



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

July 9, 2024

Via Fedex # 777300987255

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

RE: Notice of Exempt Modification for Verizon Wireless: 5000385363
Crown Site ID# 876315
1027 Racebrook Road, Woodbridge, CT 06525
Latitude: 41° 19' 0.30"/ Longitude: -73° 0' 41.80"

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains thirteen (13) antennas at the 124-foot mount on the existing 150.5-foot monopole tower located at 1027 Racebrook Road. The property is owned by The Traditional Golf Club at Oak Lane 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 and ancillary antenna equipment at the 124-ft level. 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:

- INSTALL (3) JMA - JMA MOUNTS
- INSTALL (6) JMA WIRELESS - MX06FHG865-HG ANTENNAS
- INSTALL (3) SAMSUNG - MT6413-77A ANTENNAS
- INSTALL (3) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A) RADIOS
- INSTALL (3) SAMSUNG - RF4461D-13A RADIOS
- INSTALL (1) RFS/CELWAVE - HB158-21U6S12-XXXM-01 HYBRID CABLE
- INSTALL (1) RAYCAP - 12 OVP

Remove:

- REMOVE (6) RYMSA - MG D3-800 ANTENNAS
- REMOVE (3) POWERWAVE - P65-16-XL-2 ANTENNAS
- REMOVE (3) NOKIA - UHID B4 RRH 2X40 RADIOS
- REMOVE (1) RAYCAP - 6 OVP
- REMOVE (1) ANDREW - 1 5/8" COAX CABLE

Ground:

Remove:

- REMOVE (3) SAMSUNG - B5/B13 RRH-BR04C (RFV01U-D2A) RADIOS
- REMOVE (3) COMMSCOPE - CHB726-01-2X HYBRID COMBINERS

The facility was approved by the Town of Woodbridge Planning and Zoning Commission between July 1997 and January 1998. A Building permit was issued to Sprint January 21, 1998.

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 Mica Cardozo, First Selectman Town of Woodbridge, Kristine Sullivan, Zoning Enforcement Officer, Town of Woodbridge and The Traditional Golf Club at Oak Lane 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 #2969848 for \$625 Application Fee

cc:

Via Fedex # 77301064370
Mica Cardozo, First Selectman
Town of Woodbridge
11 Meetinghouse Lane
Woodbridge, CT 06525
203-389-3401

Via Fedex # 777301175900
Kristine Sullivan, Zoning Enforcement Officer
Town of Woodbridge
11 Meetinghouse Lane
Woodbridge, CT 06525
203-389-3406

Via Fedex # 777301217646
The Traditional Golf Club at Oak Lane LLC
1027 Racebrook Road
Woodbridge, CT 06525

Crown Castle, Tower Owner

EXHIBIT A

Original Facility Approval

020.07

**TOWN OF WOODBRIDGE, CONN.
BUILDING DEPARTMENT**

Date Issued January 21 19 98

**BUILDING
PERMIT** No. 9937

ISSUED TO SPRINT PCS (Michael Evanchick-Agent)
TO ERECT Installation of telecommunications TOWER & ANTENNAS and
associated telecommunications equipment per application
LOCATION specifications & approved plans 1116 JOHNSON ROAD

DO NOT BACKFILL until the following inspections are made and approved..

Footings
Foundation drains & Dampproofing

DO NOT INSULATE or COVER until the following inspections are made and approved.

Structural Plumbing
Electrical Heating
Alarm System Fireplace Hearth
Fireplace Smoke Chamber & Throat

DO NOT COVER until the following inspections are made and approved.

Insulation

The following FINAL INSPECTIONS are necessary for a **CERTIFICATE OF OCCUPANCY.**

Structural Plumbing
Electrical Heating
Alarm System Air Conditioning
Water Heater Oil Burner
Water Pump !

**THIS CARD MUST BE CONSPICUOUSLY DISPLAYED AT ALL TIMES
DURING THE PROGRESS OF CONSTRUCTION.**

Signed by [Signature]
Building Official

EXHIBIT B

Property Card

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2019.



Information on the Property Records for the Municipality of Woodbridge was last updated on 7/8/2024.



Parcel Information

Location:	1116 JOHNSON RD	Property Use:	Industrial	Primary Use:	Warehouse
Unique ID:	102287	Map Block Lot:	3003 890 1116	Acres:	84.5000
490 Acres:	83.00	Zone:	A	Volume / Page:	0682/0010
Developers Map / Lot:	240R	Census:	1601		
Location:	1116 JOHNSON RD	Property Use:	Industrial	Primary Use:	Warehouse
Unique ID:	102287	Map Block Lot:	3003 890 1116	Acres:	84.5000
490 Acres:	83.00	Zone:	A	Volume / Page:	0682/0010
Developers Map / Lot:	240R	Census:	1601		

Value Information

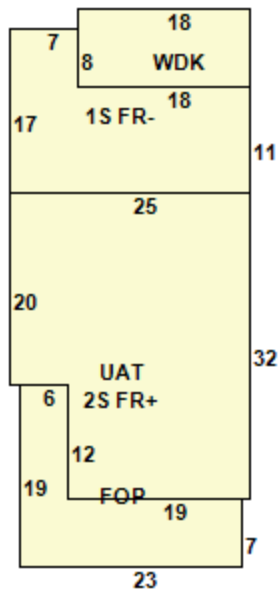
	Appraised Value	Assessed Value
Land	998,300	408,310
Buildings	243,400	170,380
Detached Outbuildings	841,600	589,120
Total	2,083,300	1,167,810

Owner's Information

Owner's Data
THE TRADITION GOLF CLUB AT OAK LANE LLC 1027 RACEBROOK RD WOODBIDGE, CT 06525

Building 1





Building Use:	Res W Com	Style:	Conventional	Living Area:	1,773
Stories:	2.00	Construction:	Wood Frame	Year Built:	1905
Total Rooms:	6	Bedrooms:	4	Full Baths:	2
Half Baths:	0	Fireplaces:	0	Heating:	Hot Water
Fuel:	Oil	Cooling Percent:	0	Basement Area:	728
Basement Finished Area:	0	Basement Garages:	0	Roof Material:	Asph/F GlS/Cmp
Siding:	Vinyl Siding	Units:			

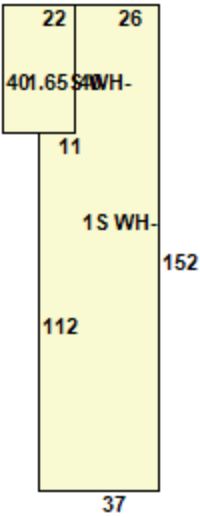
Special Features

Unfinished Basement	728
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Attached Components

Type:	Year Built:	Area:
Unfinished Attic	1905	728
Wood Deck	1905	144
Open Porch	1905	221

Building 2



Category:	Industrial	Use:	Warehouse	GLA:	6,064
Stories:	1.00	Construction:	Wood Frame	Year Built:	1983
Heating:	None	Fuel:	Coal Or Wood	Cooling Percent:	0
Siding:	Clapboards	Roof Material:		Beds/Units:	0

Special Features

Attached Components

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Silo	2000	23.00	28.00	644
Golf Greens	2000	0.00	0.00	10
Frame Shed	2008	0.00	0.00	64

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price
THE TRADITION GOLF CLUB AT	0682	0010	01/05/2012	Warranty Deed	\$1,092,561
OAK LANE COUNTRY CLUB INC	0622	0298	06/19/2009		\$0
OAK LANE COUNTRY CLUB INC	0094	0510	12/14/1970		\$0
OAK LANE COUNTRY CLUB INC	0073	0511	01/10/1963		\$0
OAK LANE COUNTRY CLUB INC	0070	0071	05/11/1961		\$0

Building Permits

Permit Number	Permit Type	Date Opened	Reason
B-20-184	Building	04/16/2021	AT&T proposes to modify their existing antenna configuration on the existing cell tower by remov
B2020-184	Unknown	08/18/2020	REMOVE & REPLACE 6 ANTENNAS
E2019-9	Electrical	01/15/2019	WIRE TOWN COMMUNICATION CABINET & GENERATOR
M2018-148	Mechanical	11/29/2018	1,000 GAL LP UNDERGRND TANK & RUN LP GAS LINES TO TANK
B2010-40	New	03/30/2010	REPAIR FRONT PORCH
E2009-1018	Electrical	01/21/2009	UNGRD PIPING FOR ANTENNAS

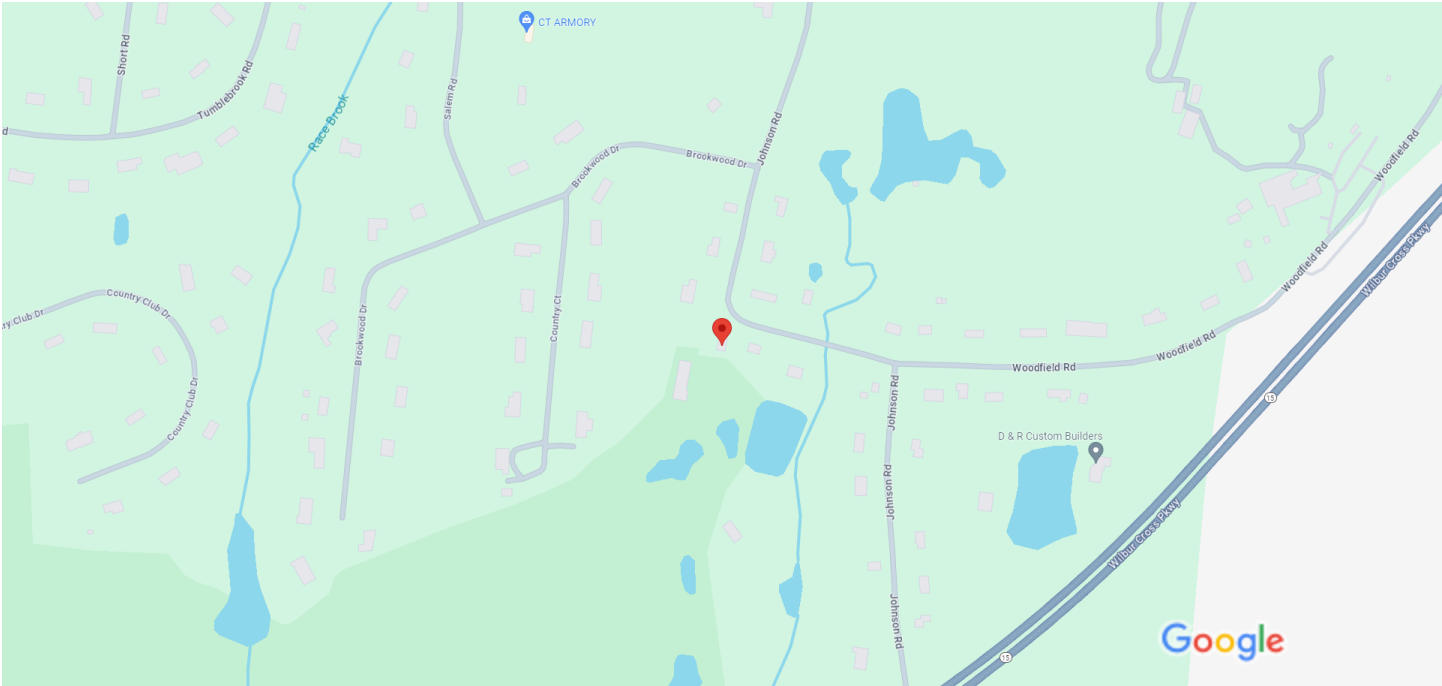
Permit Number	Permit Type	Date Opened	Reason
B2008-1015	New	12/15/2008	3 ANTENNAS & 1 CABINET
13399	Electrical	07/11/2008	UNDERGROUND CABLES
12439	New	06/05/2008	RELOCATE EQUIPMENT TO NEW POLE
12323	New	10/31/2007	REMOVE/REPLACE ANTENNAS
10972	New	08/01/2002	NEXTEL COMMUNICATIONS
10857	New	02/08/2002	SPRINT MONOPOLE
8989	New	03/09/1994	VINYL SID
8665	New	12/01/1992	REROOF

Information Published With Permission From The Assessor

EXHIBIT C

Property Map

1116 Johnson Rd



Map data ©2024 Google 200 ft



1116 Johnson Rd

Building



Directions



Save



Nearby



Send to
phone



Share



1116 Johnson Rd, Woodbridge, CT 06525

Photos

EXHIBIT D

Construction Drawings



VERIZON SITE NUMBER: 5000385363
VERIZON SITE NAME: WOODBRIDGE S CT
VERIZON PROJECT: 5G L-SUB6 - CARRIER ADD
SITE TYPE: MONOPOLE
TOWER HEIGHT: 150'-6"

BUSINESS UNIT #: 876315
SITE ADDRESS: 1027 RACEBROOK ROAD
WOODBRIDGE, CT 06525
COUNTY: NEW HAVEN
JURISDICTION: CONNECTICUT SITTING COUNCIL



VERIZON SITE NUMBER:
5000385363

BU #: 876315

CROWN CASTLE SITE NAME
OAK LANE CC, INC.
TOWER (SSUSA

1027 RACEBROOK ROAD
WOODBRIDGE, CT 06525

EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/29/24	MDW	CONSTRUCTION	MB
1	5/24/24	MDW	CONSTRUCTION	MB

APPLICABLE CODES & REFERENCE DOCUMENTS

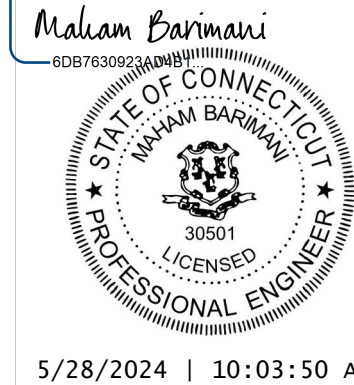
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2022 CT STATE BUILDING CODE/2021 IBC W/ CT AMENDMENTS
MECHANICAL	2022 CT STATE BUILDING CODE/2021 IMC W/ CT AMENDMENTS
ELECTRICAL	2022 CT STATE BUILDING CODE/2020 NEC W/ CT AMENDMENTS

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	MORRISON HERSHFIELD
DATED:	2/14/24
MOUNT ANALYSIS:	COLLIERS ENGINEERING & DESIGN
DATED:	1/19/24
RFDS REVISION:	REV4
DATED:	11/12/23
ORDER ID:	662921
REVISION:	0

DocuSigned by:



5/28/2024 | 10:03:50 AM CDT

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION #PEC.0001101
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

T-1

REVISION:

1

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME: BU NUMBER:	OAK LANE CC, INC. TOWER (SSUSA 876315
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	VERIZON WIRELESS 20 ALEXANDER DRIVE WALLINGFORD, CT 06492
SITE ADDRESS:	1027 RACEBROOK ROAD WOODBRIDGE, CT 06525
COUNTY:	NEW HAVEN
LATITUDE: LONGITUDE: LAT/LONG TYPE: GROUND ELEVATION:	41° 19' 0.48" / 41.3168° -73° 0' 41.76" / -73.0116° NAD83 241'+/- AMSL
AREA OF CONSTRUCTION: CURRENT ZONING: MAP/PARCEL #:	EXISTING A 003003-000890-001116
OCCUPANCY CLASSIFICATION: TYPE OF CONSTRUCTION: A.D.A. COMPLIANCE:	U IIB FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	GLOBAL SIGNAL ACQUISITION PO BOX 277455 ATLANTA, GA 30384
JURISDICTION:	CONNECTICUT SITTING COUNCIL TEN FRANKLIN SQUARE NEW BRITAIN, CT 06051
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER CO (800) 922-4455
TELCO PROVIDER:	AT&T (800) 288-2020

PROJECT TEAM

A&E FIRM:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CROWN CASTLE USA INC. DISTRICT CONTACTS:	2000 CORPORATE DRIVE CANONSBURG, PA 15317 ALEXANDER MABBETT - PROJECT MANAGER ALEXANDER.MABBETT@CROWNCastle.COM PAIGE THOMSEN - AES PAIGE.THOMSEN@CROWNCastle.COM ANDREW LEONE ALEONE@STRUCTURECONSULTING.NET
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-5.1	RFDS PLUMBING DIAGRAMS
C-5.2	RFDS PLUMBING DIAGRAMS
C-5.3	RFDS PLUMBING DIAGRAMS
C-5.4	RFDS PLUMBING DIAGRAMS
C-6	EQUIPMENT DETAILS & SPECIFICATIONS
C-6.1	EQUIPMENT DETAILS & SPECIFICATIONS
C-7	COLOR CODE MATRIX
G-1	GROUNDING DETAILS
ATTACHED	MOUNT MODIFICATION (BY OTHERS)

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	10219428
VzW LOCATION CODE (PSLC)	467834

*** 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	SIGNATURE	DATE
SITE ACQUISITION		
PLANNER		
CONSTRUCTION		
PROJECT MANAGER		
UTILITY MANAGER		
LANDLORD		

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) RYMSA - MG D3-800 ANTENNAS
- REMOVE (3) POWERWAVE - P65-16-XL-2 ANTENNAS
- REMOVE (3) NOKIA - UHID B4 RRH 2X40 RADIOS
- REMOVE (1) RAYCAP - 6 OVP
- REMOVE (1) ANDREW - 1 5/8" COAX CABLE
- INSTALL (3) JMA - JMA MOUNTS
- INSTALL (6) JMA WIRELESS - MX06FHG865-HG ANTENNAS
- INSTALL (3) SAMSUNG - MT6413-77A ANTENNAS
- INSTALL (3) SAMSUNG - B2/B66A RRH ORAN (RF4439D-25A) RADIOS
- INSTALL (3) SAMSUNG - RF4461D-13A RADIOS
- INSTALL (1) RFS/CELWAVE - HB158-21UG6S12-XXXX-01 HYBRID CABLE
- INSTALL (1) RAYCAP - 12 OVP

GROUND SCOPE OF WORK:

- REMOVE (3) SAMSUNG - B5/B13 RRH-BR04C (RFV01U-D2A) RADIOS
- REMOVE (3) COMMSCOPE - CHB726-01-2X HYBRID COMBINERS

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 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.

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

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.

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. VERIFYIFY 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/90° 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 SPECIMATE 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
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
DC VOLTAGE	GROUND	GREEN
	POS (+)	RED**
	NEG (-)	BLACK**

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

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
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

CROWN CASTLE

VERIZON SITE NUMBER:
5000385363

BU #: 876315

CROWN CASTLE SITE NAME
OAK LANE CC, INC.
TOWER (SSUSA

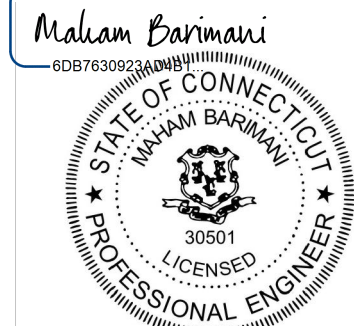
1027 RACEBROOK ROAD
WOODBRIDGE, CT 06525

EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/29/24	MDW	CONSTRUCTION	MB
1	5/24/24	MDW	CONSTRUCTION	MB

DocuSigned by:



5/28/2024 | 10:03:50 AM CDT

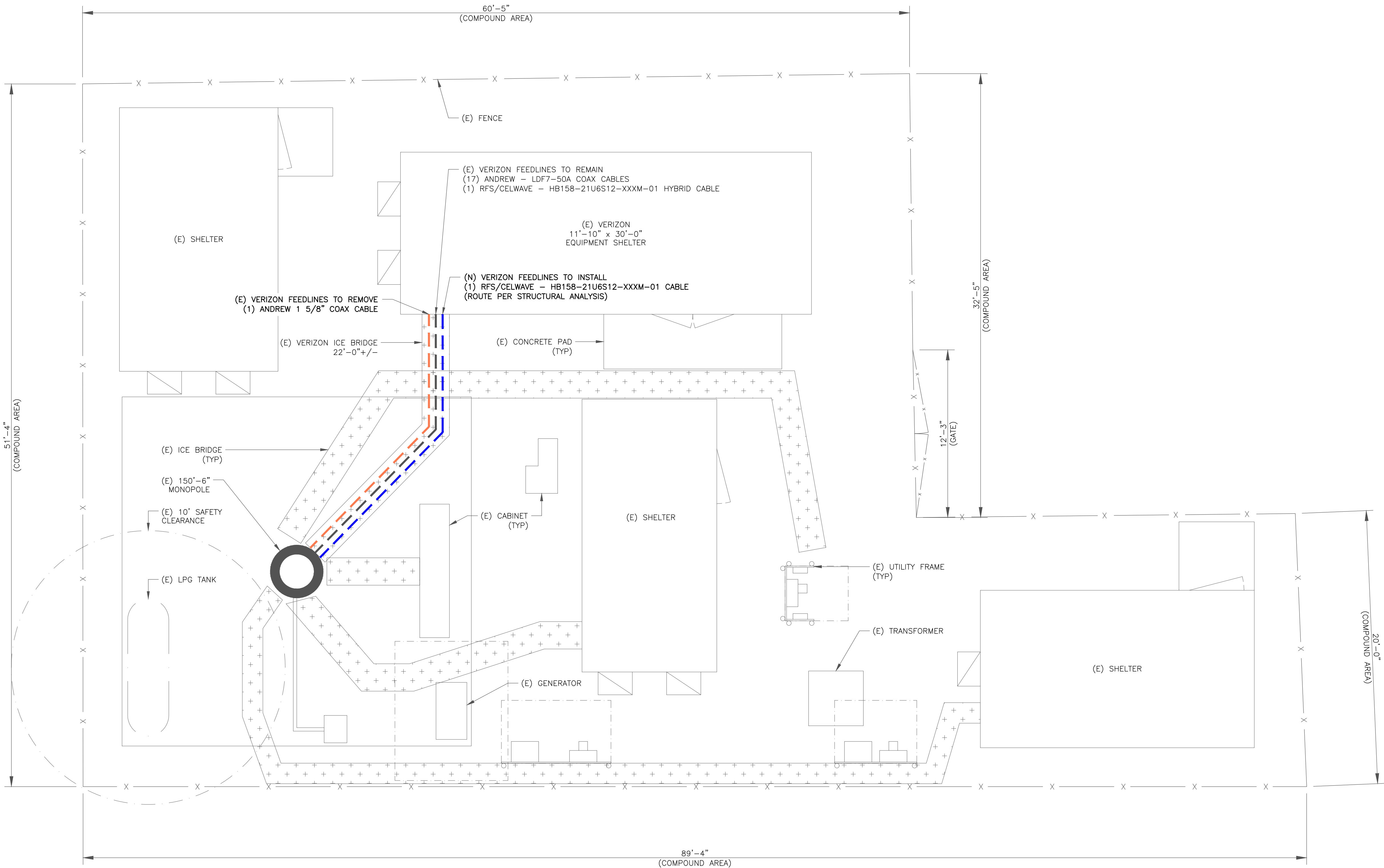
CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION #PEC.0001101
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

T-2

REVISION:

1



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



VERIZON SITE NUMBER:
5000385363

BU #: **876315**

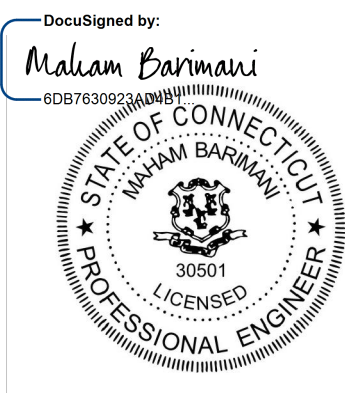
CROWN CASTLE SITE NAME
**OAK LANE CC, INC.
TOWER (SSUSA)**

1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/29/24	MDW	CONSTRUCTION	MB
1	5/24/24	MDW	CONSTRUCTION	MB



5/28/2024 | 10:03:50 AM CDT

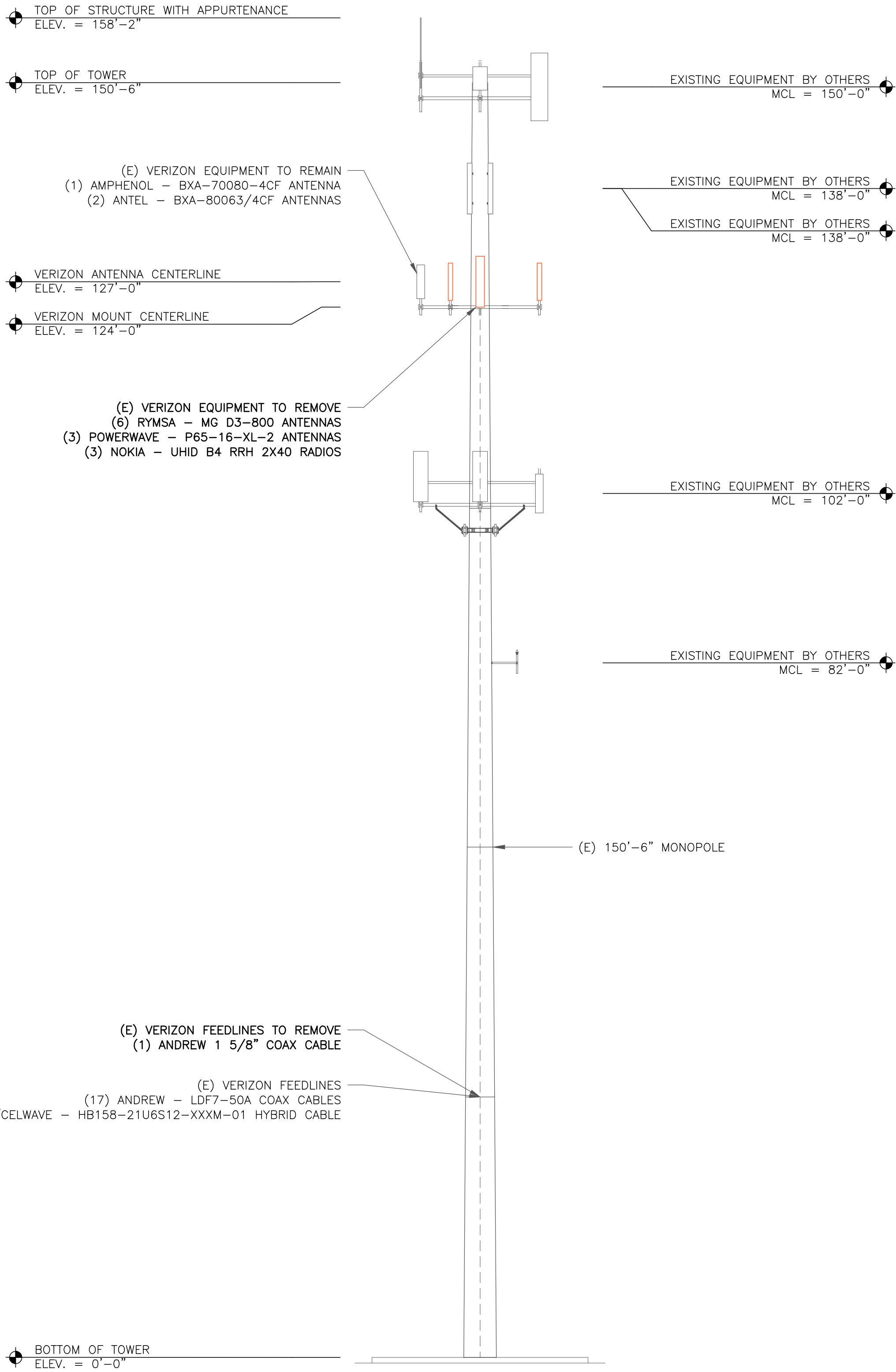
CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION #PEC.0001101
IT IS A VIOLATION OF LAW FOR ANY PERSON,
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OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-1

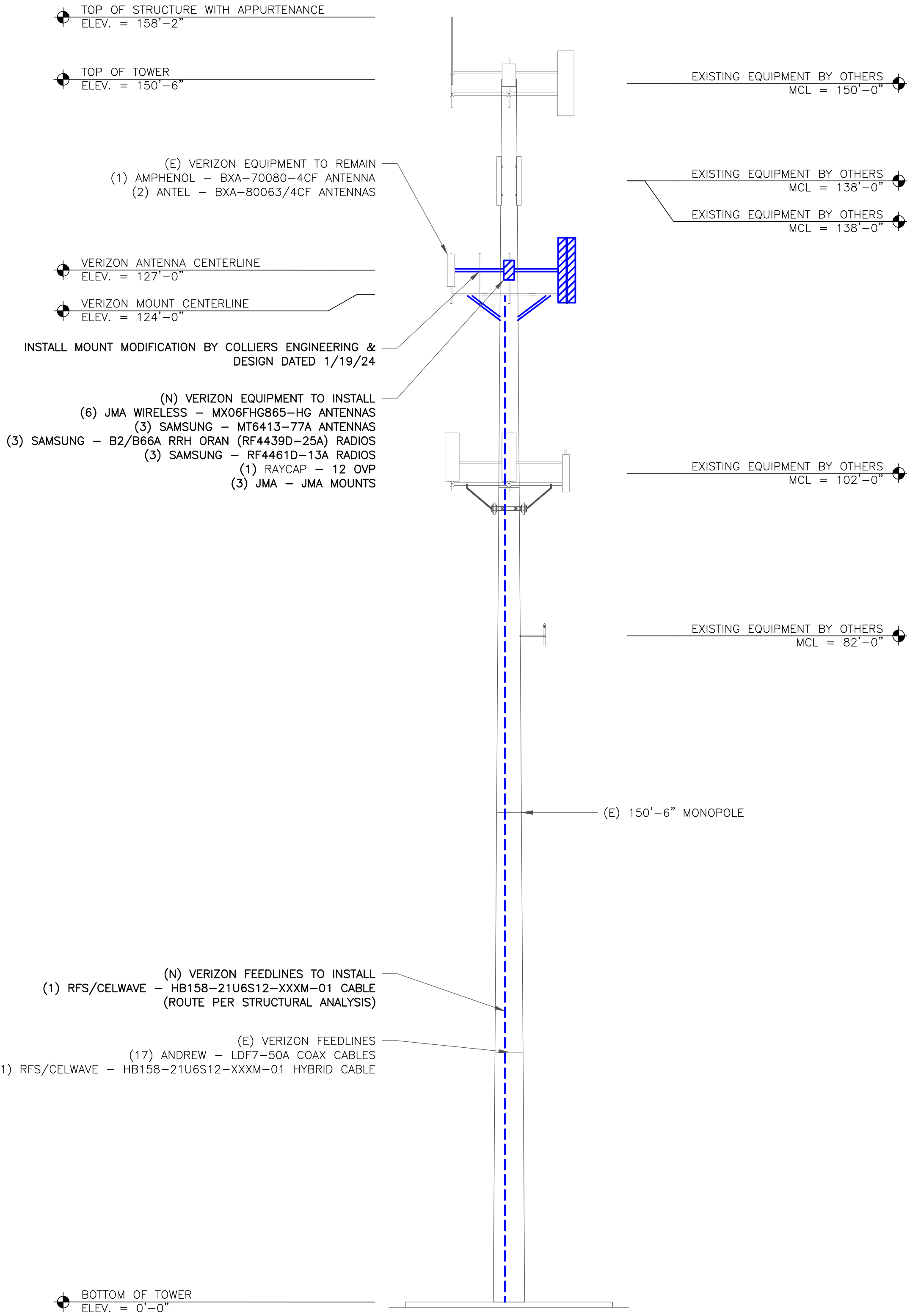
REVISION:

1



VERIZON EQUIPMENT

ANTENNA CL: 127'-0"
MOUNT CL: 124'-0"



verizon

CROWN CASTLE

VERIZON SITE NUMBER:
5000385363

BU #: 876315

CROWN CASTLE SITE NAME
OAK LANE CC, INC.
TOWER (SSUSA)

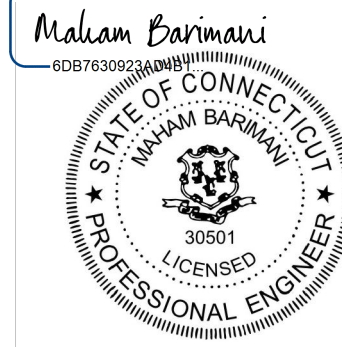
1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/29/24	MDW	CONSTRUCTION	MB
1	5/24/24	MDW	CONSTRUCTION	MB

DocuSigned by:



5/28/2024 | 10:03:50 AM CDT

CROWN CASTLE USA INC.
CERTIFICATE OF REGISTRATION #PEC.0001101
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-2

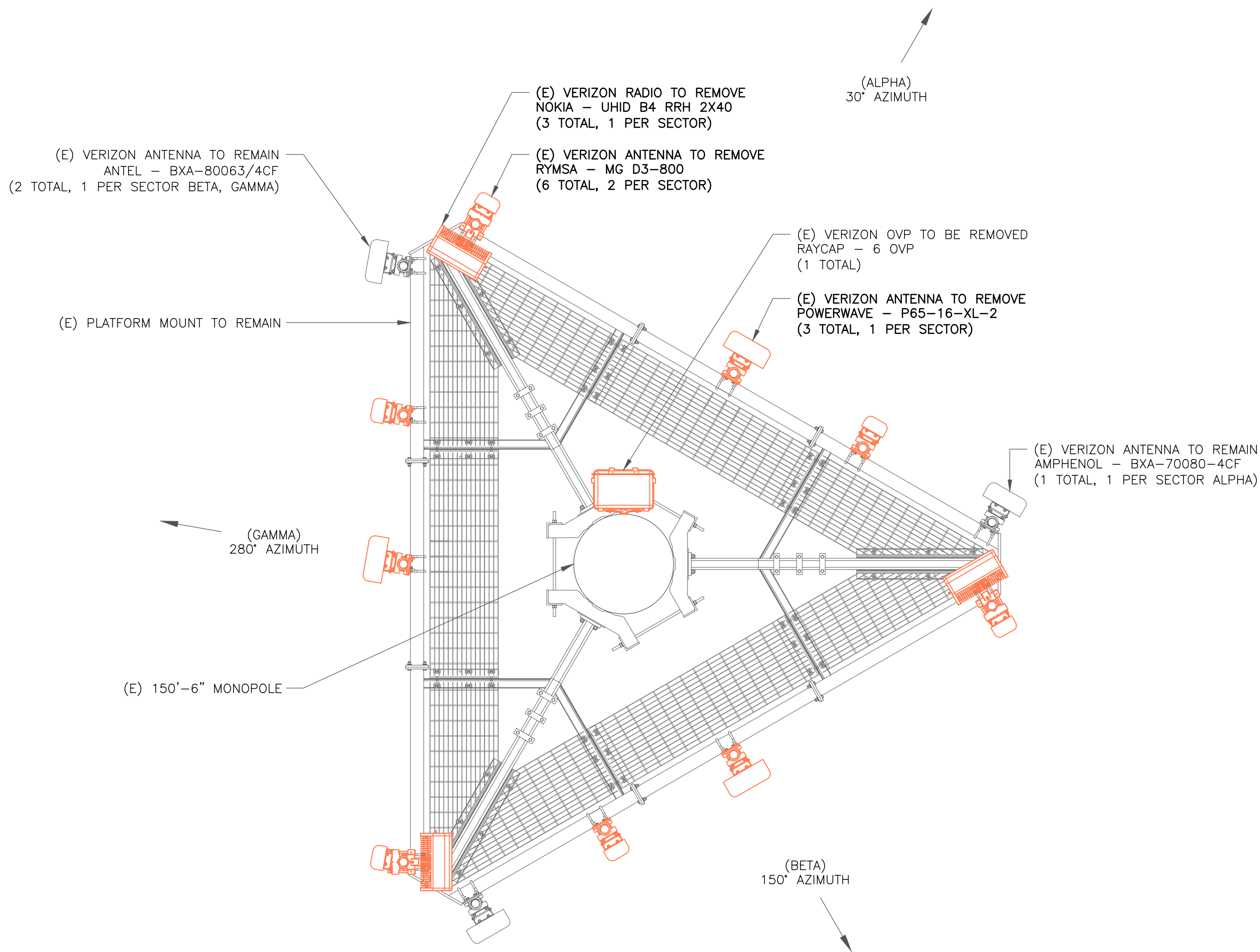
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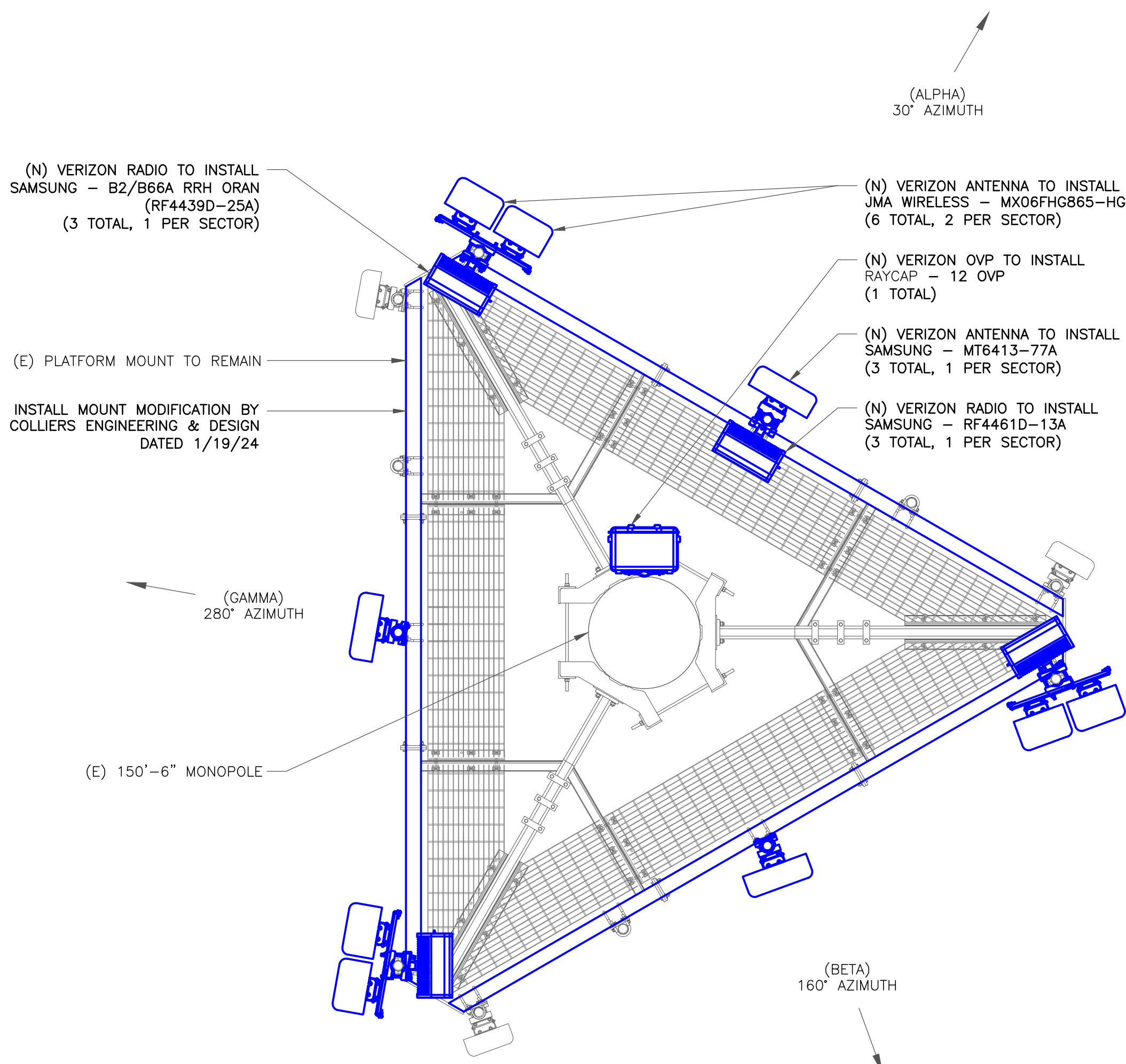
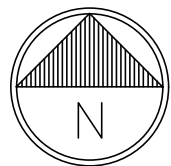
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SCALE: 1"=10'-0" (FULL SIZE)
1"=20'-0" (11x17)

2 FINAL TOWER ELEVATION
SCALE: 1"=10'-0" (FULL SIZE)
1"=20'-0" (11x17)

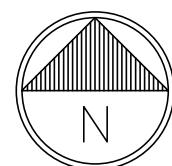
VERIZON_WBV_SOVA_TRIST_ANTENNA_AMENDMENT



1 EXISTING ANTENNA PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



2 FINAL ANTENNA PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



VERIZON SITE NUMBER:
5000385363

BU #: **876315**

CROWN CASTLE SITE NAME
**OAK LANE CC, INC.
TOWER (SSUSA)**

1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

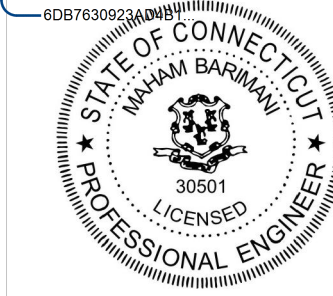
EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/29/24	MDW	CONSTRUCTION	MB
1	5/24/24	MDW	CONSTRUCTION	MB

DocuSigned by:

Maham Barimani



5/28/2024 | 10:03:50 AM CDT

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CERTIFICATE OF REGISTRATION #PEC.0001101
IT IS A VIOLATION OF LAW FOR ANY PERSON,
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TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-3

REVISION:

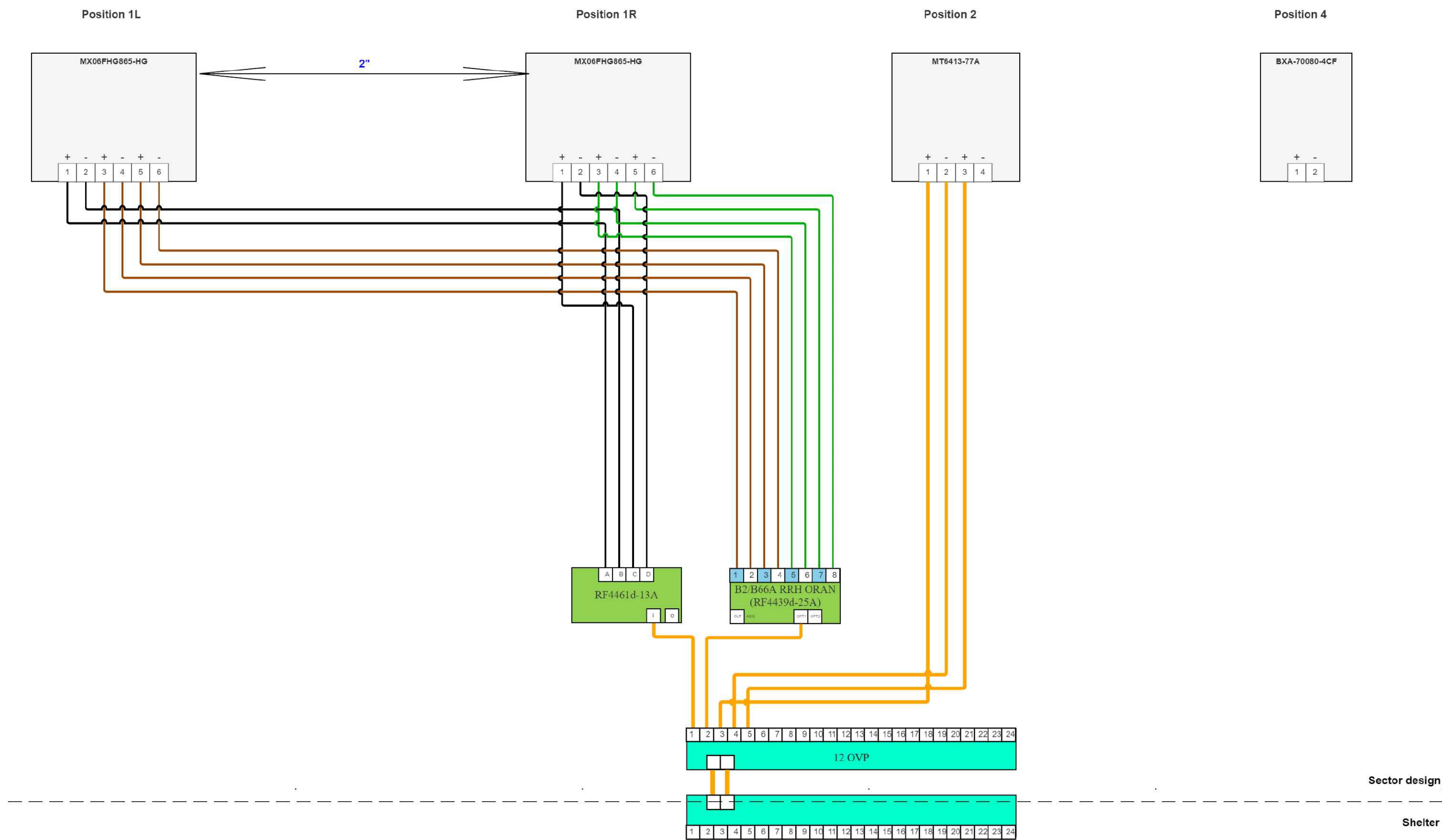
1

UNUSED FEEDLINES			
17	(E) COAX	1 5/8"	-
-	-	-	-

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE



VERIZON_WBV_SOVA_TRIST_ANTIENNA_AMENDMENT



Alpha
(Proposed)

Legends

RET dc signal capable port

700/850(LB)

700(LT)

850(CB)

AWS(AW)

PCS(PC)

AWS/PCS(HB)

28GHz(U28)

39GHz(U39)

L-Sub6(S6)

CBRS(RS)

LAA(LA)

Fiber

AISG

DC

Coax

Coax Jumper

Sectors Shared Equipments

Notes:

-Antenna view is from the back of the antennas
-Colors of connections are just for clarification
-Size of objects in drawing doesn't reflect equipment true dimensions



VERIZON SITE NUMBER:
5000385363

BU #: **876315**

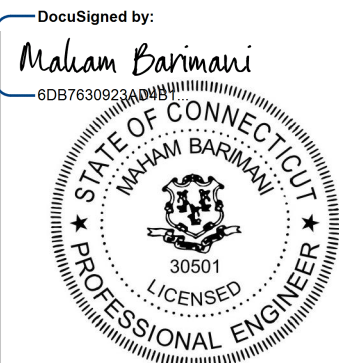
CROWN CASTLE SITE NAME
**OAK LANE CC, INC.
TOWER (SSUSA**

1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

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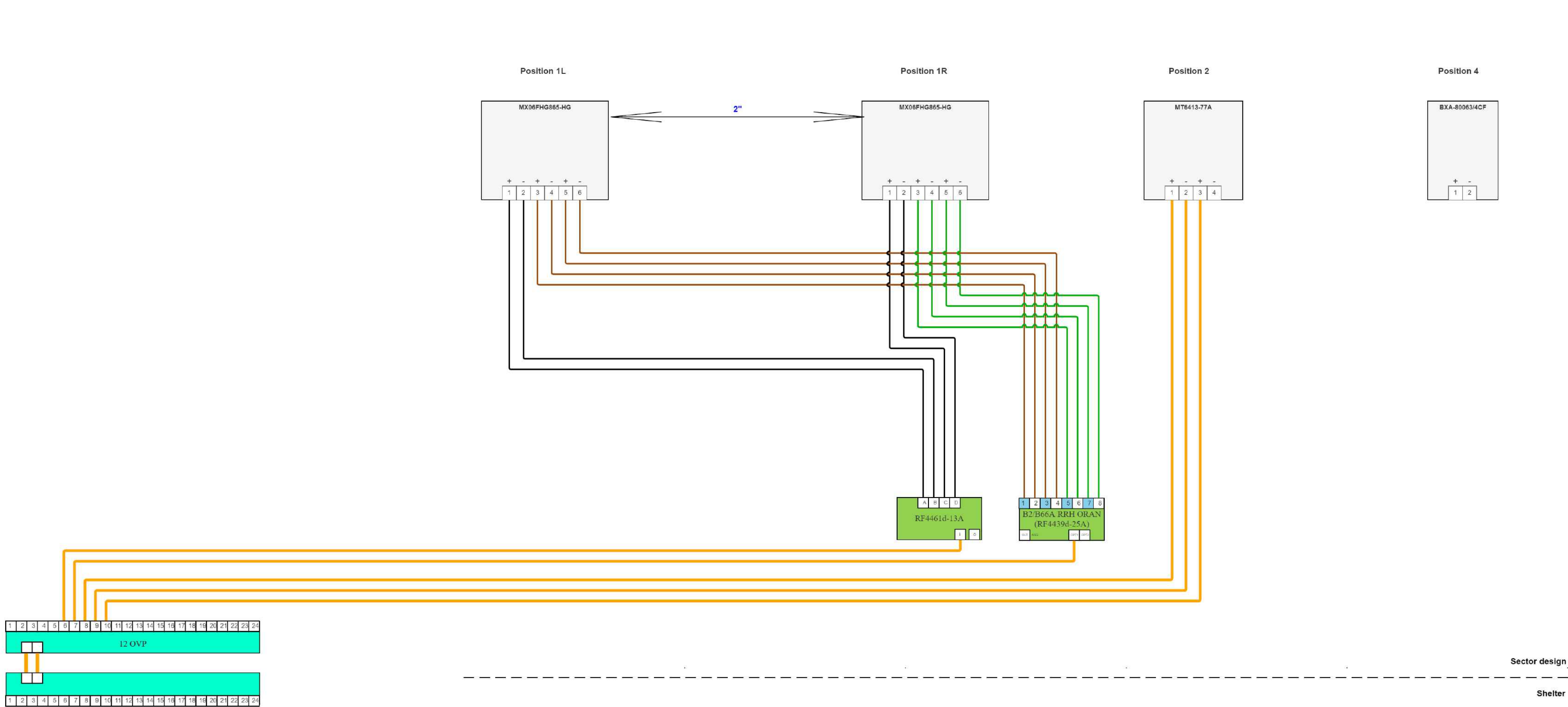
SHEET NUMBER:

C-5.1

REVISION:

1

VERIZON_WBV_SOVA_TRIST_ANTIENNA AMENDMENT



Beta
(Proposed)



VERIZON SITE NUMBER:
5000385363

BU #: 876315

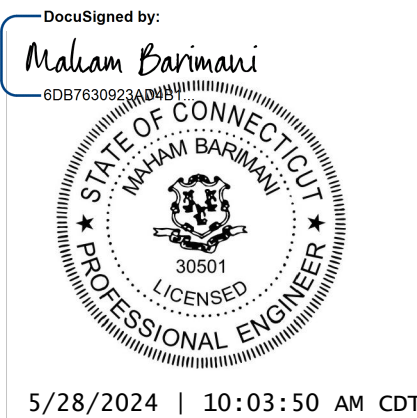
CROWN CASTLE SITE NAME
OAK LANE CC, INC.
TOWER (SSUSA)

1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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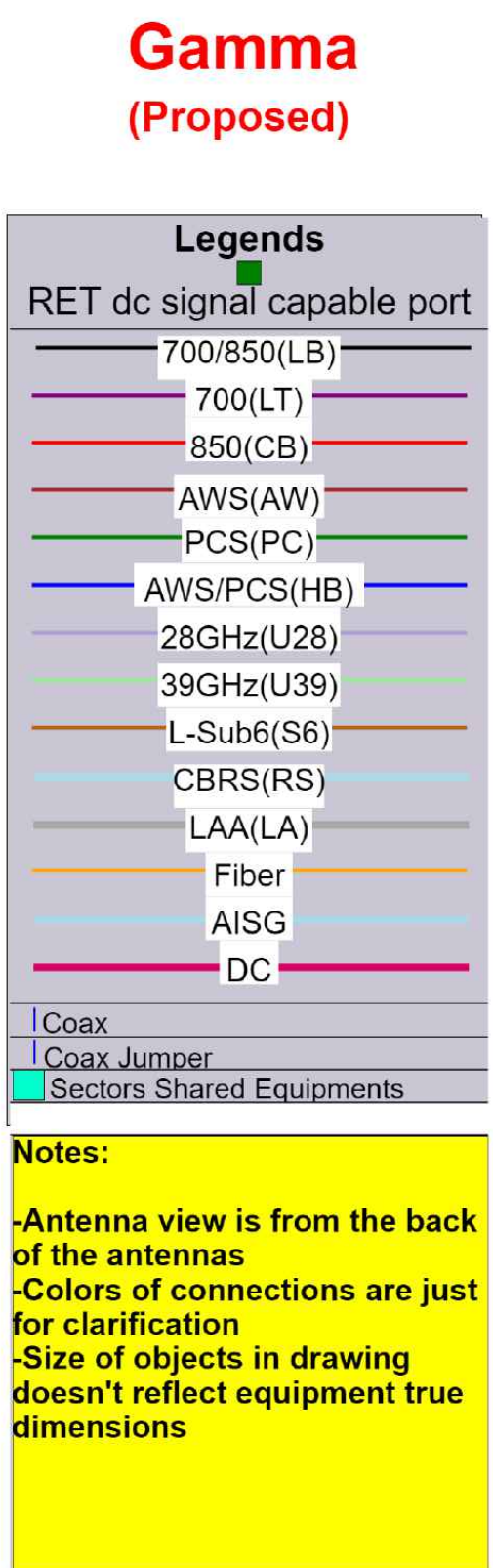
CROWN CASTLE USA INC.
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SHEET NUMBER:

C-5.2

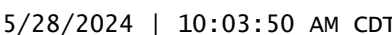
REVISION:

1



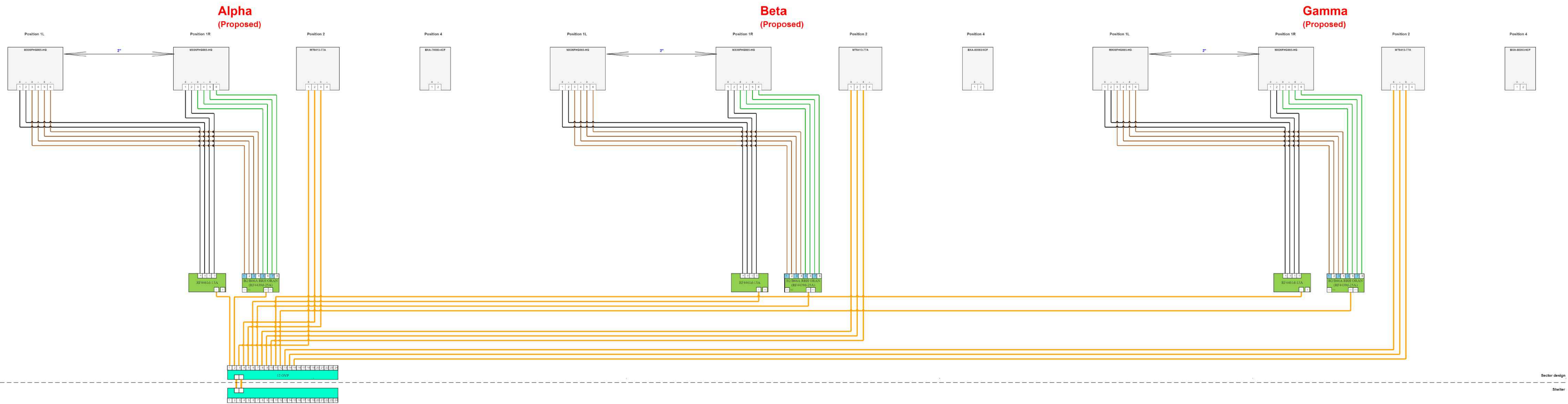
EXISTING 150'-6"
MONOPOLE

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	2/29/24	MDW	CONSTRUCTION	MB
1	5/24/24	MDW	CONSTRUCTION	MB



1

VERIZON_WBV_SOVA_TRIST_ANTENNA_AMENDMENT



VERIZON SITE NUMBER:
5000385363

BU #: 876315

CROWN CASTLE SITE NAME
OAK LANE CC, INC.
TOWER (SSUSA)

1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

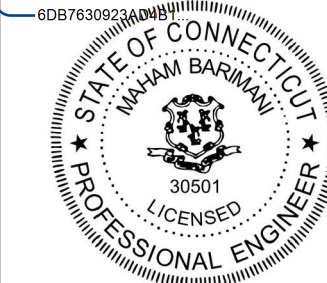
EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

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DocuSigned by:

Maham Barimani



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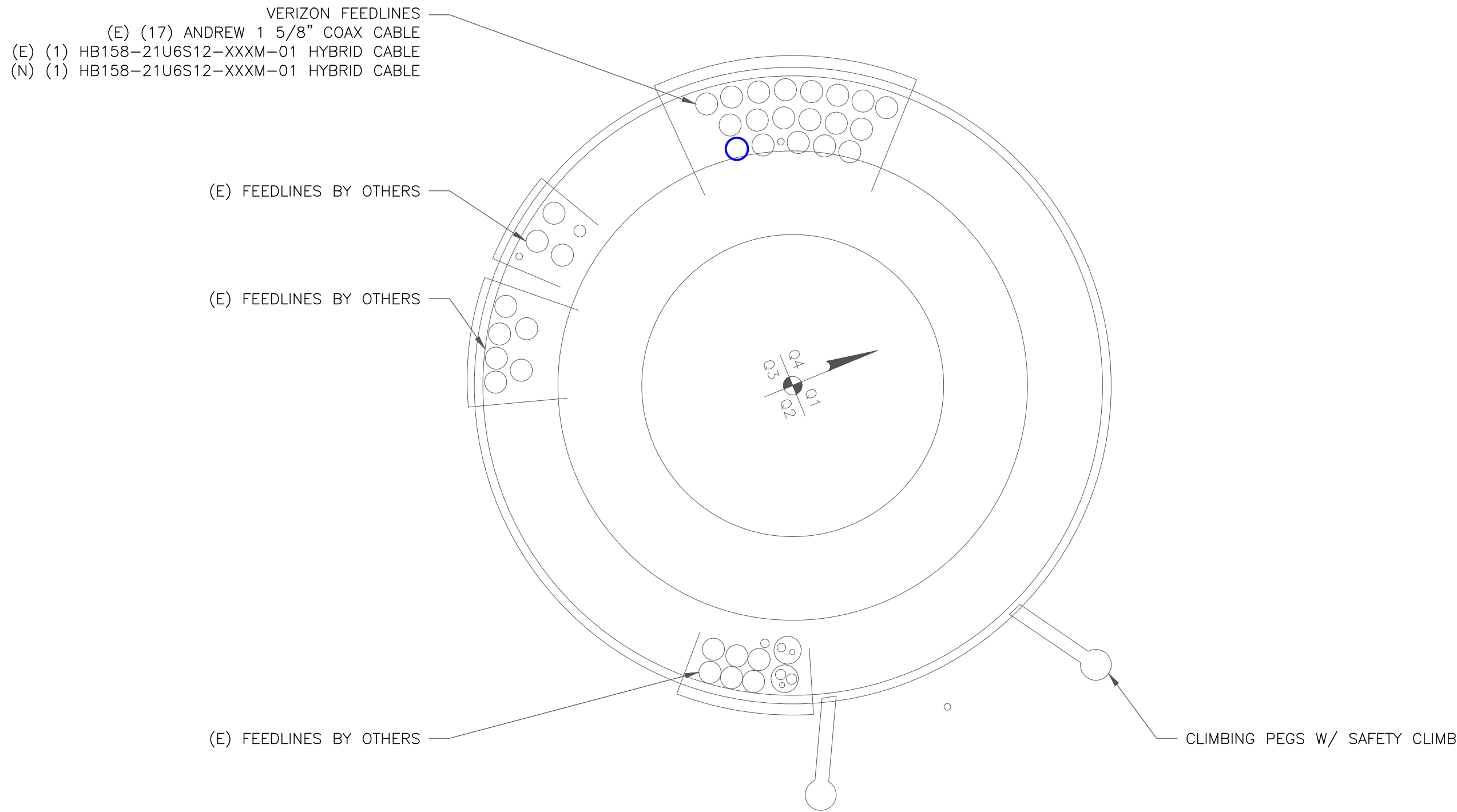
CROWN CASTLE USA INC.
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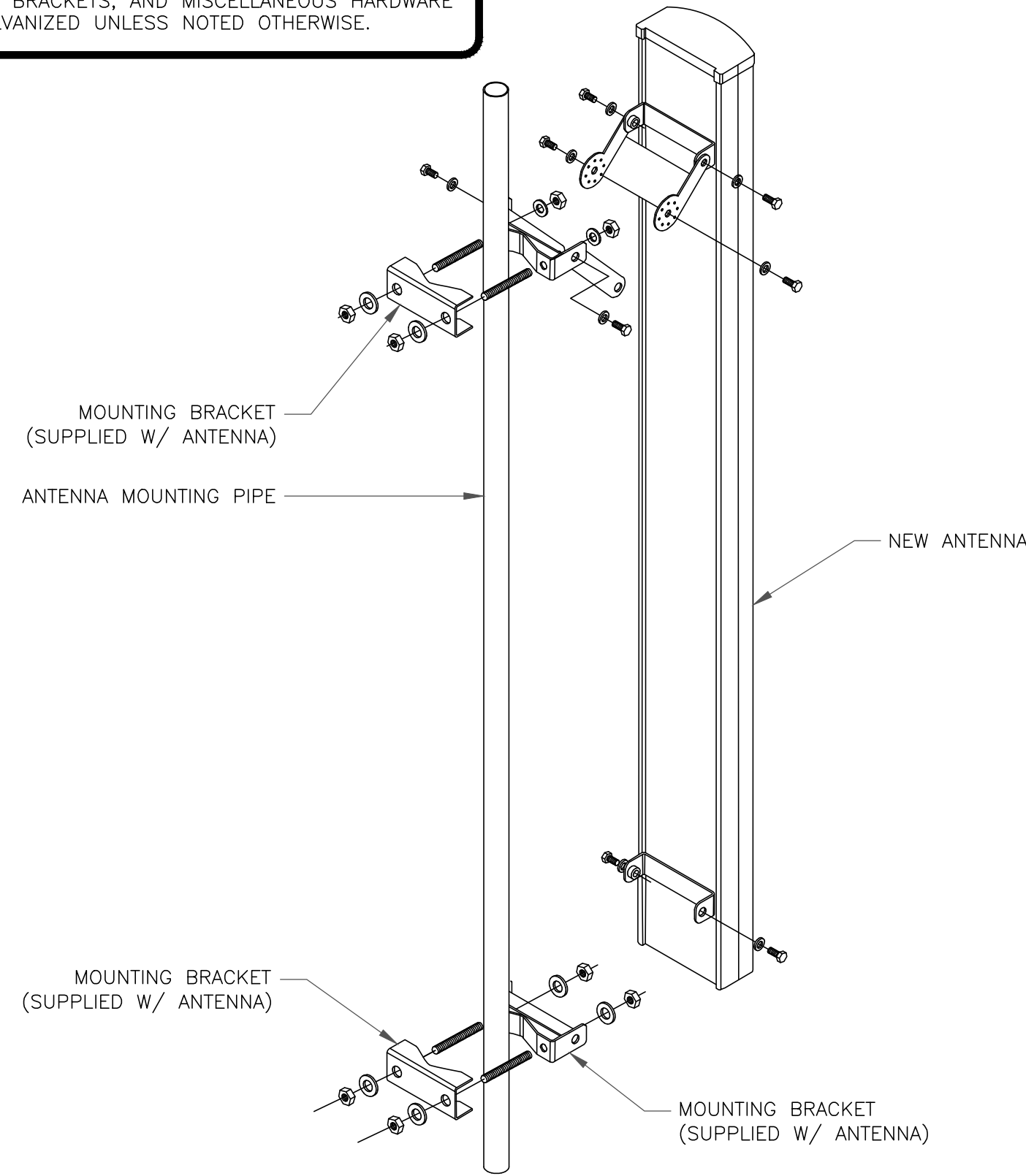
C-5.4

REVISION:

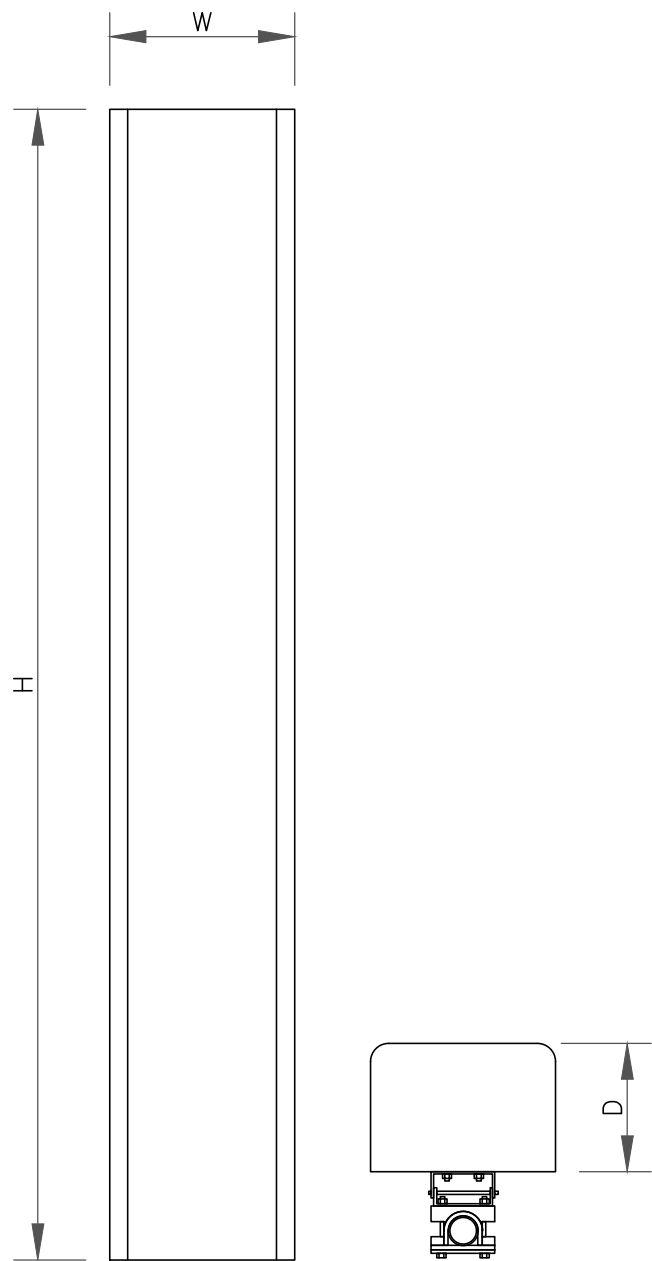
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1 BASE LEVEL DETAIL
SCALE: NOT TO SCALE



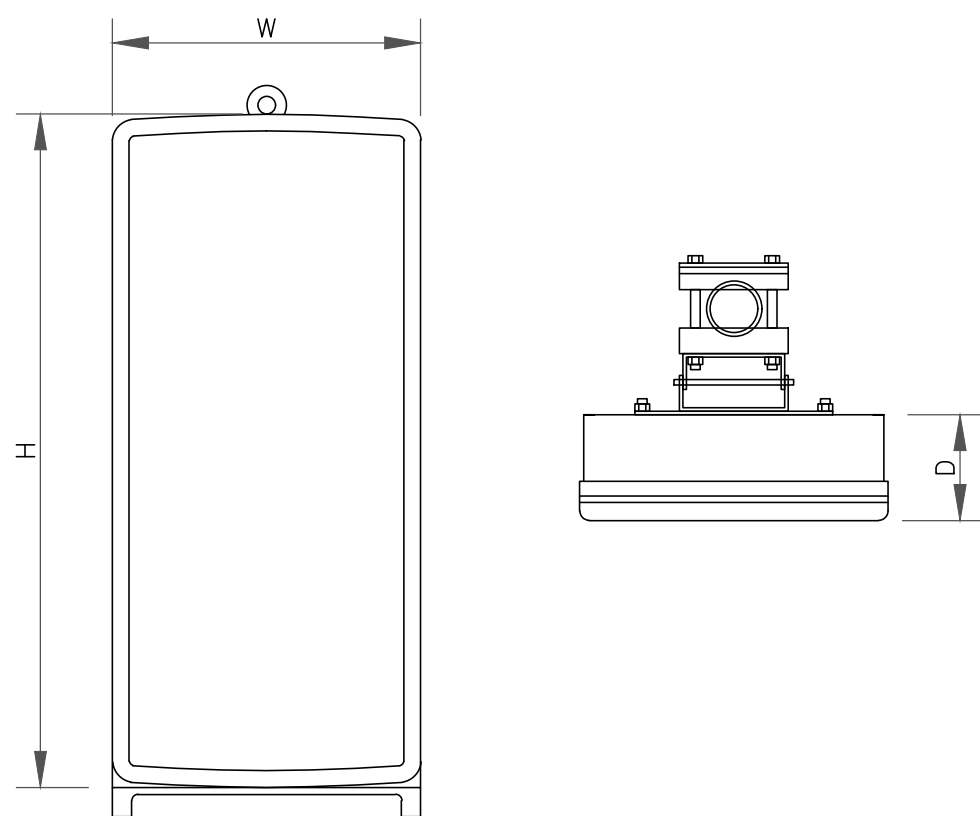
2 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE



ANTENNA SPECS

MANUFACTURER	JMA WIRELESS
MODEL #	MX06FHG865-HG
HxWxD	95.9" x 12.2" x 7.5"
WEIGHT	51 LBS

3 JMA WIRELESS - MX06FHG865-HG
SCALE: NOT TO SCALE



ANTENNA SPECS

MANUFACTURER	SAMSUNG
MODEL #	MT6413-77A
HxWxD	28.9" x 15.75" x 5.51"
WEIGHT	57.3 LBS

4 SAMSUNG - MT6413-77A
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

verizon

CROWN
CASTLE

VERIZON SITE NUMBER:
5000385363

BU #: **876315**

CROWN CASTLE SITE NAME
**OAK LANE CC, INC.
TOWER (SSUSA)**

1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

EXISTING 150'-6"
MONOPOLE

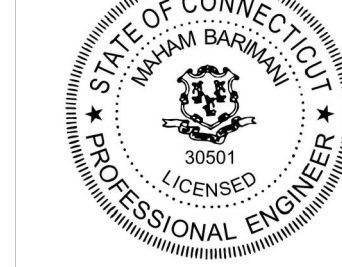
ISSUED FOR:

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DocuSigned by:

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50B763082A06B8B8B8B8B8B8B8B8B8B8



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SHEET NUMBER:

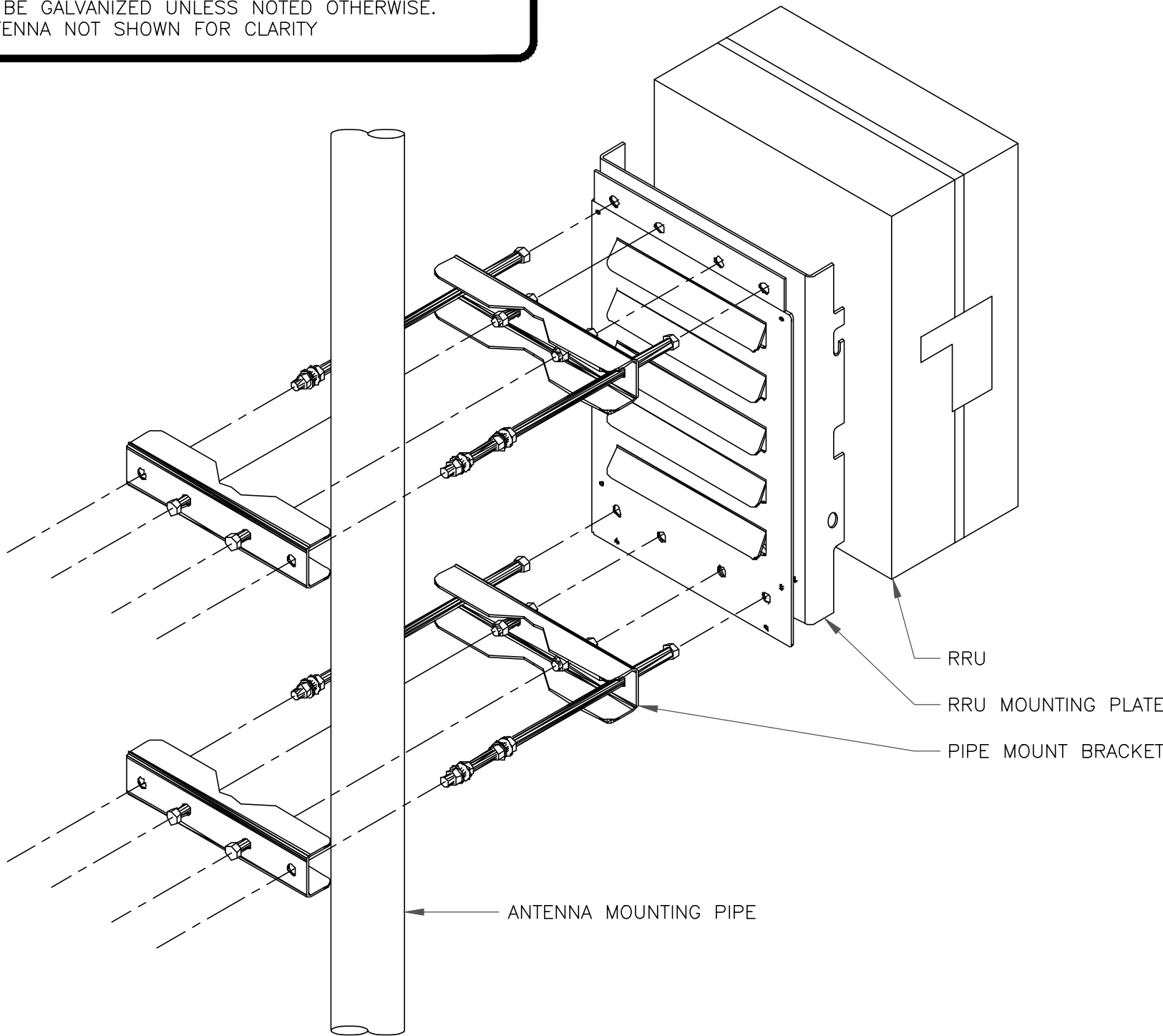
C-6

REVISION:

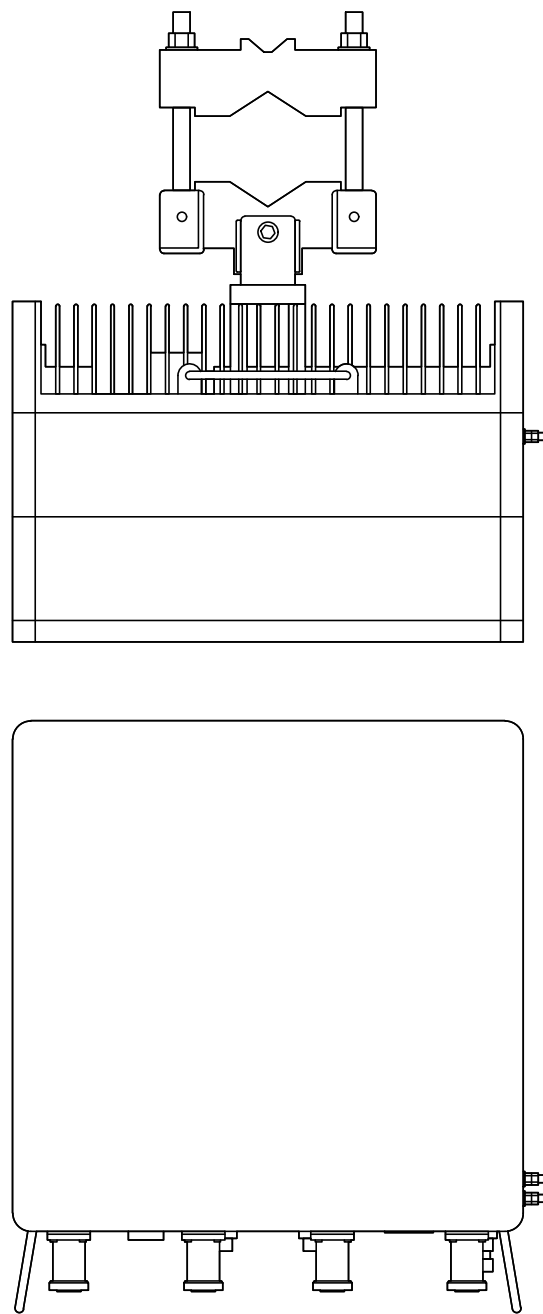
1

INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU's 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

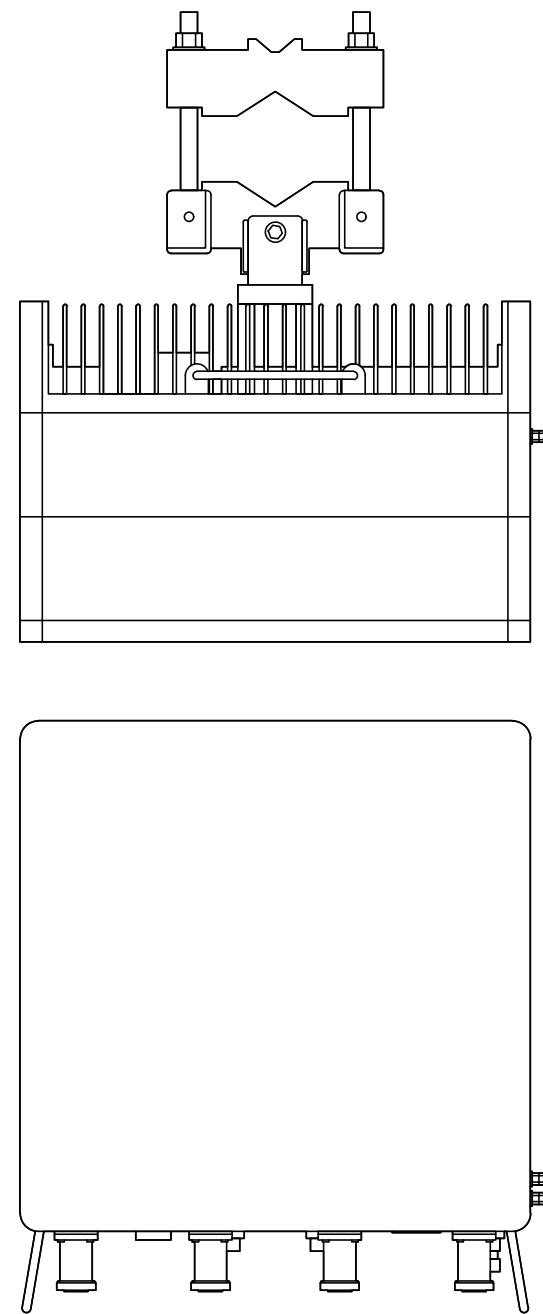


1 RRU MOUNTING DETAIL
SCALE: NOT TO SCALE



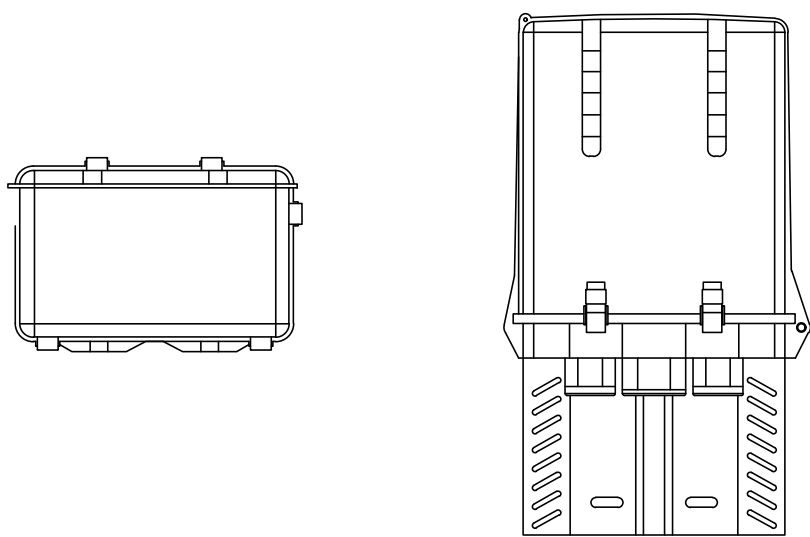
RADIO SPECS	
MANUFACTURER	SAMSUNG
MODEL #	RF4439D-25A
HxWxD	14.96" x 14.96" x 10.04"
WEIGHT	74.7 LBS

2 SAMSUNG — RF4439D-25A
SCALE: NOT TO SCALE



RADIO SPECS	
MANUFACTURER	SAMSUNG
MODEL #	RF4461D-13A
HxWxD	14.96" x 14.96" x 10.23"
WEIGHT	79.1 LBS

3 SAMSUNG — RF4461D-13A
SCALE: NOT TO SCALE



RAYCAP — RCMDC-6627-PF-48
WEIGHT (WITHOUT MOUNTING HARDWARE): 32.0 LBS
SIZE (HxWxD): 28.9x15.7x10.3 IN.

