Robinson+Cole

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Also admitted in Massachusetts
and New York

September 25, 2024

Via Electronic Mail

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

Re: **Notice of Exempt Modification – Facility Modification**
80 Lonetown Road, Redding, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above-referenced property address (the "Property"). The facility consists of antennas on an existing tower and associated equipment on the ground, near the base of the tower. The tower was approved by the Town of Redding ("Town") in August of 1984. Cellco's share use of the tower was approved by the Siting Council ("Council") in November of 1993 (Petition No. 311). A copy of the Town's approval and Council's Petition No. 311 Staff Report are included in Attachment 1.

Cellco now intends to modify its facility by removing six (6) antennas and six (6) remote radio heads ("RRHs") and installing three (3) new antennas and six (6) new RRHs on its existing antenna mounts. A set of project plans showing Cellco's proposed facility modifications and the specifications for Cellco's new antennas and RRHs are included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Redding's Chief Elected Official and Land Use Officer. A copy of this letter is being sent to Andrew and Elizabeth Mound, the owners of the tower and the Property.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's new antennas and RRHs will be installed at the same height on the tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

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

4. The installation of Cellco's new antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Included in Attachment 3 is a Calculated Radio Frequency Emissions Report demonstrating that the proposed modified facility will comply with the FCC safety standards. The modified facility will be capable of providing Cellco's 5G wireless service.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. According to the attached Structural Analysis Report ("SA") and Antenna Mount Analysis Report ("MA"), the existing tower, tower foundation and antenna mounts, with certain modifications, can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4.

A copy of the parcel map and Property owner information is included in Attachment 5. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 6.

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Julia Pemberton, First Selectwoman
Amiee Pardee, Land Use Director
Andrew and Elizabeth Mound, Property Owners
Aleksey Tyurin

ATTACHMENT 1

TOWN OF REDDING

Redding Connecticut

Building Permits

Aug 22 19 84

No 4552

Permission is hereby granted to Francesco Giammetto owner of land

" owner of building

to erect Tower

Located at No 80 on Lot Lonetown Rd Rd. or Street

Said building is to be described in application No 4552 and according to plans and specifications filed with the Building Inspector.

This permit is granted on condition that all town ordinances and building regulations and state laws shall be complied with, and is issued subject to the following conditions

Value of the building as estimated by Building Inspector $45,000

Building Fee	$ 235
Zone Fee	$ 98
Oil Burner Fee	$
Septic Tank Fee	$
Certificate of Occupancy Fee	$ 15
Total Fees	$ 348

S Pietrangelo
Building Official

This permit expires six months from date if work is not commenced, which means that a reasonable amount of the structural work must be done of which the Building Official shall be the sole judge.

TOWN OF REDDING, CONNECTICUT

APPLICATION FOR ZONING PERMIT

FOR 120 FOOT STEEL TOWER WITH 26' DIAM. PROPELLER ON HORIZONTAL SHAFT AT TOP OF TOWER

THE UNDERSIGNED HEREBY APPLIES to the Zoning Commission for a permit to erect X, move ___, enlarge the width ___, length ___ (check one) of the structure herein described, in accordance with, and subject to, the zoning regulations of the Town of Redding, and the following statement of facts:

Name of property owner FRANCESCO A. GIANNINOTO

Location of property 80 LONETOWN ROAD REDDING, CT.

Proposed use of structure and premises GENERATE ELECTRICITY FROM WIND

Dimensions of plot: Frontage _____ Depth _____ Acreage 23.5

Distance of structure from street line, (*as defined in regulations*) 800 ± FEET (WEST)

Distance of structure from property lines:

Side line, (north) ~~or east~~ 160' EXACTLY

Side line, ~~south~~ or (west) 900' ±

(EAST) ~~Rear~~ line 300' ±

Other existing structures HOUSE, SHED, BARN

(*Give diagram showing plot size, existing structures, roads, and location of structure to be covered by this permit*)

Redding, Conn. AUGUST 22, 19 84

I hereby certify that the above statement of facts is correct, according to my best knowledge and belief, and I am familiar with the Zoning regulations applicable to this permit.

Gordon J. Giannuzzi
attorney for FRANCESCO A. GIANNINOTO, Owner

Permit issued 4552 Aug 22, 19 84

Permit number 4552 S. Pietrangelo Building Official

BUILDING OFFICE

REDDING, CONNECTICUT 06875
TEL. (203) 938-2558

OF OCCUPANCY

BUILDING PERMIT NO. 10204

DATE CERTIFICATE ISSUED 4-20-06

AUTHORIZED BY Jamie Hennessy
BUILDING OFFICIAL

DATE PERMIT ISSUED June 26, 2001

1. ASSESSOR'S MAP # 37 BLOCK # 68 LOT # G-5

2. PERMIT TO Work on Attennas (See Remarks) ( ) STORY Antennas NUMBER OR DWELLING UNITS None
(TYPE OF IMPROVEMENT) (NO.) (PROPOSED USE)

3. AT: (STREET & NO.) 80 Lonetown Rd.

4. PROPERTY OWNER MOUND, Andrew C. & Elizabeth C. ADDRESS Same

4A. PROPERTY OWNERS TEL. 938-2855 CONTRACTOR'S TEL. 203-314-1911

5. APPLICANT Chris Jardine, Proj. Mgr. LIC # MCO-900576 PHONE 203-314-1911
Construction Services of Branford

6. ADDRESS 63-3 North Branford Rd. Branford CT 06405
(NO.) (STREET) (CITY) (STATE) (ZIP CODE)

7. BUILDING IS TO BE _____ FEET WIDE BY _____ FEET LONG AREA OR VOLUME _____ (CUBIC / SQ. FEET)

8. CONSTRUCTION TYPE Wireless Communication Facility USE GROUP _____

9. REMARKS Excavate for building foundation, electrical service, telco service, expose existing tower footing and reinforce foundation to tower, pour footing and wall for building.

10.

11. OWNER Andrew C. & Elizabeth C. Mound

12. ADDRESS 80 Lonetown Rd.
REdding, CT 06896

BUILDING DEPARTMENT
TOWN OF REDDING
Jamie Hennessy
BUILDING OFFICIAL

DEPT. FILE COPY

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL
136 Main Street, Suite 401
New Britain, Connecticut 06051-4225
Phone: 827-7682

Petition No. 311
Metro Mobile CTS of Fairfield County, Inc.
Redding, Connecticut
Staff Report
November 9, 1993

Metro Mobile CTS of Fairfield County, Inc. (Metro Mobile) is petitioning the Connecticut Siting Council (Council) for a declaratory ruling that the proposed installation of cellular antennas on an existing 120-foot wind tower at 80 Lonetown Road in Redding, Connecticut would not have a substantial adverse environmental effect and therefore would not require a Certificate of Environmental Compatibility and Public Need from the Council. On November 8, 1993, Chairman Mortimer A. Gelston and Gloria Dibble Pond of the Council and Robert K. Erling of the Council staff reviewed this petition.

Metro Mobile proposes to install four whip type transmit/receive antennas, mounted on two side arms between 100 and 110 feet above ground level on the existing lattice tower. The attached antennas would not extend above the top of the tower. Metro Mobile would construct a 6-foot by 2.5-foot by 6-foot self-contained enclosure with radio equipment near the base of the existing tower. The enclosure would be surrounded by an eight-foot high security fence. A building permit would be obtained from the Town of Redding.

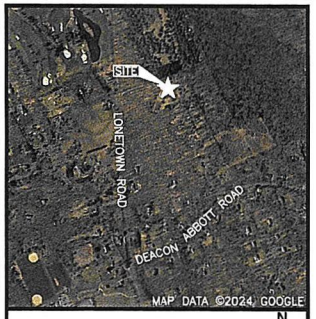
The wind power facility, constructed in the mid-1980s, produces power for the residence on the proposed site, with excess power being sold to Northeast Utilities. The proposed antennas would be mounted below the wooden blades of the wind power facility. Metro Mobile does not expect any interference with cellular communications from the operation of the wind-powered equipment.

Metro Mobile contends that this project would have no effect on the ecology of the site, maximum radio frequency power density levels would be well below state standards, the proposed installation would not increase noise levels at the site boundary by six decibels or more, and the boundaries of the site would not be extended by the project.

Robert K. Erling
Senior Siting Analyst

0270H

ATTACHMENT 2



VICINITY MAP

SCALE: N.T.S.

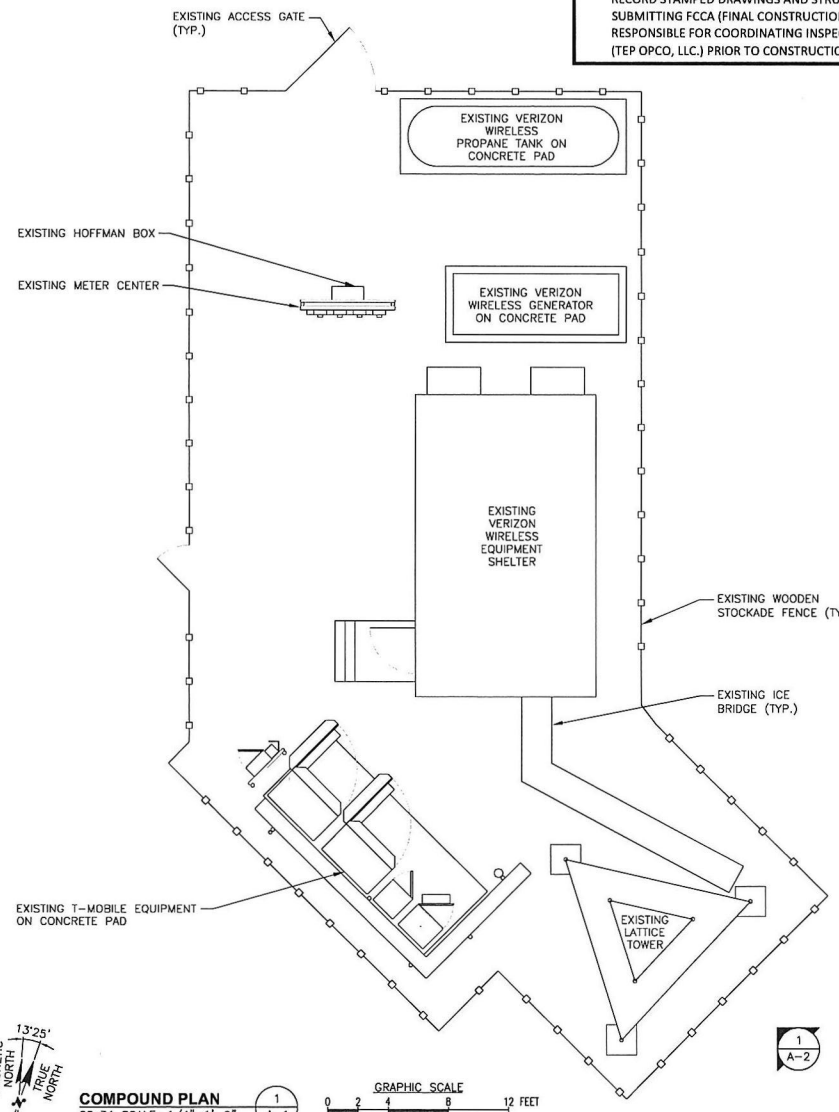
APPROXIMATE COORDINATES:	LATITUDE:	N41° 19' 04.02" N41.327783
	LONGITUDE:	W73° 23' 00.03" W73.383342

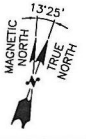
NOTE:

AN ANALYSIS OF THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY COLLIERS ENGINEERING & DESIGN.
DATED: JUNE 05, 2024 (REV. 3)

NOTE:

AN ANALYSIS OF THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY TEP NORTHEAST(TEP OPCO, LLC)
DATED: JUNE 26 2024 (Rev.5)





COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"

GRAPHIC SCALE
0 2 4 8 12 FEET

NOTE TO GENERAL CONTRACTOR: (PRIOR TO CONSTRUCTION COMPLETION)

- TEP NORTHEAST (TEP OPCO, LLC.) TO PERFORM POST/CLIMB AND INSPECTION TO CONFIRM PROPOSED INSTALLATION COMPLIES WITH THE RECORD STAMPED DRAWINGS AND STRUCTURAL REPORTS PRIOR TO SUBMITTING FCCA (FINAL CONSTRUCTION CONTROL AFFIDAVIT). GC IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH TEP NORTHEAST (TEP OPCO, LLC.) PRIOR TO CONSTRUCTION BEING COMPLETED.

FIELD INSPECTION DATE: 01-09-2024

SCOPE

1. EXISTING (6) ANTENNAS TO BE REMOVED, EXISTING (6) ANTENNAS TO REMAIN, INSTALL (3) PROPOSED ANTENNAS W/CLIP-ON RRH PER 'RF'.
2. EXISTING (6) RRH'S TO BE REMOVED, INSTALL (6) PROPOSED RRH'S PER 'RF'.
3. EXISTING (2) OVP TO REMAIN PER 'RF'.
4. EXISTING (2) HYBRID CABLES TO REMAIN PER 'RF'.
5. ALL EXISTING COAX CABLES TO BE REMOVED PER 'RF'.
6. ALL REPLACEMENT ANTENNAS TO MATCH EXISTING CONDITION & HEIGHTS.
7. RECONFIGURE/RELOCATE EXISTING ANTENNA MOUNTS AS NECESSARY TO ACCOMMODATE HORIZONTAL SEPARATION, PROPOSED AZIMUTHS, AND ANTENNAS CONFIGURATION.

NEW ANTENNA CONFIGURATION

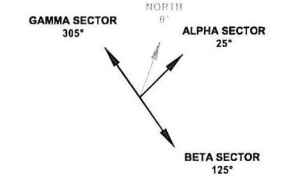
NOTE TO GENERAL CONTRACTOR:

'RF' DESIGN AND EQUIPMENT IS BASED UPON **RFDS ISSUED BY VZW DATED: MARCH 21, 2024 REV#6**
THE CONTRACTOR OF RECORD SHALL CONTACT VZW PRIOR TO ANY AND ALL ORDERING/PURCHASING/INSTALLATION OF EQUIPMENT TO VERIFY THAT THE 'RF' LISTED IN THE DRAWING SET IS CURRENT AND UP TO DATE.

NOTES

1. NORTH SHOWN AS APPROXIMATE.
2. SOME EXISTING & PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
3. ANTENNAS WILL BE CAMOUFLAGED WITH 3M WRAP, AS NEEDED, PER VERIZON WIRELESS AND BUILDING OWNER'S APPROVAL.
4. PRIOR TO COMMENCEMENT OF ANY WORK, PROPOSED ANTENNA INSTALLATION IS PURSUANT TO FINDINGS DICTATED IN STRUCTURAL ANALYSIS. STRUCTURAL ANALYSIS TO VERIFY CAPACITY OF EXISTING STRUCTURE TO ENSURE STRUCTURAL INTEGRITY FOLLOWING INSTALLATION OF PROPOSED ANTENNAS, COAX CABLES AND REQUIRED HARDWARE. COPY OF STRUCTURAL ANALYSIS TO BE SENT TO DESIGN ENGINEER.
5. CONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, VERIZON WIRELESS ANTENNA MOUNT LOCATION AND ANTENNAS TO BE INSTALLED.
6. CONTRACTOR SHALL NOTIFY ENGINEERS IF FIELD CONDITIONS DIFFER FROM DESIGN.
7. RAD CENTERS MEASURED IN THE FIELD WITH LASER BY HDG. RAD CENTERS MAY NOT MATCH RF ANTENNA DESIGN SHEET.

