.397	3398.604	1666.617	0	0	0
158	20	N197	2641.173	3099.86	1516.591	0	0	0
159	20	Totals:	485.565	7810.505	-841.01			
160	20	COG (ft):	X: -.025	Y: .675	Z: .099			
161	21	N3	182.999	-551.249	2590.32	-.455	-.202	.147
162	21	N30A	3189.587	-717.822	-1827.113	.353	.024	.476
163	21	N59	-2233.814	-360.271	-1460.004	0	.176	-.454
164	21	N193	6.066	2993.419	-2942.736	0	0	0
165	21	N195	-2904.449	3413.648	1676.825	0	0	0
166	21	N197	2585.618	3032.779	1485.813	0	0	0
167	21	Totals:	826.006	7810.505	-476.895			
168	21	COG (ft):	X: -.025	Y: .675	Z: .099			
169	22	N3	223.881	-579.011	2882.022	-.477	-.301	.156
170	22	N30A	3172.281	-709.739	-1746.707	.348	.051	.471

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
171	22	N59	-2129.429	-338.696	-1268.983	-.003	.01	-.446
172	22	N193	7.279	3056.897	-3002.631	0	0	0
173	22	N195	-2886.466	3394.378	1670.166	0	0	0
174	22	N197	2545.845	2986.675	1466.131	0	0	0
175	22	Totals:	933.39	7810.504	0			
176	22	COG (ft):	X: -.025	Y: .675	Z: .099			
177	23	N3	137.183	-606.522	3167.774	-.498	-.135	.149
178	23	N30A	3073.216	-690.676	-1563.223	.328	.256	.466
179	23	N59	-2092.619	-330.376	-1189.706	.013	.032	-.437
180	23	N193	6.168	3119.099	-3061.25	0	0	0
181	23	N195	-2847.854	3349.528	1650.974	0	0	0
182	23	N197	2529.584	2969.451	1460.586	0	0	0
183	23	Totals:	805.678	7810.504	465.155			
184	23	COG (ft):	X: -.025	Y: .675	Z: .099			
185	24	N3	33.496	-627.31	3356.144	-.515	.03	.14
186	24	N30A	2849.604	-664.129	-1377.687	.308	.37	.453
187	24	N59	-2154.764	-336.356	-1144.04	.031	.006	-.431
188	24	N193	3.341	3166.694	-3107.03	0	0	0
189	24	N195	-2797.417	3288.39	1623.215	0	0	0
190	24	N197	2539.567	2983.216	1470.079	0	0	0
191	24	Totals:	473.827	7810.504	820.681			
192	24	COG (ft):	X: -.025	Y: .675	Z: .099			
193	25	N3	-3.644	-190.93	1094.057	-.158	.009	.031
194	25	N30A	842.908	-153.056	-462.373	.047	.04	.119
195	25	N59	-2090.7	-739.332	-1154.938	-.035	-.042	-.761
196	25	N193	.007	1076.427	-1056.061	0	0	0
197	25	N195	-908.177	1067.462	525.991	0	0	0
198	25	N197	2159.604	2512.047	1248.439	0	0	0
199	25	Totals:	-.003	3572.618	195.116			
200	25	COG (ft):	X: 1.218	Y: .56	Z: .886			
201	26	N3	-13.424	-189.583	1087.605	-.157	.009	.031
202	26	N30A	798.427	-148.732	-461.92	.047	.001	.115
203	26	N59	-2152.92	-745.864	-1177.958	-.036	-.07	-.763
204	26	N193	-.804	1073.391	-1053.205	0	0	0
205	26	N195	-900.396	1057.566	520.781	0	0	0
206	26	N197	2170.729	2525.84	1255.102	0	0	0
207	26	Totals:	-98.389	3572.618	170.405			
208	26	COG (ft):	X: 1.218	Y: .56	Z: .886			
209	27	N3	-36.742	-185.337	1050.773	-.154	.055	.027
210	27	N30A	784.889	-147.645	-463.915	.046	.008	.115
211	27	N59	-2195.704	-752.382	-1227.478	-.035	-.031	-.765
212	27	N193	-1.419	1063.555	-1043.921	0	0	0
213	27	N195	-898.662	1054.911	518.836	0	0	0
214	27	N197	2181.951	2539.516	1261.358	0	0	0
215	27	Totals:	-165.688	3572.618	95.652			
216	27	COG (ft):	X: 1.218	Y: .56	Z: .886			
217	28	N3	-44.782	-179.68	991.833	-.149	.075	.026
218	28	N30A	789.097	-149.57	-480.992	.047	.003	.116
219	28	N59	-2213.667	-756.667	-1264.208	-.035	.003	-.766
220	28	N193	-1.661	1050.733	-1031.933	0	0	0
221	28	N195	-902.735	1059.327	520.253	0	0	0
222	28	N197	2189.531	2548.474	1265.047	0	0	0
223	28	Totals:	-184.217	3572.618	0			
224	28	COG (ft):	X: 1.218	Y: .56	Z: .886			
225	29	N3	-24.619	-174.151	936.033	-.145	.034	.028
226	29	N30A	807.266	-153.414	-520.204	.052	-.046	.117
227	29	N59	-2221.53	-758.183	-1276.378	-.039	-.009	-.769