RATED WIND VELOCITY: 150 MPH (SUSTAINED)
OPERATING TEMPERATURE: -40° C TO +80° C
NOMINAL OPERATING DC VOLTAGE: 48 VDC

4 RAYCAP — RCMDC-6627-PF-48
SCALE: NOT TO SCALE

verizon

CROWN
CASTLE

VERIZON SITE NUMBER:
5000385363

BU #: 876315

CROWN CASTLE SITE NAME
OAK LANE CC, INC.
TOWER (SSUSA)

1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

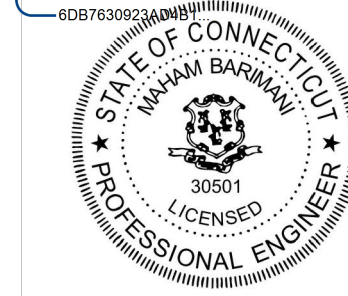
EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

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SHEET NUMBER:

C-6.1

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		



VERIZON SITE NUMBER:
5000385363

BU #: 876315

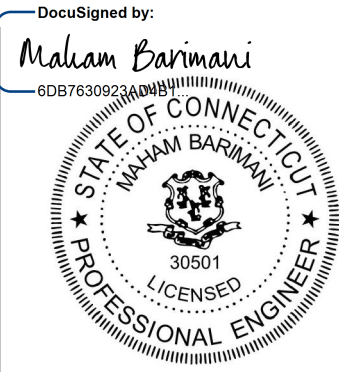
CROWN CASTLE SITE NAME
OAK LANE CC, INC.
TOWER (SSUSA)

1027 RACEBROOK ROAD
WOODBIDGE, CT 06525

EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

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1	5/24/24	MDW	CONSTRUCTION	MB



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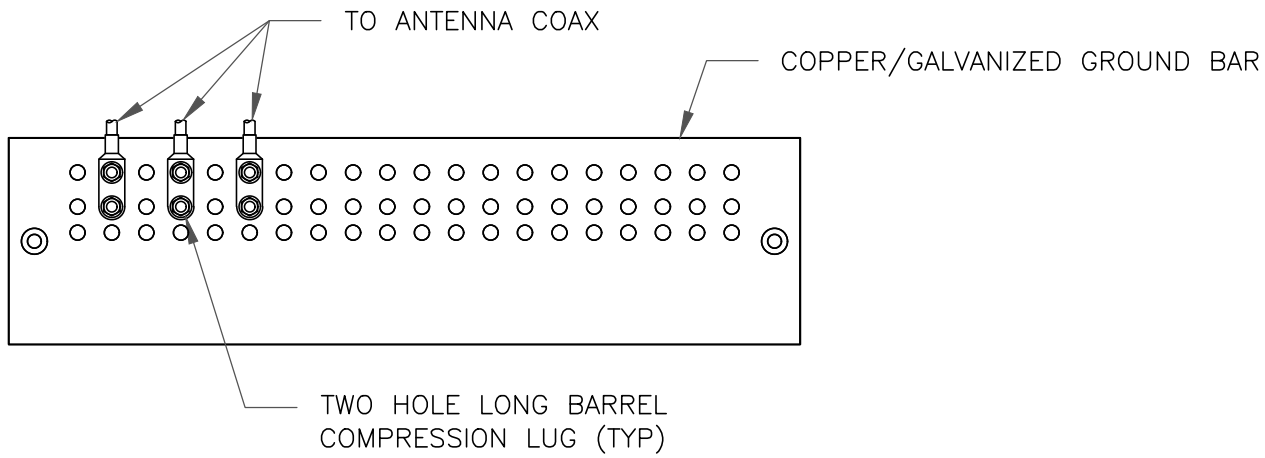
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SHEET NUMBER:

C-7

REVISION:

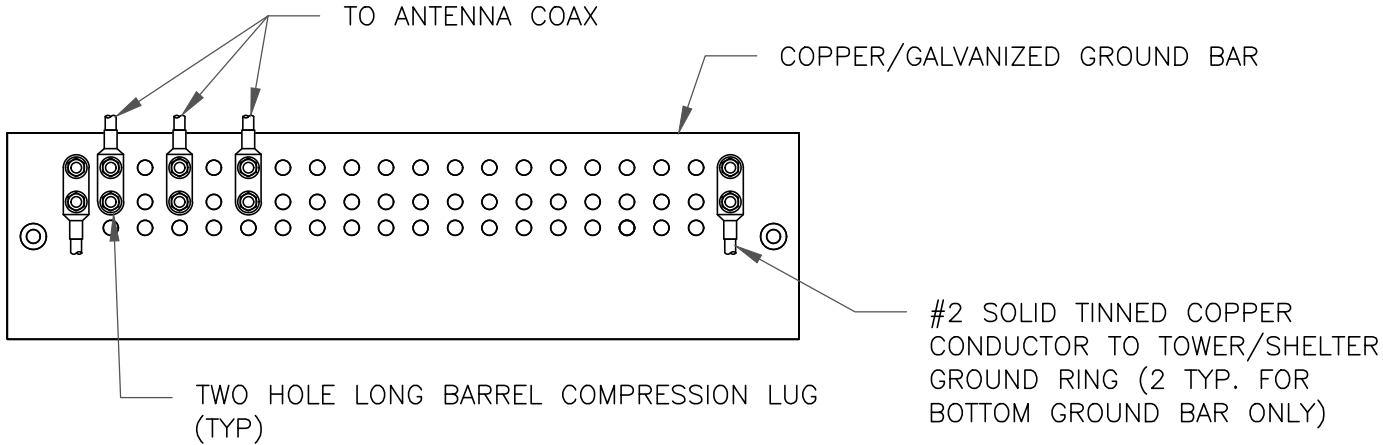
1



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

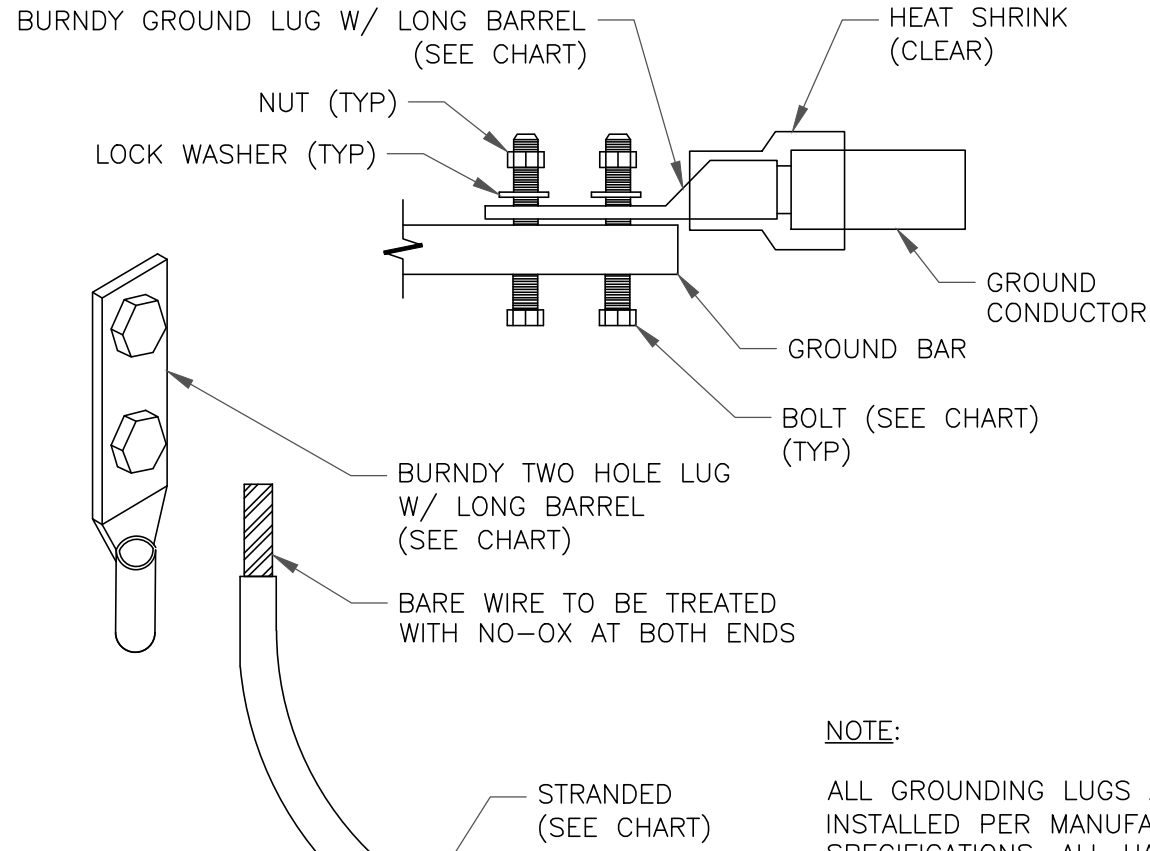


NOTES:

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

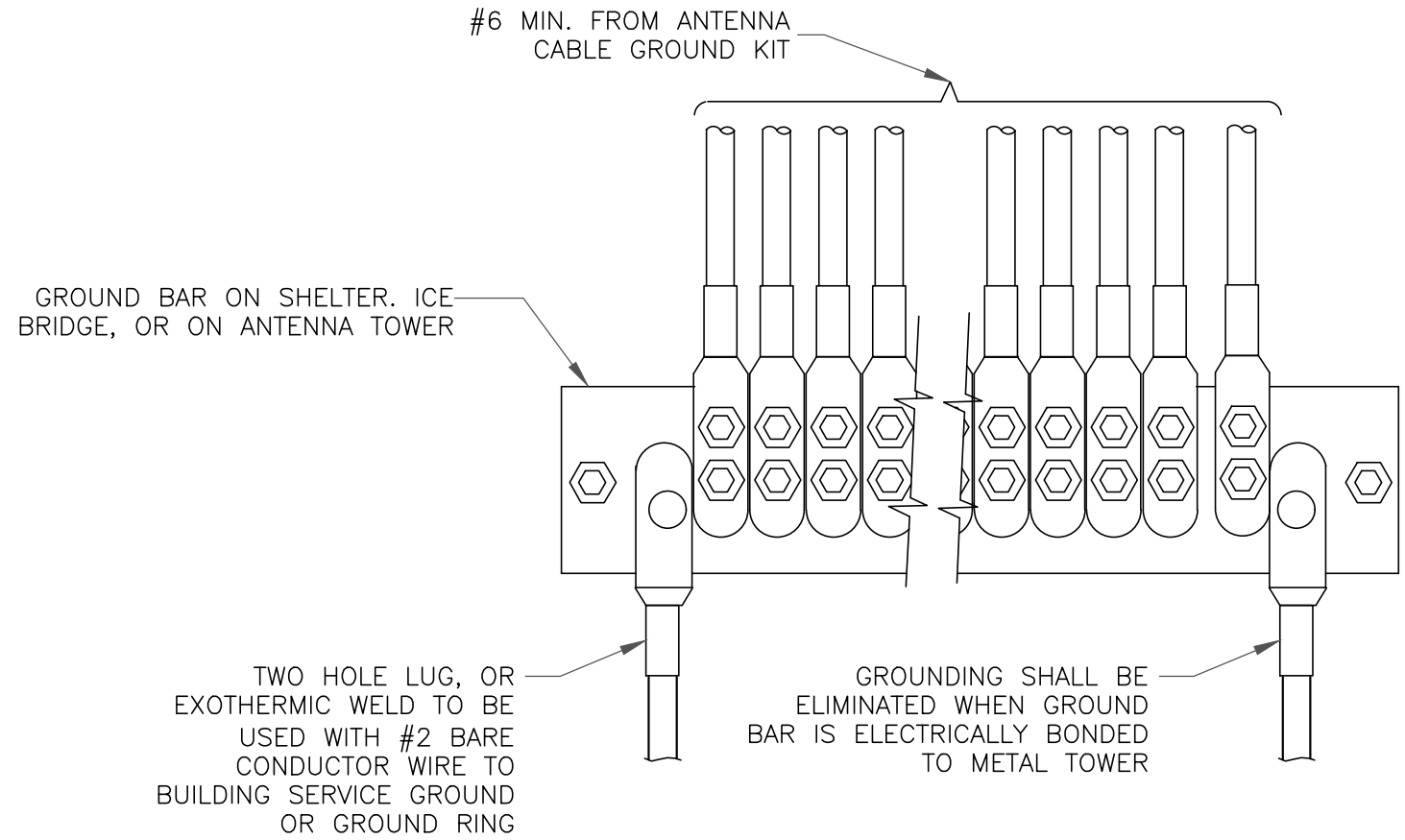
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



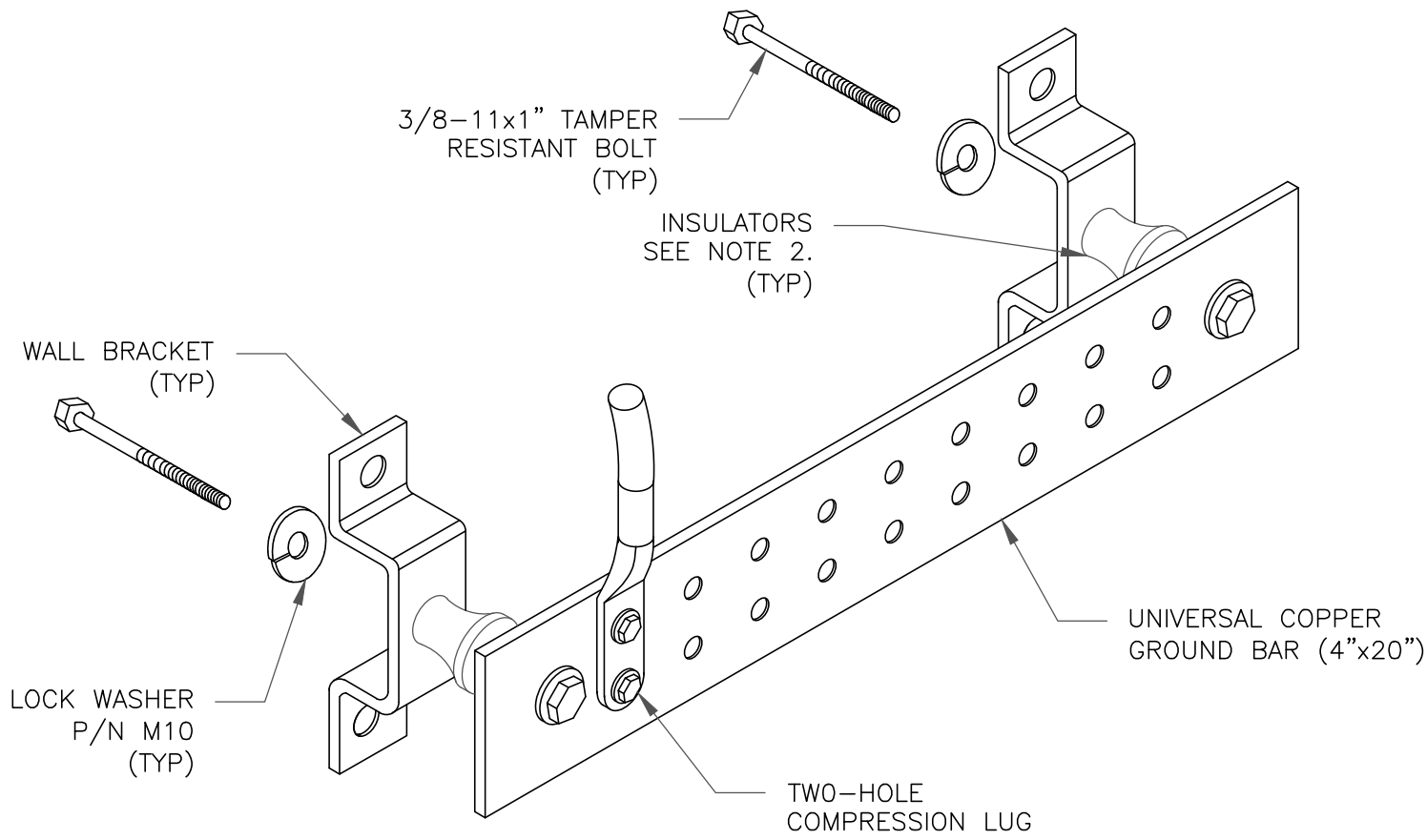
NOTE:

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



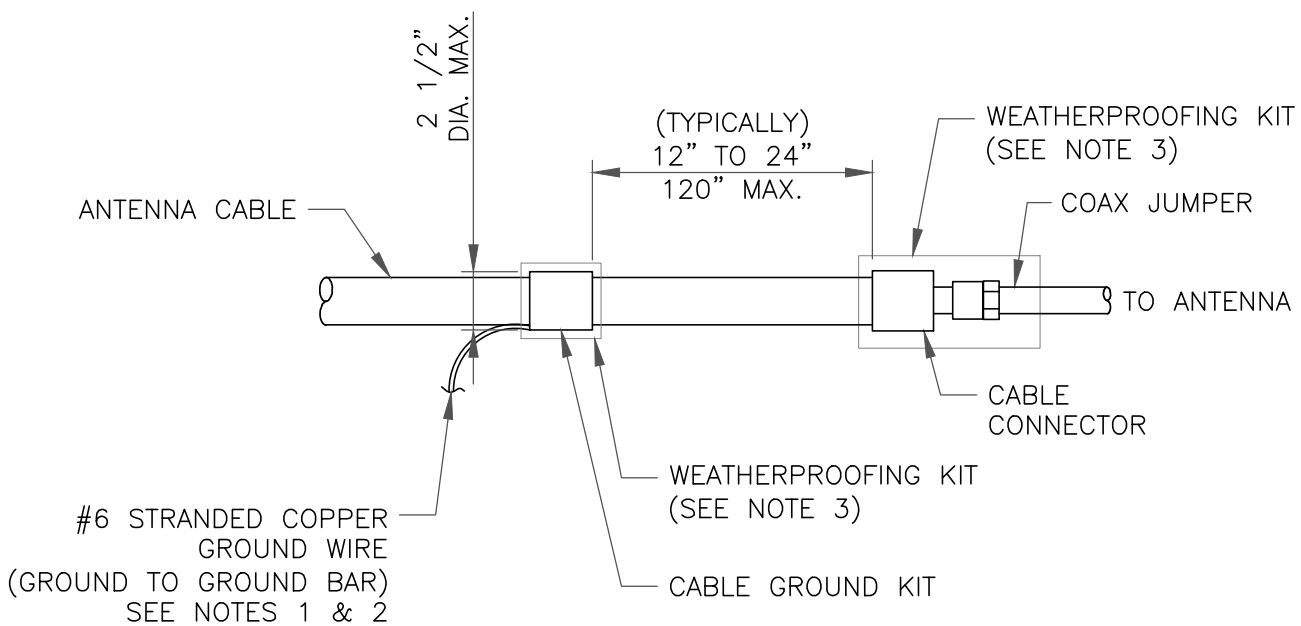
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



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.

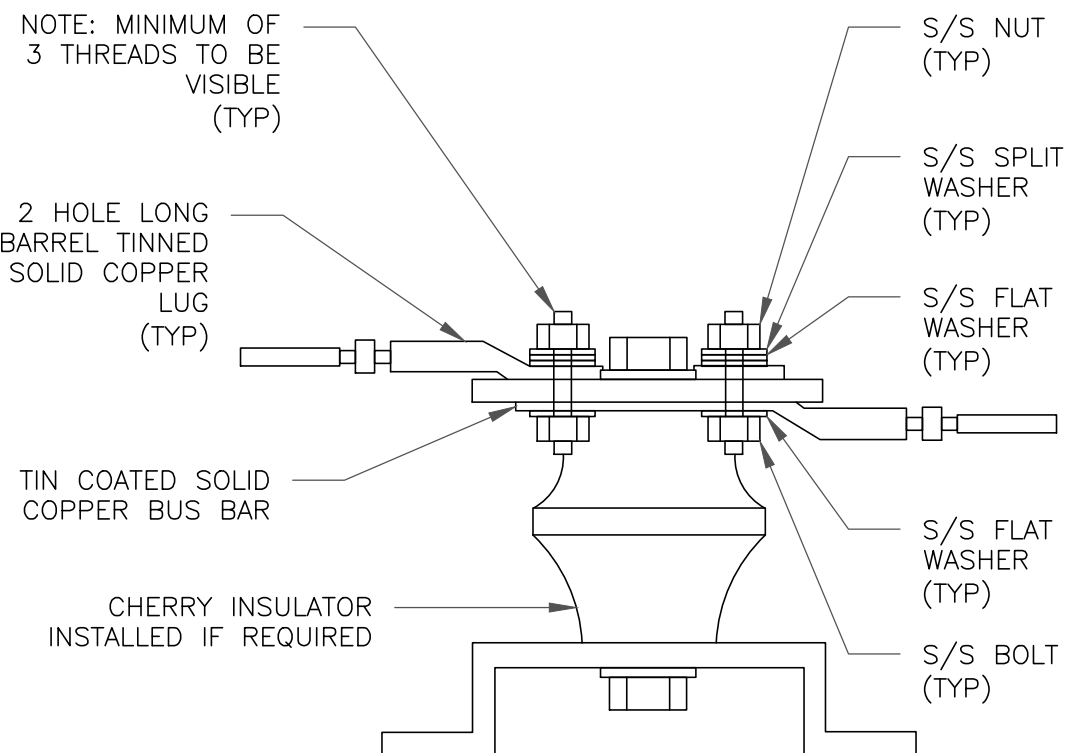
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



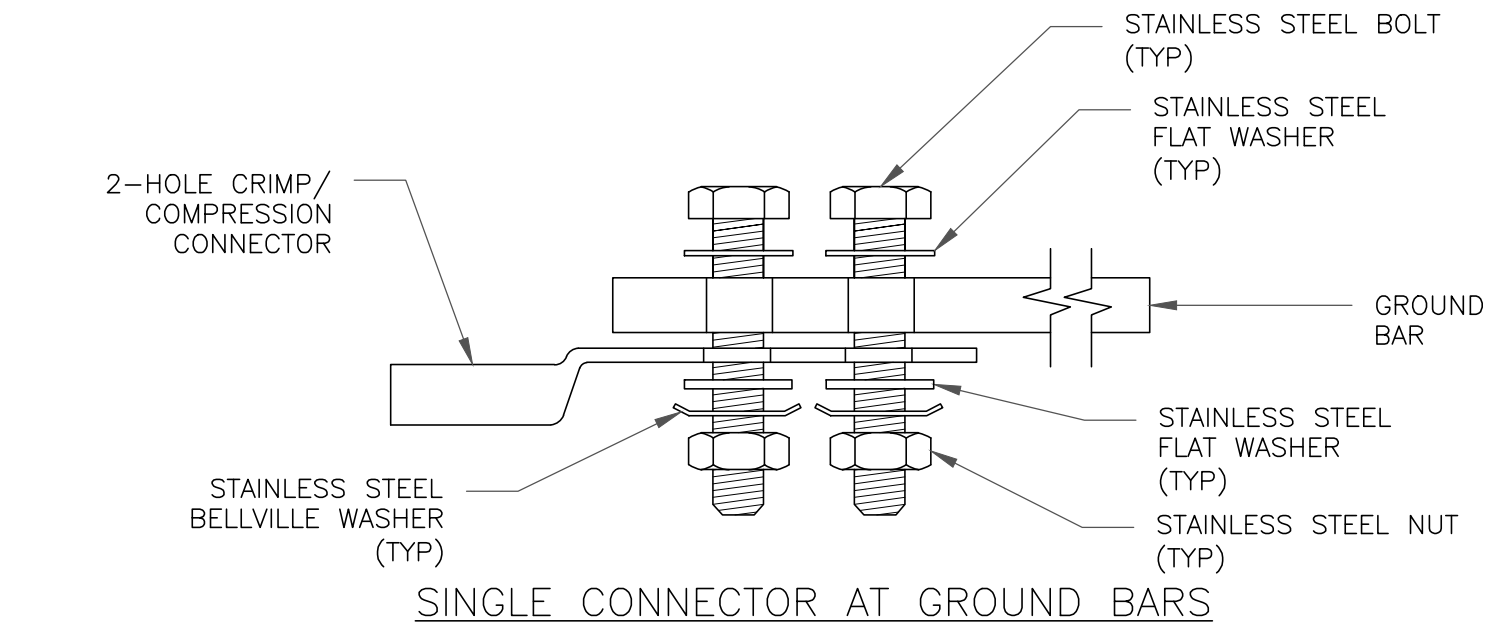
NOTES:

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.

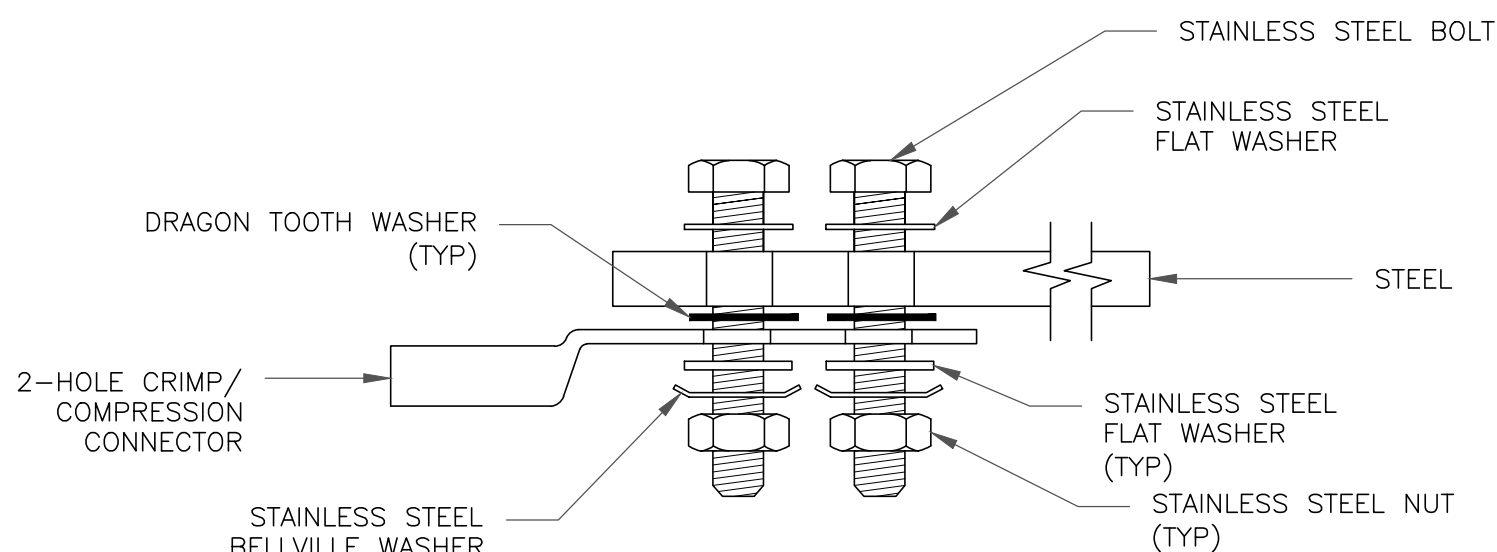
6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



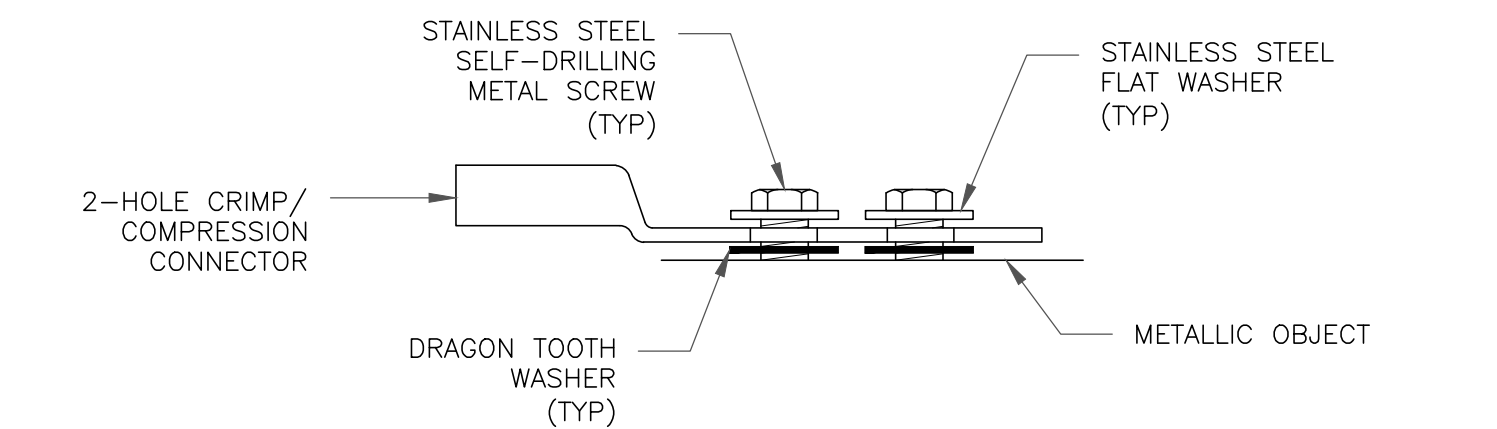
7 LUG DETAIL
SCALE: NOT TO SCALE



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

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CROWN
CASTLE

VERIZON SITE NUMBER:
5000385363

BU #: 876315

CROWN CASTLE SITE NAME
OAK LANE CC, INC.
TOWER (SSUSA)

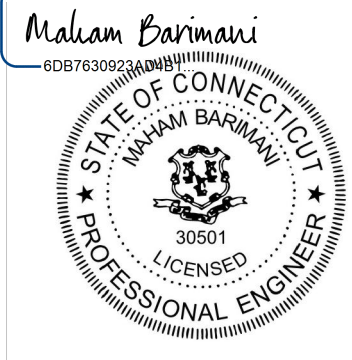
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EXISTING 150'-6"
MONOPOLE

ISSUED FOR:

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DocuSigned by:



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SHEET NUMBER:

G-1

REVISION:

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EXHIBIT E

Structural Analysis Report



MORRISON HERSHFIELD

Date: **February 14, 2024**

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Subject: **Structural Analysis Report**

Carrier Designation: **Verizon Wireless Co-Locate**
Site Number: 5000385363
Site Name: Woodbridge S CT

Crown Castle Designation: **BU Number:** 876315
Site Name: Oak Lane CC, Inc. Tower (SSUSA)
JDE Job Number: 2107973
Work Order Number: 2283818
Order Number: 662921 Rev. 0

Engineering Firm Designation: **Morrison Hershfield Project Number:** CN13-230 / 2400001

Site Data: **1027 Racebrook Road, Woodbridge, New Haven County, CT 06525**
Latitude 41° 19' 0.30", Longitude -73° 0' 41.80"
150 Foot – Summit Monopole Tower

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

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

LC5: Proposed Equipment Configuration

Sufficient Capacity

This analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

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



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1) INTRODUCTION

This tower is a 150 ft monopole tower designed by Summit Manufacturing, LLC.

The tower was modified multiple times in the past to accommodate additional loading. Modifications are incorporated in this analysis per the post modification inspection reports.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	119 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 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)
124.0	127.0	1	antel	BXA-70080/4CF w/ Mount Pipe	19 1	1-5/8 1/2
		2	antel	BXA-80063/4CF w/ Mount Pipe		
		1	gps	GPS_A		
		6	jma wireless	MX06FHG865-HG		
		3	samsung telecommunications	MT6413-77A w/ Mount Pipe		
		1	kaelus	BSF0020F3V1		
		3	samsung telecommunications	RF4439D-25A		
		3	samsung telecommunications	RF4461D-13A		
		1	raycap	RVZDC-6627-PF-48		
	124.0	1	-	4' Mount Pipe [#P2STD, Sch. 40]		
		3	-	8' Mount Pipe [#P2.5STD, Sch. 40]		
		2	-	Collar Mount Kit [#VZWSMART-PLK7]		
		1	-	Kicker Kit [#VZWSMART-PLK5]		
		1	-	Support Rail Kit [#VZWSMART-PLK1]		
		3	-	V-Bracing Kit [#VZWSMART-PLK6]		
		1	-	Platform Mount [LP 1201-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
150.0	154.0	1	rfs/celwave	201-7	3 1	1-5/8 7/8
	151.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
	150.0	3	rfs/celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	RADIO 4480 B71_TMO		
		1	-	Miscellaneous [NA 510-1]		
		2	-	Side Arm Mount [SO 311-1]		
		1	-	Platform Mount [LP 1201-1_KCKR-HR-1]		
138.0	138.0	3	rfs/celwave	APXV18-206517S-C w/ Mount Pipe	6	1-5/8
102.0	104.0	3	cci antennas	DMP65R-BU6D w/ Mount Pipe	6 2 2 2 2	1-5/8 3/4 5/8 3/8 2C
		3	cci antennas	OPA65R-BU6D w/ Mount Pipe		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 8843 B2/B66A		
		3	powerwave technologies	LGP12104		
		2	raycap	DC6-48-60-18-8F		
	102.0	3	powerwave technologies	7770.00 w/ Mount Pipe		
		1	-	Platform Mount [LP 1201-1_KCKR-HR-1]		
82.0	83.0	1	lucent	KS24019-L112A	1	1/2
	82.0	1	-	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	2134233	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	2112237	CCISITES
4-TOWER MANUFACTURER DRAWINGS	2134236	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2134235	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2414123	CCISITES
4-POST-MODIFICATION INSPECTION	2414121	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3313096	CCISITES
4-POST-MODIFICATION INSPECTION	4137621	CCISITES

3.1) Analysis Method

tnxTower (version 8.2.2.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are 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. Morrison Hershfield should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	150 - 145	Pole	TP22.875x22x0.25	Pole	5.1	Pass
L2	145 - 140	Pole	TP23.75x22.875x0.25	Pole	9.3	Pass
L3	140 - 135	Pole	TP24.625x23.75x0.25	Pole	13.5	Pass
L4	135 - 130	Pole	TP25.501x24.625x0.25	Pole	17.5	Pass
L5	130 - 125	Pole	TP26.376x25.501x0.25	Pole	21.4	Pass
L6	125 - 120	Pole	TP27.251x26.376x0.25	Pole	28.7	Pass
L7	120 - 115	Pole	TP28.126x27.251x0.25	Pole	34.9	Pass
L8	115 - 110	Pole	TP29.001x28.126x0.25	Pole	40.8	Pass
L9	110 - 106.25	Pole	TP30.314x29.001x0.25	Pole	45.0	Pass
L10	106.25 - 101.25	Pole	TP30.033x29.158x0.3125	Pole	36.4	Pass
L11	101.25 - 96.25	Pole	TP30.908x30.033x0.3125	Pole	41.3	Pass
L12	96.25 - 91.25	Pole	TP31.783x30.908x0.3125	Pole	45.8	Pass
L13	91.25 - 86.25	Pole	TP32.658x31.783x0.3125	Pole	50.0	Pass
L14	86.25 - 81.25	Pole	TP33.534x32.658x0.3125	Pole	54.1	Pass
L15	81.25 - 76.25	Pole	TP34.409x33.534x0.3125	Pole	57.9	Pass
L16	76.25 - 73.42	Pole	TP34.905x34.409x0.3125	Pole	59.9	Pass
L17	73.42 - 73.17	Pole + Reinf.	TP34.948x34.905x0.4	Reinf. 5 Tension Rupture	54.3	Pass
L18	73.17 - 68.17	Pole + Reinf.	TP35.824x34.948x0.4	Reinf. 5 Tension Rupture	57.2	Pass
L19	68.17 - 66.75	Pole + Reinf.	TP36.903x35.824x0.4	Reinf. 5 Tension Rupture	58.0	Pass
L20	66.75 - 61	Pole	TP36.453x35.447x0.375	Pole	54.7	Pass
L21	61 - 56.25	Pole	TP37.284x36.453x0.375	Pole	56.9	Pass
L22	56.25 - 56	Pole + Reinf.	TP37.328x37.284x0.4563	Reinf. 4 Tension Rupture	56.6	Pass
L23	56 - 51	Pole + Reinf.	TP38.203x37.328x0.4563	Reinf. 4 Tension Rupture	58.5	Pass
L24	51 - 46	Pole + Reinf.	TP39.078x38.203x0.45	Reinf. 4 Tension Rupture	60.3	Pass
L25	46 - 41	Pole + Reinf.	TP39.954x39.078x0.45	Reinf. 4 Tension Rupture	62.0	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L26	41 - 39.5	Pole + Reinf.	TP40.216x39.954x0.45	Reinf. 4 Tension Rupture	62.4	Pass
L27	39.5 - 39.25	Pole + Reinf.	TP40.26x40.216x0.4875	Reinf. 4 Tension Rupture	60.1	Pass
L28	39.25 - 38.75	Pole + Reinf.	TP40.347x40.26x0.4875	Reinf. 4 Tension Rupture	60.3	Pass
L29	38.75 - 38.5	Pole + Reinf.	TP40.391x40.347x0.475	Reinf. 3 Tension Rupture	59.7	Pass
L30	38.5 - 37.5	Pole + Reinf.	TP41.485x40.391x0.475	Reinf. 3 Tension Rupture	60.0	Pass
L31	37.5 - 31.25	Pole + Reinf.	TP40.91x39.816x0.5375	Reinf. 3 Tension Rupture	56.7	Pass
L32	31.25 - 26.25	Pole + Reinf.	TP41.785x40.91x0.5375	Reinf. 3 Tension Rupture	57.9	Pass
L33	26.25 - 21.25	Pole + Reinf.	TP42.66x41.785x0.5375	Reinf. 3 Tension Rupture	59.0	Pass
L34	21.25 - 16.25	Pole + Reinf.	TP43.536x42.66x0.5313	Reinf. 3 Tension Rupture	60.0	Pass
L35	16.25 - 11.25	Pole + Reinf.	TP44.411x43.536x0.525	Reinf. 3 Tension Rupture	60.9	Pass
L36	11.25 - 10	Pole + Reinf.	TP44.63x44.411x0.525	Reinf. 3 Tension Rupture	61.1	Pass
L37	10 - 9.75	Pole + Reinf.	TP44.673x44.63x0.4625	Pole	60.7	Pass
L38	9.75 - 7.25	Pole + Reinf.	TP45.111x44.673x0.4625	Pole	61.3	Pass
L39	7.25 - 7	Pole + Reinf.	TP45.155x45.111x0.5063	Reinf. 2 Tension Rupture	61.8	Pass
L40	7 - 2	Pole + Reinf.	TP46.03x45.155x0.5	Reinf. 2 Tension Rupture	62.6	Pass
L41	2 - 0	Pole + Reinf.	TP46.38x46.03x0.5	Reinf. 2 Tension Rupture	63.0	Pass
					Summary	
				Pole	61.3	Pass
				Reinforcement	63.0	Pass
				Overall	63.0	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	47.0	Pass
1	Base Plate		36.4	Pass
1	Base Foundation (Structure)	0	13.4	Pass
1	Base Foundation (Soil Interaction)		56.6	Pass

Structure Rating (max from all components) =	63.0%*
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Notes:

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

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Length (ft)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Thickness (in)	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Socket Length (ft)	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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(in)	28.1261	27.2509	26.3758	25.5006	24.6255	23.7503	22.8752	22.0000	21.1248	20.2496	19.3744	18.4992	17.6240	16.7488	15.8736	14.9984	14.1232	13.2480	12.3728	11.4976	10.6224	9.7472	8.8720	7.9968	7.1216	6.2464	5.3712	4.4960	3.6208	2.7456	1.8704	0.9952	0.1199	0.2447	0.3695	0.4943	0.6191	0.7439	0.8687	0.9935	1.1183	1.2431	1.3679	1.4927	1.6175	1.7423	1.8671	1.9919	2.1167	2.2415	2.3663	2.4911	2.6159	2.7407	2.8655	2.9903	3.1151	3.2399	3.3647	3.4895	3.6143	3.7391	3.8639	3.9887	4.1135	4.2383	4.3631	4.4879	4.6127	4.7375	4.8623	4.9871	5.1119	5.2367	5.3615	5.4863	5.6111	5.7359	5.8607	5.9855	6.1103	6.2351	6.3599	6.4847	6.6095	6.7343	6.8591	6.9839	7.1087	7.2335	7.3583	7.4831	7.6079	7.7327	7.8575	7.9823	8.1071	8.2319	8.3567	8.4815	8.6063	8.7311	8.8559	8.9807	9.1055	9.2303	9.3551	9.4799	9.6047	9.7295	9.8543	9.9791	10.1039	10.2287	10.3535	10.4783	10.6031	10.7279	10.8527	10.9775	11.1023	11.2271	11.3519	11.4767	11.6015	11.7263	11.8511	11.9759	12.1007	12.2255	12.3503	12.4751	12.5999	12.7247	12.8495	12.9743	13.0991	13.2239	13.3487	13.4735	13.5983	13.7231	13.8479	13.9727	14.0975	14.2223	14.3471	14.4719	14.5967	14.7215	14.8463	14.9711	15.0959	15.2207	15.3455	15.4703	15.5951	15.7199	15.8447	15.9695	16.0943	16.2191	16.3439	16.4687	16.5935	16.7183	16.8431	16.9679	17.0927	17.2175	17.3423	17.4671	17.5919	17.7167	17.8415	17.9663	18.0911	18.2159	18.3407	18.4655	18.5903	18.7151	18.8399	18.9647	19.0895	19.2143	19.3391	19.4639	19.5887	19.7135	19.8383	19.9631	20.0879	20.2127	20.3375	20.4623	20.5871	20.7119	20.8367	20.9615	21.0863	21.2111	21.3359	21.4607	21.5855	21.7103	21.8351	21.9599	22.0847	22.2095	22.3343	22.4591	22.5839	22.7087	22.8335	22.9583	23.0831	23.2079	23.3327	23.4575	23.5823	23.7071	23.8319	23.9567	24.0815	24.2063	24.3311	24.4559	24.5807	24.7055	24.8303	24.9551	25.0799	25.2047	25.3295	25.4543	25.5791	25.7039	25.8287	25.9535	26.0783	26.2031	26.3279	26.4527	26.5775	26.7023	26.8271	26.9519	27.0767	27.2015	27.3263	27.4511	27.5759	27.7007	27.8255	27.9503	28.0751	28.1999	28.3247	28.4495	28.5743	28.6991	28.8239	28.9487	29.0735	29.1983	29.3231	29.4479	29.5727	29.6975	29.8223	29.9471	30.0719	30.1967	30.3215	30.4463	30.5711	30.6959	30.8207	30.9455	31.0703	31.1951	31.3199	31.4447	31.5695	31.6943	31.8191	31.9439	32.0687	32.1935	32.3183	32.4431	32.5679	32.6927	32.8175	32.9423	33.0671	33.1919	33.3167	33.4415	33.5663	33.6911	33.8159	33.9407	34.0655	34.1903	34.3151	34.4399	34.5647	34.6895	34.8143	34.9391	35.0639	35.1887	35.3135	35.4383	35.5631	35.6879	35.8127	35.9375	36.0623	36.1871	36.3119	36.4367	36.5615	36.6863	36.8111	36.9359	37.0607	37.1855	37.3103	37.4351	37.5599	37.6847	37.8095	37.9343	38.0591	38.1839	38.3087	38.4335	38.5583	38.6831	38.8079	38.9327	39.0575	39.1823	39.3071	39.4319	39.5567	39.6815	39.8063	39.9311	40.0559	40.1807	40.3055	40.4303	40.5551	40.6799	40.8047	40.9295	41.0543	41.1791	41.3039	41.4287	41.5535	41.6783	41.8031	41.9279	42.0527	42.1775	42.3023	42.4271	42.5519	42.6767	42.8015	42.9263	43.0511	43.1759	43.3007	43.4255	43.5503	43.6751	43.7999	43.9247	44.0495	44.1743	44.2991	44.4239	44.5487	44.6735	44.7983	44.9231	45.0479	45.1727	45.2975	45.4223	45.5471	45.6719	45.7967	45.9215	46.0463	46.1711	46.2959	46.4207	46.5455	46.6703	46.7951	46.9199	47.0447	47.1695	47.2943	47.4191	47.5439	47.6687	47.7935	47.9183	48.0431	48.1679	48.2927	48.4175	48.5423	48.6671	48.7919	48.9167	49.0415	49.1663	49.2911	49.4159	49.5407	49.6655	49.7903	49.9151	50.0399	50.1647	50.2895	50.4143	50.5391	50.6639	50.7887	50.9135	51.0383	51.1631	51.2879	51.4127	51.5375	51.6623	51.7871	51.9119	52.0367	52.1615	52.2863	52.4111	52.5359	52.6607	52.7855	52.9103	53.0351	53.1599	53.2847	53.4095	53.5343	53.6591	53.7839	53.9087	54.0335	54.1583	54.2831	54.4079	54.5327	54.6575	54.7823	54.9071	55.0319	55.1567	55.2815	55.4063	55.5311	55.6559	55.7807	55.9055	56.0303	56.1551	56.2799	56.4047	56.5295	56.6543	56.7791	56.9039	57.0287	57.1535	57.2783	57.4031	57.5279	57.6527	57.7775	57.9023	58.0271	58.1519	58.2767	58.4015	58.5263	58.6511	58.7759	58.9007	59.0255	59.1503	59.2751	59.3999	59.5247	59.6495	59.7743	59.8991	60.0239	60.1487	60.2735	60.3983	60.5231	60.6479	60.7727	60.8975	61.0223	61.1471	61.2719	61.3967	61.5215	61.6463	61.7711	61.8959	62.0207	62.1455	62.2703	62.3951	62.5199	62.6447	62.7695	62.8943	63.0191	63.1439	63.2687	63.3935	63.5183	63.6431	63.7679	63.8927	64.0175	64.1423	64.2671	64.3919	64.5167	64.6415	64.7663	64.8911	65.0159	65.1407	65.2655	65.3903	65.5151	65.6399	65.7647	65.8895	66.0143	66.1391	66.2639	66.3887	66.5135	66.6383	66.7631	66.8879	67.0127	67.1375	67.2623	67.3871	67.5119	67.6367	67.7615	67.8863	68.0111	68.1359	68.2607	68.3855	68.5103	68.6351	68.7599	68.8847	69.0095	69.1343	69.2591	69.3839	69.5087	69.6335	69.7583	69.8831	70.0079	70.1327	70.2575	70.3823	70.5071	70.6319	70.7567	70.8815	71.0063	71.1311	71.2559	71.3807	71.5055	71.6303	71.7551	71.8799	72.0047	72.1295	72.2543	72.3791	72.5039	72.6287	72.7535	72.8783	73.0031	73.1279	73.2527	73.3775	73.5023	73.6271	73.7519	73.8767	74.0015	74.1263	74.2511	74.3759	74.5007	74.6255	74.7503	74.8751	75.0000	75.1248	75.2496	75.3744	75.4992	75.6240	75.7488	75.8736	75.9984	76.1232	76.2480	76.3728	76.4976	76.6224	76.7472	76.8720	76.9968	77.1216	77.2464	77.3712	77.4960	77.6208	77.7456	77.8704	77.9952	78.1200	78.2448	78.3696	78.4944	78.6192	78.7440	78.8688	78.9936	79.1184	79.2432	79.3680	79.4928	79.6176	79.7424	79.8672	79.9920	80.1168	80.2416	80.3664	80.4912	80.6160	80.7408	80.8656	80.9904	81.1152	81.2400	81.3648	81.4896	81.6144	81.7392	81.8640	81.9888	82.1136	82.2384	82.3632	82.4880	82.6128	82.7376	82.8624	82.9872	83.1120	83.2368	83.3616	83.4864	83.6112	83.7360	83.8608	83.9856	84.1104	84.2352	84.3600	84.4848	84.6096	84.7344	84.8592	84.9840	85.1088	85.2336	85.3584	85.4832	85.6080	85.7328	85.8576	85.9824	86.1072	86.2320	86.3568	86.4816	86.6064	86.7312	86.8560	86.9808	87.1056	87.2304	87.3552	87.4800	87.6048	87.7296	87.8544	87.9792	88.1040	88.2288	88.3536	88.4784	88.6032	88.7280	88.8528	88.9776	89.1024	89.2272	89.3520	89.4768	89.6016	89.7264	89.8512	89.9760	90.1008	90.2256	90.3504	90.4752	90.6000	90.7248	90.8496	90.9744	91.0992	91.2240	91.3488	91.4736	91.5984	91.7232	91.8480	91.9728	92.0976	92.2224	92.3472	92.4720	92.5968	92.7216	92.8464	92.9712	93.0960	93.2208	93.3456	93.4704	93.5952	93.7200	93.8448	93.9696	94.0944	94.2192	94.3440	94.4688	94.5936	94.7184	94.8432	94.9680	95.0928	95.2176	95.3424	95.4672	95.5920	95.7168	95.8416	95.9664	96.0912	96.2160	96.3408	96.4656	96.5904	96.7152	96.8400	96.9648	97.0896	97.2144	97.3392	97.4640	97.5888	97.7136	97.8384	97.9632	98.0880	98.2128	98.3376	98.4624	98.5872	98.7120	98.8368	98.9616	99.0864	99.2112	99.3360	99.4608	99.5856	99.7104	99.8352	99.9600	100.0848	100.2096	100.3344	100.4592	100.5840	100.7088	100.8336	100.9584	101.0832	101.2080	101.3328	101.4576	101.5824	101.7072	101.8320	101.9568	102.0816	102.2064	102.3312	102.4560	102.5808	102.7056	102.8304	102.9552	103.0800	103.2048	103.3296	103.4544	103.5792	103.7040	103.8288	103.9536	104.0784	104.2032	104.3280	104.4528	104.5776	104.7024	104.8272	104.9520	105.0768	105.2

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 New Haven County, Connecticut.

Tower base elevation above sea level: 241.00 ft.

Basic wind speed of 119 mph.

Risk Category II.

Exposure Category B.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Tower analysis based on target reliabilities in accordance with Annex S.

Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.

Maximum demand-capacity ratio is: 1.05.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	150.00-145.00	5.00	0.00	12	22.0000	22.8752	0.2500	1.0000	A607-60 (60 ksi)
L2	145.00-140.00	5.00	0.00	12	22.8752	23.7503	0.2500	1.0000	A607-60 (60 ksi)
L3	140.00-135.00	5.00	0.00	12	23.7503	24.6255	0.2500	1.0000	A607-60 (60 ksi)
L4	135.00-130.00	5.00	0.00	12	24.6255	25.5006	0.2500	1.0000	A607-60 (60 ksi)
L5	130.00-125.00	5.00	0.00	12	25.5006	26.3758	0.2500	1.0000	A607-60

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L6	125.00-120.00	5.00	0.00	12	26.3758	27.2509	0.2500	1.0000	(60 ksi) A607-60
L7	120.00-115.00	5.00	0.00	12	27.2509	28.1261	0.2500	1.0000	(60 ksi) A607-60
L8	115.00-110.00	5.00	0.00	12	28.1261	29.0013	0.2500	1.0000	(60 ksi) A607-60
L9	110.00-102.50	7.50	3.75	12	29.0013	30.3140	0.2500	1.0000	(60 ksi) A607-60
L10	102.50-101.25	5.00	0.00	12	29.1576	30.0328	0.3125	1.2500	(60 ksi) A607-65
L11	101.25-96.25	5.00	0.00	12	30.0328	30.9080	0.3125	1.2500	(65 ksi) A607-65
L12	96.25-91.25	5.00	0.00	12	30.9080	31.7832	0.3125	1.2500	(65 ksi) A607-65
L13	91.25-86.25	5.00	0.00	12	31.7832	32.6584	0.3125	1.2500	(65 ksi) A607-65
L14	86.25-81.25	5.00	0.00	12	32.6584	33.5335	0.3125	1.2500	(65 ksi) A607-65
L15	81.25-76.25	5.00	0.00	12	33.5335	34.4087	0.3125	1.2500	(65 ksi) A607-65
L16	76.25-73.42	2.83	0.00	12	34.4087	34.9047	0.3125	1.2500	(65 ksi) A607-65
L17	73.42-73.17	0.25	0.00	12	34.9047	34.9484	0.4000	1.6000	(65 ksi) A607-65
L18	73.17-68.17	5.00	0.00	12	34.9484	35.8236	0.4000	1.6000	(65 ksi) A607-65
L19	68.17-62.00	6.17	4.75	12	35.8236	36.9030	0.4000	1.6000	(65 ksi) A607-65
L20	62.00-61.00	5.75	0.00	12	35.4466	36.4530	0.3750	1.5000	(65 ksi) A607-65
L21	61.00-56.25	4.75	0.00	12	36.4530	37.2844	0.3750	1.5000	(65 ksi) A607-65
L22	56.25-56.00	0.25	0.00	12	37.2844	37.3281	0.4562	1.8250	(65 ksi) A607-65
L23	56.00-51.00	5.00	0.00	12	37.3281	38.2032	0.4562	1.8250	(65 ksi) A607-65
L24	51.00-46.00	5.00	0.00	12	38.2032	39.0784	0.4500	1.8000	(65 ksi) A607-65
L25	46.00-41.00	5.00	0.00	12	39.0784	39.9535	0.4500	1.8000	(65 ksi) A607-65
L26	41.00-39.50	1.50	0.00	12	39.9535	40.2161	0.4500	1.8000	(65 ksi) A607-65
L27	39.50-39.25	0.25	0.00	12	40.2161	40.2598	0.4875	1.9500	(65 ksi) A607-65
L28	39.25-38.75	0.50	0.00	12	40.2598	40.3473	0.4875	1.9500	(65 ksi) A607-65
L29	38.75-38.50	0.25	0.00	12	40.3473	40.3911	0.4750	1.9000	(65 ksi) A607-65
L30	38.50-32.25	6.25	5.25	12	40.3911	41.4850	0.4750	1.9000	(65 ksi) A607-65
L31	32.25-31.25	6.25	0.00	12	39.8161	40.9101	0.5375	2.1500	(65 ksi) A607-65
L32	31.25-26.25	5.00	0.00	12	40.9101	41.7853	0.5375	2.1500	(65 ksi) A607-65
L33	26.25-21.25	5.00	0.00	12	41.7853	42.6605	0.5375	2.1500	(65 ksi) A607-65
L34	21.25-16.25	5.00	0.00	12	42.6605	43.5356	0.5312	2.1250	(65 ksi) A607-65
L35	16.25-11.25	5.00	0.00	12	43.5356	44.4108	0.5250	2.1000	(65 ksi) A607-65
L36	11.25-10.00	1.25	0.00	12	44.4108	44.6296	0.5250	2.1000	(65 ksi) A607-65
L37	10.00-9.75	0.25	0.00	12	44.6296	44.6734	0.4625	1.8500	(65 ksi) A607-65
L38	9.75-7.25	2.50	0.00	12	44.6734	45.1110	0.4625	1.8500	(65 ksi) A607-65
L39	7.25-7.00	0.25	0.00	12	45.1110	45.1547	0.5062	2.0250	(65 ksi) A607-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L40	7.00-2.00	5.00	0.00	12	45.1547	46.0299	0.5000	2.0000	A607-65 (65 ksi)
L41	2.00-0.00	2.00		12	46.0299	46.3800	0.5000	2.0000	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	22.6879	17.5087	1057.2060	7.7865	11.3960	92.7699	2142.1860	8.6173	5.2260	20.904
	23.5939	18.2133	1190.0266	8.0998	11.8493	100.4299	2411.3166	8.9640	5.4605	21.842
L2	23.5939	18.2133	1190.0266	8.0998	11.8493	100.4299	2411.3166	8.9640	5.4605	21.842
	24.4999	18.9178	1333.5304	8.4131	12.3027	108.3936	2702.0942	9.3107	5.6951	22.78
L3	24.4999	18.9178	1333.5304	8.4131	12.3027	108.3936	2702.0942	9.3107	5.6951	22.78
	25.4060	19.6223	1488.1305	8.7264	12.7560	116.6613	3015.3559	9.6575	5.9296	23.719
L4	25.4060	19.6223	1488.1305	8.7264	12.7560	116.6613	3015.3559	9.6575	5.9296	23.719
	26.3120	20.3268	1654.2402	9.0397	13.2093	125.2327	3351.9391	10.0042	6.1642	24.657
L5	26.3120	20.3268	1654.2402	9.0397	13.2093	125.2327	3351.9391	10.0042	6.1642	24.657
	27.2180	21.0313	1832.2727	9.3530	13.6627	134.1081	3712.6811	10.3509	6.3987	25.595
L6	27.2180	21.0313	1832.2727	9.3530	13.6627	134.1081	3712.6811	10.3509	6.3987	25.595
	28.1241	21.7358	2022.6411	9.6663	14.1160	143.2872	4098.4193	10.6977	6.6333	26.533
L7	28.1241	21.7358	2022.6411	9.6663	14.1160	143.2872	4098.4193	10.6977	6.6333	26.533
	29.0301	22.4403	2225.7589	9.9796	14.5693	152.7702	4509.9910	11.0444	6.8678	27.471
L8	29.0301	22.4403	2225.7589	9.9796	14.5693	152.7702	4509.9910	11.0444	6.8678	27.471
	29.9361	23.1448	2442.0391	10.2930	15.0227	162.5571	4948.2334	11.3912	7.1023	28.409
L9	29.9361	23.1448	2442.0391	10.2930	15.0227	162.5571	4948.2334	11.3912	7.1023	28.409
	31.2952	24.2015	2792.0431	10.7629	15.7027	177.8071	5657.4363	11.9113	7.4542	29.817
L10	31.2952	24.2015	2792.0431	10.7629	15.7027	177.8071	5657.4363	11.9113	7.4542	29.817
	30.9820	29.061	3371.7242	10.6399	15.5570	216.7336	6832.0274	14.7189	7.2113	23.076
L11	30.9820	29.061	3371.7242	10.6399	15.5570	216.7336	6832.0274	14.7189	7.2113	23.076
	31.8881	30.7867	3678.4461	10.9532	16.0103	229.7544	7453.5290	15.1523	7.4458	23.827
L12	31.8881	30.7867	3678.4461	10.9532	16.0103	229.7544	7453.5290	15.1523	7.4458	23.827
	32.7941	31.6674	4003.2271	11.2665	16.4637	243.1550	8111.6235	15.5857	7.6804	24.577
L13	32.7941	31.6674	4003.2271	11.2665	16.4637	243.1550	8111.6235	15.5857	7.6804	24.577
	33.7002	32.5480	4346.5840	11.5798	16.9170	256.9354	8807.3576	16.0191	7.9149	25.328
L14	33.7002	32.5480	4346.5840	11.5798	16.9170	256.9354	8807.3576	16.0191	7.9149	25.328
	34.6062	33.4287	4709.0332	11.8931	17.3704	271.0956	9541.7779	16.4526	8.1495	26.078
L15	34.6062	33.4287	4709.0332	11.8931	17.3704	271.0956	9541.7779	16.4526	8.1495	26.078
	35.5123	34.3093	5091.0913	12.2064	17.8237	285.6357	10315.931	16.8860	8.3840	26.829
L16	35.5123	34.3093	5091.0913	12.2064	17.8237	285.6357	10315.931	16.8860	8.3840	26.829
	36.0257	34.8084	5316.4886	12.3840	18.0806	294.0436	10772.647	17.1316	8.5169	27.254
L17	35.9949	44.4420	6753.5959	12.3527	18.0806	373.5269	13684.616	21.8730	8.2824	20.706
	36.0402	44.4984	6779.3234	12.3683	18.1033	374.4804	13736.747	21.9007	8.2942	20.735
L18	36.0402	44.4984	6779.3234	12.3683	18.1033	374.4804	13736.747	21.9007	8.2942	20.735
	36.9462	45.6256	7307.6876	12.6816	18.5566	393.8048	14807.356	22.4555	8.5287	21.322
L19	36.9462	45.6256	7307.6876	12.6816	18.5566	393.8048	14807.356	22.4555	8.5287	21.322
	38.0637	47.0159	7996.2707	13.0681	19.1158	418.3079	16202.612	23.1398	8.8180	22.045
L20	37.4254	42.3489	6648.7338	12.5556	18.3613	362.1053	13472.137	20.8429	8.4947	22.652
	37.6066	43.5642	7237.6860	12.9159	18.8826	383.2983	14665.514	21.4410	8.7644	23.372
L21	37.6066	43.5642	7237.6860	12.9159	18.8826	383.2983	14665.514	21.4410	8.7644	23.372
	38.4673	44.5680	7749.6581	13.2135	19.3133	401.2602	15702.908	21.9350	8.9872	23.966
L22	38.4387	54.1051	9366.6200	13.1845	19.3133	484.9830	18979.311	26.6289	8.7695	19.221

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
	38.4840	54.1694	9400.0461	13.2001	19.3360	486.1432	19047.0418	26.6605	8.7812	19.246
L23	38.4840	54.1694	9400.0461	13.2001	19.3360	486.1432	19047.0418	26.6605	8.7812	19.246
	39.3900	55.4551	10085.3727	13.5134	19.7893	509.6381	20435.6994	27.2933	9.0157	19.76
L24	39.3922	54.7045	9952.1588	13.5157	19.7893	502.9065	20165.7719	26.9239	9.0325	20.072
	40.2982	55.9725	10660.4094	13.8290	20.2426	526.6324	21600.8796	27.5480	9.2670	20.593
L25	40.2982	55.9725	10660.4094	13.8290	20.2426	526.6324	21600.8796	27.5480	9.2670	20.593
	41.2042	57.2406	11401.4892	14.1423	20.6959	550.9051	23102.5083	28.1721	9.5015	21.115
L26	41.2042	57.2406	11401.4892	14.1423	20.6959	550.9051	23102.5083	28.1721	9.5015	21.115
	41.4760	57.6210	11630.3261	14.2362	20.8319	558.2936	23566.1938	28.3593	9.5719	21.271
L27	41.4628	62.3639	12563.9089	14.2228	20.8319	603.1086	25457.8857	30.6936	9.4714	19.429
	41.5081	62.4326	12605.4680	14.2385	20.8546	604.4459	25542.0957	30.7274	9.4831	19.453
L28	41.5081	62.4326	12605.4680	14.2385	20.8546	604.4459	25542.0957	30.7274	9.4831	19.453
	41.5987	62.5700	12688.8609	14.2698	20.8999	607.1250	25711.0723	30.7950	9.5066	19.501
L29	41.6031	60.9847	12375.1407	14.2743	20.8999	592.1144	25075.3901	30.0148	9.5401	20.084
	41.6484	61.0516	12415.9276	14.2900	20.9226	593.4224	25158.0354	30.0478	9.5518	20.109
L30	41.6484	61.0516	12415.9276	14.2900	20.9226	593.4224	25158.0354	30.0478	9.5518	20.109
	42.7809	62.7248	13464.9498	14.6816	21.4892	626.5906	27283.6389	30.8712	9.8450	20.726
L31	41.9824	67.9815	13387.1646	14.0617	20.6247	649.0827	27126.0249	33.4584	9.2302	17.172
	42.1636	69.8749	14537.1798	14.4534	21.1914	685.9934	29456.2676	34.3903	9.5234	17.718
L32	42.1636	69.8749	14537.1798	14.4534	21.1914	685.9934	29456.2676	34.3903	9.5234	17.718
	43.0697	71.3896	15503.2204	14.7667	21.6448	716.2570	31413.7277	35.1358	9.7580	18.154
L33	43.0697	71.3896	15503.2204	14.7667	21.6448	716.2570	31413.7277	35.1358	9.7580	18.154
	43.9758	72.9043	16511.1376	15.0800	22.0981	747.1739	33456.0412	35.8813	9.9925	18.591
L34	43.9780	72.0673	16326.4128	15.0823	22.0981	738.8146	33081.7387	35.4693	10.0093	18.841
	44.8840	73.5644	17365.1830	15.3956	22.5515	770.0246	35186.5687	36.2062	10.2438	19.282
L35	44.8862	72.7095	17168.3700	15.3978	22.5515	761.2973	34787.7722	35.7854	10.2606	19.544
	45.7923	74.1890	18237.8718	15.7111	23.0048	792.7851	36954.8728	36.5136	10.4951	19.991
L36	45.7923	74.1890	18237.8718	15.7111	23.0048	792.7851	36954.8728	36.5136	10.4951	19.991
	46.0188	74.5589	18512.0132	15.7895	23.1181	800.7568	37510.3575	36.6956	10.5537	20.102
L37	46.0408	65.7759	16377.6307	15.8118	23.1181	708.4318	33185.5200	32.3729	10.7212	23.181
	46.0861	65.8411	16426.3581	15.8275	23.1408	709.8435	33284.2549	32.4050	10.7330	23.206
L38	46.0861	65.8411	16426.3581	15.8275	23.1408	709.8435	33284.2549	32.4050	10.7330	23.206
	46.5392	66.4928	16918.9586	15.9842	23.3675	724.0384	34282.3971	32.7257	10.8502	23.46
L39	46.5237	72.7113	18465.0138	15.9685	23.3675	790.2011	37415.1241	35.7863	10.7330	21.201
	46.5690	72.7826	18519.4122	15.9842	23.3902	791.7610	37525.3499	35.8214	10.7447	21.224

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L40	46.5712	71.8941	18298.459 7	15.9864	23.3902	782.3146	37077.640 3	35.3841	10.7615	21.523
	47.4773	73.3032	19395.574 8	16.2997	23.8435	813.4533	39300.693 0	36.0776	10.9960	21.992
L41	47.4773	73.3032	19395.574 8	16.2997	23.8435	813.4533	39300.693 0	36.0776	10.9960	21.992
	47.8397	73.8668	19846.414 3	16.4250	24.0248	826.0789	40214.216 1	36.3550	11.0898	22.18

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
L1 150.00- 145.00				1	1	1			
L2 145.00- 140.00				1	1	1			
L3 140.00- 135.00				1	1	1			
L4 135.00- 130.00				1	1	1			
L5 130.00- 125.00				1	1	1			
L6 125.00- 120.00				1	1	1			
L7 120.00- 115.00				1	1	1			
L8 115.00- 110.00				1	1	1			
L9 110.00- 102.50				1	1	1			
L10 102.50- 101.25				1	1	1			
L11 101.25- 96.25				1	1	1			
L12 96.25- 91.25				1	1	1			
L13 91.25- 86.25				1	1	1			
L14 86.25- 81.25				1	1	1			
L15 81.25- 76.25				1	1	1			
L16 76.25- 73.42				1	1	1			
L17 73.42- 73.17				1	1	0.985773			
L18 73.17- 68.17				1	1	0.98072			
L19 68.17- 62.00				1	1	0.979334			
L20 62.00- 61.00				1	1	1			
L21 61.00- 56.25				1	1	1			
L22 56.25- 56.00				1	1	0.990113			
L23 56.00- 51.00				1	1	0.986213			
L24 51.00- 46.00				1	1	0.995975			
L25 46.00- 41.00				1	1	0.992372			
L26 41.00- 39.50				1	1	0.991322			
L27 39.50- 39.25				1	1	1.04409			
L28 39.25-				1	1	1.04349			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
38.75									
L29 38.75-38.50				1	1	0.988288			
L30 38.50-32.25				1	1	0.98742			
L31 32.25-31.25				1	1	0.987951			
L32 31.25-26.25				1	1	0.98426			
L33 26.25-21.25				1	1	0.980721			
L34 21.25-16.25				1	1	0.988681			
L35 16.25-11.25				1	1	0.996976			
L36 11.25-10.00				1	1	0.996164			
L37 10.00-9.75				1	1	1.06816			
L38 9.75-7.25				1	1	1.06696			
L39 7.25-7.00				1	1	0.975602			
L40 7.00-2.00				1	1	0.985493			
L41 2.00-0.00				1	1	0.98465			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf

Safety Line 3/8"	B	No	Surface Ar (CaAa)	150.00 - 0.00	1	1	0.450 0.450	0.3750		0.22
Climbing Pegs	B	No	Surface Ar (CaAa)	150.00 - 0.00	1	1	0.400 0.500	0.7050		1.80

FP 4"x1"	A	No	Surface Af (CaAa)	41.25 - 1.25	1	1	0.300 0.300	4.0000	10.0000	0.00
FP 4"x1"	C	No	Surface Af (CaAa)	41.25 - 1.25	1	1	0.200 0.200	4.0000	10.0000	0.00
FP 4"x1"	C	No	Surface Af (CaAa)	11.25 - 0.00	1	1	-0.250 -0.250	4.0000	10.0000	0.00
FP 4"x1"	B	No	Surface Af (CaAa)	40.50 - 5.50	1	1	0.400 0.400	4.0000	10.0000	0.00
FP 4"x0.75"	A	No	Surface Af (CaAa)	57.50 - 37.50	1	1	0.500 0.500	4.0000	9.5000	0.00
FP 4"x0.75"	B	No	Surface Af (CaAa)	57.50 - 37.50	1	1	0.500 0.500	4.0000	9.5000	0.00
FP 4"x0.75"	C	No	Surface Af (CaAa)	57.50 - 37.50	1	1	0.500 0.500	4.0000	9.5000	0.00
FP 4"x0.75"	A	No	Surface Af (CaAa)	74.67 - 64.67	1	1	0.400 0.400	4.0000	9.5000	0.00
FP 4"x0.75"	B	No	Surface Af (CaAa)	74.67 - 64.67	1	1	0.400 0.400	4.0000	9.5000	0.00
FP 4"x0.75"	C	No	Surface Af (CaAa)	74.67 - 64.67	1	1	0.400 0.400	4.0000	9.5000	0.00

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf

HB158-21U6S24- xxM_TMO(1-5/8)	C	No	No	Inside Pole	150.00 - 0.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.50 2.50 2.50
**									
LDF5-50A(7/8)	C	No	No	Inside Pole	150.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.33 0.33 0.33

CR 50 1873(1-5/8)	C	No	No	Inside Pole	138.00 - 0.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.83 0.83 0.83

LDF7-50A(1-5/8)	A	No	No	Inside Pole	124.00 - 0.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
LDF4-50A(1/2)	A	No	No	Inside Pole	124.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15

HB158-21U6S12- XXXM-01(1-5/8)	A	No	No	Inside Pole	124.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.90 1.90 1.90
LDF7-50A(1-5/8)	A	No	No	Inside Pole	124.00 - 0.00	11	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82

LDF7-50A(1-5/8)	C	No	No	Inside Pole	102.00 - 0.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
WR-VG82ST- BRDA(5/8)	C	No	No	Inside Pole	102.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.31 0.31 0.31
FB-L98B-002- 50000(3/8)	C	No	No	Inside Pole	102.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.06 0.06 0.06
WR-VG86ST- BRD(3/4)	C	No	No	Inside Pole	102.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.58 0.58 0.58
Conduit (2")	C	No	No	Inside Pole	102.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.80 2.80 2.80

LDF4-50A(1/2)	C	No	No	Inside Pole	82.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15

Feed Line/Linear Appurtenances Section Areas

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	150.00-145.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.04
L2	145.00-140.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.04
L3	140.00-135.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.05

Tower Sectio n	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L4	135.00-130.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.06
L5	130.00-125.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.06
L6	125.00-120.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.06
L7	120.00-115.00	A	0.000	0.000	0.000	0.000	0.09
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.06
L8	115.00-110.00	A	0.000	0.000	0.000	0.000	0.09
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.06
L9	110.00-102.50	A	0.000	0.000	0.000	0.000	0.13
		B	0.000	0.000	0.810	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.10
L10	102.50-101.25	A	0.000	0.000	0.000	0.000	0.02
		B	0.000	0.000	0.135	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.03
L11	101.25-96.25	A	0.000	0.000	0.000	0.000	0.09
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.13
L12	96.25-91.25	A	0.000	0.000	0.000	0.000	0.09
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.13
L13	91.25-86.25	A	0.000	0.000	0.000	0.000	0.09
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.13
L14	86.25-81.25	A	0.000	0.000	0.000	0.000	0.09
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.13
L15	81.25-76.25	A	0.000	0.000	0.000	0.000	0.09
		B	0.000	0.000	0.540	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.13
L16	76.25-73.42	A	0.000	0.000	0.834	0.000	0.05
		B	0.000	0.000	1.140	0.000	0.01
		C	0.000	0.000	0.834	0.000	0.07
L17	73.42-73.17	A	0.000	0.000	0.167	0.000	0.00
		B	0.000	0.000	0.194	0.000	0.00
		C	0.000	0.000	0.167	0.000	0.01
L18	73.17-68.17	A	0.000	0.000	3.333	0.000	0.09
		B	0.000	0.000	3.873	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.13
L19	68.17-62.00	A	0.000	0.000	2.333	0.000	0.11
		B	0.000	0.000	2.999	0.000	0.01
		C	0.000	0.000	2.333	0.000	0.16
L20	62.00-61.00	A	0.000	0.000	0.000	0.000	0.02
		B	0.000	0.000	0.108	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.03
L21	61.00-56.25	A	0.000	0.000	0.833	0.000	0.08
		B	0.000	0.000	1.346	0.000	0.01
		C	0.000	0.000	0.833	0.000	0.12
L22	56.25-56.00	A	0.000	0.000	0.167	0.000	0.00
		B	0.000	0.000	0.194	0.000	0.00
		C	0.000	0.000	0.167	0.000	0.01
L23	56.00-51.00	A	0.000	0.000	3.333	0.000	0.09
		B	0.000	0.000	3.873	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.13
L24	51.00-46.00	A	0.000	0.000	3.333	0.000	0.09
		B	0.000	0.000	3.873	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.13
L25	46.00-41.00	A	0.000	0.000	3.500	0.000	0.09
		B	0.000	0.000	3.873	0.000	0.01
		C	0.000	0.000	3.500	0.000	0.13
L26	41.00-39.50	A	0.000	0.000	2.000	0.000	0.03
		B	0.000	0.000	1.829	0.000	0.00
		C	0.000	0.000	2.000	0.000	0.04

Tower Sectio n	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L27	39.50-39.25	A	0.000	0.000	0.333	0.000	0.00
		B	0.000	0.000	0.360	0.000	0.00
		C	0.000	0.000	0.333	0.000	0.01
L28	39.25-38.75	A	0.000	0.000	0.667	0.000	0.01
		B	0.000	0.000	0.721	0.000	0.00
		C	0.000	0.000	0.667	0.000	0.01
L29	38.75-38.50	A	0.000	0.000	0.333	0.000	0.00
		B	0.000	0.000	0.360	0.000	0.00
		C	0.000	0.000	0.333	0.000	0.01
L30	38.50-32.25	A	0.000	0.000	4.833	0.000	0.11
		B	0.000	0.000	5.508	0.000	0.01
		C	0.000	0.000	4.833	0.000	0.16
L31	32.25-31.25	A	0.000	0.000	0.667	0.000	0.02
		B	0.000	0.000	0.775	0.000	0.00
		C	0.000	0.000	0.667	0.000	0.03
L32	31.25-26.25	A	0.000	0.000	3.333	0.000	0.09
		B	0.000	0.000	3.873	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.13
L33	26.25-21.25	A	0.000	0.000	3.333	0.000	0.09
		B	0.000	0.000	3.873	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.13
L34	21.25-16.25	A	0.000	0.000	3.333	0.000	0.09
		B	0.000	0.000	3.873	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.13
L35	16.25-11.25	A	0.000	0.000	3.333	0.000	0.09
		B	0.000	0.000	3.873	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.13
L36	11.25-10.00	A	0.000	0.000	0.833	0.000	0.02
		B	0.000	0.000	0.968	0.000	0.00
		C	0.000	0.000	1.667	0.000	0.03
L37	10.00-9.75	A	0.000	0.000	0.167	0.000	0.00
		B	0.000	0.000	0.194	0.000	0.00
		C	0.000	0.000	0.333	0.000	0.01
L38	9.75-7.25	A	0.000	0.000	1.667	0.000	0.04
		B	0.000	0.000	1.937	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.06
L39	7.25-7.00	A	0.000	0.000	0.167	0.000	0.00
		B	0.000	0.000	0.194	0.000	0.00
		C	0.000	0.000	0.333	0.000	0.01
L40	7.00-2.00	A	0.000	0.000	3.333	0.000	0.09
		B	0.000	0.000	1.540	0.000	0.01
		C	0.000	0.000	6.667	0.000	0.13
L41	2.00-0.00	A	0.000	0.000	0.500	0.000	0.04
		B	0.000	0.000	0.216	0.000	0.00
		C	0.000	0.000	1.833	0.000	0.05

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Sectio n	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L1	150.00-145.00	A	0.987	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	2.515	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.04
L2	145.00-140.00	A	0.984	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	2.508	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.04
L3	140.00-135.00	A	0.980	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	2.501	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.05
L4	135.00-130.00	A	0.977	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	2.494	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.06
L5	130.00-125.00	A	0.973	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	2.486	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.06

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L6	125.00-120.00	A	0.969	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	2.478	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.06
L7	120.00-115.00	A	0.965	0.000	0.000	0.000	0.000	0.09
		B		0.000	0.000	2.470	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.06
L8	115.00-110.00	A	0.961	0.000	0.000	0.000	0.000	0.09
		B		0.000	0.000	2.462	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.06
L9	110.00-102.50	A	0.955	0.000	0.000	0.000	0.000	0.13
		B		0.000	0.000	3.676	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.10
L10	102.50-101.25	A	0.951	0.000	0.000	0.000	0.000	0.02
		B		0.000	0.000	0.613	0.000	0.01
		C		0.000	0.000	0.000	0.000	0.03
L11	101.25-96.25	A	0.948	0.000	0.000	0.000	0.000	0.09
		B		0.000	0.000	2.437	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.13
L12	96.25-91.25	A	0.944	0.000	0.000	0.000	0.000	0.09
		B		0.000	0.000	2.427	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.13
L13	91.25-86.25	A	0.938	0.000	0.000	0.000	0.000	0.09
		B		0.000	0.000	2.417	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.13
L14	86.25-81.25	A	0.933	0.000	0.000	0.000	0.000	0.09
		B		0.000	0.000	2.406	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.13
L15	81.25-76.25	A	0.927	0.000	0.000	0.000	0.000	0.09
		B		0.000	0.000	2.394	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.13
L16	76.25-73.42	A	0.923	0.000	0.000	1.016	0.000	0.06
		B		0.000	0.000	2.367	0.000	0.02
		C		0.000	0.000	1.016	0.000	0.08
L17	73.42-73.17	A	0.921	0.000	0.000	0.203	0.000	0.01
		B		0.000	0.000	0.322	0.000	0.00
		C		0.000	0.000	0.203	0.000	0.01
L18	73.17-68.17	A	0.917	0.000	0.000	4.060	0.000	0.11
		B		0.000	0.000	6.434	0.000	0.05
		C		0.000	0.000	4.060	0.000	0.15
L19	68.17-62.00	A	0.910	0.000	0.000	2.839	0.000	0.13
		B		0.000	0.000	5.749	0.000	0.05
		C		0.000	0.000	2.839	0.000	0.17
L20	62.00-61.00	A	0.905	0.000	0.000	0.000	0.000	0.02
		B		0.000	0.000	0.472	0.000	0.01
		C		0.000	0.000	0.000	0.000	0.03
L21	61.00-56.25	A	0.900	0.000	0.000	1.058	0.000	0.09
		B		0.000	0.000	3.282	0.000	0.03
		C		0.000	0.000	1.058	0.000	0.13
L22	56.25-56.00	A	0.896	0.000	0.000	0.211	0.000	0.01
		B		0.000	0.000	0.328	0.000	0.00
		C		0.000	0.000	0.211	0.000	0.01
L23	56.00-51.00	A	0.892	0.000	0.000	4.225	0.000	0.11
		B		0.000	0.000	6.550	0.000	0.05
		C		0.000	0.000	4.225	0.000	0.15
L24	51.00-46.00	A	0.883	0.000	0.000	4.217	0.000	0.11
		B		0.000	0.000	6.523	0.000	0.05
		C		0.000	0.000	4.217	0.000	0.15
L25	46.00-41.00	A	0.874	0.000	0.000	4.417	0.000	0.11
		B		0.000	0.000	6.495	0.000	0.05
		C		0.000	0.000	4.417	0.000	0.15
L26	41.00-39.50	A	0.867	0.000	0.000	2.520	0.000	0.04
		B		0.000	0.000	2.782	0.000	0.02
		C		0.000	0.000	2.520	0.000	0.05
L27	39.50-39.25	A	0.865	0.000	0.000	0.420	0.000	0.01
		B		0.000	0.000	0.533	0.000	0.00
		C		0.000	0.000	0.420	0.000	0.01
L28	39.25-38.75	A	0.864	0.000	0.000	0.840	0.000	0.01
		B		0.000	0.000	1.066	0.000	0.01
		C		0.000	0.000	0.840	0.000	0.02

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L29	38.75-38.50	A	0.863	0.000	0.000	0.420	0.000	0.01
		B		0.000	0.000	0.533	0.000	0.00
		C		0.000	0.000	0.420	0.000	0.01
L30	38.50-32.25	A	0.856	0.000	0.000	6.074	0.000	0.14
		B		0.000	0.000	8.889	0.000	0.06
		C		0.000	0.000	6.074	0.000	0.19
L31	32.25-31.25	A	0.847	0.000	0.000	0.838	0.000	0.02
		B		0.000	0.000	1.288	0.000	0.01
		C		0.000	0.000	0.838	0.000	0.03
L32	31.25-26.25	A	0.838	0.000	0.000	4.172	0.000	0.11
		B		0.000	0.000	6.388	0.000	0.05
		C		0.000	0.000	4.172	0.000	0.15
L33	26.25-21.25	A	0.822	0.000	0.000	4.156	0.000	0.11
		B		0.000	0.000	6.341	0.000	0.04
		C		0.000	0.000	4.156	0.000	0.15
L34	21.25-16.25	A	0.803	0.000	0.000	4.137	0.000	0.11
		B		0.000	0.000	6.283	0.000	0.04
		C		0.000	0.000	4.137	0.000	0.15
L35	16.25-11.25	A	0.779	0.000	0.000	4.112	0.000	0.11
		B		0.000	0.000	6.209	0.000	0.04
		C		0.000	0.000	4.112	0.000	0.15
L36	11.25-10.00	A	0.759	0.000	0.000	1.023	0.000	0.03
		B		0.000	0.000	1.538	0.000	0.01
		C		0.000	0.000	2.043	0.000	0.04
L37	10.00-9.75	A	0.753	0.000	0.000	0.204	0.000	0.01
		B		0.000	0.000	0.307	0.000	0.00
		C		0.000	0.000	0.408	0.000	0.01
L38	9.75-7.25	A	0.742	0.000	0.000	2.038	0.000	0.05
		B		0.000	0.000	3.050	0.000	0.02
		C		0.000	0.000	4.071	0.000	0.08
L39	7.25-7.00	A	0.729	0.000	0.000	0.203	0.000	0.01
		B		0.000	0.000	0.303	0.000	0.00
		C		0.000	0.000	0.406	0.000	0.01
L40	7.00-2.00	A	0.696	0.000	0.000	4.030	0.000	0.11
		B		0.000	0.000	3.142	0.000	0.03
		C		0.000	0.000	8.056	0.000	0.16
L41	2.00-0.00	A	0.599	0.000	0.000	0.590	0.000	0.04
		B		0.000	0.000	0.695	0.000	0.01
		C		0.000	0.000	2.163	0.000	0.06

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	150.00-145.00	0.5856	0.2607	1.7518	0.7800
L2	145.00-140.00	0.5862	0.2610	1.7618	0.7844
L3	140.00-135.00	0.5867	0.2612	1.7708	0.7884
L4	135.00-130.00	0.5872	0.2614	1.7789	0.7920
L5	130.00-125.00	0.5877	0.2617	1.7860	0.7952
L6	125.00-120.00	0.5881	0.2618	1.7923	0.7980
L7	120.00-115.00	0.5885	0.2620	1.7977	0.8004
L8	115.00-110.00	0.5889	0.2622	1.8024	0.8025
L9	110.00-102.50	0.5894	0.2624	1.8071	0.8046
L10	102.50-101.25	0.5899	0.2626	1.8111	0.8064
L11	101.25-96.25	0.5901	0.2627	1.8076	0.8048
L12	96.25-91.25	0.5904	0.2629	1.8096	0.8057
L13	91.25-86.25	0.5907	0.2630	1.8108	0.8062
L14	86.25-81.25	0.5910	0.2631	1.8112	0.8064
L15	81.25-76.25	0.5913	0.2633	1.8108	0.8062
L16	76.25-73.42	0.4549	0.2025	1.4436	0.6427
L17	73.42-73.17	0.3533	0.1573	1.1520	0.5129
L18	73.17-68.17	0.3552	0.1581	1.1560	0.5147
L19	68.17-62.00	0.4328	0.1927	1.3753	0.6123
L20	62.00-61.00	0.5923	0.2637	1.8067	0.8044
L21	61.00-56.25	0.5069	0.2257	1.5626	0.6957

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L22	56.25-56.00	0.3628	0.1615	1.1476	0.5110
L23	56.00-51.00	0.3645	0.1623	1.1504	0.5122
L24	51.00-46.00	0.3678	0.1637	1.1547	0.5141
L25	46.00-41.00	0.2861	0.1130	1.0698	0.4629
L26	41.00-39.50	-0.0286	0.7079	0.5939	0.9471
L27	39.50-39.25	0.4113	1.3384	0.9937	1.5386
L28	39.25-38.75	0.4116	1.3396	0.9941	1.5397
L29	38.75-38.50	0.4120	1.3407	0.9945	1.5408
L30	38.50-32.25	0.5358	1.7442	1.2690	1.9722
L31	32.25-31.25	0.5669	1.8453	1.3376	2.0788
L32	31.25-26.25	0.5695	1.8541	1.3291	2.0805
L33	26.25-21.25	0.5738	1.8684	1.3263	2.0901
L34	21.25-16.25	0.5779	1.8823	1.3199	2.0973
L35	16.25-11.25	0.5819	1.8959	1.3080	2.1008
L36	11.25-10.00	2.7101	3.1777	3.2066	3.2670
L37	10.00-9.75	2.7126	3.1806	3.2048	3.2673
L38	9.75-7.25	2.7187	3.1877	3.2018	3.2687
L39	7.25-7.00	2.7253	3.1952	3.1975	3.2695
L40	7.00-2.00	1.6664	1.5520	2.2223	1.7378
L41	2.00-0.00	2.5971	1.6762	3.0511	1.8268