ANTENNA ORIENTATION



PREPARED FOR: CELLCO PARTNERSHIP D.B.A
verizon

TEP NORTHEAST
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

STATE OF CONNECTICUT
DANIEL P. HAMM
No.24178
LICENSED PROFESSIONAL ENGINEER
CONSTRUCTION DRAWINGS ARE ONLY FOR SIX MONTHS AFTER EVALUATION OF RECORDS STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN

CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

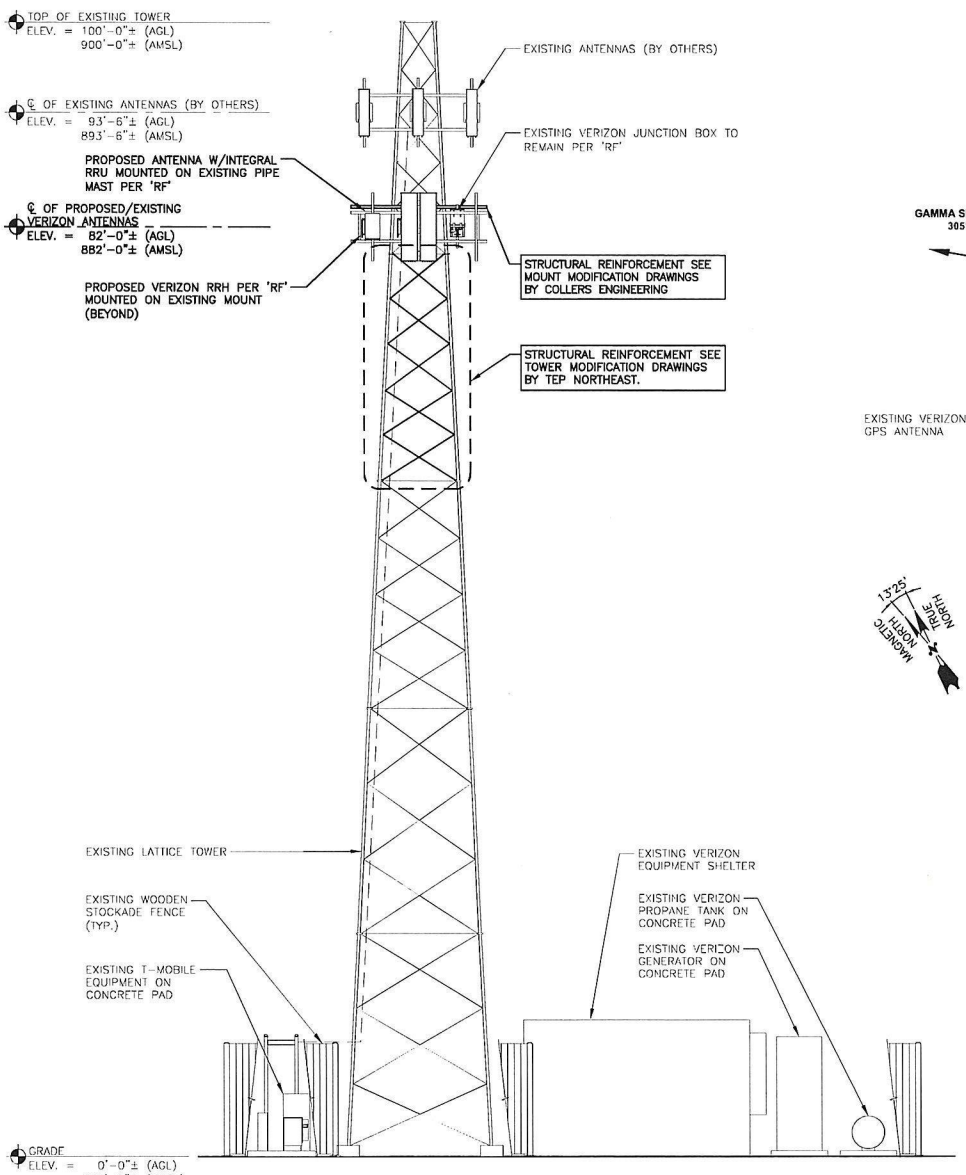
REV.	DATE	DESCRIPTION	BY
3	07/08/24	REVISED PER NEW RFDS	GA
2	02/20/24	REVISED PER NEW RFDS	GA
1	04/21/21	REV. FOR EQUIPMENT BY OTHERS	SLY
0	03/03/21	FOR CONSTRUCTION	DS

SITE NAME:
REDDING CT

SITE ADDRESS:
80 LONETOWN ROAD
REDDING, CT 06896

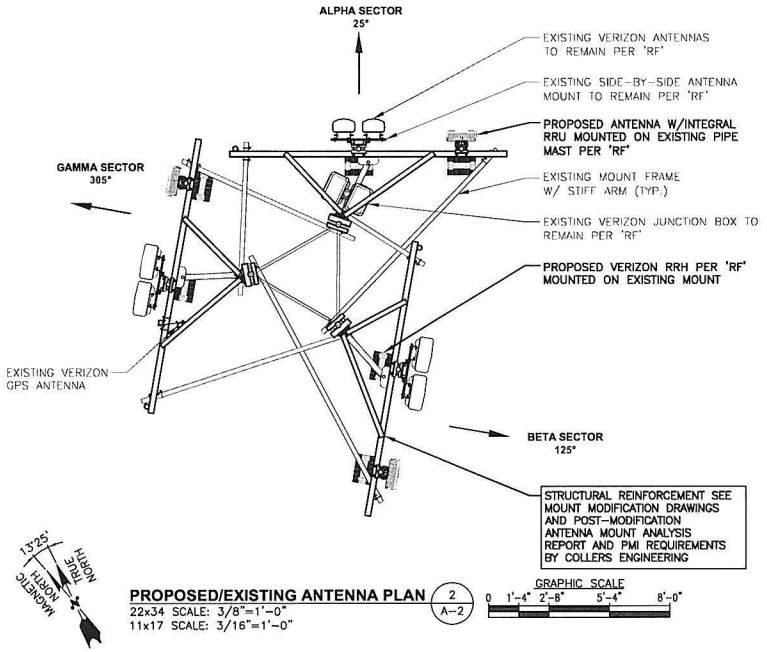
SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1



ELEVATION (1 / A-2)
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

GRAPHIC SCALE
0 2'-8" 5'-4" 10'-8" 16'-0"



PROPOSED/EXISTING ANTENNA PLAN (2 / A-2)
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"

GRAPHIC SCALE
0 1'-4" 2'-8" 5'-4" 8'-0"

NOTE TO GENERAL CONTRACTOR: (PRIOR TO CONSTRUCTION COMPLETION)

- TEP NORTHEAST (TEP OPCO, LLC.) TO PERFORM POST/CLIMB AND INSPECTION TO CONFIRM PROPOSED INSTALLATION COMPLIES WITH THE RECORD STAMPED DRAWINGS AND STRUCTURAL REPORTS PRIOR TO SUBMITTING FCCA (FINAL CONSTRUCTION CONTROL AFFIDAVIT). GC IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH TEP NORTHEAST (TEP OPCO, LLC.) PRIOR TO CONSTRUCTION BEING COMPLETED.

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PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

TEP NORTHEAST
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION DRAWINGS ARE ONLY FOR SIX MONTHS AFTER DATE(S) OF RECORD STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN

CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
3	07/08/24	REVISED PER NEW RFDS	GA
2	02/20/24	REVISED PER NEW RFDS	GA
1	04/21/21	REV. FOR EQUIPMENT BY OTHERS	SLY
0	03/03/21	FOR CONSTRUCTION	OS

SITE NAME:
REDDING CT

SITE ADDRESS:
80 LONETOWN ROAD
REDDING, CT 06896

SHEET TITLE
ELEVATION.
PROPOSED/EXISTING
ANTENNA PLAN

SHEET NUMBER
A-2

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

SPECIAL INSPECTION CHECKLIST

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

NOTES:

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

NOTES:

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

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

TEP NORTHEAST
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION DRAWINGS ARE ONLY VALID 12 MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN

CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
3	07/08/24	REVISED PER NEW RFDS	GA
2	02/20/24	REVISED PER NEW RFDS	GA
1	04/21/21	REV. FOR EQUIPMENT BY OTHERS	SLY
0	03/03/21	FOR CONSTRUCTION	OS

SITE NAME:
REDDING CT

SITE ADDRESS:
80 LONETOWN ROAD
REDDING, CT 06896

SHEET TITLE
STRUCTURAL NOTES & SPECIAL INSPECTIONS

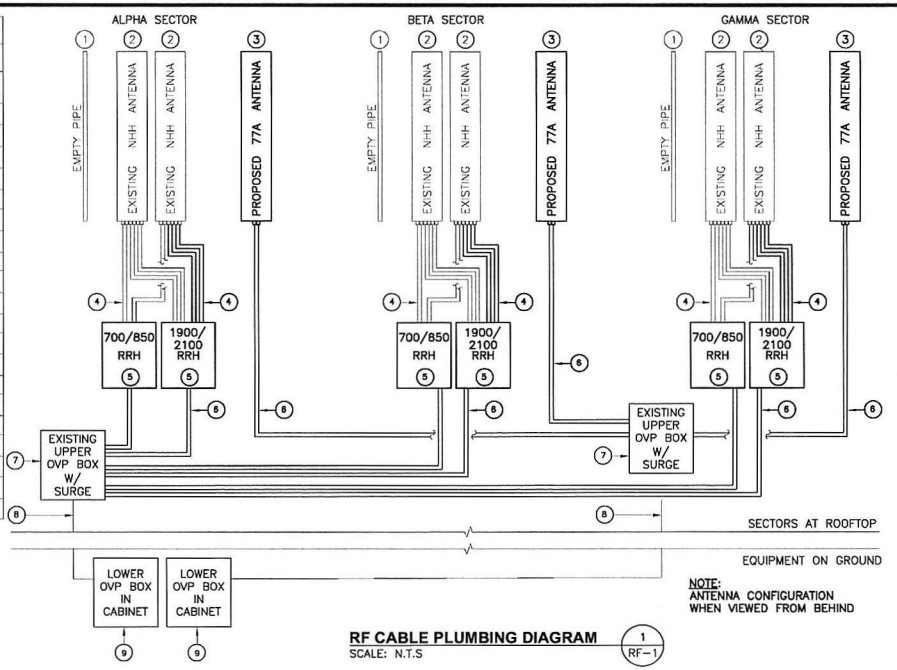
SHEET NUMBER
SN-1

BILL OF MATERIAL

SITE NAME: REDDING CT

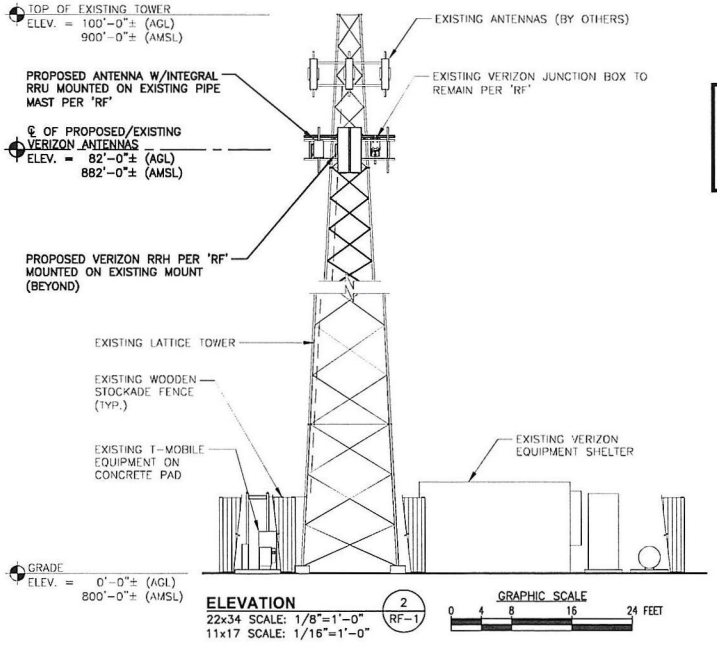
ITEM	DESCRIPTION	QTY	LENGTH	COMMENTS
1	EMPTY PIPE	3		
2	EXISTING NHH-65B-R2B ANTENNA	2		MOUNTED TO EXISTING PIPE MAST (ALPHA SECTOR)
2	EXISTING NHH-45B-R2B ANTENNA	4		MOUNTED TO EXISTING PIPE MAST (BETA & GAMMA SECTORS)
3	**PROPOSED MT6413-77A ANTENNA W/INTEGRAL RRH**	**3**		**MOUNTED TO EXISTING PIPE MAST**
4	EXISTING 1/2" TOP COAX JUMPERS	24	–	ROUTE FROM RRH TO ANTENNA
4	**PROPOSED 1/2" TOP COAX JUMPERS**	**12**	**6 FT.**	**ROUTE FROM RRH TO ANTENNA**
5	**PROPOSED LTE 700/850 RRH**	**3**		**SAMSUNG RRH B5/B13 RF4461d-13A PIPE MOUNTED**
5	**PROPOSED PCS/AWS 1900/2100**	**3**		**SAMSUNG RRH B2/B66A RF4439d-25A PIPE MOUNTED**
6	**PROPOSED SAMSUNG FIBER JUMPER CABLES**	**9**	**14 FT.**	**ROUTE FROM OVP TO PROPOSED RRH**
6	**PROPOSED SAMSUNG POWER JUMPER CABLES**	**9**	**14 FT.**	**ROUTE FROM OVP TO PROPOSED RRH**
7	EXISTING UPPER 6 OVP	2		MOUNTED TO EXISTING PIPE MAST
8	EXISTING LI 6x12 HYBRID CABLE	2	–	ROUTE FROM EQUIPMENT TO OVP
9	EXISTING LOWER OVP	2		RACK MOUNTED INSIDE CABINET

THE ABOVE RF-BOM SHEET IS BASED ON INFORMATION LISTED ON ANTENNA RECOMMENDATION SHEET DATED 03/21/2024



NOTE:
ANTENNA CONFIGURATION WHEN VIEWED FROM BEHIND

RF CABLE PLUMBING DIAGRAM (1 / RF-1)
SCALE: N.T.S



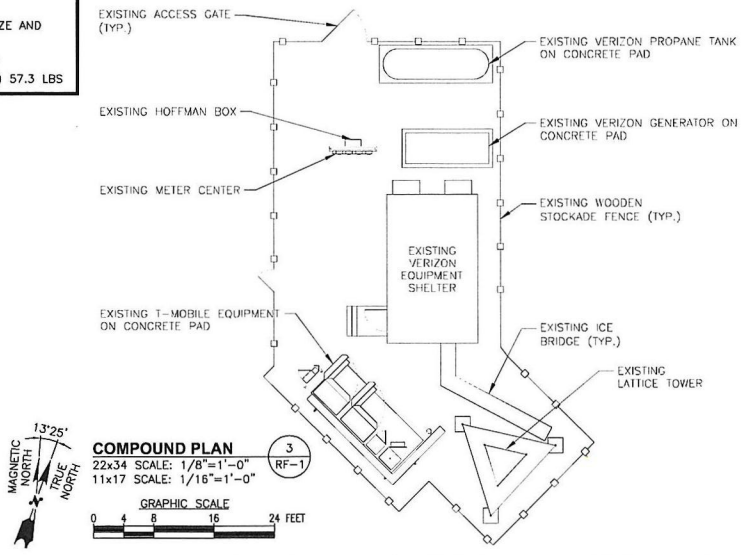
ELEVATION (2 / RF-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET

NOTE:

PROPOSED MT6413-77A ANTENNA SIZE AND WEIGHT ARE NOT TO EXCEED:

DIMENSIONS H28.90"xW15.75"xD5.51"
WEIGHT (INCLUDING INTEGRATED RRU) 57.3 LBS



COMPOUND PLAN (3 / RF-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon
TEP NORTHEAST
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

CHECKED BY: JX

APPROVED BY: DPH

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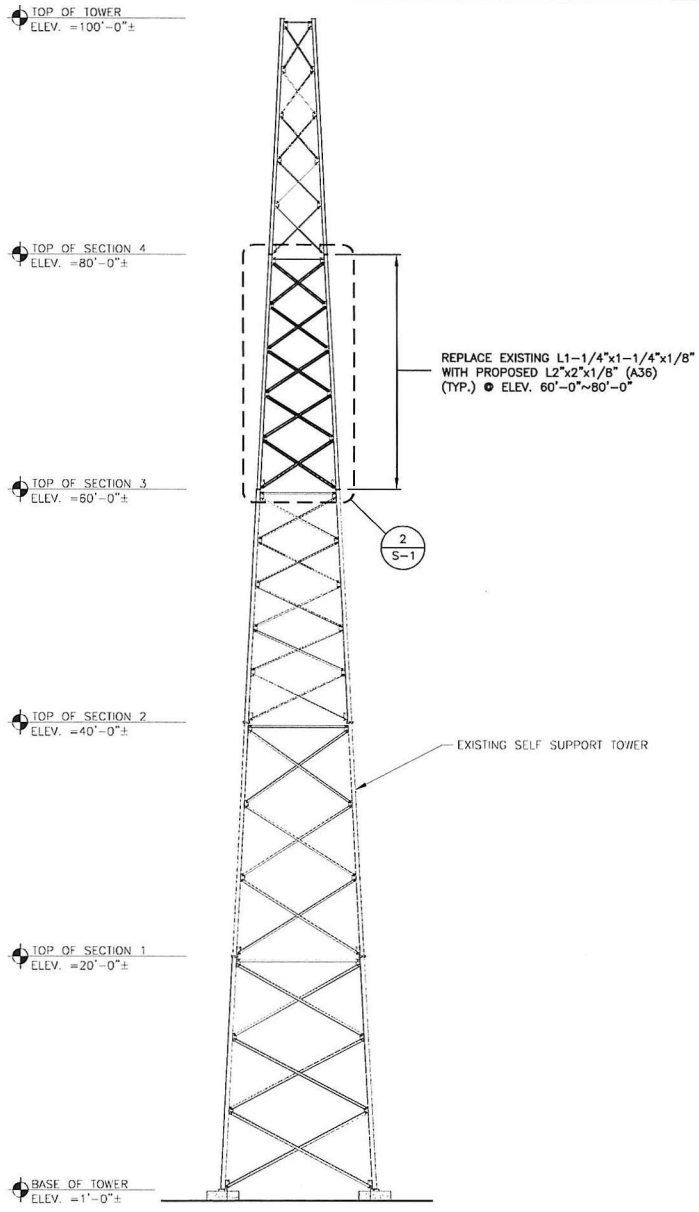
SITE NAME:
REDDING CT