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
228	29	N193	-1.433	1038.432	-1020.466	0	0	0
229	29	N195	-910.33	1068.296	523.931	0	0	0
230	29	N197	2192.539	2551.638	1265.806	0	0	0
231	29	Totals:	-158.105	3572.618	-91.279			
232	29	COG (ft):	X: 1.218	Y: .56	Z: .886			
233	30	N3	-4.226	-169.881	899.938	-.141	0	.03
234	30	N30A	851.338	-158.663	-557.869	.056	-.071	.12
235	30	N59	-2211.103	-756.999	-1286.756	-.043	-.005	-.77
236	30	N193	-.807	1028.773	-1011.359	0	0	0
237	30	N195	-920.116	1080.292	529.306	0	0	0
238	30	N197	2190.903	2549.096	1263.916	0	0	0
239	30	Totals:	-94.011	3572.618	-162.824			
240	30	COG (ft):	X: 1.218	Y: .56	Z: .886			
241	31	N3	.175	-167.991	883.751	-.14	.013	.028
242	31	N30A	912.167	-164.487	-572.263	.056	-.031	.125
243	31	N59	-2165.652	-752.818	-1294.486	-.043	.047	-.77
244	31	N193	.014	1024.271	-1007.037	0	0	0
245	31	N195	-930.665	1093.44	535.661	0	0	0
246	31	N197	2183.959	2540.204	1259.258	0	0	0
247	31	Totals:	-.002	3572.618	-195.116			
248	31	COG (ft):	X: 1.218	Y: .56	Z: .886			
249	32	N3	9.959	-169.338	890.201	-.141	.013	.029
250	32	N30A	956.647	-168.81	-572.711	.056	.007	.129
251	32	N59	-2103.435	-746.287	-1271.468	-.043	.075	-.767
252	32	N193	.825	1027.306	-1009.892	0	0	0
253	32	N195	-938.447	1103.335	540.87	0	0	0
254	32	N197	2172.836	2526.411	1252.595	0	0	0
255	32	Totals:	98.385	3572.618	-170.405			
256	32	COG (ft):	X: 1.218	Y: .56	Z: .886			
257	33	N3	33.272	-173.586	927.036	-.144	-.032	.032
258	33	N30A	970.184	-169.896	-570.721	.057	0	.129
259	33	N59	-2060.648	-739.769	-1221.946	-.044	.036	-.766
260	33	N193	1.442	1037.143	-1019.176	0	0	0
261	33	N195	-940.18	1105.99	542.816	0	0	0
262	33	N197	2161.613	2512.736	1246.339	0	0	0
263	33	Totals:	165.683	3572.618	-95.652			
264	33	COG (ft):	X: 1.218	Y: .56	Z: .886			
265	34	N3	41.312	-179.244	985.979	-.149	-.052	.034
266	34	N30A	965.973	-167.972	-553.646	.056	.005	.128
267	34	N59	-2042.682	-735.483	-1185.217	-.044	.002	-.764
268	34	N193	1.684	1049.965	-1031.165	0	0	0
269	34	N195	-936.108	1101.574	541.398	0	0	0
270	34	N197	2154.033	2503.777	1242.651	0	0	0
271	34	Totals:	184.213	3572.618	0			
272	34	COG (ft):	X: 1.218	Y: .56	Z: .886			
273	35	N3	21.148	-184.773	1041.775	-.153	-.011	.032
274	35	N30A	947.809	-164.129	-514.432	.051	.054	.127
275	35	N59	-2034.823	-733.966	-1173.043	-.04	.014	-.762
276	35	N193	1.454	1062.266	-1042.632	0	0	0
277	35	N195	-928.513	1092.605	537.72	0	0	0
278	35	N197	2151.026	2500.613	1241.891	0	0	0
279	35	Totals:	158.101	3572.618	91.279			
280	35	COG (ft):	X: 1.218	Y: .56	Z: .886			
281	36	N3	.751	-189.042	1077.867	-.157	.023	.03
282	36	N30A	903.74	-158.881	-476.769	.047	.079	.124
283	36	N59	-2045.248	-735.15	-1162.662	-.035	.01	-.76
284	36	N193	.829	1071.925	-1051.739	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
285	36	N195	-918.727	1080.609	532.346	0	0	0
286	36	N197	2152.662	2503.155	1243.78	0	0	0
287	36	Totals:	94.006	3572.618	162.824			
288	36	COG (ft):	X: 1.218	Y: .56	Z: .886			
289	37	N3	-1.058	-210.447	1124.953	-.174	.006	.03
290	37	N30A	1128.733	-196.095	-610.06	-.149	.101	.271
291	37	N59	-1566.215	-317.926	-847.039	-.368	-.112	-.544
292	37	N193	.004	1084.097	-1063.733	0	0	0
293	37	N195	-1155.863	1353.377	668.926	0	0	0
294	37	N197	1594.399	1859.604	922.067	0	0	0
295	37	Totals:	0	3572.611	195.116			
296	37	COG (ft):	X: .451	Y: .56	Z: .886			
297	38	N3	-10.831	-209.101	1118.516	-.173	.006	.03
298	38	N30A	1084.25	-191.77	-609.622	-.148	.062	.267
299	38	N59	-1628.431	-324.467	-870.069	-.369	-.14	-.547
300	38	N193	-.808	1081.067	-1060.884	0	0	0
301	38	N195	-1148.081	1343.485	663.724	0	0	0
302	38	N197	1605.514	1873.396	928.738	0	0	0
303	38	Totals:	-98.387	3572.611	170.404			
304	38	COG (ft):	X: .451	Y: .56	Z: .886			
305	39	N3	-34.144	-204.859	1081.713	-.17	.051	.027
306	39	N30A	1070.698	-190.674	-611.61	-.149	.069	.267
307	39	N59	-1671.21	-330.968	-919.579	-.367	-.101	-.549
308	39	N193	-1.423	1071.242	-1051.611	0	0	0
309	39	N195	-1146.335	1340.814	661.768	0	0	0
310	39	N197	1616.729	1887.055	934.97	0	0	0
311	39	Totals:	-165.685	3572.611	95.651			
312	39	COG (ft):	X: .451	Y: .56	Z: .886			
313	40	N3	-42.179	-199.204	1022.796	-.166	.072	.025
314	40	N30A	1074.888	-192.582	-628.678	-.149	.064	.268
315	40	N59	-1689.165	-335.232	-956.3	-.367	-.067	-.55
316	40	N193	-1.665	1058.426	-1039.629	0	0	0
317	40	N195	-1150.391	1345.21	663.174	0	0	0
318	40	N197	1624.297	1895.993	938.636	0	0	0
319	40	Totals:	-184.215	3572.611	0			
320	40	COG (ft):	X: .451	Y: .56	Z: .886			
321	41	N3	-22.009	-193.676	967.011	-.161	.031	.027
322	41	N30A	1093.031	-196.399	-667.891	-.144	.015	.269
323	41	N59	-1697.007	-336.736	-968.477	-.372	-.079	-.552
324	41	N193	-1.436	1046.129	-1028.165	0	0	0
325	41	N195	-1157.962	1354.157	666.849	0	0	0
326	41	N197	1627.281	1899.136	939.394	0	0	0
327	41	Totals:	-158.103	3572.611	-91.279			
328	41	COG (ft):	X: .451	Y: .56	Z: .886			
329	42	N3	-1.611	-189.409	930.934	-.158	-.003	.029
330	42	N30A	1137.069	-201.617	-705.547	-.14	-.01	.272
331	42	N59	-1686.558	-335.531	-978.856	-.376	-.075	-.554
332	42	N193	-.811	1036.476	-1019.064	0	0	0
333	42	N195	-1167.72	1366.122	672.213	0	0	0
334	42	N197	1625.622	1896.57	937.496	0	0	0
335	42	Totals:	-94.008	3572.611	-162.824			
336	42	COG (ft):	X: .451	Y: .56	Z: .886			
337	43	N3	2.787	-187.523	914.756	-.156	.01	.028
338	43	N30A	1197.878	-207.424	-719.915	-.14	.029	.277
339	43	N59	-1641.099	-331.322	-986.57	-.376	-.023	-.553
340	43	N193	.011	1031.976	-1014.745	0	0	0
341	43	N195	-1178.251	1379.242	678.547	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
342	43	N197	1618.675	1887.661	932.811	0	0	0
343	43	Totals:	0	3572.611	-195.116			
344	43	COG (ft):	X: .451	Y: .56	Z: .886			
345	44	N3	12.564	-188.869	921.191	-.157	.01	.028
346	44	N30A	1242.36	-211.747	-720.349	-.14	.068	.281
347	44	N59	-1578.886	-324.782	-963.542	-.375	.005	-.551
348	44	N193	.822	1035.006	-1017.594	0	0	0
349	44	N195	-1186.034	1389.134	683.749	0	0	0
350	44	N197	1607.561	1873.869	926.139	0	0	0
351	44	Totals:	98.387	3572.611	-170.405			
352	44	COG (ft):	X: .451	Y: .56	Z: .886			
353	45	N3	35.872	-193.113	957.997	-.161	-.035	.031
354	45	N30A	1255.912	-212.843	-718.366	-.139	.061	.281
355	45	N59	-1536.104	-318.28	-914.03	-.377	-.034	-.549
356	45	N193	1.438	1044.831	-1026.867	0	0	0
357	45	N195	-1187.779	1391.805	685.706	0	0	0
358	45	N197	1596.347	1860.211	919.908	0	0	0
359	45	Totals:	165.686	3572.611	-95.652			
360	45	COG (ft):	X: .451	Y: .56	Z: .886			
361	46	N3	43.907	-198.769	1016.918	-.165	-.056	.033
362	46	N30A	1251.719	-210.935	-701.3	-.14	.066	.28
363	46	N59	-1518.146	-314.015	-877.31	-.377	-.069	-.548
364	46	N193	1.68	1057.648	-1038.85	0	0	0
365	46	N195	-1183.723	1387.408	684.299	0	0	0
366	46	N197	1588.778	1851.273	916.242	0	0	0
367	46	Totals:	184.215	3572.611	0			
368	46	COG (ft):	X: .451	Y: .56	Z: .886			
369	47	N3	23.737	-204.296	1072.698	-.17	-.015	.031
370	47	N30A	1233.581	-207.12	-662.085	-.145	.115	.279
371	47	N59	-1510.308	-312.511	-865.129	-.373	-.056	-.545
372	47	N193	1.451	1069.945	-1050.313	0	0	0
373	47	N195	-1176.152	1378.463	680.624	0	0	0
374	47	N197	1585.795	1848.129	915.484	0	0	0
375	47	Totals:	158.104	3572.611	91.279			
376	47	COG (ft):	X: .451	Y: .56	Z: .886			
377	48	N3	3.335	-208.562	1108.773	-.173	.019	.029
378	48	N30A	1189.544	-201.903	-624.43	-.148	.14	.277
379	48	N59	-1520.755	-313.716	-854.747	-.368	-.06	-.544
380	48	N193	.826	1079.599	-1059.414	0	0	0
381	48	N195	-1166.394	1366.498	675.261	0	0	0
382	48	N197	1587.453	1850.695	917.381	0	0	0
383	48	Totals:	94.009	3572.611	162.823			
384	48	COG (ft):	X: .451	Y: .56	Z: .886			
385	49	N3	6.612	-189.067	1028.001	-.157	0	.048
386	49	N30A	1595.128	-551.243	-923.332	.139	.001	.45
387	49	N59	-887.621	-125.654	-514.366	.001	.01	-.146
388	49	N193	.003	1081.455	-1062.661	0	0	0
389	49	N195	-1632.167	1903.254	942.307	0	0	0
390	49	N197	918.048	1078.873	530.049	0	0	0
391	49	Totals:	.003	3197.618	0			
392	49	COG (ft):	X: -.735	Y: .626	Z: .519			
393	50	N3	3.455	-204.651	1050.783	-.17	.004	.045
394	50	N30A	1162.639	-233.607	-669.093	-.076	.047	.265
395	50	N59	-1145.401	-173.86	-652.462	-.17	-.036	-.29
396	50	N193	.006	1089.391	-1070.598	0	0	0
397	50	N195	-1172.078	1372.112	676.648	0	0	0
398	50	N197	1151.38	1348.229	664.722	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
399	50	Totals:	0	3197.615	0			
400	50	COG (ft):	X: .003	Y: .626	Z: .519			
401	51	N3	4.133	-241.817	1261.712	-.201	.004	.052
402	51	N30A	1126.7	-255.285	-652.759	.139	.009	.164
403	51	N59	-1104.997	-181.211	-633.155	.024	.003	-.191
404	51	N193	.008	1307.658	-1285.758	0	0	0
405	51	N195	-1147.384	1346.77	662.428	0	0	0
406	51	N197	1121.541	1316.947	647.531	0	0	0
407	51	Totals:	0	3293.061	0			
408	51	COG (ft):	X: .003	Y: .709	Z: .054			
409	52	N3	-.024	-230.156	1267.931	-.19	.007	.047
410	52	N30A	954.935	-218.742	-511.716	.117	.054	.142
411	52	N59	-931.091	-152.075	-484.876	.021	-.043	-.164
412	52	N193	.007	1194.851	-1173.789	0	0	0
413	52	N195	-1002.535	1177.042	580.411	0	0	0
414	52	N197	978.708	1149.545	566.677	0	0	0
415	52	Totals:	0	2920.466	244.637			
416	52	COG (ft):	X: .003	Y: .709	Z: .054			
417	53	N3	-20.255	-228.176	1249.73	-.189	.031	.045
418	53	N30A	897.812	-212.93	-498.4	.115	.033	.138
419	53	N59	-1000.465	-160.433	-519.177	.023	-.051	-.168
420	53	N193	-.799	1190.336	-1169.492	0	0	0
421	53	N195	-992.127	1164.089	573.723	0	0	0
422	53	N197	993.516	1167.58	575.473	0	0	0
423	53	Totals:	-122.319	2920.466	211.856			
424	53	COG (ft):	X: .003	Y: .709	Z: .054			
425	54	N3	-34.076	-222.516	1196.486	-.184	.049	.043
426	54	N30A	867.854	-210.721	-506.648	.116	.006	.136
427	54	N59	-1064.333	-168.856	-564.813	.024	-.044	-.172
428	54	N193	-1.389	1177.609	-1157.36	0	0	0
429	54	N195	-988.526	1159.248	570.715	0	0	0
430	54	N197	1008.615	1185.703	583.939	0	0	0
431	54	Totals:	-211.856	2920.466	122.318			
432	54	COG (ft):	X: .003	Y: .709	Z: .054			
433	55	N3	-37.787	-214.689	1122.453	-.178	.054	.042
434	55	N30A	873.081	-212.708	-534.252	.119	-.021	.136
435	55	N59	-1105.593	-175.09	-609.563	.025	-.025	-.176
436	55	N193	-1.606	1160.076	-1140.64	0	0	0
437	55	N195	-992.696	1163.817	572.193	0	0	0
438	55	N197	1019.963	1199.06	589.809	0	0	0
439	55	Totals:	-244.637	2920.466	0			
440	55	COG (ft):	X: .003	Y: .709	Z: .054			
441	56	N3	-30.388	-206.792	1047.472	-.172	.046	.042
442	56	N30A	912.105	-218.359	-573.818	.122	-.04	.139
443	56	N59	-1113.177	-177.463	-641.431	.024	.002	-.178
444	56	N193	-1.39	1142.436	-1123.814	0	0	0
445	56	N195	-1003.521	1176.573	577.764	0	0	0
446	56	N197	1024.516	1204.071	591.508	0	0	0
447	56	Totals:	-211.855	2920.466	-122.319			
448	56	COG (ft):	X: .003	Y: .709	Z: .054			
449	57	N3	-13.866	-200.942	991.639	-.167	.026	.043
450	57	N30A	974.454	-226.157	-614.737	.126	-.046	.144
451	57	N59	-1085.065	-175.342	-651.881	.023	.029	-.177
452	57	N193	-.801	1129.417	-1111.391	0	0	0
453	57	N195	-1018.098	1194.094	585.931	0	0	0
454	57	N197	1021.058	1199.396	588.583	0	0	0
455	57	Totals:	-122.318	2920.466	-211.856			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
456	57	COG (ft):	X: .003	Y: .709	Z: .054			
457	58	N3	7.355	-198.707	969.903	-.166	.001	.045
458	58	N30A	1043.434	-234.013	-646.053	.129	-.038	.149
459	58	N59	-1028.784	-169.293	-638.115	.021	.049	-.175
460	58	N193	.006	1124.505	-1106.697	0	0	0
461	58	N195	-1032.524	1211.688	594.509	0	0	0
462	58	N197	1010.513	1186.285	581.815	0	0	0
463	58	Totals:	.001	2920.466	-244.637			
464	58	COG (ft):	X: .003	Y: .709	Z: .054			
465	59	N3	27.588	-200.688	988.105	-.167	-.024	.047
466	59	N30A	1100.554	-239.822	-659.367	.13	-.017	.154
467	59	N59	-959.41	-160.937	-603.814	.019	.057	-.171
468	59	N193	.812	1129.021	-1110.995	0	0	0
469	59	N195	-1042.931	1224.64	601.196	0	0	0
470	59	N197	995.707	1168.251	573.019	0	0	0
471	59	Totals:	122.32	2920.466	-211.856			
472	59	COG (ft):	X: .003	Y: .709	Z: .054			
473	60	N3	41.409	-206.351	1041.352	-.172	-.041	.048
474	60	N30A	1130.512	-242.029	-651.119	.13	.01	.156
475	60	N59	-895.542	-152.512	-558.179	.018	.05	-.166
476	60	N193	1.403	1141.75	-1123.128	0	0	0
477	60	N195	-1046.532	1229.48	604.203	0	0	0
478	60	N197	980.608	1150.128	564.552	0	0	0
479	60	Totals:	211.858	2920.466	-122.319			
480	60	COG (ft):	X: .003	Y: .709	Z: .054			
481	61	N3	45.118	-214.18	1115.386	-.178	-.046	.049
482	61	N30A	1125.285	-240.043	-623.516	.127	.037	.156
483	61	N59	-854.28	-146.275	-513.427	.017	.031	-.163
484	61	N193	1.618	1159.284	-1139.848	0	0	0
485	61	N195	-1042.363	1224.912	602.724	0	0	0
486	61	N197	969.259	1136.768	558.681	0	0	0
487	61	Totals:	244.639	2920.465	0			
488	61	COG (ft):	X: .003	Y: .709	Z: .054			
489	62	N3	37.719	-222.076	1190.366	-.184	-.038	.049
490	62	N30A	1086.264	-234.396	-583.952	.124	.056	.153
491	62	N59	-846.694	-143.901	-481.558	.017	.005	-.161
492	62	N193	1.402	1176.923	-1156.674	0	0	0
493	62	N195	-1031.538	1212.158	597.155	0	0	0
494	62	N197	964.705	1131.757	556.982	0	0	0
495	62	Totals:	211.857	2920.465	122.319			
496	62	COG (ft):	X: .003	Y: .709	Z: .054			
497	63	N3	21.197	-227.922	1246.197	-.189	-.019	.049
498	63	N30A	1023.916	-226.6	-543.033	.12	.062	.148
499	63	N59	-874.807	-146.023	-471.108	.019	-.022	-.162
500	63	N193	.813	1189.941	-1169.096	0	0	0
501	63	N195	-1016.962	1194.638	588.988	0	0	0
502	63	N197	968.163	1136.433	559.908	0	0	0
503	63	Totals:	122.319	2920.466	211.856			
504	63	COG (ft):	X: .003	Y: .709	Z: .054			
505	64	N3	-1.152	-163.979	922.56	-.135	.005	.033
506	64	N30A	646.492	-148.818	-333.023	.079	.051	.097
507	64	N59	-628.59	-102.421	-311.542	.014	-.044	-.112
508	64	N193	.003	836.935	-821.846	0	0	0
509	64	N195	-688.426	808.372	399.075	0	0	0
510	64	N197	671.673	789.036	389.414	0	0	0
511	64	Totals:	0	2019.126	244.637			
512	64	COG (ft):	X: .003	Y: .709	Z: .054			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
513	65	N3	-21.384	-161.996	904.358	-.134	.03	.031
514	65	N30A	589.362	-142.989	-319.703	.077	.031	.093
515	65	N59	-697.972	-110.799	-345.849	.016	-.052	-.116
516	65	N193	-.806	832.416	-817.546	0	0	0
517	65	N195	-678.01	795.407	392.378	0	0	0
518	65	N197	686.491	807.086	398.218	0	0	0
519	65	Totals:	-122.319	2019.126	211.856			
520	65	COG (ft):	X: .003	Y: .709	Z: .054			
521	66	N3	-35.205	-156.322	851.107	-.129	.047	.029
522	66	N30A	559.4	-140.773	-327.948	.078	.003	.091
523	66	N59	-761.849	-119.243	-391.49	.018	-.045	-.12
524	66	N193	-1.399	819.678	-805.404	0	0	0
525	66	N195	-674.407	790.561	389.364	0	0	0
526	66	N197	701.603	825.224	406.691	0	0	0
527	66	Totals:	-211.856	2019.126	122.319			
528	66	COG (ft):	X: .003	Y: .709	Z: .054			
529	67	N3	-38.915	-148.475	777.064	-.123	.053	.028
530	67	N30A	564.63	-142.764	-355.553	.081	-.024	.091
531	67	N59	-803.116	-125.493	-436.245	.018	-.026	-.124
532	67	N193	-1.617	802.13	-788.671	0	0	0
533	67	N195	-678.582	795.133	390.84	0	0	0
534	67	N197	712.962	838.594	412.564	0	0	0
535	67	Totals:	-244.637	2019.126	0			
536	67	COG (ft):	X: .003	Y: .709	Z: .054			
537	68	N3	-31.516	-140.557	702.073	-.117	.045	.028
538	68	N30A	603.66	-148.429	-395.122	.084	-.043	.094
539	68	N59	-810.704	-127.874	-468.114	.018	0	-.125
540	68	N193	-1.4	784.475	-771.831	0	0	0
541	68	N195	-689.417	807.9	396.413	0	0	0
542	68	N197	717.521	843.61	414.262	0	0	0
543	68	Totals:	-211.856	2019.126	-122.319			
544	68	COG (ft):	X: .003	Y: .709	Z: .054			
545	69	N3	-14.994	-134.691	646.232	-.112	.025	.029
546	69	N30A	666.019	-156.247	-436.046	.088	-.049	.099
547	69	N59	-782.59	-125.749	-478.563	.016	.028	-.125
548	69	N193	-.807	771.444	-759.397	0	0	0
549	69	N195	-704.007	825.438	404.587	0	0	0
550	69	N197	714.063	838.931	411.332	0	0	0
551	69	Totals:	-122.318	2019.126	-211.856			
552	69	COG (ft):	X: .003	Y: .709	Z: .054			
553	70	N3	6.227	-132.448	624.493	-.111	0	.031
554	70	N30A	735.008	-164.125	-467.367	.091	-.04	.104
555	70	N59	-726.303	-119.687	-464.793	.015	.048	-.122
556	70	N193	.003	766.528	-754.699	0	0	0
557	70	N195	-718.445	843.048	413.172	0	0	0
558	70	N197	703.512	825.81	404.557	0	0	0
559	70	Totals:	.001	2019.126	-244.637			
560	70	COG (ft):	X: .003	Y: .709	Z: .054			
561	71	N3	26.459	-134.433	642.696	-.112	-.025	.033
562	71	N30A	792.136	-169.951	-480.686	.093	-.02	.109
563	71	N59	-656.922	-111.31	-430.488	.013	.056	-.118
564	71	N193	.813	771.046	-758.999	0	0	0
565	71	N195	-728.86	856.012	419.869	0	0	0
566	71	N197	688.694	807.761	395.752	0	0	0
567	71	Totals:	122.32	2019.126	-211.856			
568	71	COG (ft):	X: .003	Y: .709	Z: .054			
569	72	N3	40.28	-140.11	695.95	-.117	-.042	.034