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	2	Safety Line 3/8"	145.00 - 150.00	1.0000	1.0000
L1	3	Climbing Pegs	145.00 - 150.00	1.0000	1.0000
L2	2	Safety Line 3/8"	140.00 - 145.00	1.0000	1.0000
L2	3	Climbing Pegs	140.00 - 145.00	1.0000	1.0000
L3	2	Safety Line 3/8"	135.00 - 140.00	1.0000	1.0000
L3	3	Climbing Pegs	135.00 - 140.00	1.0000	1.0000
L4	2	Safety Line 3/8"	130.00 - 135.00	1.0000	1.0000
L4	3	Climbing Pegs	130.00 - 135.00	1.0000	1.0000
L5	2	Safety Line 3/8"	125.00 - 130.00	1.0000	1.0000
L5	3	Climbing Pegs	125.00 - 130.00	1.0000	1.0000
L6	2	Safety Line 3/8"	120.00 - 125.00	1.0000	1.0000
L6	3	Climbing Pegs	120.00 - 125.00	1.0000	1.0000
L7	2	Safety Line 3/8"	115.00 - 120.00	1.0000	1.0000
L7	3	Climbing Pegs	115.00 - 120.00	1.0000	1.0000
L8	2	Safety Line 3/8"	110.00 - 115.00	1.0000	1.0000
L8	3	Climbing Pegs	110.00 - 115.00	1.0000	1.0000
L9	2	Safety Line 3/8"	102.50 - 110.00	1.0000	1.0000
L9	3	Climbing Pegs	102.50 - 110.00	1.0000	1.0000
L10	2	Safety Line 3/8"	101.25 - 102.50	1.0000	1.0000
L10	3	Climbing Pegs	101.25 - 102.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L11	2	Safety Line 3/8"	102.50 96.25 - 101.25	1.0000	1.0000
L11	3	Climbing Pegs	96.25 - 101.25	1.0000	1.0000
L12	2	Safety Line 3/8"	91.25 - 96.25	1.0000	1.0000
L12	3	Climbing Pegs	91.25 - 96.25	1.0000	1.0000
L13	2	Safety Line 3/8"	86.25 - 91.25	1.0000	1.0000
L13	3	Climbing Pegs	86.25 - 91.25	1.0000	1.0000
L14	2	Safety Line 3/8"	81.25 - 86.25	1.0000	1.0000
L14	3	Climbing Pegs	81.25 - 86.25	1.0000	1.0000
L15	2	Safety Line 3/8"	76.25 - 81.25	1.0000	1.0000
L15	3	Climbing Pegs	76.25 - 81.25	1.0000	1.0000
L16	2	Safety Line 3/8"	73.42 - 76.25	1.0000	1.0000
L16	3	Climbing Pegs	73.42 - 76.25	1.0000	1.0000
L16	33	FP 4"x0.75"	73.42 - 74.67	1.0000	1.0000
L16	34	FP 4"x0.75"	73.42 - 74.67	1.0000	1.0000
L16	35	FP 4"x0.75"	73.42 - 74.67	1.0000	1.0000
L17	2	Safety Line 3/8"	73.17 - 73.42	1.0000	1.0000
L17	3	Climbing Pegs	73.17 - 73.42	1.0000	1.0000
L17	33	FP 4"x0.75"	73.17 - 73.42	1.0000	1.0000
L17	34	FP 4"x0.75"	73.17 - 73.42	1.0000	1.0000
L17	35	FP 4"x0.75"	73.17 - 73.42	1.0000	1.0000
L18	2	Safety Line 3/8"	68.17 - 73.17	1.0000	1.0000
L18	3	Climbing Pegs	68.17 - 73.17	1.0000	1.0000
L18	33	FP 4"x0.75"	68.17 - 73.17	1.0000	1.0000
L18	34	FP 4"x0.75"	68.17 - 73.17	1.0000	1.0000
L18	35	FP 4"x0.75"	68.17 - 73.17	1.0000	1.0000
L19	2	Safety Line 3/8"	62.00 - 68.17	1.0000	1.0000
L19	3	Climbing Pegs	62.00 - 68.17	1.0000	1.0000
L19	33	FP 4"x0.75"	64.67 - 68.17	1.0000	1.0000
L19	34	FP 4"x0.75"	64.67 - 68.17	1.0000	1.0000
L19	35	FP 4"x0.75"	64.67 - 68.17	1.0000	1.0000
L20	2	Safety Line 3/8"	61.00 - 62.00	1.0000	1.0000
L20	3	Climbing Pegs	61.00 - 62.00	1.0000	1.0000
L21	2	Safety Line 3/8"	56.25 - 61.00	1.0000	1.0000
L21	3	Climbing Pegs	56.25 - 61.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L21	30	FP 4"x0.75"	56.25 - 57.50	1.0000	1.0000
L21	31	FP 4"x0.75"	56.25 - 57.50	1.0000	1.0000
L21	32	FP 4"x0.75"	56.25 - 57.50	1.0000	1.0000
L22	2	Safety Line 3/8"	56.00 - 56.25	1.0000	1.0000
L22	3	Climbing Pegs	56.00 - 56.25	1.0000	1.0000
L22	30	FP 4"x0.75"	56.00 - 56.25	1.0000	1.0000
L22	31	FP 4"x0.75"	56.00 - 56.25	1.0000	1.0000
L22	32	FP 4"x0.75"	56.00 - 56.25	1.0000	1.0000
L23	2	Safety Line 3/8"	51.00 - 56.00	1.0000	1.0000
L23	3	Climbing Pegs	51.00 - 56.00	1.0000	1.0000
L23	30	FP 4"x0.75"	51.00 - 56.00	1.0000	1.0000
L23	31	FP 4"x0.75"	51.00 - 56.00	1.0000	1.0000
L23	32	FP 4"x0.75"	51.00 - 56.00	1.0000	1.0000
L24	2	Safety Line 3/8"	46.00 - 51.00	1.0000	1.0000
L24	3	Climbing Pegs	46.00 - 51.00	1.0000	1.0000
L24	30	FP 4"x0.75"	46.00 - 51.00	1.0000	1.0000
L24	31	FP 4"x0.75"	46.00 - 51.00	1.0000	1.0000
L24	32	FP 4"x0.75"	46.00 - 51.00	1.0000	1.0000
L25	2	Safety Line 3/8"	41.00 - 46.00	1.0000	1.0000
L25	3	Climbing Pegs	41.00 - 46.00	1.0000	1.0000
L25	26	FP 4"x1"	41.00 - 41.25	1.0000	1.0000
L25	27	FP 4"x1"	41.00 - 41.25	1.0000	1.0000
L25	30	FP 4"x0.75"	41.00 - 46.00	1.0000	1.0000
L25	31	FP 4"x0.75"	41.00 - 46.00	1.0000	1.0000
L25	32	FP 4"x0.75"	41.00 - 46.00	1.0000	1.0000
L26	2	Safety Line 3/8"	39.50 - 41.00	1.0000	1.0000
L26	3	Climbing Pegs	39.50 - 41.00	1.0000	1.0000
L26	26	FP 4"x1"	39.50 - 41.00	1.0000	1.0000
L26	27	FP 4"x1"	39.50 - 41.00	1.0000	1.0000
L26	29	FP 4"x1"	39.50 - 40.50	1.0000	1.0000
L26	30	FP 4"x0.75"	39.50 - 41.00	1.0000	1.0000
L26	31	FP 4"x0.75"	39.50 - 41.00	1.0000	1.0000
L26	32	FP 4"x0.75"	39.50 - 41.00	1.0000	1.0000
L27	2	Safety Line 3/8"	39.25 - 39.50	1.0000	1.0000
L27	3	Climbing Pegs	39.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L27	26	FP 4"x1"	39.50 39.25 - 39.50	1.0000	1.0000
L27	27	FP 4"x1"	39.25 - 39.50	1.0000	1.0000
L27	29	FP 4"x1"	39.25 - 39.50	1.0000	1.0000
L27	30	FP 4"x0.75"	39.25 - 39.50	1.0000	1.0000
L27	31	FP 4"x0.75"	39.25 - 39.50	1.0000	1.0000
L27	32	FP 4"x0.75"	39.25 - 39.50	1.0000	1.0000
L28	2	Safety Line 3/8"	38.75 - 39.25	1.0000	1.0000
L28	3	Climbing Pegs	38.75 - 39.25	1.0000	1.0000
L28	26	FP 4"x1"	38.75 - 39.25	1.0000	1.0000
L28	27	FP 4"x1"	38.75 - 39.25	1.0000	1.0000
L28	29	FP 4"x1"	38.75 - 39.25	1.0000	1.0000
L28	30	FP 4"x0.75"	38.75 - 39.25	1.0000	1.0000
L28	31	FP 4"x0.75"	38.75 - 39.25	1.0000	1.0000
L28	32	FP 4"x0.75"	38.75 - 39.25	1.0000	1.0000
L29	2	Safety Line 3/8"	38.50 - 38.75	1.0000	1.0000
L29	3	Climbing Pegs	38.50 - 38.75	1.0000	1.0000
L29	26	FP 4"x1"	38.50 - 38.75	1.0000	1.0000
L29	27	FP 4"x1"	38.50 - 38.75	1.0000	1.0000
L29	29	FP 4"x1"	38.50 - 38.75	1.0000	1.0000
L29	30	FP 4"x0.75"	38.50 - 38.75	1.0000	1.0000
L29	31	FP 4"x0.75"	38.50 - 38.75	1.0000	1.0000
L29	32	FP 4"x0.75"	38.50 - 38.75	1.0000	1.0000
L30	2	Safety Line 3/8"	32.25 - 38.50	1.0000	1.0000
L30	3	Climbing Pegs	32.25 - 38.50	1.0000	1.0000
L30	26	FP 4"x1"	32.25 - 38.50	1.0000	1.0000
L30	27	FP 4"x1"	32.25 - 38.50	1.0000	1.0000
L30	29	FP 4"x1"	32.25 - 38.50	1.0000	1.0000
L30	30	FP 4"x0.75"	37.50 - 38.50	1.0000	1.0000
L30	31	FP 4"x0.75"	37.50 - 38.50	1.0000	1.0000
L30	32	FP 4"x0.75"	37.50 - 38.50	1.0000	1.0000
L31	2	Safety Line 3/8"	31.25 - 32.25	1.0000	1.0000
L31	3	Climbing Pegs	31.25 - 32.25	1.0000	1.0000
L31	26	FP 4"x1"	31.25 - 32.25	1.0000	1.0000
L31	27	FP 4"x1"	31.25 - 32.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L31	29	FP 4"x1"	31.25 - 32.25	1.0000	1.0000
L32	2	Safety Line 3/8"	26.25 - 31.25	1.0000	1.0000
L32	3	Climbing Pegs	26.25 - 31.25	1.0000	1.0000
L32	26	FP 4"x1"	26.25 - 31.25	1.0000	1.0000
L32	27	FP 4"x1"	26.25 - 31.25	1.0000	1.0000
L32	29	FP 4"x1"	26.25 - 31.25	1.0000	1.0000
L33	2	Safety Line 3/8"	21.25 - 26.25	1.0000	1.0000
L33	3	Climbing Pegs	21.25 - 26.25	1.0000	1.0000
L33	26	FP 4"x1"	21.25 - 26.25	1.0000	1.0000
L33	27	FP 4"x1"	21.25 - 26.25	1.0000	1.0000
L33	29	FP 4"x1"	21.25 - 26.25	1.0000	1.0000
L34	2	Safety Line 3/8"	16.25 - 21.25	1.0000	1.0000
L34	3	Climbing Pegs	16.25 - 21.25	1.0000	1.0000
L34	26	FP 4"x1"	16.25 - 21.25	1.0000	1.0000
L34	27	FP 4"x1"	16.25 - 21.25	1.0000	1.0000
L34	29	FP 4"x1"	16.25 - 21.25	1.0000	1.0000
L35	2	Safety Line 3/8"	11.25 - 16.25	1.0000	1.0000
L35	3	Climbing Pegs	11.25 - 16.25	1.0000	1.0000
L35	26	FP 4"x1"	11.25 - 16.25	1.0000	1.0000
L35	27	FP 4"x1"	11.25 - 16.25	1.0000	1.0000
L35	29	FP 4"x1"	11.25 - 16.25	1.0000	1.0000
L36	2	Safety Line 3/8"	10.00 - 11.25	1.0000	1.0000
L36	3	Climbing Pegs	10.00 - 11.25	1.0000	1.0000
L36	26	FP 4"x1"	10.00 - 11.25	1.0000	1.0000
L36	27	FP 4"x1"	10.00 - 11.25	1.0000	1.0000
L36	28	FP 4"x1"	10.00 - 11.25	1.0000	1.0000
L36	29	FP 4"x1"	10.00 - 11.25	1.0000	1.0000
L37	2	Safety Line 3/8"	9.75 - 10.00	1.0000	1.0000
L37	3	Climbing Pegs	9.75 - 10.00	1.0000	1.0000
L37	26	FP 4"x1"	9.75 - 10.00	1.0000	1.0000
L37	27	FP 4"x1"	9.75 - 10.00	1.0000	1.0000
L37	28	FP 4"x1"	9.75 - 10.00	1.0000	1.0000
L37	29	FP 4"x1"	9.75 - 10.00	1.0000	1.0000
L38	2	Safety Line 3/8"	7.25 - 9.75	1.0000	1.0000
L38	3	Climbing Pegs	7.25 - 9.75	1.0000	1.0000
L38	26	FP 4"x1"	7.25 - 9.75	1.0000	1.0000
L38	27	FP 4"x1"	7.25 - 9.75	1.0000	1.0000
L38	28	FP 4"x1"	7.25 - 9.75	1.0000	1.0000
L38	29	FP 4"x1"	7.25 - 9.75	1.0000	1.0000
L39	2	Safety Line 3/8"	7.00 - 7.25	1.0000	1.0000
L39	3	Climbing Pegs	7.00 - 7.25	1.0000	1.0000
L39	26	FP 4"x1"	7.00 - 7.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L39	27	FP 4"x1"	7.00 - 7.25	1.0000	1.0000
L39	28	FP 4"x1"	7.00 - 7.25	1.0000	1.0000
L39	29	FP 4"x1"	7.00 - 7.25	1.0000	1.0000
L40	2	Safety Line 3/8"	2.00 - 7.00	1.0000	1.0000
L40	3	Climbing Pegs	2.00 - 7.00	1.0000	1.0000
L40	26	FP 4"x1"	2.00 - 7.00	1.0000	1.0000
L40	27	FP 4"x1"	2.00 - 7.00	1.0000	1.0000
L40	28	FP 4"x1"	2.00 - 7.00	1.0000	1.0000
L40	29	FP 4"x1"	5.50 - 7.00	1.0000	1.0000
L41	2	Safety Line 3/8"	0.00 - 2.00	1.0000	1.0000
L41	3	Climbing Pegs	0.00 - 2.00	1.0000	1.0000
L41	26	FP 4"x1"	1.25 - 2.00	1.0000	1.0000
L41	27	FP 4"x1"	1.25 - 2.00	1.0000	1.0000
L41	28	FP 4"x1"	0.00 - 2.00	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L16	33	FP 4"x0.75"	73.42 - 74.67	Auto	0.0000
L16	34	FP 4"x0.75"	73.42 - 74.67	Auto	0.0000
L16	35	FP 4"x0.75"	73.42 - 74.67	Auto	0.0000
L17	33	FP 4"x0.75"	73.17 - 73.42	Auto	0.0000
L17	34	FP 4"x0.75"	73.17 - 73.42	Auto	0.0000
L17	35	FP 4"x0.75"	73.17 - 73.42	Auto	0.0000
L18	33	FP 4"x0.75"	68.17 - 73.17	Auto	0.0000
L18	34	FP 4"x0.75"	68.17 - 73.17	Auto	0.0000
L18	35	FP 4"x0.75"	68.17 - 73.17	Auto	0.0000
L19	33	FP 4"x0.75"	64.67 - 68.17	Auto	0.0000
L19	34	FP 4"x0.75"	64.67 - 68.17	Auto	0.0000
L19	35	FP 4"x0.75"	64.67 - 68.17	Auto	0.0000
L21	30	FP 4"x0.75"	56.25 - 57.50	Auto	0.0000
L21	31	FP 4"x0.75"	56.25 - 57.50	Auto	0.0000
L21	32	FP 4"x0.75"	56.25 - 57.50	Auto	0.0000
L22	30	FP 4"x0.75"	56.00 - 56.25	Auto	0.0000
L22	31	FP 4"x0.75"	56.00 - 56.25	Auto	0.0000
L22	32	FP 4"x0.75"	56.00 - 56.25	Auto	0.0000
L23	30	FP 4"x0.75"	51.00 - 56.00	Auto	0.0000
L23	31	FP 4"x0.75"	51.00 - 56.00	Auto	0.0000
L23	32	FP 4"x0.75"	51.00 - 56.00	Auto	0.0000
L24	30	FP 4"x0.75"	46.00 - 51.00	Auto	0.0000
L24	31	FP 4"x0.75"	46.00 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L24	32	FP 4"x0.75"	51.00 46.00 - 51.00	Auto	0.0000
L25	26	FP 4"x1"	41.00 - 41.25	Auto	0.0000
L25	27	FP 4"x1"	41.00 - 41.25	Auto	0.0000
L25	30	FP 4"x0.75"	41.00 - 46.00	Auto	0.0000
L25	31	FP 4"x0.75"	41.00 - 46.00	Auto	0.0000
L25	32	FP 4"x0.75"	41.00 - 46.00	Auto	0.0000
L26	26	FP 4"x1"	39.50 - 41.00	Auto	0.0000
L26	27	FP 4"x1"	39.50 - 41.00	Auto	0.0000
L26	29	FP 4"x1"	39.50 - 40.50	Auto	0.0000
L26	30	FP 4"x0.75"	39.50 - 41.00	Auto	0.0000
L26	31	FP 4"x0.75"	39.50 - 41.00	Auto	0.0000
L26	32	FP 4"x0.75"	39.50 - 41.00	Auto	0.0000
L27	26	FP 4"x1"	39.25 - 39.50	Auto	0.0000
L27	27	FP 4"x1"	39.25 - 39.50	Auto	0.0000
L27	29	FP 4"x1"	39.25 - 39.50	Auto	0.0000
L27	30	FP 4"x0.75"	39.25 - 39.50	Auto	0.0000
L27	31	FP 4"x0.75"	39.25 - 39.50	Auto	0.0000
L27	32	FP 4"x0.75"	39.25 - 39.50	Auto	0.0000
L28	26	FP 4"x1"	38.75 - 39.25	Auto	0.0000
L28	27	FP 4"x1"	38.75 - 39.25	Auto	0.0000
L28	29	FP 4"x1"	38.75 - 39.25	Auto	0.0000
L28	30	FP 4"x0.75"	38.75 - 39.25	Auto	0.0000
L28	31	FP 4"x0.75"	38.75 - 39.25	Auto	0.0000
L28	32	FP 4"x0.75"	38.75 - 39.25	Auto	0.0000
L29	26	FP 4"x1"	38.50 - 38.75	Auto	0.0000
L29	27	FP 4"x1"	38.50 - 38.75	Auto	0.0000
L29	29	FP 4"x1"	38.50 - 38.75	Auto	0.0000
L29	30	FP 4"x0.75"	38.50 - 38.75	Auto	0.0000
L29	31	FP 4"x0.75"	38.50 - 38.75	Auto	0.0000
L29	32	FP 4"x0.75"	38.50 - 38.75	Auto	0.0000
L30	26	FP 4"x1"	32.25 - 38.50	Auto	0.0000
L30	27	FP 4"x1"	32.25 - 38.50	Auto	0.0000
L30	29	FP 4"x1"	32.25 - 38.50	Auto	0.0000
L30	30	FP 4"x0.75"	37.50 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L30	31	FP 4"x0.75"	38.50 37.50 - 38.50	Auto	0.0000
L30	32	FP 4"x0.75"	37.50 - 38.50	Auto	0.0000
L31	26	FP 4"x1"	31.25 - 32.25	Auto	0.0000
L31	27	FP 4"x1"	31.25 - 32.25	Auto	0.0000
L31	29	FP 4"x1"	31.25 - 32.25	Auto	0.0000
L32	26	FP 4"x1"	26.25 - 31.25	Auto	0.0000
L32	27	FP 4"x1"	26.25 - 31.25	Auto	0.0000
L32	29	FP 4"x1"	26.25 - 31.25	Auto	0.0000
L33	26	FP 4"x1"	21.25 - 26.25	Auto	0.0000
L33	27	FP 4"x1"	21.25 - 26.25	Auto	0.0000
L33	29	FP 4"x1"	21.25 - 26.25	Auto	0.0000
L34	26	FP 4"x1"	16.25 - 21.25	Auto	0.0000
L34	27	FP 4"x1"	16.25 - 21.25	Auto	0.0000
L34	29	FP 4"x1"	16.25 - 21.25	Auto	0.0000
L35	26	FP 4"x1"	11.25 - 16.25	Auto	0.0000
L35	27	FP 4"x1"	11.25 - 16.25	Auto	0.0000
L35	29	FP 4"x1"	11.25 - 16.25	Auto	0.0000
L36	26	FP 4"x1"	10.00 - 11.25	Auto	0.0000
L36	27	FP 4"x1"	10.00 - 11.25	Auto	0.0000
L36	28	FP 4"x1"	10.00 - 11.25	Auto	0.0000
L36	29	FP 4"x1"	10.00 - 11.25	Auto	0.0000
L37	26	FP 4"x1"	9.75 - 10.00	Auto	0.0000
L37	27	FP 4"x1"	9.75 - 10.00	Auto	0.0000
L37	28	FP 4"x1"	9.75 - 10.00	Auto	0.0000
L37	29	FP 4"x1"	9.75 - 10.00	Auto	0.0000
L38	26	FP 4"x1"	7.25 - 9.75	Auto	0.0000
L38	27	FP 4"x1"	7.25 - 9.75	Auto	0.0000
L38	28	FP 4"x1"	7.25 - 9.75	Auto	0.0000
L38	29	FP 4"x1"	7.25 - 9.75	Auto	0.0000
L39	26	FP 4"x1"	7.00 - 7.25	Auto	0.0000
L39	27	FP 4"x1"	7.00 - 7.25	Auto	0.0000
L39	28	FP 4"x1"	7.00 - 7.25	Auto	0.0000
L39	29	FP 4"x1"	7.00 - 7.25	Auto	0.0000
L40	26	FP 4"x1"	2.00 - 7.00	Auto	0.0000
L40	27	FP 4"x1"	2.00 - 7.00	Auto	0.0000
L40	28	FP 4"x1"	2.00 - 7.00	Auto	0.0000
L40	29	FP 4"x1"	5.50 - 7.00	Auto	0.0000
L41	26	FP 4"x1"	1.25 - 2.00	Auto	0.0000
L41	27	FP 4"x1"	1.25 - 2.00	Auto	0.0000
L41	28	FP 4"x1"	0.00 - 2.00	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K

Lightning Rod 3/4" x 6'	B	From Leg	0.50 0.00 0.00	0.0000	153.00	No Ice 1/2" Ice 1" Ice	0.45 1.06 1.70	0.45 1.06 1.70	0.03 0.03 0.04
Top Hat (5')	C	None		0.0000	150.00	No Ice 1/2" Ice 1" Ice	2.92 4.33 4.69	2.92 4.33 4.69	0.33 0.37 0.42

APXVAALL24_43-U- NA20_TMO w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.18 0.31 0.45
APXVAALL24_43-U- NA20_TMO w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.18 0.31 0.45
APXVAALL24_43-U- NA20_TMO w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.18 0.31 0.45
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
RADIO 4480 B71_TMO	A	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	2.85 3.06 3.28	1.38 1.54 1.71	0.09 0.11 0.14
RADIO 4480 B71_TMO	B	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	2.85 3.06 3.28	1.38 1.54 1.71	0.09 0.11 0.14
RADIO 4480 B71_TMO	C	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	2.85 3.06 3.28	1.38 1.54 1.71	0.09 0.11 0.14
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
6' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
Side Arm Mount [SO 311- 1]	A	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	1.67 2.43 3.21	4.53 6.41 8.37	0.06 0.10 0.15
Side Arm Mount [SO 311- 1]	A	From Leg	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	1.67 2.43 3.21	4.53 6.41 8.37	0.06 0.10 0.15
Miscellaneous [NA 510-1]	C	None		0.0000	150.00	No Ice 1/2" Ice 1" Ice	6.36 8.52 10.62	6.36 8.52 10.62	0.26 0.34 0.46

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
Platform Mount [LP 1201-1_KCKR-HR-1]	C	None		0.0000	150.00	No Ice	37.61	37.61	2.63
						1/2" Ice	45.62	45.62	3.48
						1" Ice	53.59	53.59	4.46
**									
201-7	A	From Leg	4.00	0.0000	150.00	No Ice	1.09	1.09	0.00
			0.00			1/2" Ice	1.94	1.94	0.01
			4.00			1" Ice	2.80	2.80	0.03

APXV18-206517S-C w/ Mount Pipe	A	From Leg	1.00	0.0000	138.00	No Ice	3.79	3.16	0.05
			0.00			1/2" Ice	4.38	3.75	0.09
			0.00			1" Ice	4.99	4.35	0.15
APXV18-206517S-C w/ Mount Pipe	B	From Leg	1.00	0.0000	138.00	No Ice	3.79	3.16	0.05
			0.00			1/2" Ice	4.38	3.75	0.09
			0.00			1" Ice	4.99	4.35	0.15
APXV18-206517S-C w/ Mount Pipe	C	From Leg	1.00	0.0000	138.00	No Ice	3.79	3.16	0.05
			0.00			1/2" Ice	4.38	3.75	0.09
			0.00			1" Ice	4.99	4.35	0.15

GPS_A	A	From Leg	4.00	0.0000	124.00	No Ice	0.26	0.26	0.00
			0.00			1/2" Ice	0.32	0.32	0.00
			3.00			1" Ice	0.39	0.39	0.01
BXA-70080/4CF w/ Mount Pipe	A	From Leg	4.00	0.0000	124.00	No Ice	4.93	3.64	0.05
			0.00			1/2" Ice	5.46	4.14	0.09
			3.00			1" Ice	6.00	4.65	0.14
BXA-80063/4CF w/ Mount Pipe	B	From Leg	4.00	0.0000	124.00	No Ice	4.83	3.65	0.03
			0.00			1/2" Ice	5.35	4.14	0.06
			3.00			1" Ice	5.88	4.64	0.11
BXA-80063/4CF w/ Mount Pipe	C	From Leg	4.00	0.0000	124.00	No Ice	4.83	3.65	0.03
			0.00			1/2" Ice	5.35	4.14	0.06
			3.00			1" Ice	5.88	4.64	0.11
8'x2 1/2" Pipe Mount	C	From Leg	4.00	0.0000	124.00	No Ice	2.30	2.30	0.04
			0.00			1/2" Ice	3.13	3.13	0.06
			0.00			1" Ice	3.62	3.62	0.08
Platform Mount [LP 1201-1]	C	None		0.0000	124.00	No Ice	18.38	18.38	2.10
						1/2" Ice	22.11	22.11	2.65
						1" Ice	25.87	25.87	3.26

MT6413-77A w/ Mount Pipe	A	From Leg	4.00	0.0000	124.00	No Ice	4.00	2.15	0.07
			0.00			1/2" Ice	4.31	2.55	0.10
			3.00			1" Ice	4.63	2.97	0.14
MT6413-77A w/ Mount Pipe	B	From Leg	4.00	0.0000	124.00	No Ice	4.00	2.15	0.07
			0.00			1/2" Ice	4.31	2.55	0.10
			3.00			1" Ice	4.63	2.97	0.14
MT6413-77A w/ Mount Pipe	C	From Leg	4.00	0.0000	124.00	No Ice	4.00	2.15	0.07
			0.00			1/2" Ice	4.31	2.55	0.10
			3.00			1" Ice	4.63	2.97	0.14
(2) MX06FHG865-HG	A	From Leg	4.00	0.0000	124.00	No Ice	4.09	2.52	0.08
			0.00			1/2" Ice	4.47	2.88	0.14
			3.00			1" Ice	4.86	3.25	0.22
(2) MX06FHG865-HG	B	From Leg	4.00	0.0000	124.00	No Ice	4.09	2.52	0.08
			0.00			1/2" Ice	4.47	2.88	0.14
			3.00			1" Ice	4.86	3.25	0.22
(2) MX06FHG865-HG	C	From Leg	4.00	0.0000	124.00	No Ice	4.09	2.52	0.08
			0.00			1/2" Ice	4.47	2.88	0.14
			3.00			1" Ice	4.86	3.25	0.22
RVZDC-6627-PF-48	A	From Leg	2.00	0.0000	124.00	No Ice	3.79	2.51	0.03
			0.00			1/2" Ice	4.04	2.73	0.06
			3.00			1" Ice	4.30	2.95	0.10
(2) RF4461D-13A	A	From Leg	4.00	0.0000	124.00	No Ice	1.87	1.28	0.08
			0.00			1/2" Ice	2.03	1.42	0.10
			3.00			1" Ice	2.21	1.57	0.12
RF4461D-13A	B	From Leg	4.00	0.0000	124.00	No Ice	1.87	1.28	0.08
			0.00			1/2" Ice	2.03	1.42	0.10
			3.00			1" Ice	2.21	1.57	0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
(2) RF4439D-25A	A	From Leg	4.00 0.00 3.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
RF4439D-25A	B	From Leg	4.00 0.00 3.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
BSF0020F3V1	C	From Leg	4.00 0.00 3.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	0.96 1.09 1.22	0.29 0.36 0.45	0.02 0.02 0.03
V-Bracing Kit [#VZWSMART-PLK6]	A	From Leg	2.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	6.32 7.79 9.36	4.85 6.36 7.94	0.11 0.14 0.17
V-Bracing Kit [#VZWSMART-PLK6]	B	From Leg	2.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	6.32 7.79 9.36	4.85 6.36 7.94	0.11 0.14 0.17
V-Bracing Kit [#VZWSMART-PLK6]	C	From Leg	2.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	6.32 7.79 9.36	4.85 6.36 7.94	0.11 0.14 0.17
8' Mount Pipe [#P2.5STD, Sch. 40]	A	From Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	2.30 3.13 3.62	2.30 3.13 3.62	0.04 0.06 0.08
8' Mount Pipe [#P2.5STD, Sch. 40]	B	From Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	2.30 3.13 3.62	2.30 3.13 3.62	0.04 0.06 0.08
8' Mount Pipe [#P2.5STD, Sch. 40]	C	From Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	2.30 3.13 3.62	2.30 3.13 3.62	0.04 0.06 0.08
4' Mount Pipe [#P2STD, Sch. 40]	A	From Leg	2.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	0.79 1.03 1.28	0.79 1.03 1.28	0.03 0.04 0.04
Support Rail Kit [#VZWSMART-PLK1]	C	None		0.0000	124.00	No Ice 1/2" Ice 1" Ice	6.36 8.52 10.62	6.36 8.52 10.62	0.50 0.66 0.81
Kicker Kit [#VZWSMART- PLK5]	C	None		0.0000	124.00	No Ice 1/2" Ice 1" Ice	11.84 16.96 22.08	11.84 16.96 22.08	0.29 0.38 0.47
(2) Collar Mount Kit [#VZWSMART-PLK7]	C	None		0.0000	124.00	No Ice 1/2" Ice 1" Ice	3.60 4.18 4.75	3.60 4.18 4.75	0.15 0.20 0.24

7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice 1" Ice	3.39 3.75 4.12	2.32 2.66 3.02	0.06 0.10 0.15
7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice 1" Ice	3.39 3.75 4.12	2.32 2.66 3.02	0.06 0.10 0.15
7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice 1" Ice	3.39 3.75 4.12	2.32 2.66 3.02	0.06 0.10 0.15
OPA65R-BU6D w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	102.00	No Ice 1/2" Ice 1" Ice	12.25 13.00 13.76	6.05 6.71 7.39	0.09 0.18 0.27
OPA65R-BU6D w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	102.00	No Ice 1/2" Ice 1" Ice	12.25 13.00 13.76	6.05 6.71 7.39	0.09 0.18 0.27
OPA65R-BU6D w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	102.00	No Ice 1/2" Ice 1" Ice	12.25 13.00 13.76	6.05 6.71 7.39	0.09 0.18 0.27
DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	102.00	No Ice 1/2" Ice 1" Ice	11.96 12.70 13.46	5.97 6.63 7.30	0.11 0.20 0.30
DMP65R-BU6D w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	102.00	No Ice 1/2" Ice 1" Ice	11.96 12.70 13.46	5.97 6.63 7.30	0.11 0.20 0.30
DMP65R-BU6D w/ Mount	C	From Leg	4.00	0.0000	102.00	No Ice	11.96	5.97	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
Pipe			0.00			1/2" Ice	12.70	6.63	0.20
			2.00			1" Ice	13.46	7.30	0.30
LGP12104	A	From Leg	4.00	0.0000	102.00	No Ice	0.44	0.02	0.00
			0.00			1/2" Ice	0.57	0.05	0.01
			2.00			1" Ice	0.70	0.08	0.01
LGP12104	B	From Leg	4.00	0.0000	102.00	No Ice	0.44	0.02	0.00
			0.00			1/2" Ice	0.57	0.05	0.01
			2.00			1" Ice	0.70	0.08	0.01
LGP12104	C	From Leg	4.00	0.0000	102.00	No Ice	0.44	0.02	0.00
			0.00			1/2" Ice	0.57	0.05	0.01
			2.00			1" Ice	0.70	0.08	0.01
DC6-48-60-18-8F	A	From Leg	4.00	0.0000	102.00	No Ice	0.92	0.92	0.02
			0.00			1/2" Ice	1.46	1.46	0.04
			2.00			1" Ice	1.64	1.64	0.06
DC6-48-60-18-8F	B	From Leg	4.00	0.0000	102.00	No Ice	0.92	0.92	0.02
			0.00			1/2" Ice	1.46	1.46	0.04
			2.00			1" Ice	1.64	1.64	0.06
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	102.00	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			2.00			1" Ice	2.33	1.73	0.11
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	102.00	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			2.00			1" Ice	2.33	1.73	0.11
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	102.00	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			2.00			1" Ice	2.33	1.73	0.11
RRUS 8843 B2/B66A	A	From Leg	4.00	0.0000	102.00	No Ice	1.64	1.35	0.07
			0.00			1/2" Ice	1.80	1.50	0.09
			2.00			1" Ice	1.97	1.65	0.11
RRUS 8843 B2/B66A	B	From Leg	4.00	0.0000	102.00	No Ice	1.64	1.35	0.07
			0.00			1/2" Ice	1.80	1.50	0.09
			2.00			1" Ice	1.97	1.65	0.11
RRUS 8843 B2/B66A	C	From Leg	4.00	0.0000	102.00	No Ice	1.64	1.35	0.07
			0.00			1/2" Ice	1.80	1.50	0.09
			2.00			1" Ice	1.97	1.65	0.11
4' x 2" Horizontal Face Mount Pipe	A	From Face	2.00	0.0000	102.00	No Ice	0.87	0.01	0.01
			0.00			1/2" Ice	1.11	0.05	0.02
			0.00			1" Ice	1.37	0.10	0.03
4' x 2" Horizontal Face Mount Pipe	B	From Face	2.00	0.0000	102.00	No Ice	0.87	0.01	0.01
			0.00			1/2" Ice	1.11	0.05	0.02
			0.00			1" Ice	1.37	0.10	0.03
4' x 2" Horizontal Face Mount Pipe	C	From Face	2.00	0.0000	102.00	No Ice	0.87	0.01	0.01
			0.00			1/2" Ice	1.11	0.05	0.02
			0.00			1" Ice	1.37	0.10	0.03
7'X2" Horizontal Pipe	A	From Face	2.00	0.0000	102.00	No Ice	1.33	0.01	0.02
			0.00			1/2" Ice	2.05	0.04	0.29
			0.00			1" Ice	2.64	0.09	0.04
7'X2" Horizontal Pipe	B	From Face	2.00	0.0000	102.00	No Ice	1.33	0.01	0.02
			0.00			1/2" Ice	2.05	0.04	0.29
			0.00			1" Ice	2.64	0.09	0.04
7'X2" Horizontal Pipe	C	From Face	2.00	0.0000	102.00	No Ice	1.33	0.01	0.02
			0.00			1/2" Ice	2.05	0.04	0.29
			0.00			1" Ice	2.64	0.09	0.04
Platform Mount [LP 1201- 1_KCKR-HR-1]	C	None		0.0000	102.00	No Ice	37.61	37.61	2.63
						1/2" Ice	45.62	45.62	3.48
						1" Ice	53.59	53.59	4.46

KS24019-L112A	A	From Leg	3.00	0.0000	82.00	No Ice	0.14	0.14	0.01
			0.00			1/2" Ice	0.20	0.20	0.01
			1.00			1" Ice	0.26	0.26	0.01
Side Arm Mount [SO 701- 1]	A	From Leg	1.50	0.0000	82.00	No Ice	0.85	1.67	0.07
			0.00			1/2" Ice	1.14	2.34	0.08
			0.00			1" Ice	1.43	3.01	0.09

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
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	150 - 145	Pole	Max Tension	26	0.00	0.00	-0.00
			Max. Compression	26	-10.31	-0.09	1.72
			Max. Mx	8	-5.92	-26.59	0.59
			Max. My	2	-5.95	-0.05	26.23
			Max. Vy	8	5.37	-26.59	0.59
			Max. Vx	2	-5.16	-0.05	26.23
			Max. Torque	8			1.85
L2	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L3	140 - 135	Pole	Max. Compression	26	-10.92	-0.13	1.77
			Max. Mx	8	-6.33	-54.44	0.62
			Max. My	2	-6.35	-0.07	53.03
			Max. Vy	8	5.77	-54.44	0.62
			Max. Vx	2	-5.56	-0.07	53.03
			Max. Torque	8			1.85
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.02	-0.16	1.82
			Max. Mx	8	-6.93	-85.36	0.65
			Max. My	2	-6.96	-0.08	82.89
L4	135 - 130	Pole	Max. Vy	8	6.52	-85.36	0.65
			Max. Vx	2	-6.31	-0.08	82.89
			Max. Torque	8			1.85
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.70	-0.20	1.87
			Max. Mx	8	-7.40	-119.04	0.68
			Max. My	2	-7.43	-0.09	115.51
			Max. Vy	8	6.95	-119.04	0.68
			Max. Vx	2	-6.74	-0.09	115.51
			Max. Torque	8			1.85
L5	130 - 125	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-13.39	-0.24	1.93
			Max. Mx	8	-7.89	-154.85	0.70
			Max. My	2	-7.91	-0.11	150.26
			Max. Vy	8	7.38	-154.85	0.70
			Max. Vx	2	-7.17	-0.11	150.26
			Max. Torque	8			1.85
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.92	-0.89	4.39
			Max. Mx	8	-14.12	-216.29	2.20
L6	125 - 120	Pole	Max. My	2	-14.14	-0.55	212.32
			Max. Vy	8	12.34	-216.29	2.20
			Max. Vx	2	-12.21	-0.55	212.32
			Max. Torque	8			1.85
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.92	-0.89	4.39
			Max. Mx	8	-14.12	-216.29	2.20
			Max. My	2	-14.14	-0.55	212.32
			Max. Vy	8	12.34	-216.29	2.20
			Max. Vx	2	-12.21	-0.55	212.32
L7	120 - 115	Pole	Max. Torque	20			-2.71
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.75	-0.94	4.46
			Max. Mx	8	-14.76	-279.04	2.21
			Max. My	2	-14.78	-0.54	274.42
			Max. Vy	8	12.77	-279.04	2.21
			Max. Vx	2	-12.64	-0.54	274.42
			Max. Torque	20			-2.71
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-25.61	-0.99	4.53
L8	115 - 110	Pole	Max. Mx	8	-15.43	-343.92	2.21
			Max. My	2	-15.45	-0.52	338.65
			Max. Vy	8	13.19	-343.92	2.21
			Max. Vx	2	-13.06	-0.52	338.65
			Max. Torque	20			-2.71
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.27	-1.02	4.58
			Max. Mx	8	-15.95	-393.98	2.21
			Max. My	2	-15.97	-0.50	388.22
			Max. Vy	8	13.51	-393.98	2.21
L9	110 - 102.5	Pole	Max. Vx	2	-13.38	-0.50	388.22
			Max. Torque	20			-2.71
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.27	-1.02	4.58
			Max. Mx	8	-15.95	-393.98	2.21
			Max. My	2	-15.97	-0.50	388.22
			Max. Vy	8	13.51	-393.98	2.21
			Max. Vx	2	-13.38	-0.50	388.22
			Max. Torque	20			-2.71
			Max Tension	1	0.00	0.00	0.00
L10	102.5 - 101.25	Pole	Max. Compression	26	-36.13	-1.34	4.80
			Max. Mx	8	-21.62	-469.58	2.27
			Max. My	2	-21.64	-0.59	463.12
			Max. Vy	8	17.90	-469.58	2.27
			Max. Vx	2	-17.77	-0.59	463.12
			Max. Torque	20			-2.77
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.22	-1.39	4.88
			Max. Mx	8	-22.54	-560.10	2.27
			Max. My	2	-22.56	-0.57	552.97
L11	101.25 - 96.25	Pole	Max. Vy	8	18.32	-560.10	2.27
			Max. Vx	8			
			Max. Torque	8			
			Max Tension	1			

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L12	96.25 - 91.25	Pole	Max. Vx	2	-18.19	-0.57	552.97
			Max. Torque	20			-2.77
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.34	-1.44	4.95
			Max. Mx	8	-23.49	-652.69	2.27
			Max. My	2	-23.51	-0.55	644.90
			Max. Vy	8	18.73	-652.69	2.27
L13	91.25 - 86.25	Pole	Max. Vx	2	-18.60	-0.55	644.90
			Max. Torque	20			-2.77
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.47	-1.49	5.02
			Max. Mx	8	-24.46	-747.33	2.27
			Max. My	2	-24.48	-0.54	738.87
			Max. Vy	8	19.14	-747.33	2.27
L14	86.25 - 81.25	Pole	Max. Vx	2	-19.01	-0.54	738.87
			Max. Torque	20			-2.77
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.75	-1.54	5.43
			Max. Mx	8	-25.54	-844.03	2.51
			Max. My	2	-25.56	-0.52	835.14
			Max. Vy	8	19.60	-844.03	2.51
L15	81.25 - 76.25	Pole	Max. Vx	2	-19.44	-0.52	835.14
			Max. Torque	20			-2.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.93	-1.59	5.49
			Max. Mx	8	-26.57	-942.98	2.50
			Max. My	2	-26.59	-0.50	933.30
			Max. Vy	8	19.99	-942.98	2.50
L16	76.25 - 73.4167	Pole	Max. Vx	2	-19.84	-0.50	933.30
			Max. Torque	20			-2.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.63	-1.61	5.53
			Max. Mx	8	-27.16	-999.90	2.50
			Max. My	2	-27.18	-0.49	989.78
			Max. Vy	8	20.22	-999.90	2.50
L17	73.4167 - 73.1667	Pole	Max. Vx	2	-20.06	-0.49	989.78
			Max. Torque	20			-2.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.70	-1.62	5.53
			Max. Mx	8	-27.23	-1004.96	2.50
			Max. My	2	-27.25	-0.49	994.79
			Max. Vy	8	20.22	-1004.96	2.50
L18	73.1667 - 68.1667	Pole	Max. Vx	2	-20.07	-0.49	994.79
			Max. Torque	20			-2.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.17	-1.66	5.59
			Max. Mx	8	-28.45	-1107.10	2.49
			Max. My	2	-28.47	-0.48	1096.14
			Max. Vy	8	20.64	-1107.10	2.49
L19	68.1667 - 62	Pole	Max. Vx	2	-20.49	-0.48	1096.14
			Max. Torque	20			-2.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.58	-1.68	5.60
			Max. Mx	8	-28.80	-1136.41	2.48
			Max. My	2	-28.82	-0.47	1125.23
			Max. Vy	8	20.76	-1136.41	2.48
L20	62 - 61	Pole	Max. Vx	2	-20.60	-0.47	1125.23
			Max. Torque	20			-2.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.29	-1.73	5.66
			Max. Mx	8	-31.04	-1257.33	2.47
			Max. My	2	-31.06	-0.45	1245.24

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L21	61 - 56.25	Pole	Max. Vy	8	21.30	-1257.33	2.47
			Max. Vx	2	-21.14	-0.45	1245.24
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.63	-1.78	5.71
			Max. Mx	8	-32.22	-1359.28	2.46
			Max. My	2	-32.24	-0.44	1346.45
			Max. Vy	8	21.65	-1359.28	2.46
L22	56.25 - 56	Pole	Max. Vx	2	-21.49	-0.44	1346.45
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.72	-1.78	5.72
			Max. Mx	8	-32.30	-1364.69	2.46
			Max. My	2	-32.32	-0.43	1351.82
			Max. Vy	8	21.66	-1364.69	2.46
			Max. Vx	2	-21.51	-0.43	1351.82
L23	56 - 51	Pole	Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.39	-1.83	5.76
			Max. Mx	8	-33.74	-1473.93	2.44
			Max. My	2	-33.75	-0.42	1460.28
			Max. Vy	8	22.05	-1473.93	2.44
			Max. Vx	2	-21.89	-0.42	1460.28
			Max. Torque	20			-2.94
L24	51 - 46	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.09	-1.87	5.79
			Max. Mx	8	-35.20	-1585.04	2.43
			Max. My	2	-35.21	-0.40	1570.61
			Max. Vy	8	22.42	-1585.04	2.43
			Max. Vx	2	-22.26	-0.40	1570.61
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
L25	46 - 41	Pole	Max. Compression	26	-53.81	-1.91	5.81
			Max. Mx	8	-36.69	-1697.97	2.41
			Max. My	2	-36.70	-0.39	1682.76
			Max. Vy	8	22.77	-1697.97	2.41
			Max. Vx	2	-22.62	-0.39	1682.76
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.45	-1.92	5.82
L26	41 - 39.5	Pole	Max. Mx	8	-37.14	-1732.19	2.41
			Max. My	2	-37.14	-0.38	1716.75
			Max. Vy	8	22.88	-1732.19	2.41
			Max. Vx	2	-22.73	-0.38	1716.75
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.45	-1.92	5.82
			Max. Mx	8	-37.23	-1737.90	2.41
L27	39.5 - 39.25	Pole	Max. My	2	-37.24	-0.38	1722.43
			Max. Vy	8	22.88	-1737.90	2.41
			Max. Vx	2	-22.74	-0.38	1722.43
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.45	-1.92	5.82
			Max. Mx	8	-37.23	-1737.90	2.41
			Max. My	2	-37.24	-0.38	1722.43
L28	39.25 - 38.75	Pole	Max. Vy	8	22.92	-1749.35	2.40
			Max. Vx	2	-22.77	-0.38	1733.80
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.74	-1.93	5.82
			Max. Mx	8	-37.48	-1755.09	2.40
			Max. My	2	-37.48	-0.38	1739.50
			Max. Vy	8	22.94	-1755.09	2.40
L29	38.75 - 38.5	Pole	Max. Vx	2	-22.79	-0.38	1739.50
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.74	-1.93	5.82
			Max. Mx	8	-37.48	-1755.09	2.40
			Max. My	2	-37.48	-0.38	1739.50
			Max. Vy	8	22.94	-1755.09	2.40
			Max. Vx	2	-22.79	-0.38	1739.50
L30	38.5 - 32.25	Pole	Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.10	-1.94	5.82

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L31	32.25 - 31.25	Pole	Max. Mx	8	-37.78	-1778.06	2.40
			Max. My	2	-37.79	-0.38	1762.31
			Max. Vy	8	23.01	-1778.06	2.40
			Max. Vx	2	-22.86	-0.38	1762.31
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.11	-2.00	5.84
			Max. Mx	8	-41.22	-1923.53	2.38
			Max. My	2	-41.23	-0.36	1906.82
			Max. Vy	8	23.54	-1923.53	2.38
L32	31.25 - 26.25	Pole	Max. Vx	2	-23.39	-0.36	1906.82
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.11	-2.05	5.86
			Max. Mx	8	-42.98	-2041.95	2.36
			Max. My	2	-42.99	-0.34	2024.48
			Max. Vy	8	23.85	-2041.95	2.36
			Max. Vx	2	-23.70	-0.34	2024.48
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
L33	26.25 - 21.25	Pole	Max. Compression	26	-63.12	-2.10	5.88
			Max. Mx	8	-44.77	-2161.95	2.34
			Max. My	2	-44.77	-0.33	2143.72
			Max. Vy	8	24.17	-2161.95	2.34
			Max. Vx	2	-24.02	-0.33	2143.72
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.16	-2.16	5.89
			Max. Mx	8	-46.58	-2283.52	2.32
			Max. My	2	-46.59	-0.31	2264.53
L34	21.25 - 16.25	Pole	Max. Vy	8	24.48	-2283.52	2.32
			Max. Vx	2	-24.33	-0.31	2264.53
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.21	-2.21	5.91
			Max. Mx	8	-48.43	-2406.64	2.30
			Max. My	2	-48.43	-0.30	2386.90
			Max. Vy	8	24.79	-2406.64	2.30
			Max. Vx	2	-24.64	-0.30	2386.90
			Max. Torque	20			-2.94
L35	16.25 - 11.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.74	-2.22	5.91
			Max. Mx	8	-48.89	-2437.66	2.29
			Max. My	2	-48.89	-0.29	2417.73
			Max. Vy	8	24.87	-2437.66	2.29
			Max. Vx	2	-24.72	-0.29	2417.73
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.84	-2.23	5.91
			Max. Mx	8	-48.99	-2443.87	2.29
L36	11.25 - 10	Pole	Max. My	2	-48.99	-0.29	2423.91
			Max. Vy	8	24.87	-2443.87	2.29
			Max. Vx	2	-24.72	-0.29	2423.91
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.84	-2.26	5.89
			Max. Mx	8	-49.88	-2506.22	2.28
			Max. My	2	-49.88	-0.28	2485.89
			Max. Vy	8	25.03	-2506.22	2.28
			Max. Vx	2	-24.88	-0.28	2485.89
L37	10 - 9.75	Pole	Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.94	-2.26	5.89
			Max. Mx	8	-49.98	-2512.48	2.28
			Max. My	8			
			Max. Vy	8			
			Max. Vx	8			
			Max. Torque	20			
			Max Tension	1			
			Max. Compression	26			
L38	9.75 - 7.25	Pole	Max. Mx	8			
			Max. My	8			
			Max. Vy	8			
			Max. Vx	8			
			Max. Torque	20			
			Max Tension	1			
			Max. Compression	26			
			Max. Mx	8			
			Max. My	8			
			Max. Vy	8			
L39	7.25 - 7	Pole	Max. Vx	8			
			Max. Torque	20			
			Max Tension	1			
			Max. Compression	26			
			Max. Mx	8			
			Max. My	8			
			Max. Vy	8			
			Max. Vx	8			
			Max. Torque	20			
			Max Tension	1			

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L40	7 - 2	Pole	Max. My	2	-49.98	-0.28	2492.10
			Max. Vy	8	25.03	-2512.48	2.28
			Max. Vx	2	-24.88	-0.28	2492.10
			Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.94	-2.30	5.88
			Max. Mx	8	-51.79	-2638.36	2.25
			Max. My	2	-51.79	-0.27	2617.24
			Max. Vy	8	25.34	-2638.36	2.25
			Max. Vx	2	-25.19	-0.27	2617.24
L41	2 - 0	Pole	Max. Torque	20			-2.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.73	-2.31	5.88
			Max. Mx	8	-52.52	-2689.13	2.24
			Max. My	2	-52.52	-0.26	2667.72
			Max. Vy	8	25.46	-2689.13	2.24
			Max. Vx	2	-25.31	-0.26	2667.72
			Max. Torque	20			-2.94

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	71.73	-0.00	0.00
	Max. H _x	21	39.40	25.44	0.01
	Max. H _z	2	52.53	0.01	25.29
	Max. M _x	2	2667.72	0.01	25.29
	Max. M _z	8	2689.13	-25.44	-0.01
	Max. Torsion	8	2.94	-25.44	-0.01
	Min. Vert	17	39.40	12.71	-21.90
	Min. H _x	9	39.40	-25.44	-0.01
	Min. H _z	14	52.53	-0.01	-25.29
	Min. M _x	14	-2661.32	-0.01	-25.29
	Min. M _z	20	-2686.74	25.44	0.01
	Min. Torsion	20	-2.94	25.44	0.01

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	43.78	0.00	-0.00	-2.54	-0.95	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	52.53	-0.01	-25.29	-2667.72	-0.26	0.17
0.9 Dead+1.0 Wind 0 deg - No Ice	39.40	-0.01	-25.29	-2627.31	0.04	0.16
1.2 Dead+1.0 Wind 30 deg - No Ice	52.53	12.71	-21.90	-2310.25	-1344.40	-1.33
0.9 Dead+1.0 Wind 30 deg - No Ice	39.40	12.71	-21.90	-2275.15	-1324.10	-1.31
1.2 Dead+1.0 Wind 60 deg - No Ice	52.53	22.03	-12.64	-1334.61	-2328.58	-2.47
0.9 Dead+1.0 Wind 60 deg - No Ice	39.40	22.03	-12.64	-1313.99	-2293.64	-2.43
1.2 Dead+1.0 Wind 90 deg - No Ice	52.53	25.44	0.01	-2.24	-2689.13	-2.94
0.9 Dead+1.0 Wind 90 deg - No Ice	39.40	25.44	0.01	-1.40	-2648.83	-2.89
1.2 Dead+1.0 Wind 120 deg - No Ice	52.53	22.03	12.65	1329.86	-2329.48	-2.62

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
0.9 Dead+1.0 Wind 120 deg	39.40	22.03	12.65	1310.93	-2294.54	-2.57
- No Ice						
1.2 Dead+1.0 Wind 150 deg	52.53	12.73	21.91	2304.80	-1345.99	-1.61
- No Ice						
0.9 Dead+1.0 Wind 150 deg	39.40	12.73	21.91	2271.41	-1325.67	-1.57
- No Ice						
1.2 Dead+1.0 Wind 180 deg	52.53	0.01	25.29	2661.32	-2.13	-0.18
- No Ice						
0.9 Dead+1.0 Wind 180 deg	39.40	0.01	25.29	2622.64	-1.79	-0.16
- No Ice						
1.2 Dead+1.0 Wind 210 deg	52.53	-12.71	21.90	2303.87	1341.99	1.31
- No Ice						
0.9 Dead+1.0 Wind 210 deg	39.40	-12.71	21.90	2270.50	1322.33	1.29
- No Ice						
1.2 Dead+1.0 Wind 240 deg	52.53	-22.03	12.64	1328.25	2326.17	2.45
- No Ice						
0.9 Dead+1.0 Wind 240 deg	39.40	-22.03	12.64	1309.35	2291.88	2.41
- No Ice						
1.2 Dead+1.0 Wind 270 deg	52.53	-25.44	-0.01	-4.11	2686.74	2.94
- No Ice						
0.9 Dead+1.0 Wind 270 deg	39.40	-25.44	-0.01	-3.23	2647.09	2.89
- No Ice						
1.2 Dead+1.0 Wind 300 deg	52.53	-22.03	-12.65	-1336.22	2327.12	2.64
- No Ice						
0.9 Dead+1.0 Wind 300 deg	39.40	-22.03	-12.65	-1315.58	2292.81	2.59
- No Ice						
1.2 Dead+1.0 Wind 330 deg	52.53	-12.73	-21.91	-2311.18	1343.62	1.63
- No Ice						
0.9 Dead+1.0 Wind 330 deg	39.40	-12.73	-21.91	-2276.07	1323.93	1.60
- No Ice						
1.2 Dead+1.0 Ice+1.0 Temp	71.73	0.00	-0.00	-5.88	-2.31	-0.00
1.2 Dead+1.0 Wind 0	71.73	-0.00	-5.99	-662.56	-2.18	0.04
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 30	71.73	3.02	-5.18	-574.51	-335.16	-0.42
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 60	71.73	5.23	-2.99	-334.13	-578.96	-0.78
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 90	71.73	6.04	0.00	-5.83	-668.26	-0.92
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 120	71.73	5.23	2.99	322.42	-579.13	-0.82
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 150	71.73	3.02	5.18	562.67	-335.46	-0.50
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 180	71.73	0.00	5.99	650.55	-2.53	-0.04
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210	71.73	-3.02	5.18	562.50	330.44	0.42
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240	71.73	-5.23	2.99	322.12	574.24	0.78
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	71.73	-6.04	-0.00	-6.18	663.54	0.92
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	71.73	-5.23	-2.99	-334.43	574.42	0.82
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	71.73	-3.02	-5.18	-574.68	330.75	0.50
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	43.78	-0.00	-6.06	-635.50	-0.76	0.05
Dead+Wind 30 deg - Service	43.78	3.05	-5.25	-550.60	-320.01	-0.31
Dead+Wind 60 deg - Service	43.78	5.28	-3.03	-318.87	-553.77	-0.59
Dead+Wind 90 deg - Service	43.78	6.10	0.00	-2.41	-639.41	-0.70
Dead+Wind 120 deg - Service	43.78	5.28	3.03	314.00	-553.99	-0.63
Dead+Wind 150 deg - Service	43.78	3.05	5.25	545.56	-320.39	-0.39
Dead+Wind 180 deg - Service	43.78	0.00	6.06	630.24	-1.20	-0.05
Dead+Wind 210 deg - Service	43.78	-3.05	5.25	545.34	318.04	0.31
Dead+Wind 240 deg - Service	43.78	-5.28	3.03	313.61	551.80	0.59

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+Wind 270 deg - Service	43.78	-6.10	-0.00	-2.85	637.45	0.70
Dead+Wind 300 deg - Service	43.78	-5.28	-3.03	-319.25	552.03	0.63
Dead+Wind 330 deg - Service	43.78	-3.05	-5.25	-550.82	318.43	0.39

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-43.78	0.00	-0.00	43.78	0.00	0.000%
2	-0.01	-52.53	-25.29	0.01	52.53	25.29	0.000%
3	-0.01	-39.40	-25.29	0.01	39.40	25.29	0.000%
4	12.71	-52.53	-21.90	-12.71	52.53	21.90	0.000%
5	12.71	-39.40	-21.90	-12.71	39.40	21.90	0.000%
6	22.03	-52.53	-12.64	-22.03	52.53	12.64	0.000%
7	22.03	-39.40	-12.64	-22.03	39.40	12.64	0.000%
8	25.44	-52.53	0.01	-25.44	52.53	-0.01	0.000%
9	25.44	-39.40	0.01	-25.44	39.40	-0.01	0.000%
10	22.03	-52.53	12.65	-22.03	52.53	-12.65	0.000%
11	22.03	-39.40	12.65	-22.03	39.40	-12.65	0.000%
12	12.73	-52.53	21.91	-12.73	52.53	-21.91	0.000%
13	12.73	-39.40	21.91	-12.73	39.40	-21.91	0.000%
14	0.01	-52.53	25.29	-0.01	52.53	-25.29	0.000%
15	0.01	-39.40	25.29	-0.01	39.40	-25.29	0.000%
16	-12.71	-52.53	21.90	12.71	52.53	-21.90	0.000%
17	-12.71	-39.40	21.90	12.71	39.40	-21.90	0.000%
18	-22.03	-52.53	12.64	22.03	52.53	-12.64	0.000%
19	-22.03	-39.40	12.64	22.03	39.40	-12.64	0.000%
20	-25.44	-52.53	-0.01	25.44	52.53	0.01	0.000%
21	-25.44	-39.40	-0.01	25.44	39.40	0.01	0.000%
22	-22.03	-52.53	-12.65	22.03	52.53	12.65	0.000%
23	-22.03	-39.40	-12.65	22.03	39.40	12.65	0.000%
24	-12.73	-52.53	-21.91	12.73	52.53	21.91	0.000%
25	-12.73	-39.40	-21.91	12.73	39.40	21.91	0.000%
26	0.00	-71.73	0.00	-0.00	71.73	0.00	0.000%
27	-0.00	-71.73	-5.99	0.00	71.73	5.99	0.000%
28	3.02	-71.73	-5.18	-3.02	71.73	5.18	0.000%
29	5.23	-71.73	-2.99	-5.23	71.73	2.99	0.000%
30	6.04	-71.73	0.00	-6.04	71.73	-0.00	0.000%
31	5.23	-71.73	2.99	-5.23	71.73	-2.99	0.000%
32	3.02	-71.73	5.18	-3.02	71.73	-5.18	0.000%
33	0.00	-71.73	5.99	-0.00	71.73	-5.99	0.000%
34	-3.02	-71.73	5.18	3.02	71.73	-5.18	0.000%
35	-5.23	-71.73	2.99	5.23	71.73	-2.99	0.000%
36	-6.04	-71.73	-0.00	6.04	71.73	0.00	0.000%
37	-5.23	-71.73	-2.99	5.23	71.73	2.99	0.000%
38	-3.02	-71.73	-5.18	3.02	71.73	5.18	0.000%
39	-0.00	-43.78	-6.06	0.00	43.78	6.06	0.000%
40	3.05	-43.78	-5.25	-3.05	43.78	5.25	0.000%
41	5.28	-43.78	-3.03	-5.28	43.78	3.03	0.000%
42	6.10	-43.78	0.00	-6.10	43.78	-0.00	0.000%
43	5.28	-43.78	3.03	-5.28	43.78	-3.03	0.000%
44	3.05	-43.78	5.25	-3.05	43.78	-5.25	0.000%
45	0.00	-43.78	6.06	-0.00	43.78	-6.06	0.000%
46	-3.05	-43.78	5.25	3.05	43.78	-5.25	0.000%
47	-5.28	-43.78	3.03	5.28	43.78	-3.03	0.000%
48	-6.10	-43.78	-0.00	6.10	43.78	0.00	0.000%
49	-5.28	-43.78	-3.03	5.28	43.78	3.03	0.000%
50	-3.05	-43.78	-5.25	3.05	43.78	5.25	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000865
2	Yes	5	0.00000001	0.00041323
3	Yes	5	0.00000001	0.00015898
4	Yes	7	0.00000001	0.00007328
5	Yes	6	0.00000001	0.00035555
6	Yes	7	0.00000001	0.00008030
7	Yes	6	0.00000001	0.00039061
8	Yes	6	0.00000001	0.00013392
9	Yes	5	0.00000001	0.00088707
10	Yes	6	0.00000001	0.00098339
11	Yes	6	0.00000001	0.00034537
12	Yes	7	0.00000001	0.00007770
13	Yes	6	0.00000001	0.00037847
14	Yes	5	0.00000001	0.00041859
15	Yes	5	0.00000001	0.00016265
16	Yes	7	0.00000001	0.00007687
17	Yes	6	0.00000001	0.00037471
18	Yes	6	0.00000001	0.00098197
19	Yes	6	0.00000001	0.00034519
20	Yes	6	0.00000001	0.00013568
21	Yes	5	0.00000001	0.00089906
22	Yes	7	0.00000001	0.00008055
23	Yes	6	0.00000001	0.00039204
24	Yes	7	0.00000001	0.00007280
25	Yes	6	0.00000001	0.00035346
26	Yes	4	0.00000001	0.00084852
27	Yes	6	0.00000001	0.00061404
28	Yes	6	0.00000001	0.00067700
29	Yes	6	0.00000001	0.00068501
30	Yes	6	0.00000001	0.00061889
31	Yes	6	0.00000001	0.00066221
32	Yes	6	0.00000001	0.00065716
33	Yes	6	0.00000001	0.00059060
34	Yes	6	0.00000001	0.00065096
35	Yes	6	0.00000001	0.00065506
36	Yes	6	0.00000001	0.00061204
37	Yes	6	0.00000001	0.00067873
38	Yes	6	0.00000001	0.00067183
39	Yes	5	0.00000001	0.00007234
40	Yes	5	0.00000001	0.00022003
41	Yes	5	0.00000001	0.00026916
42	Yes	5	0.00000001	0.00011539
43	Yes	5	0.00000001	0.00020818
44	Yes	5	0.00000001	0.00024683
45	Yes	5	0.00000001	0.00007110
46	Yes	5	0.00000001	0.00023979
47	Yes	5	0.00000001	0.00020672
48	Yes	5	0.00000001	0.00011500
49	Yes	5	0.00000001	0.00027039
50	Yes	5	0.00000001	0.00021616

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 145	21.591	41	1.2451	0.0081
L2	145 - 140	20.289	41	1.2407	0.0074
L3	140 - 135	18.995	41	1.2297	0.0067
L4	135 - 130	17.716	41	1.2130	0.0062
L5	130 - 125	16.457	41	1.1911	0.0057
L6	125 - 120	15.223	41	1.1647	0.0052
L7	120 - 115	14.020	41	1.1319	0.0047
L8	115 - 110	12.855	41	1.0921	0.0041

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L9	110 - 102.5	11.735	41	1.0468	0.0037
L10	106.25 - 101.25	10.927	41	1.0096	0.0033
L11	101.25 - 96.25	9.883	41	0.9799	0.0031
L12	96.25 - 91.25	8.883	42	0.9305	0.0028
L13	91.25 - 86.25	7.937	42	0.8771	0.0025
L14	86.25 - 81.25	7.048	42	0.8205	0.0022
L15	81.25 - 76.25	6.220	42	0.7612	0.0019
L16	76.25 - 73.4167	5.455	42	0.6996	0.0016
L17	73.4167 - 73.1667	5.050	42	0.6639	0.0015
L18	73.1667 - 68.1667	5.016	42	0.6614	0.0015
L19	68.1667 - 62	4.349	42	0.6108	0.0013
L20	66.75 - 61	4.170	42	0.5963	0.0013
L21	61 - 56.25	3.472	42	0.5586	0.0012
L22	56.25 - 56	2.944	42	0.5027	0.0010
L23	56 - 51	2.918	42	0.5002	0.0010
L24	51 - 46	2.419	42	0.4511	0.0009
L25	46 - 41	1.973	42	0.4010	0.0007
L26	41 - 39.5	1.580	42	0.3508	0.0006
L27	39.5 - 39.25	1.472	42	0.3359	0.0006
L28	39.25 - 38.75	1.454	42	0.3336	0.0006
L29	38.75 - 38.5	1.419	42	0.3289	0.0006
L30	38.5 - 32.25	1.402	42	0.3265	0.0006
L31	37.5 - 31.25	1.335	42	0.3170	0.0005
L32	31.25 - 26.25	0.939	42	0.2838	0.0005
L33	26.25 - 21.25	0.665	42	0.2392	0.0004
L34	21.25 - 16.25	0.438	42	0.1949	0.0003
L35	16.25 - 11.25	0.257	42	0.1503	0.0002
L36	11.25 - 10	0.123	42	0.1055	0.0002
L37	10 - 9.75	0.097	42	0.0945	0.0001
L38	9.75 - 7.25	0.092	42	0.0920	0.0001
L39	7.25 - 7	0.051	42	0.0669	0.0001
L40	7 - 2	0.047	42	0.0646	0.0001
L41	2 - 0	0.004	42	0.0184	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
153.00	Lightning Rod 3/4" x 6'	41	21.591	1.2451	0.0081	36527
150.00	Top Hat (5')	41	21.591	1.2451	0.0081	36527
138.00	APXV18-206517S-C w/ Mount Pipe	41	18.481	1.2237	0.0065	17766
124.00	GPS_A	41	14.980	1.1587	0.0051	9361
102.00	7770.00 w/ Mount Pipe	41	10.037	0.9849	0.0031	7203
82.00	KS24019-L112A	42	6.340	0.7701	0.0019	4765

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 145	90.842	8	5.2359	0.0337
L2	145 - 140	85.373	8	5.2191	0.0308
L3	140 - 135	79.937	8	5.1738	0.0282
L4	135 - 130	74.560	8	5.1039	0.0258
L5	130 - 125	69.269	8	5.0116	0.0237
L6	125 - 120	64.084	8	4.9001	0.0218
L7	120 - 115	59.027	8	4.7636	0.0195
L8	115 - 110	54.129	8	4.5980	0.0173

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L9	110 - 102.5	49.416	8	4.4083	0.0153
L10	106.25 - 101.25	46.018	8	4.2527	0.0138
L11	101.25 - 96.25	41.624	8	4.1279	0.0129
L12	96.25 - 91.25	37.411	8	3.9203	0.0115
L13	91.25 - 86.25	33.425	8	3.6958	0.0102
L14	86.25 - 81.25	29.681	8	3.4573	0.0090
L15	81.25 - 76.25	26.193	8	3.2074	0.0079
L16	76.25 - 73.4167	22.971	8	2.9480	0.0069
L17	73.4167 - 73.1667	21.266	8	2.7975	0.0063
L18	73.1667 - 68.1667	21.120	8	2.7870	0.0062
L19	68.1667 - 62	18.314	8	2.5737	0.0055
L20	66.75 - 61	17.560	8	2.5125	0.0053
L21	61 - 56.25	14.617	8	2.3535	0.0048
L22	56.25 - 56	12.393	8	2.1176	0.0041
L23	56 - 51	12.283	8	2.1073	0.0041
L24	51 - 46	10.185	8	1.9000	0.0035
L25	46 - 41	8.306	8	1.6889	0.0030
L26	41 - 39.5	6.648	8	1.4772	0.0026
L27	39.5 - 39.25	6.194	8	1.4142	0.0024
L28	39.25 - 38.75	6.120	8	1.4044	0.0024
L29	38.75 - 38.5	5.974	8	1.3849	0.0024
L30	38.5 - 32.25	5.902	8	1.3748	0.0023
L31	37.5 - 31.25	5.618	8	1.3346	0.0022
L32	31.25 - 26.25	3.952	8	1.1948	0.0020
L33	26.25 - 21.25	2.799	8	1.0070	0.0016
L34	21.25 - 16.25	1.843	8	0.8202	0.0013
L35	16.25 - 11.25	1.082	8	0.6325	0.0010
L36	11.25 - 10	0.519	8	0.4440	0.0007
L37	10 - 9.75	0.409	8	0.3975	0.0006
L38	9.75 - 7.25	0.388	8	0.3869	0.0006
L39	7.25 - 7	0.213	8	0.2813	0.0004
L40	7 - 2	0.199	8	0.2717	0.0004
L41	2 - 0	0.016	8	0.0772	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
153.00	Lightning Rod 3/4" x 6'	8	90.842	5.2359	0.0337	9261
150.00	Top Hat (5')	8	90.842	5.2359	0.0337	9261
138.00	APXV18-206517S-C w/ Mount Pipe	8	77.777	5.1486	0.0272	4313
124.00	GPS_A	8	63.062	4.8751	0.0214	2268
102.00	7770.00 w/ Mount Pipe	8	42.272	4.1487	0.0130	1732
82.00	KS24019-L112A	8	26.699	3.2449	0.0081	1138

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	150 - 145 (1)	TP22.8752x22x0.25	5.00	0.00	0.0	18.213 3	-5.93	983.52	0.006
L2	145 - 140 (2)	TP23.7503x22.8752x0.25	5.00	0.00	0.0	18.917 8	-6.33	1021.56	0.006

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L3	140 - 135 (3)	TP24.6255x23.7503x0.25	5.00	0.00	0.0	19.622 3	-6.93	1059.60	0.007
L4	135 - 130 (4)	TP25.5006x24.6255x0.25	5.00	0.00	0.0	20.326 8	-7.40	1097.64	0.007
L5	130 - 125 (5)	TP26.3758x25.5006x0.25	5.00	0.00	0.0	21.031 3	-7.89	1135.69	0.007
L6	125 - 120 (6)	TP27.2509x26.3758x0.25	5.00	0.00	0.0	21.735 8	-14.12	1173.73	0.012
L7	120 - 115 (7)	TP28.1261x27.2509x0.25	5.00	0.00	0.0	22.440 3	-14.76	1211.77	0.012
L8	115 - 110 (8)	TP29.0013x28.1261x0.25	5.00	0.00	0.0	23.144 8	-15.43	1249.82	0.012
L9	110 - 102.5 (9)	TP30.314x29.0013x0.25	7.50	0.00	0.0	23.673 1	-15.95	1278.35	0.012
L10	102.5 - 101.25 (10)	TP30.0328x29.1576x0.31 25	5.00	0.00	0.0	29.906 1	-21.62	1749.50	0.012
L11	101.25 - 96.25 (11)	TP30.908x30.0328x0.312 5	5.00	0.00	0.0	30.786 7	-22.54	1801.02	0.013
L12	96.25 - 91.25 (12)	TP31.7832x30.908x0.312 5	5.00	0.00	0.0	31.667 4	-23.49	1852.54	0.013
L13	91.25 - 86.25 (13)	TP32.6584x31.7832x0.31 25	5.00	0.00	0.0	32.548 0	-24.46	1904.06	0.013
L14	86.25 - 81.25 (14)	TP33.5335x32.6584x0.31 25	5.00	0.00	0.0	33.428 7	-25.54	1955.58	0.013
L15	81.25 - 76.25 (15)	TP34.4087x33.5335x0.31 25	5.00	0.00	0.0	34.309 3	-26.57	2007.10	0.013
L16	76.25 - 73.4167 (16)	TP34.9047x34.4087x0.31 25	2.83	0.00	0.0	34.808 4	-27.16	2036.29	0.013
L17	73.4167 - 73.1667 (17)	TP34.9484x34.9047x0.4	0.25	0.00	0.0	44.498 4	-27.23	2603.15	0.010
L18	73.1667 - 68.1667 (18)	TP35.8236x34.9484x0.4	5.00	0.00	0.0	45.625 6	-28.45	2669.10	0.011
L19	68.1667 - 62 (19)	TP36.903x35.8236x0.4	6.17	0.00	0.0	45.945 0	-28.80	2687.78	0.011
L20	62 - 61 (20)	TP36.453x35.4466x0.375	5.75	0.00	0.0	43.564 2	-31.04	2548.50	0.012
L21	61 - 56.25 (21)	TP37.2844x36.453x0.375	4.75	0.00	0.0	44.568 1	-32.22	2607.23	0.012
L22	56.25 - 56 (22)	TP37.3281x37.2844x0.45 63	0.25	0.00	0.0	54.169 4	-32.30	3168.91	0.010
L23	56 - 51 (23)	TP38.2032x37.3281x0.45 63	5.00	0.00	0.0	55.455 1	-33.74	3244.12	0.010
L24	51 - 46 (24)	TP39.0784x38.2032x0.45	5.00	0.00	0.0	55.972 5	-35.20	3274.39	0.011
L25	46 - 41 (25)	TP39.9535x39.0784x0.45	5.00	0.00	0.0	57.240 6	-36.69	3348.57	0.011
L26	41 - 39.5 (26)	TP40.2161x39.9535x0.45	1.50	0.00	0.0	57.621 0	-37.14	3370.83	0.011
L27	39.5 - 39.25 (27)	TP40.2598x40.2161x0.48 75	0.25	0.00	0.0	62.432 6	-37.23	3652.31	0.010
L28	39.25 - 38.75 (28)	TP40.3473x40.2598x0.48 75	0.50	0.00	0.0	62.570 0	-37.40	3660.34	0.010
L29	38.75 - 38.5 (29)	TP40.3911x40.3473x0.47 5	0.25	0.00	0.0	61.051 6	-37.48	3571.52	0.010
L30	38.5 - 32.25 (30)	TP41.485x40.3911x0.475	6.25	0.00	0.0	61.319 4	-37.78	3587.18	0.011
L31	32.25 - 31.25 (31)	TP40.9101x39.8161x0.53 75	6.25	0.00	0.0	69.874 9	-41.22	4087.68	0.010
L32	31.25 - 26.25 (32)	TP41.7853x40.9101x0.53 75	5.00	0.00	0.0	71.389 6	-42.98	4176.29	0.010
L33	26.25 - 21.25 (33)	TP42.6605x41.7853x0.53 75	5.00	0.00	0.0	72.904 3	-44.77	4264.90	0.010
L34	21.25 - 16.25 (34)	TP43.5356x42.6605x0.53 13	5.00	0.00	0.0	73.564 4	-46.58	4303.52	0.011
L35	16.25 - 11.25 (35)	TP44.4108x43.5356x0.52 5	5.00	0.00	0.0	74.189 0	-48.43	4340.06	0.011
L36	11.25 - 10 (36)	TP44.6296x44.4108x0.52 5	1.25	0.00	0.0	74.558 9	-48.89	4361.69	0.011
L37	10 - 9.75 (37)	TP44.6734x44.6296x0.46	0.25	0.00	0.0	65.841	-48.99	3851.70	0.013

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
		25				1			
L38	9.75 - 7.25 (38)	TP45.111x44.6734x0.462	2.50	0.00	0.0	66.492	-49.88	3889.83	0.013
L39	7.25 - 7 (39)	TP45.1547x45.111x0.506	0.25	0.00	0.0	72.782	-49.98	4257.78	0.012
		3				6			
L40	7 - 2 (40)	TP46.0299x45.1547x0.5	5.00	0.00	0.0	73.303	-51.79	4288.24	0.012
						2			
L41	2 - 0 (41)	TP46.38x46.0299x0.5	2.00	0.00	0.0	73.866	-52.52	4321.21	0.012
						8			

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	150 - 145 (1)	TP22.8752x22x0.25	26.69	559.17	0.048	0.00	559.17	0.000
L2	145 - 140 (2)	TP23.7503x22.8752x0.25	54.45	596.13	0.091	0.00	596.13	0.000
L3	140 - 135 (3)	TP24.6255x23.7503x0.25	85.36	633.66	0.135	0.00	633.66	0.000
L4	135 - 130 (4)	TP25.5006x24.6255x0.25	119.04	671.70	0.177	0.00	671.70	0.000
L5	130 - 125 (5)	TP26.3758x25.5006x0.25	154.85	710.17	0.218	0.00	710.17	0.000
L6	125 - 120 (6)	TP27.2509x26.3758x0.25	216.30	749.03	0.289	0.00	749.03	0.000
L7	120 - 115 (7)	TP28.1261x27.2509x0.25	279.05	788.20	0.354	0.00	788.20	0.000
L8	115 - 110 (8)	TP29.0013x28.1261x0.25	343.93	827.63	0.416	0.00	827.63	0.000
L9	110 - 102.5 (9)	TP30.314x29.0013x0.25	393.99	857.33	0.460	0.00	857.33	0.000
L10	102.5 - 101.25 (10)	TP30.0328x29.1576x0.31	469.59	1269.28	0.370	0.00	1269.28	0.000
		25						
L11	101.25 - 96.25 (11)	TP30.908x30.0328x0.312	560.10	1331.42	0.421	0.00	1331.42	0.000
		5						
L12	96.25 - 91.25 (12)	TP31.7832x30.908x0.312	652.70	1394.16	0.468	0.00	1394.16	0.000
		5						
L13	91.25 - 86.25 (13)	TP32.6584x31.7832x0.31	747.33	1457.39	0.513	0.00	1457.39	0.000
		25						
L14	86.25 - 81.25 (14)	TP33.5335x32.6584x0.31	844.03	1521.07	0.555	0.00	1521.07	0.000
		25						
L15	81.25 - 76.25 (15)	TP34.4087x33.5335x0.31	942.98	1585.12	0.595	0.00	1585.12	0.000
		25						
L16	76.25 - 73.4167 (16)	TP34.9047x34.4087x0.31	999.91	1621.54	0.617	0.00	1621.54	0.000
		25						
L17	73.4167 - 73.1667 (17)	TP34.9484x34.9047x0.4	1004.96	2264.81	0.444	0.00	2264.81	0.000
L18	73.1667 - 68.1667 (18)	TP35.8236x34.9484x0.4	1107.10	2362.79	0.469	0.00	2362.79	0.000
L19	68.1667 - 62 (19)	TP36.903x35.8236x0.4	1136.42	2390.74	0.475	0.00	2390.74	0.000
L20	62 - 61 (20)	TP36.453x35.4466x0.375	1257.33	2235.48	0.562	0.00	2235.48	0.000
L21	61 - 56.25 (21)	TP37.2844x36.453x0.375	1359.28	2320.73	0.586	0.00	2320.73	0.000
L22	56.25 - 56 (22)	TP37.3281x37.2844x0.45	1364.69	2986.13	0.457	0.00	2986.13	0.000
		63						
L23	56 - 51 (23)	TP38.2032x37.3281x0.45	1473.93	3122.87	0.472	0.00	3122.87	0.000
		63						
L24	51 - 46 (24)	TP39.0784x38.2032x0.45	1585.04	3191.12	0.497	0.00	3191.12	0.000
L25	46 - 41 (25)	TP39.9535x39.0784x0.45	1697.97	3314.72	0.512	0.00	3314.72	0.000
L26	41 - 39.5 (26)	TP40.2161x39.9535x0.45	1732.18	3352.03	0.517	0.00	3352.03	0.000
L27	39.5 - 39.25 (27)	TP40.2598x40.2161x0.48	1737.91	3712.81	0.468	0.00	3712.81	0.000
		75						
L28	39.25 - 38.75 (28)	TP40.3473x40.2598x0.48	1749.36	3729.27	0.469	0.00	3729.27	0.000
		75						
L29	38.75 - 38.5 (29)	TP40.3911x40.3473x0.47	1755.09	3619.34	0.485	0.00	3619.34	0.000
		5						
L30	38.5 - 32.25 (30)	TP41.485x40.3911x0.475	1778.06	3646.51	0.488	0.00	3646.51	0.000
L31	32.25 - 31.25 (31)	TP40.9101x39.8161x0.53	1923.53	4213.72	0.456	0.00	4213.72	0.000
		75						

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 $\frac{M_{uy}}{\phi M_{ny}}$
L32	31.25 - 26.25 (32)	TP41.7853x40.9101x0.53 75	2041.96	4399.61	0.464	0.00	4399.61	0.000
L33	26.25 - 21.25 (33)	TP42.6605x41.7853x0.53 75	2161.96	4589.52	0.471	0.00	4589.52	0.000
L34	21.25 - 16.25 (34)	TP43.5356x42.6605x0.53 13	2283.53	4729.88	0.483	0.00	4729.88	0.000
L35	16.25 - 11.25 (35)	TP44.4108x43.5356x0.52 5	2406.64	4842.96	0.497	0.00	4842.96	0.000
L36	11.25 - 10 (36)	TP44.6296x44.4108x0.52 5	2437.66	4884.33	0.499	0.00	4884.33	0.000
L37	10 - 9.75 (37)	TP44.6734x44.6296x0.46 25	2443.88	4149.56	0.589	0.00	4149.56	0.000
L38	9.75 - 7.25 (38)	TP45.111x44.6734x0.462 5	2506.22	4217.52	0.594	0.00	4217.52	0.000
L39	7.25 - 7 (39)	TP45.1547x45.111x0.506 3	2512.48	4756.82	0.528	0.00	4756.82	0.000
L40	7 - 2 (40)	TP46.0299x45.1547x0.5	2638.36	4836.04	0.546	0.00	4836.04	0.000
L41	2 - 0 (41)	TP46.38x46.0299x0.5	2689.12	4898.43	0.549	0.00	4898.43	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	150 - 145 (1)	TP22.8752x22x0.25	5.32	295.06	0.018	1.59	587.21	0.003
L2	145 - 140 (2)	TP23.7503x22.8752x0.25	5.77	306.47	0.019	1.85	633.52	0.003
L3	140 - 135 (3)	TP24.6255x23.7503x0.25	6.52	317.88	0.021	1.85	681.58	0.003
L4	135 - 130 (4)	TP25.5006x24.6255x0.25	6.95	329.29	0.021	1.85	731.40	0.003
L5	130 - 125 (5)	TP26.3758x25.5006x0.25	7.38	340.71	0.022	1.85	782.98	0.002
L6	125 - 120 (6)	TP27.2509x26.3758x0.25	12.34	352.12	0.035	2.71	836.32	0.003
L7	120 - 115 (7)	TP28.1261x27.2509x0.25	12.77	363.53	0.035	2.71	891.41	0.003
L8	115 - 110 (8)	TP29.0013x28.1261x0.25	13.19	374.94	0.035	2.70	948.25	0.003
L9	110 - 102.5 (9)	TP30.314x29.0013x0.25	13.51	383.50	0.035	2.70	992.04	0.003
L10	102.5 - 101.25 (10)	TP30.0328x29.1576x0.31 25	17.90	524.85	0.034	2.77	1372.11	0.002
L11	101.25 - 96.25 (11)	TP30.908x30.0328x0.312 5	18.32	540.31	0.034	2.77	1454.11	0.002
L12	96.25 - 91.25 (12)	TP31.7832x30.908x0.312 5	18.73	555.76	0.034	2.77	1538.49	0.002
L13	91.25 - 86.25 (13)	TP32.6584x31.7832x0.31 25	19.14	571.22	0.034	2.77	1625.25	0.002
L14	86.25 - 81.25 (14)	TP33.5335x32.6584x0.31 25	19.60	586.67	0.033	2.95	1714.39	0.002
L15	81.25 - 76.25 (15)	TP34.4087x33.5335x0.31 25	19.99	602.13	0.033	2.94	1805.91	0.002
L16	76.25 - 73.4167 (16)	TP34.9047x34.4087x0.31 25	20.22	610.89	0.033	2.94	1858.83	0.002
L17	73.4167 - 73.1667 (17)	TP34.9484x34.9047x0.4	20.22	780.95	0.026	2.94	2373.28	0.001
L18	73.1667 - 68.1667 (18)	TP35.8236x34.9484x0.4	20.64	800.73	0.026	2.94	2495.04	0.001
L19	68.1667 - 62 (19)	TP36.903x35.8236x0.4	20.76	806.34	0.026	2.94	2530.10	0.001
L20	62 - 61 (20)	TP36.453x35.4466x0.375	21.30	764.55	0.028	2.94	2426.32	0.001
L21	61 - 56.25 (21)	TP37.2844x36.453x0.375	21.65	782.17	0.028	2.94	2539.43	0.001
L22	56.25 - 56 (22)	TP37.3281x37.2844x0.45 63	21.66	950.67	0.023	2.94	3083.38	0.001
L23	56 - 51 (23)	TP38.2032x37.3281x0.45 63	22.05	973.24	0.023	2.94	3231.47	0.001
L24	51 - 46 (24)	TP39.0784x38.2032x0.45	22.42	982.32	0.023	2.94	3337.78	0.001
L25	46 - 41 (25)	TP39.9535x39.0784x0.45	22.77	1004.57	0.023	2.94	3490.73	0.001
L26	41 - 39.5 (26)	TP40.2161x39.9535x0.45	22.88	1011.25	0.023	2.94	3537.29	0.001
L27	39.5 - 39.25	TP40.2598x40.2161x0.48	22.88	1095.69	0.021	2.94	3833.27	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 $\frac{T_u}{\phi T_n}$
L28	(27) 39.25 - 38.75	75 TP40.3473x40.2598x0.48	22.92	1098.10	0.021	2.94	3850.16	0.001
L29	(28) 38.75 - 38.5	75 TP40.3911x40.3473x0.47	22.94	1071.46	0.021	2.94	3762.03	0.001
L30	(29) 38.5 - 32.25	5 TP41.485x40.3911x0.475	23.01	1076.15	0.021	2.94	3795.09	0.001
L31	(30) 32.25 - 31.25	75 TP40.9101x39.8161x0.53	23.54	1226.30	0.019	2.94	4354.97	0.001
L32	(31) 31.25 - 26.25	75 TP41.7853x40.9101x0.53	23.85	1252.89	0.019	2.94	4545.82	0.001
L33	(32) 26.25 - 21.25	75 TP42.6605x41.7853x0.53	24.17	1279.47	0.019	2.94	4740.77	0.001
L34	(33) 21.25 - 16.25	75 TP43.5356x42.6605x0.53	24.48	1291.06	0.019	2.94	4883.80	0.001
L35	(34) 16.25 - 11.25	13 TP44.4108x43.5356x0.52	24.79	1302.02	0.019	2.94	5026.21	0.001
L36	(35) 11.25 - 10	5 TP44.6296x44.4108x0.52	24.87	1308.51	0.019	2.94	5076.46	0.001
L37	(36) 10 - 9.75 (37)	5 TP44.6734x44.6296x0.46	24.87	1155.51	0.022	2.94	4493.69	0.001
L38	(37) 9.75 - 7.25	25 TP45.111x44.6734x0.462	25.03	1166.95	0.021	2.94	4583.08	0.001
L39	(38) 7.25 - 7 (39)	5 TP45.1547x45.111x0.506	25.03	1277.34	0.020	2.94	5016.62	0.001
L40	(39) 7 - 2 (40)	3 TP46.0299x45.1547x0.5	25.34	1286.47	0.020	2.94	5152.25	0.001
L41	(40) 2 - 0 (41)	TP46.38x46.0299x0.5	25.46	1296.36	0.020	2.94	5231.78	0.001

Pole Interaction Design Data

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
L1	150 - 145 (1)	0.006	0.048	0.000	0.018	0.003	0.054	1.050	
L2	145 - 140 (2)	0.006	0.091	0.000	0.019	0.003	0.098	1.050	
L3	140 - 135 (3)	0.007	0.135	0.000	0.021	0.003	0.142	1.050	
L4	135 - 130 (4)	0.007	0.177	0.000	0.021	0.003	0.185	1.050	
L5	130 - 125 (5)	0.007	0.218	0.000	0.022	0.002	0.226	1.050	
L6	125 - 120 (6)	0.012	0.289	0.000	0.035	0.003	0.302	1.050	
L7	120 - 115 (7)	0.012	0.354	0.000	0.035	0.003	0.368	1.050	
L8	115 - 110 (8)	0.012	0.416	0.000	0.035	0.003	0.429	1.050	
L9	110 - 102.5 (9)	0.012	0.460	0.000	0.035	0.003	0.473	1.050	
L10	102.5 - 101.25 (10)	0.012	0.370	0.000	0.034	0.002	0.384	1.050	
L11	101.25 - 96.25 (11)	0.013	0.421	0.000	0.034	0.002	0.434	1.050	
L12	96.25 - 91.25 (12)	0.013	0.468	0.000	0.034	0.002	0.482	1.050	
L13	91.25 - 86.25 (13)	0.013	0.513	0.000	0.034	0.002	0.527	1.050	
L14	86.25 - 81.25 (14)	0.013	0.555	0.000	0.033	0.002	0.569	1.050	
L15	81.25 - 76.25 (15)	0.013	0.595	0.000	0.033	0.002	0.609	1.050	
L16	76.25 - 73.4167 (16)	0.013	0.617	0.000	0.033	0.002	0.631	1.050	
L17	73.4167 - 73.1667 (17)	0.010	0.444	0.000	0.026	0.001	0.455	1.050	
L18	73.1667 - 68.1667 (18)	0.011	0.469	0.000	0.026	0.001	0.480	1.050	
L19	68.1667 - 62 (19)	0.011	0.475	0.000	0.026	0.001	0.487	1.050	
L20	62 - 61 (20)	0.012	0.562	0.000	0.028	0.001	0.575	1.050	
L21	61 - 56.25	0.012	0.586	0.000	0.028	0.001	0.599	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
L22	(21) 56.25 - 56	0.010	0.457	0.000	0.023	0.001	0.468	1.050	
L23	(22) 56 - 51 (23)	0.010	0.472	0.000	0.023	0.001	0.483	1.050	
L24	51 - 46 (24)	0.011	0.497	0.000	0.023	0.001	0.508	1.050	
L25	46 - 41 (25)	0.011	0.512	0.000	0.023	0.001	0.524	1.050	
L26	41 - 39.5 (26)	0.011	0.517	0.000	0.023	0.001	0.528	1.050	
L27	39.5 - 39.25 (27)	0.010	0.468	0.000	0.021	0.001	0.479	1.050	
L28	39.25 - 38.75 (28)	0.010	0.469	0.000	0.021	0.001	0.480	1.050	
L29	38.75 - 38.5 (29)	0.010	0.485	0.000	0.021	0.001	0.496	1.050	
L30	38.5 - 32.25 (30)	0.011	0.488	0.000	0.021	0.001	0.499	1.050	
L31	32.25 - 31.25 (31)	0.010	0.456	0.000	0.019	0.001	0.467	1.050	
L32	31.25 - 26.25 (32)	0.010	0.464	0.000	0.019	0.001	0.475	1.050	
L33	26.25 - 21.25 (33)	0.010	0.471	0.000	0.019	0.001	0.482	1.050	
L34	21.25 - 16.25 (34)	0.011	0.483	0.000	0.019	0.001	0.494	1.050	
L35	16.25 - 11.25 (35)	0.011	0.497	0.000	0.019	0.001	0.508	1.050	
L36	11.25 - 10 (36)	0.011	0.499	0.000	0.019	0.001	0.511	1.050	
L37	10 - 9.75 (37)	0.013	0.589	0.000	0.022	0.001	0.602	1.050	
L38	9.75 - 7.25 (38)	0.013	0.594	0.000	0.021	0.001	0.608	1.050	
L39	7.25 - 7 (39)	0.012	0.528	0.000	0.020	0.001	0.540	1.050	
L40	7 - 2 (40)	0.012	0.546	0.000	0.020	0.001	0.558	1.050	
L41	2 - 0 (41)	0.012	0.549	0.000	0.020	0.001	0.562	1.050	