SITE ADDRESS:
80 LONETOWN ROAD
REDDING, CT 06896

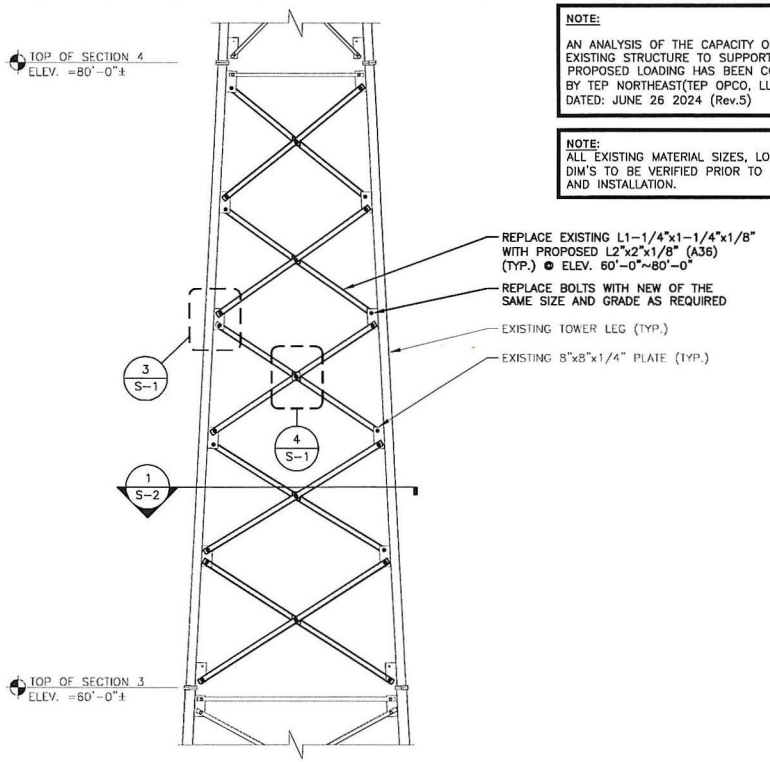
SHEET TITLE
RF PLUMBING DIAGRAM & BILL OF MATERIAL

SHEET NUMBER
RF-1



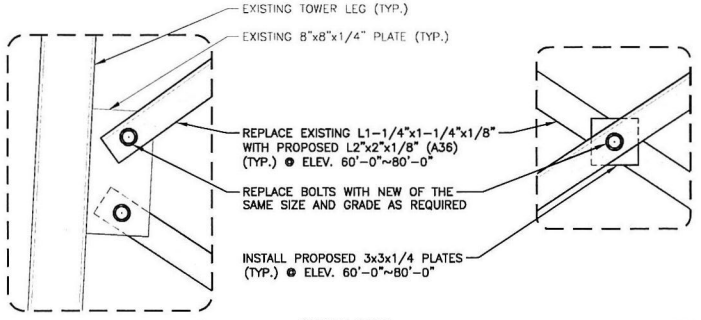
TOWER ELEVATION 1 S-1
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

GRAPHIC SCALE
0 2'-8" 5'-4" 10'-8" 16'-0"



TOWER REINFORCEMENT ELEVATION @ 60'-0" ~ 80'-0" 2 S-1
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE
0 1 2 4 6 FEET



CONNECTION DETAIL 3 S-1
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"

GRAPHIC SCALE
0 0'-2" 0'-4" 0'-8" 1'-0"

CONNECTION DETAIL 4 S-1
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"

NOTE:
AN ANALYSIS OF THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY TEP NORTHEAST(TEP OPCO, LLC) DATED: JUNE 26 2024 (Rev.5)

NOTE:
ALL EXISTING MATERIAL SIZES, LOCATIONS AND DIM'S TO BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION.

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

TEP NORTHEAST
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER
CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN

CHECKED BY: JX
APPROVED BY: DPH

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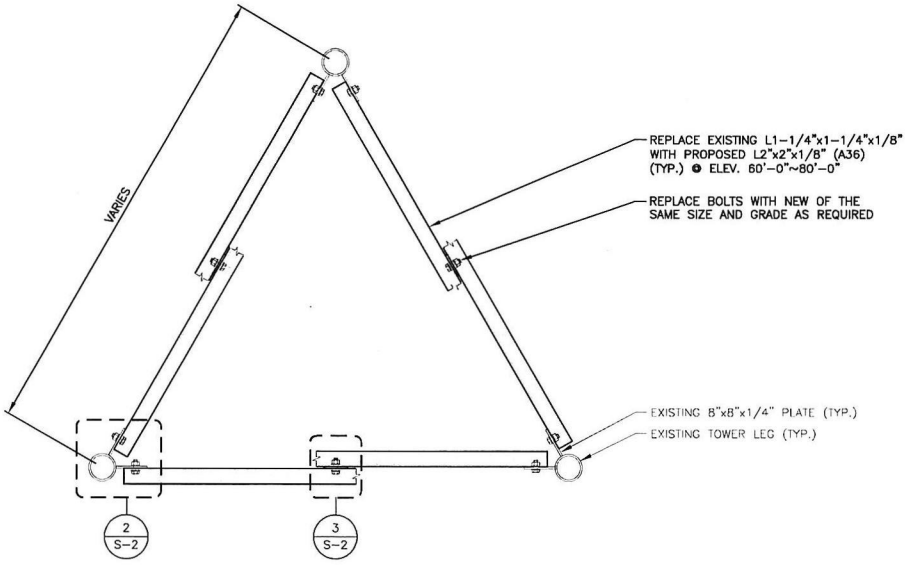
0	03/03/21	FOR CONSTRUCTION	DS

SITE NAME:
REDDING CT

SITE ADDRESS:
80 LONETOWN ROAD
REDDING, CT 06896

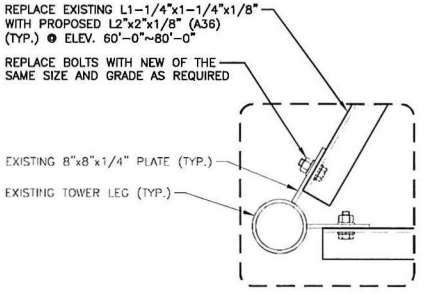
SHEET TITLE
TOWER MODIFICATION ELEVATION

SHEET NUMBER
S-1



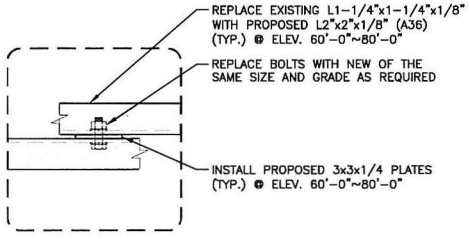
TOWER REINFORCEMENT PLAN VIEW (1 / S-2)
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"

GRAPHIC SCALE
0 0'-4" 0'-8" 1'-4" 2'-0"



CONNECTION DETAIL (2 / S-2)
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"

GRAPHIC SCALE
0 0'-2" 0'-4" 0'-8" 1'-0"



CONNECTION DETAIL (3 / S-2)
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"

GRAPHIC SCALE
0 0'-2" 0'-4" 0'-8" 1'-0"

NOTE:
AN ANALYSIS OF THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY TEP NORTHEAST(TEP OPCO, LLC) DATED: JUNE 26 2024 (Rev.5)

NOTE:
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FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

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STATE OF CONNECTICUT
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SITE NAME:
REDDING CT

SITE ADDRESS:
80 LONETOWN ROAD
REDDING, CT 06896

SHEET TITLE
TOWER MODIFICATION PLAN

SHEET NUMBER
S-2

verizon

MOUNT MODIFICATION DRAWINGS
EXISTING 12.33' T-FRAME

TOWER OWNER: UNKNOWN
TOWER OWNER SITE NUMBER: UNKNOWN

CARRIER SITE NAME: REDDING CT
CARRIER SITE NUMBER: 5000386561
FUZE ID: 16244644

80 LONETOWN RD
REDDING, CT 06896
FAIRFIELD COUNTY

LATITUDE: 41.31778333° N
LONGITUDE: 73.38334167° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 681.67'

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 = .228
LONG TERM MCER GROUND MOTION, S_1 = .056

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

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

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10232772
VZW MDG #: 5000386561
ANALYSIS DATE: 06/05/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

SHEET	DESCRIPTION
ST-1	TITLE SHEET
SBOM-1	BILL OF MATERIALS
SGN-1	GENERAL NOTES
SCF-1	CLIMBING FACILITY DETAIL
SS-1	MODIFICATION DETAILS
SS-2	MOUNT PHOTOS
	SPECIFICATION SHEETS

Colliers Engineering & Design
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SCALE:	JOB NUMBER:
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REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
2	06/05/2024	ISSUED FOR CONSTRUCTION	DA	DK
1	12/21/2023	ISSUED FOR CONSTRUCTION	CMS	DK
0	12/21/2023	ISSUED FOR CONSTRUCTION	MSG	DK

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
06/06/2024
COLLIERS ENGINEERING & DESIGN CT, P.C.

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

SITE NAME:
REDDING CT
5000386561
80 LONETOWN RD
REDDING, CT 06896
FAIRFIELD COUNTY

Colliers Engineering & Design
MT. LAUREL
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: TITLE SHEET

SHEET NUMBER: ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	VZWSMART	VZWSMART-SFK3-SL	V-BRACING KIT FOR SMALL LEGS	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	117	351
3		VZWSMART-AL333	CLIP ANGLE		3	9
9		VZWSMART-MSK1	CROSSOVER PLATE		14	126
6		VZWSMART-P40-238X096	96" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		29	174

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-		PROPOSED 156" LONG, PIPE 2 1/2 SCH40	GALVANIZED.	74	221

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
				TOTAL:		881

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

Colliers Engineering & Design

www.colliersengineering.com

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06/06/2024
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REDDING CT
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80 LONETOWN RD
REDDING, CT 06896
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MT. LAUREL
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER:
SBOM-1

GENERAL NOTES

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

STRUCTURAL STEEL

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

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

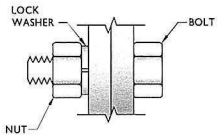
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND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

BOLT SCHEDULE (IN.)

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

WORKABLE GAGES (IN.)

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

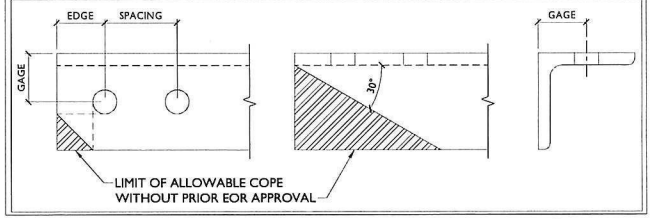


TYP. BOLT ASSEMBLY

NOTES:

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

ALLOWABLE COPING



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06/06/2024
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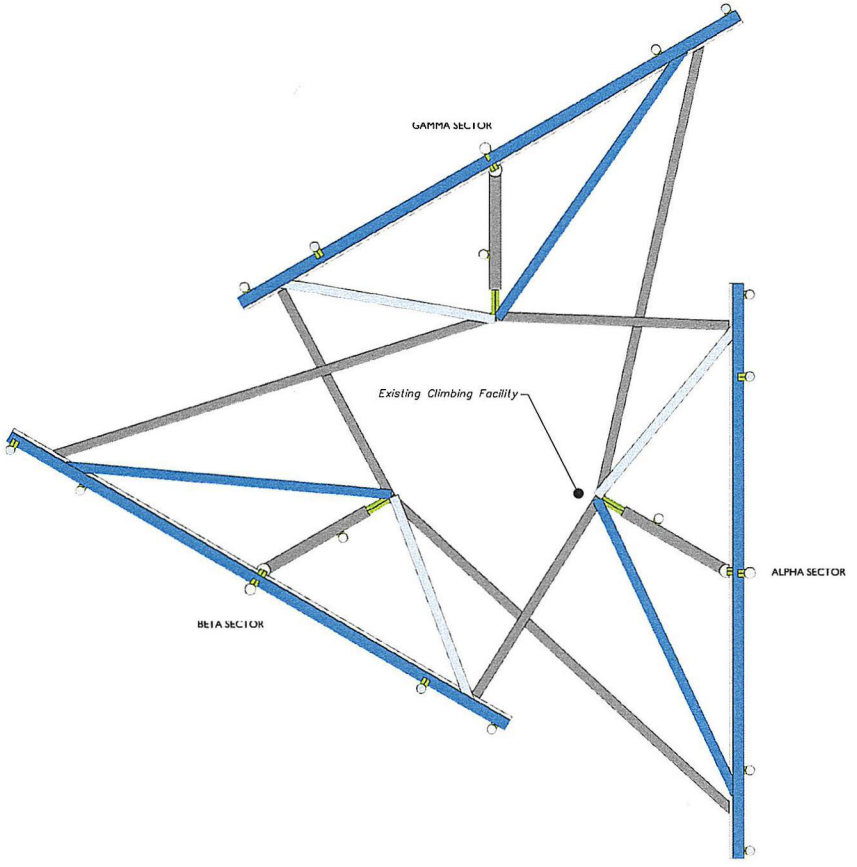
SHEET TITLE: GENERAL NOTES
SHEET NUMBER: SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.

CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY TOWER ENGINEERING PROFESSIONALS ON 11/17/2020, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (81'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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06/06/2024

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SHEET TITLE:
CLIMBING FACILITY DETAIL

SHEET NUMBER:
SCF-1

LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

TOTAL VERTICAL ENVELOPE:

CONTRACTOR SHALL VERIFY AND CONFIRM IN FIELD THAT VERIZON'S OVERALL TIP TO TIP VERTICAL SPACE CONFIGURATION (EQUIPMENT AND STEEL COMBINED) DOES NOT EXCEED THE VERTICAL ENVELOPE LISTED IN THESE DRAWINGS. IF THE SITE'S EXISTING OR PROPOSED CONFIGURATION EXCEEDS THE ALLOWED VERTICAL ENVELOPE LISTED IN THESE DRAWINGS, CONTRACTOR SHALL CONTACT EOR IMMEDIATELY FOR A SOLUTION ON HOW TO CORRECT THE ISSUE PRIOR TO LEAVING THE SITE.

MOUNT MODIFICATION SCHEDULE

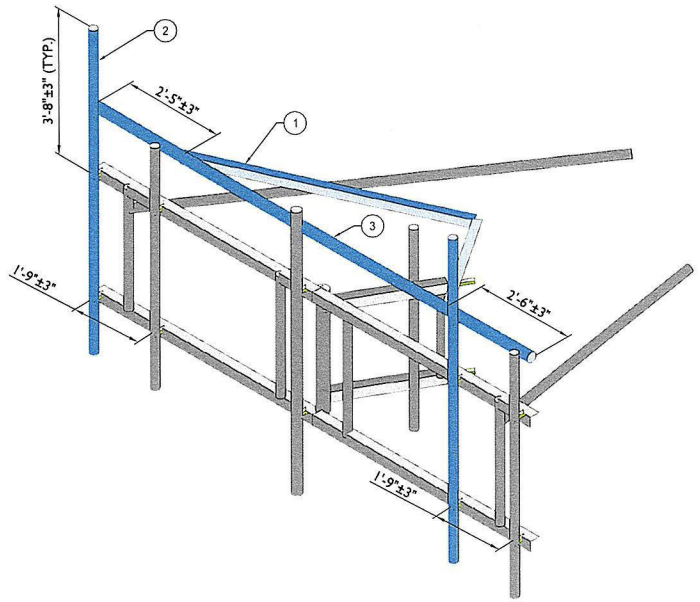
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	81'-0"	3	PROPOSED V-BRACING KIT FOR SMALL LEGS (PART #: VZWSMART-SFK3-SL)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. SEE GENERAL NOTE B. CONTRACTOR SHALL INSTALL ONE PROPOSED CLIP ANGLE (PART #:VZWSMART-AL333) AT EITHER END OF EACH LONG ANGLE IN THE SFK3 KIT.
2		6	PROPOSED 96" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X096)	CONNECT NEW MOUNT PIPE TO EACH EXISTING FACE HORIZONTAL ANGLE WITH (1) NEW 1/2" DIA. U-BOLT. UTILIZE EXISTING PRE-DRILLED HOLES IN FACE HORIZONTALS.
3		3	PROPOSED 156" LONG, PIPE 2 1/2 SCH40 FACE HORIZONTAL	CONNECT NEW HORIZONTAL TO POSITION 2, 3, & 5 VERTICAL MOUNT PIPES OF THE ALPHA & BETA SECTORS WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1). CONNECT NEW HORIZONTAL TO POSITION 2, 4, & 6 VERTICAL MOUNT PIPES OF THE GAMMA SECTOR WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).

GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR

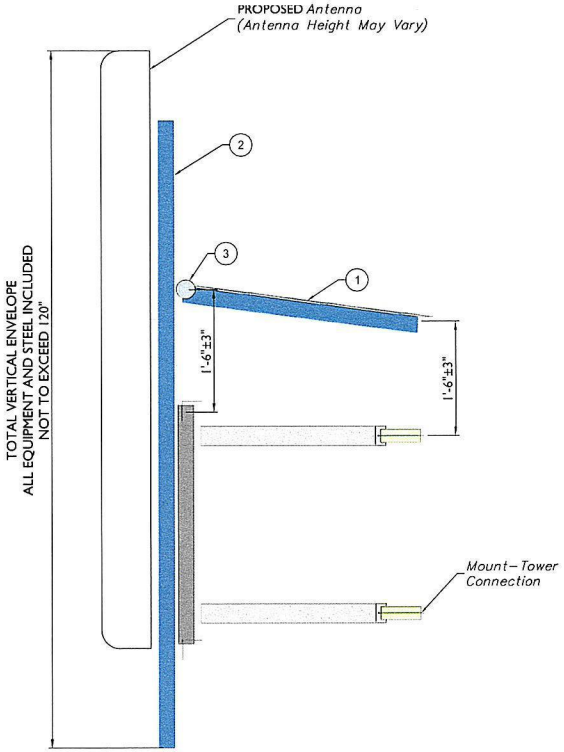
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).

C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

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Mt. Laurel, NJ 08054
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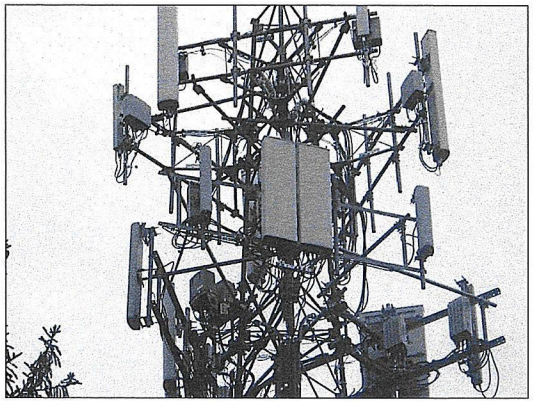
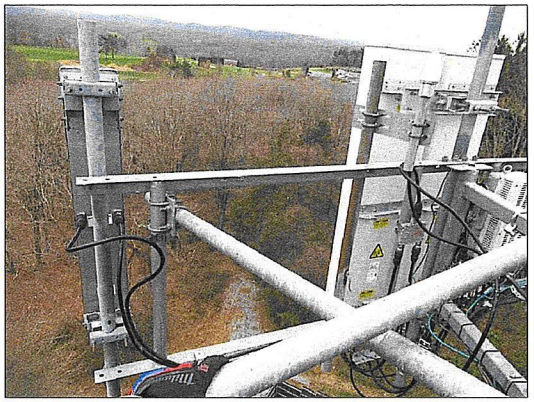
SHEET TITLE:
MODIFICATION DETAILS

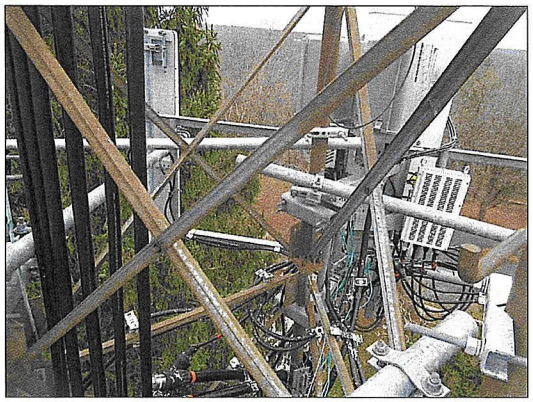
SHEET NUMBER:
SS-1



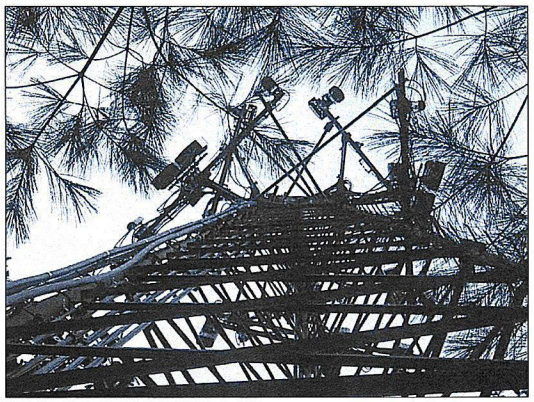
MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4

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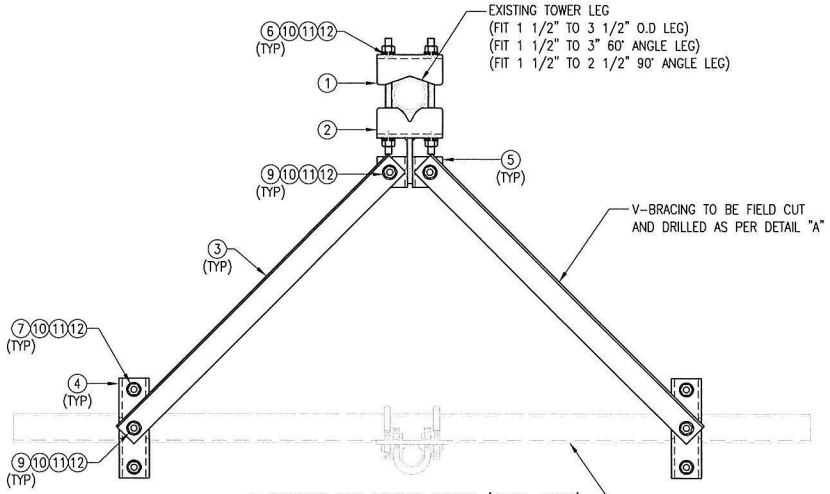
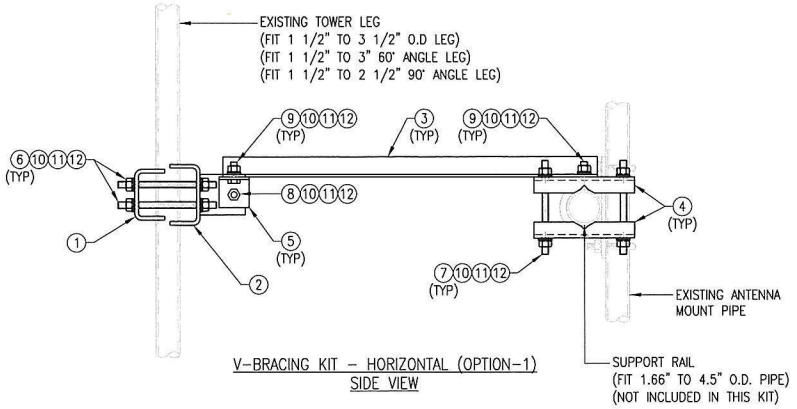
SHEET TITLE: MOUNT PHOTOS

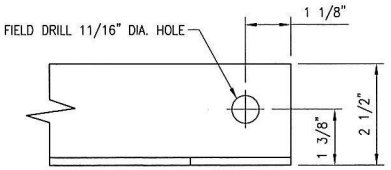
SHEET NUMBER: SS-2



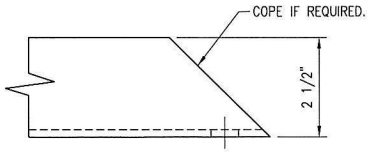
V-BRACING FOR SECTOR MOUNT (SMALL LEGS)
PLAN VIEW



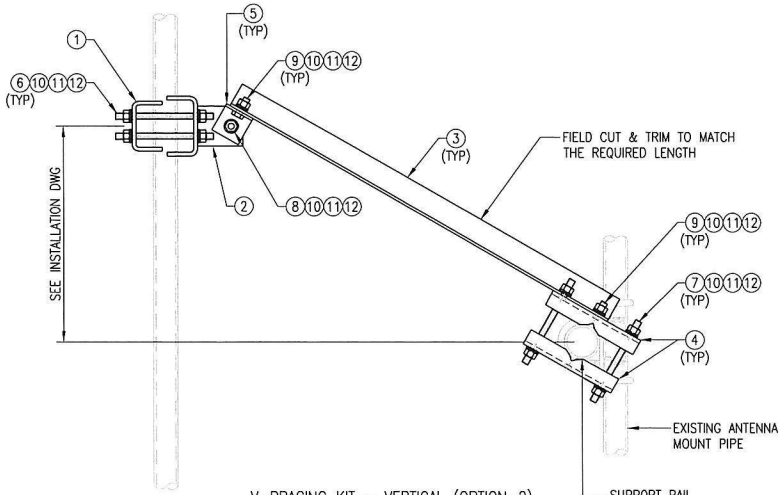
V-BRACING KIT - HORIZONTAL (OPTION-1)
SIDE VIEW



PLAN VIEW



FRONT VIEW
DETAIL "A"



V-BRACING KIT - VERTICAL (OPTION-2)
SIDE VIEW

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

VZWSMART-SFK3-SL (V-BRACING KIT FOR SMALL LEGS)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	BP9625-65	PL 3/8" X 9 5/8" X 6 1/2" A36 BENT PLATE	VBSM-SL-F1	12
2	1	BRKW-VBSM-SL	WELDMENT BRACKET	VBSM-SL-F3	11
3	2	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	VBSM-F5	67
4	4	BP6875-10	PL 3/8" X 6 7/8" X 10" A36 BENT PLATE	VBSM-F2	20
5	2	AL-333	L 3" X 3" X 1/4" X 3" A36	VBSM-F2	3
6	4	---	THREADED ROD 5/8" DIA. X 1'-0" F1554-36 HDG	---	--
7	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	--
8	1	---	BOLT 5/8" X 2 1/4" A325	---	--
9	4	---	BOLT 5/8" X 1 3/4" A325	---	--
10	21	FW-625	5/8" HDG USS FLAT WASHER	---	2
11	21	LW-625	5/8" HDG LOCK WASHER	---	0
12	21	NUT-625	5/8" HDG HEX NUT	---	2
				GALVANIZED WT	117

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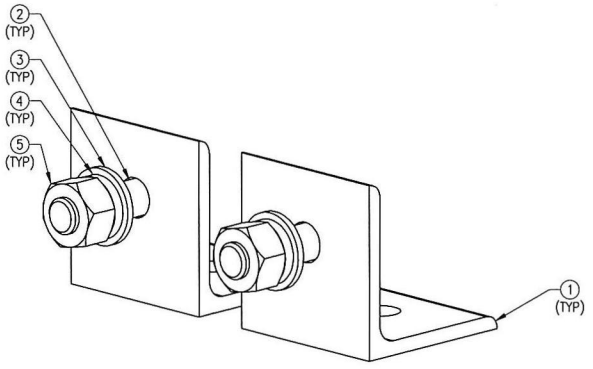
DRAWN BY: BT	CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	04/10/21

SHEET TITLE:
VZWSMART-SFK3-SL
V-BRACING KIT
FOR SMALL LEGS

SHEET NUMBER:	REV #:
VZWSMART-SFK3-SL	0



CLIP ANGLE
ISOMETRIC VIEW

VZWSMART-AL333 (CLIP ANGLE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	AL-333	L 3" X 3" X 1/4" X 3" A36	AL333-F1	2.50
2	2	---	BOLT 5/8" X 2" FULL THREAD SAE GR-5	---	0.77
3	2	FW-625	5/8" HDG USS FLAT WASHER	---	0
4	2	LW-625	5/8" HDG LOCK WASHER	---	0
5	2	NUT-625	5/8" HDG HEX NUT	---	0
				GALVANIZED WT	3.27

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

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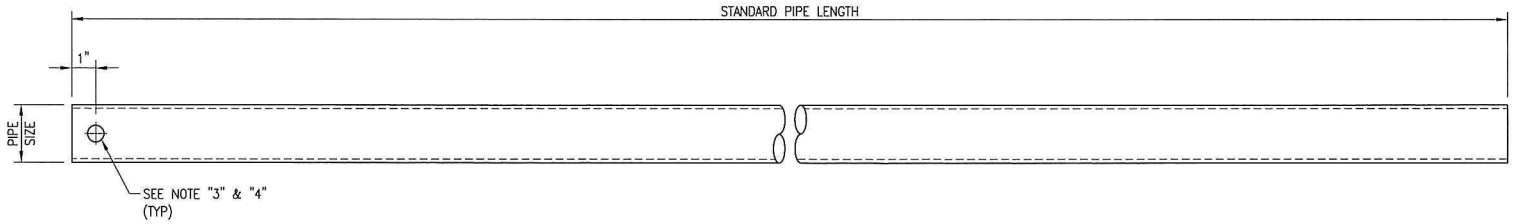
DRAWN BY: JBM | CHECKED BY: ----

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	JBM	10/08/21

SHEET TITLE:
VZWSMART-AL333
CLIP ANGLE

SHEET NUMBER: VZWSMART-AL333 | REV #: 0



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

verizon

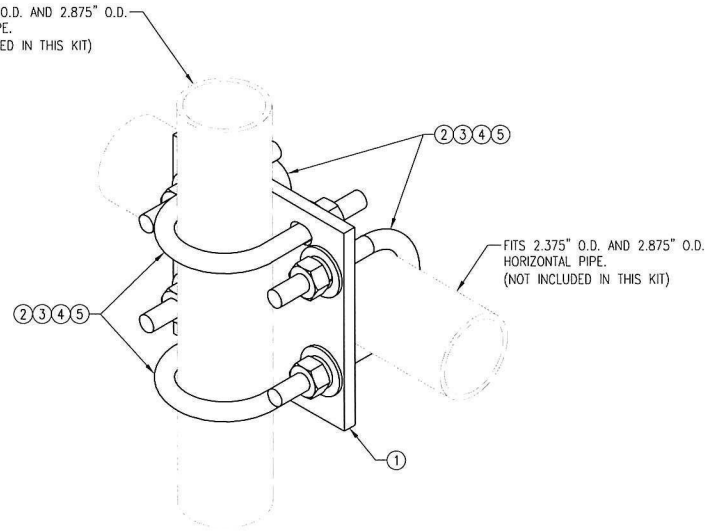
FOR REFERENCE ONLY

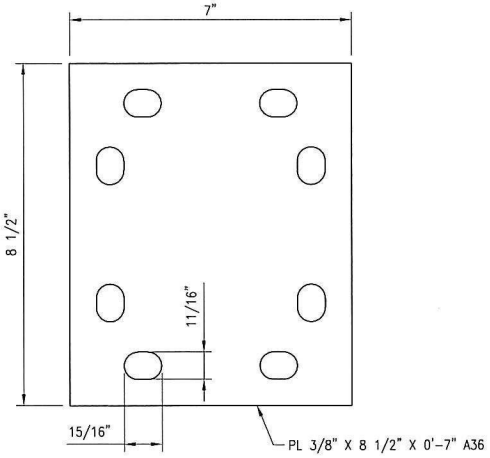
DRAWN BY: BT	CHECKED BY: HMA/KW

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

SHEET TITLE:
VZWSMART STANDARD PIPE

SHEET NUMBER:	REV #:
VZWSMART-PIPE	0





PL375-857

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.

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: H.R	CHECKED BY: HMA

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

SHEET TITLE:
VZWSMART-MSK1
CROSSOVER PLATE

SHEET NUMBER: VZWSMART-MSK1

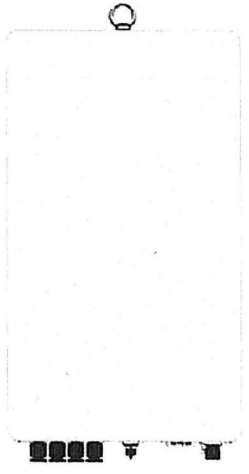
REV #: 0

C-band 64T64R

SAMSUNG

Gen 2

Gen 2 : Higher conducted power radio with reduced size/volume/weight vs Gen 1 and also SOC embedded for flexibility to support new features



※ Preliminary Design: External appearance and mechanical design can be subject to change

Gen 2. 64T64R C-band MMU Dimensions	
Size (WxHxD)	**400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)**
Weight	**26kg (57.3 lb)**

Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 – 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	20(HW ready)/40/60/80/100 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	80.5 dBm @320W (55 dBm + 25.5 dBi)
Conductive Power	320W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @(1Rx, 18.36MHz with 30kHz,51RBs)
Modulation	DL 256QAM support, (DL 1024QAM with 1~2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,287W (100% load, room temp.)
Size (WHD)	**400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)**
Volume	**41.1L**
Weight	**26kg (57.3 lb)**
Operating Temperature	-40℃ - 55℃ (w/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 38.104 FCC 47 CFR 27.53 : < -13dBm/MHz < -40 dBm/MHz @ above 4 GHz <-50 dBm /MHz @ 4,040 ~ 4,050 MHz, <-60 dBm /MHz @ above 4,050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI

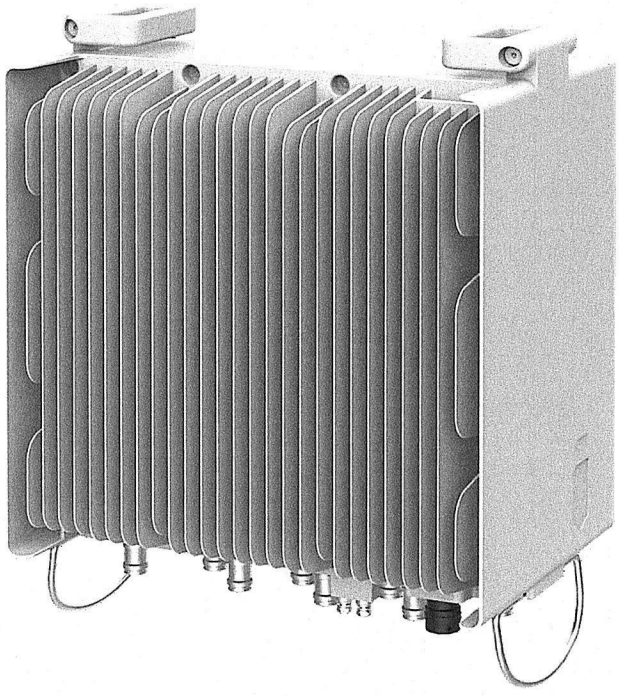
SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This AWS/PCS 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code	RF4439d-25A



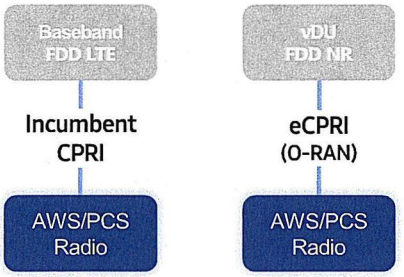
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

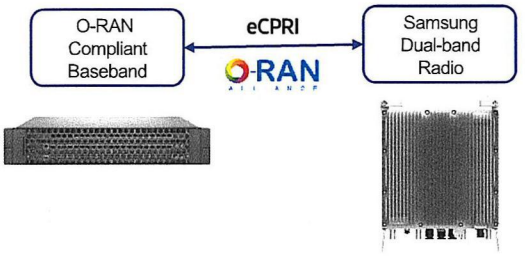
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

A standardized O-RAN radio can help in implementing cost-effective networks, which are capable of sending more data without compromising additional investments.