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
570	72	N30A	822.096	-172.165	-472.44	.092	.008	.111
571	72	N59	-593.045	-102.865	-384.846	.011	.05	-.114
572	72	N193	1.406	783.786	-771.142	0	0	0
573	72	N195	-732.462	860.857	422.881	0	0	0
574	72	N197	673.582	789.622	387.278	0	0	0
575	72	Totals:	211.857	2019.125	-122.319			
576	72	COG (ft):	X: .003	Y: .709	Z: .054			
577	73	N3	43.99	-147.959	769.994	-.123	-.047	.035
578	73	N30A	816.867	-170.176	-444.836	.089	.035	.111
579	73	N59	-551.775	-96.611	-340.09	.01	.03	-.111
580	73	N193	1.623	801.335	-787.876	0	0	0
581	73	N195	-728.288	856.285	421.405	0	0	0
582	73	N197	662.223	776.25	381.404	0	0	0
583	73	Totals:	244.639	2019.125	0			
584	73	COG (ft):	X: .003	Y: .709	Z: .054			
585	74	N3	36.59	-155.875	844.984	-.129	-.039	.035
586	74	N30A	777.839	-164.514	-405.269	.086	.054	.108
587	74	N59	-544.186	-94.229	-308.219	.011	.004	-.109
588	74	N193	1.406	818.99	-804.716	0	0	0
589	74	N195	-717.454	843.52	415.833	0	0	0
590	74	N197	657.662	771.233	379.706	0	0	0
591	74	Totals:	211.857	2019.125	122.319			
592	74	COG (ft):	X: .003	Y: .709	Z: .054			
593	75	N3	20.068	-161.738	900.823	-.134	-.02	.034
594	75	N30A	715.482	-156.697	-364.346	.082	.06	.103
595	75	N59	-572.301	-96.356	-297.771	.012	-.023	-.109
596	75	N193	.813	832.019	-817.149	0	0	0
597	75	N195	-702.864	825.984	407.66	0	0	0
598	75	N197	661.121	775.913	382.638	0	0	0
599	75	Totals:	122.319	2019.125	211.856			
600	75	COG (ft):	X: .003	Y: .709	Z: .054			