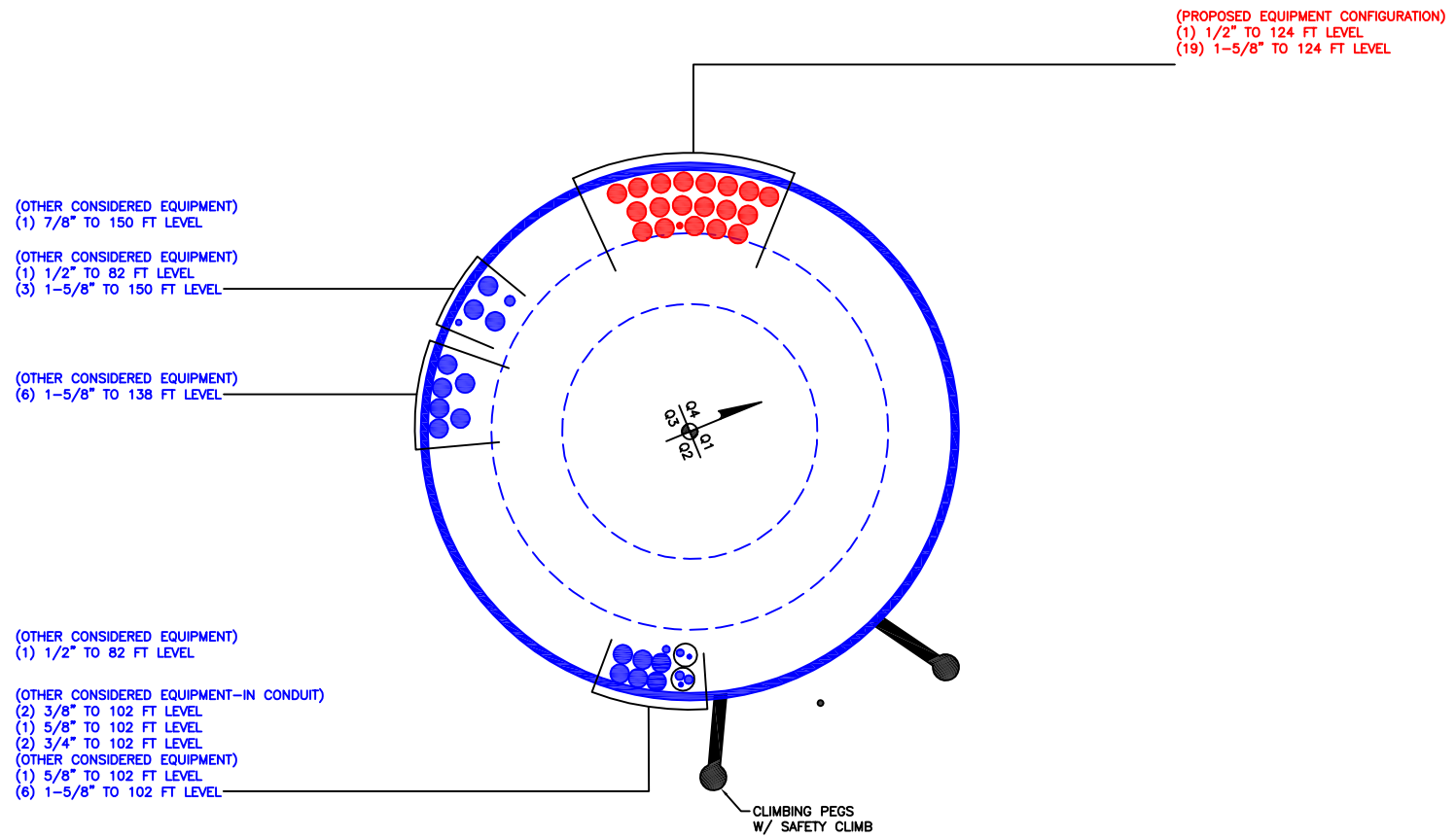
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	150 - 145	Pole	TP22.8752x22x0.25	1	-5.93	1032.69	5.2	Pass
L2	145 - 140	Pole	TP23.7503x22.8752x0.25	2	-6.33	1072.64	9.3	Pass
L3	140 - 135	Pole	TP24.6255x23.7503x0.25	3	-6.93	1112.58	13.5	Pass
L4	135 - 130	Pole	TP25.5006x24.6255x0.25	4	-7.40	1152.52	17.6	Pass
L5	130 - 125	Pole	TP26.3758x25.5006x0.25	5	-7.89	1192.47	21.5	Pass
L6	125 - 120	Pole	TP27.2509x26.3758x0.25	6	-14.12	1232.42	28.8	Pass
L7	120 - 115	Pole	TP28.1261x27.2509x0.25	7	-14.76	1272.36	35.0	Pass
L8	115 - 110	Pole	TP29.0013x28.1261x0.25	8	-15.43	1312.31	40.9	Pass
L9	110 - 102.5	Pole	TP30.314x29.0013x0.25	9	-15.95	1342.27	45.1	Pass
L10	102.5 - 101.25	Pole	TP30.0328x29.1576x0.3125	10	-21.62	1836.97	36.5	Pass
L11	101.25 - 96.25	Pole	TP30.908x30.0328x0.3125	11	-22.54	1891.07	41.4	Pass
L12	96.25 - 91.25	Pole	TP31.7832x30.908x0.3125	12	-23.49	1945.17	45.9	Pass
L13	91.25 - 86.25	Pole	TP32.6584x31.7832x0.3125	13	-24.46	1999.26	50.2	Pass
L14	86.25 - 81.25	Pole	TP33.5335x32.6584x0.3125	14	-25.54	2053.36	54.2	Pass
L15	81.25 - 76.25	Pole	TP34.4087x33.5335x0.3125	15	-26.57	2107.45	58.0	Pass
L16	76.25 - 73.4167	Pole	TP34.9047x34.4087x0.3125	16	-27.16	2138.10	60.1	Pass
L17	73.4167 - 73.1667	Pole	TP34.9484x34.9047x0.4	17	-27.23	2733.31	43.3	Pass
L18	73.1667 - 68.1667	Pole	TP35.8236x34.9484x0.4	18	-28.45	2802.55	45.7	Pass
L19	68.1667 - 62	Pole	TP36.903x35.8236x0.4	19	-28.80	2822.17	46.4	Pass
L20	62 - 61	Pole	TP36.453x35.4466x0.375	20	-31.04	2675.93	54.8	Pass
L21	61 - 56.25	Pole	TP37.2844x36.453x0.375	21	-32.22	2737.59	57.0	Pass
L22	56.25 - 56	Pole	TP37.3281x37.2844x0.4563	22	-32.30	3327.36	44.5	Pass
L23	56 - 51	Pole	TP38.2032x37.3281x0.4563	23	-33.74	3406.33	46.0	Pass
L24	51 - 46	Pole	TP39.0784x38.2032x0.45	24	-35.20	3438.11	48.4	Pass
L25	46 - 41	Pole	TP39.9535x39.0784x0.45	25	-36.69	3516.00	49.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L26	41 - 39.5	Pole	TP40.2161x39.9535x0.45	26	-37.14	3539.37	50.3	Pass
L27	39.5 - 39.25	Pole	TP40.2598x40.2161x0.4875	27	-37.23	3834.93	45.6	Pass
L28	39.25 - 38.75	Pole	TP40.3473x40.2598x0.4875	28	-37.40	3843.36	45.7	Pass
L29	38.75 - 38.5	Pole	TP40.3911x40.3473x0.475	29	-37.48	3750.10	47.2	Pass
L30	38.5 - 32.25	Pole	TP41.485x40.3911x0.475	30	-37.78	3766.54	47.5	Pass
L31	32.25 - 31.25	Pole	TP40.9101x39.8161x0.5375	31	-41.22	4292.06	44.5	Pass
L32	31.25 - 26.25	Pole	TP41.7853x40.9101x0.5375	32	-42.98	4385.10	45.2	Pass
L33	26.25 - 21.25	Pole	TP42.6605x41.7853x0.5375	33	-44.77	4478.15	45.9	Pass
L34	21.25 - 16.25	Pole	TP43.5356x42.6605x0.5313	34	-46.58	4518.70	47.0	Pass
L35	16.25 - 11.25	Pole	TP44.4108x43.5356x0.525	35	-48.43	4557.06	48.4	Pass
L36	11.25 - 10	Pole	TP44.6296x44.4108x0.525	36	-48.89	4579.77	48.6	Pass
L37	10 - 9.75	Pole	TP44.6734x44.6296x0.4625	37	-48.99	4044.28	57.3	Pass
L38	9.75 - 7.25	Pole	TP45.111x44.6734x0.4625	38	-49.88	4084.32	57.9	Pass
L39	7.25 - 7	Pole	TP45.1547x45.111x0.5063	39	-49.98	4470.67	51.5	Pass
L40	7 - 2	Pole	TP46.0299x45.1547x0.5	40	-51.79	4502.65	53.1	Pass
L41	2 - 0	Pole	TP46.38x46.0299x0.5	41	-52.52	4537.27	53.5	Pass
							Summary	
							Pole (L16)	60.1 Pass
							RATING =	60.1 Pass

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

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Site BU: 876315
Work Order: 2283818



Pole Geometry

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	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	150	47.5	3.75	12	22	30.314	0.25	Auto	A607-60
2	106.25	44.25	4.75	12	29.16	36.903	0.3125	Auto	A607-65
3	66.75	34.5	5.25	12	35.45	41.485	0.375	Auto	A607-65
4	37.5	37.5	0	12	39.82	46.38	0.4375	Auto	A607-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	0	10	plate	FP 4"x1" (5 Bolts)	1			E4									
2	0	39.5	plate	FP 4"x1" (7 Bolts)	2								E4				E4
3	7.25	38.75	plate	FP 4"x1" (7 Bolts)	1				E4								
4	38.75	56.25	plate	FP 4"x0.75" (5 Bolts)	3			E4				E4				E4	
5	65.9167	73.4167	plate	FP 4"x0.75" (5 Bolts)	3				E4				E4				E4
6																	
7																	
8																	
9																	
10																	

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	4	1	4	0.5	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	20.000	2.750	1.1875	A514-GR100
2	4	1	4	0.5	PC 8.8 - M20 (100)	21	PC 8.8 - M20 (100)	21.000	20.000	2.750	1.1875	A514-GR100
3	4	1	4	0.5	PC 8.8 - M20 (100)	21	PC 8.8 - M20 (100)	21.000	20.000	2.750	1.1875	A514-GR100
4	4	0.75	3	0.375	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	15.000	2.063	1.1875	A514-GR100
5	4	0.75	3	0.375	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	15.000	2.063	1.1875	A514-GR100

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)
FP 4"x1" (5 Bolts)	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	5	N	3	3	-	-	-	-	-	-	-	-	-
FP 4"x1" (7 Bolts)	Top	7	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	7	N	3	3	-	-	-	-	-	-	-	-	-
FP 4"x0.75" (5 Bolts)	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	5	N	3	3	-	-	-	-	-	-	-	-	-

TNX Geometry Input

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

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	150 - 145	5		12	22.000	22.875	0.25	A607-60	1.000
2	145 - 140	5		12	22.875	23.750	0.25	A607-60	1.000
3	140 - 135	5		12	23.750	24.625	0.25	A607-60	1.000
4	135 - 130	5		12	24.625	25.501	0.25	A607-60	1.000
5	130 - 125	5		12	25.501	26.376	0.25	A607-60	1.000
6	125 - 120	5		12	26.376	27.251	0.25	A607-60	1.000
7	120 - 115	5		12	27.251	28.126	0.25	A607-60	1.000
8	115 - 110	5		12	28.126	29.001	0.25	A607-60	1.000
9	110 - 106.25	7.5	3.75	12	29.001	30.314	0.25	A607-60	1.000
10	106.25 - 101.25	5		12	29.158	30.033	0.3125	A607-65	1.000
11	101.25 - 96.25	5		12	30.033	30.908	0.3125	A607-65	1.000
12	96.25 - 91.25	5		12	30.908	31.783	0.3125	A607-65	1.000
13	91.25 - 86.25	5		12	31.783	32.658	0.3125	A607-65	1.000
14	86.25 - 81.25	5		12	32.658	33.534	0.3125	A607-65	1.000
15	81.25 - 76.25	5		12	33.534	34.409	0.3125	A607-65	1.000
16	76.25 - 73.4167	2.8333		12	34.409	34.905	0.3125	A607-65	1.000
17	73.4167 - 73.1667	0.25		12	34.905	34.948	0.4	A607-65	0.986
18	73.1667 - 68.1667	5		12	34.948	35.824	0.4	A607-65	0.981
19	68.1667 - 66.75	6.1667	4.75	12	35.824	36.903	0.4	A607-65	0.979
20	66.75 - 61	5.75		12	35.447	36.453	0.375	A607-65	1.000
21	61 - 56.25	4.75		12	36.453	37.284	0.375	A607-65	1.000
22	56.25 - 56	0.25		12	37.284	37.328	0.45625	A607-65	0.990
23	56 - 51	5		12	37.328	38.203	0.45625	A607-65	0.986
24	51 - 46	5		12	38.203	39.078	0.45	A607-65	0.996
25	46 - 41	5		12	39.078	39.954	0.45	A607-65	0.992
26	41 - 39.5	1.5		12	39.954	40.216	0.45	A607-65	0.991
27	39.5 - 39.25	0.25		12	40.216	40.260	0.4875	A607-65	1.044
28	39.25 - 38.75	0.5		12	40.260	40.347	0.4875	A607-65	1.043
29	38.75 - 38.5	0.25		12	40.347	40.391	0.475	A607-65	0.988
30	38.5 - 37.5	6.25	5.25	12	40.391	41.485	0.475	A607-65	0.987
31	37.5 - 31.25	6.25		12	39.816	40.910	0.5375	A607-65	0.988
32	31.25 - 26.25	5		12	40.910	41.785	0.5375	A607-65	0.984
33	26.25 - 21.25	5		12	41.785	42.660	0.5375	A607-65	0.981
34	21.25 - 16.25	5		12	42.660	43.536	0.53125	A607-65	0.989
35	16.25 - 11.25	5		12	43.536	44.411	0.525	A607-65	0.997
36	11.25 - 10	1.25		12	44.411	44.630	0.525	A607-65	0.996
37	10 - 9.75	0.25		12	44.630	44.673	0.4625	A607-65	1.068
38	9.75 - 7.25	2.5		12	44.673	45.111	0.4625	A607-65	1.067
39	7.25 - 7	0.25		12	45.111	45.155	0.50625	A607-65	0.976
40	7 - 2	5		12	45.155	46.030	0.5	A607-65	0.985
41	2 - 0	2		12	46.030	46.380	0.5	A607-65	0.985

TNX Section Forces

Increment (ft):		TNX Output		
	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)
1	150 - 145	5.93	26.69	5.32
2	145 - 140	6.33	54.45	5.77
3	140 - 135	6.93	85.36	6.52
4	135 - 130	7.40	119.04	6.95
5	130 - 125	7.89	154.85	7.38
6	125 - 120	14.12	216.30	12.34
7	120 - 115	14.76	279.05	12.77
8	115 - 110	15.43	343.93	13.19
9	110 - 106.25	15.95	393.99	13.51
10	106.25 - 101.25	21.62	469.59	17.90
11	101.25 - 96.25	22.54	560.10	18.32
12	96.25 - 91.25	23.49	652.69	18.73
13	91.25 - 86.25	24.46	747.33	19.14
14	86.25 - 81.25	25.54	844.04	19.60
15	81.25 - 76.25	26.57	942.98	19.99
16	76.25 - 73.4167	27.16	999.91	20.22
17	73.4167 - 73.1667	27.23	1004.96	20.22
18	73.1667 - 68.1667	28.45	1107.10	20.64
19	68.1667 - 66.75	28.80	1136.41	20.76
20	66.75 - 61	31.04	1257.33	21.30
21	61 - 56.25	32.22	1359.28	21.65
22	56.25 - 56	32.30	1364.69	21.66
23	56 - 51	33.74	1473.93	22.05
24	51 - 46	35.20	1585.04	22.42
25	46 - 41	36.69	1697.97	22.77
26	41 - 39.5	37.14	1732.19	22.88
27	39.5 - 39.25	37.23	1737.91	22.88
28	39.25 - 38.75	37.40	1749.36	22.92
29	38.75 - 38.5	37.48	1755.09	22.94
30	38.5 - 37.5	37.78	1778.06	23.01
31	37.5 - 31.25	41.22	1923.53	23.54
32	31.25 - 26.25	42.98	2041.95	23.85
33	26.25 - 21.25	44.77	2161.96	24.17
34	21.25 - 16.25	46.58	2283.52	24.48
35	16.25 - 11.25	48.43	2406.64	24.79
36	11.25 - 10	48.89	2437.66	24.87
37	10 - 9.75	48.99	2443.87	24.87
38	9.75 - 7.25	49.88	2506.23	25.03
39	7.25 - 7	49.98	2512.48	25.03
40	7 - 2	51.79	2638.36	25.34
41	2 - 0	52.52	2689.13	25.46

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP22.875x22x0.25	Pole	5.1%	Pass
145 - 140	Pole	TP23.75x22.875x0.25	Pole	9.3%	Pass
140 - 135	Pole	TP24.625x23.75x0.25	Pole	13.5%	Pass
135 - 130	Pole	TP25.501x24.625x0.25	Pole	17.5%	Pass
130 - 125	Pole	TP26.376x25.501x0.25	Pole	21.4%	Pass
125 - 120	Pole	TP27.251x26.376x0.25	Pole	28.7%	Pass
120 - 115	Pole	TP28.126x27.251x0.25	Pole	34.9%	Pass
115 - 110	Pole	TP29.001x28.126x0.25	Pole	40.8%	Pass
110 - 106.25	Pole	TP30.314x29.001x0.25	Pole	45.0%	Pass
106.25 - 101.25	Pole	TP30.033x29.158x0.3125	Pole	36.4%	Pass
101.25 - 96.25	Pole	TP30.908x30.033x0.3125	Pole	41.3%	Pass
96.25 - 91.25	Pole	TP31.783x30.908x0.3125	Pole	45.8%	Pass
91.25 - 86.25	Pole	TP32.658x31.783x0.3125	Pole	50.0%	Pass
86.25 - 81.25	Pole	TP33.534x32.658x0.3125	Pole	54.1%	Pass
81.25 - 76.25	Pole	TP34.409x33.534x0.3125	Pole	57.9%	Pass
76.25 - 73.42	Pole	TP34.905x34.409x0.3125	Pole	59.9%	Pass
73.42 - 73.17	Pole + Reinf.	TP34.948x34.905x0.4	Reinf. 5 Tension Rupture	54.3%	Pass
73.17 - 68.17	Pole + Reinf.	TP35.824x34.948x0.4	Reinf. 5 Tension Rupture	57.2%	Pass
68.17 - 66.75	Pole + Reinf.	TP36.903x35.824x0.4	Reinf. 5 Tension Rupture	58.0%	Pass
66.75 - 61	Pole	TP36.453x35.447x0.375	Pole	54.7%	Pass
61 - 56.25	Pole	TP37.284x36.453x0.375	Pole	56.9%	Pass
56.25 - 56	Pole + Reinf.	TP37.328x37.284x0.4563	Reinf. 4 Tension Rupture	56.6%	Pass
56 - 51	Pole + Reinf.	TP38.203x37.328x0.4563	Reinf. 4 Tension Rupture	58.5%	Pass
51 - 46	Pole + Reinf.	TP39.078x38.203x0.45	Reinf. 4 Tension Rupture	60.3%	Pass
46 - 41	Pole + Reinf.	TP39.954x39.078x0.45	Reinf. 4 Tension Rupture	62.0%	Pass
41 - 39.5	Pole + Reinf.	TP40.216x39.954x0.45	Reinf. 4 Tension Rupture	62.4%	Pass
39.5 - 39.25	Pole + Reinf.	TP40.26x40.216x0.4875	Reinf. 4 Tension Rupture	60.1%	Pass
39.25 - 38.75	Pole + Reinf.	TP40.347x40.26x0.4875	Reinf. 4 Tension Rupture	60.3%	Pass
38.75 - 38.5	Pole + Reinf.	TP40.391x40.347x0.475	Reinf. 3 Tension Rupture	59.7%	Pass
38.5 - 37.5	Pole + Reinf.	TP41.485x40.391x0.475	Reinf. 3 Tension Rupture	60.0%	Pass
37.5 - 31.25	Pole + Reinf.	TP40.91x39.816x0.5375	Reinf. 3 Tension Rupture	56.7%	Pass
31.25 - 26.25	Pole + Reinf.	TP41.785x40.91x0.5375	Reinf. 3 Tension Rupture	57.9%	Pass
26.25 - 21.25	Pole + Reinf.	TP42.66x41.785x0.5375	Reinf. 3 Tension Rupture	59.0%	Pass
21.25 - 16.25	Pole + Reinf.	TP43.536x42.66x0.5313	Reinf. 3 Tension Rupture	60.0%	Pass
16.25 - 11.25	Pole + Reinf.	TP44.411x43.536x0.525	Reinf. 3 Tension Rupture	60.9%	Pass
11.25 - 10	Pole + Reinf.	TP44.63x44.411x0.525	Reinf. 3 Tension Rupture	61.1%	Pass
10 - 9.75	Pole + Reinf.	TP44.673x44.63x0.4625	Pole	60.7%	Pass
9.75 - 7.25	Pole + Reinf.	TP45.111x44.673x0.4625	Pole	61.3%	Pass
7.25 - 7	Pole + Reinf.	TP45.155x45.111x0.5063	Reinf. 2 Tension Rupture	61.8%	Pass
7 - 2	Pole + Reinf.	TP46.03x45.155x0.5	Reinf. 2 Tension Rupture	62.6%	Pass
2 - 0	Pole + Reinf.	TP46.38x46.03x0.5	Reinf. 2 Tension Rupture	63.0%	Pass
				Summary	
			Pole	61.3%	Pass
			Reinforcement	63.0%	Pass
			Overall	63.0%	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
150 - 145	1192	n/a	1192	18.19	n/a	18.19	5.1%					
145 - 140	1335	n/a	1335	18.89	n/a	18.89	9.3%					
140 - 135	1490	n/a	1490	19.59	n/a	19.59	13.5%					
135 - 130	1656	n/a	1656	20.30	n/a	20.30	17.5%					
130 - 125	1835	n/a	1835	21.00	n/a	21.00	21.4%					
125 - 120	2025	n/a	2025	21.70	n/a	21.70	28.7%					
120 - 115	2229	n/a	2229	22.41	n/a	22.41	34.9%					
115 - 110	2445	n/a	2445	23.11	n/a	23.11	40.8%					
110 - 106.25	2617	n/a	2617	23.64	n/a	23.64	45.0%					
106.25 - 101.25	3376	n/a	3376	29.86	n/a	29.86	36.4%					
101.25 - 96.25	3683	n/a	3683	30.74	n/a	30.74	41.3%					
96.25 - 91.25	4009	n/a	4009	31.62	n/a	31.62	45.8%					
91.25 - 86.25	4352	n/a	4352	32.50	n/a	32.50	50.0%					
86.25 - 81.25	4715	n/a	4715	33.38	n/a	33.38	54.1%					
81.25 - 76.25	5098	n/a	5098	34.26	n/a	34.26	57.9%					
76.25 - 73.42	5324	n/a	5324	34.76	n/a	34.76	59.9%					
73.42 - 73.17	5344	1440	6784	34.80	9.00	43.80	45.8%					54.3%
73.17 - 68.17	5759	1511	7270	35.68	9.00	44.68	48.7%					57.2%
68.17 - 66.75	5881	1532	7412	35.93	9.00	44.93	49.6%					58.0%
66.75 - 61	7247	n/a	7247	43.50	n/a	43.50	54.7%					
61 - 56.25	7760	n/a	7760	44.50	n/a	44.50	56.9%					
56.25 - 56	7788	1637	9425	44.56	9.00	53.56	45.5%				56.6%	
56 - 51	8354	1713	10068	45.61	9.00	54.61	47.5%				58.5%	
51 - 46	8948	1791	10738	46.67	9.00	55.67	49.4%				60.3%	
46 - 41	9568	1870	11438	47.72	9.00	56.72	51.3%				62.0%	
41 - 39.5	9760	1894	11654	48.04	9.00	57.04	51.8%				62.4%	
39.5 - 39.25	9856	2911	12767	48.09	17.00	65.09	51.0%		51.8%		60.1%	
39.25 - 38.75	9921	2924	12844	48.20	17.00	65.20	51.2%		51.9%		60.3%	
38.75 - 38.5	9889	2578	12468	48.25	12.00	60.25	49.4%		59.7%	59.7%		
38.5 - 37.5	10020	2600	12620	48.46	12.00	60.46	49.7%		60.0%	60.0%		
37.5 - 31.25	11937	2643	14580	56.93	12.00	68.93	44.5%		56.7%	56.7%		
31.25 - 26.25	12728	2754	15483	58.17	12.00	70.17	45.7%		57.9%	57.9%		
26.25 - 21.25	13554	2868	16421	59.40	12.00	71.40	47.0%		59.0%	59.0%		
21.25 - 16.25	14414	2984	17398	60.63	12.00	72.63	48.1%		60.0%	60.0%		
16.25 - 11.25	15310	3102	18412	61.86	12.00	73.86	49.3%		60.9%	60.9%		
11.25 - 10	15540	3132	18671	62.17	12.00	74.17	49.5%		61.1%	61.1%		
10 - 9.75	15656	784	16440	62.23	8.00	70.23	60.7%	55.0%		55.0%		
9.75 - 7.25	16124	800	16924	62.84	8.00	70.84	61.3%	55.5%		55.5%		
7.25 - 7	16135	2425	18560	62.91	8.00	70.91	54.9%		61.8%			
7 - 2	17100	2519	19619	64.14	8.00	72.14	56.0%		62.6%			
2 - 0	17496	2557	20053	64.63	8.00	72.63	56.4%		63.0%			

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

Monopole Base Plate Connection

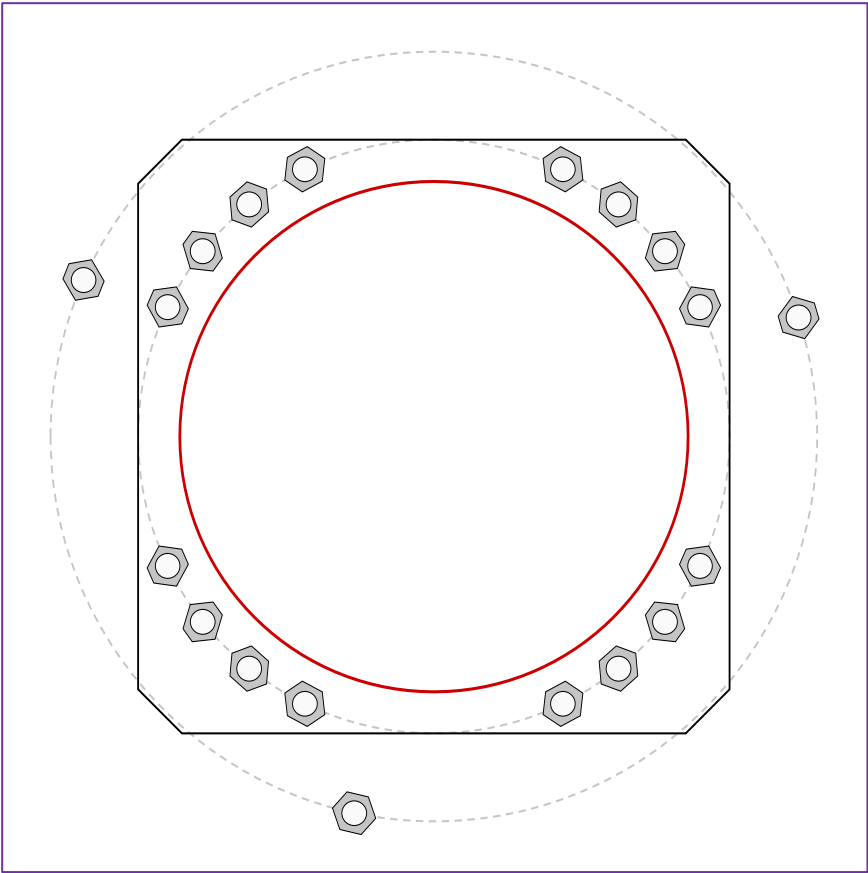


Site Info	
BU #	876315
Site Name	Lane CC, Inc. Tower (S9
Order #	662921 Rev. 0

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

Applied Loads	
Moment (kip-ft)	2689.13
Axial Force (kips)	52.52
Shear Force (kips)	25.46

*TIA-222-H Section 15.5 Applied



Connection Properties		Analysis Results	
Anchor Rod Data		Anchor Rod Summary <i>(units of kips, kip-in)</i>	
GROUP 1: (16) 2-1/4" ϕ bolts (A615-75 N; F _y =75 ksi, F _u =100 ksi) on 54" BC Anchor Spacing: 6 in		GROUP 1:	
GROUP 2: (3) 2-1/4" ϕ bolts (A193 Gr. B7 N; F _y =105 ksi, F _u =125 ksi) on 70" BC pos. (deg): 18, 156, 258		Pu _t = 116.87	ϕ Pn _t = 243.75 Stress Rating
		Vu = 1.59	ϕ Vn = 149.1 45.7%
		Mu = 2.46	ϕ Mn = 128.14 Pass
Base Plate Data		GROUP 2:	
54" W x 3" Plate (A572-60; F _y =60 ksi, F _u =75 ksi); Clip: 4 in		Pu _t = 150.29	ϕ Pn _t = 304.69 Stress Rating
		Vu = 0	ϕ Vn = 186.38 47.0%
		Mu = n/a	ϕ Mn = n/a Pass
Stiffener Data		Base Plate Summary	
N/A		Max Stress (ksi):	20.62 (Flexural)
Pole Data		Allowable Stress (ksi):	54
46.38" x 0.4375" 12-sided pole (A607-65; F _y =65 ksi, F _u =80 ksi)		Stress Rating:	36.4% Pass

Elevation (ft)

0

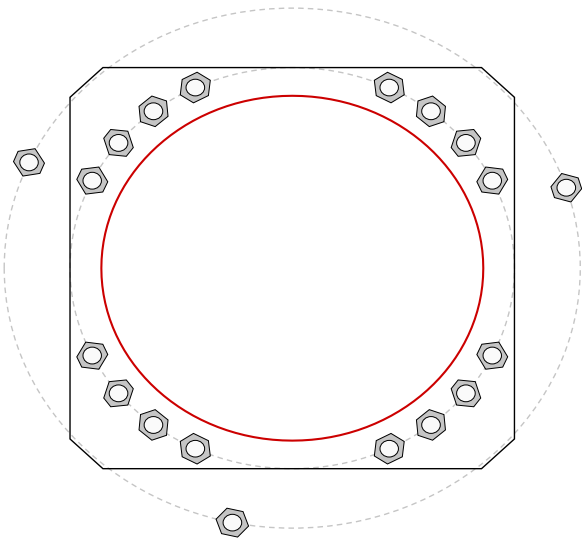
(Base)

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	No	No	
2	No	No	No	Yes	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	25.861889	2.25	A615-75	54	0.5	2.375	N-Included		No
2	1	38.62063	2.25	A615-75	54	0.5	2.375	N-Included		No
3	1	51.37937	2.25	A615-75	54	0.5	2.375	N-Included		No
4	1	64.138111	2.25	A615-75	54	0.5	2.375	N-Included		No
5	1	115.86189	2.25	A615-75	54	0.5	2.375	N-Included		No
6	1	128.62063	2.25	A615-75	54	0.5	2.375	N-Included		No
7	1	141.37937	2.25	A615-75	54	0.5	2.375	N-Included		No
8	1	154.13811	2.25	A615-75	54	0.5	2.375	N-Included		No
9	1	205.86189	2.25	A615-75	54	0.5	2.375	N-Included		No
10	1	218.62063	2.25	A615-75	54	0.5	2.375	N-Included		No
11	1	231.37937	2.25	A615-75	54	0.5	2.375	N-Included		No
12	1	244.13811	2.25	A615-75	54	0.5	2.375	N-Included		No
13	1	295.86189	2.25	A615-75	54	0.5	2.375	N-Included		No
14	1	308.62063	2.25	A615-75	54	0.5	2.375	N-Included		No
15	1	321.37937	2.25	A615-75	54	0.5	2.375	N-Included		No
16	1	334.13811	2.25	A615-75	54	0.5	2.375	N-Included		No
17	2	18	2.25	A193 Gr. B7	70	0.55	2.375	N-Included		No
18	2	156	2.25	A193 Gr. B7	70	0.55	2.375	N-Included		No
19	2	258	2.25	A193 Gr. B7	70	0.55	2.375	N-Included		No

Plot Graphic



Pier and Pad Foundation



BU #: 876315
 Site Name: Oak Lane CC, Inc.
 App. Number: 662921 Rev. 0

TIA-222 Revision: H
 Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	52.53	kips
Base Shear, V_{u_comp} :	25.44	kips
Moment, M_u :	2689.13	ft-kips
Tower Height, H :	150	ft
BP Dist. Above Fdn, bp_{dist} :	4.625	in
Bolt Circle / Bearing Plate Width, BC :	54	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	133.49	25.44	18.1%	Pass
Bearing Pressure (ksf)	36.00	2.62	7.3%	Pass
Overturning (kip*ft)	4994.98	2826.14	56.6%	Pass
Pad Flexure (kip*ft)	8967.19	1264.28	13.4%	Pass
Pad Shear - 1-way (kips)	1363.20	145.56	10.2%	Pass
Pad Shear - 2-way (Comp) (ksi)	0.164	0.002	1.3%	Pass
Flexural 2-way (Comp) (kip*ft)	10725.59	0.00	0.0%	Pass

*Rating per TIA-222-H Section 15.5

Structural Rating*:	13.4%
Soil Rating*:	56.6%

Pad Properties		
Depth, D :	4.5	ft
Pad Width, W_1 :	25	ft
Pad Thickness, T :	5	ft
Pad Rebar Size (Bottom dir. 2), Sp_2 :	9	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	37	
Pad Clear Cover, cc_{pad} :	3	in

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

Soil Properties		
Total Soil Unit Weight, γ :	100	pcf
Ultimate Gross Bearing, Q_{ult} :	48.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	30	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :		
Neglected Depth, N :	3.33	ft
Foundation Bearing on Rock?	Yes	
Groundwater Depth, gw :	3	ft

<--Toggle between Gross and Net

ASCE Hazards Report

Address:

No Address at This Location

Standard:

ASCE/SEI 7-16

Risk Category: II**Soil Class:**

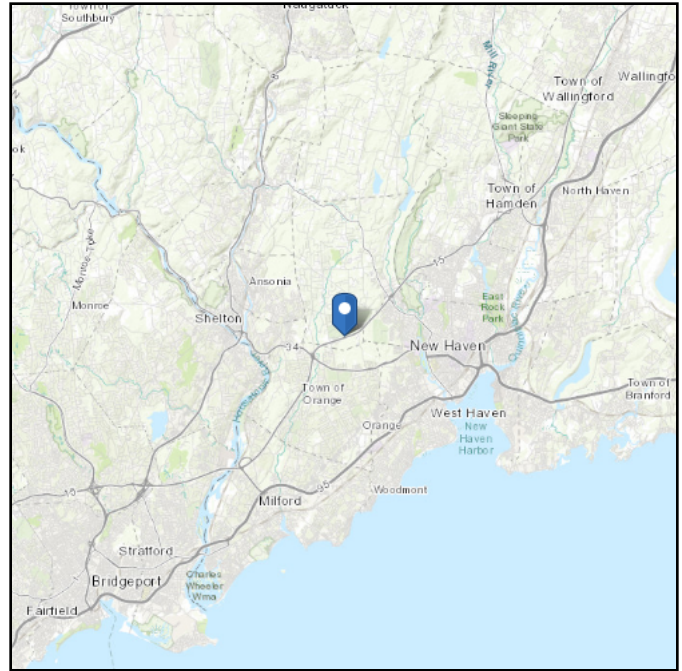
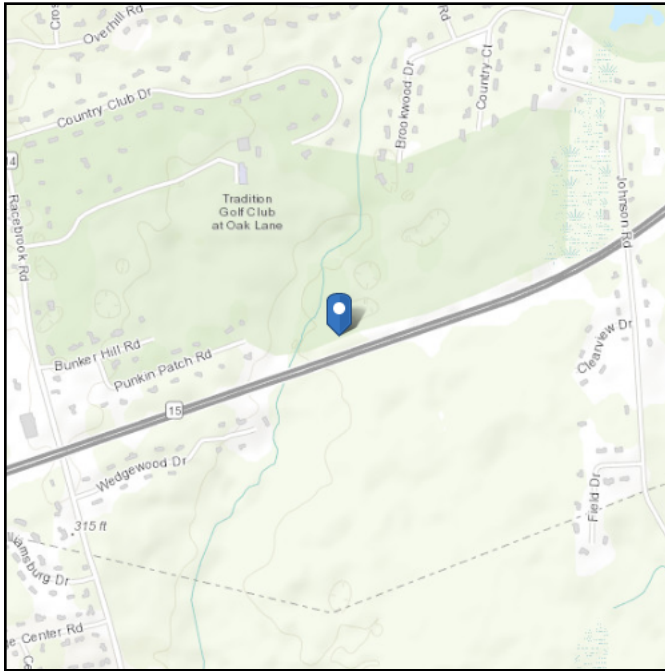
D - Default (see
Section 11.4.3)

Latitude:

41.31675

Longitude: -73.011611**Elevation:**

240.85633856042097 ft
(NAVD 88)



Wind

Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	98 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:

Wed Feb 14 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).

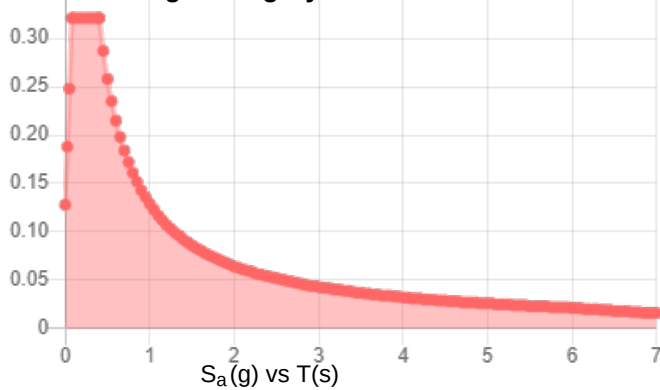
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

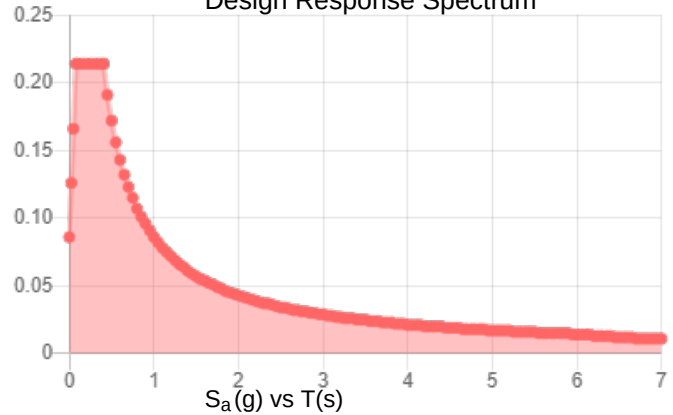
Results:

S_S :	0.201	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.112
F_v :	2.4	PGA _M :	0.177
S_{MS} :	0.321	F_{PGA} :	1.575
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.214	C_v :	0.701

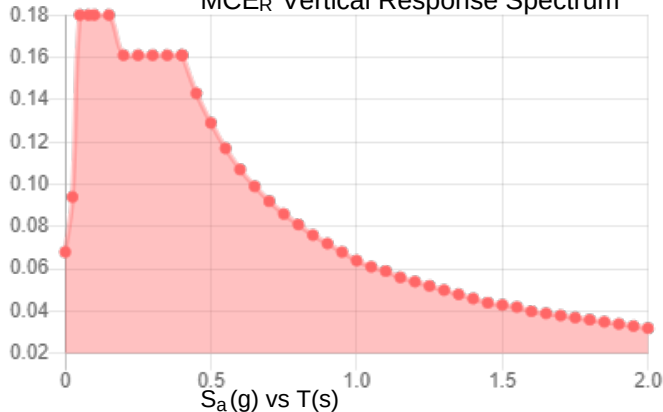
Seismic Design Category: B **MCE_R Response Spectrum**



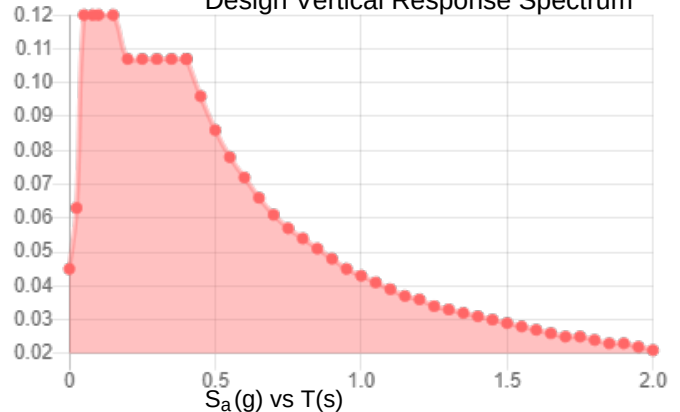
Design Response Spectrum



MCE_R Vertical Response Spectrum



Design Vertical Response Spectrum



Data Accessed: Wed Feb 14 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: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Wed Feb 14 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.

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

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EXHIBIT 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 #: 10219428
Colliers Engineering & Design Project #: 21777143 (Rev. 1)

January 19, 2024

Site Information

Site ID: 5000385363-VZW / WOODBRIDGE S CT
Site Name: WOODBRIDGE S CT
Carrier Name: Verizon Wireless
Address: 1116 Johnson Rd
Woodbridge, Connecticut 06525
New Haven County
Latitude: 41.316833°
Longitude: -73.011583°

Structure Information

Tower Type: Monopole
Mount Type: 14.00-Ft Platform

FUZE ID # 16244090

Analysis Results

Platform: 63.4% **Pass w/ Modifications***

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

***Contractor PMI Requirements:

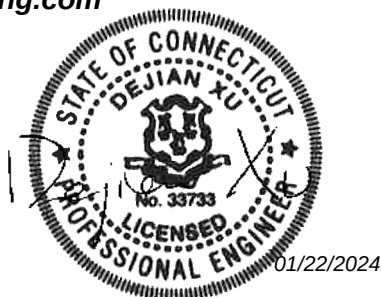
Included at the end of this MA report

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

For additional questions and support, please reach out to:

pmisupport@colliersengineering.com

Report Prepared By: Andy Hanes



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: 325183, dated December 11, 2023
Mount Mapping Report	RKS Design & Engineering, LLC, Site ID: CC: 876315, VZW: 467834, dated November 8, 2021
Previous Mount Analysis	Colliers Engineering & Design, Project #: 22777143 (Rev. 1), dated January 3, 2024
Mount Modification Drawings	Colliers Engineering & Design, Project #: 21777143 (Rev. 1), dated January 19, 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: 1.00 in Risk Category: II Exposure Category: C Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.991
Seismic Parameters:	S_s : 0.200 g S_1 : 0.054 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, L_v : 250 lbs. Maintenance Load, L_m : 500 lbs.
Analysis Software:	RISA-3D (V17)

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
124.80	127.00	6	JMA Wireless	MX06FHG865-HG	Added
		3	Samsung	MT6413-77A	
		1	Raycap	RVZDC-6627-PF-48	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	
		1	Amphenol Antel	BXA-70080-4CF	Retained
		2	Antel	BXA-80063/4CF	

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
Connection Check	10.7 %	Pass
Standoff_1	22.4 %	Pass
Standoff_2	13.1 %	Pass
Grating Angle	31.9 %	Pass
Cross Members	12.7 %	Pass
Face Horizontal	63.4 %	Pass
Mount Pipe	14.8 %	Pass
Dual Mount Pipe	17.4 %	Pass
Light Pipe	1.4 %	Pass
Support Rail	21.2 %	Pass
Support Rail Corner	26.9 %	Pass
Kicker Kit	5.9 %	Pass

Structure Rating – (Controlling Utilization of all Components)	63.4%
---	--------------

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)
Gamma V-Bracing Connection	128.8	N160	533	1979	0.000	0.000	282	857	0.000	0.000
Beta V-Bracing Connection	128.8	N163	410	1488	0.001	0.000	231	670	0.001	0.000
Alpha Standoff Connection	124.8	N2	617	1509	1.491	1.534	1033	488	2.759	0.389
Gamma Standoff Connection	124.8	N77	675	1571	1.945	1.650	1044	577	3.025	0.467
Beta Standoff Connection	124.8	N109	567	1211	1.601	1.229	922	385	2.643	0.351
Beta/Gamma Kicker Connection	121.8	N150	704	1140	0.000	0.000	1334	2101	0.000	0.000
Alpha/Beta Kicker Connection	121.8	N151	696	1131	0.000	0.000	1471	2328	0.000	0.000
Gamma/Alpha Kicker Connection	121.8	N152	700	1133	0.000	0.000	1479	2340	0.000	0.000
Alpha V-Bracing Connection	128.8	N159	405	1528	0.001	0.000	236	688	0.001	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	39.9	39.9	55.4	55.4
0.5	49.8	49.8	71.5	71.5
1	58.7	58.7	86.7	86.7

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 #: 5000385363

SMART Project #: 10219428

Fuze Project ID: 16244090

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:

Contractor shall install the proposed OVP on the proposed OVP pipe.

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:	

Sector: A

1/17/2024

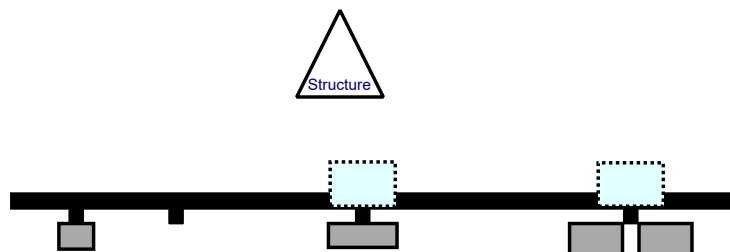
Structure Type: Monopole

10219428

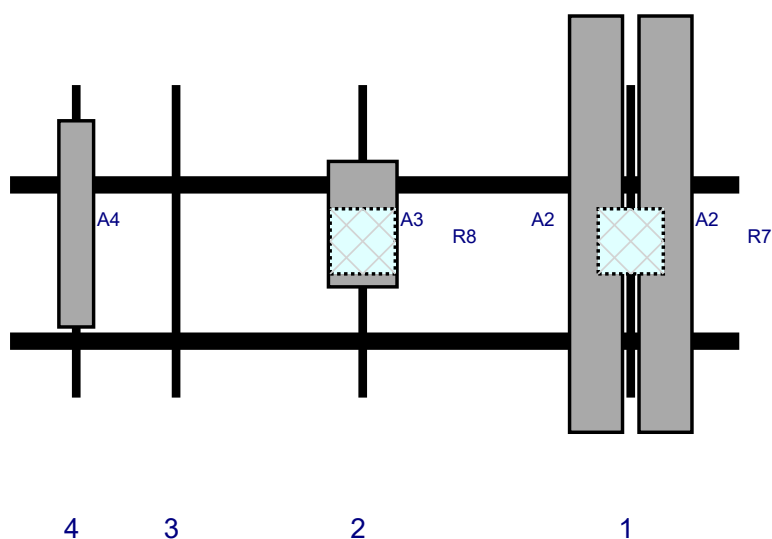
Mount Elev: 124.80

Page: 1

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	MX06FHG865-HG	95.9	12.2	143	1	a	Front	32.04	-8	Added	
A2	MX06FHG865-HG	95.9	12.2	143	1	b	Front	32.04	8	Added	
R7	RF4439d-25A	15	15	143	1	a	Behind	36	0	Added	
A3	MT6413-77A	28.9	15.8	81.25	2	a	Front	32.04	0	Added	
R8	RF4461d-13A	15	15	81.25	2	a	Behind	36	0	Added	
A4	BXA-70080-4CF	47.5	8	15.25	4	a	Front	31.98	0	Retained	11/08/2021
LIGHT	Single light	8	4			Member				Retained	11/08/2021
OVP	RVZDC-6627-PF-48	29.5	16.5			Member				Added	

Sector: B

1/17/2024

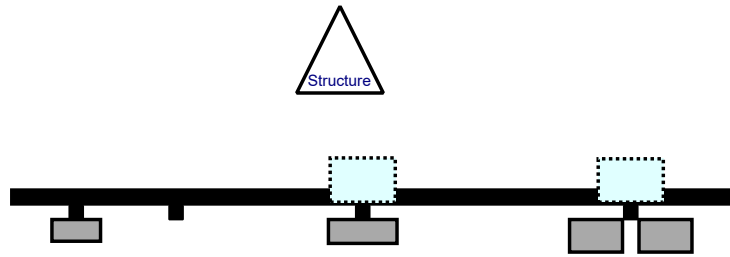
Structure Type: Monopole

10219428

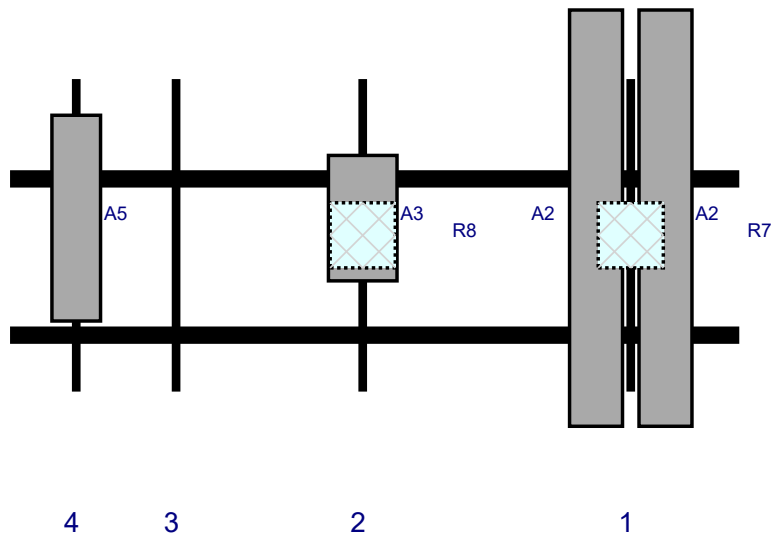
Mount Elev: 124.80

Page: 2

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	MX06FHG865-HG	95.9	12.2	143	1	a	Front	32.04	-8	Added	
A2	MX06FHG865-HG	95.9	12.2	143	1	b	Front	32.04	8	Added	
R7	RF4439d-25A	15	15	143	1	a	Behind	36	0	Added	
A3	MT6413-77A	28.9	15.8	81.25	2	a	Front	32.04	0	Added	
R8	RF4461d-13A	15	15	81.25	2	a	Behind	36	0	Added	
A5	BXA-80063/4CF	47.4	11.2	15.25	4	a	Front	32.04	0	Retained	11/08/2021

Sector: C

1/17/2024

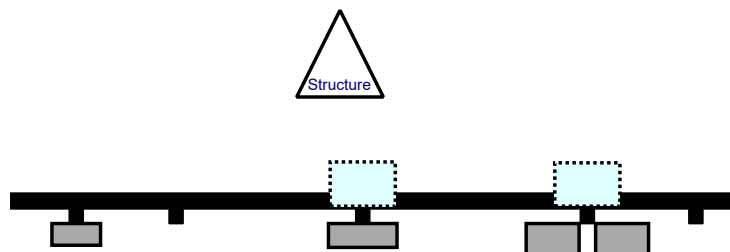
Structure Type: Monopole

10219428

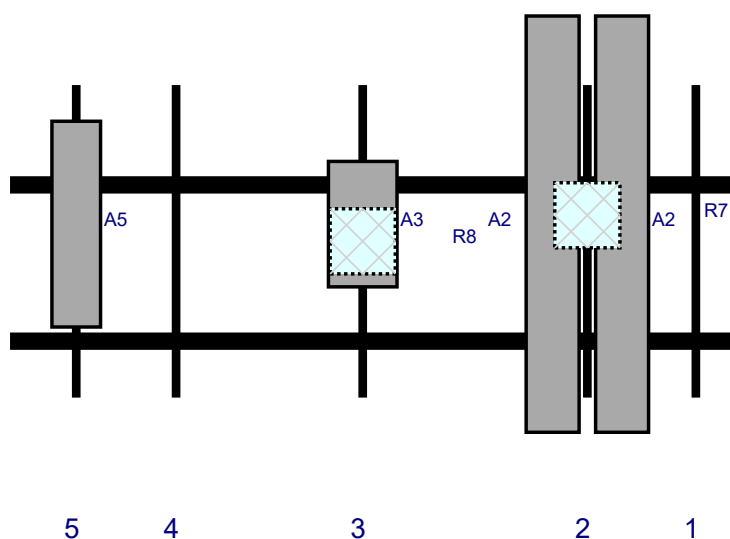
Mount Elev: 124.80

Page: 3

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	MX06FHG865-HG	95.9	12.2	133	2	a	Front	32.04	-8	Added	
A2	MX06FHG865-HG	95.9	12.2	133	2	b	Front	32.04	8	Added	
R7	RF4439d-25A	15	15	133	2	a	Behind	30	0	Added	
A3	MT6413-77A	28.9	15.8	81.25	3	a	Front	32.04	0	Added	
R8	RF4461d-13A	15	15	81.25	3	a	Behind	36	0	Added	
A5	BXA-80063/4CF	47.4	11.2	15.25	5	a	Front	32.04	0	Retained	11/08/2021



MOUNT MODIFICATION DRAWINGS

EXISTING 14.00' PLATFORM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 876315

CARRIER SITE NAME: WOODBRIDGE S CT
CARRIER SITE NUMBER: 5000385363
FUZE ID: 16244090

1116 JOHNSON RD
WOODBIDGE, CT 06525
NEW HAVEN COUNTY

LATITUDE: 41.316833° N
LONGITUDE: 73.011583° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), $V = 120$ MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: I
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 238.5'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), $V = 50$ MPH
ICE THICKNESS = 1.00 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, $S_s = .200$
LONG TERM MCER GROUND MOTION, $S_l = .054$

PROJECT INFORMATION	
<u>APPLICANT/LESSEE</u>	
COMPANY:	VERIZON WIRELESS
<u>CLIENT REPRESENTATIVE</u>	
COMPANY:	VERIZON WIRELESS
<u>PROJECT MANAGER</u>	
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 #:	10219428
VZW MDG #:	5000385363
ANALYSIS DATE:	11/19/2023
PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT	

[illegible]

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1	01/19/24	ISSUED FOR CONSTRUCTION	AH DX
0	12/02/21	ISSUED FOR CONSTRUCTION	AE DRH
REV	DATE	DESCRIPTION	DRAWN BY CHECKED BY
COLLIERS ENGINEERING & DESIGN CT, P.C. C.T. JPC-0000131			
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: WOODBIDGE S CT 5000385363 1116 JOHNSON RD WOODBIDGE, CT 06525 NEW HAVEN COUNTY			
		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-I			

BILL OF MATERIALS						
SECTION 1 - VZWSMART KITS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-MSK1	CROSSOVER PLATE		14	14
1		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE		34	34
1		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
2		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	300
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
3		VZWSMART-PLK6	V-BRACING KIT FOR MONOPOLE	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	109	327
1		VZWSMART-P40-238X048	48" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		15	15
3		VZWSMART-P40-278X096	96" LONG, PIPE 2.5 SCH40 (2.875"OD X 0.203" THK)		46	138
SECTION 2 - OTHER REQUIRED PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
-	-	-	1/2" U-BOLTS		-	-
6	-	-	6" LONG HSS3X2 1/2X1/4 SHIM		5	30
SECTION 3 - REQUIRED SAFETY CLIMB PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISION	PV-SCRB-RM-U	ROUTING BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISON	H42-0501-06	STANDOFF CLAMP BRACKET	OR EOR APPROVED EQUIVALENT	-	-
2	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
TOTAL:						1653

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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REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY

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C.T. JPC-0000131

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SITE NAME:

WOODBRIDGE S CT
5000385363

1116 JOHNSON RD
WOODBRIDGE, CT 06525
NEW HAVEN COUNTY



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:
BILL OF MATERIALS

SHEET NUMBER:
SBOM-1

GENERAL NOTES

- 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.
- 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.
- 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.
- IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
- 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.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
- 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.
- 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.
- 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.
- 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.
- DO NOT SCALE DRAWINGS.
- DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
- 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.
- THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

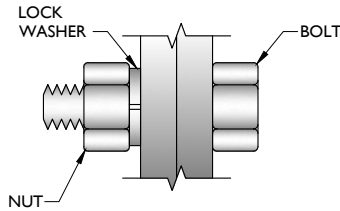
- DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
 - SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
 - AISC CODE OF STANDARD PRACTICE
- 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
- 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.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - SUBMIT SHOP DRAWINGS TO
PETER.ALBANO@COLLIERSENG.COM
 - PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- 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.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- 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.
- 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.
- 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.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- 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.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- 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.
- 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).
- 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.)

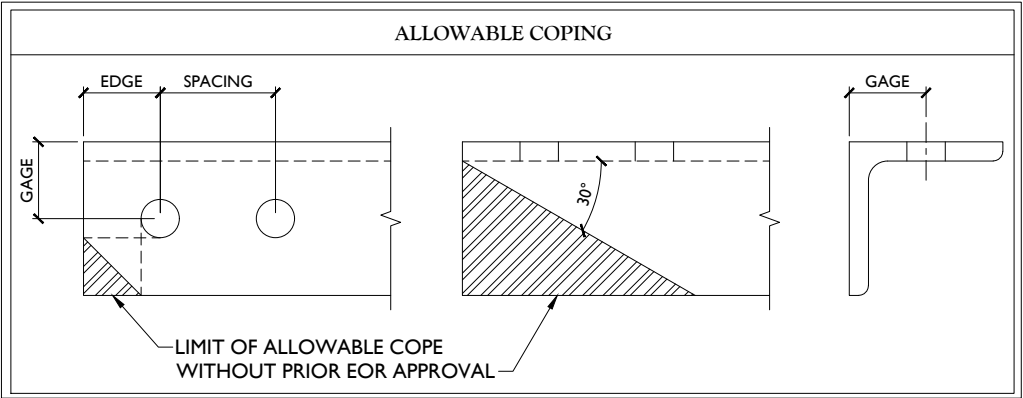
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

- 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.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
- MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

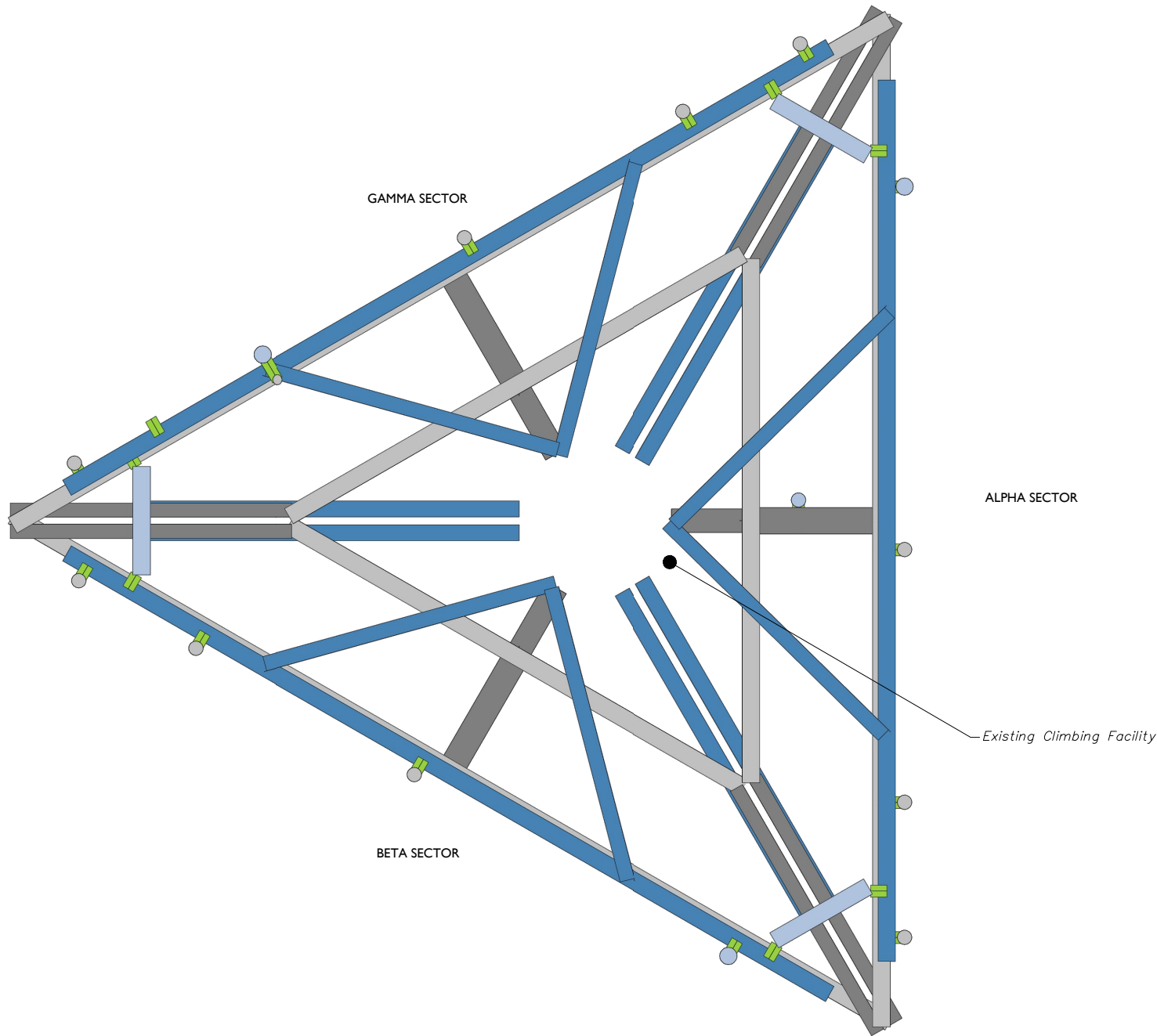


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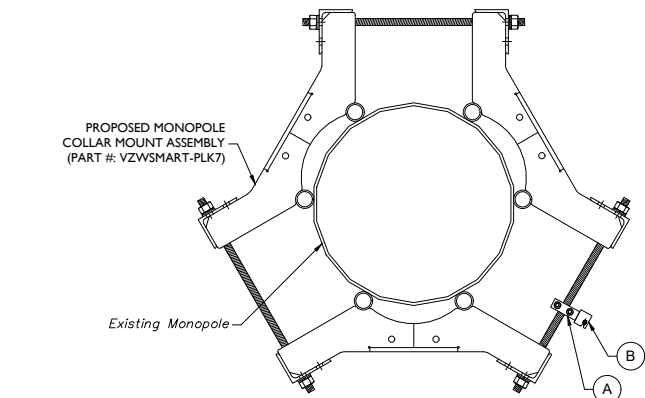
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NEW HAVEN COUNTY



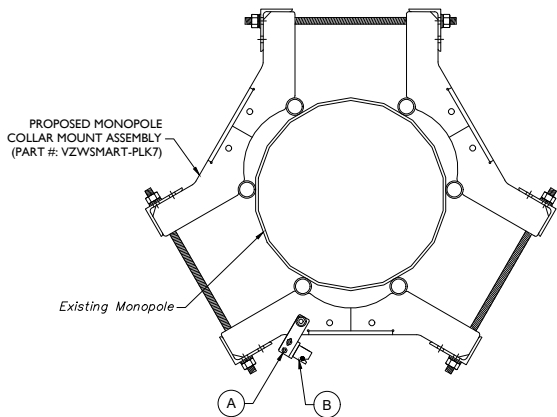
1 CLIMBING FACILITY LOCATION
SCALE : N.T.S.

STRUCTURAL NOTES:

- PER THE MOUNT MAPPING COMPLETED BY RKS DESIGN & ENGINEERING, LLC ON 11/8/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (124.8') ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- 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	PV-SCRB-RM-U	ROUTING BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)



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.)

PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW
SCALE : N.T.S.

- 2 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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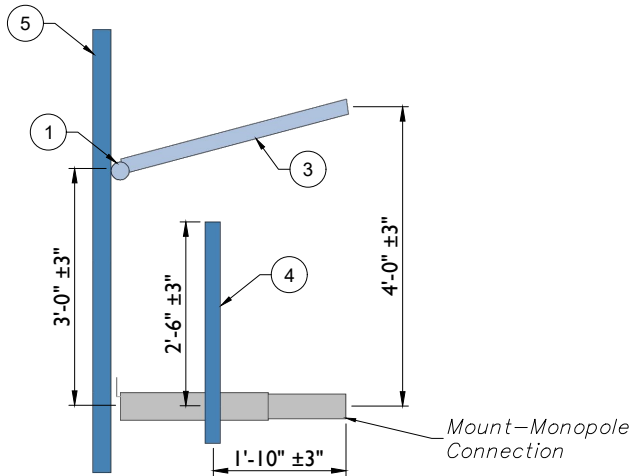
SITE NAME:

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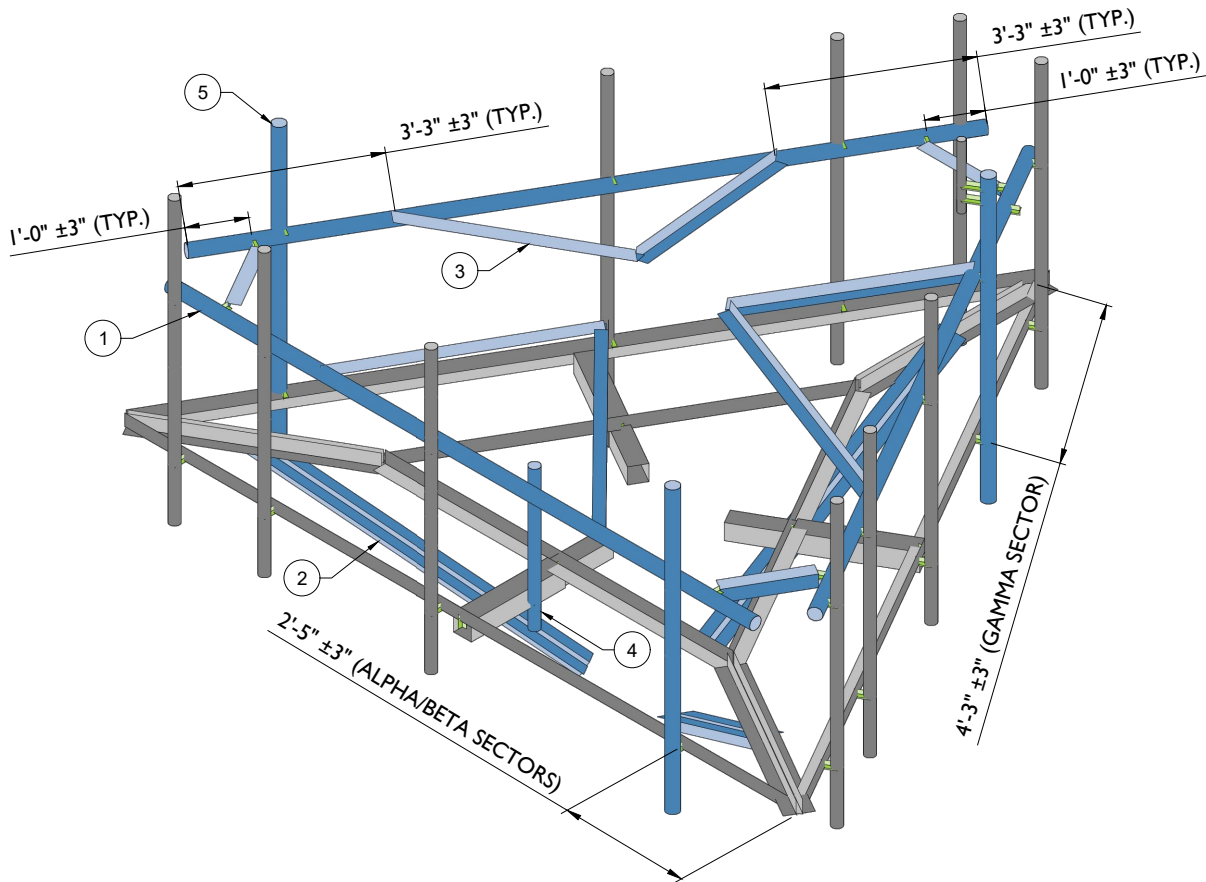
LEGEND:

- PROPOSED
- RELOCATED
- EXISTING



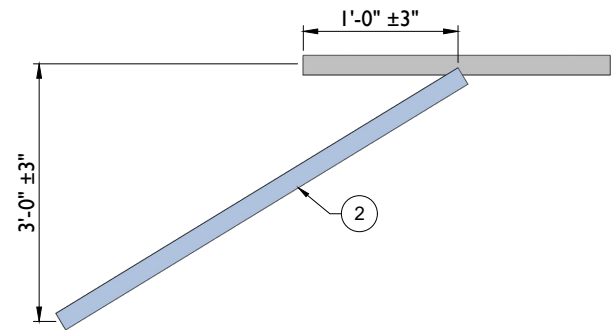
1 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.



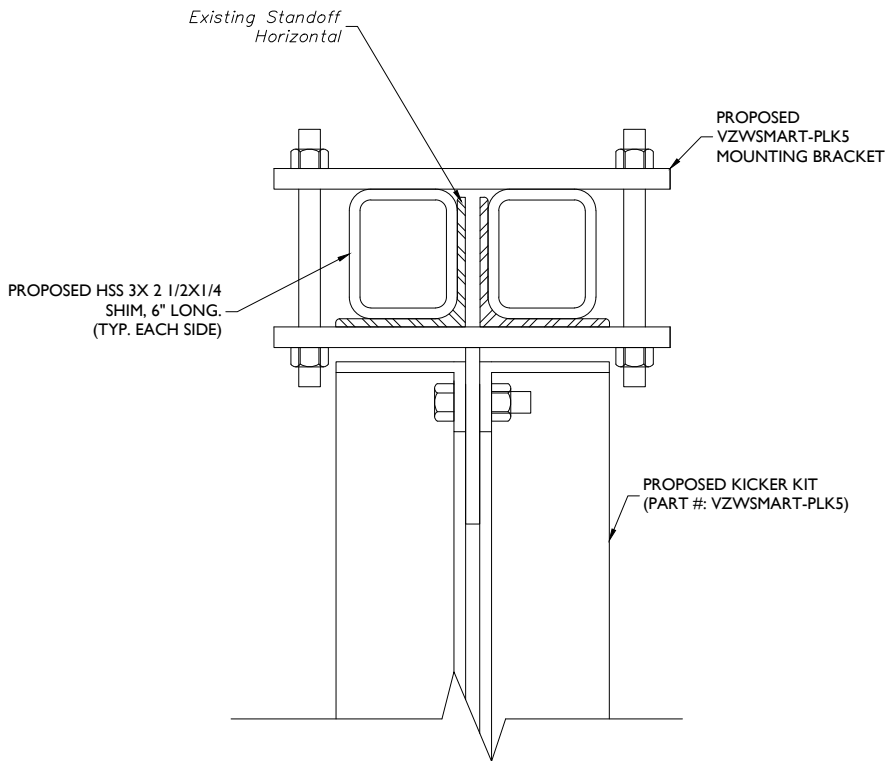
2 PROPOSED ISOMETRIC VIEW

SCALE : N.T.S.



3 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.



4 KICKER TO STANDOFF CONNECTION DETAIL

SCALE : N.T.S.

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	124.8'	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. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOHTER MOUNT PIPE. PROPOSED CROSSOVER PLATE (VZWSMART-MSK1) TO BE USED TO ATTACH MOUNT PIPE TO PROPOSED SUPPORT RAIL.
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.
3		3	PROPOSED V-BRACING KIT FOR MONOPOLE (PART #: VZWSMART-PLK6)	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 V-BRACING KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.
4		1	PROPOSED 48" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X048)	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK6). CONTRACTOR SHALL TRIM THE GRATINGS AROUND PROPOSED PIPE AND BRACKET IF REQUIRED. ALPHA SECTOR ONLY.
5		3	PROPOSED 96" LONG, PIPE 2.5 SCH40 (PART #: VZWSMART-P40-278X096)	CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH EXISTING CONNECTION HARDWARE AND NEW BOLTING HARDWARE.

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.

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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:

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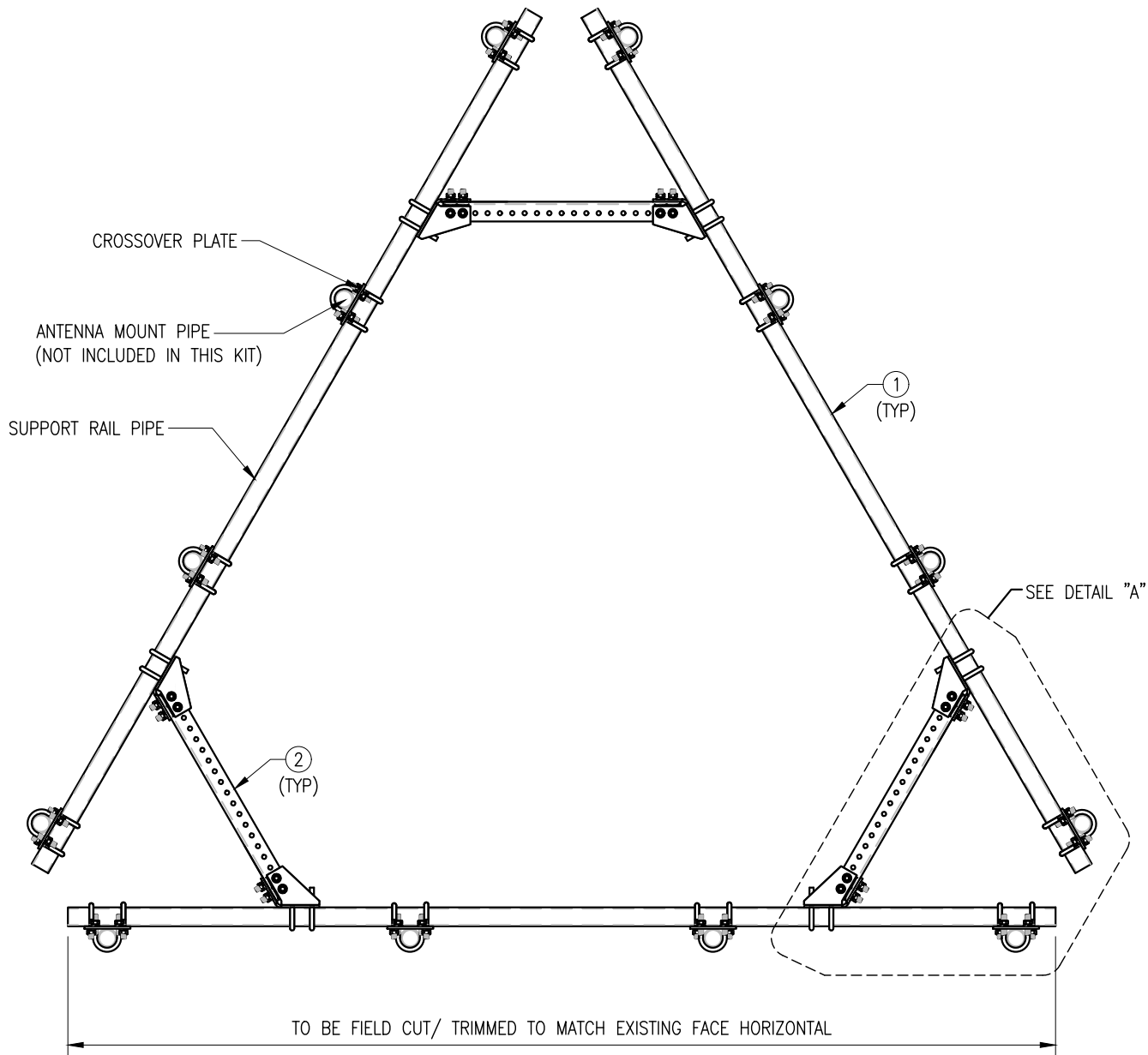
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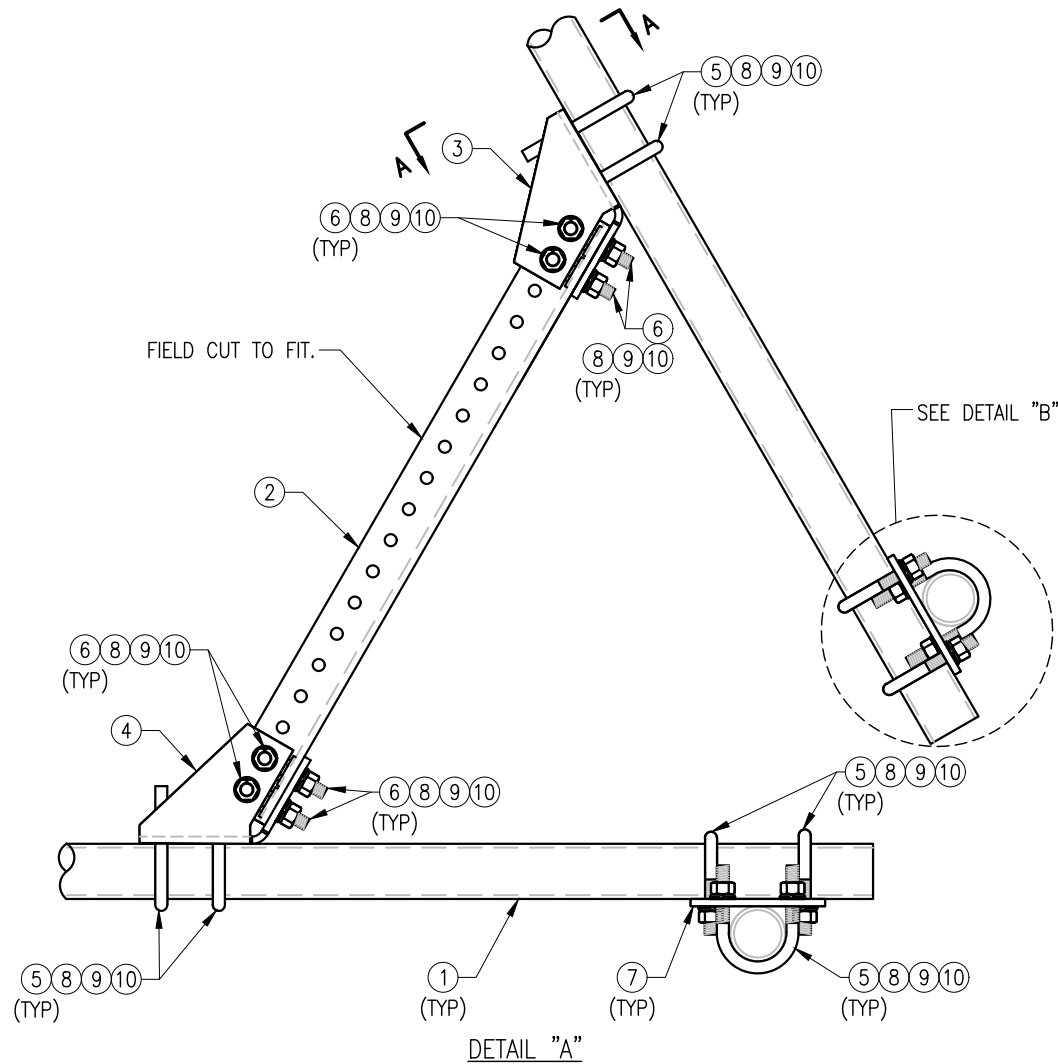
VZWSMART-PLK1
SUPPORT RAIL KIT

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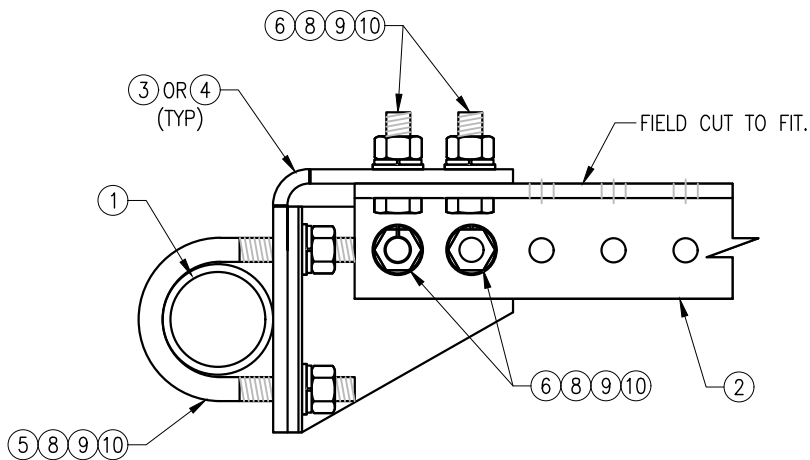
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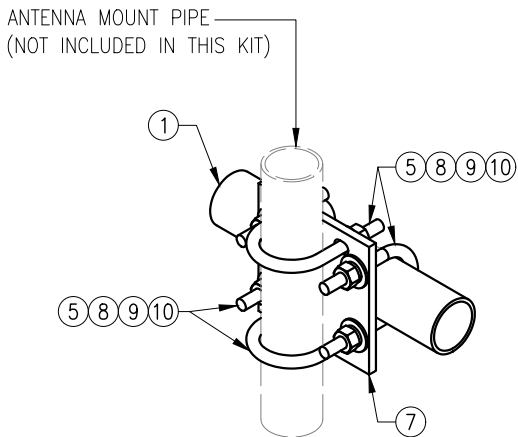
PLAN VIEW



DETAIL "A"



SECTION "A-A"

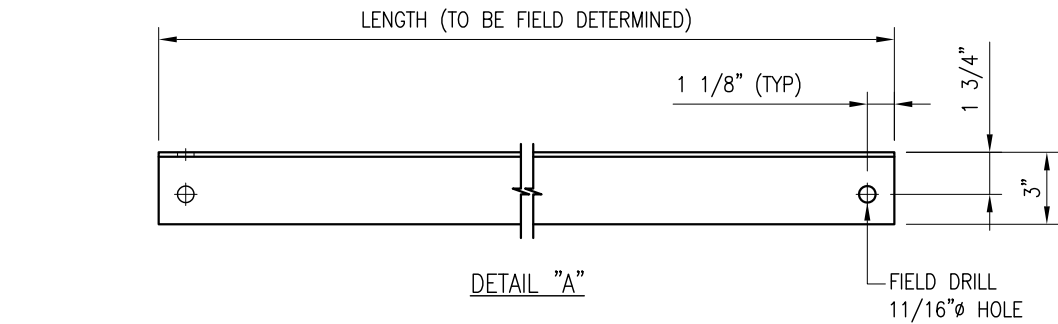
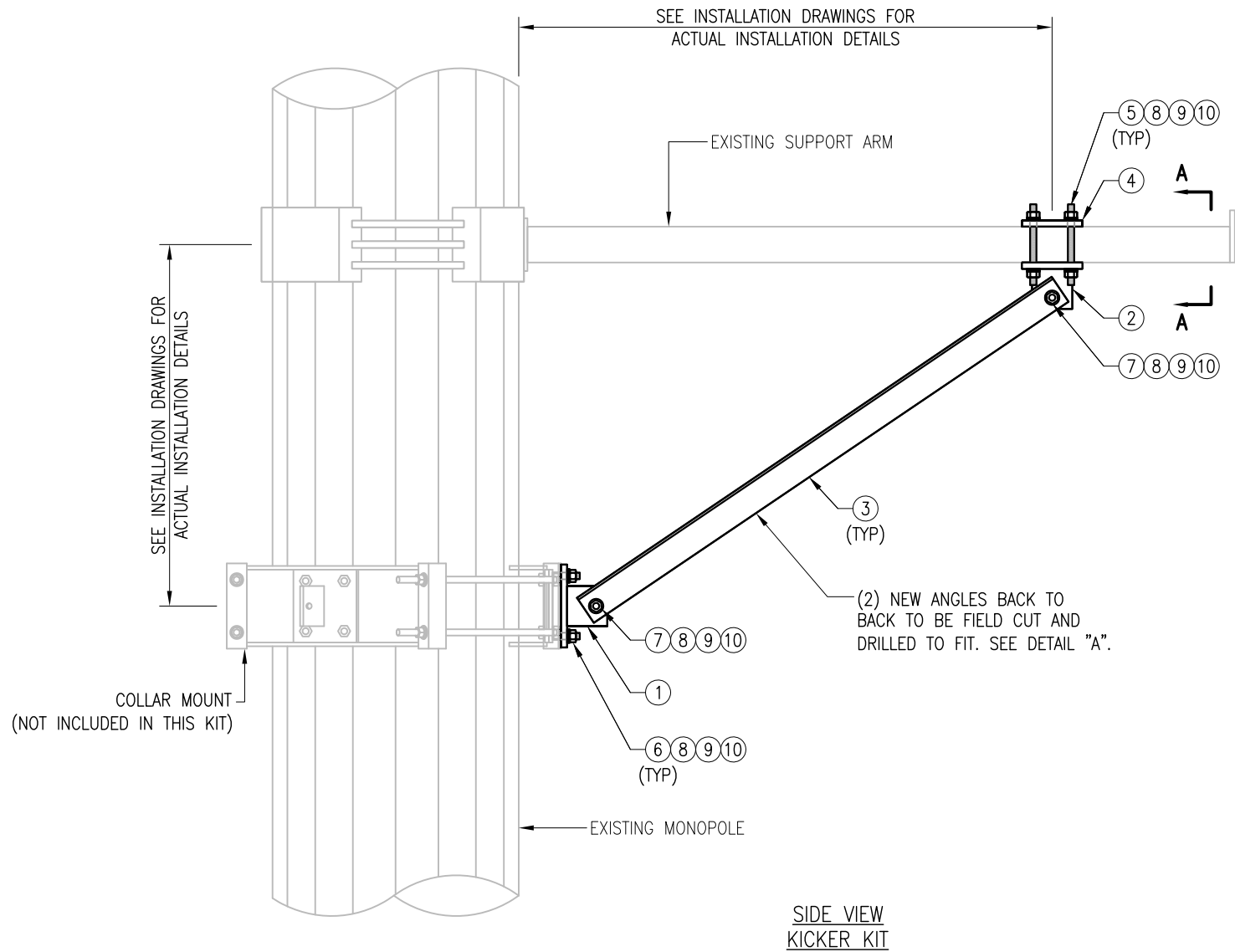


DETAIL "B"

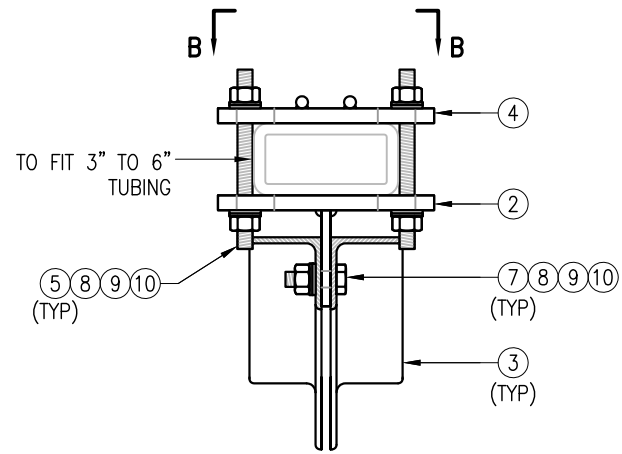
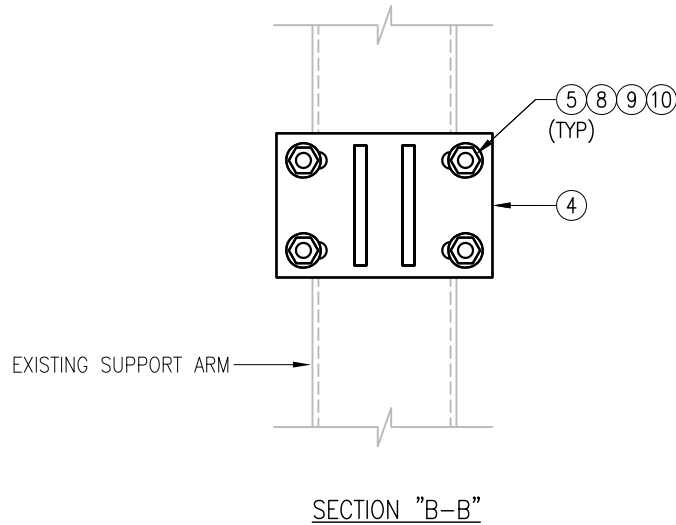
NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

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

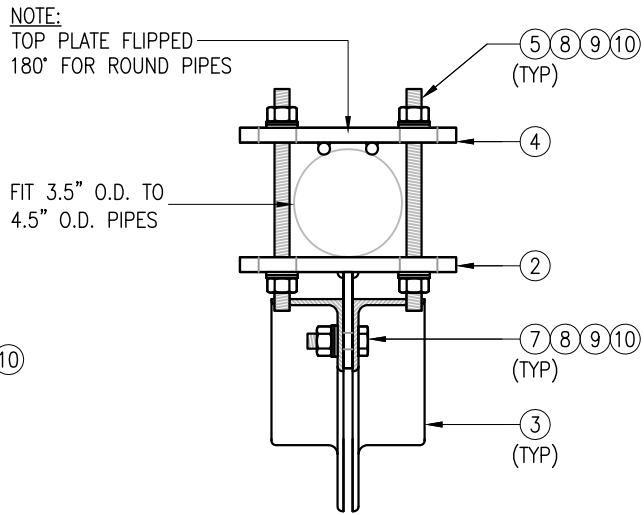
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



- 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



SECTION "A-A"
RECT. HSS MOUNTING



SECTION "A-A"
ROUND PIPE MOUNTING

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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SHEET TITLE:

VZWSMART-PLK5
KICKER KIT

SHEET NUMBER:
VZWSMART-PLK5

REV #:
0



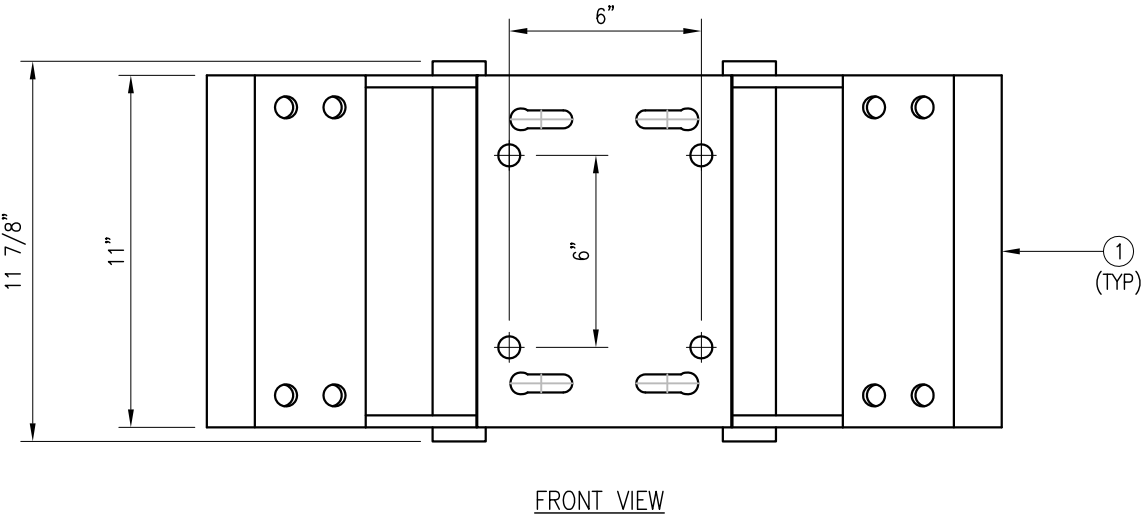
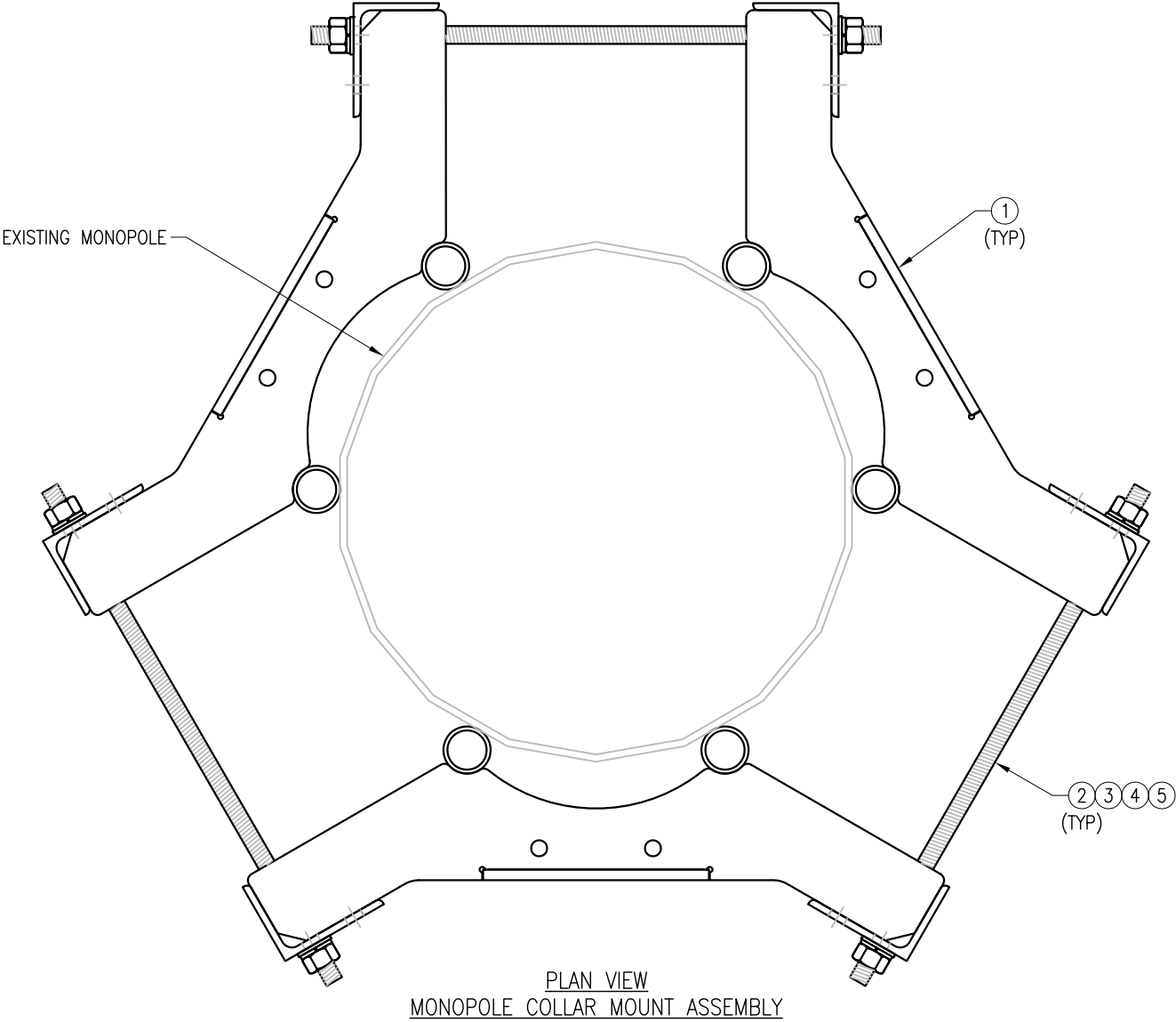
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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	05/11/20

SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7	REV #: 0
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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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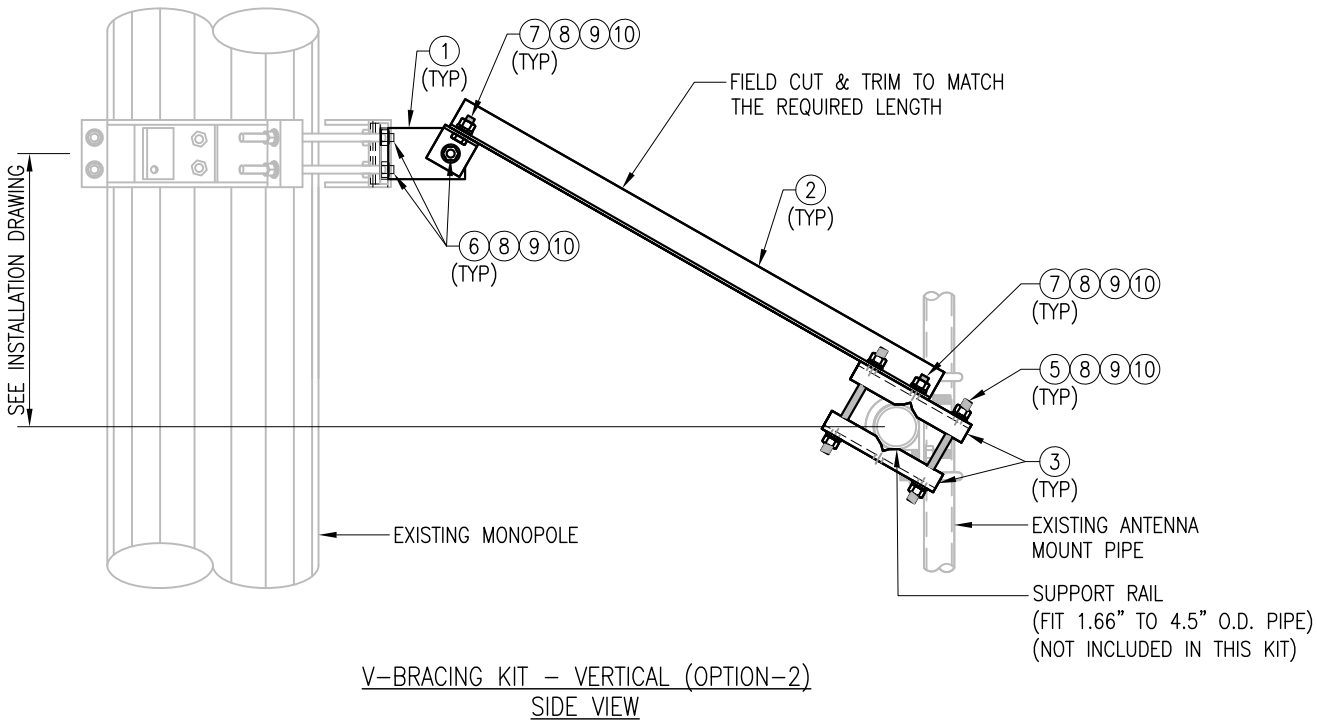
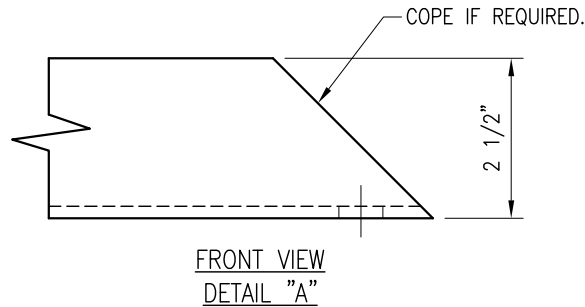
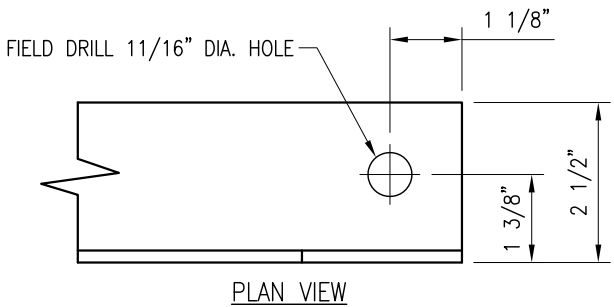
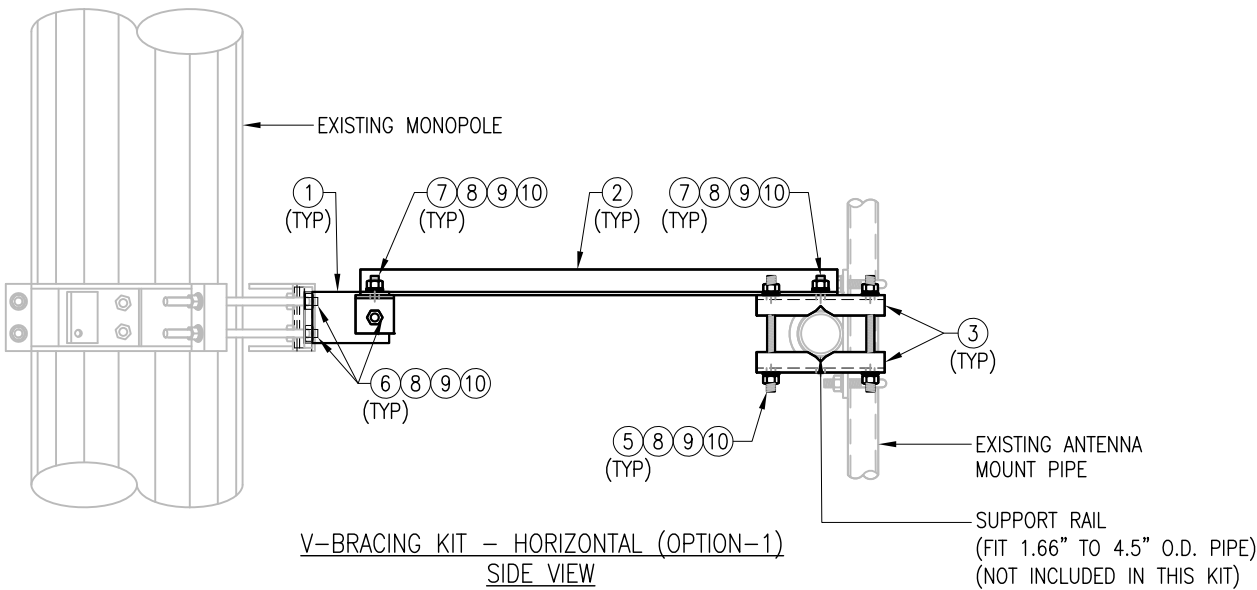
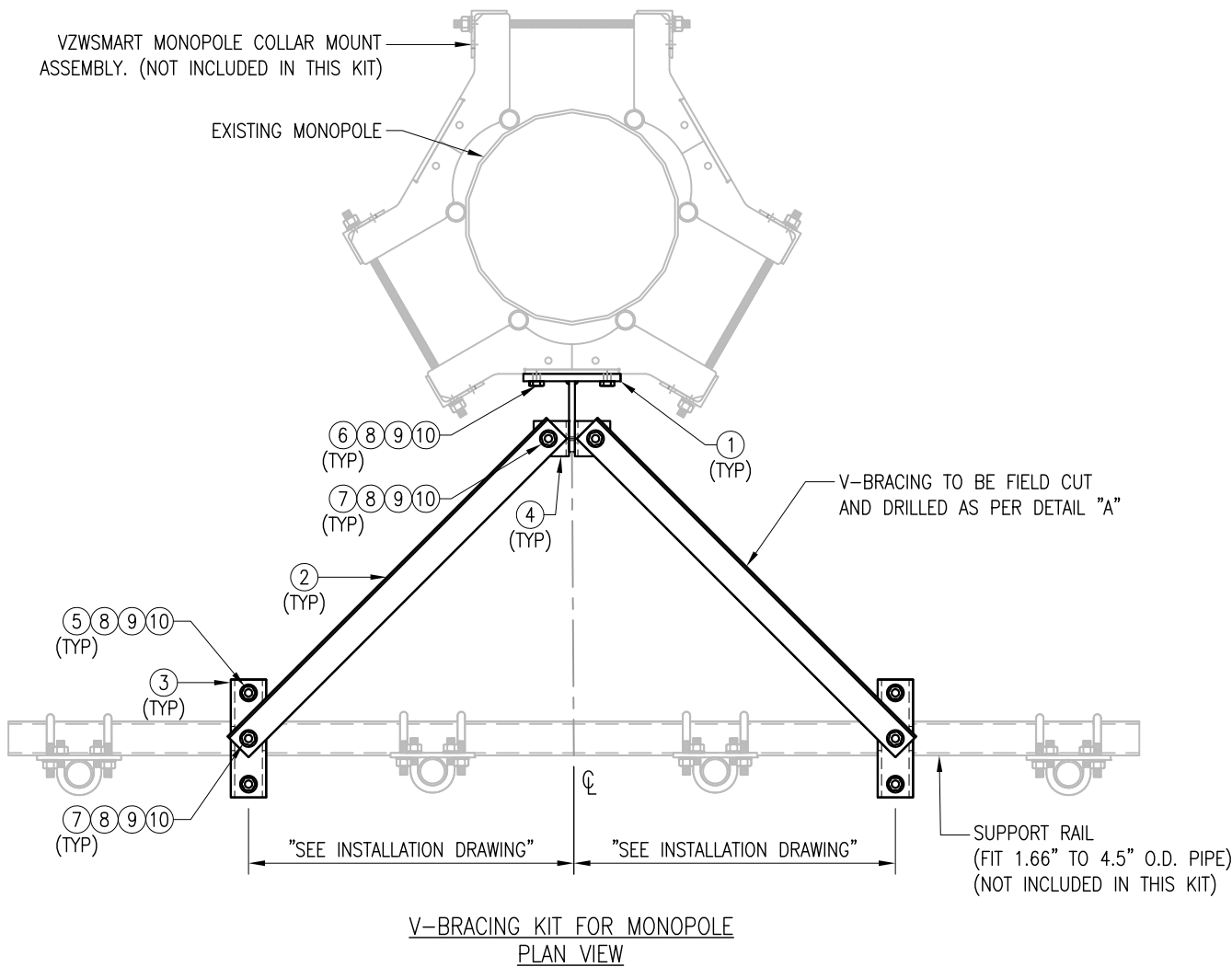
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SHEET TITLE:
VZSMART-PLK6
V-BRACING KIT FOR
MONOPOLE

SHEET NUMBER:
VZSMART-PLK6

REV #:
0



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

VZSMART-PLK6 (V-BRACING KIT FOR MONOPOLE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	BRKW-6A	WELDMENT BRACKET	PLK6-F1	16
2	2	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	PLK6-F2	67
3	4	BP6875-10	PL 3/8" X 6 7/8" X 10" A36 BENT PLATE	PLK6-F2	20
4	2	AL-333	L 3" X 3" X 1/4" X 3" A36	PLK6-F2	3
5	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---
6	5	---	BOLT 5/8" X 2 1/4" A325	---	---
7	4	---	BOLT 5/8" X 1 3/4" A325	---	---
8	17	FW-625	5/8" HDG USS FLAT WASHER	---	2
9	17	LW-625	5/8" HDG LOCK WASHER	---	0
10	17	NUT-625	5/8" HDG HEX NUT	---	2
GALVANIZED WT					109



FOR REFERENCE
ONLY

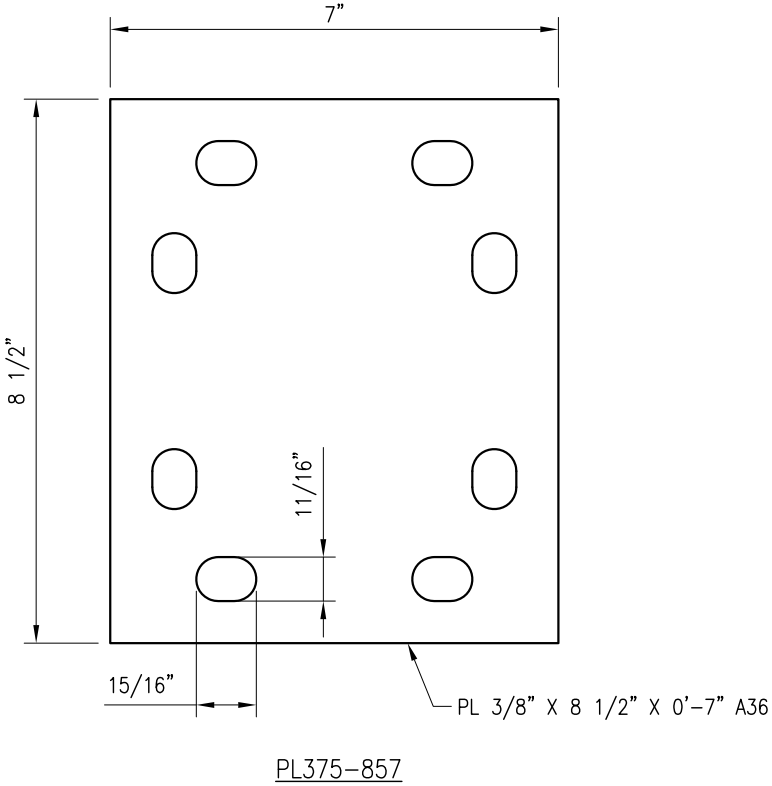
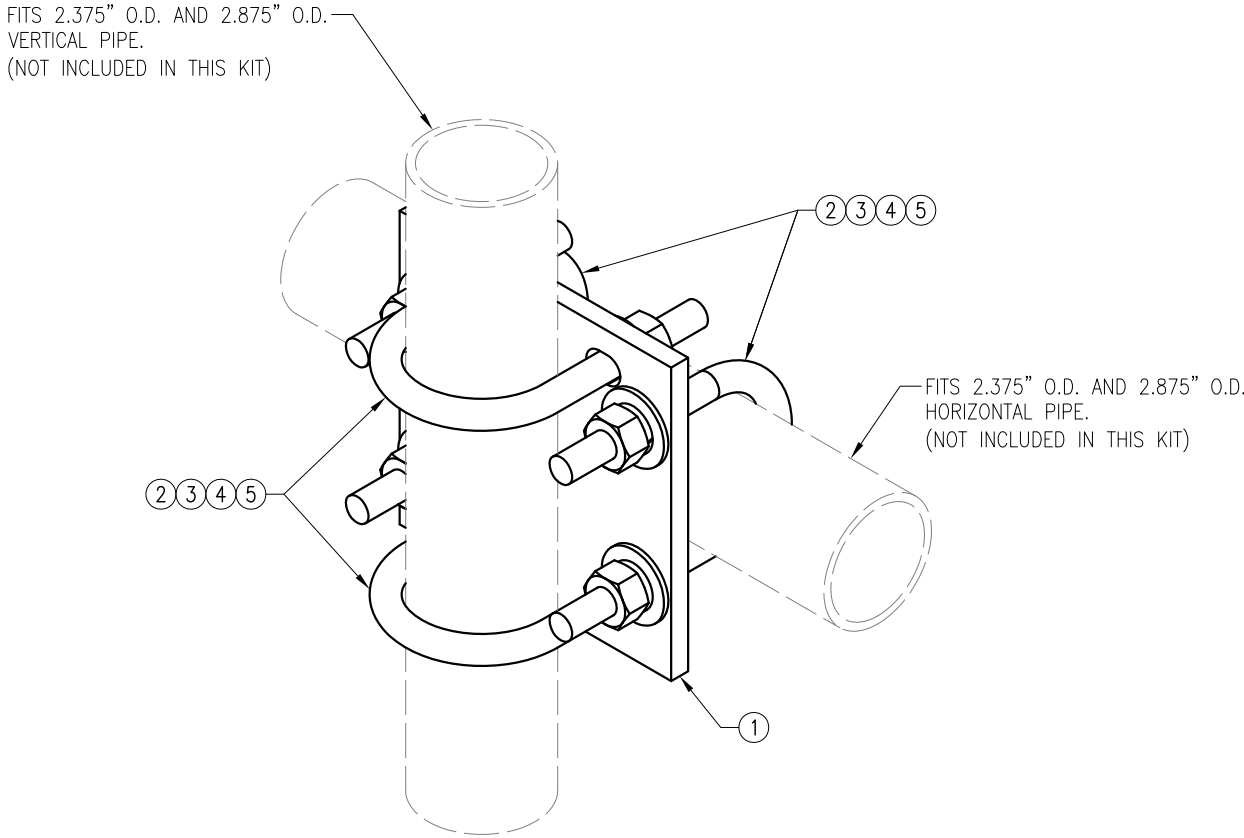
DRAWN BY: H.R CHECKED BY: HMA

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

SHEET TITLE:

VZWSMART-MSK1
CROSSOVER PLATE

SHEET NUMBER: VZWSMART-MSK1	REV #: 0
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VZWSMART-MSK1 (CROSSOVER PLATE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-857	PL 3/8" X 8 1/2" X 0'-7" A36	MSK1-F1	6
2	4	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	5
3	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	8	LW-625	5/8" HDG LOCK WASHER	---	0
5	8	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					14

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



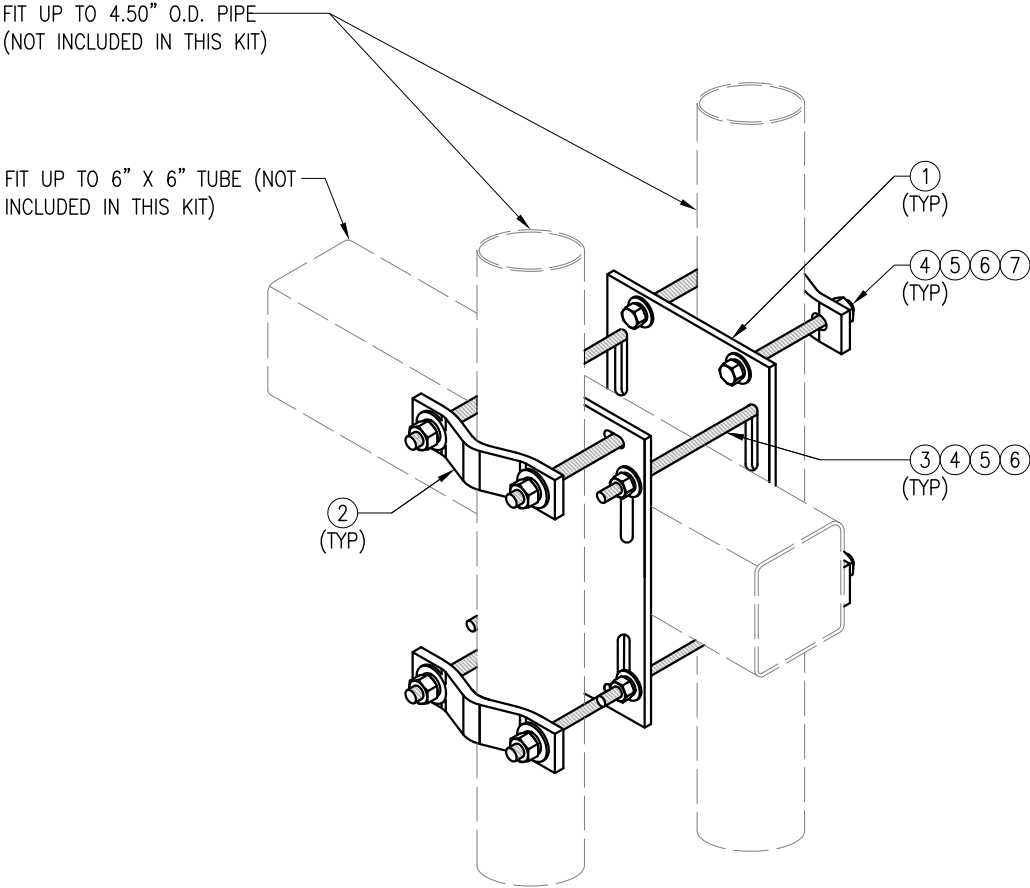
FOR REFERENCE
ONLY

DRAWN BY: SK CHECKED BY: BT/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	SK	05/08/20

SHEET TITLE:
VZWSMART-MSK6
BACK TO BACK
CROSSOVER

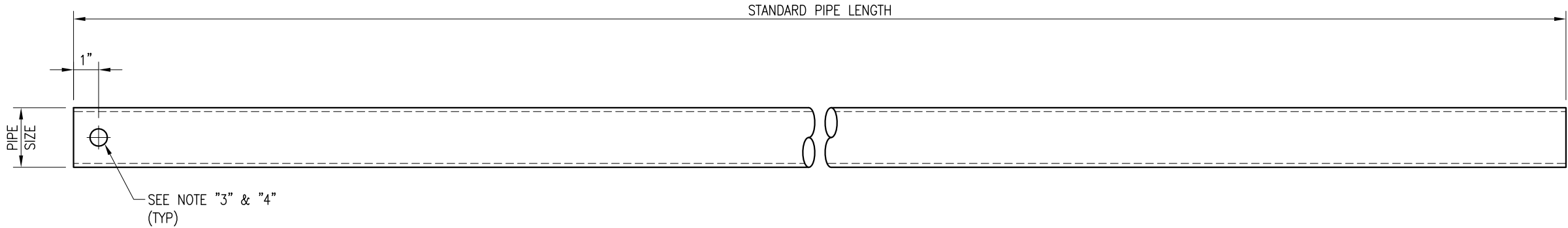
SHEET NUMBER: VZWSMART-MSK6	REV #: 0
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ISOMETRIC VIEW
BACK TO BACK CROSSOVER

VZWSMART-MSK6 (VZWSMART-MSK6 - BACK TO BACK CROSSOVER)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	PL375-8512	PL 3/8" X 8 1/2" X 1'-0" A36	MSK6-F2	20.7
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6-F1	9.6
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---
4	16	NUT-625	5/8" HDG HEX NUT	---	2
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	8	---	BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD	---	1
GALVANIZED WT					34

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



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.
 3. ALL HOLES ARE 11/16" DIA. U.N.O
 4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
 5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER’S RECOMMENDATIONS.

VzW
SMART Tool[©]
Vendor



FOR REFERENCE
ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

SHEET TITLE:

VZWSMART
STANDARD PIPE

SHEET NUMBER:	REV #:
VZWSMART-PIPE	0



Antenna Layout (Looking Out From Tower)

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 2.39"Ø X 0.16" X 72" LONG	59.00	13.50	C1	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	13.50
A2	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	91.25	C2	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	39.50
A3	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	134.25	C3	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	91.25
A4	PIPE 2.39"Ø X 0.16" X 72" LONG	59.50	158.25	C4	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	134.25
A5				C5	PIPE 2.39"Ø X 0.16" X 72" LONG	59.50	158.25
A6				C6			
B1	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	13.50	D1			
B2	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	91.25	D2			
B3	PIPE 2.39"Ø X 0.16" X 72" LONG	59.00	134.25	D3			
B4	PIPE 2.39"Ø X 0.16" X 72" LONG	59.50	158.25	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. :							
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :							8.33
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :							0.5
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.):				26.59
For T-Arms/Platforms on monopoles, report the weld size from the main standoff to the plate bolting into the collar mount.							

[illegible]

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1	TOTAL COAX (13): (12) 1.52"Ø, (1) 1.52"Ø HYBRID	26
2		
3		
4		
5		
6		
7		
8		

Observed Obstructions to Tower Lighting System				
If the tower lighting system is being obstructed by the carrier's equipment (for example: a light nested by the antennas), please provide photos and fill in the information below.				Photo #
Description of Obstruction:				
Type of Light:		Photo #		Additional Comments:
Lighting Technology:		Photo #		
Elevation (AGL) at base of light (Ft.):		Photo #		
Is a service loop available?		Photo #		
Is beacon installed on an extension?		Photo #		

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.



Antenna Mount Mapping Form (PATENT PENDING)

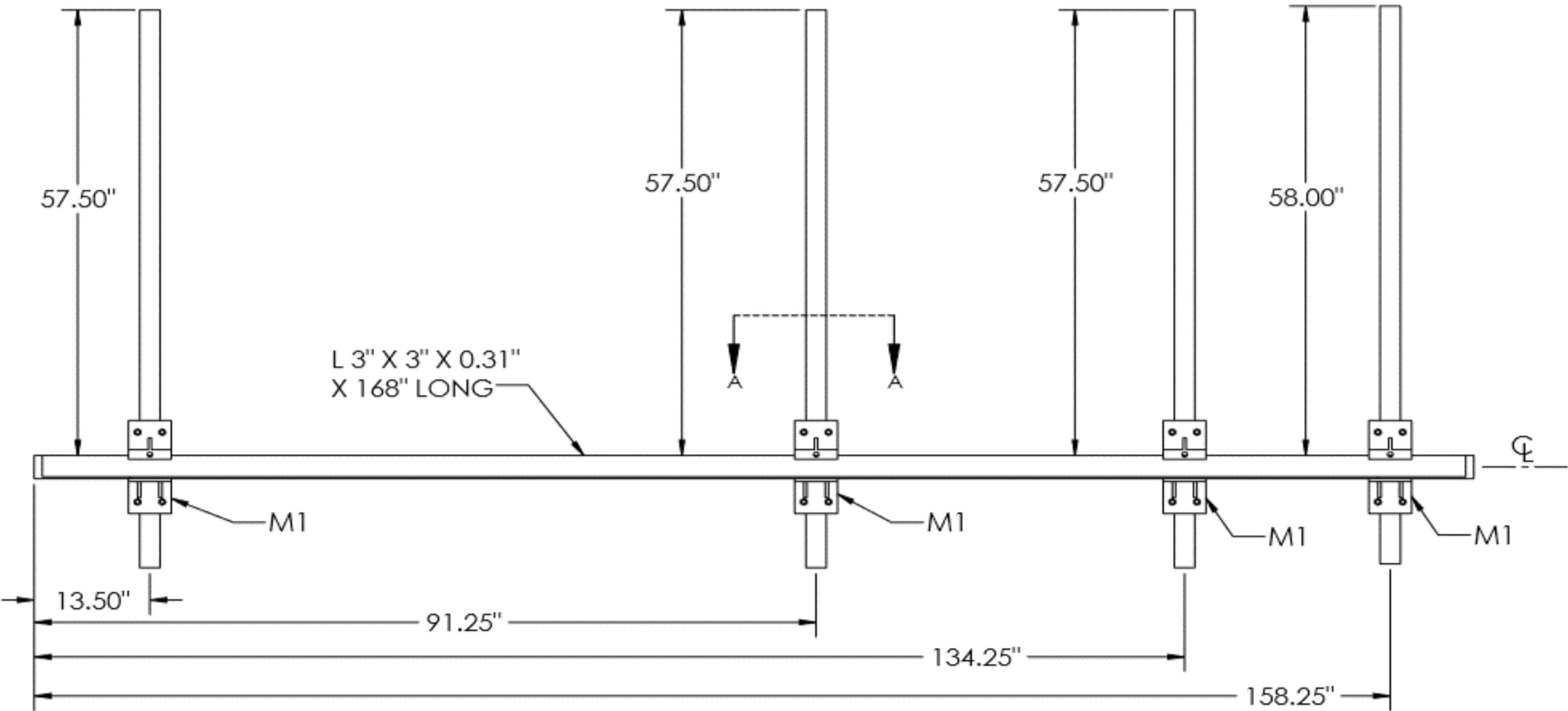
FCC #

UNKNOWN

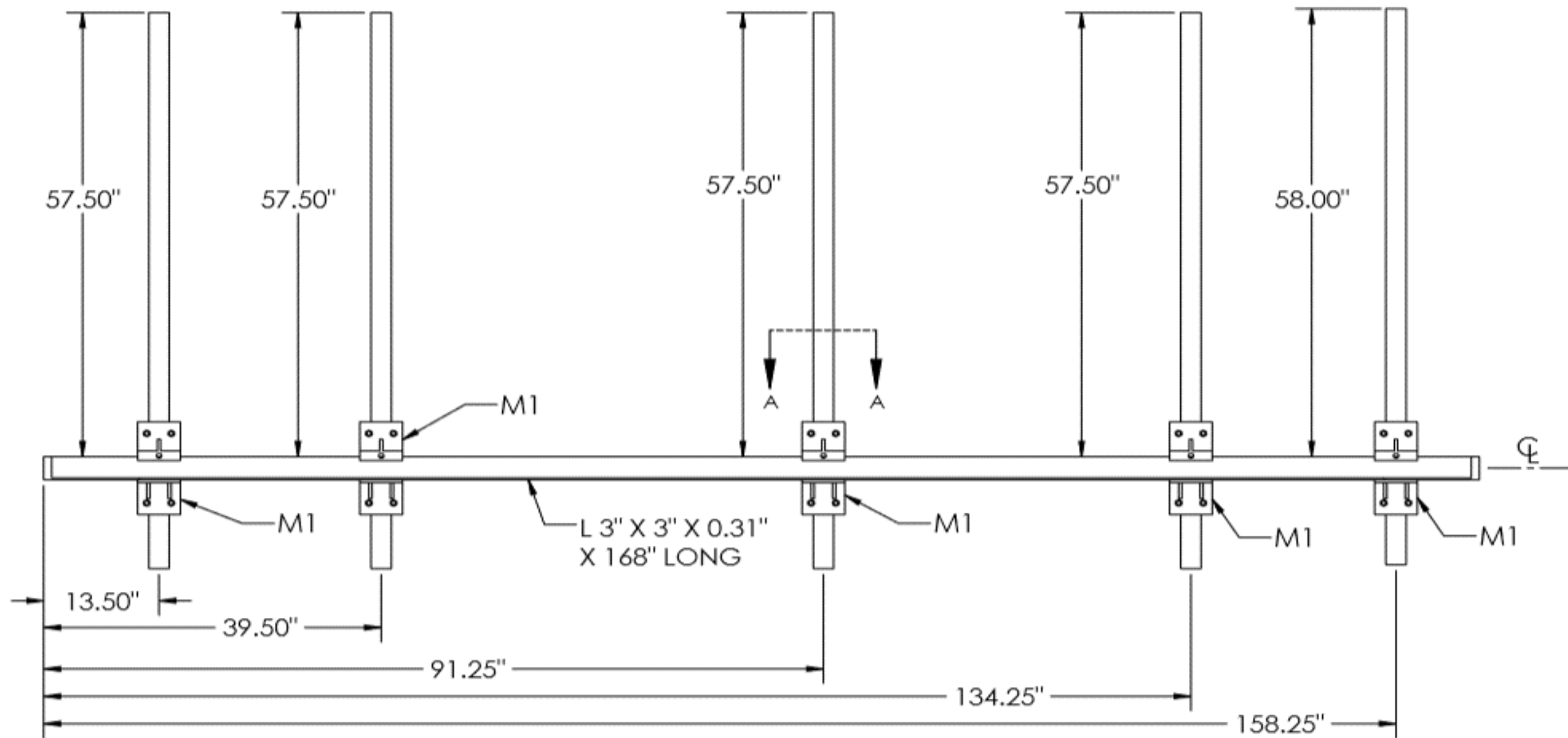
Tower Owner:	CROWN CASTLE	Mapping Date:	11/8/2021
Site Name:	CC: OAK LANE CC, INC. TOWER (SSUSA), VZW: NE WOODBRIDGE	Tower Type:	Monopole
Site Number or ID:	CC: 876315, VZW:467834	Tower Height (Ft.):	UNKNOWN
Mapping Contractor:	RKS Design & Engineering, LLC	Mount Elevation (Ft.):	124.3

This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited except by express written permission of TES. All means and methods are the responsibility of the contractor and the work shall be compliant with ANSI/ASSE A 10.48, OSHA, FCC, FAA and other safety requirements that may apply. TES is not warranting the usability of the safety climb as it must be assessed prior to each use in compliance with OSHA requirements.

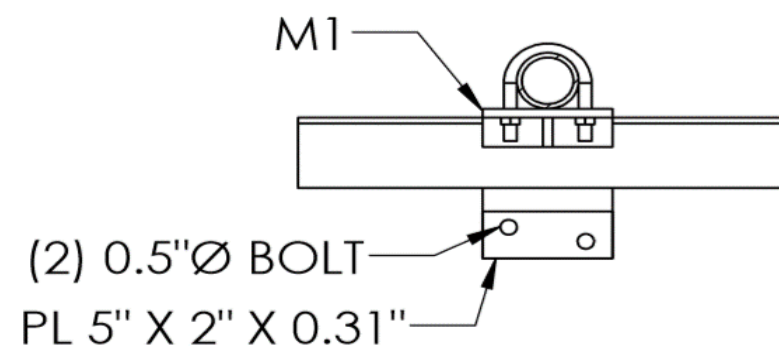
Please Insert Sketches of the Antenna Mount



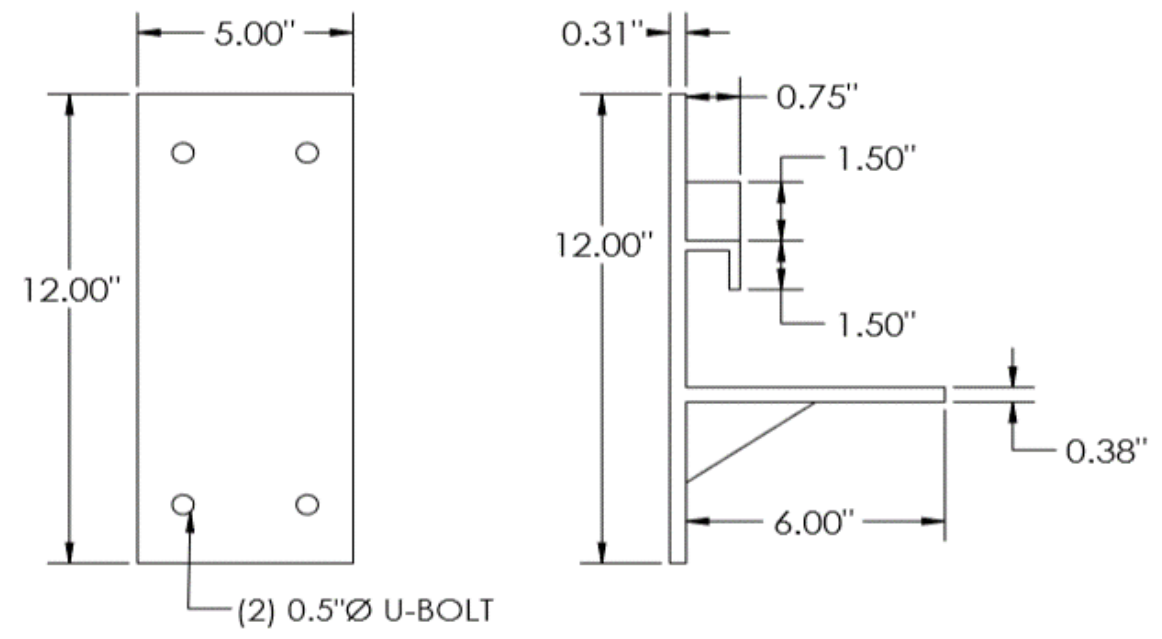
SECTOR - A & B



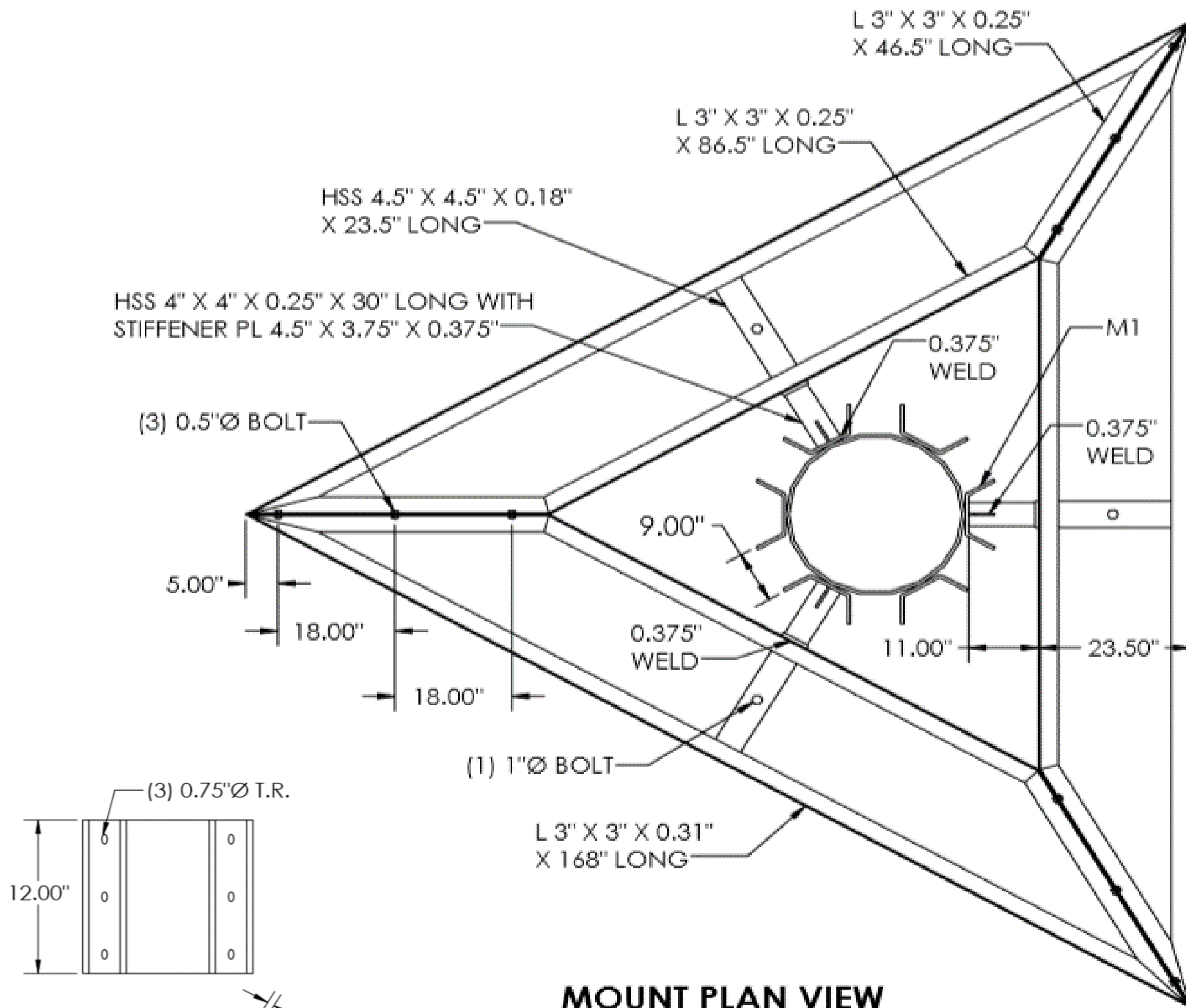
SECTOR - C



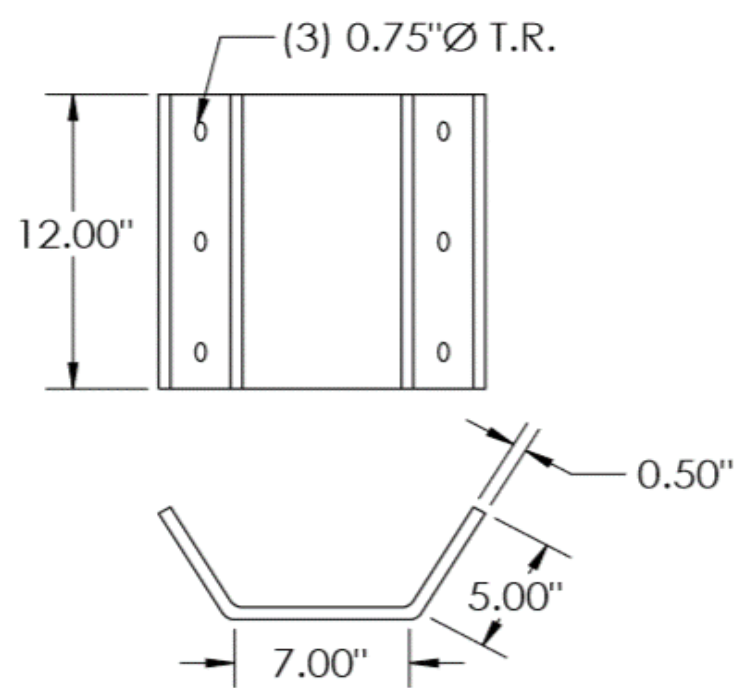
SECTION A-A



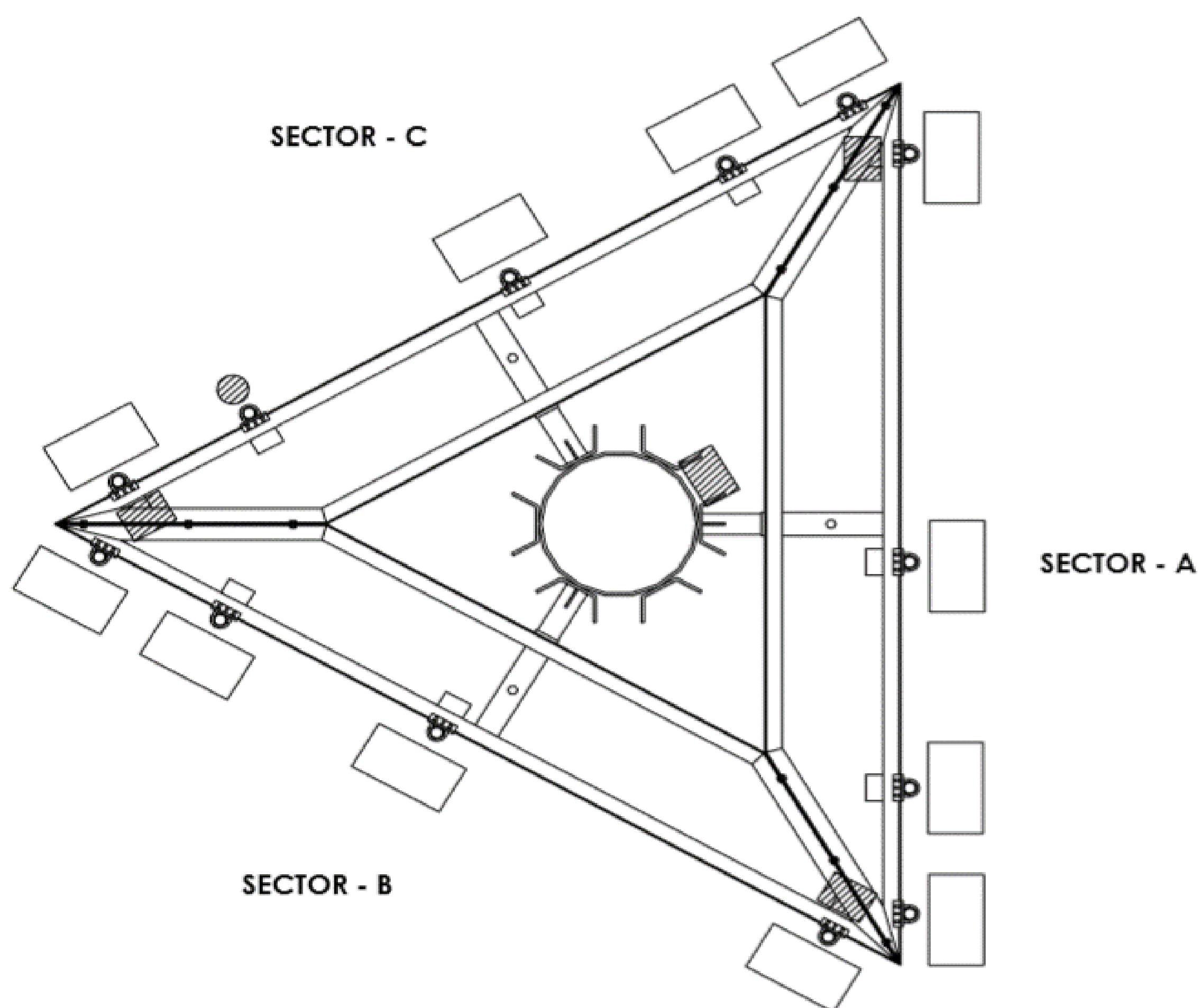
M1 MEMBER DETAIL



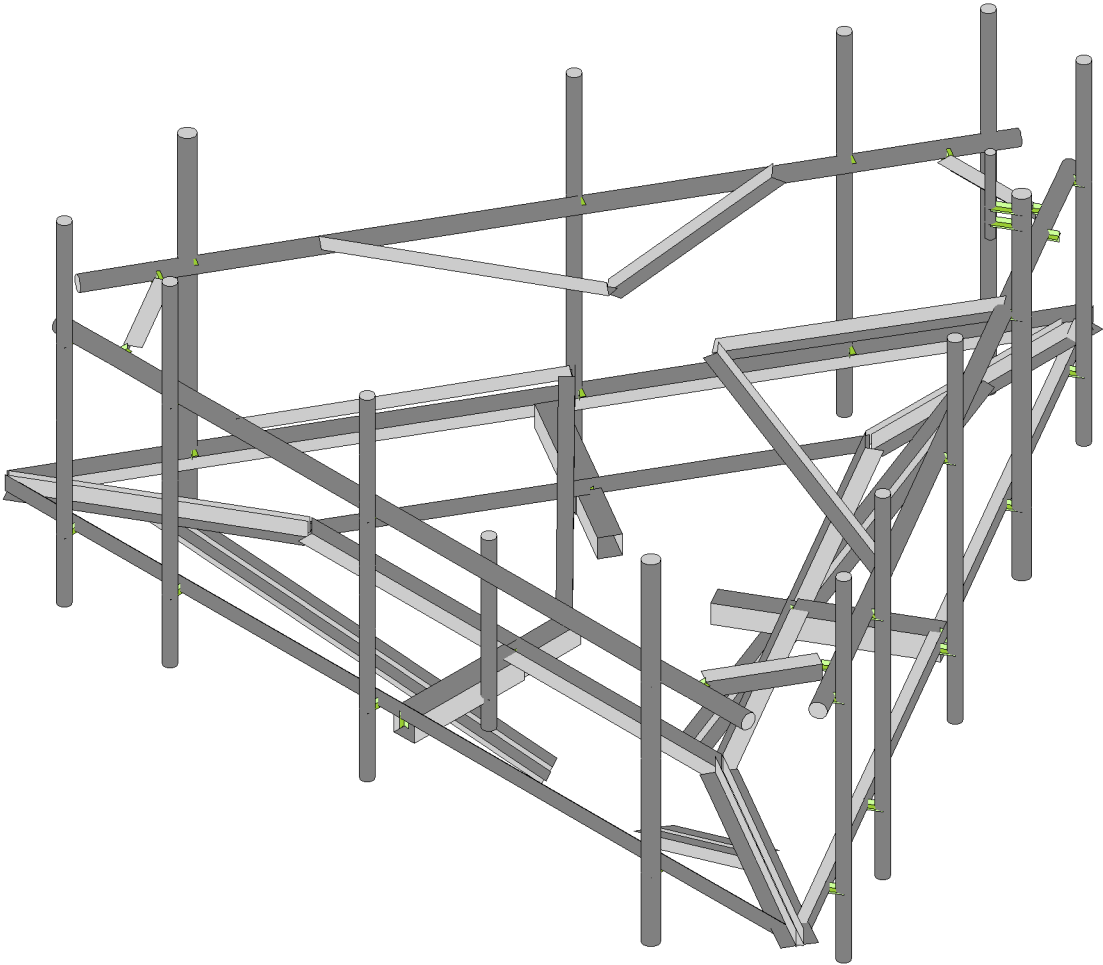
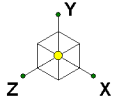
MOUNT PLAN VIEW



M1 MEMBER DETAIL

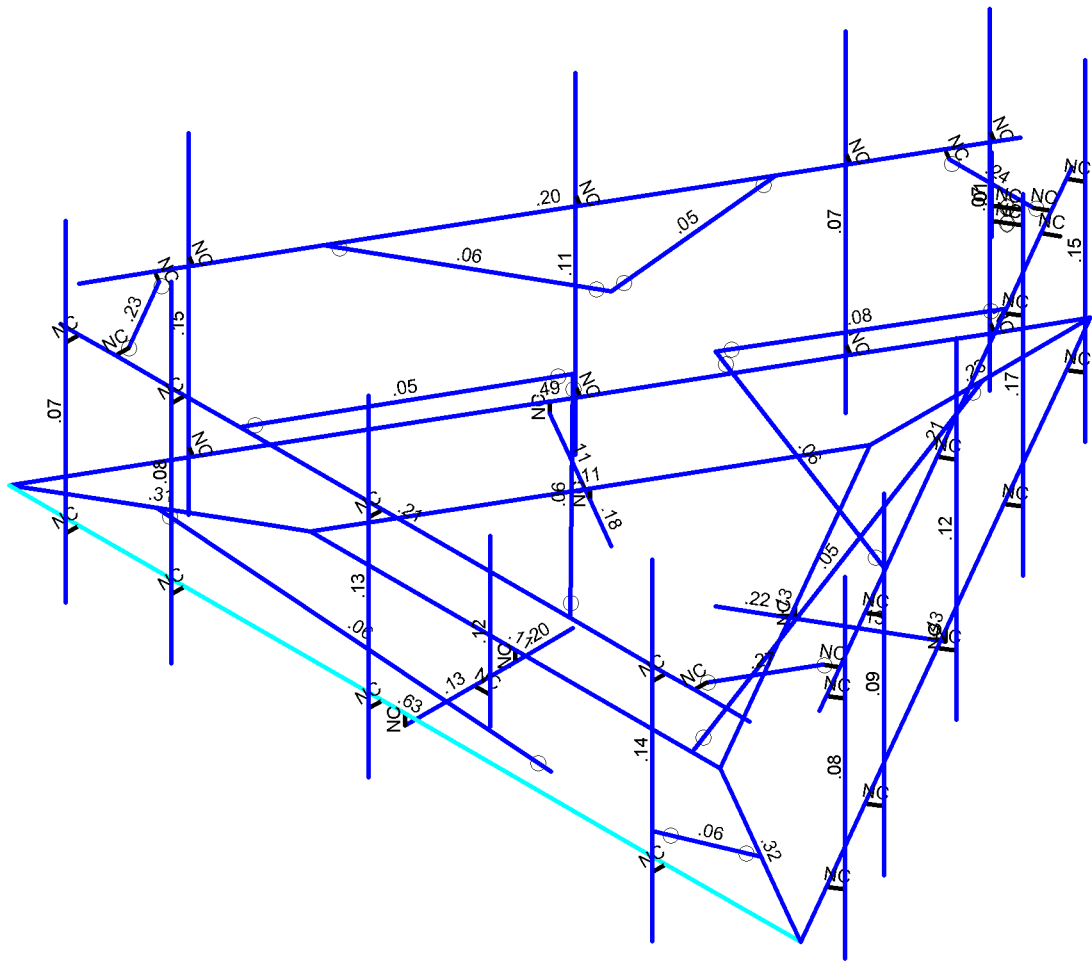
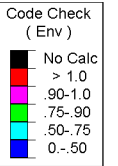
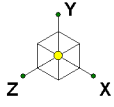


ANTENNA PLAN VIEW



Envelope Only Solution

		SK - 1
		Jan 19, 2024 at 3:16 PM
		5000385363-VZW_MT_LO_H.r3d

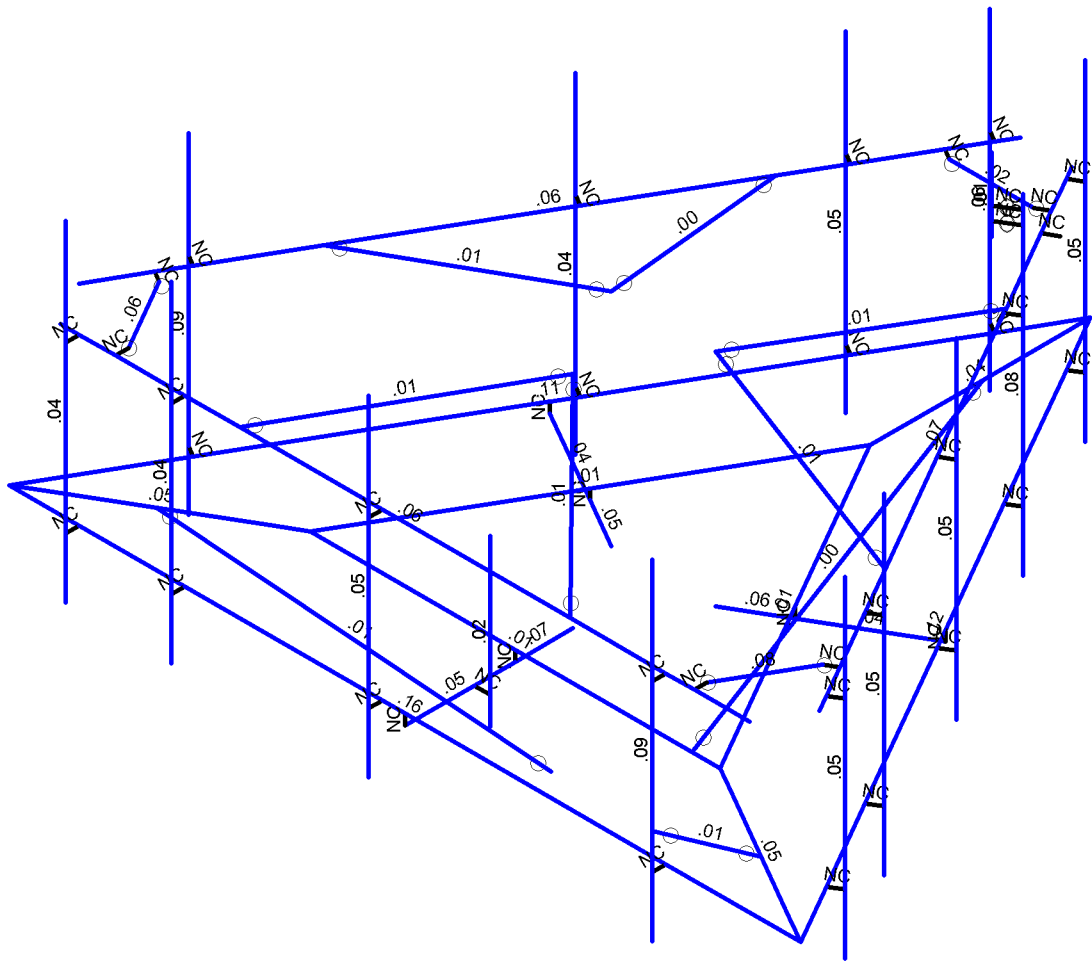
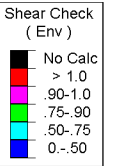
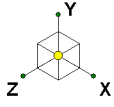


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

SK - 2

Jan 19, 2024 at 3:16 PM

5000385363-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

SK - 3

Jan 19, 2024 at 3:16 PM

5000385363-VZW_MT_LO_H.r3d

Basic Load Cases

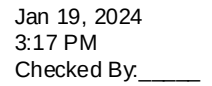
BLC Description		Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Antenna D	None					96		
2	Antenna Di	None					96		
3	Antenna W o (0 Deg)	None					96		
4	Antenna W o (30 Deg)	None					96		
5	Antenna W o (60 Deg)	None					96		
6	Antenna W o (90 Deg)	None					96		
7	Antenna W o (120 Deg)	None					96		
8	Antenna W o (150 Deg)	None					96		
9	Antenna W o (180 Deg)	None					96		
10	Antenna W o (210 Deg)	None					96		
11	Antenna W o (240 Deg)	None					96		
12	Antenna W o (270 Deg)	None					96		
13	Antenna W o (300 Deg)	None					96		
14	Antenna W o (330 Deg)	None					96		
15	Antenna W i (0 Deg)	None					96		
16	Antenna W i (30 Deg)	None					96		
17	Antenna W i (60 Deg)	None					96		
18	Antenna W i (90 Deg)	None					96		
19	Antenna W i (120 Deg)	None					96		
20	Antenna W i (150 Deg)	None					96		
21	Antenna W i (180 Deg)	None					96		
22	Antenna W i (210 Deg)	None					96		
23	Antenna W i (240 Deg)	None					96		
24	Antenna W i (270 Deg)	None					96		
25	Antenna W i (300 Deg)	None					96		
26	Antenna W i (330 Deg)	None					96		
27	Antenna W m (0 Deg)	None					96		
28	Antenna W m (30 Deg)	None					96		
29	Antenna W m (60 Deg)	None					96		
30	Antenna W m (90 Deg)	None					96		
31	Antenna W m (120 De...	None					96		
32	Antenna W m (150 De...	None					96		
33	Antenna W m (180 De...	None					96		
34	Antenna W m (210 De...	None					96		
35	Antenna W m (240 De...	None					96		
36	Antenna W m (270 De...	None					96		
37	Antenna W m (300 De...	None					96		
38	Antenna W m (330 De...	None					96		
39	Structure D	None		-1					3
40	Structure Di	None						45	3
41	Structure Wo (0 Deg)	None						90	
42	Structure Wo (30 Deg)	None						90	
43	Structure Wo (60 Deg)	None						90	
44	Structure Wo (90 Deg)	None						90	
45	Structure Wo (120 D...	None						90	
46	Structure Wo (150 D...	None						90	
47	Structure Wo (180 D...	None						90	
48	Structure Wo (210 D...	None						90	

Basic Load Cases (Continued)

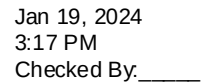
	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
49	Structure Wo (240 D...	None						90	
50	Structure Wo (270 D...	None						90	
51	Structure Wo (300 D...	None						90	
52	Structure Wo (330 D...	None						90	
53	Structure Wi (0 Deg)	None						90	
54	Structure Wi (30 Deg)	None						90	
55	Structure Wi (60 Deg)	None						90	
56	Structure Wi (90 Deg)	None						90	
57	Structure Wi (120 De...	None						90	
58	Structure Wi (150 De...	None						90	
59	Structure Wi (180 De...	None						90	
60	Structure Wi (210 De...	None						90	
61	Structure Wi (240 De...	None						90	
62	Structure Wi (270 De...	None						90	
63	Structure Wi (300 De...	None						90	
64	Structure Wi (330 De...	None						90	
65	Structure Wm (0 Deg)	None						90	
66	Structure Wm (30 D...	None						90	
67	Structure Wm (60 D...	None						90	
68	Structure Wm (90 D...	None						90	
69	Structure Wm (120 ...	None						90	
70	Structure Wm (150 ...	None						90	
71	Structure Wm (180 ...	None						90	
72	Structure Wm (210 ...	None						90	
73	Structure Wm (240 ...	None						90	
74	Structure Wm (270 ...	None						90	
75	Structure Wm (300 ...	None						90	
76	Structure Wm (330 ...	None						90	
77	Lm1	None					1		
78	Lm2	None					1		
79	Lv1	None					1		
80	Lv2	None					1		
81	Antenna Ev	None					96		
82	Antenna Eh (0 Deg)	None					64		
83	Antenna Eh (90 Deg)	None					64		
84	Structure Ev	ELY		-.043				3	
85	Structure Eh (0 Deg)	ELZ			-.107			3	
86	Structure Eh (90 Deg)	ELX	.107					3	
87	BLC 39 Transient Are...	None						40	
88	BLC 40 Transient Are...	None						40	
89	BLC 84 Transient Are...	None						40	
90	BLC 85 Transient Are...	None						40	
91	BLC 86 Transient Are...	None						40	

Load Combinations

[illegible]



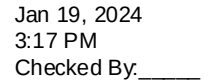
	Description	Sol.	PD	SR	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact
5	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	7	1	45	1										
6	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	8	1	46	1										
7	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	9	1	47	1										
8	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	10	1	48	1										
9	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	11	1	49	1										
10	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	12	1	50	1										
11	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	13	1	51	1										
12	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	14	1	52	1										
13	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1						
14	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1						
15	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1						
16	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1						
17	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1						
18	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1						
19	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1						
20	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1						
21	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1						
22	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1						
23	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1						
24	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1						
25	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1								
26	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1								
27	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1								
28	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1								
29	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1								
30	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1								
31	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1								
32	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1								



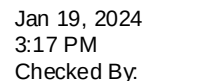
	Description	Sol.	PD	SR	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact	BLC	Fact
57	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-866	83	.5	ELZ	-866	ELX	.5				
58	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX					
59	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-866	83	-.5	ELZ	-866	ELX	-.5				
60	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
61	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1				
62	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
63	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5	ELZ	.866	ELX	-.5				
64	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX					
65	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5	ELZ	.866	ELX	.5				
66	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866	ELZ	.5	ELX	.866				
67	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1				
68	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
69	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
70	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX					
71	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
72	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
73	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1				
74	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
75	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5	ELZ	.866	ELX	-.5				

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	lyy [in4]	lzz [in4]	J [in4]
1	Mount Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Dual Mount Pipe	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	Support Rail	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	Light Pipe	PIPE 1.25	Beam	Pipe	A53 Gr.B	Typical	.625	.184	.184	.368
5	Bottom Corner Pl...	L15X6.5X6	Beam	Single Angle	A36 Gr.36	Typical	7.922	24.473	192.705	.363
6	Standoff 2	HSS4.5X4.5X3	Beam	Tube	A500 Gr.B...	Typical	2.93	9.02	9.02	14.4
7	Cross Members	L3X3X4	Beam	Channel	A36 Gr.36	Typical	1.44	1.23	1.23	.031
8	Face Horizontal	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
9	Standoff 1	HSS4X4X4	Beam	Tube	A500 Gr.B...	Typical	3.37	7.8	7.8	12.8
10	Grating Angle	LL3X3X4X0	Beam	Double Angle (No ...	A36 Gr.36	Typical	2.88	4.5	2.46	.063
11	Support Rail Corner	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
12	Kicker Kit	LL3X3X3X3	Beam	Single Angle	A36 Gr.36	Typical	2.18	4.09	1.9	.027
13	V-Bracing Kit	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026

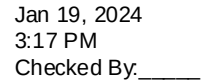
	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt	
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154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



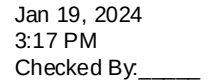
	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N15A			Standoff 1	Beam	Tube	A500 Gr.B...	Typical
2	M2	N15A	N16A			Standoff 2	Beam	Tube	A500 Gr.B...	Typical
3	M5	N14	N10		180	Grating Angle	Beam	Double Angle (...)	A36 Gr.36	Typical
4	M6	N16	N15		180	Grating Angle	Beam	Double Angle (...)	A36 Gr.36	Typical
5	M7	N18	N17		180	Grating Angle	Beam	Double Angle (...)	A36 Gr.36	Typical
6	M6A	N17	N15		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
7	M7A	N16	N18		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
8	M23A	N10	N17		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
9	M24	N18	N14		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
10	M38	N77	N78			Standoff 1	Beam	Tube	A500 Gr.B...	Typical
11	M39A	N15	N10		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
12	M40	N14	N16		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
13	M54	N109	N110			Standoff 1	Beam	Tube	A500 Gr.B...	Typical
14	M55	N78	N108A			Standoff 2	Beam	Tube	A500 Gr.B...	Typical
15	M56	N110	N110A			Standoff 2	Beam	Tube	A500 Gr.B...	Typical
16	M20	N39	N40			RIGID	None	None	RIGID	Typical
17	MP2A	N41	N42		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
18	M22	N44	N45A			RIGID	None	None	RIGID	Typical
19	MP3A	N46	N47		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
20	M24A	N49	N50			RIGID	None	None	RIGID	Typical
21	MP4A	N51	N52		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
22	M26	N54A	N55			RIGID	None	None	RIGID	Typical
23	MP1A	N56	N57		120	Dual Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
24	M24B	N51A	N52A			RIGID	None	None	RIGID	Typical
25	MP3C	N53	N54			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
26	M26A	N55A	N56A			RIGID	None	None	RIGID	Typical
27	MP4C	N57A	N58A			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
28	M28	N59	N60			RIGID	None	None	RIGID	Typical
29	MP5C	N61	N62			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
30	M30	N63	N64			RIGID	None	None	RIGID	Typical
31	MP2C	N65	N66			Dual Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
32	M32	N68	N69			RIGID	None	None	RIGID	Typical
33	MP2B	N70	N71		240	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
34	M34	N72	N73A			RIGID	None	None	RIGID	Typical
35	MP3B	N74	N75		240	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
36	M36	N76	N77A			RIGID	None	None	RIGID	Typical
37	MP4B	N78A	N79		240	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
38	M38A	N80	N81			RIGID	None	None	RIGID	Typical
39	MP1B	N82	N83		240	Dual Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
40	M40A	N83A	N16A			RIGID	None	None	RIGID	Typical
41	M41	N82A	N15A			RIGID	None	None	RIGID	Typical
42	M42	N88	N110A			RIGID	None	None	RIGID	Typical
43	M43	N86	N110			RIGID	None	None	RIGID	Typical
44	M44	N85	N78			RIGID	None	None	RIGID	Typical
45	M45	N87	N108A			RIGID	None	None	RIGID	Typical
46	M46	N73	N88A			RIGID	None	None	RIGID	Typical
47	MP1C	N89	N90			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
48	M48	N95	N97			RIGID	None	None	RIGID	Typical
49	M49	N96	N98			RIGID	None	None	RIGID	Typical
50	LIGHT	N99	N100			Light Pipe	Beam	Pipe	A53 Gr.B	Typical
51	M51	N101	N102			RIGID	None	None	RIGID	Typical



RISA-3D Version 17.0.4 [\\...\Rev. 1\Risa\5000385363-VZW MT LO H.r3d] Page 9

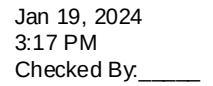


	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
12	M40						Yes				None
13	M54						Yes				None
14	M55						Yes				None
15	M56						Yes				None
16	M20						Yes	** NA **			None
17	MP2A						Yes	Default			None
18	M22						Yes	** NA **			None
19	MP3A						Yes	Default			None
20	M24A						Yes	** NA **			None
21	MP4A						Yes	Default			None
22	M26						Yes	** NA **			None
23	MP1A						Yes	Default			None
24	M24B						Yes	** NA **			None
25	MP3C						Yes	Default			None
26	M26A						Yes	** NA **			None
27	MP4C						Yes	Default			None
28	M28						Yes	** NA **			None
29	MP5C						Yes	Default			None
30	M30						Yes	** NA **			None
31	MP2C						Yes	Default			None
32	M32						Yes	** NA **			None
33	MP2B						Yes	Default			None
34	M34						Yes	** NA **			None
35	MP3B						Yes	Default			None
36	M36						Yes	** NA **			None
37	MP4B						Yes	Default			None
38	M38A						Yes	** NA **			None
39	MP1B						Yes	Default			None
40	M40A						Yes	** NA **			None
41	M41						Yes	** NA **			None
42	M42						Yes	** NA **			None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	M45						Yes	** NA **			None
46	M46						Yes	** NA **			None
47	MP1C						Yes	Default			None
48	M48		OOOXOO				Yes	** NA **			None
49	M49		OOOXOO				Yes	** NA **			None
50	LIGHT						Yes				None
51	M51						Yes	** NA **			None
52	OVP						Yes				None
53	M53						Yes	** NA **			None
54	M54A						Yes	** NA **			None
55	M55A						Yes	** NA **			None
56	M56A						Yes	** NA **			None
57	M57						Yes	** NA **			None
58	M58						Yes				None
59	M59	OOOOOX					Yes	** NA **			None
60	M60	OOOOOX					Yes	** NA **			None
61	M61	OOOOOX					Yes	** NA **			None
62	M65						Yes				None
63	M62	OOOOOX					Yes	** NA **			None

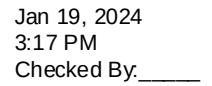


	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic ...
64	M66						Yes				None
65	M63	OOOOOX					Yes	** NA **			None
66	M64	OOOOOX					Yes	** NA **			None
67	M70						Yes	** NA **			None
68	M67						Yes				None
69	M71						Yes	** NA **			None
70	M68						Yes				None
71	M72						Yes	** NA **			None
72	M69						Yes				None
73	M73						Yes	** NA **			None
74	M74						Yes	** NA **			None
75	M75						Yes	** NA **			None
76	M76						Yes	** NA **			None
77	M77						Yes	** NA **			None
78	M78	BenPIN	BenPIN				Yes				None
79	M79	BenPIN	BenPIN				Yes				None
80	M80	BenPIN	BenPIN				Yes				None
81	M81						Yes	** NA **			None
82	M82	BenPIN	BenPIN				Yes	Default			None
83	M83	BenPIN	BenPIN				Yes	Default			None
84	M84	BenPIN	BenPIN				Yes	Default			None
85	M85	BenPIN	BenPIN				Yes	Default			None
86	M86	BenPIN	BenPIN				Yes	Default			None
87	M87	BenPIN	BenPIN				Yes	Default			None

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	Y	-38.5	.92
2	MP1A	My	-.019	.92
3	MP1A	Mz	-.026	.92
4	MP1A	Y	-38.5	4.42
5	MP1A	My	-.019	4.42
6	MP1A	Mz	-.026	4.42
7	MP1B	Y	-38.5	.92
8	MP1B	My	.032	.92
9	MP1B	Mz	-.004	.92
10	MP1B	Y	-38.5	4.42
11	MP1B	My	.032	4.42
12	MP1B	Mz	-.004	4.42
13	MP1A	Y	-38.5	.92
14	MP1A	My	-.019	.92
15	MP1A	Mz	.026	.92
16	MP1A	Y	-38.5	4.42
17	MP1A	My	-.019	4.42
18	MP1A	Mz	.026	4.42
19	MP1B	Y	-38.5	.92
20	MP1B	My	-.013	.92
21	MP1B	Mz	-.03	.92
22	MP1B	Y	-38.5	4.42
23	MP1B	My	-.013	4.42

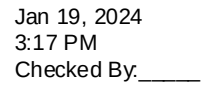


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
24	MP1B	Mz	-.03	4.42
25	MP2C	Y	-38.5	.92
26	MP2C	My	-.018	.92
27	MP2C	Mz	.027	.92
28	MP2C	Y	-38.5	4.42
29	MP2C	My	-.018	4.42
30	MP2C	Mz	.027	4.42
31	MP2C	Y	-38.5	.92
32	MP2C	My	.031	.92
33	MP2C	Mz	.009	.92
34	MP2C	Y	-38.5	4.42
35	MP2C	My	.031	4.42
36	MP2C	Mz	.009	4.42
37	MP2A	Y	-28.65	1.67
38	MP2A	My	-.014	1.67
39	MP2A	Mz	0	1.67
40	MP2A	Y	-28.65	3.67
41	MP2A	My	-.014	3.67
42	MP2A	Mz	0	3.67
43	MP2B	Y	-28.65	1.67
44	MP2B	My	.007	1.67
45	MP2B	Mz	-.012	1.67
46	MP2B	Y	-28.65	3.67
47	MP2B	My	.007	3.67
48	MP2B	Mz	-.012	3.67
49	MP3C	Y	-28.65	1.67
50	MP3C	My	.005	1.67
51	MP3C	Mz	.013	1.67
52	MP3C	Y	-28.65	3.67
53	MP3C	My	.005	3.67
54	MP3C	Mz	.013	3.67
55	MP4A	Y	-6	.91
56	MP4A	My	-.003	.91
57	MP4A	Mz	0	.91
58	MP4A	Y	-6	4.42
59	MP4A	My	-.003	4.42
60	MP4A	Mz	0	4.42
61	MP4B	Y	-4.95	.92
62	MP4B	My	.001	.92
63	MP4B	Mz	-.002	.92
64	MP4B	Y	-4.95	4.42
65	MP4B	My	.001	4.42
66	MP4B	Mz	-.002	4.42
67	MP5C	Y	-4.95	.92
68	MP5C	My	.000846	.92
69	MP5C	Mz	.002	.92
70	MP5C	Y	-4.95	4.42
71	MP5C	My	.000846	4.42
72	MP5C	Mz	.002	4.42
73	OVP	Y	-32	1
74	OVP	My	0	1
75	OVP	Mz	0	1

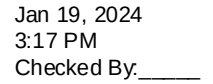


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
76	MP1A	Y	-74.7	3
77	MP1A	My	.037	3
78	MP1A	Mz	0	3
79	MP1B	Y	-74.7	3
80	MP1B	My	-.019	3
81	MP1B	Mz	.032	3
82	MP2C	Y	-74.7	2.5
83	MP2C	My	-.013	2.5
84	MP2C	Mz	-.035	2.5
85	MP2A	Y	-79.1	3
86	MP2A	My	.04	3
87	MP2A	Mz	0	3
88	MP2B	Y	-79.1	3
89	MP2B	My	-.02	3
90	MP2B	Mz	.034	3
91	MP3C	Y	-79.1	3
92	MP3C	My	-.014	3
93	MP3C	Mz	-.037	3
94	LIGHT	Y	-3	0
95	LIGHT	My	0	0
96	LIGHT	Mz	0	0

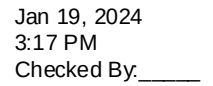
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-81.102	.92
2	MP1A	My	-.041	.92
3	MP1A	Mz	-.054	.92
4	MP1A	Y	-81.102	4.42
5	MP1A	My	-.041	4.42
6	MP1A	Mz	-.054	4.42
7	MP1B	Y	-81.102	.92
8	MP1B	My	.067	.92
9	MP1B	Mz	-.008	.92
10	MP1B	Y	-81.102	4.42
11	MP1B	My	.067	4.42
12	MP1B	Mz	-.008	4.42
13	MP1A	Y	-81.102	.92
14	MP1A	My	-.041	.92
15	MP1A	Mz	.054	.92
16	MP1A	Y	-81.102	4.42
17	MP1A	My	-.041	4.42
18	MP1A	Mz	.054	4.42
19	MP1B	Y	-81.102	.92
20	MP1B	My	-.027	.92
21	MP1B	Mz	-.062	.92
22	MP1B	Y	-81.102	4.42
23	MP1B	My	-.027	4.42
24	MP1B	Mz	-.062	4.42
25	MP2C	Y	-81.102	.92
26	MP2C	My	-.037	.92
27	MP2C	Mz	.057	.92



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
28	MP2C	Y	-81.102	4.42
29	MP2C	My	-.037	4.42
30	MP2C	Mz	.057	4.42
31	MP2C	Y	-81.102	.92
32	MP2C	My	.065	.92
33	MP2C	Mz	.02	.92
34	MP2C	Y	-81.102	4.42
35	MP2C	My	.065	4.42
36	MP2C	Mz	.02	4.42
37	MP2A	Y	-29.44	1.67
38	MP2A	My	-.015	1.67
39	MP2A	Mz	0	1.67
40	MP2A	Y	-29.44	3.67
41	MP2A	My	-.015	3.67
42	MP2A	Mz	0	3.67
43	MP2B	Y	-29.44	1.67
44	MP2B	My	.007	1.67
45	MP2B	Mz	-.013	1.67
46	MP2B	Y	-29.44	3.67
47	MP2B	My	.007	3.67
48	MP2B	Mz	-.013	3.67
49	MP3C	Y	-29.44	1.67
50	MP3C	My	.005	1.67
51	MP3C	Mz	.014	1.67
52	MP3C	Y	-29.44	3.67
53	MP3C	My	.005	3.67
54	MP3C	Mz	.014	3.67
55	MP4A	Y	-30.368	.91
56	MP4A	My	-.015	.91
57	MP4A	Mz	0	.91
58	MP4A	Y	-30.368	4.42
59	MP4A	My	-.015	4.42
60	MP4A	Mz	0	4.42
61	MP4B	Y	-34.824	.92
62	MP4B	My	.009	.92
63	MP4B	Mz	-.015	.92
64	MP4B	Y	-34.824	4.42
65	MP4B	My	.009	4.42
66	MP4B	Mz	-.015	4.42
67	MP5C	Y	-34.824	.92
68	MP5C	My	.006	.92
69	MP5C	Mz	.016	.92
70	MP5C	Y	-34.824	4.42
71	MP5C	My	.006	4.42
72	MP5C	Mz	.016	4.42
73	OVP	Y	-86.935	1
74	OVP	My	0	1
75	OVP	Mz	0	1
76	MP1A	Y	-44.385	3
77	MP1A	My	.022	3
78	MP1A	Mz	0	3
79	MP1B	Y	-44.385	3



RISA-3D Version 17.0.4 [\\.\...\Rev. 1\Risa\5000385363-VZW MT LO H.r3d] Page 15



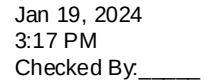
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
32	MP2C	Z	-173.691	.92
33	MP2C	Mx	-.042	.92
34	MP2C	X	0	4.42
35	MP2C	Z	-173.691	4.42
36	MP2C	Mx	-.042	4.42
37	MP2A	X	0	1.67
38	MP2A	Z	-78.521	1.67
39	MP2A	Mx	0	1.67
40	MP2A	X	0	3.67
41	MP2A	Z	-78.521	3.67
42	MP2A	Mx	0	3.67
43	MP2B	X	0	1.67
44	MP2B	Z	-42.312	1.67
45	MP2B	Mx	.018	1.67
46	MP2B	X	0	3.67
47	MP2B	Z	-42.312	3.67
48	MP2B	Mx	.018	3.67
49	MP3C	X	0	1.67
50	MP3C	Z	-35.89	1.67
51	MP3C	Mx	-.017	1.67
52	MP3C	X	0	3.67
53	MP3C	Z	-35.89	3.67
54	MP3C	Mx	-.017	3.67
55	MP4A	X	0	.91
56	MP4A	Z	-73.756	.91
57	MP4A	Mx	0	.91
58	MP4A	X	0	4.42
59	MP4A	Z	-73.756	4.42
60	MP4A	Mx	0	4.42
61	MP4B	X	0	.92
62	MP4B	Z	-62.365	.92
63	MP4B	Mx	.027	.92
64	MP4B	X	0	4.42
65	MP4B	Z	-62.365	4.42
66	MP4B	Mx	.027	4.42
67	MP5C	X	0	.92
68	MP5C	Z	-56.082	.92
69	MP5C	Mx	-.026	.92
70	MP5C	X	0	4.42
71	MP5C	Z	-56.082	4.42
72	MP5C	Mx	-.026	4.42
73	OVP	X	0	1
74	OVP	Z	-123.479	1
75	OVP	Mx	0	1
76	MP1A	X	0	3
77	MP1A	Z	-64.226	3
78	MP1A	Mx	0	3
79	MP1B	X	0	3
80	MP1B	Z	-48.377	3
81	MP1B	Mx	-.021	3
82	MP2C	X	0	2.5
83	MP2C	Z	-45.566	2.5

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

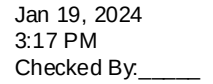
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
84	MP2C	Mx	.021	2.5
85	MP2A	X	0	3
86	MP2A	Z	-77.485	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	-58.995	3
90	MP2B	Mx	-.026	3
91	MP3C	X	0	3
92	MP3C	Z	-55.715	3
93	MP3C	Mx	.026	3
94	LIGHT	X	0	0
95	LIGHT	Z	-8.978	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	110.806	.92
2	MP1A	Z	-191.921	.92
3	MP1A	Mx	.073	.92
4	MP1A	X	110.806	4.42
5	MP1A	Z	-191.921	4.42
6	MP1A	Mx	.073	4.42
7	MP1B	X	82.418	.92
8	MP1B	Z	-142.752	.92
9	MP1B	Mx	.082	.92
10	MP1B	X	82.418	4.42
11	MP1B	Z	-142.752	4.42
12	MP1B	Mx	.082	4.42
13	MP1A	X	110.806	.92
14	MP1A	Z	-191.921	.92
15	MP1A	Mx	-.183	.92
16	MP1A	X	110.806	4.42
17	MP1A	Z	-191.921	4.42
18	MP1A	Mx	-.183	4.42
19	MP1B	X	82.418	.92
20	MP1B	Z	-142.752	.92
21	MP1B	Mx	.082	.92
22	MP1B	X	82.418	4.42
23	MP1B	Z	-142.752	4.42
24	MP1B	Mx	.082	4.42
25	MP2C	X	104.629	.92
26	MP2C	Z	-181.223	.92
27	MP2C	Mx	-.174	.92
28	MP2C	X	104.629	4.42
29	MP2C	Z	-181.223	4.42
30	MP2C	Mx	-.174	4.42
31	MP2C	X	104.629	.92
32	MP2C	Z	-181.223	.92
33	MP2C	Mx	.04	.92
34	MP2C	X	104.629	4.42
35	MP2C	Z	-181.223	4.42

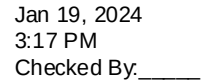


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
36	MP2C	Mx	.04	4.42
37	MP2A	X	33.226	1.67
38	MP2A	Z	-57.549	1.67
39	MP2A	Mx	-.017	1.67
40	MP2A	X	33.226	3.67
41	MP2A	Z	-57.549	3.67
42	MP2A	Mx	-.017	3.67
43	MP2B	X	15.121	1.67
44	MP2B	Z	-26.191	1.67
45	MP2B	Mx	.015	1.67
46	MP2B	X	15.121	3.67
47	MP2B	Z	-26.191	3.67
48	MP2B	Mx	.015	3.67
49	MP3C	X	29.287	1.67
50	MP3C	Z	-50.726	1.67
51	MP3C	Mx	-.019	1.67
52	MP3C	X	29.287	3.67
53	MP3C	Z	-50.726	3.67
54	MP3C	Mx	-.019	3.67
55	MP4A	X	34.891	.91
56	MP4A	Z	-60.433	.91
57	MP4A	Mx	-.017	.91
58	MP4A	X	34.891	4.42
59	MP4A	Z	-60.433	4.42
60	MP4A	Mx	-.017	4.42
61	MP4B	X	25.278	.92
62	MP4B	Z	-43.783	.92
63	MP4B	Mx	.025	.92
64	MP4B	X	25.278	4.42
65	MP4B	Z	-43.783	4.42
66	MP4B	Mx	.025	4.42
67	MP5C	X	39.137	.92
68	MP5C	Z	-67.787	.92
69	MP5C	Mx	-.025	.92
70	MP5C	X	39.137	4.42
71	MP5C	Z	-67.787	4.42
72	MP5C	Mx	-.025	4.42
73	OVP	X	53.867	1
74	OVP	Z	-93.3	1
75	OVP	Mx	0	1
76	MP1A	X	29.471	3
77	MP1A	Z	-51.046	3
78	MP1A	Mx	.015	3
79	MP1B	X	21.547	3
80	MP1B	Z	-37.32	3
81	MP1B	Mx	-.022	3
82	MP2C	X	27.747	2.5
83	MP2C	Z	-48.06	2.5
84	MP2C	Mx	.018	2.5
85	MP2A	X	35.661	3
86	MP2A	Z	-61.766	3
87	MP2A	Mx	.018	3



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
88	MP2B	X	26.415	3
89	MP2B	Z	-45.753	3
90	MP2B	Mx	-.026	3
91	MP3C	X	33.649	3
92	MP3C	Z	-58.282	3
93	MP3C	Mx	.022	3
94	LIGHT	X	5.18	0
95	LIGHT	Z	-8.971	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	159.142	.92
2	MP1A	Z	-91.88	.92
3	MP1A	Mx	-.018	.92
4	MP1A	X	159.142	4.42
5	MP1A	Z	-91.88	4.42
6	MP1A	Mx	-.018	4.42
7	MP1B	X	159.142	.92
8	MP1B	Z	-91.88	.92
9	MP1B	Mx	.141	.92
10	MP1B	X	159.142	4.42
11	MP1B	Z	-91.88	4.42
12	MP1B	Mx	.141	4.42
13	MP1A	X	159.142	.92
14	MP1A	Z	-91.88	.92
15	MP1A	Mx	-.141	.92
16	MP1A	X	159.142	4.42
17	MP1A	Z	-91.88	4.42
18	MP1A	Mx	-.141	4.42
19	MP1B	X	159.142	.92
20	MP1B	Z	-91.88	.92
21	MP1B	Mx	.018	.92
22	MP1B	X	159.142	4.42
23	MP1B	Z	-91.88	4.42
24	MP1B	Mx	.018	4.42
25	MP2C	X	206.334	.92
26	MP2C	Z	-119.127	.92
27	MP2C	Mx	-.177	.92
28	MP2C	X	206.334	4.42
29	MP2C	Z	-119.127	4.42
30	MP2C	Mx	-.177	4.42
31	MP2C	X	206.334	.92
32	MP2C	Z	-119.127	.92
33	MP2C	Mx	.136	.92
34	MP2C	X	206.334	4.42
35	MP2C	Z	-119.127	4.42
36	MP2C	Mx	.136	4.42
37	MP2A	X	36.643	1.67
38	MP2A	Z	-21.156	1.67
39	MP2A	Mx	-.018	1.67