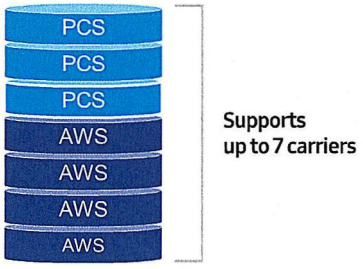
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

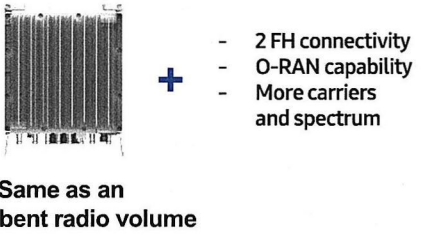
The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

The new AWS/PCS dual-band radio can support up to 3 carriers in the PCS (1.9GHz) band and 4 carriers in the AWS (2.1GHz) band, respectively.



Brand New Features in a Compact Size

Samsung's AWS/PCS macro radio offers several features, such as dual connectivity for baseband for both CDU and vDU, O-RAN capability, more carriers and an enlarged PCS spectrum, combined into an incumbent radio volume of 36.8L.



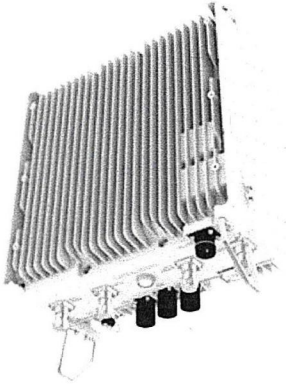
Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/ Weight	14.96 x 14.96 x 10.04inch (36.8L) / 74.7lb

700/850 4T4R Macro 320W ORU - New Filter (RF4461d-13A)

SAMSUNG

Specifications



Item	Specification	
Air Interface	LTE, NR(HW resource ready)	
Band	Band13 (700MHz)	Band5 (850MHz)
Frequency	DL: 746~756MHz UL: 777~787MHz	DL: 869~894MHz UL: 824~849MHz
IBW	10MHz	25MHz
OBW	10MHz	25MHz
Carrier Bandwidth	LTE/NR 5*/10MHz	LTE 5/10MHz NR 5/10/15/20MHz
# of carriers	2C*	3C
Total # of carriers	4C + B13 (SDL) 1C	
RF Chain	4T4R/2T4R/2T2R/1T2R 2T2R+2T2R bi-sector	
RF Output Power	Total : 320W	
	4 x 40W or 2 x 60W	4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support	
RX Sensitivity	Typ. -104.5dBm @1Rx (25RBs 5MHz)	
Modulation	256QAM support, (1024QAM with 1~2dB power back-off)	
Input Power	-48VDC (-38VDC to -57VDC)	
Power Consumption	1,165 Watt @ 100% RF load, room temperature	
Size (WHD)	380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)	
Volume	37.5 L	
Weight (W/o Solar Shield & finger guard)	35.9 kg (79.1 lb)	
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)	
Cooling	Natural convection	
Unwanted Emission	3GPP 36.104	3GPP 36.104
	FCC 47 CFR 27.53 c), f)	FCC 47 CFR 22.917
	-	-69 dBm/100 kHz per path @ 896 ~901MHz
CPRI Cascade	Not supported	
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-di)	
RET & TMA Interface	AISG 3.0	
Bias-T	4 ports (2 ports per band)	
Mounting Options	Pole, wall	
NB-IoT	2GB+2IB or 4IB	2SA+2GB or 2GB+2IB or 4GB
PIM Cancellation	Support	
# of antenna port	4	
External Alarm	4	
Fronthaul Interface	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)	
CPRI compression	Not Support	

* 5MHz supporting in B13(700MHz) depends on 3GPP std. and UE capability.
External filters in interferer and victim sides for Mexican boarder to support 5MHz service need to be considered
** Finger guard is not needed.

ATTACHMENT 3

C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions Report

verizon

Redding CT

80 Lonetown Road, Redding, CT 06896

September 24, 2024

Table of Contents

List of Figures

List of Tables

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna array mounted at 82' on an existing lattice tower located at 80 Lonetown Road in Redding, CT. The coordinates of the tower are 41° 19' 4.02" N, 73° 23' 0.03" W.

Verizon is proposing the following:

1) Remove six (6) directional panel antenna.
2) Retain six (6) directional panel antenna, three (3) per sector.
3) Install three (3) C-Band antenna, one (1) per sector to support its commercial 5G network.

This report considers the planned antenna configuration for Verizon[1] as well as existing antenna configuration[2] for T-Mobile to derive the resulting % Maximum Permissible Exposure (MPE) of its proposed modification.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the documents referenced in Attachment A of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B of this report contains excerpts from OET Bulletin 65 and presents the Maximum Exposure Limits.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

[1] As referenced to Verizon's Radio Frequency Design Sheet, dated 03/21/2024.

[2] As referenced to T-Mobile's Connecticut Siting Council Notice of Exempt Modification – 80 Lonetown Road, Redding, CT dated 07/30/2020

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{\text{GRF}^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2}\right) \text{X Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

The percent of MPE values presented in this report reflect levels that one may encounter from one sector of a carrier's antennas. Most carriers use 3 or 4 sectors per site with azimuths approximately 90 or 120 degrees apart, respectively; therefore, one could not be standing in the main beam of all sectors at the same time. In cases where antenna models are not uniform across all sectors, the antenna model with the highest gain was used for the calculations. This results in a conservative or "worst case" assumption for percent of MPE calculations.

4. Antenna Inventory

Table 1 below outlines Verizon's proposed antenna configuration for the site. The associated antenna model data and antenna patterns for these specific antenna models are included in Attachment C.

Operator	Sector / Azimuth	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha / 25°	700	160	14.9	4944	NHH-65B-R2B	65	0	6	82
		850	160	15	5060		60			
		1900	160	17.9	9866		69			
		2100	240	18.4	16604		64			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	82
	Beta / 125°	700	160	16.8	7658	NHH-45B-R2B	48	0	6	82
		850	160	17.5	8997		43			
		1900	160	19.9	15636		43			
		2100	240	20.3	25716		42			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	82
	Gamma / 305°	700	160	16.8	7658	NHH-45B-R2B	48	0	6	82
		850	160	17.5	8997		43			
		1900	160	19.9	15636		43			
		2100	240	20.3	25716		42			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	82

Table 1: Proposed Antenna Inventory [7,8]

[7] Antenna heights are in referenced to Verizon's Radio Frequency Design Sheet, dated 03/21/2024.

[8] Transmit power assumes 0 dB of cable loss.

5. Calculation Results

The calculated power density results are shown in Figure 1 below. For completeness, the calculations for this analysis range from 0 feet horizontal distance (directly below the antennas) to a value of 3,000 feet horizontal distance from the site. In addition to the other worst-case scenario considerations that were previously mentioned, the power density calculations to each horizontal distance point away from the antennas was completed using a local maximum off beam antenna gain (within ± 5 degrees of the true mathematical angle) to incorporate a realistic worst-case scenario.

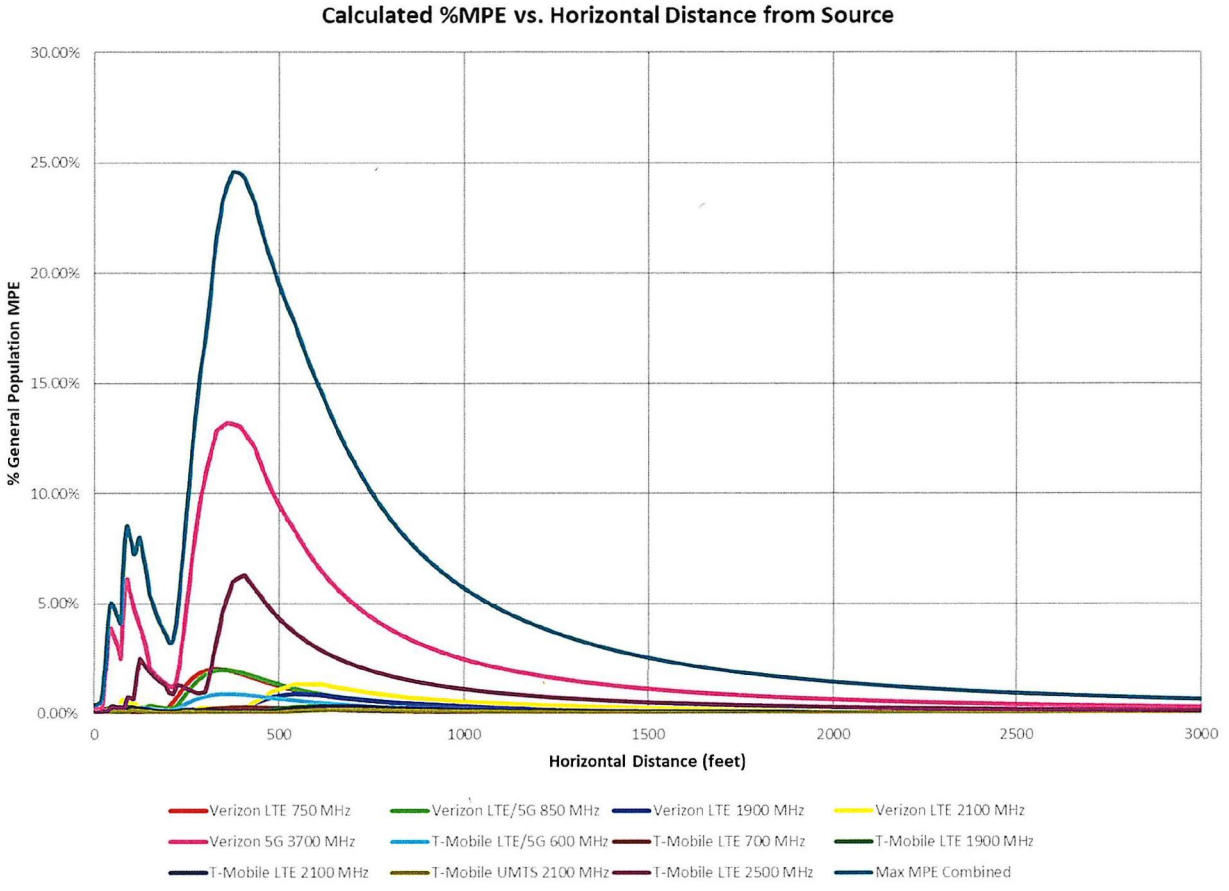


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (24.59% of the General Population limit) is calculated to occur at a horizontal distance of 373 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 750 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 373 feet from the site (reference Figure 1).

As stated in Section 3, all calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. In addition, a six foot height offset was considered in this analysis to account for average human height. As a result, the predicted signal levels are significantly higher than the actual signal levels will be from the final configuration. The results presented in Figure 1 and Table 2 assume level ground elevation from the base of the tower out to the horizontal distances calculated.

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm^2)	Limit (mW/cm^2)	% MPE
T-Mobile LTE 1900 MHz	1	120.0	92.0	373	0.000371	1.000	0.04%
T-Mobile LTE 2100 MHz	1	120.0	92.0	373	0.000759	1.000	0.08%
T-Mobile LTE 2500 MHz	1	160.0	92.0	373	0.060076	1.000	6.01%
T-Mobile LTE 700 MHz	1	60.0	92.0	373	0.001223	0.467	0.26%
T-Mobile LTE/5G 600 MHz	1	140.0	92.0	373	0.003476	0.400	0.87%
T-Mobile UMTS 2100 MHz	1	60.0	92.0	373	0.000380	1.000	0.04%
Verizon 5G 3700 MHz	1	320.0	82.0	373	0.131494	1.000	13.15%
Verizon LTE 1900 MHz	1	160.0	82.0	373	0.001426	1.000	0.14%
Verizon LTE 2100 MHz	1	240.0	82.0	373	0.001645	1.000	0.16%
Verizon LTE 750 MHz	1	160.0	82.0	373	0.009535	0.500	1.91%
Verizon LTE/5G 850 MHz	1	160.0	82.0	373	0.010994	0.567	1.94%
						Total	**24.59%**

Table 2: Maximum Percent of General Population Exposure Values[9,10,11]

[9] Frequencies listed are representative of the operating band and are not the specific operating frequency.

[10] The total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

[11] In the case where specific antenna pattern is not available, similar antenna pattern was used based on the frequency, bandwidth and gain of the antenna.

6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **24.59%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 373 feet away from the site.

7. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Report Prepared By: Ram Acharya
RF Engineer
C Squared Systems, LLC

September 23, 2024
Date

Reviewed/Approved By: Martin Lavin
Senior RF Engineer
C Squared Systems, LLC

September 24, 2024
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2019, IEEE Standard Safety Levels With Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2021, IEEE Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 0 Hz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[12]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure[13]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 3: FCC Limits for Maximum Permissible Exposure