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M4	HSS4X4X4	.175	2.972	24	.052	3.026	y	22	124657....	139518	16.181	16.181	1....	H1-1b
2	M10	L3X3X4	.440	2.375	13	.190	.223	z	8	41175.9...	46656	1.688	3.756	1....	H2-1
3	M43	L3X3X4	.431	0	13	.155	2.152	z	7	41175.9...	46656	1.688	3.756	1....	H2-1
4	M46	PL5/8X6	.139	.516	12	.282	.516	y	24	94845.47	121500	1.582	15.188	1....	H1-1b
5	M51B	L2x2x3	.186	0	20	.023	0	y	20	9823.122	23392.8	.558	1.077	1....	H2-1
6	M52B	L2x2x3	.188	4.162	19	.024	4.162	y	19	9823.122	23392.8	.558	1.077	1....	H2-1
7	M76	PL3/8x6	.132	0	4	.222	0	y	21	70677.9...	72900	.57	9.113	2....	H1-1b
8	M77	PL3/8x6	.105	.167	8	.105	0	y	14	71601.7...	72900	.57	9.113	1....	H1-1b
9	M80	PL5/8X6	.040	.112	1	.126	0	y	24	121145....	121500	1.582	15.188	1....	H1-1b
10	M84	PL3/8x6	.119	0	4	.222	0	y	19	70677.9...	72900	.57	9.113	1....	H1-1b
11	M85	PL3/8x6	.089	.167	6	.103	0	y	24	71601.7...	72900	.57	9.113	1....	H1-1b
12	M91	PL5/8X6	.046	.112	1	.088	0	y	14	121145....	121500	1.582	15.188	1....	H1-1b
13	M25	HSS4X4X4	.189	2.972	20	.050	3.026	y	19	124657....	139518	16.181	16.181	1....	H1-1b
14	M26	L3X3X4	.454	2.375	21	.189	.223	z	4	41175.9...	46656	1.688	3.756	1....	H2-1
15	M27	L3X3X4	.448	0	20	.180	2.152	z	2	41175.9...	46656	1.688	3.756	1....	H2-1
16	M28	PL5/8X6	.144	.516	8	.296	.516	y	20	94845.47	121500	1.582	15.188	1....	H1-1b
17	M31	L2x2x3	.193	0	16	.024	0	y	16	9823.122	23392.8	.558	1.077	1....	H2-1
18	M32	L2x2x3	.193	4.162	15	.024	4.162	y	15	9823.122	23392.8	.558	1.077	1....	H2-1
19	M36	PL3/8x6	.144	0	12	.232	0	y	17	70677.9...	72900	.57	9.113	2....	H1-1b
20	M37	PL3/8x6	.103	.167	4	.109	0	y	22	71601.7...	72900	.57	9.113	1....	H1-1b
21	M39	PL5/8X6	.042	.112	9	.127	0	y	20	121145....	121500	1.582	15.188	1....	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
22	M41	PL3/8x6	.134	0	12	.233	0	y	15	70677.9...	72900	.57	9.113	1....	H1-1b
23	M42	PL3/8x6	.102	.167	2	.108	0	y	20	71601.7...	72900	.57	9.113	1....	H1-1b
24	M44	PL5/8X6	.046	0	8	.105	0	y	22	121145....	121500	1.582	15.188	1....	H1-1b
25	M49	HSS4X4X4	.177	2.972	16	.068	3.026	y	26	124657....	139518	16.181	16.181	1....	H1-1b
26	M50A	L3X3X4	.451	2.375	17	.185	.223	z	1	41175.9...	46656	1.688	3.756	1....	H2-1
27	M51C	L3X3X4	.434	0	17	.152	2.152	z	10	41175.9...	46656	1.688	3.756	1....	H2-1
28	M52A	PL5/8X6	.131	.516	4	.283	.516	y	16	94845.47	121500	1.582	15.188	1....	H1-1b
29	M55	L2x2x3	.189	0	24	.024	0	y	24	9823.122	23392.8	.558	1.077	1....	H2-1
30	M56	L2x2x3	.186	4.162	23	.024	4.162	y	23	9823.122	23392.8	.558	1.077	1....	H2-1
31	M60	PL3/8x6	.153	0	8	.230	0	y	13	70677.9...	72900	.57	9.113	2....	H1-1b
32	M61	PL3/8x6	.102	.167	12	.108	0	y	18	71601.7...	72900	.57	9.113	1....	H1-1b
33	M63	PL5/8X6	.040	.112	5	.162	0	y	28	121145....	121500	1.582	15.188	1....	H1-1b
34	M65	PL3/8x6	.125	0	8	.225	0	y	23	70677.9...	72900	.57	9.113	1....	H1-1b
35	M66	PL3/8x6	.087	.167	10	.104	0	y	16	71601.7...	72900	.57	9.113	1....	H1-1b
36	M68	PL5/8X6	.042	.112	5	.090	0	y	18	121145....	121500	1.582	15.188	1....	H1-1b
37	M73	PIPE_3.0	.131	8.389	39	.048	11.928		30	27936.2...	65205	5.749	5.749	2....	H1-1b
38	M74	PIPE_3.0	.103	8.389	23	.040	8.127		8	27936.2...	65205	5.749	5.749	2....	H1-1b
39	M75	PIPE_3.0	.103	8.389	19	.038	8.127		4	27936.2...	65205	5.749	5.749	2....	H1-1b
40	MP1A	PIPE_2.0	.153	3.313	40	.052	1.5		2	20866.7...	32130	1.872	1.872	1.9	H1-1b
41	MP2A	PIPE_2.0	.184	3.313	2	.045	1.938		6	20866.7...	32130	1.872	1.872	1....	H1-1b
42	MP3A	PIPE_2.0	.158	3.313	11	.043	1.938		8	20866.7...	32130	1.872	1.872	1....	H1-1b
43	MP4A	PIPE_2.0	.180	3.313	22	.064	.625		7	20866.7...	32130	1.872	1.872	1....	H1-1b
44	MP1C	PIPE_2.0	.141	3.313	13	.051	.625		3	20866.7...	32130	1.872	1.872	2....	H1-1b
45	MP2C	PIPE_2.0	.167	3.313	10	.047	3.313		8	20866.7...	32130	1.872	1.872	1....	H1-1b
46	MP3C	PIPE_2.0	.166	3.313	7	.041	1.938		4	20866.7...	32130	1.872	1.872	3....	H1-1b
47	MP4C	PIPE_2.0	.163	3.313	18	.053	.625		8	20866.7...	32130	1.872	1.872	2....	H1-1b
48	MP1B	PIPE_2.0	.141	3.313	21	.051	1.5		6	20866.7...	32130	1.872	1.872	1....	H1-1b
49	MP2B	PIPE_2.0	.173	3.313	6	.045	3.313		4	20866.7...	32130	1.872	1.872	1....	H1-1b
50	MP3B	PIPE_2.0	.164	3.313	3	.042	1.938		12	20866.7...	32130	1.872	1.872	1....	H1-1b
51	MP4B	PIPE_2.0	.153	3.313	14	.052	.625		4	20866.7...	32130	1.872	1.872	2....	H1-1b
52	M103	PIPE_2.0	.091	3	12	.012	3		12	26521.4...	32130	1.872	1.872	1....	H1-1b
53	M104	PIPE_2.5	.103	8.334	40	.049	11.589		6	14558.0...	50715	3.596	3.596	2....	H1-1b
54	M125	L3X3X4	.130	0	1	.024	0	z	12	45103.0...	46656	1.688	3.756	1.8	H2-1
55	M126	L3X3X4	.112	0	9	.023	0	z	8	45103.0...	46656	1.688	3.756	1....	H2-1
56	M127	L3X3X4	.114	0	5	.023	1.236	z	3	45103.0...	46656	1.688	3.756	1....	H2-1
57	M128	LL3x3x3x6	.096	0	13	.003	0	z	10	46544.1...	70632	6.362	3.751	1	H1-1b*
58	M129	LL3x3x3x6	.103	0	21	.003	4.243	z	6	46544.1...	70632	6.362	3.751	1	H1-1b*
59	M130	LL3x3x3x6	.097	0	17	.003	0	z	2	46544.1...	70632	6.362	3.751	1	H1-1b*
60	M129A	PIPE_2.5	.076	1.693	7	.050	11.589		2	14558.0...	50715	3.596	3.596	3....	H1-1b
61	M130A	PIPE_2.5	.076	1.693	2	.048	11.589		10	14558.0...	50715	3.596	3.596	3....	H1-1b

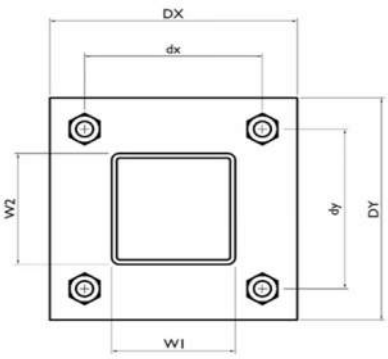
VzW SMART Tool© Vendor

Client:	Verizon Wireless	Date:	2/13/2024
Site Name:	New Britain NW CT		
MDG #:	5000180082		
Fuze ID #:	16232009	Page:	1

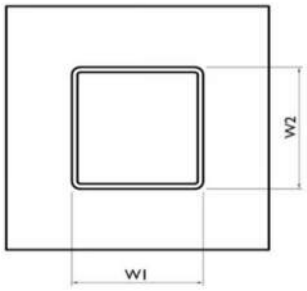
Version 2.00

I. Mount-to-Tower Connection Check

Custom Orientation Required	No
Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel
Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	8
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	8
Bolt Type:	A325N
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	1.5
Required Shear Strength / bolt (kips):	0.2
Tensile Capacity / bolt (kips):	20.7
Shear Capacity / bolt (kips):	12.4
Bolt Overall Utilization:	**7.1%**



Tower Connection Baseplate Checks	Yes
Connecting Standoff Member Shape:	Rect Tube
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	10
Plate Height, D_y (in):	10
W1(in):	4
W2 (in):	4
Member Thickness (in):	0.25
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	36
Plate Thickness (in):	0.5
Length of Yield Line, L_y (in):	7.85
Bolt Eccentricity, e (in):	3.06
M_u (kip-in):	4.53
Phi*M_n (kip-in):	15.90
Plate Bending Utilization:	**28.5%**

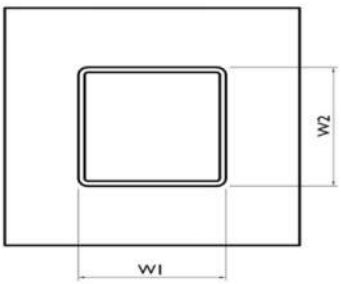


VzW SMART Tool© Vendor

Client:	Verizon Wireless	Date:	2/13/2024
Site Name:	New Britain NW CT		
PSLC #:	5000180082		
Fuze ID #:	16232009	Page:	2

Version 2.00

Tower Connection Weld Checks	Yes
Weld Shape:	Rectangle
Weld Stiffener Configuration:	None
Stiffener Notch Length, n (in):	
Weld Size (1/16 in):	3
W1 (in):	4
W2 (in):	4
Weld Total Length (in):	16.00
Z_x (in^3/in):	21.33
Z_y (in^3/in):	21.33
J_p (in^4/in):	85.33
c_x (in)	2.25
c_y (in)	2.25
Required combined strength (kip/in):	0.58
Weld Capacity (kip/in):	4.18
Weld Utilization:	**13.9%**



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MOUNT MODIFICATION DRAWINGS
EXISTING 12.58' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 876331

CARRIER SITE NAME: NEW BRITAIN NW CT
CARRIER SITE NUMBER: 5000180082
FUZE ID: 16232009

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

LATITUDE: 41.67659000° N
LONGITUDE: 72.82141400° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY B
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 350.25'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.50 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_S = .195
LONG TERM MCER GROUND MOTION, S_1 = .055

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10222805
VZW MDG #: 5000180082
ANALYSIS DATE: 2/13/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

SHEET	DESCRIPTION
ST-1	TITLE SHEET
SBOM-1	BILL OF MATERIALS
SGN-1	GENERAL NOTES
SCF-1	CLIMBING FACILITY DETAIL
SS-1	MODIFICATION DETAILS
SS-2	MOUNT PHOTOS
	SPECIFICATION SHEETS

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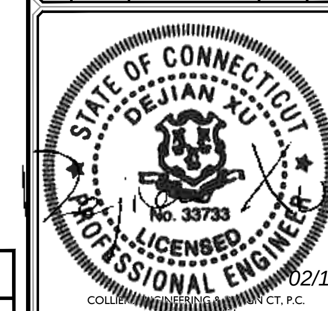
SCALE :	JOB NUMBER :
AS SHOWN	21777239

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
1	2/13/2024	ISSUED FOR CONSTRUCTION	GA	DX
0	6/11/2021	ISSUED FOR CONSTRUCTION	JRF	PMA



02/19/2024

COLLIERS ENGINEERING & DESIGN CT, P.C.

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

SITE NAME:

NEW BRITAIN NW CT
5000180082

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

Colliers Engineering & Design

STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE : TITLE SHEET

SHEET NUMBER : ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
1		VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	291	291
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISON	H42-0501-06	STANDOFF CLAMP BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
					TOTAL:	945

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

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SCALE: AS SHOWN | JOB NUMBER: 21777239

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	2/13/2024	ISSUED FOR CONSTRUCTION	GA	DX
0	6/11/2021	ISSUED FOR CONSTRUCTION	JRF	PMA

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
02/19/2024
COLLIERS ENGINEERING & DESIGN CT, P.C.
CT PE.0033733

SITE NAME:

NEW BRITAIN NW CT
5000180082

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
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SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. 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/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

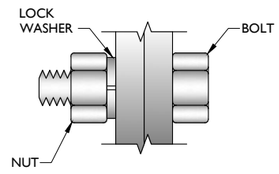
1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)				
BOLT DIAMETER	**STANDARD HOLE**	**SHORT SLOT**	**MIN. EDGE DISTANCE**	**SPACING**
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

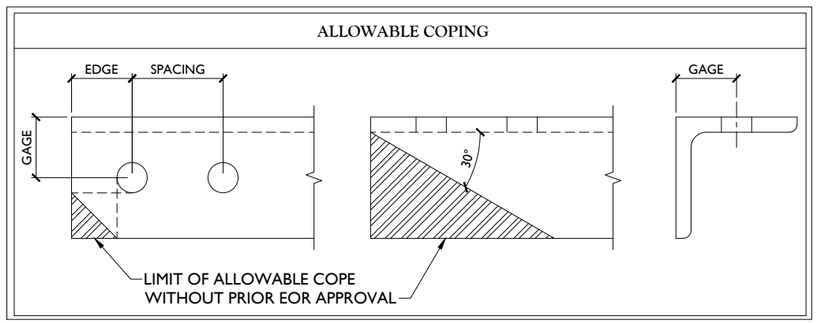
WORKABLE GAGES (IN.)	
LEG	**GAGE**
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.