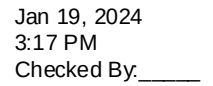
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
40	MP2A	X	36.643	3.67
41	MP2A	Z	-21.156	3.67
42	MP2A	Mx	-.018	3.67
43	MP2B	X	36.643	1.67
44	MP2B	Z	-21.156	1.67
45	MP2B	Mx	.018	1.67
46	MP2B	X	36.643	3.67
47	MP2B	Z	-21.156	3.67
48	MP2B	Mx	.018	3.67
49	MP3C	X	66.741	1.67
50	MP3C	Z	-38.533	1.67
51	MP3C	Mx	-.007	1.67
52	MP3C	X	66.741	3.67
53	MP3C	Z	-38.533	3.67
54	MP3C	Mx	-.007	3.67
55	MP4A	X	53.551	.91
56	MP4A	Z	-30.918	.91
57	MP4A	Mx	-.027	.91
58	MP4A	X	53.551	4.42
59	MP4A	Z	-30.918	4.42
60	MP4A	Mx	-.027	4.42
61	MP4B	X	54.009	.92
62	MP4B	Z	-31.182	.92
63	MP4B	Mx	.027	.92
64	MP4B	X	54.009	4.42
65	MP4B	Z	-31.182	4.42
66	MP4B	Mx	.027	4.42
67	MP5C	X	83.454	.92
68	MP5C	Z	-48.182	.92
69	MP5C	Mx	-.008	.92
70	MP5C	X	83.454	4.42
71	MP5C	Z	-48.182	4.42
72	MP5C	Mx	-.008	4.42
73	OVP	X	86.482	1
74	OVP	Z	-49.93	1
75	OVP	Mx	0	1
76	MP1A	X	41.895	3
77	MP1A	Z	-24.188	3
78	MP1A	Mx	.021	3
79	MP1B	X	41.895	3
80	MP1B	Z	-24.188	3
81	MP1B	Mx	-.021	3
82	MP2C	X	55.069	2.5
83	MP2C	Z	-31.794	2.5
84	MP2C	Mx	.006	2.5
85	MP2A	X	51.091	3
86	MP2A	Z	-29.497	3
87	MP2A	Mx	.026	3
88	MP2B	X	51.091	3
89	MP2B	Z	-29.497	3
90	MP2B	Mx	-.026	3
91	MP3C	X	66.461	3

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

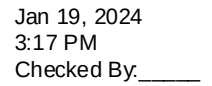
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
92	MP3C	Z	-38.371	3
93	MP3C	Mx	.007	3
94	LIGHT	X	9.569	0
95	LIGHT	Z	-5.525	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	164.836	.92
2	MP1A	Z	0	.92
3	MP1A	Mx	-.082	.92
4	MP1A	X	164.836	4.42
5	MP1A	Z	0	4.42
6	MP1A	Mx	-.082	4.42
7	MP1B	X	221.611	.92
8	MP1B	Z	0	.92
9	MP1B	Mx	.183	.92
10	MP1B	X	221.611	4.42
11	MP1B	Z	0	4.42
12	MP1B	Mx	.183	4.42
13	MP1A	X	164.836	.92
14	MP1A	Z	0	.92
15	MP1A	Mx	-.082	.92
16	MP1A	X	164.836	4.42
17	MP1A	Z	0	4.42
18	MP1A	Mx	-.082	4.42
19	MP1B	X	221.611	.92
20	MP1B	Z	0	.92
21	MP1B	Mx	-.073	.92
22	MP1B	X	221.611	4.42
23	MP1B	Z	0	4.42
24	MP1B	Mx	-.073	4.42
25	MP2C	X	231.681	.92
26	MP2C	Z	0	.92
27	MP2C	Mx	-.106	.92
28	MP2C	X	231.681	4.42
29	MP2C	Z	0	4.42
30	MP2C	Mx	-.106	4.42
31	MP2C	X	231.681	.92
32	MP2C	Z	0	.92
33	MP2C	Mx	.185	.92
34	MP2C	X	231.681	4.42
35	MP2C	Z	0	4.42
36	MP2C	Mx	.185	4.42
37	MP2A	X	30.242	1.67
38	MP2A	Z	0	1.67
39	MP2A	Mx	-.015	1.67
40	MP2A	X	30.242	3.67
41	MP2A	Z	0	3.67
42	MP2A	Mx	-.015	3.67
43	MP2B	X	66.452	1.67

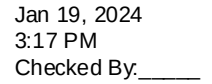


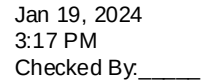
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
44	MP2B	Z	0	1.67
45	MP2B	Mx	.017	1.67
46	MP2B	X	66.452	3.67
47	MP2B	Z	0	3.67
48	MP2B	Mx	.017	3.67
49	MP3C	X	72.874	1.67
50	MP3C	Z	0	1.67
51	MP3C	Mx	.012	1.67
52	MP3C	X	72.874	3.67
53	MP3C	Z	0	3.67
54	MP3C	Mx	.012	3.67
55	MP4A	X	57.862	.91
56	MP4A	Z	0	.91
57	MP4A	Mx	-.029	.91
58	MP4A	X	57.862	4.42
59	MP4A	Z	0	4.42
60	MP4A	Mx	-.029	4.42
61	MP4B	X	85.981	.92
62	MP4B	Z	0	.92
63	MP4B	Mx	.021	.92
64	MP4B	X	85.981	4.42
65	MP4B	Z	0	4.42
66	MP4B	Mx	.021	4.42
67	MP5C	X	92.264	.92
68	MP5C	Z	0	.92
69	MP5C	Mx	.016	.92
70	MP5C	X	92.264	4.42
71	MP5C	Z	0	4.42
72	MP5C	Mx	.016	4.42
73	OVP	X	107.734	1
74	OVP	Z	0	1
75	OVP	Mx	0	1
76	MP1A	X	43.093	3
77	MP1A	Z	0	3
78	MP1A	Mx	.022	3
79	MP1B	X	58.943	3
80	MP1B	Z	0	3
81	MP1B	Mx	-.015	3
82	MP2C	X	61.754	2.5
83	MP2C	Z	0	2.5
84	MP2C	Mx	-.011	2.5
85	MP2A	X	52.831	3
86	MP2A	Z	0	3
87	MP2A	Mx	.026	3
88	MP2B	X	71.322	3
89	MP2B	Z	0	3
90	MP2B	Mx	-.018	3
91	MP3C	X	74.601	3
92	MP3C	Z	0	3
93	MP3C	Mx	-.013	3
94	LIGHT	X	10.359	0
95	LIGHT	Z	0	0



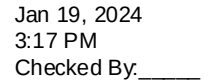
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	159.142	.92
2	MP1A	Z	91.88	.92
3	MP1A	Mx	-.141	.92
4	MP1A	X	159.142	4.42
5	MP1A	Z	91.88	4.42
6	MP1A	Mx	-.141	4.42
7	MP1B	X	208.311	.92
8	MP1B	Z	120.268	.92
9	MP1B	Mx	.16	.92
10	MP1B	X	208.311	4.42
11	MP1B	Z	120.268	4.42
12	MP1B	Mx	.16	4.42
13	MP1A	X	159.142	.92
14	MP1A	Z	91.88	.92
15	MP1A	Mx	-.018	.92
16	MP1A	X	159.142	4.42
17	MP1A	Z	91.88	4.42
18	MP1A	Mx	-.018	4.42
19	MP1B	X	208.311	.92
20	MP1B	Z	120.268	.92
21	MP1B	Mx	-.16	.92
22	MP1B	X	208.311	4.42
23	MP1B	Z	120.268	4.42
24	MP1B	Mx	-.16	4.42
25	MP2C	X	169.839	.92
26	MP2C	Z	98.057	.92
27	MP2C	Mx	-.009	.92
28	MP2C	X	169.839	4.42
29	MP2C	Z	98.057	4.42
30	MP2C	Mx	-.009	4.42
31	MP2C	X	169.839	.92
32	MP2C	Z	98.057	.92
33	MP2C	Mx	.159	.92
34	MP2C	X	169.839	4.42
35	MP2C	Z	98.057	4.42
36	MP2C	Mx	.159	4.42
37	MP2A	X	36.643	1.67
38	MP2A	Z	21.156	1.67
39	MP2A	Mx	-.018	1.67
40	MP2A	X	36.643	3.67
41	MP2A	Z	21.156	3.67
42	MP2A	Mx	-.018	3.67
43	MP2B	X	68.001	1.67
44	MP2B	Z	39.261	1.67
45	MP2B	Mx	0	1.67
46	MP2B	X	68.001	3.67
47	MP2B	Z	39.261	3.67



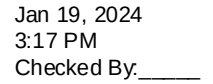


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	110.806	.92
2	MP1A	Z	191.921	.92
3	MP1A	Mx	-.183	.92
4	MP1A	X	110.806	4.42
5	MP1A	Z	191.921	4.42
6	MP1A	Mx	-.183	4.42
7	MP1B	X	110.806	.92
8	MP1B	Z	191.921	.92
9	MP1B	Mx	.073	.92
10	MP1B	X	110.806	4.42
11	MP1B	Z	191.921	4.42
12	MP1B	Mx	.073	4.42
13	MP1A	X	110.806	.92
14	MP1A	Z	191.921	.92
15	MP1A	Mx	.073	.92
16	MP1A	X	110.806	4.42
17	MP1A	Z	191.921	4.42
18	MP1A	Mx	.073	4.42
19	MP1B	X	110.806	.92
20	MP1B	Z	191.921	.92
21	MP1B	Mx	-.183	.92
22	MP1B	X	110.806	4.42
23	MP1B	Z	191.921	4.42
24	MP1B	Mx	-.183	4.42
25	MP2C	X	83.559	.92
26	MP2C	Z	144.729	.92
27	MP2C	Mx	.063	.92
28	MP2C	X	83.559	4.42
29	MP2C	Z	144.729	4.42
30	MP2C	Mx	.063	4.42
31	MP2C	X	83.559	.92
32	MP2C	Z	144.729	.92
33	MP2C	Mx	.102	.92
34	MP2C	X	83.559	4.42
35	MP2C	Z	144.729	4.42
36	MP2C	Mx	.102	4.42
37	MP2A	X	33.226	1.67
38	MP2A	Z	57.549	1.67
39	MP2A	Mx	-.017	1.67
40	MP2A	X	33.226	3.67
41	MP2A	Z	57.549	3.67
42	MP2A	Mx	-.017	3.67
43	MP2B	X	33.226	1.67
44	MP2B	Z	57.549	1.67
45	MP2B	Mx	-.017	1.67
46	MP2B	X	33.226	3.67
47	MP2B	Z	57.549	3.67
48	MP2B	Mx	-.017	3.67
49	MP3C	X	15.849	1.67
50	MP3C	Z	27.451	1.67
51	MP3C	Mx	.016	1.67
52	MP3C	X	15.849	3.67



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
53	MP3C	Z	27.451	3.67
54	MP3C	Mx	.016	3.67
55	MP4A	X	34.891	.91
56	MP4A	Z	60.433	.91
57	MP4A	Mx	-.017	.91
58	MP4A	X	34.891	4.42
59	MP4A	Z	60.433	4.42
60	MP4A	Mx	-.017	4.42
61	MP4B	X	42.99	.92
62	MP4B	Z	74.462	.92
63	MP4B	Mx	-.021	.92
64	MP4B	X	42.99	4.42
65	MP4B	Z	74.462	4.42
66	MP4B	Mx	-.021	4.42
67	MP5C	X	25.99	.92
68	MP5C	Z	45.017	.92
69	MP5C	Mx	.026	.92
70	MP5C	X	25.99	4.42
71	MP5C	Z	45.017	4.42
72	MP5C	Mx	.026	4.42
73	OVP	X	65.676	1
74	OVP	Z	113.754	1
75	OVP	Mx	0	1
76	MP1A	X	29.471	3
77	MP1A	Z	51.046	3
78	MP1A	Mx	.015	3
79	MP1B	X	29.471	3
80	MP1B	Z	51.046	3
81	MP1B	Mx	.015	3
82	MP2C	X	21.865	2.5
83	MP2C	Z	37.872	2.5
84	MP2C	Mx	-.022	2.5
85	MP2A	X	35.661	3
86	MP2A	Z	61.766	3
87	MP2A	Mx	.018	3
88	MP2B	X	35.661	3
89	MP2B	Z	61.766	3
90	MP2B	Mx	.018	3
91	MP3C	X	26.787	3
92	MP3C	Z	46.397	3
93	MP3C	Mx	-.026	3
94	LIGHT	X	4.144	0
95	LIGHT	Z	7.177	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.92
2	MP1A	Z	240.536	.92
3	MP1A	Mx	-.16	.92
4	MP1A	X	0	4.42



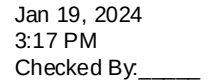
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
5	MP1A	Z	240.536	4.42
6	MP1A	Mx	-.16	4.42
7	MP1B	X	0	.92
8	MP1B	Z	183.761	.92
9	MP1B	Mx	-.018	.92
10	MP1B	X	0	4.42
11	MP1B	Z	183.761	4.42
12	MP1B	Mx	-.018	4.42
13	MP1A	X	0	.92
14	MP1A	Z	240.536	.92
15	MP1A	Mx	.16	.92
16	MP1A	X	0	4.42
17	MP1A	Z	240.536	4.42
18	MP1A	Mx	.16	4.42
19	MP1B	X	0	.92
20	MP1B	Z	183.761	.92
21	MP1B	Mx	-.141	.92
22	MP1B	X	0	4.42
23	MP1B	Z	183.761	4.42
24	MP1B	Mx	-.141	4.42
25	MP2C	X	0	.92
26	MP2C	Z	173.691	.92
27	MP2C	Mx	.121	.92
28	MP2C	X	0	4.42
29	MP2C	Z	173.691	4.42
30	MP2C	Mx	.121	4.42
31	MP2C	X	0	.92
32	MP2C	Z	173.691	.92
33	MP2C	Mx	.042	.92
34	MP2C	X	0	4.42
35	MP2C	Z	173.691	4.42
36	MP2C	Mx	.042	4.42
37	MP2A	X	0	1.67
38	MP2A	Z	78.521	1.67
39	MP2A	Mx	0	1.67
40	MP2A	X	0	3.67
41	MP2A	Z	78.521	3.67
42	MP2A	Mx	0	3.67
43	MP2B	X	0	1.67
44	MP2B	Z	42.312	1.67
45	MP2B	Mx	-.018	1.67
46	MP2B	X	0	3.67
47	MP2B	Z	42.312	3.67
48	MP2B	Mx	-.018	3.67
49	MP3C	X	0	1.67
50	MP3C	Z	35.89	1.67
51	MP3C	Mx	.017	1.67
52	MP3C	X	0	3.67
53	MP3C	Z	35.89	3.67
54	MP3C	Mx	.017	3.67
55	MP4A	X	0	.91
56	MP4A	Z	73.756	.91

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

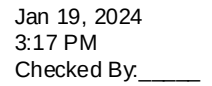
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
57	MP4A	Mx	0	.91
58	MP4A	X	0	4.42
59	MP4A	Z	73.756	4.42
60	MP4A	Mx	0	4.42
61	MP4B	X	0	.92
62	MP4B	Z	62.365	.92
63	MP4B	Mx	-.027	.92
64	MP4B	X	0	4.42
65	MP4B	Z	62.365	4.42
66	MP4B	Mx	-.027	4.42
67	MP5C	X	0	.92
68	MP5C	Z	56.082	.92
69	MP5C	Mx	.026	.92
70	MP5C	X	0	4.42
71	MP5C	Z	56.082	4.42
72	MP5C	Mx	.026	4.42
73	OVP	X	0	1
74	OVP	Z	123.479	1
75	OVP	Mx	0	1
76	MP1A	X	0	3
77	MP1A	Z	64.226	3
78	MP1A	Mx	0	3
79	MP1B	X	0	3
80	MP1B	Z	48.377	3
81	MP1B	Mx	.021	3
82	MP2C	X	0	2.5
83	MP2C	Z	45.566	2.5
84	MP2C	Mx	-.021	2.5
85	MP2A	X	0	3
86	MP2A	Z	77.485	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	58.995	3
90	MP2B	Mx	.026	3
91	MP3C	X	0	3
92	MP3C	Z	55.715	3
93	MP3C	Mx	-.026	3
94	LIGHT	X	0	0
95	LIGHT	Z	8.978	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-110.806	.92
2	MP1A	Z	191.921	.92
3	MP1A	Mx	-.073	.92
4	MP1A	X	-110.806	4.42
5	MP1A	Z	191.921	4.42
6	MP1A	Mx	-.073	4.42
7	MP1B	X	-82.418	.92
8	MP1B	Z	142.752	.92



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
9	MP1B	Mx	-.082	.92
10	MP1B	X	-82.418	4.42
11	MP1B	Z	142.752	4.42
12	MP1B	Mx	-.082	4.42
13	MP1A	X	-110.806	.92
14	MP1A	Z	191.921	.92
15	MP1A	Mx	.183	.92
16	MP1A	X	-110.806	4.42
17	MP1A	Z	191.921	4.42
18	MP1A	Mx	.183	4.42
19	MP1B	X	-82.418	.92
20	MP1B	Z	142.752	.92
21	MP1B	Mx	-.082	.92
22	MP1B	X	-82.418	4.42
23	MP1B	Z	142.752	4.42
24	MP1B	Mx	-.082	4.42
25	MP2C	X	-104.629	.92
26	MP2C	Z	181.223	.92
27	MP2C	Mx	.174	.92
28	MP2C	X	-104.629	4.42
29	MP2C	Z	181.223	4.42
30	MP2C	Mx	.174	4.42
31	MP2C	X	-104.629	.92
32	MP2C	Z	181.223	.92
33	MP2C	Mx	-.04	.92
34	MP2C	X	-104.629	4.42
35	MP2C	Z	181.223	4.42
36	MP2C	Mx	-.04	4.42
37	MP2A	X	-33.226	1.67
38	MP2A	Z	57.549	1.67
39	MP2A	Mx	.017	1.67
40	MP2A	X	-33.226	3.67
41	MP2A	Z	57.549	3.67
42	MP2A	Mx	.017	3.67
43	MP2B	X	-15.121	1.67
44	MP2B	Z	26.191	1.67
45	MP2B	Mx	-.015	1.67
46	MP2B	X	-15.121	3.67
47	MP2B	Z	26.191	3.67
48	MP2B	Mx	-.015	3.67
49	MP3C	X	-29.287	1.67
50	MP3C	Z	50.726	1.67
51	MP3C	Mx	.019	1.67
52	MP3C	X	-29.287	3.67
53	MP3C	Z	50.726	3.67
54	MP3C	Mx	.019	3.67
55	MP4A	X	-34.891	.91
56	MP4A	Z	60.433	.91
57	MP4A	Mx	.017	.91
58	MP4A	X	-34.891	4.42
59	MP4A	Z	60.433	4.42
60	MP4A	Mx	.017	4.42



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
61	MP4B	X	-25.278	.92
62	MP4B	Z	43.783	.92
63	MP4B	Mx	-.025	.92
64	MP4B	X	-25.278	4.42
65	MP4B	Z	43.783	4.42
66	MP4B	Mx	-.025	4.42
67	MP5C	X	-39.137	.92
68	MP5C	Z	67.787	.92
69	MP5C	Mx	.025	.92
70	MP5C	X	-39.137	4.42
71	MP5C	Z	67.787	4.42
72	MP5C	Mx	.025	4.42
73	OVP	X	-53.867	1
74	OVP	Z	93.3	1
75	OVP	Mx	0	1
76	MP1A	X	-29.471	3
77	MP1A	Z	51.046	3
78	MP1A	Mx	-.015	3
79	MP1B	X	-21.547	3
80	MP1B	Z	37.32	3
81	MP1B	Mx	.022	3
82	MP2C	X	-27.747	2.5
83	MP2C	Z	48.06	2.5
84	MP2C	Mx	-.018	2.5
85	MP2A	X	-35.661	3
86	MP2A	Z	61.766	3
87	MP2A	Mx	-.018	3
88	MP2B	X	-26.415	3
89	MP2B	Z	45.753	3
90	MP2B	Mx	.026	3
91	MP3C	X	-33.649	3
92	MP3C	Z	58.282	3
93	MP3C	Mx	-.022	3
94	LIGHT	X	-5.18	0
95	LIGHT	Z	8.971	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-159.142	.92
2	MP1A	Z	91.88	.92
3	MP1A	Mx	.018	.92
4	MP1A	X	-159.142	4.42
5	MP1A	Z	91.88	4.42
6	MP1A	Mx	.018	4.42
7	MP1B	X	-159.142	.92
8	MP1B	Z	91.88	.92
9	MP1B	Mx	-.141	.92
10	MP1B	X	-159.142	4.42
11	MP1B	Z	91.88	4.42
12	MP1B	Mx	-.141	4.42

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

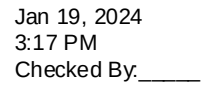
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
13	MP1A	X	-159.142	.92
14	MP1A	Z	91.88	.92
15	MP1A	Mx	.141	.92
16	MP1A	X	-159.142	4.42
17	MP1A	Z	91.88	4.42
18	MP1A	Mx	.141	4.42
19	MP1B	X	-159.142	.92
20	MP1B	Z	91.88	.92
21	MP1B	Mx	-.018	.92
22	MP1B	X	-159.142	4.42
23	MP1B	Z	91.88	4.42
24	MP1B	Mx	-.018	4.42
25	MP2C	X	-206.334	.92
26	MP2C	Z	119.127	.92
27	MP2C	Mx	.177	.92
28	MP2C	X	-206.334	4.42
29	MP2C	Z	119.127	4.42
30	MP2C	Mx	.177	4.42
31	MP2C	X	-206.334	.92
32	MP2C	Z	119.127	.92
33	MP2C	Mx	-.136	.92
34	MP2C	X	-206.334	4.42
35	MP2C	Z	119.127	4.42
36	MP2C	Mx	-.136	4.42
37	MP2A	X	-36.643	1.67
38	MP2A	Z	21.156	1.67
39	MP2A	Mx	.018	1.67
40	MP2A	X	-36.643	3.67
41	MP2A	Z	21.156	3.67
42	MP2A	Mx	.018	3.67
43	MP2B	X	-36.643	1.67
44	MP2B	Z	21.156	1.67
45	MP2B	Mx	-.018	1.67
46	MP2B	X	-36.643	3.67
47	MP2B	Z	21.156	3.67
48	MP2B	Mx	-.018	3.67
49	MP3C	X	-66.741	1.67
50	MP3C	Z	38.533	1.67
51	MP3C	Mx	.007	1.67
52	MP3C	X	-66.741	3.67
53	MP3C	Z	38.533	3.67
54	MP3C	Mx	.007	3.67
55	MP4A	X	-53.551	.91
56	MP4A	Z	30.918	.91
57	MP4A	Mx	.027	.91
58	MP4A	X	-53.551	4.42
59	MP4A	Z	30.918	4.42
60	MP4A	Mx	.027	4.42
61	MP4B	X	-54.009	.92
62	MP4B	Z	31.182	.92
63	MP4B	Mx	-.027	.92
64	MP4B	X	-54.009	4.42

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

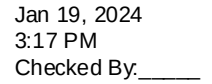
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
65	MP4B	Z	31.182	4.42
66	MP4B	Mx	-.027	4.42
67	MP5C	X	-83.454	.92
68	MP5C	Z	48.182	.92
69	MP5C	Mx	.008	.92
70	MP5C	X	-83.454	4.42
71	MP5C	Z	48.182	4.42
72	MP5C	Mx	.008	4.42
73	OVP	X	-86.482	1
74	OVP	Z	49.93	1
75	OVP	Mx	0	1
76	MP1A	X	-41.895	3
77	MP1A	Z	24.188	3
78	MP1A	Mx	-.021	3
79	MP1B	X	-41.895	3
80	MP1B	Z	24.188	3
81	MP1B	Mx	.021	3
82	MP2C	X	-55.069	2.5
83	MP2C	Z	31.794	2.5
84	MP2C	Mx	-.006	2.5
85	MP2A	X	-51.091	3
86	MP2A	Z	29.497	3
87	MP2A	Mx	-.026	3
88	MP2B	X	-51.091	3
89	MP2B	Z	29.497	3
90	MP2B	Mx	.026	3
91	MP3C	X	-66.461	3
92	MP3C	Z	38.371	3
93	MP3C	Mx	-.007	3
94	LIGHT	X	-9.569	0
95	LIGHT	Z	5.525	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-164.836	.92
2	MP1A	Z	0	.92
3	MP1A	Mx	.082	.92
4	MP1A	X	-164.836	4.42
5	MP1A	Z	0	4.42
6	MP1A	Mx	.082	4.42
7	MP1B	X	-221.611	.92
8	MP1B	Z	0	.92
9	MP1B	Mx	-.183	.92
10	MP1B	X	-221.611	4.42
11	MP1B	Z	0	4.42
12	MP1B	Mx	-.183	4.42
13	MP1A	X	-164.836	.92
14	MP1A	Z	0	.92
15	MP1A	Mx	.082	.92
16	MP1A	X	-164.836	4.42



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
17	MP1A	Z	0	4.42
18	MP1A	Mx	.082	4.42
19	MP1B	X	-221.611	.92
20	MP1B	Z	0	.92
21	MP1B	Mx	.073	.92
22	MP1B	X	-221.611	4.42
23	MP1B	Z	0	4.42
24	MP1B	Mx	.073	4.42
25	MP2C	X	-231.681	.92
26	MP2C	Z	0	.92
27	MP2C	Mx	.106	.92
28	MP2C	X	-231.681	4.42
29	MP2C	Z	0	4.42
30	MP2C	Mx	.106	4.42
31	MP2C	X	-231.681	.92
32	MP2C	Z	0	.92
33	MP2C	Mx	-.185	.92
34	MP2C	X	-231.681	4.42
35	MP2C	Z	0	4.42
36	MP2C	Mx	-.185	4.42
37	MP2A	X	-30.242	1.67
38	MP2A	Z	0	1.67
39	MP2A	Mx	.015	1.67
40	MP2A	X	-30.242	3.67
41	MP2A	Z	0	3.67
42	MP2A	Mx	.015	3.67
43	MP2B	X	-66.452	1.67
44	MP2B	Z	0	1.67
45	MP2B	Mx	-.017	1.67
46	MP2B	X	-66.452	3.67
47	MP2B	Z	0	3.67
48	MP2B	Mx	-.017	3.67
49	MP3C	X	-72.874	1.67
50	MP3C	Z	0	1.67
51	MP3C	Mx	-.012	1.67
52	MP3C	X	-72.874	3.67
53	MP3C	Z	0	3.67
54	MP3C	Mx	-.012	3.67
55	MP4A	X	-57.862	.91
56	MP4A	Z	0	.91
57	MP4A	Mx	.029	.91
58	MP4A	X	-57.862	4.42
59	MP4A	Z	0	4.42
60	MP4A	Mx	.029	4.42
61	MP4B	X	-85.981	.92
62	MP4B	Z	0	.92
63	MP4B	Mx	-.021	.92
64	MP4B	X	-85.981	4.42
65	MP4B	Z	0	4.42
66	MP4B	Mx	-.021	4.42
67	MP5C	X	-92.264	.92
68	MP5C	Z	0	.92



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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
21	MP1B	Mx	.16	.92
22	MP1B	X	-208.311	4.42
23	MP1B	Z	-120.268	4.42
24	MP1B	Mx	.16	4.42
25	MP2C	X	-169.839	.92
26	MP2C	Z	-98.057	.92
27	MP2C	Mx	.009	.92
28	MP2C	X	-169.839	4.42
29	MP2C	Z	-98.057	4.42
30	MP2C	Mx	.009	4.42
31	MP2C	X	-169.839	.92
32	MP2C	Z	-98.057	.92
33	MP2C	Mx	-.159	.92
34	MP2C	X	-169.839	4.42
35	MP2C	Z	-98.057	4.42
36	MP2C	Mx	-.159	4.42
37	MP2A	X	-36.643	1.67
38	MP2A	Z	-21.156	1.67
39	MP2A	Mx	.018	1.67
40	MP2A	X	-36.643	3.67
41	MP2A	Z	-21.156	3.67
42	MP2A	Mx	.018	3.67
43	MP2B	X	-68.001	1.67
44	MP2B	Z	-39.261	1.67
45	MP2B	Mx	0	1.67
46	MP2B	X	-68.001	3.67
47	MP2B	Z	-39.261	3.67
48	MP2B	Mx	0	3.67
49	MP3C	X	-43.466	1.67
50	MP3C	Z	-25.095	1.67
51	MP3C	Mx	-.019	1.67
52	MP3C	X	-43.466	3.67
53	MP3C	Z	-25.095	3.67
54	MP3C	Mx	-.019	3.67
55	MP4A	X	-53.551	.91
56	MP4A	Z	-30.918	.91
57	MP4A	Mx	.027	.91
58	MP4A	X	-53.551	4.42
59	MP4A	Z	-30.918	4.42
60	MP4A	Mx	.027	4.42
61	MP4B	X	-84.688	.92
62	MP4B	Z	-48.895	.92
63	MP4B	Mx	0	.92
64	MP4B	X	-84.688	4.42
65	MP4B	Z	-48.895	4.42
66	MP4B	Mx	0	4.42
67	MP5C	X	-60.684	.92
68	MP5C	Z	-35.036	.92
69	MP5C	Mx	-.027	.92
70	MP5C	X	-60.684	4.42
71	MP5C	Z	-35.036	4.42
72	MP5C	Mx	-.027	4.42

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

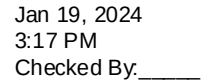
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	OVP	X	-106.936	1
74	OVP	Z	-61.74	1
75	OVP	Mx	0	1
76	MP1A	X	-41.895	3
77	MP1A	Z	-24.188	3
78	MP1A	Mx	-.021	3
79	MP1B	X	-55.621	3
80	MP1B	Z	-32.113	3
81	MP1B	Mx	0	3
82	MP2C	X	-44.882	2.5
83	MP2C	Z	-25.912	2.5
84	MP2C	Mx	.02	2.5
85	MP2A	X	-51.091	3
86	MP2A	Z	-29.497	3
87	MP2A	Mx	-.026	3
88	MP2B	X	-67.104	3
89	MP2B	Z	-38.743	3
90	MP2B	Mx	0	3
91	MP3C	X	-54.575	3
92	MP3C	Z	-31.509	3
93	MP3C	Mx	.024	3
94	LIGHT	X	-7.775	0
95	LIGHT	Z	-4.489	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-110.806	.92
2	MP1A	Z	-191.921	.92
3	MP1A	Mx	.183	.92
4	MP1A	X	-110.806	4.42
5	MP1A	Z	-191.921	4.42
6	MP1A	Mx	.183	4.42
7	MP1B	X	-110.806	.92
8	MP1B	Z	-191.921	.92
9	MP1B	Mx	-.073	.92
10	MP1B	X	-110.806	4.42
11	MP1B	Z	-191.921	4.42
12	MP1B	Mx	-.073	4.42
13	MP1A	X	-110.806	.92
14	MP1A	Z	-191.921	.92
15	MP1A	Mx	-.073	.92
16	MP1A	X	-110.806	4.42
17	MP1A	Z	-191.921	4.42
18	MP1A	Mx	-.073	4.42
19	MP1B	X	-110.806	.92
20	MP1B	Z	-191.921	.92
21	MP1B	Mx	.183	.92
22	MP1B	X	-110.806	4.42
23	MP1B	Z	-191.921	4.42
24	MP1B	Mx	.183	4.42

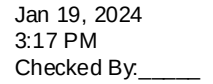
Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP2C	X	-83.559	.92
26	MP2C	Z	-144.729	.92
27	MP2C	Mx	-.063	.92
28	MP2C	X	-83.559	4.42
29	MP2C	Z	-144.729	4.42
30	MP2C	Mx	-.063	4.42
31	MP2C	X	-83.559	.92
32	MP2C	Z	-144.729	.92
33	MP2C	Mx	-.102	.92
34	MP2C	X	-83.559	4.42
35	MP2C	Z	-144.729	4.42
36	MP2C	Mx	-.102	4.42
37	MP2A	X	-33.226	1.67
38	MP2A	Z	-57.549	1.67
39	MP2A	Mx	.017	1.67
40	MP2A	X	-33.226	3.67
41	MP2A	Z	-57.549	3.67
42	MP2A	Mx	.017	3.67
43	MP2B	X	-33.226	1.67
44	MP2B	Z	-57.549	1.67
45	MP2B	Mx	.017	1.67
46	MP2B	X	-33.226	3.67
47	MP2B	Z	-57.549	3.67
48	MP2B	Mx	.017	3.67
49	MP3C	X	-15.849	1.67
50	MP3C	Z	-27.451	1.67
51	MP3C	Mx	-.016	1.67
52	MP3C	X	-15.849	3.67
53	MP3C	Z	-27.451	3.67
54	MP3C	Mx	-.016	3.67
55	MP4A	X	-34.891	.91
56	MP4A	Z	-60.433	.91
57	MP4A	Mx	.017	.91
58	MP4A	X	-34.891	4.42
59	MP4A	Z	-60.433	4.42
60	MP4A	Mx	.017	4.42
61	MP4B	X	-42.99	.92
62	MP4B	Z	-74.462	.92
63	MP4B	Mx	.021	.92
64	MP4B	X	-42.99	4.42
65	MP4B	Z	-74.462	4.42
66	MP4B	Mx	.021	4.42
67	MP5C	X	-25.99	.92
68	MP5C	Z	-45.017	.92
69	MP5C	Mx	-.026	.92
70	MP5C	X	-25.99	4.42
71	MP5C	Z	-45.017	4.42
72	MP5C	Mx	-.026	4.42
73	OVP	X	-65.676	1
74	OVP	Z	-113.754	1
75	OVP	Mx	0	1
76	MP1A	X	-29.471	3

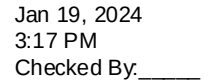


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
77	MP1A	Z	-51.046	3
78	MP1A	Mx	-.015	3
79	MP1B	X	-29.471	3
80	MP1B	Z	-51.046	3
81	MP1B	Mx	-.015	3
82	MP2C	X	-21.865	2.5
83	MP2C	Z	-37.872	2.5
84	MP2C	Mx	.022	2.5
85	MP2A	X	-35.661	3
86	MP2A	Z	-61.766	3
87	MP2A	Mx	-.018	3
88	MP2B	X	-35.661	3
89	MP2B	Z	-61.766	3
90	MP2B	Mx	-.018	3
91	MP3C	X	-26.787	3
92	MP3C	Z	-46.397	3
93	MP3C	Mx	.026	3
94	LIGHT	X	-4.144	0
95	LIGHT	Z	-7.177	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	.92
2	MP1A	Z	-45.634	.92
3	MP1A	Mx	.03	.92
4	MP1A	X	0	4.42
5	MP1A	Z	-45.634	4.42
6	MP1A	Mx	.03	4.42
7	MP1B	X	0	.92
8	MP1B	Z	-35.559	.92
9	MP1B	Mx	.004	.92
10	MP1B	X	0	4.42
11	MP1B	Z	-35.559	4.42
12	MP1B	Mx	.004	4.42
13	MP1A	X	0	.92
14	MP1A	Z	-45.634	.92
15	MP1A	Mx	-.03	.92
16	MP1A	X	0	4.42
17	MP1A	Z	-45.634	4.42
18	MP1A	Mx	-.03	4.42
19	MP1B	X	0	.92
20	MP1B	Z	-35.559	.92
21	MP1B	Mx	.027	.92
22	MP1B	X	0	4.42
23	MP1B	Z	-35.559	4.42
24	MP1B	Mx	.027	4.42
25	MP2C	X	0	.92
26	MP2C	Z	-33.772	.92
27	MP2C	Mx	-.024	.92
28	MP2C	X	0	4.42



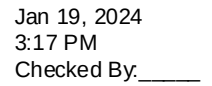
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
29	MP2C	Z	-33.772	4.42
30	MP2C	Mx	-.024	4.42
31	MP2C	X	0	.92
32	MP2C	Z	-33.772	.92
33	MP2C	Mx	-.008	.92
34	MP2C	X	0	4.42
35	MP2C	Z	-33.772	4.42
36	MP2C	Mx	-.008	4.42
37	MP2A	X	0	1.67
38	MP2A	Z	-15.564	1.67
39	MP2A	Mx	0	1.67
40	MP2A	X	0	3.67
41	MP2A	Z	-15.564	3.67
42	MP2A	Mx	0	3.67
43	MP2B	X	0	1.67
44	MP2B	Z	-8.815	1.67
45	MP2B	Mx	.004	1.67
46	MP2B	X	0	3.67
47	MP2B	Z	-8.815	3.67
48	MP2B	Mx	.004	3.67
49	MP3C	X	0	1.67
50	MP3C	Z	-7.618	1.67
51	MP3C	Mx	-.004	1.67
52	MP3C	X	0	3.67
53	MP3C	Z	-7.618	3.67
54	MP3C	Mx	-.004	3.67
55	MP4A	X	0	.91
56	MP4A	Z	-14.857	.91
57	MP4A	Mx	0	.91
58	MP4A	X	0	4.42
59	MP4A	Z	-14.857	4.42
60	MP4A	Mx	0	4.42
61	MP4B	X	0	.92
62	MP4B	Z	-12.827	.92
63	MP4B	Mx	.006	.92
64	MP4B	X	0	4.42
65	MP4B	Z	-12.827	4.42
66	MP4B	Mx	.006	4.42
67	MP5C	X	0	.92
68	MP5C	Z	-11.708	.92
69	MP5C	Mx	-.006	.92
70	MP5C	X	0	4.42
71	MP5C	Z	-11.708	4.42
72	MP5C	Mx	-.006	4.42
73	OVP	X	0	1
74	OVP	Z	-31.235	1
75	OVP	Mx	0	1
76	MP1A	X	0	3
77	MP1A	Z	-16.068	3
78	MP1A	Mx	0	3
79	MP1B	X	0	3
80	MP1B	Z	-12.396	3



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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
33	MP2C	Mx	.008	.92
34	MP2C	X	20.042	4.42
35	MP2C	Z	-34.714	4.42
36	MP2C	Mx	.008	4.42
37	MP2A	X	6.657	1.67
38	MP2A	Z	-11.53	1.67
39	MP2A	Mx	-.003	1.67
40	MP2A	X	6.657	3.67
41	MP2A	Z	-11.53	3.67
42	MP2A	Mx	-.003	3.67
43	MP2B	X	3.283	1.67
44	MP2B	Z	-5.686	1.67
45	MP2B	Mx	.003	1.67
46	MP2B	X	3.283	3.67
47	MP2B	Z	-5.686	3.67
48	MP2B	Mx	.003	3.67
49	MP3C	X	5.923	1.67
50	MP3C	Z	-10.259	1.67
51	MP3C	Mx	-.004	1.67
52	MP3C	X	5.923	3.67
53	MP3C	Z	-10.259	3.67
54	MP3C	Mx	-.004	3.67
55	MP4A	X	7.071	.91
56	MP4A	Z	-12.246	.91
57	MP4A	Mx	-.004	.91
58	MP4A	X	7.071	4.42
59	MP4A	Z	-12.246	4.42
60	MP4A	Mx	-.004	4.42
61	MP4B	X	5.362	.92
62	MP4B	Z	-9.288	.92
63	MP4B	Mx	.005	.92
64	MP4B	X	5.362	4.42
65	MP4B	Z	-9.288	4.42
66	MP4B	Mx	.005	4.42
67	MP5C	X	7.83	.92
68	MP5C	Z	-13.562	.92
69	MP5C	Mx	-.005	.92
70	MP5C	X	7.83	4.42
71	MP5C	Z	-13.562	4.42
72	MP5C	Mx	-.005	4.42
73	OVP	X	13.815	1
74	OVP	Z	-23.929	1
75	OVP	Mx	0	1
76	MP1A	X	7.422	3
77	MP1A	Z	-12.855	3
78	MP1A	Mx	.004	3
79	MP1B	X	5.586	3
80	MP1B	Z	-9.675	3
81	MP1B	Mx	-.006	3
82	MP2C	X	7.022	2.5
83	MP2C	Z	-12.163	2.5
84	MP2C	Mx	.005	2.5



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
85	MP2A	X	7.446	3
86	MP2A	Z	-12.897	3
87	MP2A	Mx	.004	3
88	MP2B	X	5.684	3
89	MP2B	Z	-9.845	3
90	MP2B	Mx	-.006	3
91	MP3C	X	7.063	3
92	MP3C	Z	-12.233	3
93	MP3C	Mx	.005	3
94	LIGHT	X	1.53	0
95	LIGHT	Z	-2.65	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	30.795	.92
2	MP1A	Z	-17.78	.92
3	MP1A	Mx	-.004	.92
4	MP1A	X	30.795	4.42
5	MP1A	Z	-17.78	4.42
6	MP1A	Mx	-.004	4.42
7	MP1B	X	30.795	.92
8	MP1B	Z	-17.78	.92
9	MP1B	Mx	.027	.92
10	MP1B	X	30.795	4.42
11	MP1B	Z	-17.78	4.42
12	MP1B	Mx	.027	4.42
13	MP1A	X	30.795	.92
14	MP1A	Z	-17.78	.92
15	MP1A	Mx	-.027	.92
16	MP1A	X	30.795	4.42
17	MP1A	Z	-17.78	4.42
18	MP1A	Mx	-.027	4.42
19	MP1B	X	30.795	.92
20	MP1B	Z	-17.78	.92
21	MP1B	Mx	.004	.92
22	MP1B	X	30.795	4.42
23	MP1B	Z	-17.78	4.42
24	MP1B	Mx	.004	4.42
25	MP2C	X	39.17	.92
26	MP2C	Z	-22.615	.92
27	MP2C	Mx	-.034	.92
28	MP2C	X	39.17	4.42
29	MP2C	Z	-22.615	4.42
30	MP2C	Mx	-.034	4.42
31	MP2C	X	39.17	.92
32	MP2C	Z	-22.615	.92
33	MP2C	Mx	.026	.92
34	MP2C	X	39.17	4.42
35	MP2C	Z	-22.615	4.42
36	MP2C	Mx	.026	4.42

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
37	MP2A	X	7.634	1.67
38	MP2A	Z	-4.408	1.67
39	MP2A	Mx	-.004	1.67
40	MP2A	X	7.634	3.67
41	MP2A	Z	-4.408	3.67
42	MP2A	Mx	-.004	3.67
43	MP2B	X	7.634	1.67
44	MP2B	Z	-4.408	1.67
45	MP2B	Mx	.004	1.67
46	MP2B	X	7.634	3.67
47	MP2B	Z	-4.408	3.67
48	MP2B	Mx	.004	3.67
49	MP3C	X	13.243	1.67
50	MP3C	Z	-7.646	1.67
51	MP3C	Mx	-.001	1.67
52	MP3C	X	13.243	3.67
53	MP3C	Z	-7.646	3.67
54	MP3C	Mx	-.001	3.67
55	MP4A	X	11.006	.91
56	MP4A	Z	-6.354	.91
57	MP4A	Mx	-.006	.91
58	MP4A	X	11.006	4.42
59	MP4A	Z	-6.354	4.42
60	MP4A	Mx	-.006	4.42
61	MP4B	X	11.108	.92
62	MP4B	Z	-6.413	.92
63	MP4B	Mx	.006	.92
64	MP4B	X	11.108	4.42
65	MP4B	Z	-6.413	4.42
66	MP4B	Mx	.006	4.42
67	MP5C	X	16.351	.92
68	MP5C	Z	-9.44	.92
69	MP5C	Mx	-.002	.92
70	MP5C	X	16.351	4.42
71	MP5C	Z	-9.44	4.42
72	MP5C	Mx	-.002	4.42
73	OVP	X	22.368	1
74	OVP	Z	-12.914	1
75	OVP	Mx	0	1
76	MP1A	X	10.735	3
77	MP1A	Z	-6.198	3
78	MP1A	Mx	.005	3
79	MP1B	X	10.735	3
80	MP1B	Z	-6.198	3
81	MP1B	Mx	-.005	3
82	MP2C	X	13.787	2.5
83	MP2C	Z	-7.96	2.5
84	MP2C	Mx	.001	2.5
85	MP2A	X	10.862	3
86	MP2A	Z	-6.271	3
87	MP2A	Mx	.005	3
88	MP2B	X	10.862	3

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

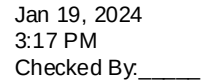
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
89	MP2B	Z	-6.271	3
90	MP2B	Mx	-.005	3
91	MP3C	X	13.792	3
92	MP3C	Z	-7.963	3
93	MP3C	Mx	.001	3
94	LIGHT	X	2.65	0
95	LIGHT	Z	-1.53	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	32.201	.92
2	MP1A	Z	0	.92
3	MP1A	Mx	-.016	.92
4	MP1A	X	32.201	4.42
5	MP1A	Z	0	4.42
6	MP1A	Mx	-.016	4.42
7	MP1B	X	42.276	.92
8	MP1B	Z	0	.92
9	MP1B	Mx	.035	.92
10	MP1B	X	42.276	4.42
11	MP1B	Z	0	4.42
12	MP1B	Mx	.035	4.42
13	MP1A	X	32.201	.92
14	MP1A	Z	0	.92
15	MP1A	Mx	-.016	.92
16	MP1A	X	32.201	4.42
17	MP1A	Z	0	4.42
18	MP1A	Mx	-.016	4.42
19	MP1B	X	42.276	.92
20	MP1B	Z	0	.92
21	MP1B	Mx	-.014	.92
22	MP1B	X	42.276	4.42
23	MP1B	Z	0	4.42
24	MP1B	Mx	-.014	4.42
25	MP2C	X	44.063	.92
26	MP2C	Z	0	.92
27	MP2C	Mx	-.02	.92
28	MP2C	X	44.063	4.42
29	MP2C	Z	0	4.42
30	MP2C	Mx	-.02	4.42
31	MP2C	X	44.063	.92
32	MP2C	Z	0	.92
33	MP2C	Mx	.035	.92
34	MP2C	X	44.063	4.42
35	MP2C	Z	0	4.42
36	MP2C	Mx	.035	4.42
37	MP2A	X	6.566	1.67
38	MP2A	Z	0	1.67
39	MP2A	Mx	-.003	1.67
40	MP2A	X	6.566	3.67

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

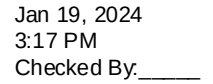
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	MP2A	Z	0	3.67
42	MP2A	Mx	-.003	3.67
43	MP2B	X	13.314	1.67
44	MP2B	Z	0	1.67
45	MP2B	Mx	.003	1.67
46	MP2B	X	13.314	3.67
47	MP2B	Z	0	3.67
48	MP2B	Mx	.003	3.67
49	MP3C	X	14.511	1.67
50	MP3C	Z	0	1.67
51	MP3C	Mx	.002	1.67
52	MP3C	X	14.511	3.67
53	MP3C	Z	0	3.67
54	MP3C	Mx	.002	3.67
55	MP4A	X	11.992	.91
56	MP4A	Z	0	.91
57	MP4A	Mx	-.006	.91
58	MP4A	X	11.992	4.42
59	MP4A	Z	0	4.42
60	MP4A	Mx	-.006	4.42
61	MP4B	X	17.032	.92
62	MP4B	Z	0	.92
63	MP4B	Mx	.004	.92
64	MP4B	X	17.032	4.42
65	MP4B	Z	0	4.42
66	MP4B	Mx	.004	4.42
67	MP5C	X	18.15	.92
68	MP5C	Z	0	.92
69	MP5C	Mx	.003	.92
70	MP5C	X	18.15	4.42
71	MP5C	Z	0	4.42
72	MP5C	Mx	.003	4.42
73	OVP	X	27.631	1
74	OVP	Z	0	1
75	OVP	Mx	0	1
76	MP1A	X	11.172	3
77	MP1A	Z	0	3
78	MP1A	Mx	.006	3
79	MP1B	X	14.844	3
80	MP1B	Z	0	3
81	MP1B	Mx	-.004	3
82	MP2C	X	15.495	2.5
83	MP2C	Z	0	2.5
84	MP2C	Mx	-.003	2.5
85	MP2A	X	11.368	3
86	MP2A	Z	0	3
87	MP2A	Mx	.006	3
88	MP2B	X	14.893	3
89	MP2B	Z	0	3
90	MP2B	Mx	-.004	3
91	MP3C	X	15.518	3
92	MP3C	Z	0	3



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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
45	MP2B	Mx	0	1.67
46	MP2B	X	13.478	3.67
47	MP2B	Z	7.782	3.67
48	MP2B	Mx	0	3.67
49	MP3C	X	8.906	1.67
50	MP3C	Z	5.142	1.67
51	MP3C	Mx	.004	1.67
52	MP3C	X	8.906	3.67
53	MP3C	Z	5.142	3.67
54	MP3C	Mx	.004	3.67
55	MP4A	X	11.006	.91
56	MP4A	Z	6.354	.91
57	MP4A	Mx	-.006	.91
58	MP4A	X	11.006	4.42
59	MP4A	Z	6.354	4.42
60	MP4A	Mx	-.006	4.42
61	MP4B	X	16.571	.92
62	MP4B	Z	9.567	.92
63	MP4B	Mx	0	.92
64	MP4B	X	16.571	4.42
65	MP4B	Z	9.567	4.42
66	MP4B	Mx	0	4.42
67	MP5C	X	12.297	.92
68	MP5C	Z	7.1	.92
69	MP5C	Mx	.005	.92
70	MP5C	X	12.297	4.42
71	MP5C	Z	7.1	4.42
72	MP5C	Mx	.005	4.42
73	OVP	X	27.05	1
74	OVP	Z	15.617	1
75	OVP	Mx	0	1
76	MP1A	X	10.735	3
77	MP1A	Z	6.198	3
78	MP1A	Mx	.005	3
79	MP1B	X	13.915	3
80	MP1B	Z	8.034	3
81	MP1B	Mx	0	3
82	MP2C	X	11.427	2.5
83	MP2C	Z	6.597	2.5
84	MP2C	Mx	-.005	2.5
85	MP2A	X	10.862	3
86	MP2A	Z	6.271	3
87	MP2A	Mx	.005	3
88	MP2B	X	13.915	3
89	MP2B	Z	8.034	3
90	MP2B	Mx	0	3
91	MP3C	X	11.526	3
92	MP3C	Z	6.655	3
93	MP3C	Mx	-.005	3
94	LIGHT	X	2.65	0
95	LIGHT	Z	1.53	0
96	LIGHT	Mx	0	0



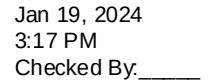
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	21.138	.92
2	MP1A	Z	36.612	.92
3	MP1A	Mx	-.035	.92
4	MP1A	X	21.138	4.42
5	MP1A	Z	36.612	4.42
6	MP1A	Mx	-.035	4.42
7	MP1B	X	21.138	.92
8	MP1B	Z	36.612	.92
9	MP1B	Mx	.014	.92
10	MP1B	X	21.138	4.42
11	MP1B	Z	36.612	4.42
12	MP1B	Mx	.014	4.42
13	MP1A	X	21.138	.92
14	MP1A	Z	36.612	.92
15	MP1A	Mx	.014	.92
16	MP1A	X	21.138	4.42
17	MP1A	Z	36.612	4.42
18	MP1A	Mx	.014	4.42
19	MP1B	X	21.138	.92
20	MP1B	Z	36.612	.92
21	MP1B	Mx	-.035	.92
22	MP1B	X	21.138	4.42
23	MP1B	Z	36.612	4.42
24	MP1B	Mx	-.035	4.42
25	MP2C	X	16.303	.92
26	MP2C	Z	28.237	.92
27	MP2C	Mx	.012	.92
28	MP2C	X	16.303	4.42
29	MP2C	Z	28.237	4.42
30	MP2C	Mx	.012	4.42
31	MP2C	X	16.303	.92
32	MP2C	Z	28.237	.92
33	MP2C	Mx	.02	.92
34	MP2C	X	16.303	4.42
35	MP2C	Z	28.237	4.42
36	MP2C	Mx	.02	4.42
37	MP2A	X	6.657	1.67
38	MP2A	Z	11.53	1.67
39	MP2A	Mx	-.003	1.67
40	MP2A	X	6.657	3.67
41	MP2A	Z	11.53	3.67
42	MP2A	Mx	-.003	3.67
43	MP2B	X	6.657	1.67
44	MP2B	Z	11.53	1.67
45	MP2B	Mx	-.003	1.67
46	MP2B	X	6.657	3.67
47	MP2B	Z	11.53	3.67
48	MP2B	Mx	-.003	3.67
49	MP3C	X	3.418	1.67
50	MP3C	Z	5.921	1.67
51	MP3C	Mx	.003	1.67
52	MP3C	X	3.418	3.67

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP3C	Z	5.921	3.67
54	MP3C	Mx	.003	3.67
55	MP4A	X	7.071	.91
56	MP4A	Z	12.246	.91
57	MP4A	Mx	-.004	.91
58	MP4A	X	7.071	4.42
59	MP4A	Z	12.246	4.42
60	MP4A	Mx	-.004	4.42
61	MP4B	X	8.516	.92
62	MP4B	Z	14.75	.92
63	MP4B	Mx	-.004	.92
64	MP4B	X	8.516	4.42
65	MP4B	Z	14.75	4.42
66	MP4B	Mx	-.004	4.42
67	MP5C	X	5.489	.92
68	MP5C	Z	9.507	.92
69	MP5C	Mx	.005	.92
70	MP5C	X	5.489	4.42
71	MP5C	Z	9.507	4.42
72	MP5C	Mx	.005	4.42
73	OVP	X	16.519	1
74	OVP	Z	28.611	1
75	OVP	Mx	0	1
76	MP1A	X	7.422	3
77	MP1A	Z	12.855	3
78	MP1A	Mx	.004	3
79	MP1B	X	7.422	3
80	MP1B	Z	12.855	3
81	MP1B	Mx	.004	3
82	MP2C	X	5.66	2.5
83	MP2C	Z	9.803	2.5
84	MP2C	Mx	-.006	2.5
85	MP2A	X	7.446	3
86	MP2A	Z	12.897	3
87	MP2A	Mx	.004	3
88	MP2B	X	7.446	3
89	MP2B	Z	12.897	3
90	MP2B	Mx	.004	3
91	MP3C	X	5.755	3
92	MP3C	Z	9.968	3
93	MP3C	Mx	-.006	3
94	LIGHT	X	1.53	0
95	LIGHT	Z	2.65	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.92
2	MP1A	Z	45.634	.92
3	MP1A	Mx	-.03	.92
4	MP1A	X	0	4.42



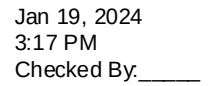
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
5	MP1A	Z	45.634	4.42
6	MP1A	Mx	-.03	4.42
7	MP1B	X	0	.92
8	MP1B	Z	35.559	.92
9	MP1B	Mx	-.004	.92
10	MP1B	X	0	4.42
11	MP1B	Z	35.559	4.42
12	MP1B	Mx	-.004	4.42
13	MP1A	X	0	.92
14	MP1A	Z	45.634	.92
15	MP1A	Mx	.03	.92
16	MP1A	X	0	4.42
17	MP1A	Z	45.634	4.42
18	MP1A	Mx	.03	4.42
19	MP1B	X	0	.92
20	MP1B	Z	35.559	.92
21	MP1B	Mx	-.027	.92
22	MP1B	X	0	4.42
23	MP1B	Z	35.559	4.42
24	MP1B	Mx	-.027	4.42
25	MP2C	X	0	.92
26	MP2C	Z	33.772	.92
27	MP2C	Mx	.024	.92
28	MP2C	X	0	4.42
29	MP2C	Z	33.772	4.42
30	MP2C	Mx	.024	4.42
31	MP2C	X	0	.92
32	MP2C	Z	33.772	.92
33	MP2C	Mx	.008	.92
34	MP2C	X	0	4.42
35	MP2C	Z	33.772	4.42
36	MP2C	Mx	.008	4.42
37	MP2A	X	0	1.67
38	MP2A	Z	15.564	1.67
39	MP2A	Mx	0	1.67
40	MP2A	X	0	3.67
41	MP2A	Z	15.564	3.67
42	MP2A	Mx	0	3.67
43	MP2B	X	0	1.67
44	MP2B	Z	8.815	1.67
45	MP2B	Mx	-.004	1.67
46	MP2B	X	0	3.67
47	MP2B	Z	8.815	3.67
48	MP2B	Mx	-.004	3.67
49	MP3C	X	0	1.67
50	MP3C	Z	7.618	1.67
51	MP3C	Mx	.004	1.67
52	MP3C	X	0	3.67
53	MP3C	Z	7.618	3.67
54	MP3C	Mx	.004	3.67
55	MP4A	X	0	.91
56	MP4A	Z	14.857	.91

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

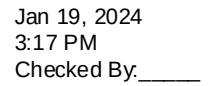
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
57	MP4A	Mx	0	.91
58	MP4A	X	0	4.42
59	MP4A	Z	14.857	4.42
60	MP4A	Mx	0	4.42
61	MP4B	X	0	.92
62	MP4B	Z	12.827	.92
63	MP4B	Mx	-.006	.92
64	MP4B	X	0	4.42
65	MP4B	Z	12.827	4.42
66	MP4B	Mx	-.006	4.42
67	MP5C	X	0	.92
68	MP5C	Z	11.708	.92
69	MP5C	Mx	.006	.92
70	MP5C	X	0	4.42
71	MP5C	Z	11.708	4.42
72	MP5C	Mx	.006	4.42
73	OVP	X	0	1
74	OVP	Z	31.235	1
75	OVP	Mx	0	1
76	MP1A	X	0	3
77	MP1A	Z	16.068	3
78	MP1A	Mx	0	3
79	MP1B	X	0	3
80	MP1B	Z	12.396	3
81	MP1B	Mx	.005	3
82	MP2C	X	0	2.5
83	MP2C	Z	11.745	2.5
84	MP2C	Mx	-.006	2.5
85	MP2A	X	0	3
86	MP2A	Z	16.068	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	12.543	3
90	MP2B	Mx	.005	3
91	MP3C	X	0	3
92	MP3C	Z	11.918	3
93	MP3C	Mx	-.006	3
94	LIGHT	X	0	0
95	LIGHT	Z	3.06	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-21.138	.92
2	MP1A	Z	36.612	.92
3	MP1A	Mx	-.014	.92
4	MP1A	X	-21.138	4.42
5	MP1A	Z	36.612	4.42
6	MP1A	Mx	-.014	4.42
7	MP1B	X	-16.1	.92
8	MP1B	Z	27.887	.92



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
9	MP1B	Mx	-.016	.92
10	MP1B	X	-16.1	4.42
11	MP1B	Z	27.887	4.42
12	MP1B	Mx	-.016	4.42
13	MP1A	X	-21.138	.92
14	MP1A	Z	36.612	.92
15	MP1A	Mx	.035	.92
16	MP1A	X	-21.138	4.42
17	MP1A	Z	36.612	4.42
18	MP1A	Mx	.035	4.42
19	MP1B	X	-16.1	.92
20	MP1B	Z	27.887	.92
21	MP1B	Mx	-.016	.92
22	MP1B	X	-16.1	4.42
23	MP1B	Z	27.887	4.42
24	MP1B	Mx	-.016	4.42
25	MP2C	X	-20.042	.92
26	MP2C	Z	34.714	.92
27	MP2C	Mx	.033	.92
28	MP2C	X	-20.042	4.42
29	MP2C	Z	34.714	4.42
30	MP2C	Mx	.033	4.42
31	MP2C	X	-20.042	.92
32	MP2C	Z	34.714	.92
33	MP2C	Mx	-.008	.92
34	MP2C	X	-20.042	4.42
35	MP2C	Z	34.714	4.42
36	MP2C	Mx	-.008	4.42
37	MP2A	X	-6.657	1.67
38	MP2A	Z	11.53	1.67
39	MP2A	Mx	.003	1.67
40	MP2A	X	-6.657	3.67
41	MP2A	Z	11.53	3.67
42	MP2A	Mx	.003	3.67
43	MP2B	X	-3.283	1.67
44	MP2B	Z	5.686	1.67
45	MP2B	Mx	-.003	1.67
46	MP2B	X	-3.283	3.67
47	MP2B	Z	5.686	3.67
48	MP2B	Mx	-.003	3.67
49	MP3C	X	-5.923	1.67
50	MP3C	Z	10.259	1.67
51	MP3C	Mx	.004	1.67
52	MP3C	X	-5.923	3.67
53	MP3C	Z	10.259	3.67
54	MP3C	Mx	.004	3.67
55	MP4A	X	-7.071	.91
56	MP4A	Z	12.246	.91
57	MP4A	Mx	.004	.91
58	MP4A	X	-7.071	4.42
59	MP4A	Z	12.246	4.42
60	MP4A	Mx	.004	4.42



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
61	MP4B	X	-5.362	.92
62	MP4B	Z	9.288	.92
63	MP4B	Mx	-.005	.92
64	MP4B	X	-5.362	4.42
65	MP4B	Z	9.288	4.42
66	MP4B	Mx	-.005	4.42
67	MP5C	X	-7.83	.92
68	MP5C	Z	13.562	.92
69	MP5C	Mx	.005	.92
70	MP5C	X	-7.83	4.42
71	MP5C	Z	13.562	4.42
72	MP5C	Mx	.005	4.42
73	OVP	X	-13.815	1
74	OVP	Z	23.929	1
75	OVP	Mx	0	1
76	MP1A	X	-7.422	3
77	MP1A	Z	12.855	3
78	MP1A	Mx	-.004	3
79	MP1B	X	-5.586	3
80	MP1B	Z	9.675	3
81	MP1B	Mx	.006	3
82	MP2C	X	-7.022	2.5
83	MP2C	Z	12.163	2.5
84	MP2C	Mx	-.005	2.5
85	MP2A	X	-7.446	3
86	MP2A	Z	12.897	3
87	MP2A	Mx	-.004	3
88	MP2B	X	-5.684	3
89	MP2B	Z	9.845	3
90	MP2B	Mx	.006	3
91	MP3C	X	-7.063	3
92	MP3C	Z	12.233	3
93	MP3C	Mx	-.005	3
94	LIGHT	X	-1.53	0
95	LIGHT	Z	2.65	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-30.795	.92
2	MP1A	Z	17.78	.92
3	MP1A	Mx	.004	.92
4	MP1A	X	-30.795	4.42
5	MP1A	Z	17.78	4.42
6	MP1A	Mx	.004	4.42
7	MP1B	X	-30.795	.92
8	MP1B	Z	17.78	.92
9	MP1B	Mx	-.027	.92
10	MP1B	X	-30.795	4.42
11	MP1B	Z	17.78	4.42
12	MP1B	Mx	-.027	4.42

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
13	MP1A	X	-30.795	.92
14	MP1A	Z	17.78	.92
15	MP1A	Mx	.027	.92
16	MP1A	X	-30.795	4.42
17	MP1A	Z	17.78	4.42
18	MP1A	Mx	.027	4.42
19	MP1B	X	-30.795	.92
20	MP1B	Z	17.78	.92
21	MP1B	Mx	-.004	.92
22	MP1B	X	-30.795	4.42
23	MP1B	Z	17.78	4.42
24	MP1B	Mx	-.004	4.42
25	MP2C	X	-39.17	.92
26	MP2C	Z	22.615	.92
27	MP2C	Mx	.034	.92
28	MP2C	X	-39.17	4.42
29	MP2C	Z	22.615	4.42
30	MP2C	Mx	.034	4.42
31	MP2C	X	-39.17	.92
32	MP2C	Z	22.615	.92
33	MP2C	Mx	-.026	.92
34	MP2C	X	-39.17	4.42
35	MP2C	Z	22.615	4.42
36	MP2C	Mx	-.026	4.42
37	MP2A	X	-7.634	1.67
38	MP2A	Z	4.408	1.67
39	MP2A	Mx	.004	1.67
40	MP2A	X	-7.634	3.67
41	MP2A	Z	4.408	3.67
42	MP2A	Mx	.004	3.67
43	MP2B	X	-7.634	1.67
44	MP2B	Z	4.408	1.67
45	MP2B	Mx	-.004	1.67
46	MP2B	X	-7.634	3.67
47	MP2B	Z	4.408	3.67
48	MP2B	Mx	-.004	3.67
49	MP3C	X	-13.243	1.67
50	MP3C	Z	7.646	1.67
51	MP3C	Mx	.001	1.67
52	MP3C	X	-13.243	3.67
53	MP3C	Z	7.646	3.67
54	MP3C	Mx	.001	3.67
55	MP4A	X	-11.006	.91
56	MP4A	Z	6.354	.91
57	MP4A	Mx	.006	.91
58	MP4A	X	-11.006	4.42
59	MP4A	Z	6.354	4.42
60	MP4A	Mx	.006	4.42
61	MP4B	X	-11.108	.92
62	MP4B	Z	6.413	.92
63	MP4B	Mx	-.006	.92
64	MP4B	X	-11.108	4.42

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

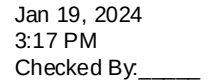
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
65	MP4B	Z	6.413	4.42
66	MP4B	Mx	-.006	4.42
67	MP5C	X	-16.351	.92
68	MP5C	Z	9.44	.92
69	MP5C	Mx	.002	.92
70	MP5C	X	-16.351	4.42
71	MP5C	Z	9.44	4.42
72	MP5C	Mx	.002	4.42
73	OVP	X	-22.368	1
74	OVP	Z	12.914	1
75	OVP	Mx	0	1
76	MP1A	X	-10.735	3
77	MP1A	Z	6.198	3
78	MP1A	Mx	-.005	3
79	MP1B	X	-10.735	3
80	MP1B	Z	6.198	3
81	MP1B	Mx	.005	3
82	MP2C	X	-13.787	2.5
83	MP2C	Z	7.96	2.5
84	MP2C	Mx	-.001	2.5
85	MP2A	X	-10.862	3
86	MP2A	Z	6.271	3
87	MP2A	Mx	-.005	3
88	MP2B	X	-10.862	3
89	MP2B	Z	6.271	3
90	MP2B	Mx	.005	3
91	MP3C	X	-13.792	3
92	MP3C	Z	7.963	3
93	MP3C	Mx	-.001	3
94	LIGHT	X	-2.65	0
95	LIGHT	Z	1.53	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-32.201	.92
2	MP1A	Z	0	.92
3	MP1A	Mx	.016	.92
4	MP1A	X	-32.201	4.42
5	MP1A	Z	0	4.42
6	MP1A	Mx	.016	4.42
7	MP1B	X	-42.276	.92
8	MP1B	Z	0	.92
9	MP1B	Mx	-.035	.92
10	MP1B	X	-42.276	4.42
11	MP1B	Z	0	4.42
12	MP1B	Mx	-.035	4.42
13	MP1A	X	-32.201	.92
14	MP1A	Z	0	.92
15	MP1A	Mx	.016	.92
16	MP1A	X	-32.201	4.42

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
17	MP1A	Z	0	4.42
18	MP1A	Mx	.016	4.42
19	MP1B	X	-42.276	.92
20	MP1B	Z	0	.92
21	MP1B	Mx	.014	.92
22	MP1B	X	-42.276	4.42
23	MP1B	Z	0	4.42
24	MP1B	Mx	.014	4.42
25	MP2C	X	-44.063	.92
26	MP2C	Z	0	.92
27	MP2C	Mx	.02	.92
28	MP2C	X	-44.063	4.42
29	MP2C	Z	0	4.42
30	MP2C	Mx	.02	4.42
31	MP2C	X	-44.063	.92
32	MP2C	Z	0	.92
33	MP2C	Mx	-.035	.92
34	MP2C	X	-44.063	4.42
35	MP2C	Z	0	4.42
36	MP2C	Mx	-.035	4.42
37	MP2A	X	-6.566	1.67
38	MP2A	Z	0	1.67
39	MP2A	Mx	.003	1.67
40	MP2A	X	-6.566	3.67
41	MP2A	Z	0	3.67
42	MP2A	Mx	.003	3.67
43	MP2B	X	-13.314	1.67
44	MP2B	Z	0	1.67
45	MP2B	Mx	-.003	1.67
46	MP2B	X	-13.314	3.67
47	MP2B	Z	0	3.67
48	MP2B	Mx	-.003	3.67
49	MP3C	X	-14.511	1.67
50	MP3C	Z	0	1.67
51	MP3C	Mx	-.002	1.67
52	MP3C	X	-14.511	3.67
53	MP3C	Z	0	3.67
54	MP3C	Mx	-.002	3.67
55	MP4A	X	-11.992	.91
56	MP4A	Z	0	.91
57	MP4A	Mx	.006	.91
58	MP4A	X	-11.992	4.42
59	MP4A	Z	0	4.42
60	MP4A	Mx	.006	4.42
61	MP4B	X	-17.032	.92
62	MP4B	Z	0	.92
63	MP4B	Mx	-.004	.92
64	MP4B	X	-17.032	4.42
65	MP4B	Z	0	4.42
66	MP4B	Mx	-.004	4.42
67	MP5C	X	-18.15	.92
68	MP5C	Z	0	.92



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
69	MP5C	Mx	-.003	.92
70	MP5C	X	-18.15	4.42
71	MP5C	Z	0	4.42
72	MP5C	Mx	-.003	4.42
73	OVP	X	-27.631	1
74	OVP	Z	0	1
75	OVP	Mx	0	1
76	MP1A	X	-11.172	3
77	MP1A	Z	0	3
78	MP1A	Mx	-.006	3
79	MP1B	X	-14.844	3
80	MP1B	Z	0	3
81	MP1B	Mx	.004	3
82	MP2C	X	-15.495	2.5
83	MP2C	Z	0	2.5
84	MP2C	Mx	.003	2.5
85	MP2A	X	-11.368	3
86	MP2A	Z	0	3
87	MP2A	Mx	-.006	3
88	MP2B	X	-14.893	3
89	MP2B	Z	0	3
90	MP2B	Mx	.004	3
91	MP3C	X	-15.518	3
92	MP3C	Z	0	3
93	MP3C	Mx	.003	3
94	LIGHT	X	-3.06	0
95	LIGHT	Z	0	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-30.795	.92
2	MP1A	Z	-17.78	.92
3	MP1A	Mx	.027	.92
4	MP1A	X	-30.795	4.42
5	MP1A	Z	-17.78	4.42
6	MP1A	Mx	.027	4.42
7	MP1B	X	-39.521	.92
8	MP1B	Z	-22.817	.92
9	MP1B	Mx	-.03	.92
10	MP1B	X	-39.521	4.42
11	MP1B	Z	-22.817	4.42
12	MP1B	Mx	-.03	4.42
13	MP1A	X	-30.795	.92
14	MP1A	Z	-17.78	.92
15	MP1A	Mx	.004	.92
16	MP1A	X	-30.795	4.42
17	MP1A	Z	-17.78	4.42
18	MP1A	Mx	.004	4.42
19	MP1B	X	-39.521	.92
20	MP1B	Z	-22.817	.92

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
21	MP1B	Mx	.03	.92
22	MP1B	X	-39.521	4.42
23	MP1B	Z	-22.817	4.42
24	MP1B	Mx	.03	4.42
25	MP2C	X	-32.693	.92
26	MP2C	Z	-18.876	.92
27	MP2C	Mx	.002	.92
28	MP2C	X	-32.693	4.42
29	MP2C	Z	-18.876	4.42
30	MP2C	Mx	.002	4.42
31	MP2C	X	-32.693	.92
32	MP2C	Z	-18.876	.92
33	MP2C	Mx	-.031	.92
34	MP2C	X	-32.693	4.42
35	MP2C	Z	-18.876	4.42
36	MP2C	Mx	-.031	4.42
37	MP2A	X	-7.634	1.67
38	MP2A	Z	-4.408	1.67
39	MP2A	Mx	.004	1.67
40	MP2A	X	-7.634	3.67
41	MP2A	Z	-4.408	3.67
42	MP2A	Mx	.004	3.67
43	MP2B	X	-13.478	1.67
44	MP2B	Z	-7.782	1.67
45	MP2B	Mx	0	1.67
46	MP2B	X	-13.478	3.67
47	MP2B	Z	-7.782	3.67
48	MP2B	Mx	0	3.67
49	MP3C	X	-8.906	1.67
50	MP3C	Z	-5.142	1.67
51	MP3C	Mx	-.004	1.67
52	MP3C	X	-8.906	3.67
53	MP3C	Z	-5.142	3.67
54	MP3C	Mx	-.004	3.67
55	MP4A	X	-11.006	.91
56	MP4A	Z	-6.354	.91
57	MP4A	Mx	.006	.91
58	MP4A	X	-11.006	4.42
59	MP4A	Z	-6.354	4.42
60	MP4A	Mx	.006	4.42
61	MP4B	X	-16.571	.92
62	MP4B	Z	-9.567	.92
63	MP4B	Mx	0	.92
64	MP4B	X	-16.571	4.42
65	MP4B	Z	-9.567	4.42
66	MP4B	Mx	0	4.42
67	MP5C	X	-12.297	.92
68	MP5C	Z	-7.1	.92
69	MP5C	Mx	-.005	.92
70	MP5C	X	-12.297	4.42
71	MP5C	Z	-7.1	4.42
72	MP5C	Mx	-.005	4.42

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

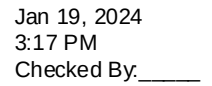
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	OVP	X	-27.05	1
74	OVP	Z	-15.617	1
75	OVP	Mx	0	1
76	MP1A	X	-10.735	3
77	MP1A	Z	-6.198	3
78	MP1A	Mx	-.005	3
79	MP1B	X	-13.915	3
80	MP1B	Z	-8.034	3
81	MP1B	Mx	0	3
82	MP2C	X	-11.427	2.5
83	MP2C	Z	-6.597	2.5
84	MP2C	Mx	.005	2.5
85	MP2A	X	-10.862	3
86	MP2A	Z	-6.271	3
87	MP2A	Mx	-.005	3
88	MP2B	X	-13.915	3
89	MP2B	Z	-8.034	3
90	MP2B	Mx	0	3
91	MP3C	X	-11.526	3
92	MP3C	Z	-6.655	3
93	MP3C	Mx	.005	3
94	LIGHT	X	-2.65	0
95	LIGHT	Z	-1.53	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-21.138	.92
2	MP1A	Z	-36.612	.92
3	MP1A	Mx	.035	.92
4	MP1A	X	-21.138	4.42
5	MP1A	Z	-36.612	4.42
6	MP1A	Mx	.035	4.42
7	MP1B	X	-21.138	.92
8	MP1B	Z	-36.612	.92
9	MP1B	Mx	-.014	.92
10	MP1B	X	-21.138	4.42
11	MP1B	Z	-36.612	4.42
12	MP1B	Mx	-.014	4.42
13	MP1A	X	-21.138	.92
14	MP1A	Z	-36.612	.92
15	MP1A	Mx	-.014	.92
16	MP1A	X	-21.138	4.42
17	MP1A	Z	-36.612	4.42
18	MP1A	Mx	-.014	4.42
19	MP1B	X	-21.138	.92
20	MP1B	Z	-36.612	.92
21	MP1B	Mx	.035	.92
22	MP1B	X	-21.138	4.42
23	MP1B	Z	-36.612	4.42
24	MP1B	Mx	.035	4.42

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP2C	X	-16.303	.92
26	MP2C	Z	-28.237	.92
27	MP2C	Mx	-.012	.92
28	MP2C	X	-16.303	4.42
29	MP2C	Z	-28.237	4.42
30	MP2C	Mx	-.012	4.42
31	MP2C	X	-16.303	.92
32	MP2C	Z	-28.237	.92
33	MP2C	Mx	-.02	.92
34	MP2C	X	-16.303	4.42
35	MP2C	Z	-28.237	4.42
36	MP2C	Mx	-.02	4.42
37	MP2A	X	-6.657	1.67
38	MP2A	Z	-11.53	1.67
39	MP2A	Mx	.003	1.67
40	MP2A	X	-6.657	3.67
41	MP2A	Z	-11.53	3.67
42	MP2A	Mx	.003	3.67
43	MP2B	X	-6.657	1.67
44	MP2B	Z	-11.53	1.67
45	MP2B	Mx	.003	1.67
46	MP2B	X	-6.657	3.67
47	MP2B	Z	-11.53	3.67
48	MP2B	Mx	.003	3.67
49	MP3C	X	-3.418	1.67
50	MP3C	Z	-5.921	1.67
51	MP3C	Mx	-.003	1.67
52	MP3C	X	-3.418	3.67
53	MP3C	Z	-5.921	3.67
54	MP3C	Mx	-.003	3.67
55	MP4A	X	-7.071	.91
56	MP4A	Z	-12.246	.91
57	MP4A	Mx	.004	.91
58	MP4A	X	-7.071	4.42
59	MP4A	Z	-12.246	4.42
60	MP4A	Mx	.004	4.42
61	MP4B	X	-8.516	.92
62	MP4B	Z	-14.75	.92
63	MP4B	Mx	.004	.92
64	MP4B	X	-8.516	4.42
65	MP4B	Z	-14.75	4.42
66	MP4B	Mx	.004	4.42
67	MP5C	X	-5.489	.92
68	MP5C	Z	-9.507	.92
69	MP5C	Mx	-.005	.92
70	MP5C	X	-5.489	4.42
71	MP5C	Z	-9.507	4.42
72	MP5C	Mx	-.005	4.42
73	OVP	X	-16.519	1
74	OVP	Z	-28.611	1
75	OVP	Mx	0	1
76	MP1A	X	-7.422	3

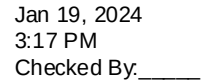


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
77	MP1A	Z	-12.855	3
78	MP1A	Mx	-.004	3
79	MP1B	X	-7.422	3
80	MP1B	Z	-12.855	3
81	MP1B	Mx	-.004	3
82	MP2C	X	-5.66	2.5
83	MP2C	Z	-9.803	2.5
84	MP2C	Mx	.006	2.5
85	MP2A	X	-7.446	3
86	MP2A	Z	-12.897	3
87	MP2A	Mx	-.004	3
88	MP2B	X	-7.446	3
89	MP2B	Z	-12.897	3
90	MP2B	Mx	-.004	3
91	MP3C	X	-5.755	3
92	MP3C	Z	-9.968	3
93	MP3C	Mx	.006	3
94	LIGHT	X	-1.53	0
95	LIGHT	Z	-2.65	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	.92
2	MP1A	Z	-15.034	.92
3	MP1A	Mx	.01	.92
4	MP1A	X	0	4.42
5	MP1A	Z	-15.034	4.42
6	MP1A	Mx	.01	4.42
7	MP1B	X	0	.92
8	MP1B	Z	-11.485	.92
9	MP1B	Mx	.001	.92
10	MP1B	X	0	4.42
11	MP1B	Z	-11.485	4.42
12	MP1B	Mx	.001	4.42
13	MP1A	X	0	.92
14	MP1A	Z	-15.034	.92
15	MP1A	Mx	-.01	.92
16	MP1A	X	0	4.42
17	MP1A	Z	-15.034	4.42
18	MP1A	Mx	-.01	4.42
19	MP1B	X	0	.92
20	MP1B	Z	-11.485	.92
21	MP1B	Mx	.009	.92
22	MP1B	X	0	4.42
23	MP1B	Z	-11.485	4.42
24	MP1B	Mx	.009	4.42
25	MP2C	X	0	.92
26	MP2C	Z	-10.856	.92
27	MP2C	Mx	-.008	.92
28	MP2C	X	0	4.42

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

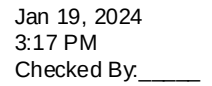
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2C	Z	-10.856	4.42
30	MP2C	Mx	-.008	4.42
31	MP2C	X	0	.92
32	MP2C	Z	-10.856	.92
33	MP2C	Mx	-.003	.92
34	MP2C	X	0	4.42
35	MP2C	Z	-10.856	4.42
36	MP2C	Mx	-.003	4.42
37	MP2A	X	0	1.67
38	MP2A	Z	-4.908	1.67
39	MP2A	Mx	0	1.67
40	MP2A	X	0	3.67
41	MP2A	Z	-4.908	3.67
42	MP2A	Mx	0	3.67
43	MP2B	X	0	1.67
44	MP2B	Z	-2.645	1.67
45	MP2B	Mx	.001	1.67
46	MP2B	X	0	3.67
47	MP2B	Z	-2.645	3.67
48	MP2B	Mx	.001	3.67
49	MP3C	X	0	1.67
50	MP3C	Z	-2.243	1.67
51	MP3C	Mx	-.001	1.67
52	MP3C	X	0	3.67
53	MP3C	Z	-2.243	3.67
54	MP3C	Mx	-.001	3.67
55	MP4A	X	0	.91
56	MP4A	Z	-4.61	.91
57	MP4A	Mx	0	.91
58	MP4A	X	0	4.42
59	MP4A	Z	-4.61	4.42
60	MP4A	Mx	0	4.42
61	MP4B	X	0	.92
62	MP4B	Z	-3.898	.92
63	MP4B	Mx	.002	.92
64	MP4B	X	0	4.42
65	MP4B	Z	-3.898	4.42
66	MP4B	Mx	.002	4.42
67	MP5C	X	0	.92
68	MP5C	Z	-3.505	.92
69	MP5C	Mx	-.002	.92
70	MP5C	X	0	4.42
71	MP5C	Z	-3.505	4.42
72	MP5C	Mx	-.002	4.42
73	OVP	X	0	1
74	OVP	Z	-7.717	1
75	OVP	Mx	0	1
76	MP1A	X	0	3
77	MP1A	Z	-4.014	3
78	MP1A	Mx	0	3
79	MP1B	X	0	3
80	MP1B	Z	-3.024	3



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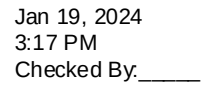
Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
33	MP2C	Mx	.002	.92
34	MP2C	X	6.539	4.42
35	MP2C	Z	-11.326	4.42
36	MP2C	Mx	.002	4.42
37	MP2A	X	2.077	1.67
38	MP2A	Z	-3.597	1.67
39	MP2A	Mx	-.001	1.67
40	MP2A	X	2.077	3.67
41	MP2A	Z	-3.597	3.67
42	MP2A	Mx	-.001	3.67
43	MP2B	X	.945	1.67
44	MP2B	Z	-1.637	1.67
45	MP2B	Mx	.000945	1.67
46	MP2B	X	.945	3.67
47	MP2B	Z	-1.637	3.67
48	MP2B	Mx	.000945	3.67
49	MP3C	X	1.83	1.67
50	MP3C	Z	-3.17	1.67
51	MP3C	Mx	-.001	1.67
52	MP3C	X	1.83	3.67
53	MP3C	Z	-3.17	3.67
54	MP3C	Mx	-.001	3.67
55	MP4A	X	2.181	.91
56	MP4A	Z	-3.777	.91
57	MP4A	Mx	-.001	.91
58	MP4A	X	2.181	4.42
59	MP4A	Z	-3.777	4.42
60	MP4A	Mx	-.001	4.42
61	MP4B	X	1.58	.92
62	MP4B	Z	-2.736	.92
63	MP4B	Mx	.002	.92
64	MP4B	X	1.58	4.42
65	MP4B	Z	-2.736	4.42
66	MP4B	Mx	.002	4.42
67	MP5C	X	2.446	.92
68	MP5C	Z	-4.237	.92
69	MP5C	Mx	-.002	.92
70	MP5C	X	2.446	4.42
71	MP5C	Z	-4.237	4.42
72	MP5C	Mx	-.002	4.42
73	OVP	X	3.367	1
74	OVP	Z	-5.831	1
75	OVP	Mx	0	1
76	MP1A	X	1.842	3
77	MP1A	Z	-3.19	3
78	MP1A	Mx	.000921	3
79	MP1B	X	1.347	3
80	MP1B	Z	-2.333	3
81	MP1B	Mx	-.001	3
82	MP2C	X	1.734	2.5
83	MP2C	Z	-3.004	2.5
84	MP2C	Mx	.001	2.5



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
85	MP2A	X	2.229	3
86	MP2A	Z	-3.86	3
87	MP2A	Mx	.001	3
88	MP2B	X	1.651	3
89	MP2B	Z	-2.86	3
90	MP2B	Mx	-.002	3
91	MP3C	X	2.103	3
92	MP3C	Z	-3.643	3
93	MP3C	Mx	.001	3
94	LIGHT	X	.324	0
95	LIGHT	Z	-.561	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	9.946	.92
2	MP1A	Z	-5.743	.92
3	MP1A	Mx	-.001	.92
4	MP1A	X	9.946	4.42
5	MP1A	Z	-5.743	4.42
6	MP1A	Mx	-.001	4.42
7	MP1B	X	9.946	.92
8	MP1B	Z	-5.743	.92
9	MP1B	Mx	.009	.92
10	MP1B	X	9.946	4.42
11	MP1B	Z	-5.743	4.42
12	MP1B	Mx	.009	4.42
13	MP1A	X	9.946	.92
14	MP1A	Z	-5.743	.92
15	MP1A	Mx	-.009	.92
16	MP1A	X	9.946	4.42
17	MP1A	Z	-5.743	4.42
18	MP1A	Mx	-.009	4.42
19	MP1B	X	9.946	.92
20	MP1B	Z	-5.743	.92
21	MP1B	Mx	.001	.92
22	MP1B	X	9.946	4.42
23	MP1B	Z	-5.743	4.42
24	MP1B	Mx	.001	4.42
25	MP2C	X	12.896	.92
26	MP2C	Z	-7.445	.92
27	MP2C	Mx	-.011	.92
28	MP2C	X	12.896	4.42
29	MP2C	Z	-7.445	4.42
30	MP2C	Mx	-.011	4.42
31	MP2C	X	12.896	.92
32	MP2C	Z	-7.445	.92
33	MP2C	Mx	.008	.92
34	MP2C	X	12.896	4.42
35	MP2C	Z	-7.445	4.42
36	MP2C	Mx	.008	4.42



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
37	MP2A	X	2.29	1.67
38	MP2A	Z	-1.322	1.67
39	MP2A	Mx	-.001	1.67
40	MP2A	X	2.29	3.67
41	MP2A	Z	-1.322	3.67
42	MP2A	Mx	-.001	3.67
43	MP2B	X	2.29	1.67
44	MP2B	Z	-1.322	1.67
45	MP2B	Mx	.001	1.67
46	MP2B	X	2.29	3.67
47	MP2B	Z	-1.322	3.67
48	MP2B	Mx	.001	3.67
49	MP3C	X	4.171	1.67
50	MP3C	Z	-2.408	1.67
51	MP3C	Mx	-.000418	1.67
52	MP3C	X	4.171	3.67
53	MP3C	Z	-2.408	3.67
54	MP3C	Mx	-.000418	3.67
55	MP4A	X	3.347	.91
56	MP4A	Z	-1.932	.91
57	MP4A	Mx	-.002	.91
58	MP4A	X	3.347	4.42
59	MP4A	Z	-1.932	4.42
60	MP4A	Mx	-.002	4.42
61	MP4B	X	3.376	.92
62	MP4B	Z	-1.949	.92
63	MP4B	Mx	.002	.92
64	MP4B	X	3.376	4.42
65	MP4B	Z	-1.949	4.42
66	MP4B	Mx	.002	4.42
67	MP5C	X	5.216	.92
68	MP5C	Z	-3.011	.92
69	MP5C	Mx	-.000523	.92
70	MP5C	X	5.216	4.42
71	MP5C	Z	-3.011	4.42
72	MP5C	Mx	-.000523	4.42
73	OVP	X	5.405	1
74	OVP	Z	-3.121	1
75	OVP	Mx	0	1
76	MP1A	X	2.618	3
77	MP1A	Z	-1.512	3
78	MP1A	Mx	.001	3
79	MP1B	X	2.618	3
80	MP1B	Z	-1.512	3
81	MP1B	Mx	-.001	3
82	MP2C	X	3.442	2.5
83	MP2C	Z	-1.987	2.5
84	MP2C	Mx	.000345	2.5
85	MP2A	X	3.193	3
86	MP2A	Z	-1.844	3
87	MP2A	Mx	.002	3
88	MP2B	X	3.193	3