[12] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

[13] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

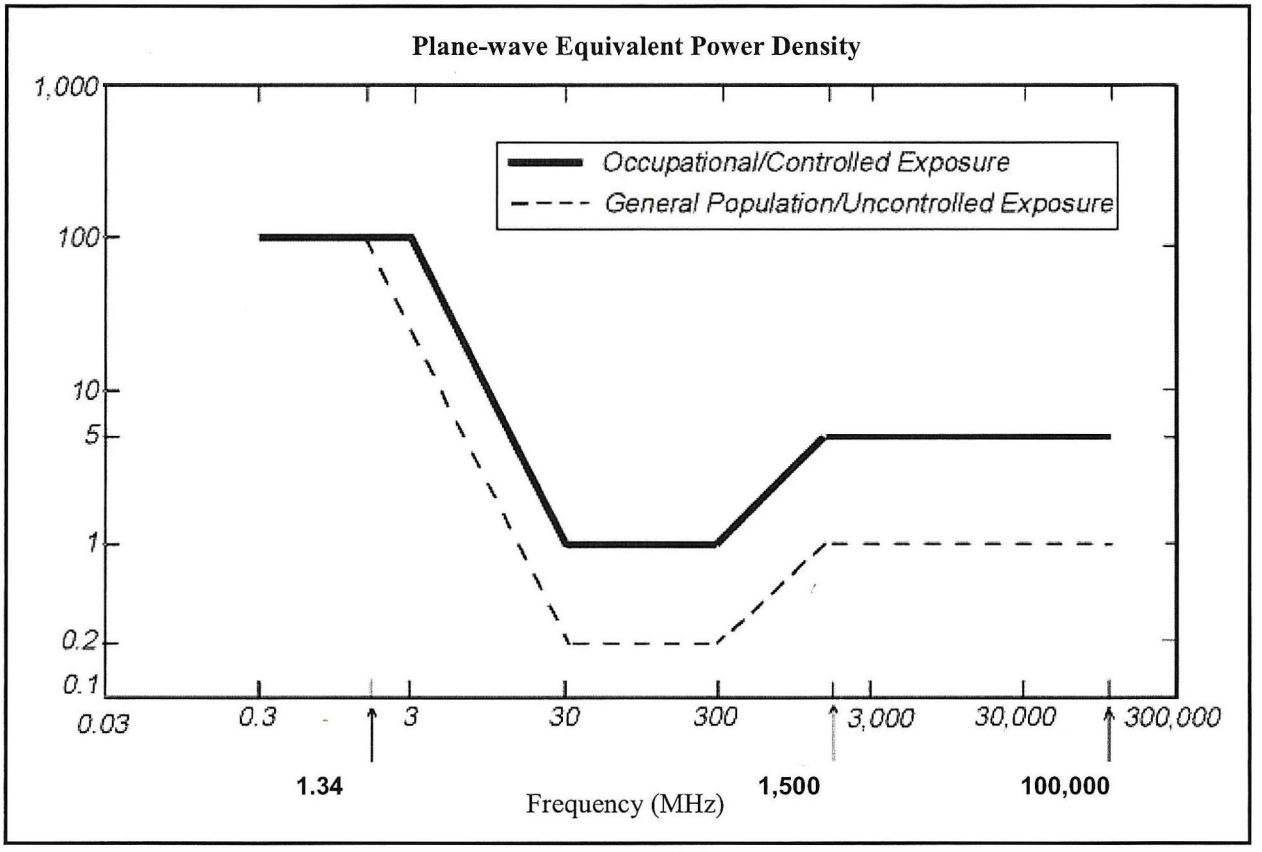
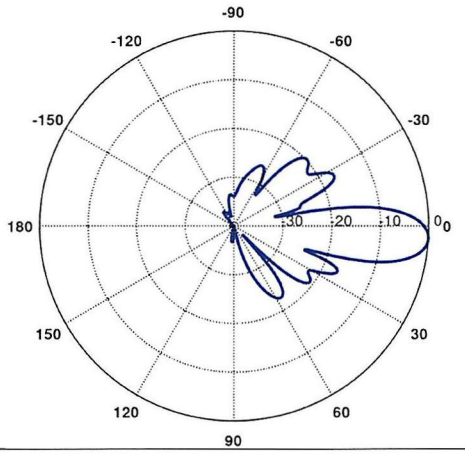
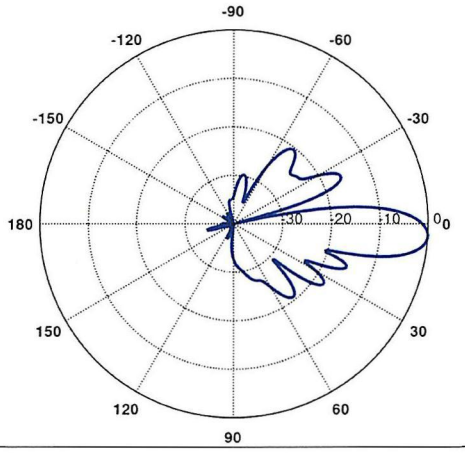
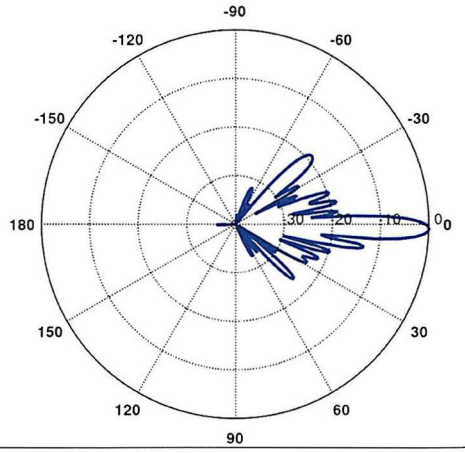
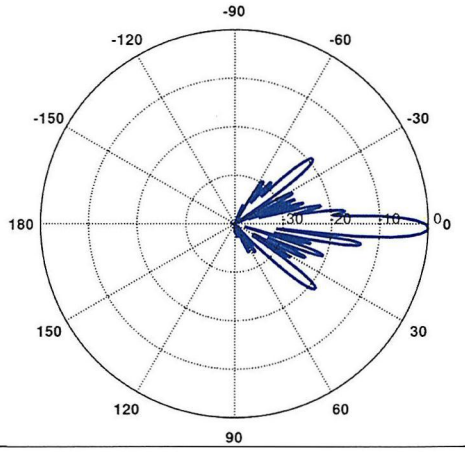


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data and Electrical Patterns

750 MHz Manufacturer: COMMSCOPE Model #: NHH-45B-R2B Frequency Band: 698-806 MHz Gain: 16.8 dBi Vertical Beamwidth: 12.5° Horizontal Beamwidth: 48° Polarization: ±45° Dimensions (L x W x D): 72.0" x 18.0" x 7.0"	
850 MHz Manufacturer: COMMSCOPE Model #: NHH-45B-R2B Frequency Band: 824-896 MHz Gain: 17.5 dBi Vertical Beamwidth: 11.4° Horizontal Beamwidth: 43° Polarization: ±45° Dimensions (L x W x D): 72.0" x 18.0" x 7.0"	

1900 MHz Manufacturer: COMMSCOPE Model #: NHH-45B-R2B Frequency Band: 1850-1990 MHz Gain: 19.9 dBi Vertical Beamwidth: 5.4° Horizontal Beamwidth: 43° Polarization: ±45° Dimensions (L x W x D): 72.0" x 18.0" x 7.0"	
2100 MHz Manufacturer: COMMSCOPE Model #: NHH-45B-R2B Frequency Band: 1920-2200 MHz Gain: 20.3 dBi Vertical Beamwidth: 5° Horizontal Beamwidth: 41° Polarization: ±45° Dimensions (L x W x D): 72.0" x 18.0" x 7.0"	
3700 MHz Manufacturer: SAMSUNG Model #: MT6413-77A Frequency Band: 3700-3980 MHz Gain: 25.5 dBi Vertical Beamwidth: N/A° Horizontal Beamwidth: N/A° Polarization: N/A° Dimensions (L x W x D): N/A	N/A

ATTACHMENT 4

(REVISED)
TOWER STRUCTURAL ANALYSIS REPORT

For

VERIZON SITE NAME: REDDING CT

TEP PROJECT NUMBER: 321193.966550

80 Lonetown Road
Redding, CT 06896

Antennas Mounted on the Tower

Prepared for:

verizon

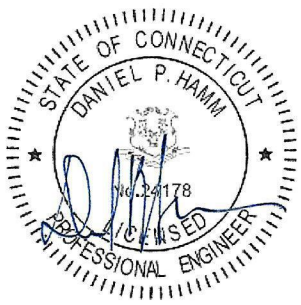
20 Alexander Drive
Wallingford, CT 06492

Dated: June 26, 2024 (Rev. 5)
February 6, 2024 (Rev. 4)
July 27, 2021 (Rev. 3)
April 16, 2021 (Rev. 2)
February 10, 2021 (Rev. 1)

Prepared by:

TEP NORTHEAST

(TEP OPCO, LLC)
45 Beechwood Drive
North Andover, MA 01845
(P) 978.557.5553
www.tepgroup.net



SCOPE OF WORK:

TEP Northeast (TEP NE) has been authorized by Verizon to conduct a structural evaluation of the 100' self-supporting tower supporting the proposed Verizon's antennas located at elevation 82' above the ground level.

This report represents this office's findings, conclusions and recommendations pertaining to the support of Verizon's existing and proposed antennas listed below.

The following documents were used for our reference:

- Structural Analysis Report prepared by Centek Engineering, Inc dated September 23, 2013.
- Tower Mapping Report prepared by TEP NE dated January 15, 2024.
- Mount Analysis Report prepared by Colliers Engineering & Design, dated June 5, 2024.
- Mount Modification Drawings prepared by Colliers Engineering & Design, dated June 6, 2024.

TOWER SUMMARY:

TEP NE performed a structural evaluation on the existing tower with the following proposed modifications:

1. **Replace existing tower diagonals from El. 60' to El. 80'.**

Based on our evaluation, we have determined that the existing tower, with the modifications described above, **is in conformance** with the ANSI/TIA-222-H Standard for the loading considered under the criteria listed in this report. The tower structure is rated at **83.9 %** - (Legs at Tower Section T4 from EL.20' to EL.40' Controlling).

FOUNDATION SUMMARY:

Based on our evaluation, we have determined that the existing foundation **is in conformance** with the ANSI/TIA-222-H Standard for the loading considered under the criteria listed in this report. The foundation is rated at **85.1 %** - (Overturning Controlling).

APPURTENANCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
	(3) APX16DWV-16DWVS Antennas	93'-6"	SitePro1 VFA12-HD
	(3) APXVAAR18-43 Antennas	93'-6"	SitePro1 VFA12-HD
	(3) AIR6449 B41 Antennas	93'-6"	SitePro1 VFA12-HD
	(3) 4449 RRH's	93'-6"	SitePro1 VFA12-HD
	(3) RRUS-11 B4 RRH's	93'-6"	SitePro1 VFA12-HD
	(3) 2212 RRH's	93'-6"	SitePro1 VFA12-HD
	(3) 4415 RRH's	93'-6"	SitePro1 VFA12-HD
	(3) E14F05P86-02 Diplexers	93'-6"	SitePro1 VFA12-HD
Verizon	(4) NHH-45B-R2B Antennas	82'-0"	T-Frame w/ Reinforcement Kit
Verizon	(2) NHH-65B-R2B Antennas	82'-0"	T-Frame w/ Reinforcement Kit
Verizon	(2) OVP Boxes	82'-0"	T-Frame w/ Reinforcement Kit
Verizon	**(3) MT6413-77A Antennas w/ RRH's**	82'-0"	T-Frame w/ Reinforcement Kit
Verizon	**(3) RF4439d-25A RRH's**	82'-0"	T-Frame w/ Reinforcement Kit
Verizon	**(3) RF4461d-13A RRH's**	82'-0"	T-Frame w/ Reinforcement Kit

Proposed Verizon Appurtenances shown in Bold.

EXISTING CABLES:

Tenant	Coax Cables	Elev.	Mount
Verizon	(2) 1-1/2" Hybrid Cables	82'-0"	Tower Leg

ANALYSIS RESULTS SUMMARY:

Component	Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Legs	**83.9 %**	20 - 40	PASS	**Controlling**
Diagonals	68.1 %	40 - 60	PASS	
Top Girt	16.6 %	20 - 40	PASS	

FOUNDATION RESULTS SUMMARY:

	Stress Ratio	Pass/Fail	Comments
Sliding	15.3 %	PASS	
Bearing	44.5 %	PASS	
Overturning	**85.1 %**	**PASS**	**Controlling**
Flexure	29.3 %	PASS	

DESIGN CRITERIA:

1. This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, and the International Building Code 2021 with 2022 Connecticut State Building Code.

   City: Redding
   Basic Design Wind Speed: 120 mph
   Risk Category: II
   Exposure Category: C
   Topographic Category: 1
   Nominal Ice Thickness: 1.0 inch

2. Approximate height above grade to proposed antennas: 82'

***Calculations and referenced documents are attached.**

ASSUMPTIONS:

1. The appurtenances configuration is as stated in this report. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.

2. The tower and foundation are properly constructed and maintained. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.

3. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.

4. A geotechnical analysis was not completed for the site at the location above, therefore all soil properties were obtained from the Tower Structural Analysis prepared by Centek Engineering, Inc dated September 23, 2013.

SUPPORT RECOMMENDATIONS:

TEP NE recommends that the proposed antennas and RRH's be mounted on the existing sector frames with reinforcement kits.

Reference TEP NE's Latest Construction Drawings for all component and connection requirements (attached).

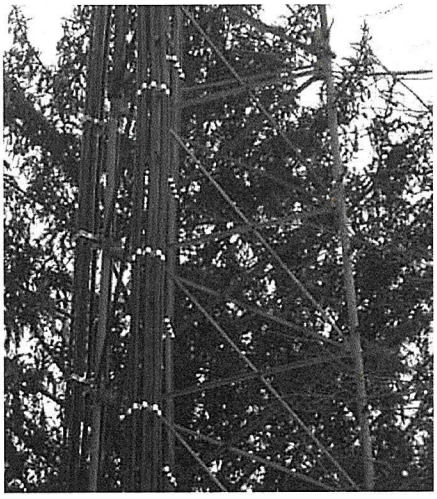
MODIFICATION RECOMMENDATIONS:

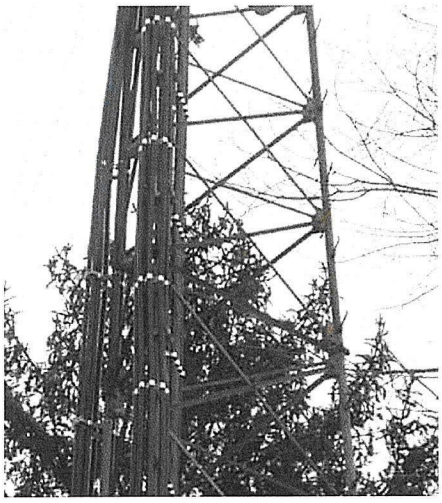
The 100' self-support tower requires structural modifications to bring into compliance with the structural requirements as specified in EIA/TIA-222-H.

It is recommended that the existing tower be modified as follows:

1. **Replace existing tower diagonals from El. 60' to El. 80'.**

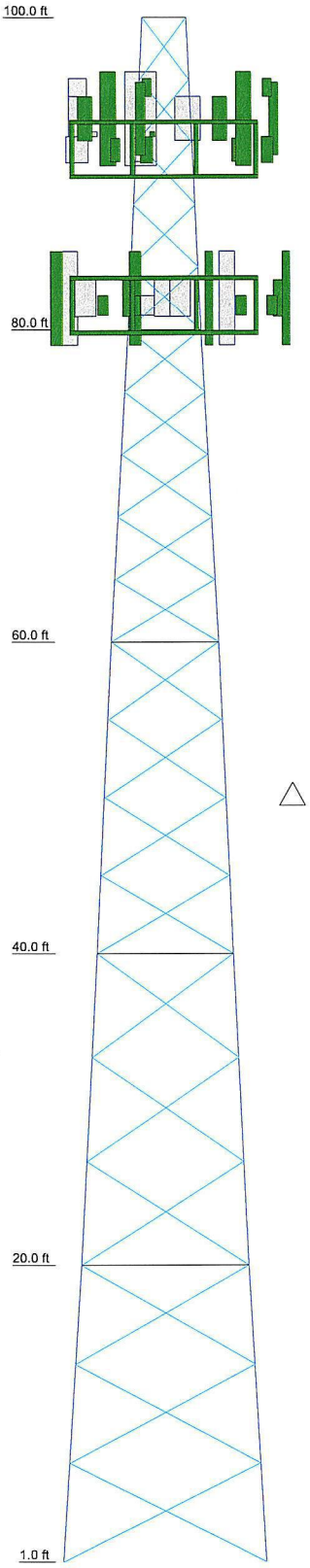
FIELD PHOTOS:





CALCULATIONS

Section	T5	T4	T3	T2	T1	
Legs	P4x0.326	P3.5x0.303	P3.5x0.260	P3x0.246	P3x0.225	
Leg Grade		A572-50				
Diagonals	L2 1/2x2 1/2x3/16	L2x2x1/8	L1 1/2x1 1/2x3/16	L2x2x1/8	L1 1/4x1 1/4x1/8	
Diagonal Grade		A36				
Top Girts	L2 1/2x2 1/2x3/16	L2x2x1/8	L1 1/2x1 1/2x3/16		L1 1/4x1 1/4x1/8	
Face Width (ft) 13	10.69	8.65	6.76	4.72	2.75	
# Panels @ (ft)	3 @ 6.33333	3 @ 6.66667	4 @ 5	10 @ 4		
Weight (lb) 4931.3	1572.4	1013.8	973.3	796.0	575.8	



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
APX16DWV-16DWVS Antenna w/ Mounting Pipe	93.5	2212 RRH	93.5
		4449 RRH	93.5
APXVAAR18-43 Antenna w/ Mounting Pipe	93.5	VFA12-HD	91.5
		VFA12-HD	91.5
AIR6449 B41 Antenna w/ Mounting Pipe (T-Mobile)	93.5	VFA12-HD	91.5
4415 RRH	93.5	MT6413-77A Antenna w/ Mounting Pipe	82
RRUS-11 B4 RRH	93.5	(2) NHH-65B-R2B Antenna w/ Mounting Pipe	82
E14F05P86 Diplexer	93.5		
2212 RRH	93.5	RF4439d-25A RRH	82
4449 RRH	93.5	RF4461d-13A RRH	82
APX16DWV-16DWVS Antenna w/ Mounting Pipe	93.5	OVP w/ Mounting Pipe	82
		OVP w/ Mounting Pipe	82
APXVAAR18-43 Antenna w/ Mounting Pipe	93.5	MT6413-77A Antenna w/ Mounting Pipe	82
AIR6449 B41 Antenna w/ Mounting Pipe (T-Mobile)	93.5	(2) NHH-65B-R2B Antenna w/ Mounting Pipe	82
4415 RRH	93.5	RF4439d-25A RRH	82
RRUS-11 B4 RRH	93.5	RF4461d-13A RRH	82
E14F05P86 Diplexer	93.5	MT6413-77A Antenna w/ Mounting Pipe	82
2212 RRH	93.5		
4449 RRH	93.5	(2) NHH-45B-R2B Antenna w/ Mounting Pipe	82
APX16DWV-16DWVS Antenna w/ Mounting Pipe	93.5	RF4439d-25A RRH	82
		RF4461d-13A RRH	82
APXVAAR18-43 Antenna w/ Mounting Pipe	93.5	12' T-Arm ((Redding CT)	81.5
AIR6449 B41 Antenna w/ Mounting Pipe (T-Mobile)	93.5	V-Brace Stabilizer Kit	81.5
		12' T-Arm ((Redding CT)	81.5
4415 RRH	93.5	V-Brace Stabilizer Kit	81.5
RRUS-11 B4 RRH	93.5	12' T-Arm ((Redding CT)	81.5
E14F05P86 Diplexer	93.5	V-Brace Stabilizer Kit	81.5