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COLLIERS ENGINEERING & DESIGN CT, P.C.
CERTIFICATE #0033733

SITE NAME:

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5000180082

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
HARTFORD COUNTY

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STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
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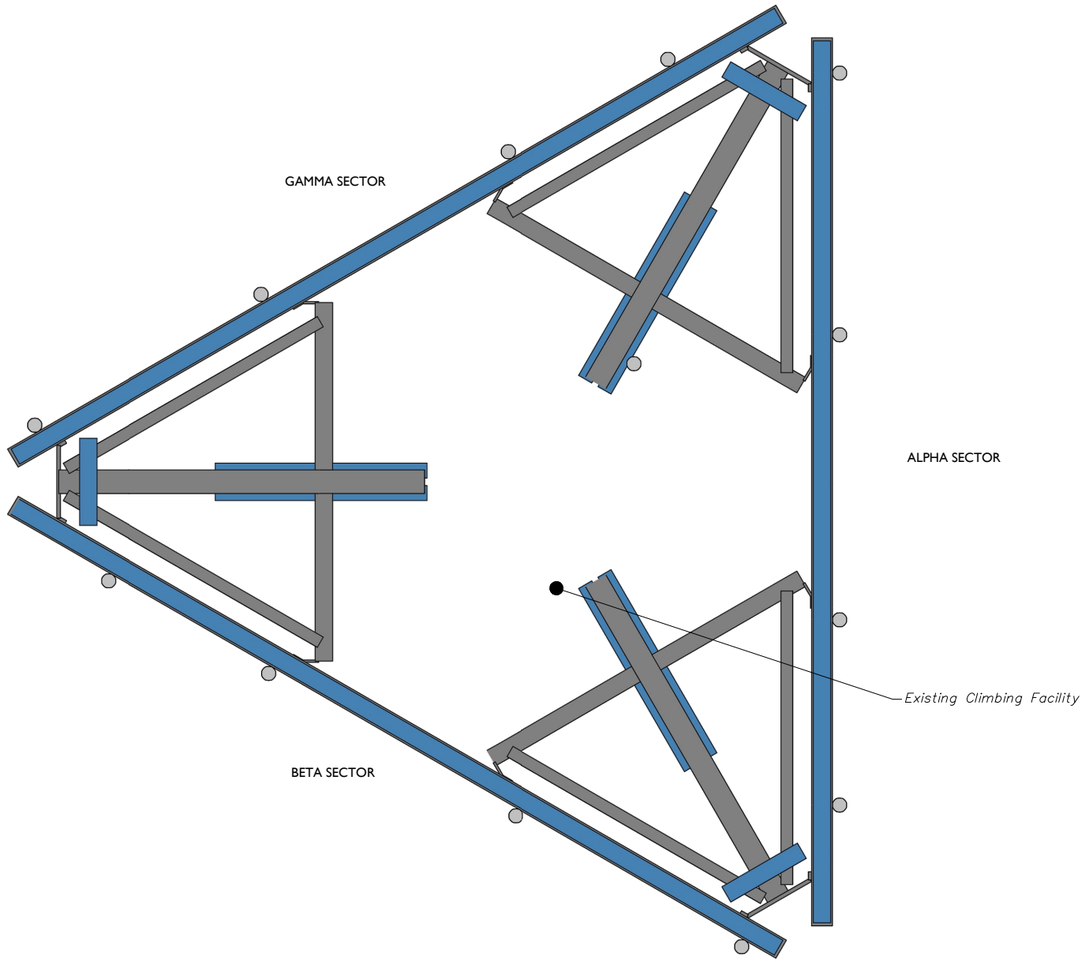
SHEET TITLE: GENERAL NOTES

SHEET NUMBER: SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



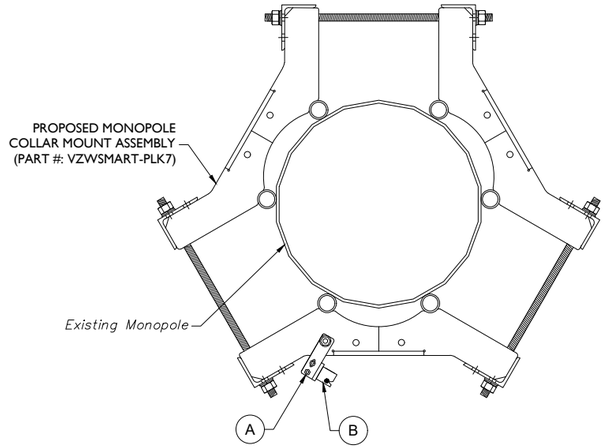
1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY ROAMING NETWORKS, INC. ON 3/30/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (89'-00") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.

2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

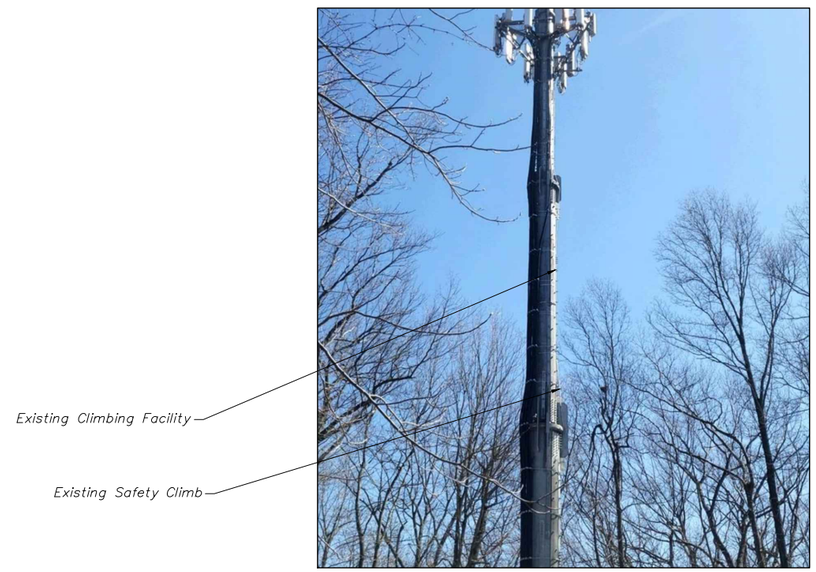


ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	H42-0501-06	STANDOFF CLAMP BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE : N.T.S.

NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.



CLIMBING FACILITY PHOTO

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02/19/2024
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CERTIFICATE NO. PEC.0033731

SITE NAME:

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5000180082

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053
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SHEET TITLE :
CLIMBING FACILITY DETAIL

SHEET NUMBER :
SCF-1

LEGEND:

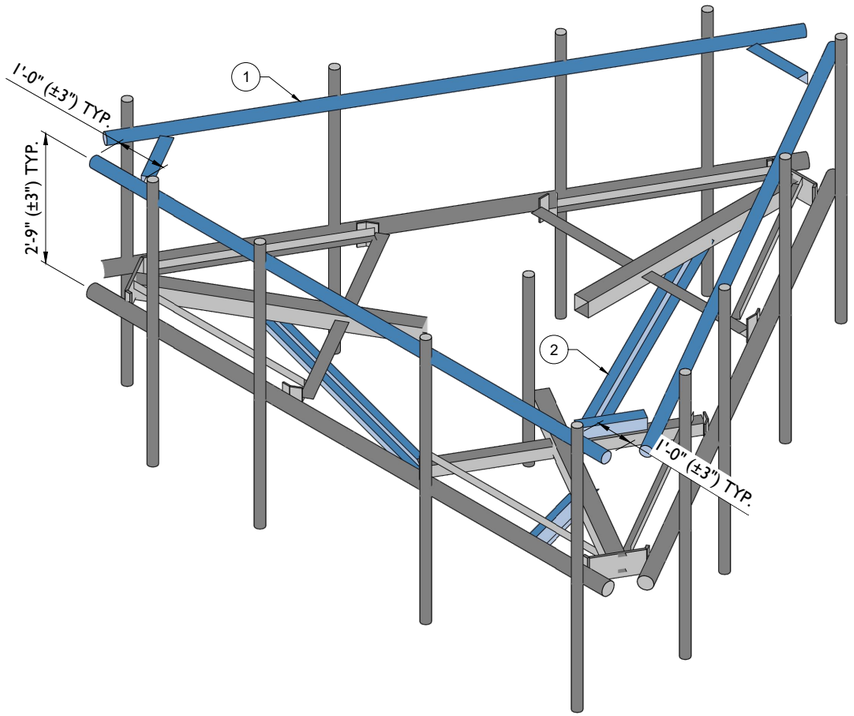
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	89'-00"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN.
2		1	PROPOSED KICKER KIT (PART #: VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.

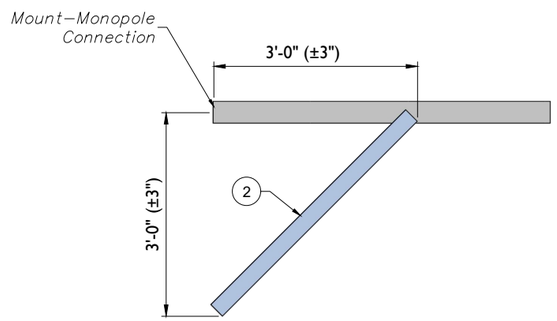
GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.

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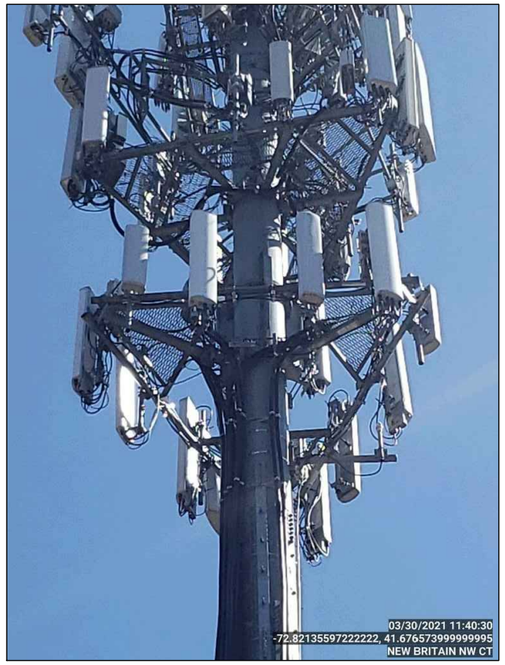
SHEET TITLE :

MODIFICATION DETAILS

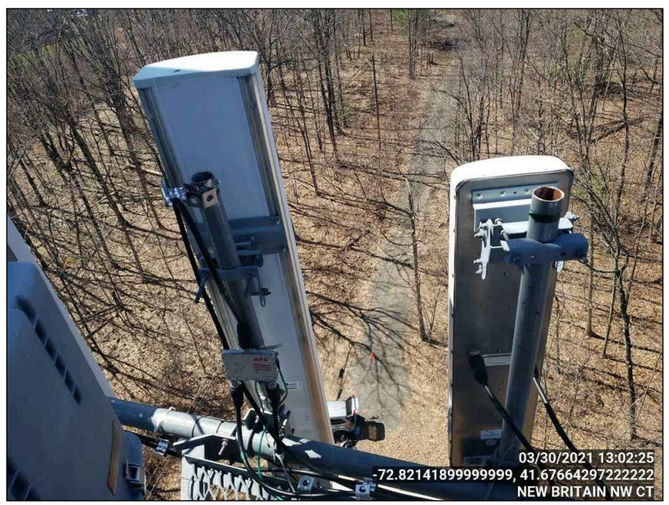
SHEET NUMBER :