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

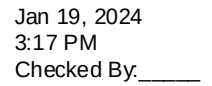
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
89	MP2B	Z	-1.844	3
90	MP2B	Mx	-.002	3
91	MP3C	X	4.154	3
92	MP3C	Z	-2.398	3
93	MP3C	Mx	.000416	3
94	LIGHT	X	.598	0
95	LIGHT	Z	-.345	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	10.302	.92
2	MP1A	Z	0	.92
3	MP1A	Mx	-.005	.92
4	MP1A	X	10.302	4.42
5	MP1A	Z	0	4.42
6	MP1A	Mx	-.005	4.42
7	MP1B	X	13.851	.92
8	MP1B	Z	0	.92
9	MP1B	Mx	.011	.92
10	MP1B	X	13.851	4.42
11	MP1B	Z	0	4.42
12	MP1B	Mx	.011	4.42
13	MP1A	X	10.302	.92
14	MP1A	Z	0	.92
15	MP1A	Mx	-.005	.92
16	MP1A	X	10.302	4.42
17	MP1A	Z	0	4.42
18	MP1A	Mx	-.005	4.42
19	MP1B	X	13.851	.92
20	MP1B	Z	0	.92
21	MP1B	Mx	-.005	.92
22	MP1B	X	13.851	4.42
23	MP1B	Z	0	4.42
24	MP1B	Mx	-.005	4.42
25	MP2C	X	14.48	.92
26	MP2C	Z	0	.92
27	MP2C	Mx	-.007	.92
28	MP2C	X	14.48	4.42
29	MP2C	Z	0	4.42
30	MP2C	Mx	-.007	4.42
31	MP2C	X	14.48	.92
32	MP2C	Z	0	.92
33	MP2C	Mx	.012	.92
34	MP2C	X	14.48	4.42
35	MP2C	Z	0	4.42
36	MP2C	Mx	.012	4.42
37	MP2A	X	1.89	1.67
38	MP2A	Z	0	1.67
39	MP2A	Mx	-.000945	1.67
40	MP2A	X	1.89	3.67

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

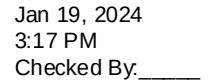
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	MP2A	Z	0	3.67
42	MP2A	Mx	-.000945	3.67
43	MP2B	X	4.153	1.67
44	MP2B	Z	0	1.67
45	MP2B	Mx	.001	1.67
46	MP2B	X	4.153	3.67
47	MP2B	Z	0	3.67
48	MP2B	Mx	.001	3.67
49	MP3C	X	4.555	1.67
50	MP3C	Z	0	1.67
51	MP3C	Mx	.000779	1.67
52	MP3C	X	4.555	3.67
53	MP3C	Z	0	3.67
54	MP3C	Mx	.000779	3.67
55	MP4A	X	3.616	.91
56	MP4A	Z	0	.91
57	MP4A	Mx	-.002	.91
58	MP4A	X	3.616	4.42
59	MP4A	Z	0	4.42
60	MP4A	Mx	-.002	4.42
61	MP4B	X	5.374	.92
62	MP4B	Z	0	.92
63	MP4B	Mx	.001	.92
64	MP4B	X	5.374	4.42
65	MP4B	Z	0	4.42
66	MP4B	Mx	.001	4.42
67	MP5C	X	5.766	.92
68	MP5C	Z	0	.92
69	MP5C	Mx	.000986	.92
70	MP5C	X	5.766	4.42
71	MP5C	Z	0	4.42
72	MP5C	Mx	.000986	4.42
73	OVP	X	6.733	1
74	OVP	Z	0	1
75	OVP	Mx	0	1
76	MP1A	X	2.693	3
77	MP1A	Z	0	3
78	MP1A	Mx	.001	3
79	MP1B	X	3.684	3
80	MP1B	Z	0	3
81	MP1B	Mx	-.000921	3
82	MP2C	X	3.86	2.5
83	MP2C	Z	0	2.5
84	MP2C	Mx	-.00066	2.5
85	MP2A	X	3.302	3
86	MP2A	Z	0	3
87	MP2A	Mx	.002	3
88	MP2B	X	4.458	3
89	MP2B	Z	0	3
90	MP2B	Mx	-.001	3
91	MP3C	X	4.663	3
92	MP3C	Z	0	3



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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
45	MP2B	Mx	0	1.67
46	MP2B	X	4.25	3.67
47	MP2B	Z	2.454	3.67
48	MP2B	Mx	0	3.67
49	MP3C	X	2.717	1.67
50	MP3C	Z	1.568	1.67
51	MP3C	Mx	.001	1.67
52	MP3C	X	2.717	3.67
53	MP3C	Z	1.568	3.67
54	MP3C	Mx	.001	3.67
55	MP4A	X	3.347	.91
56	MP4A	Z	1.932	.91
57	MP4A	Mx	-.002	.91
58	MP4A	X	3.347	4.42
59	MP4A	Z	1.932	4.42
60	MP4A	Mx	-.002	4.42
61	MP4B	X	5.293	.92
62	MP4B	Z	3.056	.92
63	MP4B	Mx	0	.92
64	MP4B	X	5.293	4.42
65	MP4B	Z	3.056	4.42
66	MP4B	Mx	0	4.42
67	MP5C	X	3.793	.92
68	MP5C	Z	2.19	.92
69	MP5C	Mx	.002	.92
70	MP5C	X	3.793	4.42
71	MP5C	Z	2.19	4.42
72	MP5C	Mx	.002	4.42
73	OVP	X	6.684	1
74	OVP	Z	3.859	1
75	OVP	Mx	0	1
76	MP1A	X	2.618	3
77	MP1A	Z	1.512	3
78	MP1A	Mx	.001	3
79	MP1B	X	3.476	3
80	MP1B	Z	2.007	3
81	MP1B	Mx	0	3
82	MP2C	X	2.805	2.5
83	MP2C	Z	1.62	2.5
84	MP2C	Mx	-.001	2.5
85	MP2A	X	3.193	3
86	MP2A	Z	1.844	3
87	MP2A	Mx	.002	3
88	MP2B	X	4.194	3
89	MP2B	Z	2.421	3
90	MP2B	Mx	0	3
91	MP3C	X	3.411	3
92	MP3C	Z	1.969	3
93	MP3C	Mx	-.002	3
94	LIGHT	X	.486	0
95	LIGHT	Z	.281	0
96	LIGHT	Mx	0	0



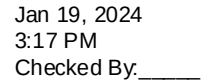
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	6.925	.92
2	MP1A	Z	11.995	.92
3	MP1A	Mx	-.011	.92
4	MP1A	X	6.925	4.42
5	MP1A	Z	11.995	4.42
6	MP1A	Mx	-.011	4.42
7	MP1B	X	6.925	.92
8	MP1B	Z	11.995	.92
9	MP1B	Mx	.005	.92
10	MP1B	X	6.925	4.42
11	MP1B	Z	11.995	4.42
12	MP1B	Mx	.005	4.42
13	MP1A	X	6.925	.92
14	MP1A	Z	11.995	.92
15	MP1A	Mx	.005	.92
16	MP1A	X	6.925	4.42
17	MP1A	Z	11.995	4.42
18	MP1A	Mx	.005	4.42
19	MP1B	X	6.925	.92
20	MP1B	Z	11.995	.92
21	MP1B	Mx	-.011	.92
22	MP1B	X	6.925	4.42
23	MP1B	Z	11.995	4.42
24	MP1B	Mx	-.011	4.42
25	MP2C	X	5.222	.92
26	MP2C	Z	9.046	.92
27	MP2C	Mx	.004	.92
28	MP2C	X	5.222	4.42
29	MP2C	Z	9.046	4.42
30	MP2C	Mx	.004	4.42
31	MP2C	X	5.222	.92
32	MP2C	Z	9.046	.92
33	MP2C	Mx	.006	.92
34	MP2C	X	5.222	4.42
35	MP2C	Z	9.046	4.42
36	MP2C	Mx	.006	4.42
37	MP2A	X	2.077	1.67
38	MP2A	Z	3.597	1.67
39	MP2A	Mx	-.001	1.67
40	MP2A	X	2.077	3.67
41	MP2A	Z	3.597	3.67
42	MP2A	Mx	-.001	3.67
43	MP2B	X	2.077	1.67
44	MP2B	Z	3.597	1.67
45	MP2B	Mx	-.001	1.67
46	MP2B	X	2.077	3.67
47	MP2B	Z	3.597	3.67
48	MP2B	Mx	-.001	3.67
49	MP3C	X	.991	1.67
50	MP3C	Z	1.716	1.67
51	MP3C	Mx	.000976	1.67
52	MP3C	X	.991	3.67

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP3C	Z	1.716	3.67
54	MP3C	Mx	.000976	3.67
55	MP4A	X	2.181	.91
56	MP4A	Z	3.777	.91
57	MP4A	Mx	-.001	.91
58	MP4A	X	2.181	4.42
59	MP4A	Z	3.777	4.42
60	MP4A	Mx	-.001	4.42
61	MP4B	X	2.687	.92
62	MP4B	Z	4.654	.92
63	MP4B	Mx	-.001	.92
64	MP4B	X	2.687	4.42
65	MP4B	Z	4.654	4.42
66	MP4B	Mx	-.001	4.42
67	MP5C	X	1.624	.92
68	MP5C	Z	2.814	.92
69	MP5C	Mx	.002	.92
70	MP5C	X	1.624	4.42
71	MP5C	Z	2.814	4.42
72	MP5C	Mx	.002	4.42
73	OVP	X	4.105	1
74	OVP	Z	7.11	1
75	OVP	Mx	0	1
76	MP1A	X	1.842	3
77	MP1A	Z	3.19	3
78	MP1A	Mx	.000921	3
79	MP1B	X	1.842	3
80	MP1B	Z	3.19	3
81	MP1B	Mx	.000921	3
82	MP2C	X	1.367	2.5
83	MP2C	Z	2.367	2.5
84	MP2C	Mx	-.001	2.5
85	MP2A	X	2.229	3
86	MP2A	Z	3.86	3
87	MP2A	Mx	.001	3
88	MP2B	X	2.229	3
89	MP2B	Z	3.86	3
90	MP2B	Mx	.001	3
91	MP3C	X	1.674	3
92	MP3C	Z	2.9	3
93	MP3C	Mx	-.002	3
94	LIGHT	X	.259	0
95	LIGHT	Z	.449	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.92
2	MP1A	Z	15.034	.92
3	MP1A	Mx	-.01	.92
4	MP1A	X	0	4.42



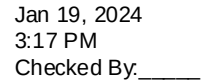
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
5	MP1A	Z	15.034	4.42
6	MP1A	Mx	-.01	4.42
7	MP1B	X	0	.92
8	MP1B	Z	11.485	.92
9	MP1B	Mx	-.001	.92
10	MP1B	X	0	4.42
11	MP1B	Z	11.485	4.42
12	MP1B	Mx	-.001	4.42
13	MP1A	X	0	.92
14	MP1A	Z	15.034	.92
15	MP1A	Mx	.01	.92
16	MP1A	X	0	4.42
17	MP1A	Z	15.034	4.42
18	MP1A	Mx	.01	4.42
19	MP1B	X	0	.92
20	MP1B	Z	11.485	.92
21	MP1B	Mx	-.009	.92
22	MP1B	X	0	4.42
23	MP1B	Z	11.485	4.42
24	MP1B	Mx	-.009	4.42
25	MP2C	X	0	.92
26	MP2C	Z	10.856	.92
27	MP2C	Mx	.008	.92
28	MP2C	X	0	4.42
29	MP2C	Z	10.856	4.42
30	MP2C	Mx	.008	4.42
31	MP2C	X	0	.92
32	MP2C	Z	10.856	.92
33	MP2C	Mx	.003	.92
34	MP2C	X	0	4.42
35	MP2C	Z	10.856	4.42
36	MP2C	Mx	.003	4.42
37	MP2A	X	0	1.67
38	MP2A	Z	4.908	1.67
39	MP2A	Mx	0	1.67
40	MP2A	X	0	3.67
41	MP2A	Z	4.908	3.67
42	MP2A	Mx	0	3.67
43	MP2B	X	0	1.67
44	MP2B	Z	2.645	1.67
45	MP2B	Mx	-.001	1.67
46	MP2B	X	0	3.67
47	MP2B	Z	2.645	3.67
48	MP2B	Mx	-.001	3.67
49	MP3C	X	0	1.67
50	MP3C	Z	2.243	1.67
51	MP3C	Mx	.001	1.67
52	MP3C	X	0	3.67
53	MP3C	Z	2.243	3.67
54	MP3C	Mx	.001	3.67
55	MP4A	X	0	.91
56	MP4A	Z	4.61	.91

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

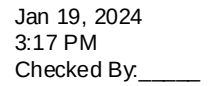
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
57	MP4A	Mx	0	.91
58	MP4A	X	0	4.42
59	MP4A	Z	4.61	4.42
60	MP4A	Mx	0	4.42
61	MP4B	X	0	.92
62	MP4B	Z	3.898	.92
63	MP4B	Mx	-.002	.92
64	MP4B	X	0	4.42
65	MP4B	Z	3.898	4.42
66	MP4B	Mx	-.002	4.42
67	MP5C	X	0	.92
68	MP5C	Z	3.505	.92
69	MP5C	Mx	.002	.92
70	MP5C	X	0	4.42
71	MP5C	Z	3.505	4.42
72	MP5C	Mx	.002	4.42
73	OVP	X	0	1
74	OVP	Z	7.717	1
75	OVP	Mx	0	1
76	MP1A	X	0	3
77	MP1A	Z	4.014	3
78	MP1A	Mx	0	3
79	MP1B	X	0	3
80	MP1B	Z	3.024	3
81	MP1B	Mx	.001	3
82	MP2C	X	0	2.5
83	MP2C	Z	2.848	2.5
84	MP2C	Mx	-.001	2.5
85	MP2A	X	0	3
86	MP2A	Z	4.843	3
87	MP2A	Mx	0	3
88	MP2B	X	0	3
89	MP2B	Z	3.687	3
90	MP2B	Mx	.002	3
91	MP3C	X	0	3
92	MP3C	Z	3.482	3
93	MP3C	Mx	-.002	3
94	LIGHT	X	0	0
95	LIGHT	Z	.561	0
96	LIGHT	Mx	0	0

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-6.925	.92
2	MP1A	Z	11.995	.92
3	MP1A	Mx	-.005	.92
4	MP1A	X	-6.925	4.42
5	MP1A	Z	11.995	4.42
6	MP1A	Mx	-.005	4.42
7	MP1B	X	-5.151	.92
8	MP1B	Z	8.922	.92

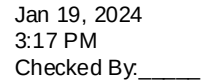


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
9	MP1B	Mx	-.005	.92
10	MP1B	X	-5.151	4.42
11	MP1B	Z	8.922	4.42
12	MP1B	Mx	-.005	4.42
13	MP1A	X	-6.925	.92
14	MP1A	Z	11.995	.92
15	MP1A	Mx	.011	.92
16	MP1A	X	-6.925	4.42
17	MP1A	Z	11.995	4.42
18	MP1A	Mx	.011	4.42
19	MP1B	X	-5.151	.92
20	MP1B	Z	8.922	.92
21	MP1B	Mx	-.005	.92
22	MP1B	X	-5.151	4.42
23	MP1B	Z	8.922	4.42
24	MP1B	Mx	-.005	4.42
25	MP2C	X	-6.539	.92
26	MP2C	Z	11.326	.92
27	MP2C	Mx	.011	.92
28	MP2C	X	-6.539	4.42
29	MP2C	Z	11.326	4.42
30	MP2C	Mx	.011	4.42
31	MP2C	X	-6.539	.92
32	MP2C	Z	11.326	.92
33	MP2C	Mx	-.002	.92
34	MP2C	X	-6.539	4.42
35	MP2C	Z	11.326	4.42
36	MP2C	Mx	-.002	4.42
37	MP2A	X	-2.077	1.67
38	MP2A	Z	3.597	1.67
39	MP2A	Mx	.001	1.67
40	MP2A	X	-2.077	3.67
41	MP2A	Z	3.597	3.67
42	MP2A	Mx	.001	3.67
43	MP2B	X	-.945	1.67
44	MP2B	Z	1.637	1.67
45	MP2B	Mx	-.000945	1.67
46	MP2B	X	-.945	3.67
47	MP2B	Z	1.637	3.67
48	MP2B	Mx	-.000945	3.67
49	MP3C	X	-1.83	1.67
50	MP3C	Z	3.17	1.67
51	MP3C	Mx	.001	1.67
52	MP3C	X	-1.83	3.67
53	MP3C	Z	3.17	3.67
54	MP3C	Mx	.001	3.67
55	MP4A	X	-2.181	.91
56	MP4A	Z	3.777	.91
57	MP4A	Mx	.001	.91
58	MP4A	X	-2.181	4.42
59	MP4A	Z	3.777	4.42
60	MP4A	Mx	.001	4.42

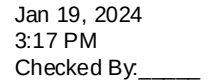


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
61	MP4B	X	-1.58	.92
62	MP4B	Z	2.736	.92
63	MP4B	Mx	-.002	.92
64	MP4B	X	-1.58	4.42
65	MP4B	Z	2.736	4.42
66	MP4B	Mx	-.002	4.42
67	MP5C	X	-2.446	.92
68	MP5C	Z	4.237	.92
69	MP5C	Mx	.002	.92
70	MP5C	X	-2.446	4.42
71	MP5C	Z	4.237	4.42
72	MP5C	Mx	.002	4.42
73	OVP	X	-3.367	1
74	OVP	Z	5.831	1
75	OVP	Mx	0	1
76	MP1A	X	-1.842	3
77	MP1A	Z	3.19	3
78	MP1A	Mx	-.000921	3
79	MP1B	X	-1.347	3
80	MP1B	Z	2.333	3
81	MP1B	Mx	.001	3
82	MP2C	X	-1.734	2.5
83	MP2C	Z	3.004	2.5
84	MP2C	Mx	-.001	2.5
85	MP2A	X	-2.229	3
86	MP2A	Z	3.86	3
87	MP2A	Mx	-.001	3
88	MP2B	X	-1.651	3
89	MP2B	Z	2.86	3
90	MP2B	Mx	.002	3
91	MP3C	X	-2.103	3
92	MP3C	Z	3.643	3
93	MP3C	Mx	-.001	3
94	LIGHT	X	-.324	0
95	LIGHT	Z	.561	0
96	LIGHT	Mx	0	0

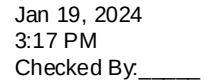
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-9.946	.92
2	MP1A	Z	5.743	.92
3	MP1A	Mx	.001	.92
4	MP1A	X	-9.946	4.42
5	MP1A	Z	5.743	4.42
6	MP1A	Mx	.001	4.42
7	MP1B	X	-9.946	.92
8	MP1B	Z	5.743	.92
9	MP1B	Mx	-.009	.92
10	MP1B	X	-9.946	4.42
11	MP1B	Z	5.743	4.42
12	MP1B	Mx	-.009	4.42



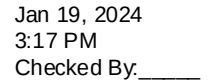
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
13	MP1A	X	-9.946	.92
14	MP1A	Z	5.743	.92
15	MP1A	Mx	.009	.92
16	MP1A	X	-9.946	4.42
17	MP1A	Z	5.743	4.42
18	MP1A	Mx	.009	4.42
19	MP1B	X	-9.946	.92
20	MP1B	Z	5.743	.92
21	MP1B	Mx	-.001	.92
22	MP1B	X	-9.946	4.42
23	MP1B	Z	5.743	4.42
24	MP1B	Mx	-.001	4.42
25	MP2C	X	-12.896	.92
26	MP2C	Z	7.445	.92
27	MP2C	Mx	.011	.92
28	MP2C	X	-12.896	4.42
29	MP2C	Z	7.445	4.42
30	MP2C	Mx	.011	4.42
31	MP2C	X	-12.896	.92
32	MP2C	Z	7.445	.92
33	MP2C	Mx	-.008	.92
34	MP2C	X	-12.896	4.42
35	MP2C	Z	7.445	4.42
36	MP2C	Mx	-.008	4.42
37	MP2A	X	-2.29	1.67
38	MP2A	Z	1.322	1.67
39	MP2A	Mx	.001	1.67
40	MP2A	X	-2.29	3.67
41	MP2A	Z	1.322	3.67
42	MP2A	Mx	.001	3.67
43	MP2B	X	-2.29	1.67
44	MP2B	Z	1.322	1.67
45	MP2B	Mx	-.001	1.67
46	MP2B	X	-2.29	3.67
47	MP2B	Z	1.322	3.67
48	MP2B	Mx	-.001	3.67
49	MP3C	X	-4.171	1.67
50	MP3C	Z	2.408	1.67
51	MP3C	Mx	.000418	1.67
52	MP3C	X	-4.171	3.67
53	MP3C	Z	2.408	3.67
54	MP3C	Mx	.000418	3.67
55	MP4A	X	-3.347	.91
56	MP4A	Z	1.932	.91
57	MP4A	Mx	.002	.91
58	MP4A	X	-3.347	4.42
59	MP4A	Z	1.932	4.42
60	MP4A	Mx	.002	4.42
61	MP4B	X	-3.376	.92
62	MP4B	Z	1.949	.92
63	MP4B	Mx	-.002	.92
64	MP4B	X	-3.376	4.42



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	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
17	MP1A	Z	0	4.42
18	MP1A	Mx	.005	4.42
19	MP1B	X	-13.851	.92
20	MP1B	Z	0	.92
21	MP1B	Mx	.005	.92
22	MP1B	X	-13.851	4.42
23	MP1B	Z	0	4.42
24	MP1B	Mx	.005	4.42
25	MP2C	X	-14.48	.92
26	MP2C	Z	0	.92
27	MP2C	Mx	.007	.92
28	MP2C	X	-14.48	4.42
29	MP2C	Z	0	4.42
30	MP2C	Mx	.007	4.42
31	MP2C	X	-14.48	.92
32	MP2C	Z	0	.92
33	MP2C	Mx	-.012	.92
34	MP2C	X	-14.48	4.42
35	MP2C	Z	0	4.42
36	MP2C	Mx	-.012	4.42
37	MP2A	X	-1.89	1.67
38	MP2A	Z	0	1.67
39	MP2A	Mx	.000945	1.67
40	MP2A	X	-1.89	3.67
41	MP2A	Z	0	3.67
42	MP2A	Mx	.000945	3.67
43	MP2B	X	-4.153	1.67
44	MP2B	Z	0	1.67
45	MP2B	Mx	-.001	1.67
46	MP2B	X	-4.153	3.67
47	MP2B	Z	0	3.67
48	MP2B	Mx	-.001	3.67
49	MP3C	X	-4.555	1.67
50	MP3C	Z	0	1.67
51	MP3C	Mx	-.000779	1.67
52	MP3C	X	-4.555	3.67
53	MP3C	Z	0	3.67
54	MP3C	Mx	-.000779	3.67
55	MP4A	X	-3.616	.91
56	MP4A	Z	0	.91
57	MP4A	Mx	.002	.91
58	MP4A	X	-3.616	4.42
59	MP4A	Z	0	4.42
60	MP4A	Mx	.002	4.42
61	MP4B	X	-5.374	.92
62	MP4B	Z	0	.92
63	MP4B	Mx	-.001	.92
64	MP4B	X	-5.374	4.42
65	MP4B	Z	0	4.42
66	MP4B	Mx	-.001	4.42
67	MP5C	X	-5.766	.92
68	MP5C	Z	0	.92

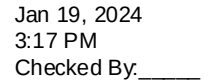


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
69	MP5C	Mx	-.000986	.92
70	MP5C	X	-5.766	4.42
71	MP5C	Z	0	4.42
72	MP5C	Mx	-.000986	4.42
73	OVP	X	-6.733	1
74	OVP	Z	0	1
75	OVP	Mx	0	1
76	MP1A	X	-2.693	3
77	MP1A	Z	0	3
78	MP1A	Mx	-.001	3
79	MP1B	X	-3.684	3
80	MP1B	Z	0	3
81	MP1B	Mx	.000921	3
82	MP2C	X	-3.86	2.5
83	MP2C	Z	0	2.5
84	MP2C	Mx	.00066	2.5
85	MP2A	X	-3.302	3
86	MP2A	Z	0	3
87	MP2A	Mx	-.002	3
88	MP2B	X	-4.458	3
89	MP2B	Z	0	3
90	MP2B	Mx	.001	3
91	MP3C	X	-4.663	3
92	MP3C	Z	0	3
93	MP3C	Mx	.000797	3
94	LIGHT	X	-.647	0
95	LIGHT	Z	0	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-9.946	.92
2	MP1A	Z	-5.743	.92
3	MP1A	Mx	.009	.92
4	MP1A	X	-9.946	4.42
5	MP1A	Z	-5.743	4.42
6	MP1A	Mx	.009	4.42
7	MP1B	X	-13.019	.92
8	MP1B	Z	-7.517	.92
9	MP1B	Mx	-.01	.92
10	MP1B	X	-13.019	4.42
11	MP1B	Z	-7.517	4.42
12	MP1B	Mx	-.01	4.42
13	MP1A	X	-9.946	.92
14	MP1A	Z	-5.743	.92
15	MP1A	Mx	.001	.92
16	MP1A	X	-9.946	4.42
17	MP1A	Z	-5.743	4.42
18	MP1A	Mx	.001	4.42
19	MP1B	X	-13.019	.92
20	MP1B	Z	-7.517	.92

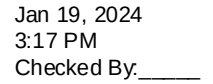
Member Point Loads (BLC 37: Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
21	MP1B	Mx	.01	.92
22	MP1B	X	-13.019	4.42
23	MP1B	Z	-7.517	4.42
24	MP1B	Mx	.01	4.42
25	MP2C	X	-10.615	.92
26	MP2C	Z	-6.129	.92
27	MP2C	Mx	.000557	.92
28	MP2C	X	-10.615	4.42
29	MP2C	Z	-6.129	4.42
30	MP2C	Mx	.000557	4.42
31	MP2C	X	-10.615	.92
32	MP2C	Z	-6.129	.92
33	MP2C	Mx	-.01	.92
34	MP2C	X	-10.615	4.42
35	MP2C	Z	-6.129	4.42
36	MP2C	Mx	-.01	4.42
37	MP2A	X	-2.29	1.67
38	MP2A	Z	-1.322	1.67
39	MP2A	Mx	.001	1.67
40	MP2A	X	-2.29	3.67
41	MP2A	Z	-1.322	3.67
42	MP2A	Mx	.001	3.67
43	MP2B	X	-4.25	1.67
44	MP2B	Z	-2.454	1.67
45	MP2B	Mx	0	1.67
46	MP2B	X	-4.25	3.67
47	MP2B	Z	-2.454	3.67
48	MP2B	Mx	0	3.67
49	MP3C	X	-2.717	1.67
50	MP3C	Z	-1.568	1.67
51	MP3C	Mx	-.001	1.67
52	MP3C	X	-2.717	3.67
53	MP3C	Z	-1.568	3.67
54	MP3C	Mx	-.001	3.67
55	MP4A	X	-3.347	.91
56	MP4A	Z	-1.932	.91
57	MP4A	Mx	.002	.91
58	MP4A	X	-3.347	4.42
59	MP4A	Z	-1.932	4.42
60	MP4A	Mx	.002	4.42
61	MP4B	X	-5.293	.92
62	MP4B	Z	-3.056	.92
63	MP4B	Mx	0	.92
64	MP4B	X	-5.293	4.42
65	MP4B	Z	-3.056	4.42
66	MP4B	Mx	0	4.42
67	MP5C	X	-3.793	.92
68	MP5C	Z	-2.19	.92
69	MP5C	Mx	-.002	.92
70	MP5C	X	-3.793	4.42
71	MP5C	Z	-2.19	4.42
72	MP5C	Mx	-.002	4.42

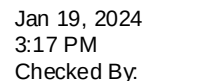


	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	OVP	X	-6.684	1
74	OVP	Z	-3.859	1
75	OVP	Mx	0	1
76	MP1A	X	-2.618	3
77	MP1A	Z	-1.512	3
78	MP1A	Mx	-.001	3
79	MP1B	X	-3.476	3
80	MP1B	Z	-2.007	3
81	MP1B	Mx	0	3
82	MP2C	X	-2.805	2.5
83	MP2C	Z	-1.62	2.5
84	MP2C	Mx	.001	2.5
85	MP2A	X	-3.193	3
86	MP2A	Z	-1.844	3
87	MP2A	Mx	-.002	3
88	MP2B	X	-4.194	3
89	MP2B	Z	-2.421	3
90	MP2B	Mx	0	3
91	MP3C	X	-3.411	3
92	MP3C	Z	-1.969	3
93	MP3C	Mx	.002	3
94	LIGHT	X	-.486	0
95	LIGHT	Z	-.281	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-6.925	.92
2	MP1A	Z	-11.995	.92
3	MP1A	Mx	.011	.92
4	MP1A	X	-6.925	4.42
5	MP1A	Z	-11.995	4.42
6	MP1A	Mx	.011	4.42
7	MP1B	X	-6.925	.92
8	MP1B	Z	-11.995	.92
9	MP1B	Mx	-.005	.92
10	MP1B	X	-6.925	4.42
11	MP1B	Z	-11.995	4.42
12	MP1B	Mx	-.005	4.42
13	MP1A	X	-6.925	.92
14	MP1A	Z	-11.995	.92
15	MP1A	Mx	-.005	.92
16	MP1A	X	-6.925	4.42
17	MP1A	Z	-11.995	4.42
18	MP1A	Mx	-.005	4.42
19	MP1B	X	-6.925	.92
20	MP1B	Z	-11.995	.92
21	MP1B	Mx	.011	.92
22	MP1B	X	-6.925	4.42
23	MP1B	Z	-11.995	4.42
24	MP1B	Mx	.011	4.42



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP2C	X	-5.222	.92
26	MP2C	Z	-9.046	.92
27	MP2C	Mx	-.004	.92
28	MP2C	X	-5.222	4.42
29	MP2C	Z	-9.046	4.42
30	MP2C	Mx	-.004	4.42
31	MP2C	X	-5.222	.92
32	MP2C	Z	-9.046	.92
33	MP2C	Mx	-.006	.92
34	MP2C	X	-5.222	4.42
35	MP2C	Z	-9.046	4.42
36	MP2C	Mx	-.006	4.42
37	MP2A	X	-2.077	1.67
38	MP2A	Z	-3.597	1.67
39	MP2A	Mx	.001	1.67
40	MP2A	X	-2.077	3.67
41	MP2A	Z	-3.597	3.67
42	MP2A	Mx	.001	3.67
43	MP2B	X	-2.077	1.67
44	MP2B	Z	-3.597	1.67
45	MP2B	Mx	.001	1.67
46	MP2B	X	-2.077	3.67
47	MP2B	Z	-3.597	3.67
48	MP2B	Mx	.001	3.67
49	MP3C	X	-.991	1.67
50	MP3C	Z	-1.716	1.67
51	MP3C	Mx	-.000976	1.67
52	MP3C	X	-.991	3.67
53	MP3C	Z	-1.716	3.67
54	MP3C	Mx	-.000976	3.67
55	MP4A	X	-2.181	.91
56	MP4A	Z	-3.777	.91
57	MP4A	Mx	.001	.91
58	MP4A	X	-2.181	4.42
59	MP4A	Z	-3.777	4.42
60	MP4A	Mx	.001	4.42
61	MP4B	X	-2.687	.92
62	MP4B	Z	-4.654	.92
63	MP4B	Mx	.001	.92
64	MP4B	X	-2.687	4.42
65	MP4B	Z	-4.654	4.42
66	MP4B	Mx	.001	4.42
67	MP5C	X	-1.624	.92
68	MP5C	Z	-2.814	.92
69	MP5C	Mx	-.002	.92
70	MP5C	X	-1.624	4.42
71	MP5C	Z	-2.814	4.42
72	MP5C	Mx	-.002	4.42
73	OVP	X	-4.105	1
74	OVP	Z	-7.11	1
75	OVP	Mx	0	1
76	MP1A	X	-1.842	3



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
77	MP1A	Z	-3.19	3
78	MP1A	Mx	-.000921	3
79	MP1B	X	-1.842	3
80	MP1B	Z	-3.19	3
81	MP1B	Mx	-.000921	3
82	MP2C	X	-1.367	2.5
83	MP2C	Z	-2.367	2.5
84	MP2C	Mx	.001	2.5
85	MP2A	X	-2.229	3
86	MP2A	Z	-3.86	3
87	MP2A	Mx	-.001	3
88	MP2B	X	-2.229	3
89	MP2B	Z	-3.86	3
90	MP2B	Mx	-.001	3
91	MP3C	X	-1.674	3
92	MP3C	Z	-2.9	3
93	MP3C	Mx	.002	3
94	LIGHT	X	-.259	0
95	LIGHT	Z	-.449	0
96	LIGHT	Mx	0	0

	Member Label	Direction	Magnitude [lb, k-ft]	Location [ft, %]
1	M7A	Y	-500	%83

	Member Label	Direction	Magnitude [lb,k-ft]	Location [ft, %]
1	M7A	Y	-500	%47

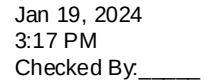
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	M7A	Y	-250	%50

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M7A	Y	-250	%100

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-1.643	.92
2	MP1A	My	-.000821	.92
3	MP1A	Mz	-.001	.92
4	MP1A	Y	-1.643	4.42
5	MP1A	My	-.000821	4.42
6	MP1A	Mz	-.001	4.42
7	MP1B	Y	-1.643	.92
8	MP1B	My	.001	.92
9	MP1B	Mz	-.000164	.92
10	MP1B	Y	-1.643	4.42

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

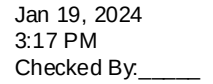
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
11	MP1B	My	.001	4.42
12	MP1B	Mz	-.000164	4.42
13	MP1A	Y	-1.643	.92
14	MP1A	My	-.000821	.92
15	MP1A	Mz	.001	.92
16	MP1A	Y	-1.643	4.42
17	MP1A	My	-.000821	4.42
18	MP1A	Mz	.001	4.42
19	MP1B	Y	-1.643	.92
20	MP1B	My	-.000538	.92
21	MP1B	Mz	-.001	.92
22	MP1B	Y	-1.643	4.42
23	MP1B	My	-.000538	4.42
24	MP1B	Mz	-.001	4.42
25	MP2C	Y	-1.643	.92
26	MP2C	My	-.000748	.92
27	MP2C	Mz	.001	.92
28	MP2C	Y	-1.643	4.42
29	MP2C	My	-.000748	4.42
30	MP2C	Mz	.001	4.42
31	MP2C	Y	-1.643	.92
32	MP2C	My	.001	.92
33	MP2C	Mz	.000397	.92
34	MP2C	Y	-1.643	4.42
35	MP2C	My	.001	4.42
36	MP2C	Mz	.000397	4.42
37	MP2A	Y	-1.222	1.67
38	MP2A	My	-.000611	1.67
39	MP2A	Mz	0	1.67
40	MP2A	Y	-1.222	3.67
41	MP2A	My	-.000611	3.67
42	MP2A	Mz	0	3.67
43	MP2B	Y	-1.222	1.67
44	MP2B	My	.000306	1.67
45	MP2B	Mz	-.000529	1.67
46	MP2B	Y	-1.222	3.67
47	MP2B	My	.000306	3.67
48	MP2B	Mz	-.000529	3.67
49	MP3C	Y	-1.222	1.67
50	MP3C	My	.000209	1.67
51	MP3C	Mz	.000574	1.67
52	MP3C	Y	-1.222	3.67
53	MP3C	My	.000209	3.67
54	MP3C	Mz	.000574	3.67
55	MP4A	Y	-.256	.91
56	MP4A	My	-.000128	.91
57	MP4A	Mz	0	.91
58	MP4A	Y	-.256	4.42
59	MP4A	My	-.000128	4.42
60	MP4A	Mz	0	4.42
61	MP4B	Y	-.211	.92
62	MP4B	My	5.3e-5	.92



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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP1B	Z	-4.107	4.42
16	MP1B	Mx	.003	4.42
17	MP2C	Z	-4.107	.92
18	MP2C	Mx	-.003	.92
19	MP2C	Z	-4.107	4.42
20	MP2C	Mx	-.003	4.42
21	MP2C	Z	-4.107	.92
22	MP2C	Mx	-.000993	.92
23	MP2C	Z	-4.107	4.42
24	MP2C	Mx	-.000993	4.42
25	MP2A	Z	-3.056	1.67
26	MP2A	Mx	0	1.67
27	MP2A	Z	-3.056	3.67
28	MP2A	Mx	0	3.67
29	MP2B	Z	-3.056	1.67
30	MP2B	Mx	.001	1.67
31	MP2B	Z	-3.056	3.67
32	MP2B	Mx	.001	3.67
33	MP3C	Z	-3.056	1.67
34	MP3C	Mx	-.001	1.67
35	MP3C	Z	-3.056	3.67
36	MP3C	Mx	-.001	3.67
37	MP4A	Z	-.64	.91
38	MP4A	Mx	0	.91
39	MP4A	Z	-.64	4.42
40	MP4A	Mx	0	4.42
41	MP4B	Z	-.528	.92
42	MP4B	Mx	.000229	.92
43	MP4B	Z	-.528	4.42
44	MP4B	Mx	.000229	4.42
45	MP5C	Z	-.528	.92
46	MP5C	Mx	-.000248	.92
47	MP5C	Z	-.528	4.42
48	MP5C	Mx	-.000248	4.42
49	OVP	Z	-3.413	1
50	OVP	Mx	0	1
51	MP1A	Z	-7.968	3
52	MP1A	Mx	0	3
53	MP1B	Z	-7.968	3
54	MP1B	Mx	-.003	3
55	MP2C	Z	-7.968	2.5
56	MP2C	Mx	.004	2.5
57	MP2A	Z	-8.437	3
58	MP2A	Mx	0	3
59	MP2B	Z	-8.437	3
60	MP2B	Mx	-.004	3
61	MP3C	Z	-8.437	3
62	MP3C	Mx	.004	3
63	LIGHT	Z	-.32	0
64	LIGHT	Mx	0	0



	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	4.107	.92
2	MP1A	Mx	-.002	.92
3	MP1A	X	4.107	4.42
4	MP1A	Mx	-.002	4.42
5	MP1B	X	4.107	.92
6	MP1B	Mx	.003	.92
7	MP1B	X	4.107	4.42
8	MP1B	Mx	.003	4.42
9	MP1A	X	4.107	.92
10	MP1A	Mx	-.002	.92
11	MP1A	X	4.107	4.42
12	MP1A	Mx	-.002	4.42
13	MP1B	X	4.107	.92
14	MP1B	Mx	-.001	.92
15	MP1B	X	4.107	4.42
16	MP1B	Mx	-.001	4.42
17	MP2C	X	4.107	.92
18	MP2C	Mx	-.002	.92
19	MP2C	X	4.107	4.42
20	MP2C	Mx	-.002	4.42
21	MP2C	X	4.107	.92
22	MP2C	Mx	.003	.92
23	MP2C	X	4.107	4.42
24	MP2C	Mx	.003	4.42
25	MP2A	X	3.056	1.67
26	MP2A	Mx	-.002	1.67
27	MP2A	X	3.056	3.67
28	MP2A	Mx	-.002	3.67
29	MP2B	X	3.056	1.67
30	MP2B	Mx	.000764	1.67
31	MP2B	X	3.056	3.67
32	MP2B	Mx	.000764	3.67
33	MP3C	X	3.056	1.67
34	MP3C	Mx	.000523	1.67
35	MP3C	X	3.056	3.67
36	MP3C	Mx	.000523	3.67
37	MP4A	X	.64	.91
38	MP4A	Mx	-.00032	.91
39	MP4A	X	.64	4.42
40	MP4A	Mx	-.00032	4.42
41	MP4B	X	.528	.92
42	MP4B	Mx	.000132	.92
43	MP4B	X	.528	4.42
44	MP4B	Mx	.000132	4.42
45	MP5C	X	.528	.92
46	MP5C	Mx	9e-5	.92
47	MP5C	X	.528	4.42
48	MP5C	Mx	9e-5	4.42
49	OVP	X	3.413	1
50	OVP	Mx	0	1
51	MP1A	X	7.968	3
52	MP1A	Mx	.004	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1B	X	7.968	3
54	MP1B	Mx	-.002	3
55	MP2C	X	7.968	2.5
56	MP2C	Mx	-.001	2.5
57	MP2A	X	8.437	3
58	MP2A	Mx	.004	3
59	MP2B	X	8.437	3
60	MP2B	Mx	-.002	3
61	MP3C	X	8.437	3
62	MP3C	Mx	-.001	3
63	LIGHT	X	.32	0
64	LIGHT	Mx	0	0

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.005
2	N18	N17	N10	N14	Y	Two Way	-.005
3	N14	N10	N15	N16	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.011
2	N18	N17	N10	N14	Y	Two Way	-.011
3	N14	N10	N15	N16	Y	Two Way	-.011

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.000222
2	N18	N17	N10	N14	Y	Two Way	-.000222
3	N14	N10	N15	N16	Y	Two Way	-.000222

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Z	Two Way	-.000555
2	N18	N17	N10	N14	Z	Two Way	-.000555
3	N14	N10	N15	N16	Z	Two Way	-.000555

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	X	Two Way	.000555
2	N18	N17	N10	N14	X	Two Way	.000555
3	N14	N10	N15	N16	X	Two Way	.000555

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	N160	max	1191.349	9	527.957	3	1408.164	2	0	2	0	8	0	4
2		min	-1481.46	3	-386.088	9	-1150.119	8	0	8	0	2	0	10
3	N163	max	1375.474	10	405.012	11	802.661	12	0	12	0	12	0	16
4		min	-1034.927	4	-275.385	5	-731.59	6	-.001	18	0	18	0	10
5	N2	max	1488.249	11	1031.106	13	605.245	1	-.891	70	1.535	8	.414	5
6		min	-1361.464	5	298.947	7	-460.043	7	-3.019	37	-1.477	2	-.307	11
7	N77	max	998.786	10	1042.342	21	1278.582	2	1.618	22	1.652	8	2.587	20
8		min	-946.418	4	265.215	3	-1496.097	8	.294	4	-1.563	2	.578	2
9	N109	max	609.52	10	920.748	17	1056.753	12	1.227	16	1.156	12	-.705	12
10		min	-719.904	4	275.788	11	-1177.621	6	.276	10	-1.231	6	-2.357	18
11	N150	max	62.498	10	1331.231	21	-630.796	65	0	75	0	4	0	10
12		min	-62.698	4	404.607	65	-2097.099	21	0	1	0	10	0	4
13	N151	max	-612.805	72	1468.895	16	1167.33	13	0	18	0	12	0	12
14		min	-2015.037	16	451.529	72	353.383	71	0	12	0	18	0	18
15	N152	max	2029.254	21	1476.799	21	1170.206	24	0	8	0	8	0	8
16		min	611.5	68	450.616	68	353.015	69	0	26	0	26	0	26
17	N159	max	704.493	11	399.478	7	1105.723	1	.001	36	0	8	.001	26
18		min	-819.666	5	-264.597	1	-1453.746	7	0	6	0	26	0	8
19	Totals:	max	6222.452	10	7574.37	15	6030.582	1						
20		min	-6222.45	4	2429.371	72	-6030.582	7						

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N160	-505.51	290.014	1172.455	0	0	0
2	1	N163	241.618	176.046	781.986	0	0	0
3	1	N2	-34.543	614.992	605.245	-1.483	-.215	.078
4	1	N77	604.018	333.85	1257.271	.719	-1.284	.697
5	1	N109	-449.153	383.954	775.264	.659	.498	-.889
6	1	N150	-.156	542.351	-818.485	0	0	0
7	1	N151	-910.362	666.992	579.914	0	0	0
8	1	N152	895.936	656.777	571.209	0	0	0
9	1	N159	158.15	-264.597	1105.723	0	0	0
10	1	Totals:	-.002	3400.378	6030.582			
11	1	COG (ft):	X: .094	Y: 1.374	Z: .127			
12	2	N160	-1097.407	454.381	1408.164	0	0	0
13	2	N163	-248.273	44.028	604.623	0	0	0
14	2	N2	-1197.516	579.399	455.465	-1.429	-1.477	.333
15	2	N77	357.995	270.813	1278.582	.578	-1.563	.578
16	2	N109	-350.47	445.801	397.825	.695	-.139	-1.069
17	2	N150	-18.799	490.853	-730.028	0	0	0
18	2	N151	-931	668.734	559.333	0	0	0
19	2	N152	791.013	604.972	528.733	0	0	0
20	2	N159	-313.359	-158.602	706.991	0	0	0
21	2	Totals:	-3007.815	3400.38	5209.689			
22	2	COG (ft):	X: .094	Y: 1.374	Z: .127			
23	3	N160	-1481.46	527.957	1307.483	0	0	0
24	3	N163	-671.999	-87.798	312.914	0	0	0
25	3	N2	-1203.79	501.904	219.978	-1.295	-1.038	.378
26	3	N77	-433.115	265.215	147.105	.365	-.047	.699
27	3	N109	-583.818	488.02	602.108	.789	.546	-1.154

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
28	3	N150	-47.007	446.56	-661.947	0	0	0
29	3	N151	-951.992	679.181	549.755	0	0	0
30	3	N152	737.895	578.608	480.136	0	0	0
31	3	N159	-657.474	.732	98.245	0	0	0
32	3	Totals:	-5292.761	3400.38	3055.777			
33	3	COG (ft):	X: .094	Y: 1.374	Z: .127			
34	4	N160	-1399.824	433.322	729.798	0	0	0
35	4	N163	-1034.927	-222.952	-96.465	0	0	0
36	4	N2	-1018.501	435.113	54.542	-1.188	-.525	.37
37	4	N77	-946.418	342.012	-1028.241	.294	1.322	.985
38	4	N109	-719.904	535.63	500.895	.834	.91	-1.269
39	4	N150	-62.698	460.195	-711.382	0	0	0
40	4	N151	-983.533	692.478	546.337	0	0	0
41	4	N152	753.043	582.206	456.327	0	0	0
42	4	N159	-809.689	142.374	-451.811	0	0	0
43	4	Totals:	-6222.45	3400.379	0			
44	4	COG (ft):	X: .094	Y: 1.374	Z: .127			
45	5	N160	-934.25	229.855	-16.079	0	0	0
46	5	N163	-1029.593	-275.385	-508.346	0	0	0
47	5	N2	-1361.464	383.279	-123.287	-1.136	-1.16	.414
48	5	N77	-743.532	448.681	-1174.88	.442	.985	1.234
49	5	N109	-266.499	565.34	-455.317	.709	-.275	-1.428
50	5	N150	-46.977	519.221	-835.418	0	0	0
51	5	N151	-967.778	674.401	504.749	0	0	0
52	5	N152	767.992	583.842	443.364	0	0	0
53	5	N159	-819.666	271.146	-953.484	0	0	0
54	5	Totals:	-5401.766	3400.379	-3118.698			
55	5	COG (ft):	X: .094	Y: 1.374	Z: .127			
56	6	N160	-365.06	30.29	-562.135	0	0	0
57	6	N163	-538.033	-192.13	-731.59	0	0	0
58	6	N2	-1174.664	328.397	-357.96	-1.08	-1.264	.326
59	6	N77	-489.314	533.108	-1060.416	.614	.566	1.422
60	6	N109	287.673	532.83	-1177.621	.528	-1.231	-1.44
61	6	N150	-18.665	568.72	-921.518	0	0	0
62	6	N151	-893.147	632.854	443.478	0	0	0
63	6	N152	776.556	585.627	426.823	0	0	0
64	6	N159	-656.093	380.682	-1377.724	0	0	0
65	6	Totals:	-3070.746	3400.378	-5318.664			
66	6	COG (ft):	X: .094	Y: 1.374	Z: .127			
67	7	N160	216.128	-146.35	-915.359	0	0	0
68	7	N163	97.208	-45.772	-711.219	0	0	0
69	7	N2	161.178	298.947	-460.043	-1.038	.274	.029
70	7	N77	-553.338	604.565	-1473.481	.703	1.372	1.625
71	7	N109	339.334	457.349	-896.168	.451	-.573	-1.257
72	7	N150	.145	604.417	-976.425	0	0	0
73	7	N151	-829.048	609.679	424.333	0	0	0
74	7	N152	840.859	618.063	431.524	0	0	0
75	7	N159	-272.463	399.478	-1453.746	0	0	0
76	7	Totals:	.003	3400.376	-6030.582			
77	7	COG (ft):	X: .094	Y: 1.374	Z: .127			
78	8	N160	808.392	-311.641	-1150.119	0	0	0
79	8	N163	587.559	86.125	-533.41	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
80	8	N2	1322.81	334.643	-309.872	-1.092	1.535	-.226
81	8	N77	-307.414	667.618	-1496.097	.844	1.652	1.745
82	8	N109	240.785	395.509	-518.656	.416	.064	-1.076
83	8	N150	18.878	655.946	-1064.894	0	0	0
84	8	N151	-808.112	607.751	444.789	0	0	0
85	8	N152	946.044	670.075	474.258	0	0	0
86	8	N159	198.875	294.35	-1055.688	0	0	0
87	8	Totals:	3007.817	3400.375	-5209.688			
88	8	COG (ft):	X: .094	Y: 1.374	Z: .127			
89	9	N160	1191.349	-386.088	-1050.595	0	0	0
90	9	N163	1012.452	218.234	-241.252	0	0	0
91	9	N2	1328.246	412.126	-75.111	-1.226	1.095	-.27
92	9	N77	484.491	673.514	-362.664	1.058	.134	1.625
93	9	N109	473.991	353.254	-722.633	.321	-.621	-.992
94	9	N150	46.943	700.402	-1133.277	0	0	0
95	9	N151	-786.678	596.994	454.084	0	0	0
96	9	N152	999.535	696.716	523.036	0	0	0
97	9	N159	542.433	135.223	-447.366	0	0	0
98	9	Totals:	5292.762	3400.375	-3055.777			
99	9	COG (ft):	X: .094	Y: 1.374	Z: .127			
100	10	N160	1109.118	-290.479	-473.553	0	0	0
101	10	N163	1375.474	353.086	167.696	0	0	0
102	10	N2	1143.208	478.907	90.013	-1.332	.582	-.263
103	10	N77	998.786	596.836	814.025	1.129	-1.237	1.338
104	10	N109	609.52	305.511	-621.294	.276	-.985	-.876
105	10	N150	62.498	686.581	-1083.615	0	0	0
106	10	N151	-755.28	583.791	457.542	0	0	0
107	10	N152	984.157	692.946	546.622	0	0	0
108	10	N159	694.971	-6.802	102.562	0	0	0
109	10	Totals:	6222.452	3400.375	0			
110	10	COG (ft):	X: .094	Y: 1.374	Z: .127			
111	11	N160	645.053	-86.152	272.544	0	0	0
112	11	N163	1368.559	405.012	579.607	0	0	0
113	11	N2	1488.249	530.8	268.015	-1.384	1.219	-.307
114	11	N77	795.292	490.029	960.427	.98	-.899	1.088
115	11	N109	156.106	275.788	334.524	.402	.199	-.717
116	11	N150	46.928	627.533	-959.552	0	0	0
117	11	N151	-771.524	602.211	499.476	0	0	0
118	11	N152	968.612	690.912	559.292	0	0	0
119	11	N159	704.493	-135.758	604.366	0	0	0
120	11	Totals:	5401.767	3400.376	3118.698			
121	11	COG (ft):	X: .094	Y: 1.374	Z: .127			
122	12	N160	76.127	113.412	818.449	0	0	0
123	12	N163	876.607	322.24	802.661	0	0	0
124	12	N2	1303.063	585.583	503.079	-1.44	1.325	-.219
125	12	N77	540.341	405.462	845.246	.808	-.479	.899
126	12	N109	-398.271	308.422	1056.753	.582	1.156	-.705
127	12	N150	18.64	578.124	-873.558	0	0	0
128	12	N151	-846.289	643.823	560.775	0	0	0
129	12	N152	959.954	689.06	575.804	0	0	0
130	12	N159	540.575	-245.75	1029.455	0	0	0
131	12	Totals:	3070.747	3400.377	5318.664			

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
132	12	COG (ft):	X: .094	Y: 1.374	Z: .127		
133	13	N160	-416.244	222.168	537.486	0	0
134	13	N163	386.997	173.839	230.315	-.001	0
135	13	N2	104.88	1031.106	280.901	-2.75	.002
136	13	N77	198.161	967.649	52.484	1.527	-.19
137	13	N109	-207.55	877.288	82.457	1.184	.059
138	13	N150	-.151	1296.15	-2026.616	0	0
139	13	N151	-1998.437	1463.318	1167.33	0	0
140	13	N152	2002.527	1466.171	1169.561	0	0
141	13	N159	-70.184	76.679	-73.706	.001	0
142	13	Totals:	0	7574.37	1420.213		
143	13	COG (ft):	X: .106	Y: 1.353	Z: .136		
144	14	N160	-556.368	260.225	585.401	0	0
145	14	N163	272.951	142.878	187.495	-.001	0
146	14	N2	-167.557	1024.023	245.26	-2.741	-.29
147	14	N77	139.287	953.133	55.765	1.495	-.249
148	14	N109	-189.515	891.305	-.804	1.194	-.081
149	14	N150	-4.599	1285.667	-2008.085	0	0
150	14	N151	-2003.623	1464.023	1162.039	0	0
151	14	N152	1976.635	1453.47	1159.313	0	0
152	14	N159	-175.422	99.646	-159.721	.001	0
153	14	Totals:	-708.212	7574.37	1226.663		
154	14	COG (ft):	X: .106	Y: 1.353	Z: .136		
155	15	N160	-647.473	277.296	557.783	0	0
156	15	N163	175.398	112.076	117.106	-.001	0
157	15	N2	-173.158	1006.573	186.93	-2.714	-.194
158	15	N77	-43.341	951.211	-204.425	1.446	.097
159	15	N109	-245.541	901.252	45.448	1.216	.075
160	15	N150	-11.766	1277.283	-1994.981	0	0
161	15	N151	-2007.81	1466.166	1159.261	0	0
162	15	N152	1963.212	1446.685	1146.931	0	0
163	15	N159	-250.724	135.828	-297.437	.001	0
164	15	Totals:	-1241.201	7574.37	716.615		
165	15	COG (ft):	X: .106	Y: 1.353	Z: .136		
166	16	N160	-630.826	256.303	428.611	0	0
167	16	N163	93.113	80.618	18.37	-.001	0
168	16	N2	-127.123	990.845	143.892	-2.692	-.072
169	16	N77	-163.784	967.526	-478.223	1.426	.416
170	16	N109	-279.067	912.788	20.187	1.227	.159
171	16	N150	-15.832	1281.382	-2008.402	0	0
172	16	N151	-2015.037	1468.895	1158.27	0	0
173	16	N152	1967.448	1447.55	1141.101	0	0
174	16	N159	-282.703	168.463	-423.807	0	0
175	16	Totals:	-1453.81	7574.37	0		
176	16	COG (ft):	X: .106	Y: 1.353	Z: .136		
177	17	N160	-527.417	210.978	263.875	0	0
178	17	N163	92.684	67.856	-78.911	-.001	0
179	17	N2	-203.541	978.25	98.022	-2.682	-.214
180	17	N77	-119.008	990.78	-514.799	1.458	.343
181	17	N109	-173.586	920.748	-205.871	1.199	-.116
182	17	N150	-11.749	1294.497	-2036.656	0	0
183	17	N151	-2011.279	1464.159	1147.814	0	0

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
184	17	N152	1972.169	1448.513	1138.667	0	0
185	17	N159	-280.591	198.587	-540.943	0	0
186	17	Totals:	-1262.318	7574.37	-728.802		
187	17	COG (ft):	X: .106	Y: 1.353	Z: .136		
188	18	N160	-399.316	166.003	141.169	0	0
189	18	N163	201.616	86.287	-129.07	-.001	0
190	18	N2	-165.281	964.747	39.288	-2.669	-.246
191	18	N77	-57.984	1009.607	-484.539	1.496	.237
192	18	N109	-38.936	914.675	-383.518	1.157	-.351
193	18	N150	-4.513	1304.962	-2054.569	0	0
194	18	N151	-1992.383	1453.509	1132.163	0	0
195	18	N152	1974.519	1449.396	1134.91	0	0
196	18	N159	-238.125	225.185	-643.595	0	0
197	18	Totals:	-720.403	7574.37	-1247.762		
198	18	COG (ft):	X: .106	Y: 1.353	Z: .136		
199	19	N160	-264.263	125.293	62.022	0	0
200	19	N163	346.149	120.023	-121.985	-.001	0
201	19	N2	139.131	956.759	13.069	-2.656	.098
202	19	N77	-67.863	1025.89	-573.047	1.517	.408
203	19	N109	-18.673	898.269	-329.102	1.138	-.218
204	19	N150	-.013	1312.351	-2065.444	0	0
205	19	N151	-1975.5	1447.117	1127.033	0	0
206	19	N152	1989.907	1457.288	1135.561	0	0
207	19	N159	-148.874	231.38	-668.318	0	0
208	19	Totals:	.001	7574.369	-1420.212		
209	19	COG (ft):	X: .106	Y: 1.353	Z: .136		
210	20	N160	-124.125	87.189	14.154	0	0
211	20	N163	460.213	150.979	-79.147	-.001	0
212	20	N2	411.499	963.846	48.728	-2.664	.389
213	20	N77	-8.99	1040.407	-576.389	1.549	.468
214	20	N109	-36.702	884.253	-245.833	1.129	-.078
215	20	N150	4.439	1322.838	-2083.979	0	0
216	20	N151	-1970.299	1446.403	1132.318	0	0
217	20	N152	2015.812	1470	1145.822	0	0
218	20	N159	-43.636	208.456	-582.335	0	0
219	20	Totals:	708.213	7574.369	-1226.662		
220	20	COG (ft):	X: .106	Y: 1.353	Z: .136		
221	21	N160	-33.072	70.072	41.713	0	0
222	21	N163	557.82	181.795	-8.738	-.001	0
223	21	N2	417.063	981.297	107.023	-2.691	.294
224	21	N77	173.679	1042.342	-316.1	1.599	.121
225	21	N109	19.315	874.304	-292.072	1.107	-.233
226	21	N150	11.598	1331.231	-2097.099	0	0
227	21	N151	-1966.092	1444.245	1135.083	0	0
228	21	N152	2029.254	1476.799	1158.212	0	0
229	21	N159	31.638	172.284	-444.637	0	0
230	21	Totals:	1241.203	7574.369	-716.614		
231	21	COG (ft):	X: .106	Y: 1.353	Z: .136		
232	22	N160	-49.751	91.115	170.851	0	0
233	22	N163	640.114	213.237	89.975	-.001	0
234	22	N2	371.046	997.025	150.047	-2.713	.172
235	22	N77	294.171	1026.033	-42.235	1.618	-.198

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
236	22	N109	52.812	862.761	-266.809	1.095	-.317	-2.231
237	22	N150	15.658	1327.121	-2083.665	0	0	0
238	22	N151	-1958.875	1441.523	1136.077	0	0	0
239	22	N152	2025.005	1475.924	1164.03	0	0	0
240	22	N159	63.631	139.63	-318.27	0	0	0
241	22	Totals:	1453.812	7574.369	.001			
242	22	COG (ft):	X: .106	Y: 1.353	Z: .136			
243	23	N160	-153.088	136.485	335.603	0	0	0
244	23	N163	640.468	225.97	187.26	-.001	0	0
245	23	N2	447.563	1009.623	195.924	-2.724	.314	.054
246	23	N77	249.361	1002.773	-5.675	1.587	-.125	2.443
247	23	N109	-52.664	854.798	-40.773	1.123	-.042	-2.191
248	23	N150	11.583	1314.004	-2055.407	0	0	0
249	23	N151	-1962.656	1446.275	1146.55	0	0	0
250	23	N152	2020.253	1474.94	1166.45	0	0	0
251	23	N159	61.499	109.5	-201.13	.001	0	0
252	23	Totals:	1262.319	7574.369	728.803			
253	23	COG (ft):	X: .106	Y: 1.353	Z: .136			
254	24	N160	-281.17	181.46	458.303	0	0	0
255	24	N163	531.515	207.565	237.418	-.001	0	0
256	24	N2	409.377	1023.123	254.679	-2.737	.346	.075
257	24	N77	188.3	983.94	-35.971	1.548	-.019	2.401
258	24	N109	-187.321	860.878	136.866	1.165	.193	-2.183
259	24	N150	4.348	1303.542	-2037.498	0	0	0
260	24	N151	-1981.556	1456.927	1162.201	0	0	0
261	24	N152	2017.9	1474.054	1170.206	0	0	0
262	24	N159	19.01	82.881	-98.441	.001	0	0
263	24	Totals:	720.404	7574.369	1247.763			
264	24	COG (ft):	X: .106	Y: 1.353	Z: .136			
265	25	N160	-245.935	101.554	177.333	0	0	0
266	25	N163	184.623	74.988	84.725	0	0	0
267	25	N2	-205.147	705.379	185.918	-2.057	-.208	.266
268	25	N77	-157.219	393.24	-377.683	.629	.242	1.02
269	25	N109	-71.008	409.506	-48.076	.55	-.068	-1.05
270	25	N150	-.028	585.152	-915.022	0	0	0
271	25	N151	-899.598	659.382	522.84	0	0	0
272	25	N152	1598.953	1150.496	926.593	0	0	0
273	25	N159	-204.641	70.682	-179.71	.001	0	.001
274	25	Totals:	0	4150.379	376.919			
275	25	COG (ft):	X: .933	Y: 1.126	Z: .853			
276	26	N160	-282.906	111.843	192.065	0	0	0
277	26	N163	153.996	66.743	73.63	0	0	0
278	26	N2	-277.726	703.181	176.546	-2.053	-.287	.282
279	26	N77	-172.6	389.281	-376.27	.621	.224	1.012
280	26	N109	-64.848	413.371	-71.667	.553	-.108	-1.061
281	26	N150	-1.196	581.93	-909.489	0	0	0
282	26	N151	-900.879	659.485	521.549	0	0	0
283	26	N152	1592.3	1147.179	923.86	0	0	0
284	26	N159	-234.128	77.366	-204.616	.001	0	.001
285	26	Totals:	-187.987	4150.38	325.607			
286	26	COG (ft):	X: .933	Y: 1.126	Z: .853			
287	27	N160	-306.851	116.461	185.826	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
288	27	N163	127.482	58.498	55.391	0	0	0
289	27	N2	-278.041	698.338	161.849	-2.045	-.26	.284
290	27	N77	-222.094	388.908	-447.045	.607	.319	1.02
291	27	N109	-79.432	416.013	-58.904	.558	-.065	-1.066
292	27	N150	-2.954	579.155	-905.223	0	0	0
293	27	N151	-902.169	660.123	520.938	0	0	0
294	27	N152	1588.903	1145.479	920.806	0	0	0
295	27	N159	-255.638	87.405	-242.649	.001	0	.001
296	27	Totals:	-330.794	4150.38	190.99			
297	27	COG (ft):	X: .933	Y: 1.126	Z: .853			
298	28	N160	-301.714	110.517	149.755	0	0	0
299	28	N163	104.795	50.061	29.822	0	0	0
300	28	N2	-266.445	694.158	151.521	-2.038	-.228	.284
301	28	N77	-254.233	393.689	-520.555	.603	.405	1.037
302	28	N109	-87.923	418.996	-65.235	.561	-.042	-1.074
303	28	N150	-3.931	580.011	-908.316	0	0	0
304	28	N151	-904.097	660.923	520.7	0	0	0
305	28	N152	1589.827	1145.69	919.333	0	0	0
306	28	N159	-265.181	96.334	-277.022	.001	0	.001
307	28	Totals:	-388.902	4150.38	.003			
308	28	COG (ft):	X: .933	Y: 1.126	Z: .853			
309	29	N160	-272.651	97.778	103.134	0	0	0
310	29	N163	105.177	46.8	4.077	0	0	0
311	29	N2	-287.955	690.89	140.406	-2.035	-.267	.287
312	29	N77	-241.545	400.363	-529.713	.612	.384	1.053
313	29	N109	-59.595	420.856	-124.972	.553	-.116	-1.084
314	29	N150	-2.953	583.697	-916.062	0	0	0
315	29	N151	-903.062	659.758	518.07	0	0	0
316	29	N152	1590.78	1145.799	918.517	0	0	0
317	29	N159	-265.803	104.439	-308.378	.001	0	.001
318	29	Totals:	-337.608	4150.379	-194.92			
319	29	COG (ft):	X: .933	Y: 1.126	Z: .853			
320	30	N160	-237.088	85.31	68.996	0	0	0
321	30	N163	135.906	51.987	-9.875	0	0	0
322	30	N2	-276.383	687.398	125.727	-2.031	-.274	.281
323	30	N77	-225.625	405.671	-522.543	.623	.357	1.065
324	30	N109	-24.968	418.824	-170.09	.542	-.176	-1.084
325	30	N150	-1.185	586.787	-921.438	0	0	0
326	30	N151	-898.369	657.142	514.226	0	0	0
327	30	N152	1591.351	1145.935	917.495	0	0	0
328	30	N159	-255.559	111.326	-334.916	.001	0	.001
329	30	Totals:	-191.92	4150.379	-332.417			
330	30	COG (ft):	X: .933	Y: 1.126	Z: .853			
331	31	N160	-200.772	74.279	46.87	0	0	0
332	31	N163	175.596	61.127	-8.599	0	0	0
333	31	N2	-192.916	685.487	119.341	-2.028	-.178	.263
334	31	N77	-229.609	410.173	-548.372	.628	.408	1.078
335	31	N109	-21.766	414.107	-152.486	.537	-.135	-1.073
336	31	N150	-.009	589.022	-924.877	0	0	0
337	31	N151	-894.358	655.689	513.025	0	0	0
338	31	N152	1595.431	1148.021	917.858	0	0	0
339	31	N159	-231.596	112.474	-339.674	.001	0	.001

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
340	31	Totals:	0	4150.379	-376.913		
341	31	COG (ft):	X: .933	Y: 1.126	Z: .853		
342	32	N160	-163.8	63.986	32.142	0	0
343	32	N163	206.225	69.372	2.498	0	0
344	32	N2	-120.343	687.685	128.714	-2.032	-.099
345	32	N77	-214.228	414.132	-549.789	.637	.425
346	32	N109	-27.925	410.242	-128.895	.535	-.095
347	32	N150	1.159	592.244	-930.409	0	0
348	32	N151	-893.076	655.586	514.317	0	0
349	32	N152	1602.085	1151.338	920.592	0	0
350	32	N159	-202.111	105.794	-314.77	.001	0
351	32	Totals:	187.987	4150.379	-325.601		
352	32	COG (ft):	X: .933	Y: 1.126	Z: .853		
353	33	N160	-139.859	59.366	38.376	0	0
354	33	N163	232.743	77.618	20.739	0	0
355	33	N2	-120.031	692.529	143.408	-2.04	-.127
356	33	N77	-164.732	414.506	-479.007	.651	.33
357	33	N109	-13.342	407.6	-141.657	.529	-.138
358	33	N150	2.917	595.019	-934.677	0	0
359	33	N151	-891.783	654.947	514.926	0	0
360	33	N152	1605.484	1153.04	923.646	0	0
361	33	N159	-180.603	95.755	-276.739	.001	0
362	33	Totals:	330.794	4150.379	-190.983		
363	33	COG (ft):	X: .933	Y: 1.126	Z: .853		
364	34	N160	-144.998	65.313	74.444	0	0
365	34	N163	255.431	86.053	46.306	0	0
366	34	N2	-131.625	696.709	153.736	-2.047	-.159
367	34	N77	-132.589	409.725	-405.491	.655	.245
368	34	N109	-4.853	404.617	-135.325	.526	-.161
369	34	N150	3.893	594.162	-931.583	0	0
370	34	N151	-889.856	654.147	515.165	0	0
371	34	N152	1604.559	1152.828	925.119	0	0
372	34	N159	-171.058	86.825	-242.366	.001	0
373	34	Totals:	388.902	4150.379	.003		
374	34	COG (ft):	X: .933	Y: 1.126	Z: .853		
375	35	N160	-174.055	78.055	121.066	0	0
376	35	N163	255.043	89.313	72.052	0	0
377	35	N2	-110.107	699.976	164.851	-2.05	-.119
378	35	N77	-145.279	403.051	-396.335	.646	.266
379	35	N109	-33.181	402.757	-75.59	.534	-.087
380	35	N150	2.916	590.476	-923.836	0	0
381	35	N151	-890.893	655.313	517.795	0	0
382	35	N152	1603.604	1152.718	925.933	0	0
383	35	N159	-170.438	78.72	-211.01	.001	0
384	35	Totals:	337.608	4150.379	194.926		
385	35	COG (ft):	X: .933	Y: 1.126	Z: .853		
386	36	N160	-209.618	90.524	155.203	0	0
387	36	N163	224.312	84.127	86.003	0	0
388	36	N2	-121.673	703.469	179.531	-2.054	-.112
389	36	N77	-161.202	397.742	-403.507	.635	.292
390	36	N109	-67.809	404.789	-30.472	.546	-.027
391	36	N150	1.147	587.387	-918.461	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
392	36	N151	-895.587	657.929	521.639	0	0	0
393	36	N152	1603.032	1152.581	926.955	0	0	0
394	36	N159	-180.683	71.83	-184.469	.001	0	.001
395	36	Totals:	191.92	4150.379	332.423			
396	36	COG (ft):	X: .933	Y: 1.126	Z: .853			
397	37	N160	-189.699	90.612	192.639	0	0	0
398	37	N163	189.071	75.966	84.352	0	0	0
399	37	N2	112.194	1028.009	121.782	-3.019	.055	-.044
400	37	N77	35.732	447.23	-70.703	.692	.003	1.104
401	37	N109	-20.856	400.445	-105.154	.536	-.087	-1.03
402	37	N150	-.025	575.651	-899.437	0	0	0
403	37	N151	-1051.834	766.258	610.669	0	0	0
404	37	N152	973.619	711.347	565.513	0	0	0
405	37	N159	-48.201	54.858	-122.746	0	0	0
406	37	Totals:	0	4150.375	376.915			
407	37	COG (ft):	X: -.001	Y: 1.126	Z: .853			
408	38	N160	-226.697	100.908	207.343	0	0	0
409	38	N163	158.438	67.72	73.252	0	0	0
410	38	N2	39.555	1025.787	112.407	-3.016	-.024	-.028
411	38	N77	20.359	443.29	-69.325	.683	-.015	1.096
412	38	N109	-14.697	404.311	-128.742	.538	-.126	-1.041
413	38	N150	-1.193	572.431	-893.907	0	0	0
414	38	N151	-1053.118	766.364	609.384	0	0	0
415	38	N152	967.031	708.085	562.834	0	0	0
416	38	N159	-77.664	61.478	-147.644	0	0	0
417	38	Totals:	-187.986	4150.375	325.602			
418	38	COG (ft):	X: -.001	Y: 1.126	Z: .853			
419	39	N160	-250.66	105.529	201.085	0	0	0
420	39	N163	131.92	59.473	55.007	0	0	0
421	39	N2	39.209	1020.957	97.707	-3.008	.004	-.026
422	39	N77	-29.104	442.935	-140.086	.669	.08	1.104
423	39	N109	-29.282	406.951	-115.971	.544	-.084	-1.046
424	39	N150	-2.952	569.656	-889.639	0	0	0
425	39	N151	-1054.426	767.013	608.779	0	0	0
426	39	N152	963.656	706.399	559.77	0	0	0
427	39	N159	-99.155	71.463	-185.668	0	0	0
428	39	Totals:	-330.793	4150.375	190.985			
429	39	COG (ft):	X: -.001	Y: 1.126	Z: .853			
430	40	N160	-245.533	99.585	165	0	0	0
431	40	N163	109.228	51.035	29.435	0	0	0
432	40	N2	50.793	1016.803	87.373	-3.001	.036	-.026
433	40	N77	-61.206	447.733	-213.566	.665	.166	1.121
434	40	N109	-37.771	409.929	-122.294	.547	-.061	-1.054
435	40	N150	-3.928	570.51	-892.73	0	0	0
436	40	N151	-1056.37	767.824	608.548	0	0	0
437	40	N152	964.566	706.599	558.267	0	0	0
438	40	N159	-108.68	80.356	-220.033	0	0	0
439	40	Totals:	-388.901	4150.375	-.001			
440	40	COG (ft):	X: -.001	Y: 1.126	Z: .853			
441	41	N160	-216.476	86.843	118.372	0	0	0
442	41	N163	109.601	47.771	3.69	0	0	0
443	41	N2	29.289	1013.58	76.247	-2.998	-.004	-.023

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
444	41 N77	-48.503	454.406	-222.713	.674	.145	1.137
445	41 N109	-9.435	411.785	-182.037	.539	-.135	-1.063
446	41 N150	-2.95	574.197	-900.478	0	0	0
447	41 N151	-1055.336	766.661	605.924	0	0	0
448	41 N152	965.493	706.694	557.449	0	0	0
449	41 N159	-109.291	88.437	-251.378	0	0	0
450	41 Totals:	-337.607	4150.375	-194.925			
451	41 COG (ft):	X: -.001	Y: 1.126	Z: .853			
452	42 N160	-180.908	74.372	84.245	0	0	0
453	42 N163	140.326	52.957	-10.256	0	0	0
454	42 N2	40.901	1010.157	61.561	-2.994	-.01	-.029
455	42 N77	-32.585	459.691	-215.527	.685	.119	1.149
456	42 N109	25.204	409.752	-227.168	.528	-.195	-1.064
457	42 N150	-1.182	577.287	-905.854	0	0	0
458	42 N151	-1050.638	764.041	602.08	0	0	0
459	42 N152	966.018	706.798	556.407	0	0	0
460	42 N159	-99.057	95.32	-277.909	0	0	0
461	42 Totals:	-191.92	4150.374	-332.421			
462	42 COG (ft):	X: -.001	Y: 1.126	Z: .853			
463	43 N160	-144.57	63.335	62.144	0	0	0
464	43 N163	180.019	62.096	-8.972	0	0	0
465	43 N2	124.435	1008.312	55.175	-2.991	.086	-.047
466	43 N77	-36.569	464.166	-241.31	.691	.169	1.162
467	43 N109	28.413	405.034	-209.572	.523	-.153	-1.053
468	43 N150	-.006	579.52	-909.29	0	0	0
469	43 N151	-1046.628	762.586	600.874	0	0	0
470	43 N152	970.026	708.821	556.701	0	0	0
471	43 N159	-75.119	96.504	-282.668	0	0	0
472	43 Totals:	0	4150.374	-376.918			
473	43 COG (ft):	X: -.001	Y: 1.126	Z: .853			
474	44 N160	-107.571	53.035	47.443	0	0	0
475	44 N163	210.654	70.342	2.13	0	0	0
476	44 N2	197.069	1010.534	64.552	-2.995	.165	-.063
477	44 N77	-21.197	468.105	-242.693	.699	.186	1.169
478	44 N109	22.255	401.168	-185.984	.52	-.114	-1.041
479	44 N150	1.162	582.74	-914.82	0	0	0
480	44 N151	-1045.343	762.479	602.159	0	0	0
481	44 N152	976.615	712.084	559.38	0	0	0
482	44 N159	-45.656	89.887	-257.773	0	0	0
483	44 Totals:	187.987	4150.374	-325.605			
484	44 COG (ft):	X: -.001	Y: 1.126	Z: .853			
485	45 N160	-83.612	48.411	53.697	0	0	0
486	45 N163	237.176	78.59	20.377	0	0	0
487	45 N2	197.412	1015.365	79.249	-3.003	.137	-.066
488	45 N77	28.269	468.462	-171.924	.713	.092	1.161
489	45 N109	36.839	398.528	-198.754	.515	-.157	-1.036
490	45 N150	2.92	585.516	-919.089	0	0	0
491	45 N151	-1044.034	761.829	602.762	0	0	0
492	45 N152	979.992	713.771	562.445	0	0	0
493	45 N159	-24.167	79.903	-219.751	0	0	0
494	45 Totals:	330.794	4150.374	-190.988			
495	45 COG (ft):	X: -.001	Y: 1.126	Z: .853			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
496	46	N160	-88.742	54.359	89.78	0	0	0
497	46	N163	259.869	87.027	45.947	0	0	0
498	46	N2	185.829	1019.518	89.582	-3.01	.105	-.066
499	46	N77	60.375	463.664	-98.439	.717	.006	1.144
500	46	N109	45.326	395.549	-192.43	.512	-.179	-1.029
501	46	N150	3.896	584.661	-915.997	0	0	0
502	46	N151	-1042.09	761.018	602.994	0	0	0
503	46	N152	979.08	713.571	563.947	0	0	0
504	46	N159	-14.641	71.008	-185.386	0	0	0
505	46	Totals:	388.903	4150.374	-.001			
506	46	COG (ft):	X: -.001	Y: 1.126	Z: .853			
507	47	N160	-117.793	67.104	136.408	0	0	0
508	47	N163	259.49	90.289	71.692	0	0	0
509	47	N2	207.341	1022.742	100.709	-3.013	.145	-.068
510	47	N77	47.669	456.99	-89.293	.708	.027	1.128
511	47	N109	16.99	393.693	-132.688	.52	-.105	-1.019
512	47	N150	2.919	580.974	-908.248	0	0	0
513	47	N151	-1043.126	762.183	605.619	0	0	0
514	47	N152	978.151	713.474	564.764	0	0	0
515	47	N159	-14.032	62.927	-154.04	0	0	0
516	47	Totals:	337.608	4150.374	194.922			
517	47	COG (ft):	X: -.001	Y: 1.126	Z: .853			
518	48	N160	-153.36	79.575	170.535	0	0	0
519	48	N163	228.763	85.105	85.637	0	0	0
520	48	N2	195.735	1026.165	115.396	-3.017	.151	-.063
521	48	N77	31.748	451.705	-96.482	.697	.053	1.116
522	48	N109	-17.65	395.727	-87.558	.531	-.045	-1.018
523	48	N150	1.15	577.884	-902.873	0	0	0
524	48	N151	-1047.825	764.803	609.463	0	0	0
525	48	N152	977.626	713.369	565.806	0	0	0
526	48	N159	-24.267	56.041	-127.506	0	0	0
527	48	Totals:	191.921	4150.374	332.418			
528	48	COG (ft):	X: -.001	Y: 1.126	Z: .853			
529	49	N160	-157.604	74.739	127.156	0	0	0
530	49	N163	174.417	66.665	37.53	0	0	0
531	49	N2	85.66	742.955	79.818	-2.148	.048	.059
532	49	N77	11.063	462.56	-132.257	.7	.064	1.146
533	49	N109	-29.004	412.493	-104.142	.544	-.076	-1.059
534	49	N150	-.015	575.246	-900.526	0	0	0
535	49	N151	-945.48	691.557	545.876	0	0	0
536	49	N152	925.553	677.571	534.381	0	0	0
537	49	N159	-64.589	71.591	-187.835	0	0	0
538	49	Totals:	0	3775.376	0			
539	49	COG (ft):	X: .084	Y: 1.238	Z: .526			
540	50	N160	-227.955	82.832	65.47	0	0	0
541	50	N163	162.33	61.573	20.389	0	0	0
542	50	N2	-211.375	417.843	99.308	-1.244	-.189	.041
543	50	N77	-69.965	463.418	-339.687	.746	.241	1.239
544	50	N109	-65.636	416.927	-49.765	.554	-.025	-1.064
545	50	N150	.002	580.625	-909.349	0	0	0
546	50	N151	-883.009	647.704	509.823	0	0	0
547	50	N152	1420.566	1025.223	820.174	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
548	50	N159	-124.957	79.231	-216.363	0	0	0
549	50	Totals:	.001	3775.377	0			
550	50	COG (ft):	X: .798	Y: 1.238	Z: .526			
551	51	N160	-169.174	84.016	149.581	0	0	0
552	51	N163	197.961	76.277	41.744	0	0	0
553	51	N2	73.351	532.959	84.3	-1.47	.034	.063
554	51	N77	29.723	547.344	-125.574	.83	.051	1.354
555	51	N109	-63.892	490.601	-70.511	.648	-.044	-1.251
556	51	N150	-.019	668.64	-1046.564	0	0	0
557	51	N151	-1014.334	744.477	585.627	0	0	0
558	51	N152	1012.969	743.527	584.85	0	0	0
559	51	N159	-66.584	79.267	-203.452	0	0	0
560	51	Totals:	0	3967.107	0			
561	51	COG (ft):	X: .094	Y: 1.374	Z: .127			
562	52	N160	-164.553	83.696	178.043	0	0	0
563	52	N163	183.114	73.642	70.819	0	0	0
564	52	N2	65.681	478.738	102.502	-1.314	.028	.056
565	52	N77	50.449	480.733	-42.098	.74	-.013	1.184
566	52	N109	-78.131	433.043	-3.609	.582	.005	-1.099
567	52	N150	-.017	589.338	-919.694	0	0	0
568	52	N151	-903.484	663.034	524.045	0	0	0
569	52	N152	901.472	661.627	522.886	0	0	0
570	52	N159	-54.531	57.437	-130.617	0	0	0
571	52	Totals:	0	3521.289	302.278			
572	52	COG (ft):	X: .094	Y: 1.374	Z: .127			
573	53	N160	-187.41	89.259	181.415	0	0	0
574	53	N163	158.432	67.071	62.635	0	0	0
575	53	N2	24.57	477.87	98.57	-1.312	-.005	.065
576	53	N77	27.633	478.836	-62.879	.732	.008	1.182
577	53	N109	-91.515	435.668	-3.658	.586	.01	-1.105
578	53	N150	-1.227	588.639	-918.866	0	0	0
579	53	N151	-906.953	664.626	525.029	0	0	0
580	53	N152	896.756	659.159	520.537	0	0	0
581	53	N159	-71.425	60.162	-141.009	0	0	0
582	53	Totals:	-151.138	3521.289	261.773			
583	53	COG (ft):	X: .094	Y: 1.374	Z: .127			
584	54	N160	-200.293	90.879	171.763	0	0	0
585	54	N163	138.395	60.663	47.601	0	0	0
586	54	N2	-5.674	475.724	88.283	-1.308	-.028	.072
587	54	N77	4.487	478.823	-96.678	.725	.04	1.186
588	54	N109	-95.58	438.246	-19.498	.588	0	-1.111
589	54	N150	-2.111	589.24	-920.735	0	0	0
590	54	N151	-908.646	665.195	524.612	0	0	0
591	54	N152	892.671	656.907	517.805	0	0	0
592	54	N159	-85.022	65.611	-162.015	0	0	0
593	54	Totals:	-261.772	3521.289	151.139			
594	54	COG (ft):	X: .094	Y: 1.374	Z: .127			
595	55	N160	-199.753	88.125	151.673	0	0	0
596	55	N163	128.369	56.135	29.741	0	0	0
597	55	N2	-16.951	472.874	74.396	-1.304	-.036	.074
598	55	N77	-12.792	480.698	-134.443	.722	.072	1.194
599	55	N109	-89.239	440.087	-46.887	.586	-.019	-1.118