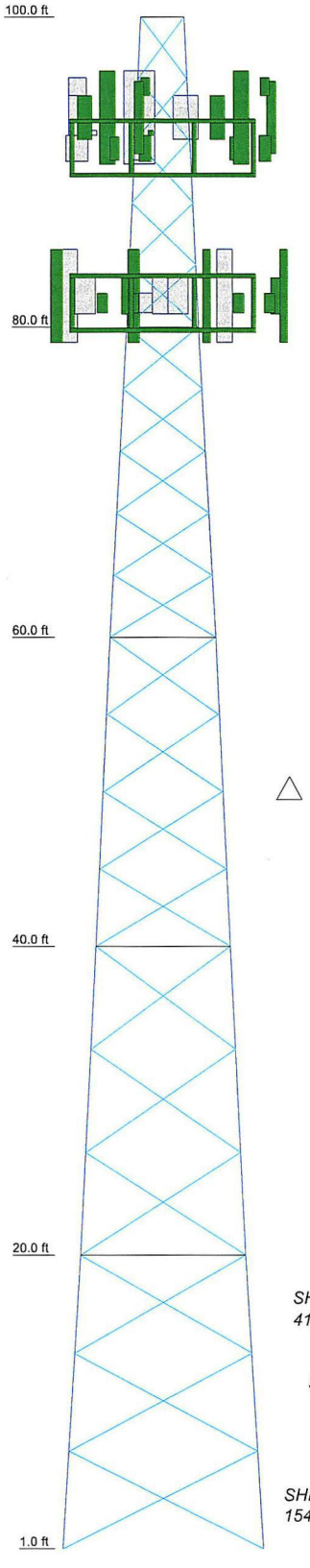
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TEP Northeast
45 Beechwood Drive
North Andover, MA 01845
Phone: 978-557-553
FAX:

Job: ***REDDING CT***			
Project: ***100 ft Self Supporting Tower***			
Client: VERIZON	Drawn by: LBW	App'd:	
Code: TIA-222-H	Date: 06/25/24	Scale: NTS	
Path:		Dwg No. E-1	

Section	T5	T4	T3	T2	T1
Legs	P4x0.326	P3.5x0.303	P3.5x0.260	P3x0.246	P3x0.225
Leg Grade	A572-50				
Diagonals	L2 1/2x2 1/2x3/16	L2x2x1/8	L1 1/2x1 1/2x3/16	L2x2x1/8	L1 1/4x1 1/4x1/8
Diagonal Grade	A36				
Top Girts	L2 1/2x2 1/2x3/16	L2x2x1/8	L1 1/2x1 1/2x3/16	L1 1/4x1 1/4x1/8	
Face Width (ft) 13	10.69	8.65	6.76	4.72	2.75
# Panels @ (ft)	3 @ 6.33333	3 @ 6.66667	4 @ 5	10 @ 4	
Weight (lb) 4931.3	1572.4	1013.8	973.3	796.0	575.8



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

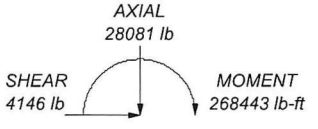
TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 83.9%

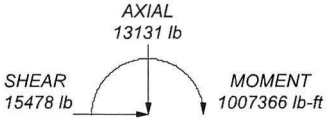
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 93854 lb
SHEAR: 10222 lb

UPLIFT: -82818 lb
SHEAR: 8962 lb



TORQUE 1141 lb-ft
50 mph WIND - 1.0000 in ICE



TORQUE 2063 lb-ft
REACTIONS - 120 mph WIND

TEP Northeast
45 Beechwood Drive
North Andover, MA 01845
Phone: 978-557-553
FAX:

Job: **REDDING CT**		
Project: ***100 ft Self Supporting Tower***		
Client: VERIZON	Drawn by: LBW	App'd:
Code: TIA-222-H	Date: 06/25/24	Scale: NTS
Path:		Dwg No. E-1

tnxTower	Job	Page
	REDDING CT	1 of 14
TEP Northeast 45 Beechwood Drive North Andover, MA 01845 Phone: 978-557-553 FAX:	**Project** 100 ft Self Supporting Tower	**Date** 17:44:21 06/25/24
	Client VERIZON	**Designed by** LBW

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 100.00 ft above the ground line.
The base of the tower is set at an elevation of 1.00 ft above the ground line.
The face width of the tower is 2.75 ft at the top and 13.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Tower base elevation above sea level: 798.00 ft.
Basic wind speed of 120 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 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 tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tower Section Geometry

Tower Section	*Tower Elevation*	*Assembly Database*	*Description*	*Section Width*	*Number of Sections*	*Section Length*
	ft			*ft*		*ft*
T1	100.00-80.00			2.75	1	20.00
T2	80.00-60.00			4.72	1	20.00
T3	60.00-40.00			6.76	1	20.00
T4	40.00-20.00			8.65	1	20.00
T5	20.00-1.00			10.69	1	19.00

Tower Section Geometry *(cont'd)*

Tower Section	*Tower Elevation*	*Diagonal Spacing*	*Bracing Type*	*Has K Brace End Panels*	*Has Horizontals*	*Top Girt Offset*	*Bottom Girt Offset*
	ft	*ft*				*in*	*in*
T1	100.00-80.00	4.00	X Brace	No	No	0.0000	0.0000
T2	80.00-60.00	4.00	X Brace	No	No	0.0000	0.0000
T3	60.00-40.00	5.00	X Brace	No	No	0.0000	0.0000
T4	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T5	20.00-1.00	6.33	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 100.00-80.00	Pipe	P3x0.225	A572-50 (50 ksi)	Equal Angle	L1 1/4x1 1/4x1/8	A36 (36 ksi)
T2 80.00-60.00	Pipe	P3x0.246	A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T3 60.00-40.00	Pipe	P3.5x0.260	A572-50 (50 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T4 40.00-20.00	Pipe	P3.5x0.303	A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T5 20.00-1.00	Pipe	P4x0.326	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 100.00-80.00	Equal Angle	L1 1/4x1 1/4x1/8	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T2 80.00-60.00	Equal Angle	L1 1/4x1 1/4x1/8	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T3 60.00-40.00	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T4 40.00-20.00	Equal Angle	L2x2x1/8	A36 (36 ksi)	Equal Angle		A36 (36 ksi)
T5 20.00-1.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 100.00-80.00	0.00	0.6250	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T2 80.00-60.00	0.00	0.6250	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T3 60.00-40.00	0.00	0.6250	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T4 40.00-20.00	0.00	0.6250	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T5 20.00-1.00	0.00	0.6250	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Single Diags X	K Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1	1	1	1	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1	1	1	1	1	1
T5 20.00-1.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1-1/2" Hybrid Cables	C	No	No	Ar (CaAa)	93.50 - 4.00	6	6	1.5000	1.5000		0.50
1/2" Coax Cable *********	C	No	No	Ar (CaAa)	93.50 - 4.00	1	1	0.5000	0.5000		0.15
1-1/2" Hybrid Cables	A	No	No	Ar (CaAa)	82.00 - 4.00	2	2	1.5000	1.5000		0.50

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	100.00-80.00	A	0.000	0.000	0.600	0.000	2.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.825	0.000	42.52
T2	80.00-60.00	A	0.000	0.000	6.000	0.000	20.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	19.000	0.000	63.00
T3	60.00-40.00	A	0.000	0.000	6.000	0.000	20.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	19.000	0.000	63.00
T4	40.00-20.00	A	0.000	0.000	6.000	0.000	20.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	19.000	0.000	63.00
T5	20.00-1.00	A	0.000	0.000	4.800	0.000	16.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	15.200	0.000	50.40

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	100.00-80.00	A	1.106	0.000	0.000	1.917	0.000	16.32
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	35.850	0.000	365.17

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight lb
T2	80.00-60.00	A	1.078	0.000	0.000	18.986	0.000	159.48
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	52.840	0.000	530.32
T3	60.00-40.00	A	1.042	0.000	0.000	18.744	0.000	154.66
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	52.488	0.000	516.56
T4	40.00-20.00	A	0.991	0.000	0.000	18.392	0.000	147.76
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	51.977	0.000	496.75
T5	20.00-1.00	A	0.892	0.000	0.000	14.180	0.000	107.99
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	40.806	0.000	367.85

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	100.00-80.00	-0.1388	3.1205	-0.2380	4.4952
T2	80.00-60.00	-1.0513	3.4976	-1.8652	5.0816
T3	60.00-40.00	-1.4005	4.6176	-2.3941	6.5510
T4	40.00-20.00	-1.5093	5.0357	-2.7222	7.6079
T5	20.00-1.00	-1.2131	4.1138	-2.3953	6.9567

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	1-1/2" Hybrid Cables	80.00 - 93.50	0.6000	0.6000
T1	2	1/2" Coax Cable	80.00 - 93.50	0.6000	0.6000
T1	4	1-1/2" Hybrid Cables	80.00 - 82.00	0.6000	0.6000
T2	1	1-1/2" Hybrid Cables	60.00 - 80.00	0.6000	0.6000
T2	2	1/2" Coax Cable	60.00 - 80.00	0.6000	0.6000
T2	4	1-1/2" Hybrid Cables	60.00 - 80.00	0.6000	0.6000
T3	1	1-1/2" Hybrid Cables	40.00 - 60.00	0.6000	0.6000
T3	2	1/2" Coax Cable	40.00 - 60.00	0.6000	0.6000
T3	4	1-1/2" Hybrid Cables	40.00 - 60.00	0.6000	0.6000
T4	1	1-1/2" Hybrid Cables	20.00 - 40.00	0.6000	0.6000
T4	2	1/2" Coax Cable	20.00 - 40.00	0.6000	0.6000
T4	4	1-1/2" Hybrid Cables	20.00 - 40.00	0.6000	0.6000
T5	1	1-1/2" Hybrid Cables	4.00 - 20.00	0.6000	0.6000
T5	2	1/2" Coax Cable	4.00 - 20.00	0.6000	0.6000
T5	4	1-1/2" Hybrid Cables	4.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight lb
VFA12-HD	A	None		0.0000	91.50	No Ice	13.20	9.20	658.00
						1/2" Ice	19.50	14.60	804.00
						1" Ice	25.80	19.50	1015.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
APX16DWV-16DWVS Antenna w/ Mounting Pipe	A	From Leg	3.00	0.0000		93.50	No Ice	6.91	3.60	62.90
			-5.50				1/2" Ice	7.39	4.44	112.44
			0.00				1" Ice	7.86	5.15	168.54
APXVAAR18-43 Antenna w/ Mounting Pipe	A	From Leg	3.00	0.0000		93.50	No Ice	14.67	7.58	133.90
			-1.50				1/2" Ice	15.18	8.54	235.65
			0.00				1" Ice	15.71	9.38	346.05
AIR6449 B41 Antenna w/ Mounting Pipe (T-Mobile)	A	From Leg	3.00	0.0000		93.50	No Ice	6.42	3.89	124.90
			1.50				1/2" Ice	7.00	4.62	179.59
			0.00				1" Ice	7.50	5.22	240.17
4415 RRH	A	From Leg	2.50	0.0000		93.50	No Ice	1.64	0.68	44.00
			-5.50				1/2" Ice	1.80	0.79	56.41
			2.00				1" Ice	1.97	0.91	71.18
RRUS-11 B4 RRH	A	From Leg	2.50	0.0000		93.50	No Ice	2.79	1.19	51.00
			-5.50				1/2" Ice	3.00	1.34	71.87
			-2.00				1" Ice	3.21	1.50	95.78
E14F05P86 Diplexer	A	From Leg	1.50	0.0000		93.50	No Ice	0.24	0.10	6.00
			-4.50				1/2" Ice	0.31	0.14	8.47
			-1.00				1" Ice	0.38	0.20	12.04
2212 RRH	A	From Leg	2.50	0.0000		93.50	No Ice	1.69	0.69	50.00
			-1.50				1/2" Ice	1.85	0.81	62.78
			1.00				1" Ice	2.02	0.93	77.95
4449 RRH	A	From Leg	2.50	0.0000		93.50	No Ice	1.97	1.42	71.00
			-1.50				1/2" Ice	2.15	1.57	89.58
			-2.00				1" Ice	2.33	1.74	110.99
VFA12-HD	B	None		0.0000		91.50	No Ice	13.20	9.20	658.00
							1/2" Ice	19.50	14.60	804.00
							1" Ice	25.80	19.50	1015.00
APX16DWV-16DWVS Antenna w/ Mounting Pipe	B	From Leg	3.00	0.0000		93.50	No Ice	6.91	3.60	62.90
			-5.50				1/2" Ice	7.39	4.44	112.44
			0.00				1" Ice	7.86	5.15	168.54
APXVAAR18-43 Antenna w/ Mounting Pipe	B	From Leg	3.00	0.0000		93.50	No Ice	14.67	7.58	133.90
			-1.50				1/2" Ice	15.18	8.54	235.65
			0.00				1" Ice	15.71	9.38	346.05
AIR6449 B41 Antenna w/ Mounting Pipe (T-Mobile)	B	From Leg	3.00	0.0000		93.50	No Ice	6.42	3.89	124.90
			1.50				1/2" Ice	7.00	4.62	179.59
			0.00				1" Ice	7.50	5.22	240.17
4415 RRH	B	From Leg	2.50	0.0000		93.50	No Ice	1.64	0.68	44.00
			-5.50				1/2" Ice	1.80	0.79	56.41
			2.00				1" Ice	1.97	0.91	71.18
RRUS-11 B4 RRH	B	From Leg	2.50	0.0000		93.50	No Ice	2.79	1.19	51.00
			-5.50				1/2" Ice	3.00	1.34	71.87
			-2.00				1" Ice	3.21	1.50	95.78
E14F05P86 Diplexer	B	From Leg	1.50	0.0000		93.50	No Ice	0.24	0.10	6.00
			-4.50				1/2" Ice	0.31	0.14	8.47
			-1.00				1" Ice	0.38	0.20	12.04
2212 RRH	B	From Leg	2.50	0.0000		93.50	No Ice	1.69	0.69	50.00
			-1.50				1/2" Ice	1.85	0.81	62.78
			1.00				1" Ice	2.02	0.93	77.95
4449 RRH	B	From Leg	2.50	0.0000		93.50	No Ice	1.97	1.42	71.00
			-1.50				1/2" Ice	2.15	1.57	89.58
			-2.00				1" Ice	2.33	1.74	110.99
VFA12-HD	C	None		0.0000		91.50	No Ice	13.20	9.20	658.00
							1/2" Ice	19.50	14.60	804.00
							1" Ice	25.80	19.50	1015.00
APX16DWV-16DWVS Antenna w/ Mounting Pipe	C	From Leg	3.00	0.0000		93.50	No Ice	6.91	3.60	62.90
			-5.50				1/2" Ice	7.39	4.44	112.44
			0.00				1" Ice	7.86	5.15	168.54