SS-1

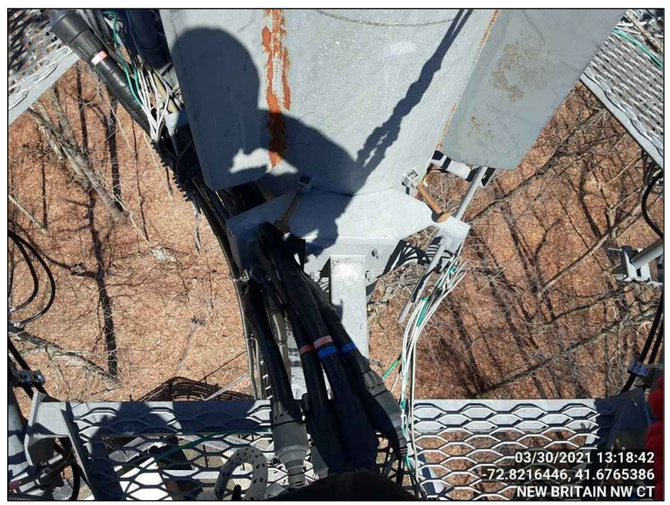


MOUNT PHOTO 1

MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4

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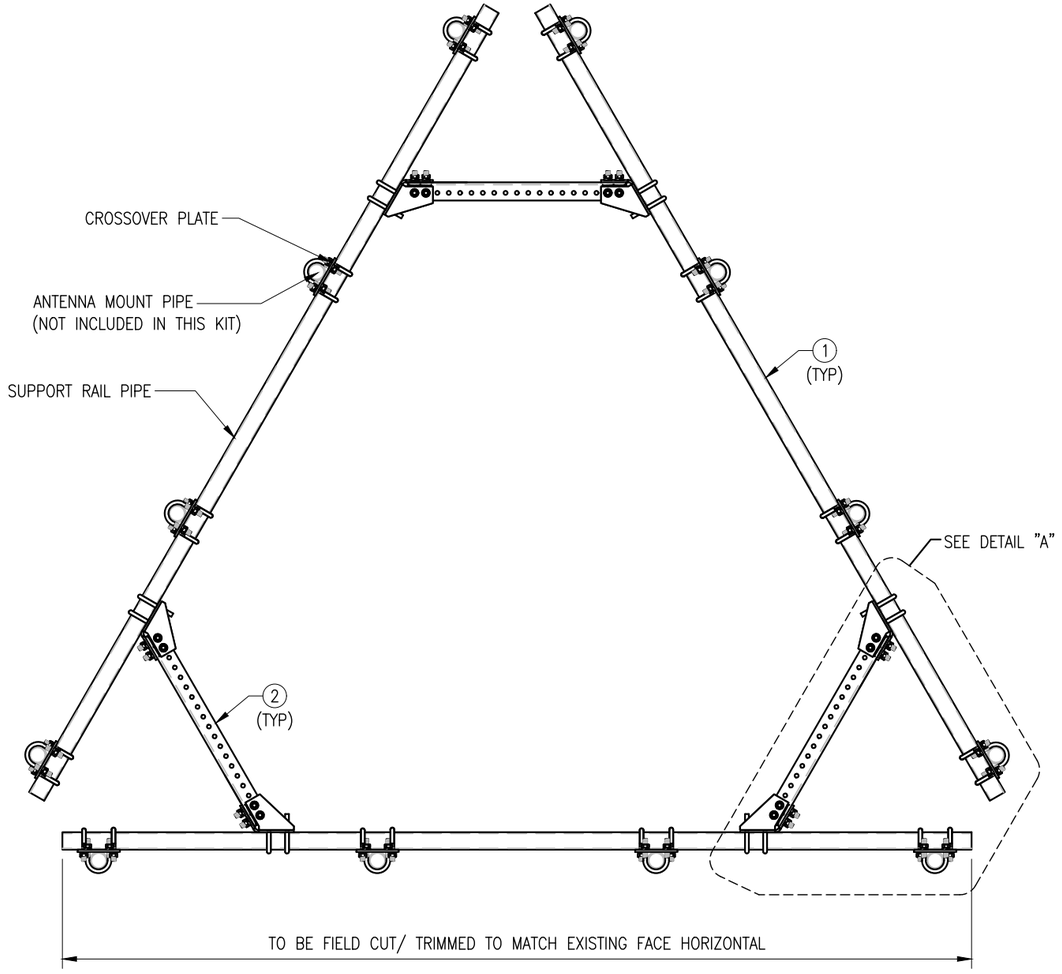
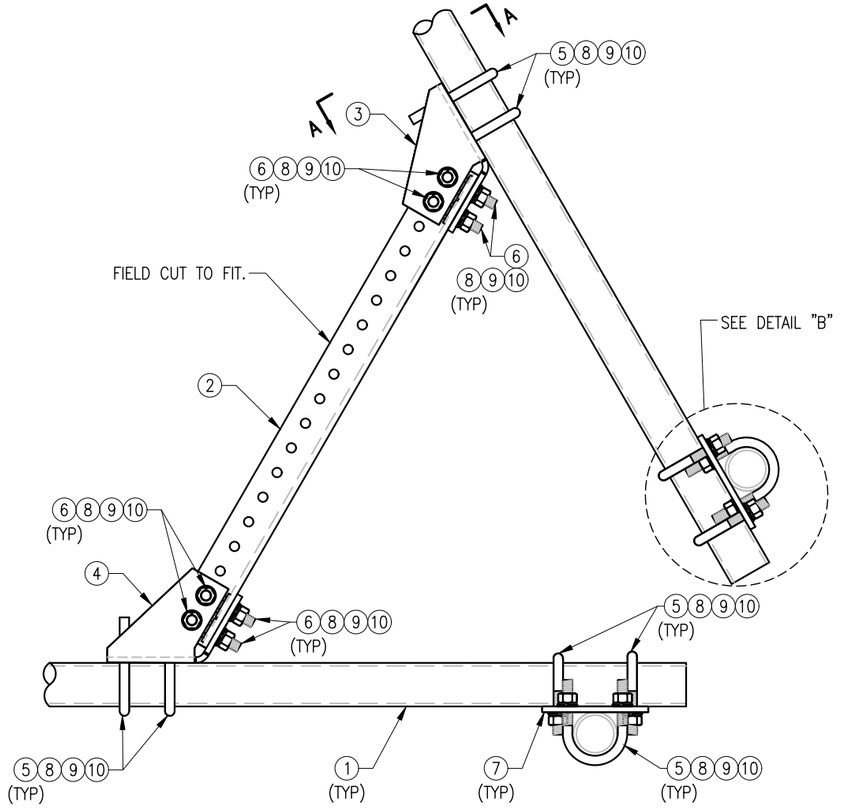
SHEET TITLE: MOUNT PHOTOS

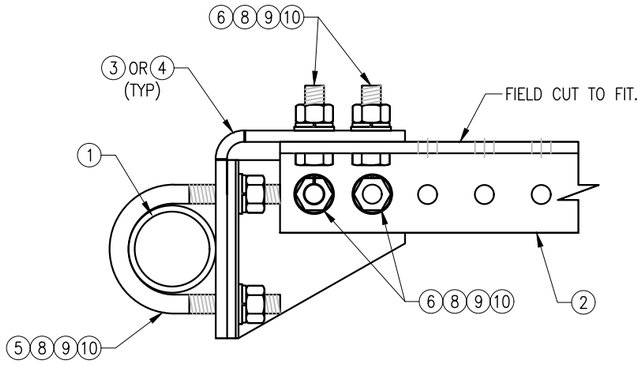
SHEET NUMBER: SS-2



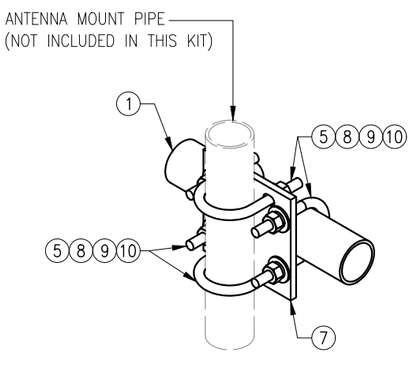
PLAN VIEW



DETAIL "A"



SECTION "A–A"



DETAIL "B"

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

VZW SMART–PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875–12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'–6" A53 GR–B	PLK1–F1	292
2	3	L33375–3	L 3" X 3" X 3/8" X 3'–0" A36	PLK1–F1	66
3	3	CBP–L	CORNER BENT PLATE BRACKET	PLK1–F2	28
4	3	CBP–R	CORNER BENT PLATE BRACKET	PLK1–F2	28
5	60	MS02–625–300–500	RU–BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC–1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375–857	PL 3/8" X 8 1/2" X 7'–0" A36	PLK1–F3	77
8	144	FW–625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW–625	5/8" HDG LOCK WASHER	---	3
10	144	NUT–625	5/8" HDG HEX NUT	---	17
				GALVANIZED WT	504

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: H.R | CHECKED BY: HMA

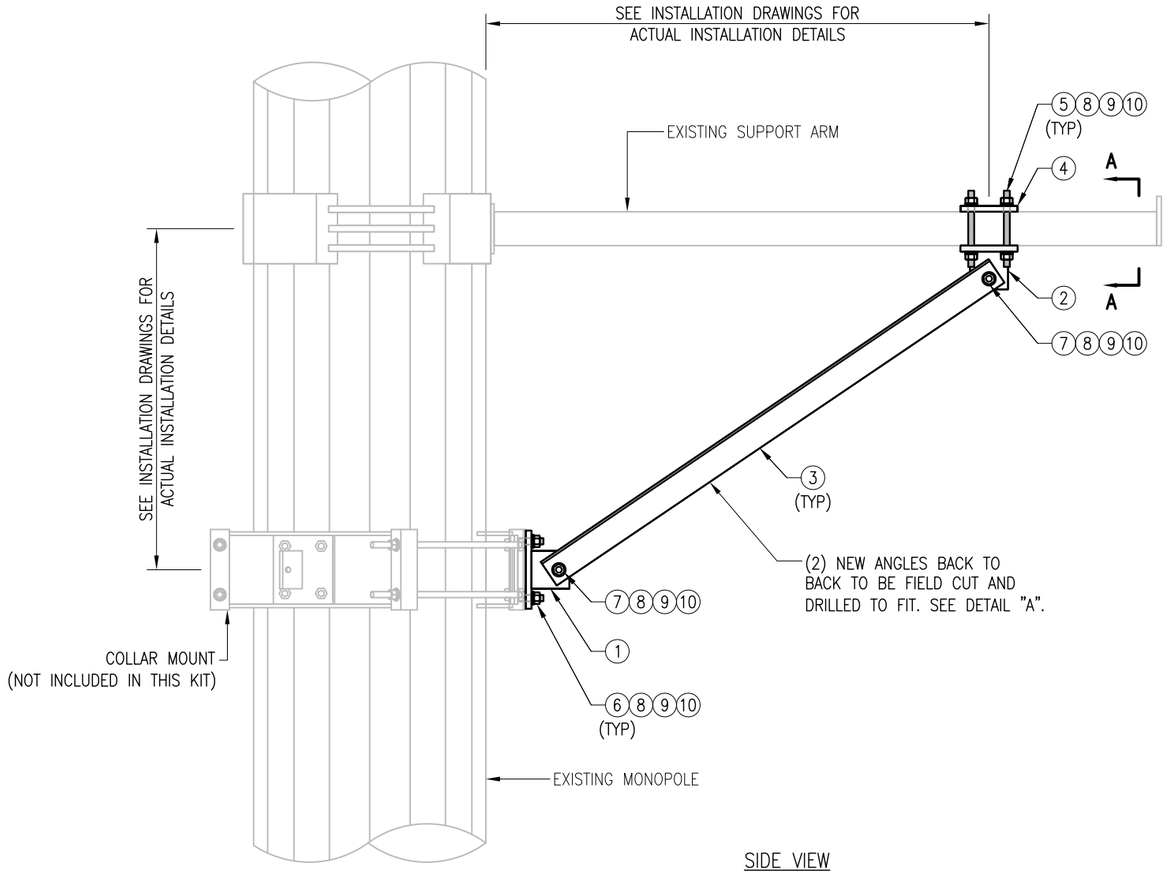
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
VZWSMART–PLK1
SUPPORT RAIL KIT