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
600	55	N150	-2.434	590.981	-924.8	0	0	0
601	55	N151	-908.109	664.59	522.907	0	0	0
602	55	N152	890.312	655.474	515.424	0	0	0
603	55	N159	-91.68	72.325	-188.01	0	0	0
604	55	Totals:	-302.277	3521.289	0			
605	55	COG (ft):	X: .094	Y: 1.374	Z: .127			
606	56	N160	-185.93	81.731	126.526	0	0	0
607	56	N163	131.044	54.702	13.844	0	0	0
608	56	N2	-6.234	470.083	60.63	-1.3	-.026	.072
609	56	N77	-19.57	483.957	-166.053	.722	.098	1.205
610	56	N109	-74.187	440.698	-78.485	.581	-.044	-1.123
611	56	N150	-2.109	593.396	-929.973	0	0	0
612	56	N151	-905.485	662.971	520.37	0	0	0
613	56	N152	890.311	655.246	514.03	0	0	0
614	56	N159	-89.612	78.504	-212.027	0	0	0
615	56	Totals:	-261.772	3521.289	-151.139			
616	56	COG (ft):	X: .094	Y: 1.374	Z: .127			
617	57	N160	-162.533	73.413	103.064	0	0	0
618	57	N163	145.7	56.746	4.168	0	0	0
619	57	N2	23.598	468.1	50.676	-1.297	0	.065
620	57	N77	-14.034	487.727	-183.039	.726	.109	1.214
621	57	N109	-54.461	439.915	-105.824	.574	-.067	-1.124
622	57	N150	-1.222	595.837	-934.867	0	0	0
623	57	N151	-901.479	660.774	517.68	0	0	0
624	57	N152	892.669	656.283	513.999	0	0	0
625	57	N159	-79.376	82.494	-227.63	0	0	0
626	57	Totals:	-151.138	3521.289	-261.772			
627	57	COG (ft):	X: .094	Y: 1.374	Z: .127			
628	58	N160	-135.828	65.398	87.569	0	0	0
629	58	N163	168.412	61.72	3.305	0	0	0
630	58	N2	64.556	467.455	47.197	-1.296	.032	.056
631	58	N77	2.334	490.999	-180.851	.733	.103	1.221
632	58	N109	-35.343	437.948	-121.582	.568	-.084	-1.122
633	58	N150	-.013	597.651	-938.171	0	0	0
634	58	N151	-897.162	658.586	515.559	0	0	0
635	58	N152	896.753	658.307	515.338	0	0	0
636	58	N159	-63.711	83.225	-230.642	0	0	0
637	58	Totals:	0	3521.289	-302.278			
638	58	COG (ft):	X: .094	Y: 1.374	Z: .127			
639	59	N160	-112.971	59.835	84.197	0	0	0
640	59	N163	193.096	68.292	11.489	0	0	0
641	59	N2	105.665	468.323	51.129	-1.298	.065	.046
642	59	N77	25.15	492.895	-160.07	.741	.082	1.222
643	59	N109	-21.958	435.324	-121.532	.563	-.088	-1.117
644	59	N150	1.196	598.351	-938.999	0	0	0
645	59	N151	-893.692	656.994	514.575	0	0	0
646	59	N152	901.47	660.776	517.688	0	0	0
647	59	N159	-46.816	80.5	-220.25	0	0	0
648	59	Totals:	151.14	3521.289	-261.773			
649	59	COG (ft):	X: .094	Y: 1.374	Z: .127			
650	60	N160	-100.089	58.214	93.848	0	0	0
651	60	N163	213.133	74.7	26.524	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
652	60	N2	135.907	470.469	61.415	-1.301	.088	.039
653	60	N77	48.298	492.908	-126.27	.747	.05	1.218
654	60	N109	-17.893	432.745	-105.692	.562	-.079	-1.11
655	60	N150	2.081	597.749	-937.13	0	0	0
656	60	N151	-891.999	656.424	514.991	0	0	0
657	60	N152	905.555	663.028	520.42	0	0	0
658	60	N159	-33.22	75.052	-199.244	0	0	0
659	60	Totals:	261.773	3521.289	-151.139			
660	60	COG (ft):	X: .094	Y: 1.374	Z: .127			
661	61	N160	-100.629	60.969	113.938	0	0	0
662	61	N163	223.159	79.227	44.383	0	0	0
663	61	N2	147.186	473.32	75.302	-1.306	.096	.037
664	61	N77	65.578	491.034	-88.504	.751	.018	1.21
665	61	N109	-24.235	430.904	-78.304	.564	-.06	-1.104
666	61	N150	2.404	596.008	-933.065	0	0	0
667	61	N151	-892.536	657.03	516.697	0	0	0
668	61	N152	907.913	664.46	522.801	0	0	0
669	61	N159	-26.562	68.338	-173.249	0	0	0
670	61	Totals:	302.279	3521.289	0			
671	61	COG (ft):	X: .094	Y: 1.374	Z: .127			
672	62	N160	-114.451	67.363	139.085	0	0	0
673	62	N163	220.484	80.66	60.281	0	0	0
674	62	N2	136.471	476.11	89.067	-1.31	.086	.039
675	62	N77	72.356	487.775	-56.893	.751	-.008	1.2
676	62	N109	-39.288	430.293	-46.705	.569	-.035	-1.099
677	62	N150	2.079	593.593	-927.891	0	0	0
678	62	N151	-895.16	658.649	519.235	0	0	0
679	62	N152	907.913	664.688	524.194	0	0	0
680	62	N159	-28.63	62.158	-149.232	0	0	0
681	62	Totals:	261.773	3521.289	151.139			
682	62	COG (ft):	X: .094	Y: 1.374	Z: .127			
683	63	N160	-137.847	75.682	162.547	0	0	0
684	63	N163	205.827	78.616	69.956	0	0	0
685	63	N2	106.64	478.093	99.023	-1.313	.061	.046
686	63	N77	66.819	484.005	-39.909	.747	-.019	1.19
687	63	N109	-59.013	431.076	-19.367	.575	-.011	-1.097
688	63	N150	1.192	591.152	-922.998	0	0	0
689	63	N151	-899.167	660.846	521.924	0	0	0
690	63	N152	905.556	663.651	524.225	0	0	0
691	63	N159	-38.867	58.168	-133.629	0	0	0
692	63	Totals:	151.14	3521.289	261.773			
693	63	COG (ft):	X: .094	Y: 1.374	Z: .127			
694	64	N160	-118.027	60.516	136.928	0	0	0
695	64	N163	128.699	52.61	59.348	0	0	0
696	64	N2	45.499	332.081	79.325	-.909	.019	.038
697	64	N77	42.286	330.125	-7.546	.512	-.027	.811
698	64	N109	-60.592	298.057	15.8	.404	.017	-.755
699	64	N150	-.009	405.309	-631.627	0	0	0
700	64	N151	-624.245	458.102	362.829	0	0	0
701	64	N152	622.625	456.967	361.894	0	0	0
702	64	N159	-36.236	35.604	-74.673	0	0	0
703	64	Totals:	0	2429.372	302.278			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
704	64	COG (ft):	X: .094	Y: 1.374	Z: .127			
705	65	N160	-140.888	66.071	140.295	0	0	0
706	65	N163	104.017	46.05	51.161	0	0	0
707	65	N2	4.377	331.208	75.392	-.907	-.014	.048
708	65	N77	19.47	328.233	-28.334	.504	-.006	.809
709	65	N109	-73.978	300.681	15.757	.408	.022	-.76
710	65	N150	-1.219	404.607	-630.796	0	0	0
711	65	N151	-627.709	459.689	363.808	0	0	0
712	65	N152	617.924	454.512	359.553	0	0	0
713	65	N159	-53.132	38.321	-85.064	0	0	0
714	65	Totals:	-151.139	2429.372	261.773			
715	65	COG (ft):	X: .094	Y: 1.374	Z: .127			
716	66	N160	-153.776	67.691	130.638	0	0	0
717	66	N163	83.979	39.652	36.123	0	0	0
718	66	N2	-25.874	329.059	65.106	-.904	-.037	.055
719	66	N77	-3.677	328.223	-62.139	.497	.026	.813
720	66	N109	-78.041	303.255	-.081	.41	.013	-.767
721	66	N150	-2.105	405.202	-632.657	0	0	0
722	66	N151	-629.404	460.259	363.39	0	0	0
723	66	N152	613.853	452.271	356.829	0	0	0
724	66	N159	-66.728	43.759	-106.07	0	0	0
725	66	Totals:	-261.772	2429.372	151.139			
726	66	COG (ft):	X: .094	Y: 1.374	Z: .127			
727	67	N160	-153.238	64.943	110.542	0	0	0
728	67	N163	73.952	35.13	18.26	0	0	0
729	67	N2	-37.153	326.21	51.221	-.899	-.045	.057
730	67	N77	-20.958	330.098	-99.909	.493	.059	.822
731	67	N109	-71.693	305.092	-27.475	.408	-.006	-.774
732	67	N150	-2.428	406.935	-636.711	0	0	0
733	67	N151	-628.876	459.659	361.688	0	0	0
734	67	N152	611.501	450.845	354.45	0	0	0
735	67	N159	-73.384	50.46	-132.067	0	0	0
736	67	Totals:	-302.278	2429.372	0			
737	67	COG (ft):	X: .094	Y: 1.374	Z: .127			
738	68	N160	-139.415	58.562	85.393	0	0	0
739	68	N163	76.625	33.696	2.359	0	0	0
740	68	N2	-26.429	323.423	37.458	-.895	-.035	.055
741	68	N77	-27.738	333.355	-131.521	.494	.084	.832
742	68	N109	-56.633	305.697	-59.083	.403	-.031	-.778
743	68	N150	-2.103	409.342	-641.873	0	0	0
744	68	N151	-626.265	458.051	359.158	0	0	0
745	68	N152	611.5	450.616	353.054	0	0	0
746	68	N159	-71.313	56.63	-156.085	0	0	0
747	68	Totals:	-261.772	2429.372	-151.139			
748	68	COG (ft):	X: .094	Y: 1.374	Z: .127			
749	69	N160	-116.017	50.258	61.931	0	0	0
750	69	N163	91.28	35.734	-7.318	0	0	0
751	69	N2	3.414	321.447	27.507	-.892	-.01	.048
752	69	N77	-22.204	337.122	-148.504	.498	.095	.842
753	69	N109	-36.9	304.91	-86.433	.396	-.055	-.78
754	69	N150	-1.216	411.777	-646.758	0	0	0
755	69	N151	-622.272	455.865	356.476	0	0	0

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
756	69	N152	613.849	451.646	353.015	0	0
757	69	N159	-61.073	60.614	-171.69	0	0
758	69	Totals:	-151.139	2429.371	-261.772		
759	69	COG (ft):	X: .094	Y: 1.374	Z: .127		
760	70	N160	-89.307	42.255	46.439	0	0
761	70	N163	113.992	40.698	-8.18	0	0
762	70	N2	44.386	320.81	24.031	-.891	.023
763	70	N77	-5.838	340.389	-146.312	.505	.089
764	70	N109	-17.777	302.941	-102.202	.39	-.072
765	70	N150	-.006	413.588	-650.059	0	0
766	70	N151	-617.966	453.686	354.363	0	0
767	70	N152	617.92	453.658	354.344	0	0
768	70	N159	-45.405	61.347	-174.702	0	0
769	70	Totals:	0	2429.371	-302.278		
770	70	COG (ft):	X: .094	Y: 1.374	Z: .127		
771	71	N160	-66.447	36.699	43.072	0	0
772	71	N163	138.675	47.258	.007	0	0
773	71	N2	85.507	321.683	27.964	-.893	.056
774	71	N77	16.978	342.28	-125.524	.512	.068
775	71	N109	-4.391	300.317	-102.159	.385	-.076
776	71	N150	1.205	414.291	-650.89	0	0
777	71	N151	-614.501	452.099	353.383	0	0
778	71	N152	622.622	456.114	356.685	0	0
779	71	N159	-28.509	58.63	-164.311	0	0
780	71	Totals:	151.139	2429.371	-261.773		
781	71	COG (ft):	X: .094	Y: 1.374	Z: .127		
782	72	N160	-53.56	35.078	52.729	0	0
783	72	N163	158.713	53.655	15.045	0	0
784	72	N2	115.757	323.832	38.25	-.897	.079
785	72	N77	40.126	342.29	-91.718	.519	.036
786	72	N109	-.328	297.742	-86.32	.384	-.067
787	72	N150	2.09	413.695	-649.03	0	0
788	72	N151	-612.805	451.529	353.8	0	0
789	72	N152	626.693	458.355	359.41	0	0
790	72	N159	-14.913	53.193	-143.305	0	0
791	72	Totals:	261.773	2429.371	-151.139		
792	72	COG (ft):	X: .094	Y: 1.374	Z: .127		
793	73	N160	-54.097	37.827	72.824	0	0
794	73	N163	168.741	58.178	32.908	0	0
795	73	N2	127.036	326.682	52.135	-.901	.087
796	73	N77	57.408	340.416	-53.947	.523	.004
797	73	N109	-6.676	295.906	-58.927	.385	-.048
798	73	N150	2.414	411.962	-644.975	0	0
799	73	N151	-613.334	452.129	355.502	0	0
800	73	N152	629.044	459.781	361.788	0	0
801	73	N159	-8.258	46.491	-117.309	0	0
802	73	Totals:	302.278	2429.371	0		
803	73	COG (ft):	X: .094	Y: 1.374	Z: .127		
804	74	N160	-67.919	44.21	97.973	0	0
805	74	N163	166.067	59.612	48.809	0	0
806	74	N2	116.315	329.468	65.897	-.905	.077
807	74	N77	64.188	337.159	-22.335	.522	-.022

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
808	74	N109	-21.736	295.3	-27.319	.39	-.023	-.754
809	74	N150	2.089	409.556	-639.813	0	0	0
810	74	N151	-615.945	453.738	358.034	0	0	0
811	74	N152	629.045	460.009	363.184	0	0	0
812	74	N159	-10.329	40.321	-93.29	0	0	0
813	74	Totals:	261.773	2429.371	151.139			
814	74	COG (ft):	X: .094	Y: 1.374	Z: .127			
815	75	N160	-91.317	52.514	121.436	0	0	0
816	75	N163	151.411	57.574	58.486	0	0	0
817	75	N2	86.472	331.444	75.849	-.908	.052	.029
818	75	N77	58.653	333.392	-5.352	.518	-.033	.817
819	75	N109	-41.469	296.087	.031	.397	.001	-.753
820	75	N150	1.202	407.121	-634.928	0	0	0
821	75	N151	-619.939	455.924	360.715	0	0	0
822	75	N152	626.695	458.979	363.222	0	0	0
823	75	N159	-20.569	36.336	-77.685	0	0	0
824	75	Totals:	151.139	2429.371	261.773			
825	75	COG (ft):	X: .094	Y: 1.374	Z: .127			

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

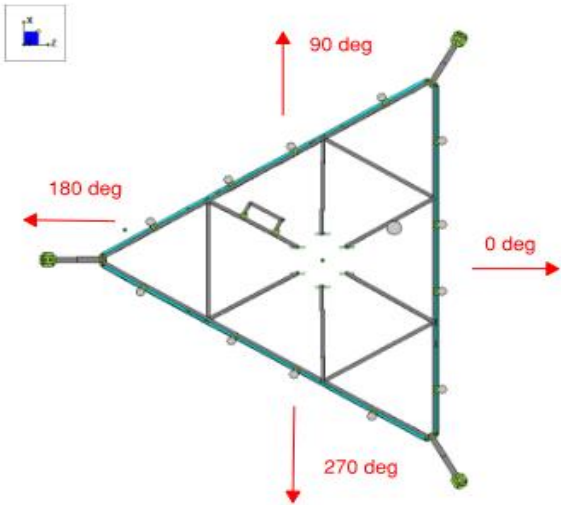
	Member	Shape	Code C...	Loc[ft]	LC Shear ...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-...	phi*Mn z-...	Cb	Eqn
1	M1	HSS4X4X4	.196	0	48 .066	0	z	5	138875.2...	139518	16.181	16.181	1...	H1-1b
2	M2	HSS4.5X4.5X3	.127	0	46 .046	0	y	16	119784.8...	121302	16.25	16.25	1...	H1-1b
3	M5	LL3X3X4X0	.229	0	22 .037	1.958	y	22	76288.155	93312	6.48	4.357	1...	H1-1b
4	M6	LL3X3X4X0	.312	0	24 .049	1.958	y	18	76288.155	93312	6.48	4.357	1...	H1-1b
5	M7	LL3X3X4X0	.318	0	20 .052	1.958	y	26	76288.155	93312	6.48	4.357	1.8	H1-1b
6	M6A	L3X3X4	.111	3.717	2 .014	7.433	z	24	13991.953	46656	1.688	3.332	1...	H2-1
7	M7A	L3X3X4	.633	11.968	25 .158	7.181	z	37	3748.406	46656	1.688	2.775	1...	H2-1
8	M23A	L3X3X4	.127	3.717	8 .014	7.433	z	20	13991.953	46656	1.688	3.338	1...	H2-1
9	M24	L3X3X4	.431	0	22 .120	7.181	z	21	3748.406	46656	1.688	2.88	1...	H2-1
10	M38	HSS4X4X4	.223	0	8 .056	0	z	1	138875.2...	139518	16.181	16.181	1...	H1-1b
11	M39A	L3X3X4	.110	3.794	6 .013	7.433	z	20	13991.953	46656	1.688	3.306	1...	H2-1
12	M40	L3X3X4	.493	14.362	15 .110	7.181	z	17	3748.406	46656	1.688	2.736	1...	H2-1
13	M54	HSS4X4X4	.184	0	18 .050	0	z	6	138875.2...	139518	16.181	16.181	1...	H1-1b
14	M55	HSS4.5X4.5X3	.130	0	18 .041	0	y	20	119784.8...	121302	16.25	16.25	1...	H1-1b
15	M56	HSS4.5X4.5X3	.113	0	14 .038	0	y	16	119784.8...	121302	16.25	16.25	1...	H1-1b
16	MP2A	PIPE 2.0	.126	4.875	11 .048	4.875		11	20866.733	32130	1.872	1.872	2...	H1-1b
17	MP3A	PIPE 2.0	.082	1.938	12 .039	4.875		6	20866.733	32130	1.872	1.872	2...	H1-1b
18	MP4A	PIPE 2.0	.073	4.875	12 .043	4.875		6	20866.733	32130	1.872	1.872	2...	H1-1b
19	MP1A	PIPE 2.5	.143	1.938	1 .086	4.875		8	37773.818	50715	3.596	3.596	1...	H1-1b
20	MP3C	PIPE 2.0	.122	1.938	4 .046	4.875		4	20866.733	32130	1.872	1.872	1...	H1-1b
21	MP4C	PIPE 2.0	.087	1.938	8 .050	4.875		5	20866.733	32130	1.872	1.872	2...	H1-1b
22	MP5C	PIPE 2.0	.079	4.875	8 .048	4.875		3	20866.733	32130	1.872	1.872	2...	H1-1b
23	MP2C	PIPE 2.5	.174	1.938	3 .075	1.875		7	37773.818	50715	3.596	3.596	2...	H1-1b
24	MP2B	PIPE 2.0	.112	1.938	12 .036	1.938		12	20866.733	32130	1.872	1.872	2...	H1-1b
25	MP3B	PIPE 2.0	.068	1.938	4 .045	1.938		12	20866.733	32130	1.872	1.872	2...	H1-1b
26	MP4B	PIPE 2.0	.074	4.875	4 .055	4.875		10	20866.733	32130	1.872	1.872	2...	H1-1b
27	MP1B	PIPE 2.5	.151	1.938	11 .090	4.875		12	37773.818	50715	3.596	3.596	2...	H1-1b
28	MP1C	PIPE 2.0	.148	4.875	22 .049	4.875		14	20866.733	32130	1.872	1.872	2...	H1-1b
29	LIGHT	PIPE 1.25	.014	.833	9 .009	.833		11	18830.497	19687.5	.801	.801	1...	H1-1b

I. Mount-to-Tower Connection Check

Custom Orientation Required

Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N2	0
N109	240
N77	120



Tower Connection Bolt Checks

No

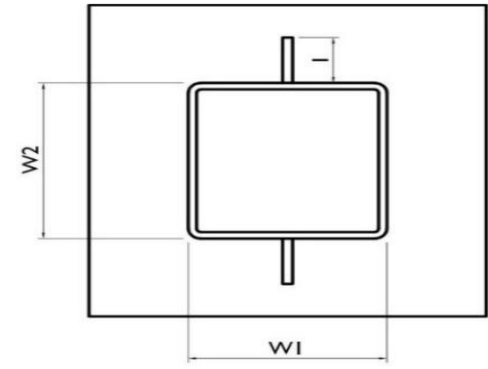
Tower Connection Baseplate Checks

No

Tower Connection Weld Checks

Weld Shape:
Weld Stiffener Configuration:
Stiffener Notch Present?
Stiffener Length, l (in):
Stiffener Spacing/Width, s (in):
Weld Size (1/16 in):
W1 (in):
W2 (in):
Weld Total Length (in):
 Z_x (in³/in):
 Z_y (in³/in):
 J_p (in⁴/in):
 c_x (in)
 c_y (in)
Required combined strength (kip/in):
Weld Capacity (kip/in):
Weld Utilization:

Yes
Rectangle
(1) Stiffener on top/bottom
No
3.75
6
4
4
31.00
63.56
21.33
328.15
5.75
5.75
0.90
8.35
10.7%



BILL OF MATERIALS						
SECTION 1 - VZWSMART KITS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-MSK1	CROSSOVER PLATE		14	14
1		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE		34	34
1		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
2		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	300
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
3		VZWSMART-PLK6	V-BRACING KIT FOR MONOPOLE	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	109	327
1		VZWSMART-P40-238X048	48" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		15	15
3		VZWSMART-P40-278X096	96" LONG, PIPE 2.5 SCH40 (2.875"OD X 0.203" THK)		46	138
SECTION 2 - OTHER REQUIRED PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
-	-	-	1/2" U-BOLTS		-	-
6	-	-	6" LONG HSS3X2 1/2X1/4 SHIM		5	30
SECTION 3 - REQUIRED SAFETY CLIMB PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISION	PV-SCRB-RM-U	ROUTING BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISON	H42-0501-06	STANDOFF CLAMP BRACKET	OR EOR APPROVED EQUIVALENT	-	-
2	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
TOTAL:						1653

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
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WEBSITE	WWW.SITEPRO1.COM



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DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:

BILL OF MATERIALS

SHEET NUMBER:

SBOM-1

GENERAL NOTES

- 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.
- 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.
- 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.
- IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
- 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.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
- 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.
- 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.
- 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.
- 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.
- DO NOT SCALE DRAWINGS.
- DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
- 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.
- THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

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

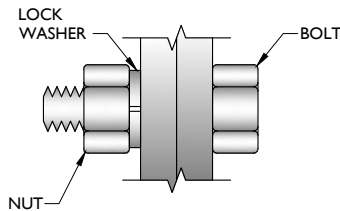
CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE
- ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING 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.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - SUBMIT SHOP DRAWINGS TO
PETER.ALBANO@COLLIERSENG.COM
 - PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- 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.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- 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.
- 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.
- 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.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- 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.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- 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.
- 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).
- 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 1 1/16	7/8	1 1/2
5/8	1 1/16	1 1/16 x 7/8	1 1/8	1 7/8
3/4	1 3/16	1 3/16 x 1	1 1/4	2 1/4
7/8	1 5/16	1 5/16 x 1 1/8	1 1/2	2 5/8
1	1 7/16	1 7/16 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

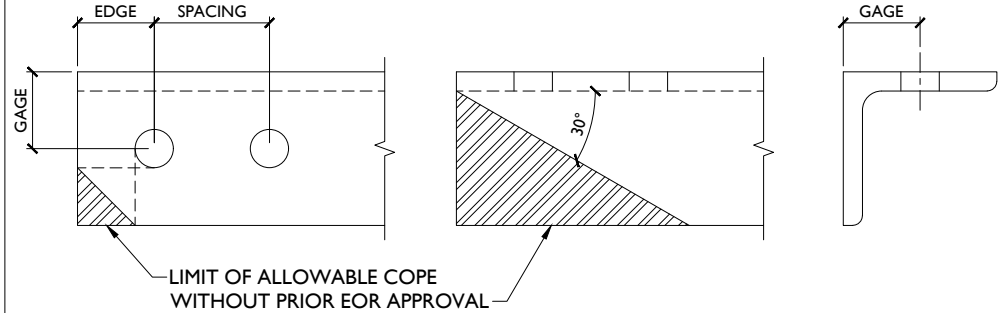


TYP. BOLT ASSEMBLY

NOTES:

- 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.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
- MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

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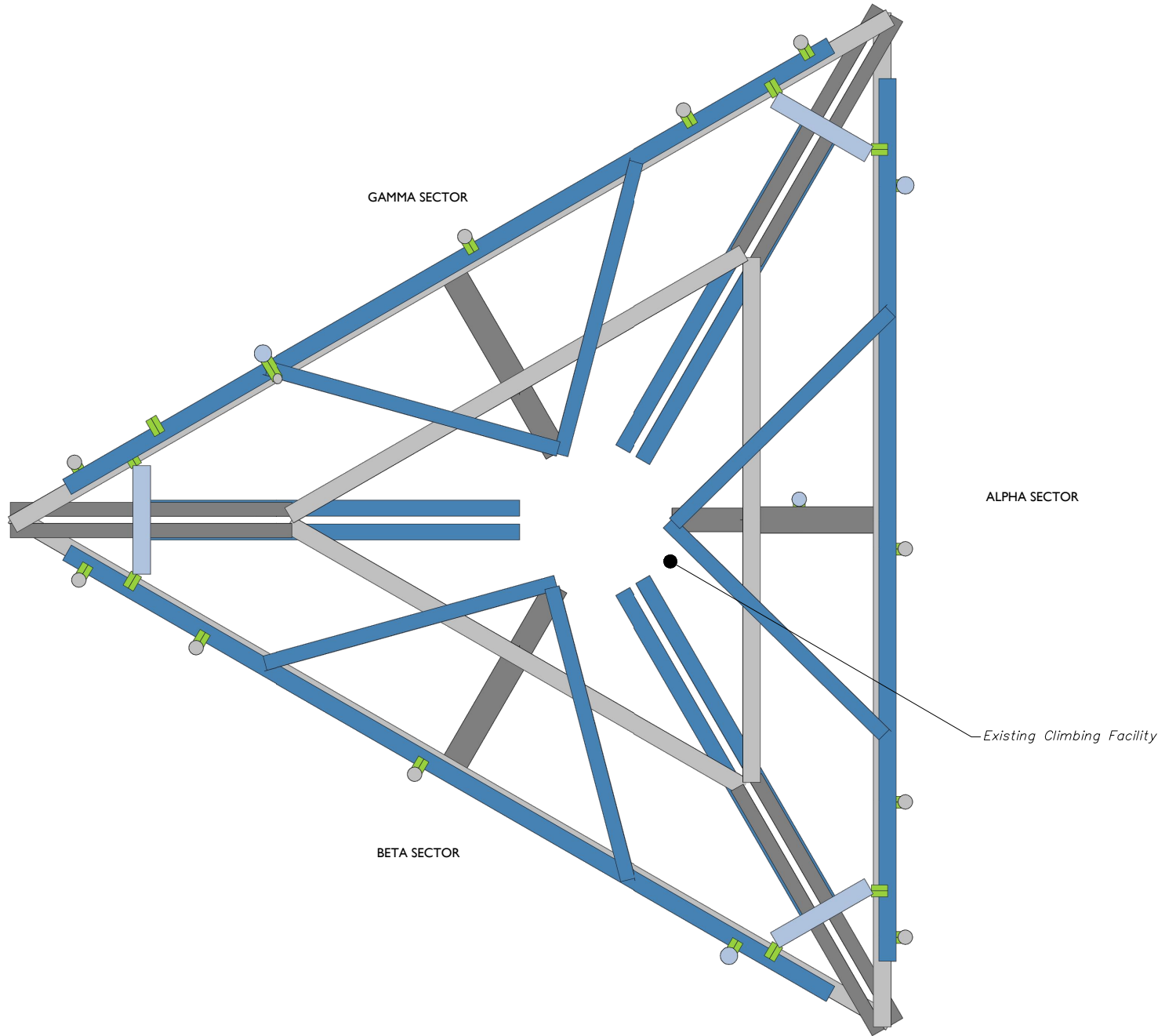


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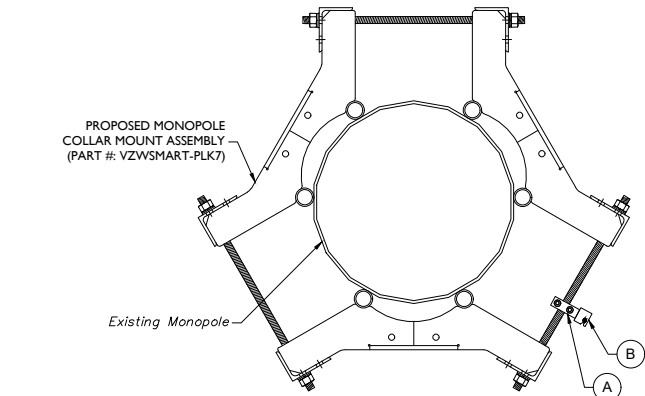
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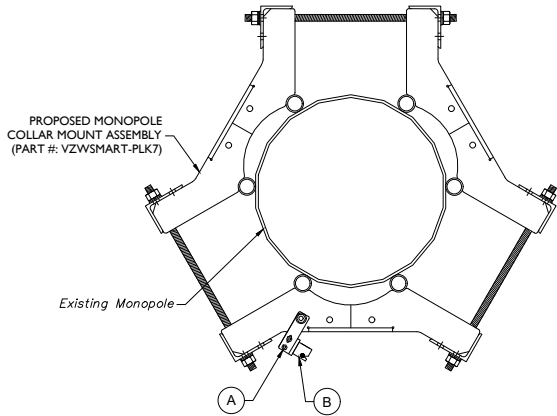
1 CLIMBING FACILITY LOCATION
SCALE : N.T.S.

STRUCTURAL NOTES:

- PER THE MOUNT MAPPING COMPLETED BY RKS DESIGN & ENGINEERING, LLC ON 11/8/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (124.8') ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- 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	PV-SCRB-RM-U	ROUTING BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)



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.)

PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW
SCALE : N.T.S.

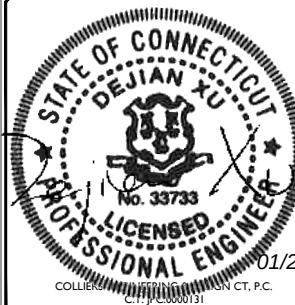
- 2 NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.



Existing Safety Climb
Existing Climbing Facility

CLIMBING FACILITY PHOTO

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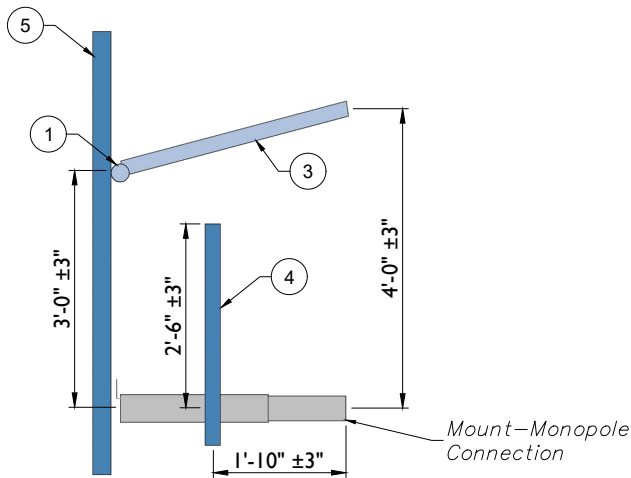
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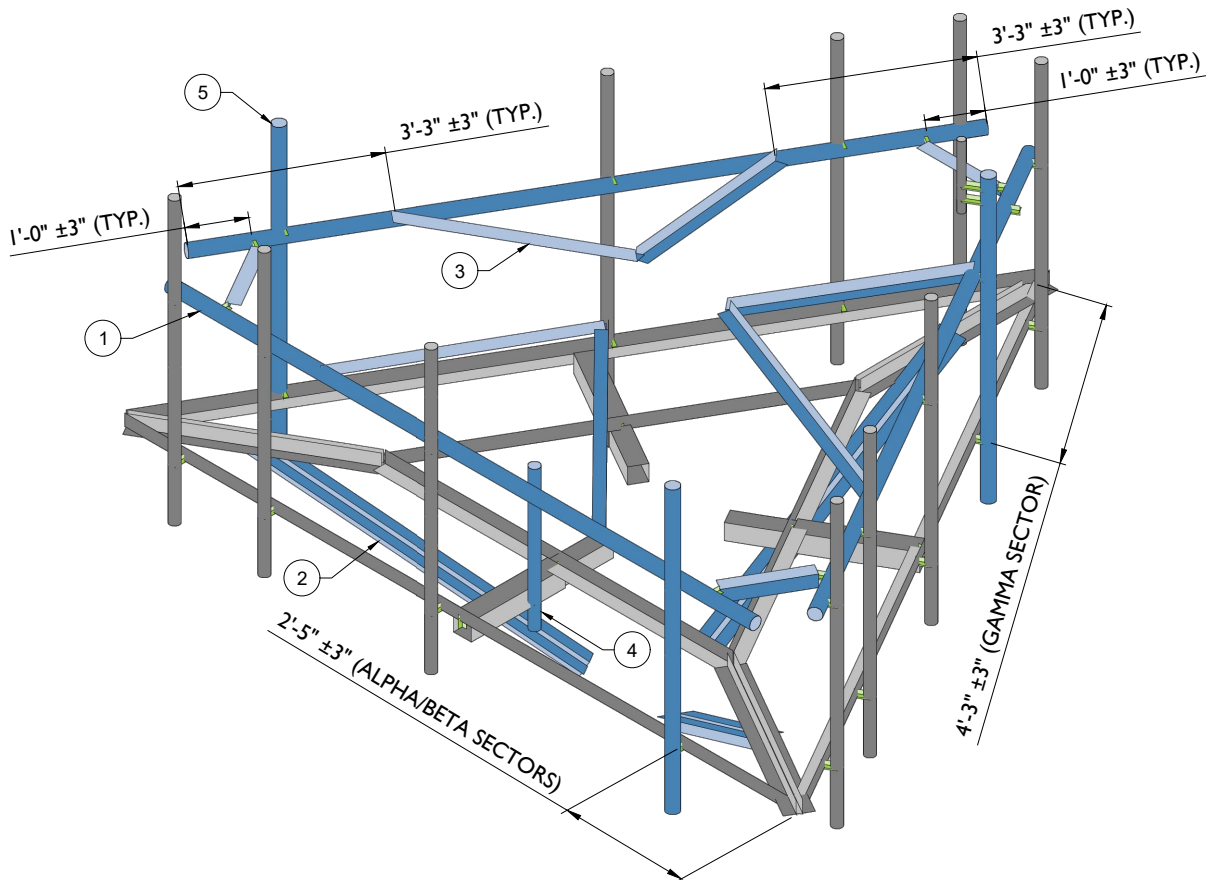
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LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

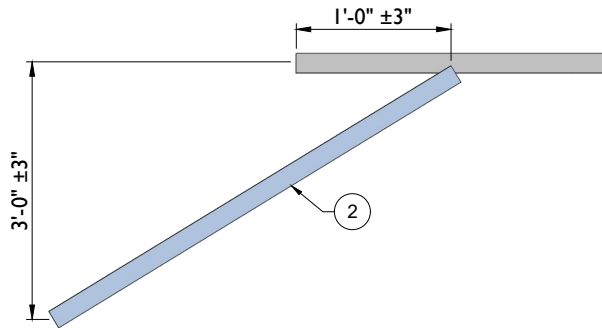


1 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)
SCALE : N.T.S.

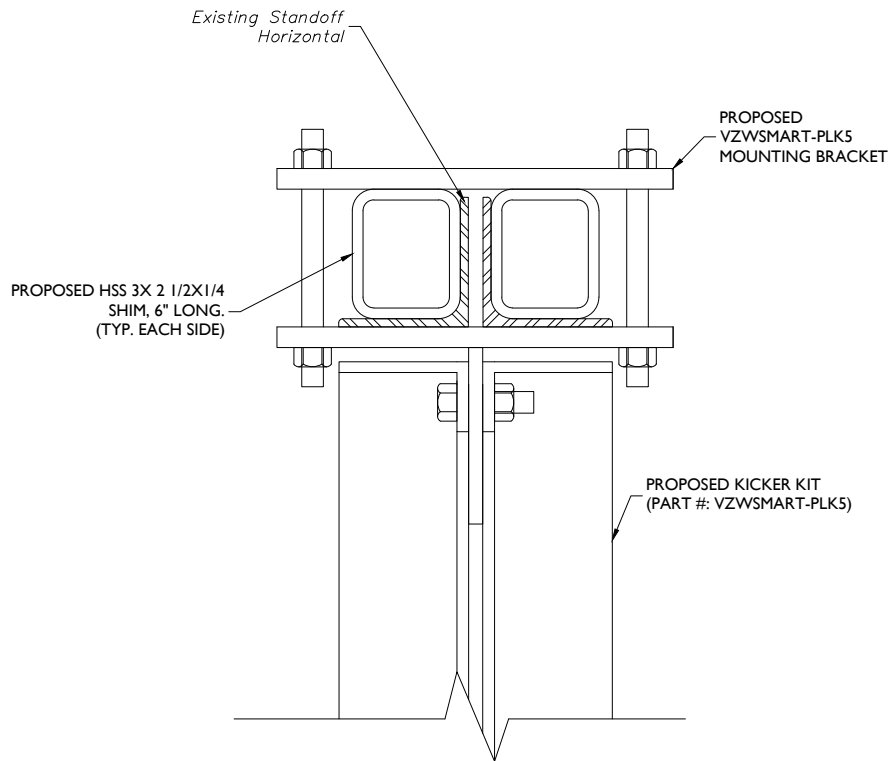


2 PROPOSED ISOMETRIC VIEW
SCALE : N.T.S.

MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	124.8'	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. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOHTER MOUNT PIPE. PROPOSED CROSSOVER PLATE (VZWSMART-MSK1) TO BE USED TO ATTACH MOUNT PIPE TO PROPOSED SUPPORT RAIL.
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.
3		3	PROPOSED V-BRACING KIT FOR MONOPOLE (PART #: VZWSMART-PLK6)	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 V-BRACING KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.
4		1	PROPOSED 48" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X048)	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK6). CONTRACTOR SHALL TRIM THE GRATINGS AROUND PROPOSED PIPE AND BRACKET IF REQUIRED. ALPHA SECTOR ONLY.
5		3	PROPOSED 96" LONG, PIPE 2.5 SCH40 (PART #: VZWSMART-P40-278X096)	CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH EXISTING CONNECTION HARDWARE AND NEW BOLTING HARDWARE.
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.				



3 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)
SCALE : N.T.S.



4 KICKER TO STANDOFF CONNECTION DETAIL
SCALE : N.T.S.

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MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4

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ONLY

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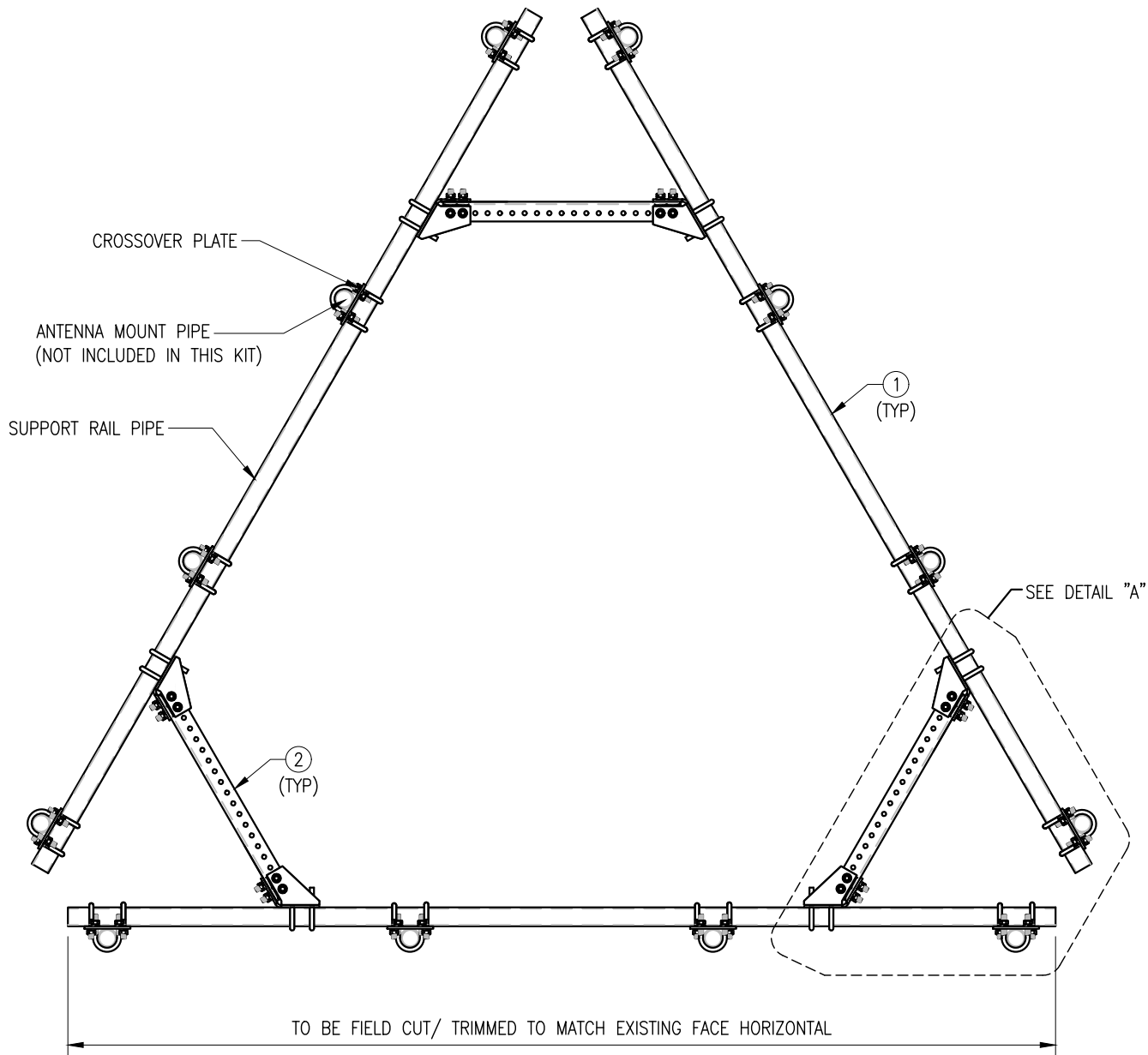
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△	FIRST ISSUE	H.R.	05/08/20
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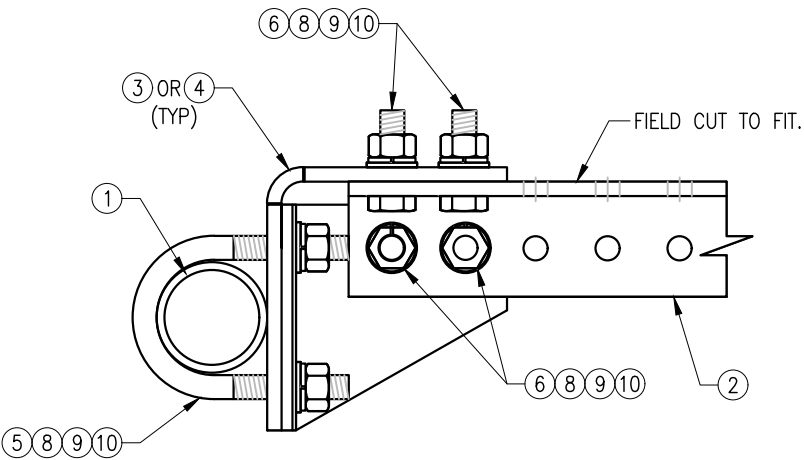
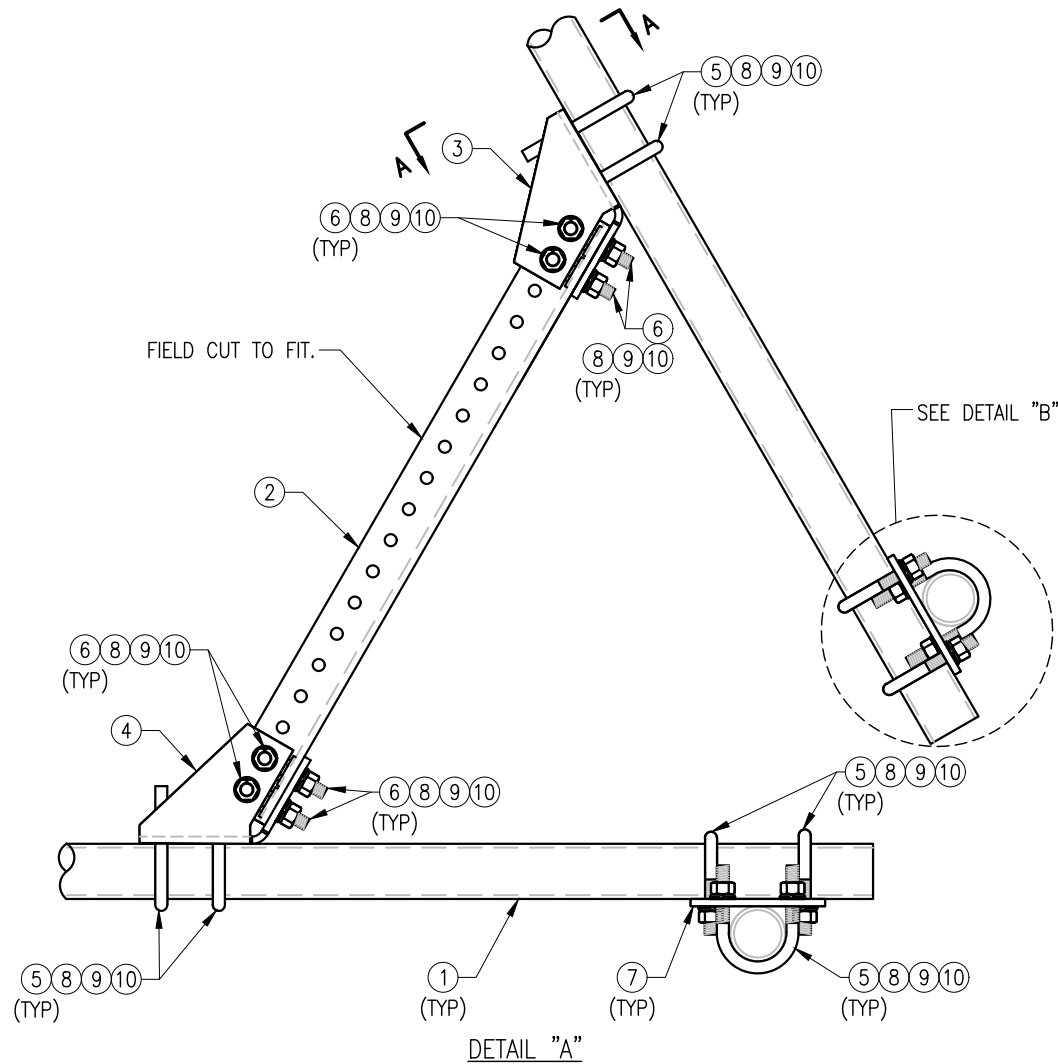
VZWSMART-PLK1
SUPPORT RAIL KIT

SHEET NUMBER: REV #:

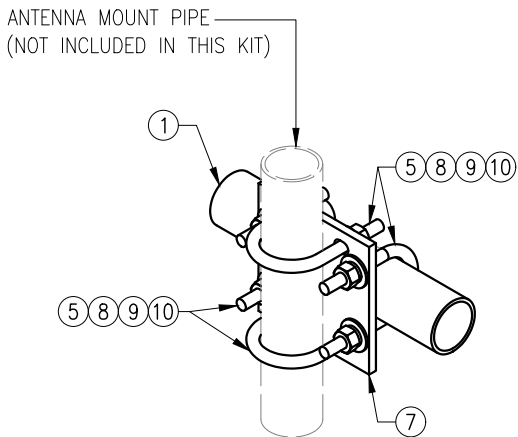
VZWSMART-PLK1 0



PLAN VIEW



SECTION "A-A"

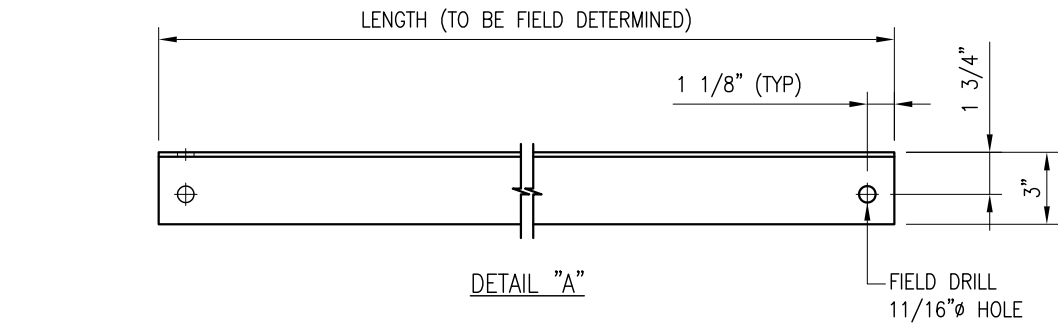
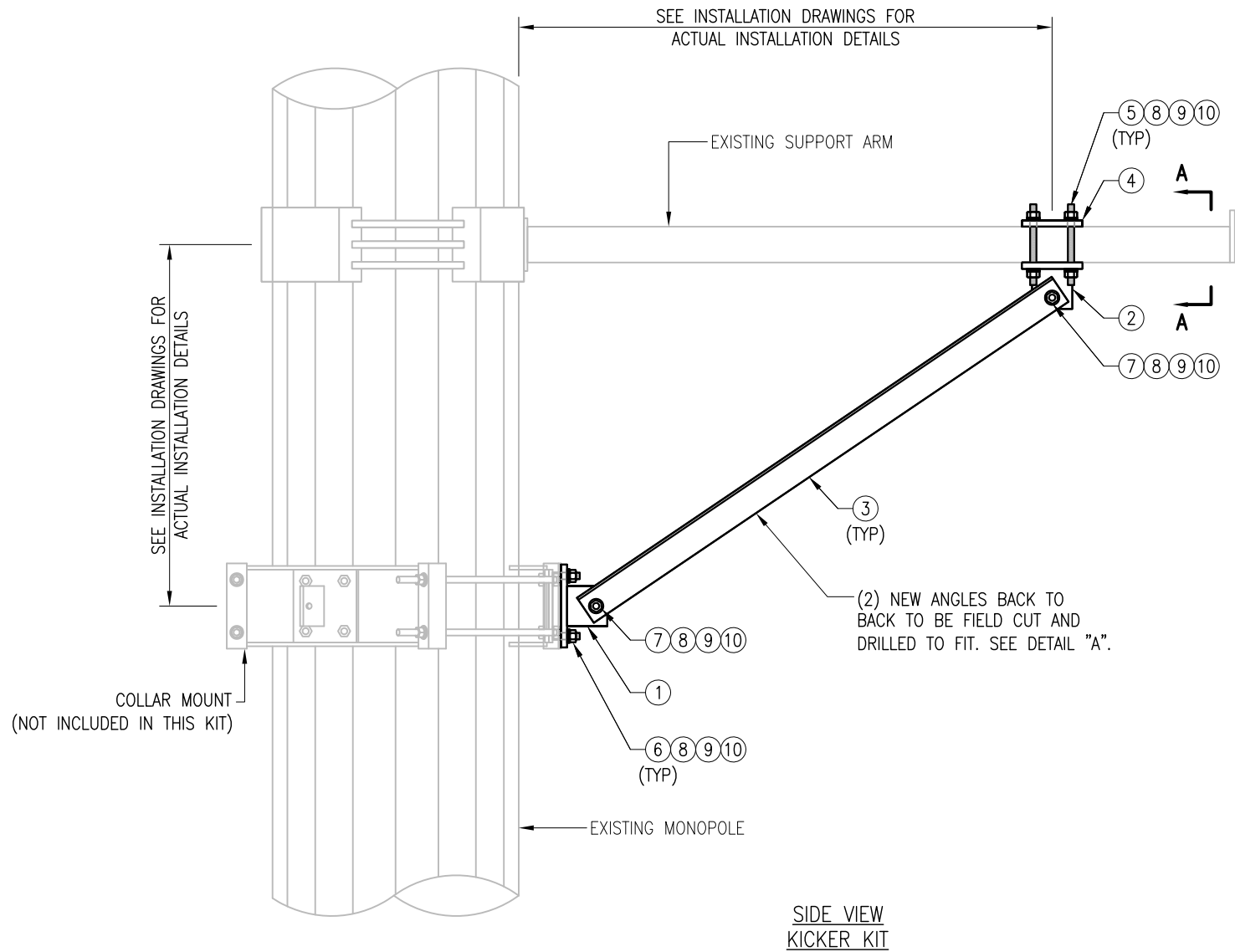


DETAIL "B"

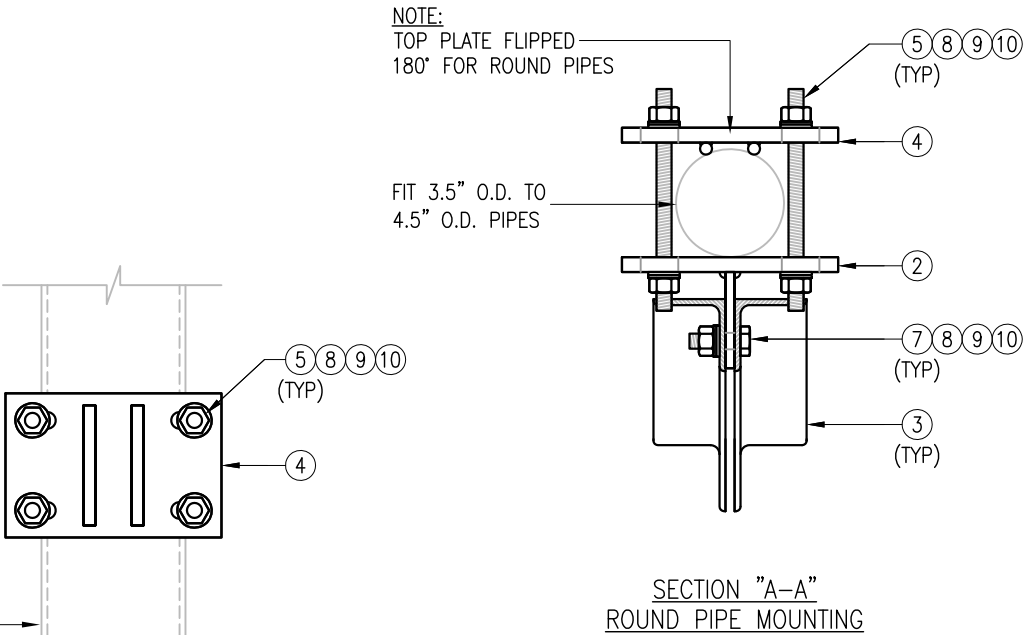
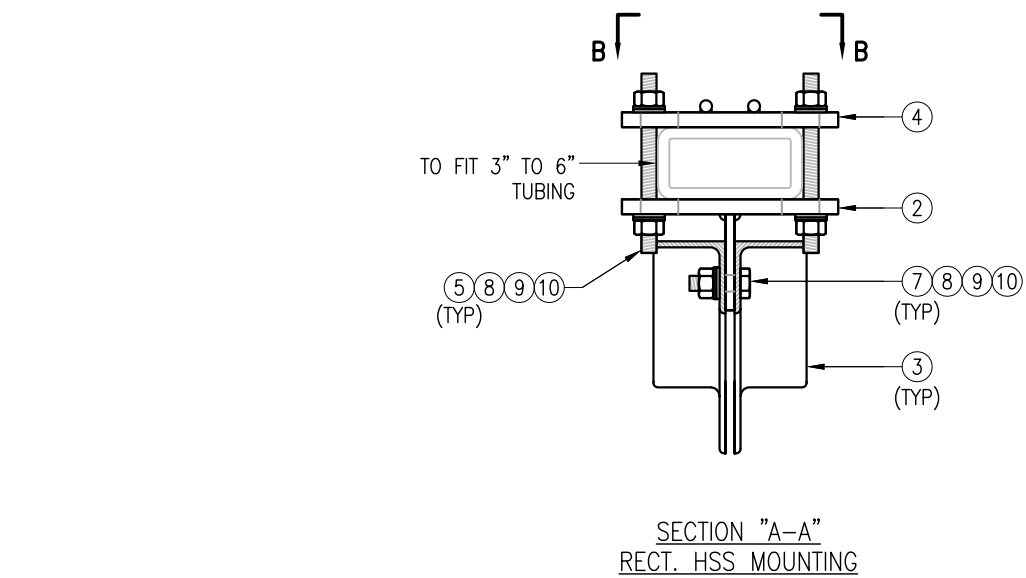
NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

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

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.



- 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



SECTION "B-B"

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
1	FIRST ISSUE	MN	05/08/20

SHEET TITLE:

VZWSMART-PLK5
KICKER KIT

SHEET NUMBER:
VZWSMART-PLK5

REV #:
0



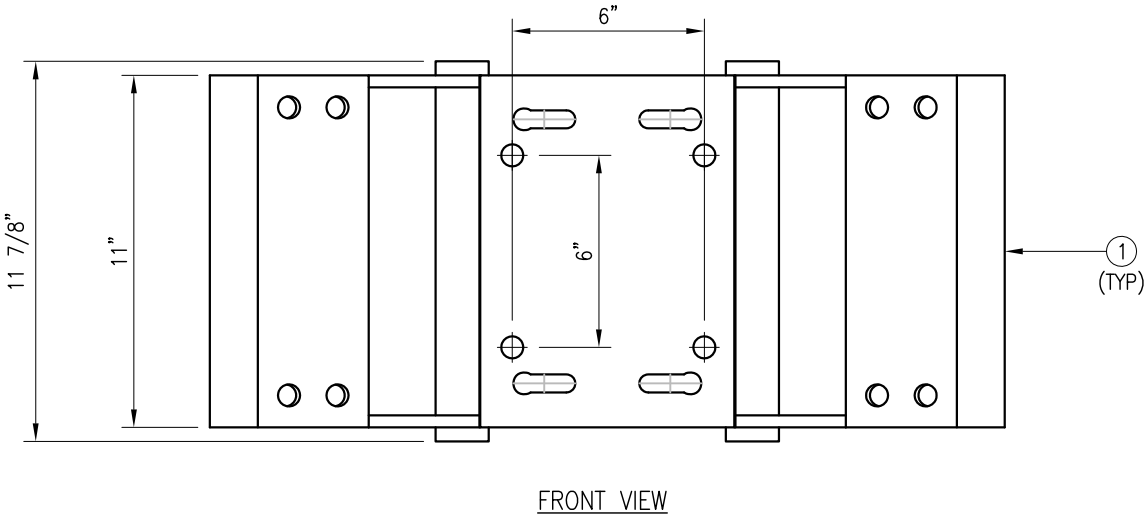
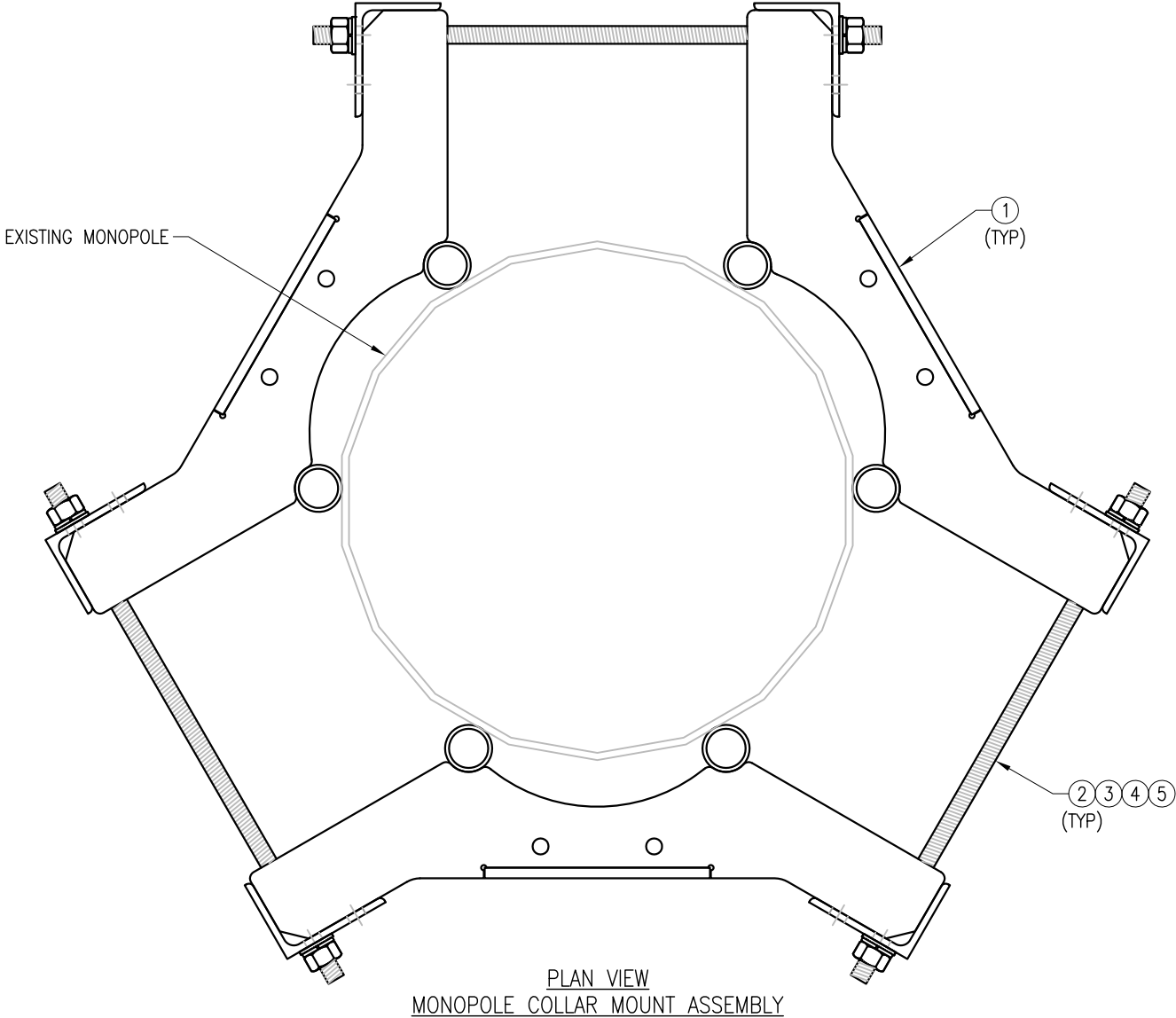
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ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

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

SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7	REV #: 0
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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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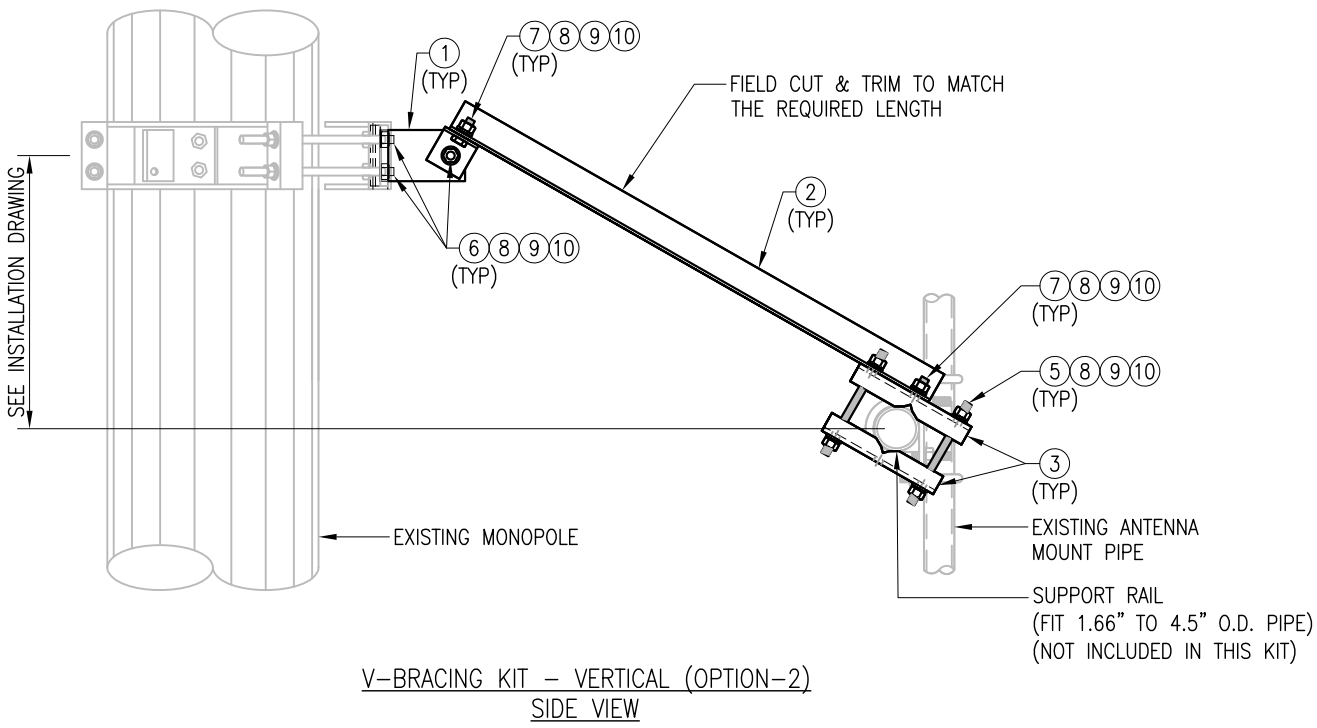
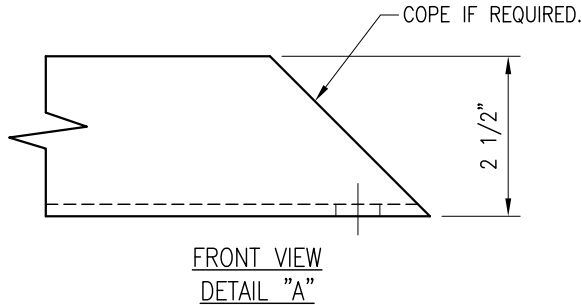
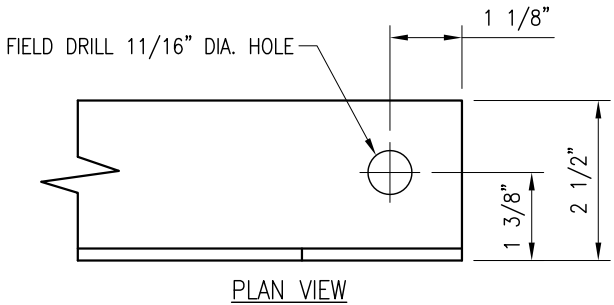
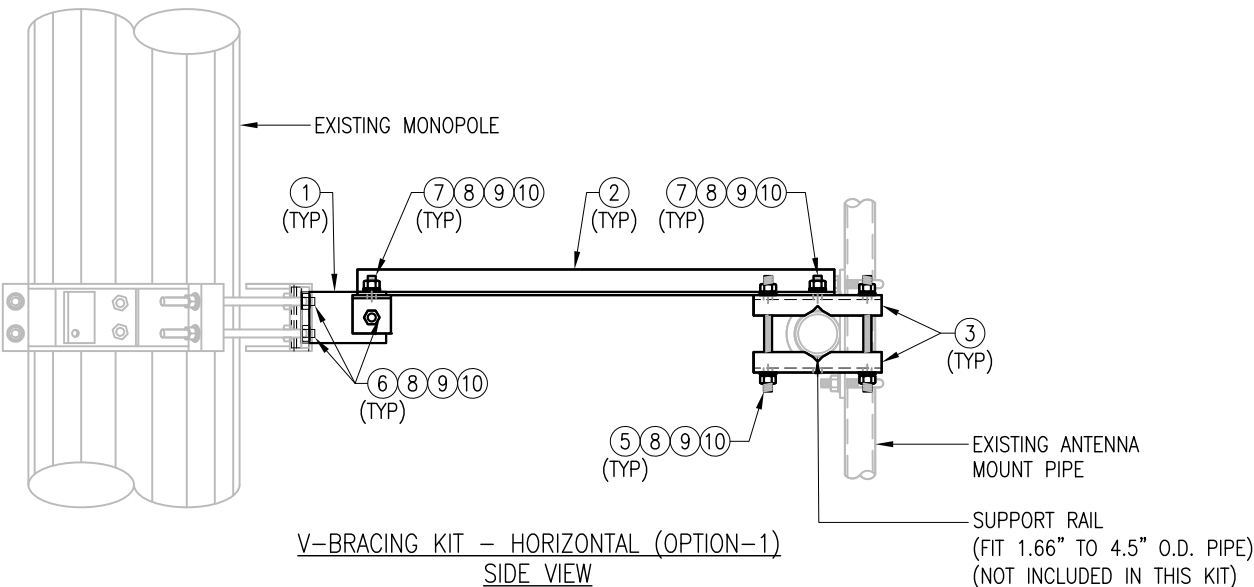
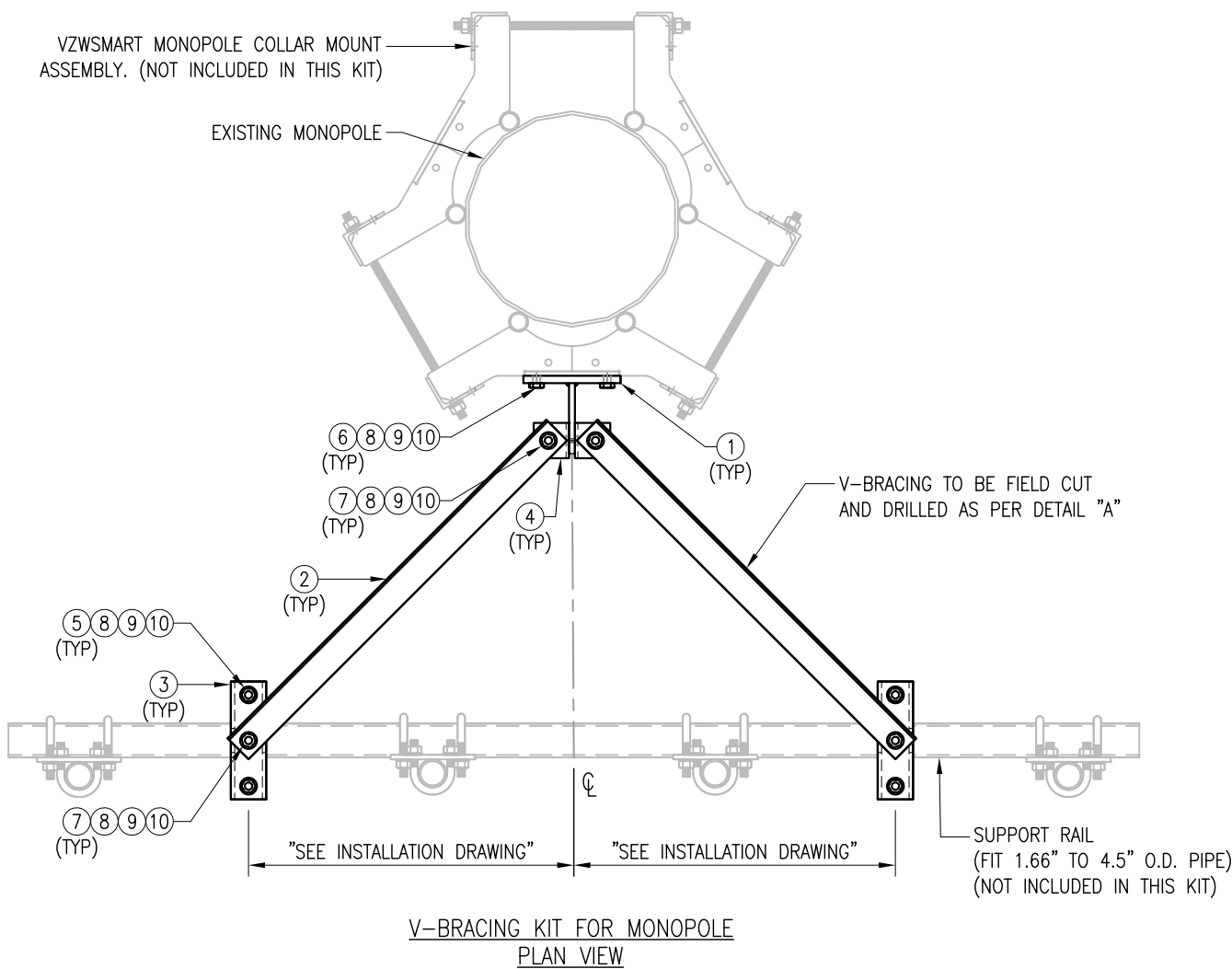
DRAWN BY: FL CHECKED BY: KL/BT

REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	FL	04/13/21
△			
△			
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SHEET TITLE:
VZSMART-PLK6
V-BRACING KIT FOR
MONOPOLE

SHEET NUMBER:
VZSMART-PLK6

REV #:
0



VZSMART-PLK6 (V-BRACING KIT FOR MONOPOLE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	BRKW-6A	WELDMENT BRACKET	PLK6-F1	16
2	2	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	PLK6-F2	67
3	4	BP6875-10	PL 3/8" X 6 7/8" X 10" A36 BENT PLATE	PLK6-F2	20
4	2	AL-333	L 3" X 3" X 1/4" X 3" A36	PLK6-F2	3
5	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---
6	5	---	BOLT 5/8" X 2 1/4" A325	---	---
7	4	---	BOLT 5/8" X 1 3/4" A325	---	---
8	17	FW-625	5/8" HDG USS FLAT WASHER	---	2
9	17	LW-625	5/8" HDG LOCK WASHER	---	0
10	17	NUT-625	5/8" HDG HEX NUT	---	2
GALVANIZED WT					109

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



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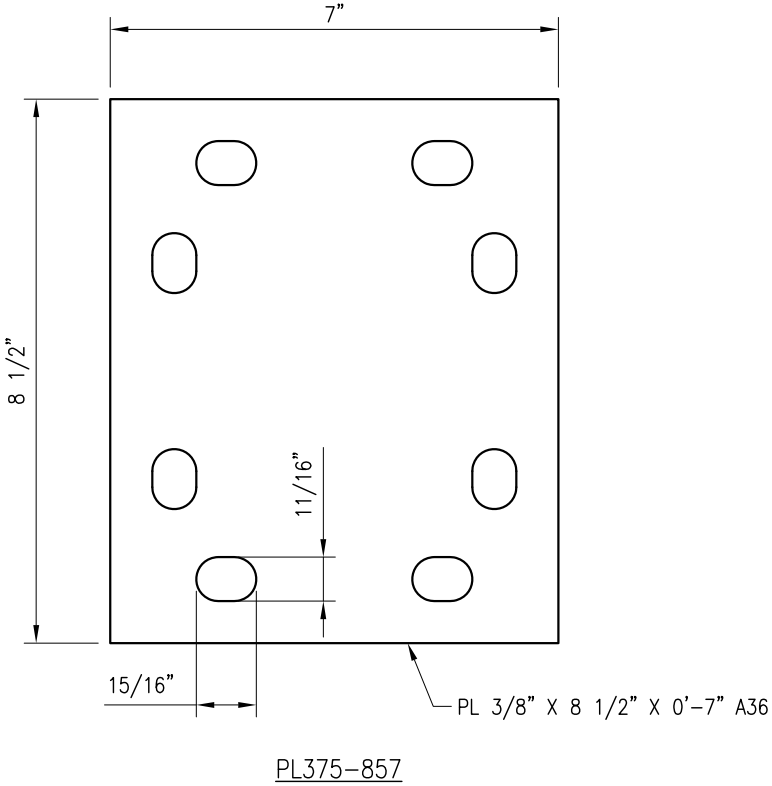
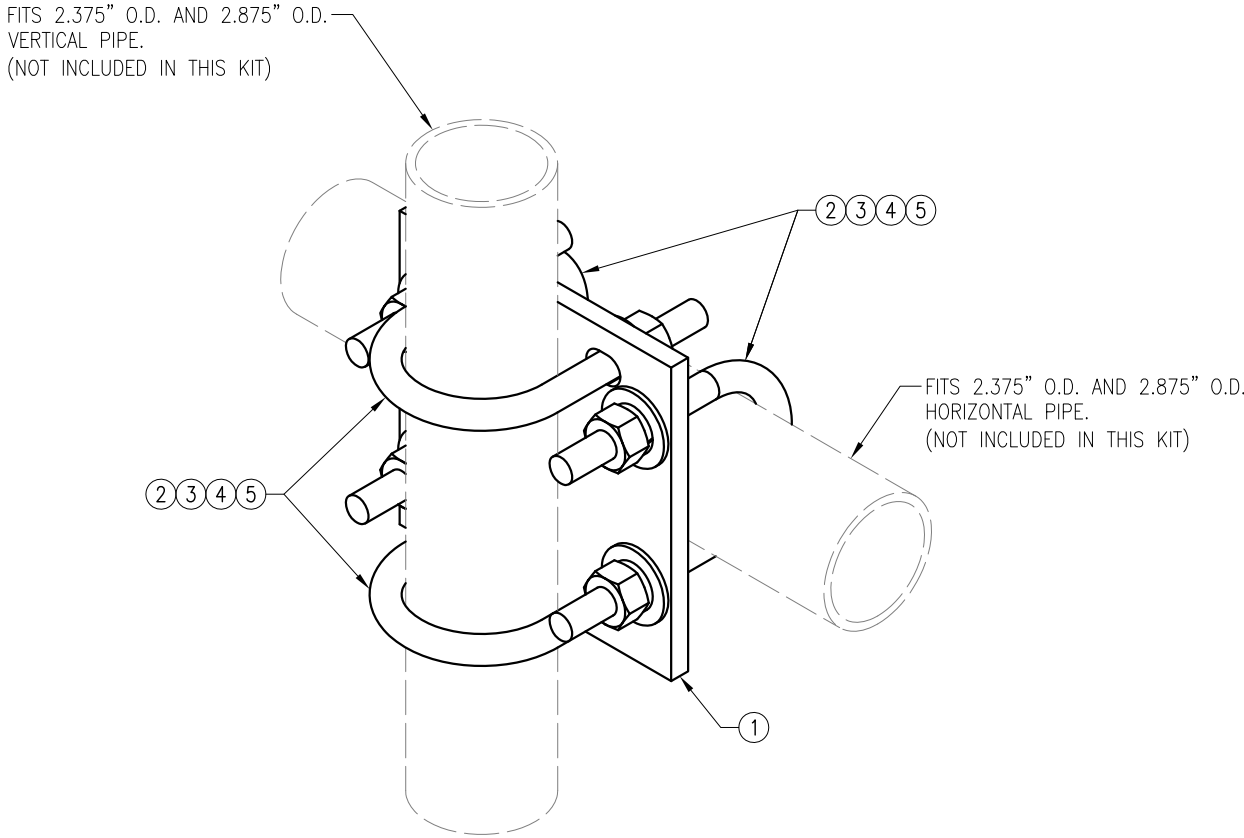
DRAWN BY: H.R CHECKED BY: HMA

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

SHEET TITLE:

VZWSMART-MSK1
CROSSOVER PLATE

SHEET NUMBER: VZWSMART-MSK1	REV #: 0
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VZWSMART-MSK1 (CROSSOVER PLATE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-857	PL 3/8" X 8 1/2" X 0'-7" A36	MSK1-F1	6
2	4	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	5
3	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	8	LW-625	5/8" HDG LOCK WASHER	---	0
5	8	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					14

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



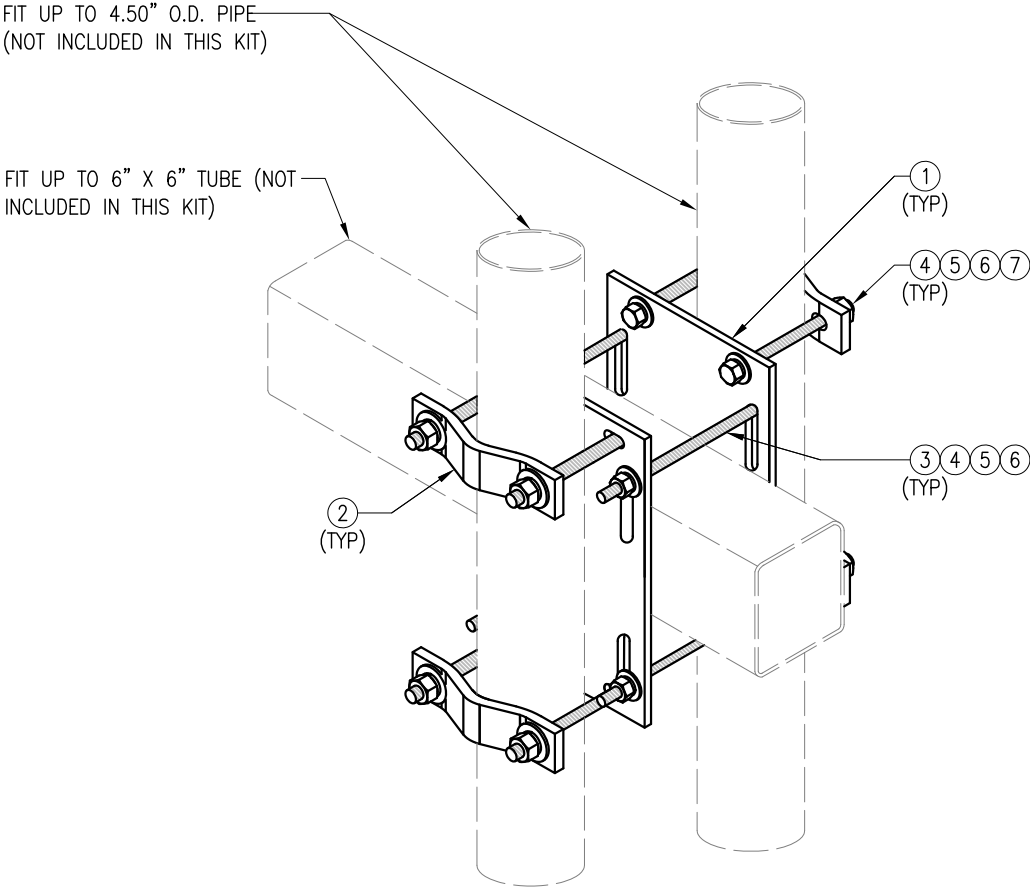
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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	SK	05/08/20

SHEET TITLE:
VZWSMART-MSK6
BACK TO BACK
CROSSOVER

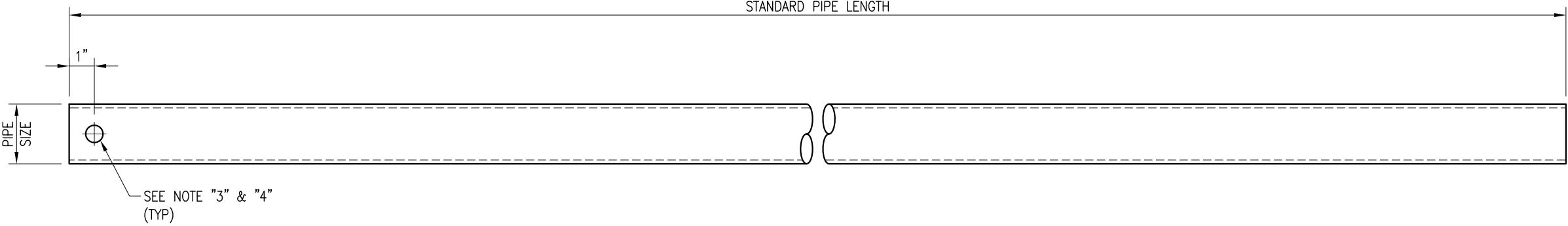
SHEET NUMBER: VZWSMART-MSK6	REV #: 0
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ISOMETRIC VIEW
BACK TO BACK CROSSOVER

VZWSMART-MSK6 (VZWSMART-MSK6 - BACK TO BACK CROSSOVER)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	PL375-8512	PL 3/8" X 8 1/2" X 1'-0" A36	MSK6-F2	20.7
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6-F1	9.6
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---
4	16	NUT-625	5/8" HDG HEX NUT	---	2
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	8	---	BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD	---	1
GALVANIZED WT					34

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



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.
 3. ALL HOLES ARE 11/16" DIA. U.N.O
 4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
 5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

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DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

SHEET TITLE:

VZWSMART
STANDARD PIPE

SHEET NUMBER: REV #:

VZWSMART-PIPE

0

EXHIBIT G

Power Density / RF Emissions Report



FOX HILL TELECOM

Radio Frequency Emissions Analysis Report

Prepared for:



Crown Site ID: 876315_Oak Lane CC Inc Tower SSUSA

Verizon Wireless Site Name: Woodbridge S CT

Verizon Wireless FUZE ID: 16244090

Site Address:

1027 Racebrook Road
Woodbridge, CT 06525

April 28, 2024

Fox Hill Telecom Project Number: 240106

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	9.26 %



April 28, 2024

Crown Castle
1800 W. Park Drive
Westborough, MA 01581

Emissions Analysis for:

Crown Castle Site: 876315 – Oak Lane CC Inc Tower SSUSA

Verizon Wireless Site: Woodbridge S CT

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed upgrades for Verizon Wireless to the Crown Castle facility located at **1027 Racebrook Road, Woodbridge, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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



General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 MHz band & the 850 MHz cellular band are approximately $497 \mu\text{W}/\text{cm}^2$ and $586 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 3700 MHz (C band) frequency bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report 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 **1027 Racebrook Road, Woodbridge, 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

$$S = \frac{33.4 \text{ ERP}}{R^2}$$

S = Power Density (in $\mu\text{w}/\text{cm}^2$)

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



FOX HILL TELECOM

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	JMA MX06FHG865-HG	127
A	2	JMA MX06FHG865-HG	127
A	3	Samsung MT6413-77A	127
B	1	JMA MX06FHG865-HG	127
B	2	JMA MX06FHG865-HG	127
B	3	Samsung MT6413-77A	127
C	1	JMA MX06FHG865-HG	127
C	2	JMA MX06FHG865-HG	127
C	3	Samsung MT6413-77A	127

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	JMA MX06FHG865-HG	700 MHz / 850 MHz	15.05 / 15.45	8	320	10,730.26	1.53
Antenna A2	JMA MX06FHG865-HG	1900 MHz (PCS) / 2100 MHz (AWS)	17.35 / 17.85	8	320	18,444.60	0.78
Antenna A3	Samsung MT6413-77A	3700 MHz (C Band)	23.1	2	320	66,092.16	1.96
Antenna A4	Antel BXA-70080-4CF (Dormant)	NA	NA	0	0	0.00	0.00
Sector A Composite MPE%							4.27
Antenna B1	JMA MX06FHG865-HG	700 MHz / 850 MHz	15.05 / 15.45	8	320	10,730.26	1.53
Antenna B2	JMA MX06FHG865-HG	1900 MHz (PCS) / 2100 MHz (AWS)	17.35 / 17.85	8	320	18,444.60	0.78
Antenna B3	Samsung MT6413-77A	3700 MHz (C Band)	23.1	2	320	66,092.16	1.96
Antenna B4	Antel BXA-80063/4CF (Dormant)	NA	NA	0	0	0.00	0.00
Sector B Composite MPE%							4.27
Antenna C1	JMA MX06FHG865-HG	700 MHz / 850 MHz	15.05 / 15.45	8	320	10,730.26	1.53
Antenna C2	JMA MX06FHG865-HG	1900 MHz (PCS) / 2100 MHz (AWS)	17.35 / 17.85	8	320	18,444.60	0.78
Antenna C3	Samsung MT6413-77A	3700 MHz (C Band)	23.1	2	320	66,092.16	1.96
Antenna C4	Antel BXA-80063/4CF (Dormant)	NA	NA	0	0	0.00	0.00
Sector C Composite MPE%							4.27

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	4.27 %
T-Mobile	2.18 %
AT&T	2.81 %
Site Total MPE %:	9.26 %

Table 4: All Carrier MPE Contributions

Verizon Wireless Sector A Total:	4.27 %
Verizon Wireless Sector B Total:	4.27 %
Verizon Wireless Sector C Total:	4.27 %
Site Total:	9.26 %

Table 5: Site MPE Summary



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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 ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Verizon Wireless 700 MHz LTE	4	1,279.56	127	4.17	700 MHz	497	0.84%
Verizon Wireless 850 MHz LTE / 5G	4	1,403.01	127	4.04	850 MHz	586	0.69%
Verizon Wireless 1900 MHz (PCS) LTE	4	2,173.00	127	3.90	1900 MHz (PCS)	1000	0.39%
Verizon Wireless 2100 MHz (AWS) LTE	4	2,438.15	127	3.90	2100 MHz (AWS)	1000	0.39%
Verizon Wireless 3700 MHz (C Band) 5G	2	33,046.08	127	19.60	3700 MHz (C Band)	1000	1.96%
						Total:	4.27 %

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:	4.27 %
Sector B:	4.27 %
Sector C:	4.27 %
Verizon Wireless Maximum Total (per sector):	4.27 %
Site Total:	9.26 %
Site Compliance Status:	COMPLIANT

The estimated composite emissions value for this site, assuming all carriers present, is **9.26 %** 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

Bachi, Jenifer

From: TrackingUpdates@fedex.com
Sent: Wednesday, July 10, 2024 10:10 AM
To: Bachi, Jenifer
Subject: FedEx Shipment 777301064370: Your package has been delivered / 876315 FE To 1st Selectman

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Hi. Your package was
delivered Wed, 07/10/2024 at
10:00am.



OBTAIN PROOF OF DELIVERY

How was your delivery ?



TRACKING NUMBER	777301064370
FROM	KING OF PRUSSIA, PA, US
TO	WOODBIDGE, CT, US
SHIP DATE	Tue 7/09/2024 06:17 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Pak
ORIGIN	KING OF PRUSSIA, PA, US
DESTINATION	WOODBIDGE, CT, US
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



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FROM	KING OF PRUSSIA, PA, US
TO	WOODBIDGE, CT, US
SHIP DATE	Tue 7/09/2024 06:17 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Pak
ORIGIN	KING OF PRUSSIA, PA, US
DESTINATION	WOODBIDGE, CT, US
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



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Bachi, Jenifer

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To: Bachi, Jenifer
Subject: FedEx Shipment 777301217646: Your package has been delivered / 876315 FE to Prop Owner

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FROM	KING OF PRUSSIA, PA, US
TO	WOODBIDGE, CT, US
SHIP DATE	Tue 7/09/2024 06:17 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Pak
ORIGIN	KING OF PRUSSIA, PA, US
DESTINATION	WOODBIDGE, CT, US
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



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CROWN CASTLE
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SUITE 150
KING OF PRUSSIA, PA 19406
UNITED STATES US

SHIP DATE: 10JUL24
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

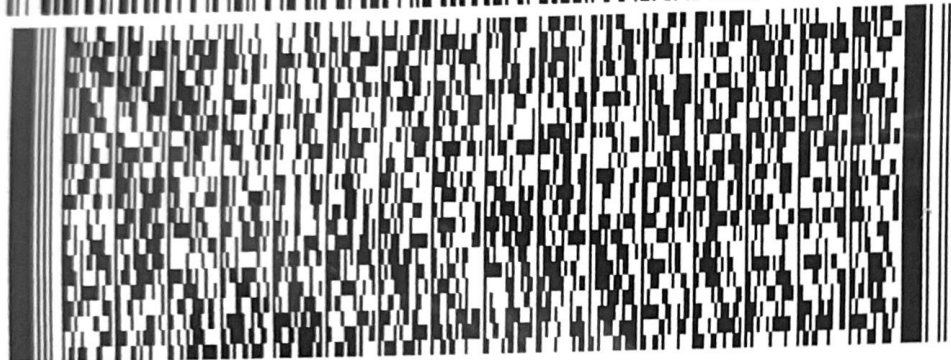
REF: 1766.668

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PO: 876315 VERIZON

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