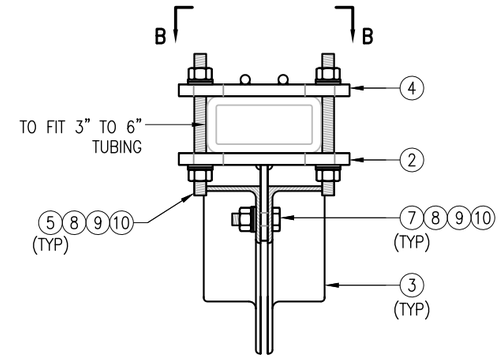
SHEET NUMBER: VZWSMART–PLK1

REV #: 0

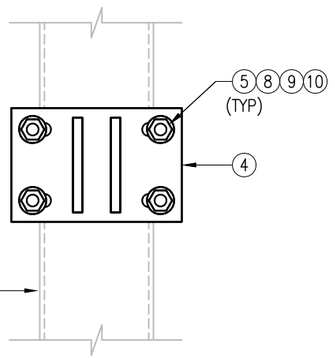
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



SIDE VIEW
KICKER KIT

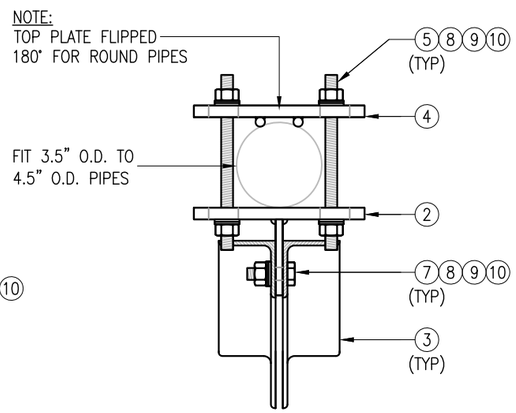


SECTION "A–A"
RECT. HSS MOUNTING

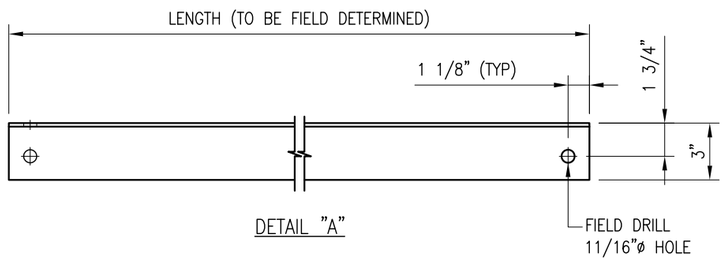


SECTION "B–B"

NOTE:
TOP PLATE FLIPPED 180° FOR ROUND PIPES



SECTION "A–A"
ROUND PIPE MOUNTING



DETAIL "A"

NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT–DIPPED GALVANIZED PER ASTM A123.
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE

VZWSMART–PLK5 (KICKER KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	BRKW–XXX	BRACKET WELDMENT A36	PLK5–F3	43.8
2	3	BRKW–XXXX	BRACKET WELDMENT A36	PLK5–F2	35.7
3	6	L331875–8	L 3" X 3" X 3/16" X 8'–0" A36	PLK5–F4	182.9
4	3	PL–KI	PL 5/8" X 6" X 9" A36	PLK5–F1	29.0
5	12	---	THREADED ROD 5/8" DIA. X 1'–0" F1554–36 HDG	---	--
6	6	---	BOLT 5/8" X 2" A325	---	--
7	12	---	BOLT 5/8" X 2 1/2" A325	---	--
8	42	FW–625	5/8" HDG USS FLAT WASHER	---	3
9	42	LW–625	5/8" HDG LOCK WASHER	---	1
10	42	NUT–625	5/8" HDG HEX NUT	---	5
				GALVANIZED WT	291

VzW
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Vendor

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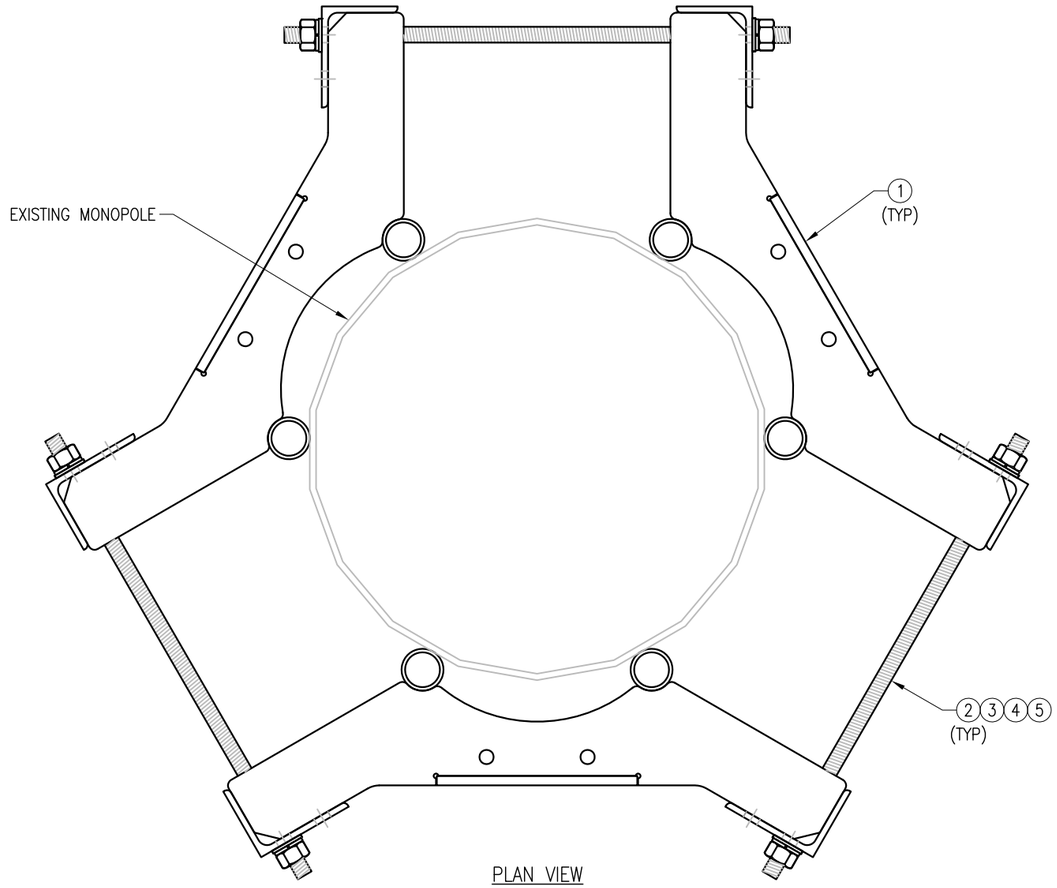
DRAWN BY: MN | CHECKED BY: HMA/KW

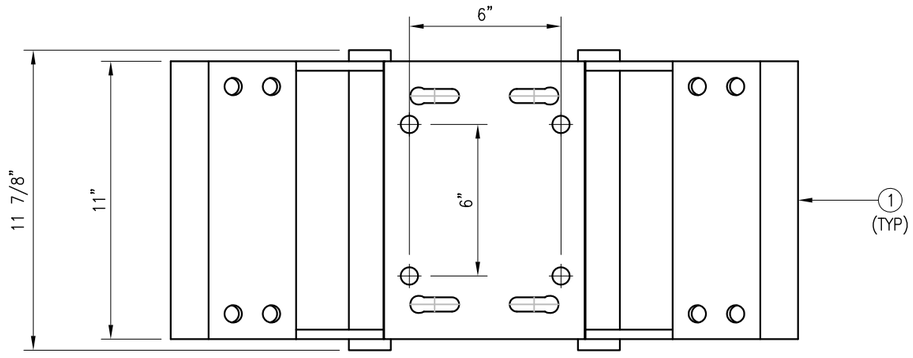
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	05/08/20

SHEET TITLE:
VZWSMART–PLK5
KICKER KIT

SHEET NUMBER: VZWSMART–PLK5
REV #: 0



PLAN VIEW
MONOPOLE COLLAR MOUNT ASSEMBLY



FRONT VIEW

NOTES:
1. FIT 12" TO 45" DIA MONOPOLE.
2. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	150

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DRAWN BY: BT | CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	05/11/20

SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7

REV #: 0

EXHIBIT G

Power Density / RF Emissions Report

FOX HILL TELECOM

Radio Frequency Emissions Analysis Report

Prepared for:

CROWN CASTLE

verizon

Crown Site ID: 876331_New Britain Gravel Pit

Verizon Wireless Site Name: New Britain NW CT

Verizon Wireless FUZE ID: 16232009

Site Address:

115 North Mountain Road

New Britain, CT 06053

May 28, 2024

Fox Hill Telecom Project Number: 240147

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	27.59 %

Fox Hill Telecom, Inc Worcester MA 01609

FOX HILL TELECOM

May 28, 2024

Crown Castle
1800 W. Park Drive
Westborough, MA 01581

Emissions Analysis for:

Crown Castle Site: **876331 – New Britain Gravel Pit**

Verizon Wireless Site: New Britain NW CT

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades for Verizon Wireless to the Crown Castle facility located at **115 North Mountain Road, New Britain, CT**, for the purpose of determining whether the emissions from the Proposed Verizon Wireless Antenna Installation, in addition to all existing radio systems located on this property, are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 MHz band & the 850 MHz cellular band are approximately 497 $\mu W/cm^2$ and 586 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 3700 MHz (C band) frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report the percentage of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed upgrades to the Crown Castle facility for Verizon Wireless located at **115 North Mountain Road, New Britain, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65 for far field modeling calculations.

In OET-65, plane wave power densities in the far field of an antenna are calculated by considering antenna gain and reflective waves that would contribute to exposure.

Since the radiation pattern of an antenna has developed in the **far field** region the power gain in specific directions needs to be considered in exposure predictions to yield an Effective Radiated Power (ERP) in each specific direction from the antenna. Also, since the vertical radiation pattern of the antenna is considered, the exposure calculations would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels. To determine a worst-case scenario at each point along the calculation radials, each point was calculated using the antenna gain value at each angle of incident and compared against the result using an isotropic radiator at the antenna height with the greater of the two used to yield the more pessimistic far field value for each point along the calculation radial.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential 1.6 times increase in power density in calculating far field power density values.

With these factors considered, the worst case **far field prediction model** utilized in this analysis is determined by the following equation:

Equation 9 per FCC OET65 for Far Field Modeling

$$S = \frac{33.4\ ERP}{R^2}$$

S = Power Density (in μw/cm^2)
ERP = Effective Radiated Power from antenna (watts)
R = Distance from the antenna (meters)

Predicted far field power density values for all carriers identified in this report were calculated 6 feet above the ground level and are displayed as a percentage of the applicable FCC standards. All emissions values for other carriers were calculated using the same Far Field model outlined above, using industry standard radio configurations and frequency band selection based upon available licenses in this geographic area for emissions contribution estimates.

For each Verizon Wireless sector, the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	700 MHz	4	40
LTE / 5G	850 MHz	4	40
LTE	1900 MHz (PCS)	4	40
LTE	2100 MHz (AWS)	4	40
5G	3700 MHz (C Band)	2	160

Table 1: Channel Data Table

The following **Verizon Wireless** antennas listed in *Table 2 – Antenna Data* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 3700 MHz (C Band) frequency bands. This is based on feedback from Verizon Wireless regarding anticipated antenna selection. Maximum gain values for all antennas are listed in *Table 3 – Verizon Wireless Inventory and Power Data* below.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Commscope NHH-65B-R2B	90
A	2	Commscope NHH-65B-R2B	90
A	3	Samsung MT6413-77A	90
A	4	Amphenol BXA-70040-4CF (Dormant)	90
B	1	Commscope NHH-65B-R2B	90
B	2	Commscope NHH-65B-R2B	90
B	3	Samsung MT6413-77A	90
B	4	Amphenol BXA-70063-4CF-4 (Dormant)	90
C	1	Commscope NHH-65B-R2B	90
C	2	Commscope NHH-65B-R2B	90
C	3	Samsung MT6413-77A	90
C	4	Amphenol BXA-70063-4CF-4 (Dormant)	90

Table 2: Antenna Data

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

RESULTS

Per the calculations completed for the proposed Verizon Wireless configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Commscope NHH-65B-R2B	700 MHz / 850 MHz	12.75 / 12.85	8	320	6,097.88	3.19
Antenna A2	Commscope NHH-65B-R2B	1900 MHz (PCS) / 2100 MHz (AWS)	15.75 / 16.25	8	320	12,760.54	1.64
Antenna A3	Samsung MT6413-77A	3700 MHz (C Band)	23.15	2	320	66,092.16	6.79
Antenna A4	Amphenol BXA-70040-4CF (Dormant)	NA	NA	0	0	0.00	0.00
						Sector A Composite MPE%	**11.62**
Antenna B1	Commscope NHH-65B-R2B	700 MHz / 850 MHz	12.75 / 12.85	16	640	18,858.42	3.19
Antenna B2	Commscope NHH-65B-R2B	1900 MHz (PCS) / 2100 MHz (AWS)	15.75 / 16.25	16	640	18,858.42	1.64
Antenna B3	Samsung MT6413-77A	3700 MHz (C Band)	23.15	2	320	66,092.16	6.79
Antenna B4	Amphenol BXA-70063-4CF-4 (Dormant)	NA	NA	0	0	0.00	0.00
						Sector B Composite MPE%	**11.62**
Antenna C1	Commscope NHH-65B-R2B	700 MHz / 850 MHz	12.75 / 12.85	16	640	18,858.42	3.19
Antenna C2	Commscope NHH-65B-R2B	1900 MHz (PCS) / 2100 MHz (AWS)	15.75 / 16.25	16	640	18,858.42	1.64
Antenna C3	Samsung MT6413-77A	3700 MHz (C Band)	23.15	2	320	66,092.16	6.79
Antenna C4	Amphenol BXA-70063-4CF-4 (Dormant)	NA	NA	0	0	0.00	0.00
						Sector C Composite MPE%	**11.62**

Table 3: Verizon Wireless Inventory and Power Data table

Table 4: All Carrier MPE Contributions shows all additional identified carriers on site and their emissions contribution estimates, along with the newly calculated maximum Verizon Wireless far field emissions contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas the highest recorded sector value be used for composite site emissions values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three Verizon Wireless sectors have the same configuration yielding the same results for all three sectors. *Table 5* below shows a summary for each Verizon Wireless Sector as well as the composite estimated emissions value for the site.

Site Composite MPE%	
Carrier	**MPE%**
Verizon Wireless – Max Per Sector Value	**11.62 %**
Sprint	1.40 %
T-Mobile	4.34 %
AT&T	10.23 %
Site Total MPE %:	**27.59 %**

Table 4: All Carrier MPE Contributions

Verizon Wireless Sector A Total:	11.62 %
Verizon Wireless Sector B Total:	11.62 %
Verizon Wireless Sector C Total:	11.62 %
Site Total:	27.59 %

Table 5: Site MPE Summary

Table 6 below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated Verizon sector(s). For this site, all three Verizon Wireless sectors have the same configuration yielding the same results for all three sectors.

Verizon Wireless _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Verizon Wireless 700 MHz LTE	4	753.46	90	8.70	700 MHz	497	1.75%
Verizon Wireless 850 MHz LTE / 5G	4	771.01	90	8.44	850 MHz	586	1.44%
Verizon Wireless 1900 MHz (PCS) LTE	4	1,503.35	90	8.20	1900 MHz (PCS)	1000	0.82%
Verizon Wireless 2100 MHz (AWS) LTE	4	1,686.79	90	8.20	2100 MHz (AWS)	1000	0.82%
Verizon Wireless 3700 MHz (C Band) 5G	2	33,046.08	90	67.90	3700 MHz (C Band)	1000	6.79%
						Total:	**11.62 %**

Table 6: Verizon Wireless Maximum Sector MPE Power Values

Summary

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

The anticipated maximum composite contributions from the Verizon Wireless facility as well as the site composite emissions estimates value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Verizon Wireless Sector	Power Density Value (%)
Sector A:	11.62 %
Sector B:	11.62 %
Sector C:	11.62 %
Verizon Wireless Maximum Total (per sector):	11.62 %
Site Total:	27.59 %
Site Compliance Status:	**COMPLIANT**

The estimated composite emissions value for this site, assuming all carriers present, is **27.59 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon the far field calculations performed for all carriers identified in this report.

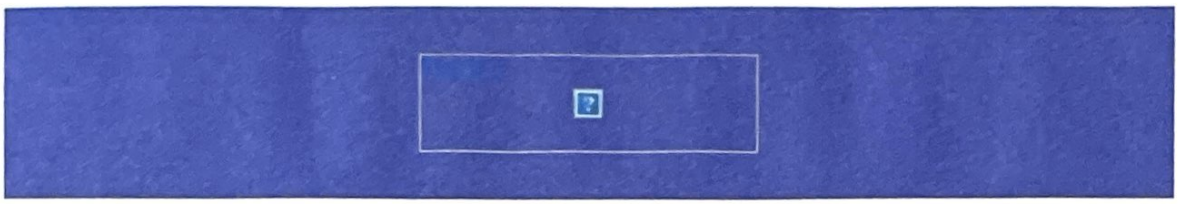
FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite estimated values calculated were well within the allowable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

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Worcester, MA 01609
(978)660-3998

EXHIBIT H

Recipient Mailing Records

From: TrackingUpdates@fedex.com
To: Bachi, Jenifer
Subject: FedEx Shipment 776622005636: Your package has been delivered / 876331 to Mayor
Date: Friday, May 31, 2024 10:17:51 AM

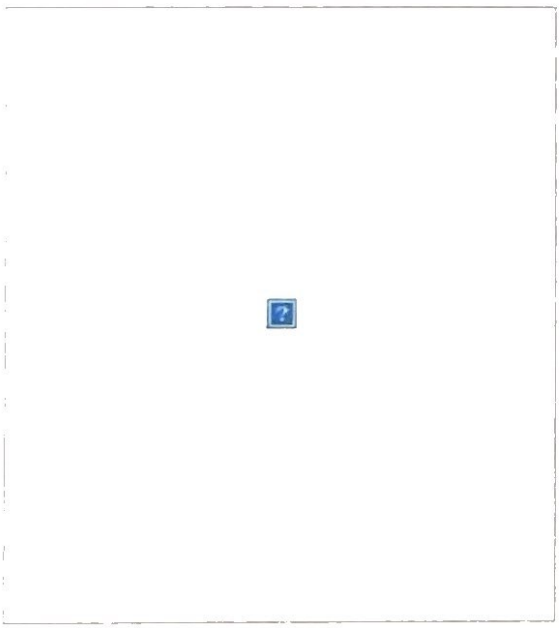


Hi. Your package was delivered Fri, 05/31/2024 at 10:07am.

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	776622005636
FROM	KING OF PRUSSIA, PA, US
TO	NEW BRITAIN, CT, US
SHIP DATE	Thu 5/30/2024 06:00 PM
PACKAGING TYPE	FedEx Pak
ORIGIN	KING OF PRUSSIA, PA, US
DESTINATION	NEW BRITAIN, CT, US
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



Absolutely, positively committed to you

Every delivery deserves extra care. Even if it means one of our drivers takes on the role of ringbearer for a customer's wedding. We'll work to make your next delivery special too.

WATCH FEDEX IN ACTION

FOLLOW FEDEX

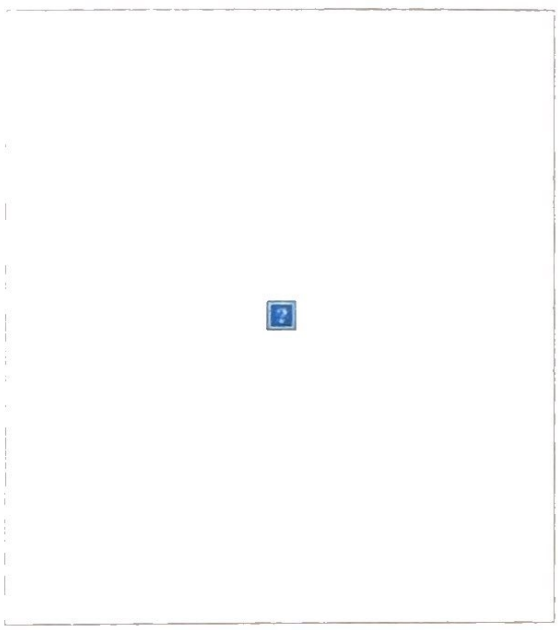
From: TrackingUpdates@fedex.com
To: Bachi, Jenifer
Subject: FedEx Shipment 776622073250: Your package has been delivered / 876331 - City Planner
Date: Friday, May 31, 2024 10:17:21 AM

Hi. Your package was delivered Fri, 05/31/2024 at 10:07am.

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	776622073250
FROM	KING OF PRUSSIA, PA, US
TO	NEW BRITAIN, CT, US
SHIP DATE	Thu 5/30/2024 06:00 PM
PACKAGING TYPE	FedEx Pak
ORIGIN	KING OF PRUSSIA, PA, US
DESTINATION	NEW BRITAIN, CT, US
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



Absolutely, positively committed to you

Every delivery deserves extra care. Even if it means one of our drivers takes on the role of ringbearer for a customer's wedding. We'll work to make your next delivery special too.

WATCH FEDEX IN ACTION

FOLLOW FEDEX

FedEx Shipment 776622131875: Your package has been delivered / 876331 - Property Owner

TrackingUpdates@fedex.com <TrackingUpdates@fedex.com>
Fri 5/31/2024 2:01 PM
To:Bachi, Jenifer <Jenifer.Bachi@crowncastle.com>

Hi. Your package was delivered Fri, 05/31/2024 at 9:53am.

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	776622131875
FROM	KING OF PRUSSIA, PA, US
TO	NEW BRITAIN, CT, US
SHIP DATE	Thu 5/30/2024 06:00 PM
PACKAGING TYPE	FedEx Pak
ORIGIN	KING OF PRUSSIA, PA, US
DESTINATION	NEW BRITAIN, CT, US
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Absolutely, positively committed to you

Every delivery deserves extra care. Even if it means one of our drivers takes on the role of ringbearer for a customer's wedding. We'll work to make your next delivery special too.

WATCH FEDEX IN ACTION

FOLLOW FEDEX

ORIGIN ID:KPDA (610) 635-3221
JENIFER BACHI
CROWN CASTLE
3200 HORIZON DRIVE
SUITE 150
KING OF PRUSSIA, PA 19406
UNITED STATES US

SHIP DATE: 31MAY24
ACTWGT: 2.00 LB
CAD: 104924192/INET4730

BILL SENDER

TO **MELANIE A. BACHMAN, EXEC DIRECTOR**
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE

NEW BRITAIN CT 06051
(860) 827-2935 REF: 1766.668
INV:
PO: 876331-VERIZON DEPT:

583J4/C458/9AE3

FedEx Express

J420240326011uv

MON - 03 JUN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7766 2215 4980**

K7 BDLA

06051
CT-US **BDL**

FedEx Ship Manager - Print Your Label(s)

PM