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
APXVAAR18-43 Antenna w/ Mounting Pipe	C	From Leg	3.00 -1.50 0.00	0.0000	93.50	No Ice 1/2" Ice 1" Ice	14.67 15.18 15.71	7.58 8.54 9.38	133.90 235.65 346.05
AIR6449 B41 Antenna w/ Mounting Pipe (T-Mobile)	C	From Leg	3.00 1.50 0.00	0.0000	93.50	No Ice 1/2" Ice 1" Ice	6.42 7.00 7.50	3.89 4.62 5.22	124.90 179.59 240.17
4415 RRH	C	From Leg	2.50 -5.50 2.00	0.0000	93.50	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	44.00 56.41 71.18
RRUS-11 B4 RRH	C	From Leg	2.50 -5.50 -2.00	0.0000	93.50	No Ice 1/2" Ice 1" Ice	2.79 3.00 3.21	1.19 1.34 1.50	51.00 71.87 95.78
E14F05P86 Diplexer	C	From Leg	1.50 -4.50 -1.00	0.0000	93.50	No Ice 1/2" Ice 1" Ice	0.24 0.31 0.38	0.10 0.14 0.20	6.00 8.47 12.04
2212 RRH	C	From Leg	2.50 -1.50 1.00	0.0000	93.50	No Ice 1/2" Ice 1" Ice	1.69 1.85 2.02	0.69 0.81 0.93	50.00 62.78 77.95
4449 RRH	C	From Leg	2.50 -1.50 -2.00	0.0000	93.50	No Ice 1/2" Ice 1" Ice	1.97 2.15 2.33	1.42 1.57 1.74	71.00 89.58 110.99
****									
12' T-Arm ((Redding CT)	A	None		0.0000	81.50	No Ice 1/2" Ice 1" Ice	4.20 5.40 6.60	1.10 2.70 4.30	150.00 225.00 300.00
V-Brace Stabilizer Kit	A	From Leg	1.50 0.00 3.00	0.0000	81.50	No Ice 1/2" Ice 1" Ice	4.24 4.78 5.44	3.96 4.46 5.06	80.00 100.00 140.00
MT6413-77A Antenna w/ Mounting Pipe	A	From Leg	3.00 -5.00 0.00	0.0000	82.00	No Ice 1/2" Ice 1" Ice	5.12 5.95 6.68	3.36 4.38 5.25	87.20 132.68 183.69
(2) NHH-65B-R2B Antenna w/ Mounting Pipe	A	From Leg	3.00 -1.00 0.00	0.0000	82.00	No Ice 1/2" Ice 1" Ice	8.08 8.53 9.00	6.77 7.72 8.55	65.90 131.84 205.55
RF4439d-25A RRH	A	From Leg	2.50 -5.00 -0.50	0.0000	82.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	98.00 116.34 137.47
RF4461d-13A RRH	A	From Leg	2.50 -1.00 -0.50	0.0000	82.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.27 1.42 1.57	79.00 97.54 118.89
OVP w/ Mounting Pipe	A	From Leg	0.50 0.00 0.00	0.0000	82.00	No Ice 1/2" Ice 1" Ice	4.63 5.18 5.66	3.93 4.65 5.24	53.90 101.19 153.91
OVP w/ Mounting Pipe	A	From Leg	0.50 1.00 0.00	0.0000	82.00	No Ice 1/2" Ice 1" Ice	4.63 5.18 5.66	3.93 4.65 5.24	53.90 101.19 153.91
12' T-Arm ((Redding CT)	B	None		0.0000	81.50	No Ice 1/2" Ice 1" Ice	4.20 5.40 6.60	1.10 2.70 4.30	150.00 225.00 300.00
V-Brace Stabilizer Kit	B	From Leg	1.50 0.00 3.00	0.0000	81.50	No Ice 1/2" Ice 1" Ice	4.24 4.78 5.44	3.96 4.46 5.06	80.00 100.00 140.00
MT6413-77A Antenna w/ Mounting Pipe	B	From Leg	3.00 -5.00 0.00	0.0000	82.00	No Ice 1/2" Ice 1" Ice	5.12 5.95 6.68	3.36 4.38 5.25	87.20 132.68 183.69
(2) NHH-65B-R2B Antenna w/ Mounting Pipe	B	From Leg	3.00 -1.00	0.0000	82.00	No Ice 1/2" Ice	8.08 8.53	6.77 7.72	65.90 131.84

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	9.00	8.55	205.55
RF4439d-25A RRH	B	From Leg	2.50	0.0000	82.00	No Ice	1.88	1.25	98.00
			-5.00			1/2" Ice	2.05	1.39	116.34
			-0.50			1" Ice	2.22	1.54	137.47
RF4461d-13A RRH	B	From Leg	2.50	0.0000	82.00	No Ice	1.88	1.27	79.00
			-1.00			1/2" Ice	2.05	1.42	97.54
			-0.50			1" Ice	2.22	1.57	118.89
12' T-Arm ((Redding CT)	C	None		0.0000	81.50	No Ice	4.20	1.10	150.00
						1/2" Ice	5.40	2.70	225.00
						1" Ice	6.60	4.30	300.00
V-Brace Stabilizer Kit	C	From Leg	1.50	0.0000	81.50	No Ice	4.24	3.96	80.00
			0.00			1/2" Ice	4.78	4.46	100.00
			3.00			1" Ice	5.44	5.06	140.00
MT6413-77A Antenna w/ Mounting Pipe	C	From Leg	3.00	0.0000	82.00	No Ice	5.12	3.36	87.20
			-5.00			1/2" Ice	5.95	4.38	132.68
			0.00			1" Ice	6.68	5.25	183.69
(2) NHH-45B-R2B Antenna w/ Mounting Pipe	C	From Leg	3.00	0.0000	82.00	No Ice	11.40	6.71	95.90
			-1.00			1/2" Ice	11.89	7.66	177.38
			0.00			1" Ice	12.38	8.49	267.02
RF4439d-25A RRH	C	From Leg	2.50	0.0000	82.00	No Ice	1.88	1.25	98.00
			-5.00			1/2" Ice	2.05	1.39	116.34
			-0.50			1" Ice	2.22	1.54	137.47
RF4461d-13A RRH	C	From Leg	2.50	0.0000	82.00	No Ice	1.88	1.27	79.00
			-1.00			1/2" Ice	2.05	1.42	97.54
			-0.50			1" Ice	2.22	1.57	118.89

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

Comb. No.	Description
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 Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	93854.30	8873.81	-5073.92
	Max. H_x	18	93854.30	8873.81	-5073.92
	Max. H_z	7	-82738.04	-7781.59	4442.95
	Min. Vert	7	-82738.04	-7781.59	4442.95
	Min. H_x	7	-82738.04	-7781.59	4442.95
	Min. H_z	18	93854.30	8873.81	-5073.92
Leg B	Max. Vert	10	93784.31	-8896.90	-5030.64
	Max. H_x	23	-82790.44	7806.93	4401.50
	Max. H_z	23	-82790.44	7806.93	4401.50
	Min. Vert	23	-82790.44	7806.93	4401.50
	Min. H_x	10	93784.31	-8896.90	-5030.64
	Min. H_z	10	93784.31	-8896.90	-5030.64
Leg A	Max. Vert	2	93748.02	-49.00	10219.44
	Max. H_x	19	-41410.01	421.38	-4567.02
	Max. H_z	2	93748.02	-49.00	10219.44
	Min. Vert	15	-82817.65	48.60	-8962.36
	Min. H_x	9	3246.96	-405.79	327.35
	Min. H_z	15	-82817.65	48.60	-8962.36

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	10942.17	-0.00	-0.00	444.38	376.42	0.00
1.2 Dead+1.0 Wind 0 deg - No	13130.61	-0.00	-15478.03	-1006169.99	457.89	-1096.63

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Ice						
0.9 Dead+1.0 Wind 0 deg - No Ice	9847.96	-0.00	-15478.03	-1005126.07	343.54	-1095.66
1.2 Dead+1.0 Wind 30 deg - No Ice	13130.61	7419.07	-12850.21	-847514.62	-489167.02	-76.45
0.9 Dead+1.0 Wind 30 deg - No Ice	9847.96	7419.07	-12850.21	-846649.40	-488704.03	-75.42
1.2 Dead+1.0 Wind 60 deg - No Ice	13130.61	12665.49	-7312.42	-484509.89	-839668.36	965.82
0.9 Dead+1.0 Wind 60 deg - No Ice	9847.96	12665.49	-7312.42	-484071.07	-838790.50	965.89
1.2 Dead+1.0 Wind 90 deg - No Ice	13130.61	14838.14	-0.00	535.50	-978788.58	1748.56
0.9 Dead+1.0 Wind 90 deg - No Ice	9847.96	14838.14	-0.00	401.83	-977748.88	1747.60
1.2 Dead+1.0 Wind 120 deg - No Ice	13130.61	13404.37	7739.02	503890.38	-871375.48	2062.31
0.9 Dead+1.0 Wind 120 deg - No Ice	9847.96	13404.37	7739.02	503167.35	-870469.65	2061.35
1.2 Dead+1.0 Wind 150 deg - No Ice	13130.61	7419.07	12850.21	848587.22	-489162.25	1824.03
0.9 Dead+1.0 Wind 150 deg - No Ice	9847.96	7419.07	12850.21	847453.54	-488699.82	1823.47
1.2 Dead+1.0 Wind 180 deg - No Ice	13130.61	0.00	14624.84	970625.32	457.84	1097.86
0.9 Dead+1.0 Wind 180 deg - No Ice	9847.96	0.00	14624.84	969345.60	343.52	1096.98
1.2 Dead+1.0 Wind 210 deg - No Ice	13130.61	-7419.07	12850.21	848584.67	490076.46	76.44
0.9 Dead+1.0 Wind 210 deg - No Ice	9847.96	-7419.07	12850.21	847451.01	489385.39	75.41
1.2 Dead+1.0 Wind 240 deg - No Ice	13130.61	-13404.37	7739.02	503887.80	872286.79	-964.94
0.9 Dead+1.0 Wind 240 deg - No Ice	9847.96	-13404.37	7739.02	503164.77	871152.28	-964.94
1.2 Dead+1.0 Wind 270 deg - No Ice	13130.61	-14838.14	-0.00	535.51	979698.40	-1748.55
0.9 Dead+1.0 Wind 270 deg - No Ice	9847.96	-14838.14	-0.00	401.84	978430.02	-1747.59
1.2 Dead+1.0 Wind 300 deg - No Ice	13130.61	-12665.49	-7312.42	-484507.36	840579.65	-2062.87
0.9 Dead+1.0 Wind 300 deg - No Ice	9847.96	-12665.49	-7312.42	-484068.52	839473.11	-2062.09
1.2 Dead+1.0 Wind 330 deg - No Ice	13130.61	-7419.07	-12850.21	-847512.08	490081.27	-1824.03
0.9 Dead+1.0 Wind 330 deg - No Ice	9847.96	-7419.07	-12850.21	-846646.82	489389.58	-1823.47
1.2 Dead+1.0 Ice+1.0 Temp	28081.14	0.00	-0.00	4025.52	1722.55	0.04
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	28081.14	0.00	-4146.39	-260837.34	1741.76	-463.80
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	28081.14	2025.35	-3508.01	-221874.54	-128700.32	123.19
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	28081.14	3480.39	-2009.40	-125712.51	-223027.17	677.25
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	28081.14	4050.70	-0.00	4056.62	-259141.63	1049.63
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	28081.14	3590.88	2073.20	136503.52	-227663.25	1140.75
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	28081.14	2025.35	3508.01	229987.57	-128699.47	926.55
1.2 Dead+1.0 Wind 180	28081.14	0.00	4018.80	263595.73	1742.12	463.95

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	28081.14	-2025.35	3508.01	229987.21	132182.55	-123.19
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	28081.14	-3590.88	2073.20	136503.11	231146.07	-677.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	28081.14	-4050.70	-0.00	4056.24	262624.29	-1049.57
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	28081.14	-3480.39	-2009.40	-125712.07	226510.42	-1140.92
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	28081.14	-2025.35	-3508.01	-221874.37	132183.66	-926.55
Dead+Wind 0 deg - Service	10942.17	-0.00	-3869.51	-251047.79	378.99	-274.13
Dead+Wind 30 deg - Service	10942.17	1854.77	-3212.55	-211402.85	-121931.80	-19.56
Dead+Wind 60 deg - Service	10942.17	3166.37	-1828.11	-120715.45	-209484.94	241.02
Dead+Wind 90 deg - Service	10942.17	3709.54	-0.00	445.81	-244242.78	437.59
Dead+Wind 120 deg - Service	10942.17	3351.09	1934.75	126192.58	-217420.77	515.46
Dead+Wind 150 deg - Service	10942.17	1854.77	3212.55	212293.91	-121931.83	455.58
Dead+Wind 180 deg - Service	10942.17	0.00	3656.21	242773.27	382.20	273.92
Dead+Wind 210 deg - Service	10942.17	-1854.77	3212.55	212293.72	122689.55	19.56
Dead+Wind 240 deg - Service	10942.17	-3351.09	1934.75	126192.33	218178.29	-241.33
Dead+Wind 270 deg - Service	10942.17	-3709.54	-0.00	445.81	245000.14	-437.59
Dead+Wind 300 deg - Service	10942.17	-3166.37	-1828.11	-120715.26	210242.64	-515.34
Dead+Wind 330 deg - Service	10942.17	-1854.77	-3212.55	-211402.63	122689.51	-455.58

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	lb	lb	lb	lb	lb	lb	
1	-0.00	-10942.17	-0.00	0.00	10942.17	0.00	0.000%
2	-0.00	-13130.61	-15478.03	0.00	13130.61	15478.03	0.000%
3	-0.00	-9847.96	-15478.03	0.00	9847.96	15478.03	0.000%
4	7419.07	-13130.61	-12850.21	-7419.07	13130.61	12850.21	0.000%
5	7419.07	-9847.96	-12850.21	-7419.07	9847.96	12850.21	0.000%
6	12665.49	-13130.61	-7312.42	-12665.49	13130.61	7312.42	0.000%
7	12665.49	-9847.96	-7312.42	-12665.49	9847.96	7312.42	0.000%
8	14838.14	-13130.61	-0.00	-14838.14	13130.61	0.00	0.000%
9	14838.14	-9847.96	-0.00	-14838.14	9847.96	0.00	0.000%
10	13404.37	-13130.61	7739.02	-13404.37	13130.61	-7739.02	0.000%
11	13404.37	-9847.96	7739.02	-13404.37	9847.96	-7739.02	0.000%
12	7419.07	-13130.61	12850.21	-7419.07	13130.61	-12850.21	0.000%
13	7419.07	-9847.96	12850.21	-7419.07	9847.96	-12850.21	0.000%
14	0.00	-13130.61	14624.84	-0.00	13130.61	-14624.84	0.000%
15	0.00	-9847.96	14624.84	-0.00	9847.96	-14624.84	0.000%
16	-7419.07	-13130.61	12850.21	7419.07	13130.61	-12850.21	0.000%
17	-7419.07	-9847.96	12850.21	7419.07	9847.96	-12850.21	0.000%
18	-13404.37	-13130.61	7739.02	13404.37	13130.61	-7739.02	0.000%
19	-13404.37	-9847.96	7739.02	13404.37	9847.96	-7739.02	0.000%
20	-14838.14	-13130.61	-0.00	14838.14	13130.61	0.00	0.000%
21	-14838.14	-9847.96	-0.00	14838.14	9847.96	0.00	0.000%
22	-12665.49	-13130.61	-7312.42	12665.49	13130.61	7312.42	0.000%
23	-12665.49	-9847.96	-7312.42	12665.49	9847.96	7312.42	0.000%
24	-7419.07	-13130.61	-12850.21	7419.07	13130.61	12850.21	0.000%
25	-7419.07	-9847.96	-12850.21	7419.07	9847.96	12850.21	0.000%
26	-0.00	-28081.14	0.00	-0.00	28081.14	0.00	0.000%
27	0.00	-28081.14	-4146.39	-0.00	28081.14	4146.39	0.000%
28	2025.35	-28081.14	-3508.01	-2025.35	28081.14	3508.01	0.000%
29	3480.39	-28081.14	-2009.40	-3480.39	28081.14	2009.40	0.000%
30	4050.70	-28081.14	-0.00	-4050.70	28081.14	0.00	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
31	3590.88	-28081.14	2073.20	-3590.88	28081.14	-2073.20	0.000%
32	2025.35	-28081.14	3508.01	-2025.35	28081.14	-3508.01	0.000%
33	-0.00	-28081.14	4018.81	-0.00	28081.14	-4018.80	0.000%
34	-2025.35	-28081.14	3508.01	2025.35	28081.14	-3508.01	0.000%
35	-3590.88	-28081.14	2073.20	3590.88	28081.14	-2073.20	0.000%
36	-4050.70	-28081.14	-0.00	4050.70	28081.14	0.00	0.000%
37	-3480.39	-28081.14	-2009.40	3480.39	28081.14	2009.40	0.000%
38	-2025.35	-28081.14	-3508.01	2025.35	28081.14	3508.01	0.000%
39	-0.00	-10942.17	-3869.51	0.00	10942.17	3869.51	0.000%
40	1854.77	-10942.17	-3212.55	-1854.77	10942.17	3212.55	0.000%
41	3166.37	-10942.17	-1828.11	-3166.37	10942.17	1828.11	0.000%
42	3709.54	-10942.17	-0.00	-3709.54	10942.17	0.00	0.000%
43	3351.09	-10942.17	1934.75	-3351.09	10942.17	-1934.75	0.000%
44	1854.77	-10942.17	3212.55	-1854.77	10942.17	-3212.55	0.000%
45	0.00	-10942.17	3656.21	-0.00	10942.17	-3656.21	0.000%
46	-1854.77	-10942.17	3212.55	1854.77	10942.17	-3212.55	0.000%
47	-3351.09	-10942.17	1934.75	3351.09	10942.17	-1934.75	0.000%
48	-3709.54	-10942.17	-0.00	3709.54	10942.17	0.00	0.000%
49	-3166.37	-10942.17	-1828.11	3166.37	10942.17	1828.11	0.000%
50	-1854.77	-10942.17	-3212.55	1854.77	10942.17	3212.55	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	100 - 80	2.018	47	0.1650	0.0015
T2	80 - 60	1.317	47	0.1560	0.0036
T3	60 - 40	0.718	47	0.1147	0.0028
T4	40 - 20	0.305	47	0.0708	0.0019
T5	20 - 1	0.070	47	0.0304	0.0007

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	100 - 80	8.064	18	0.6591	0.0097
T2	80 - 60	5.261	18	0.6229	0.0144
T3	60 - 40	2.870	18	0.4584	0.0113
T4	40 - 20	1.220	18	0.2830	0.0078
T5	20 - 1	0.281	18	0.1214	0.0029

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	P3x0.225	20.03	4.01	48.8 K=1.00	1.9615	-16230.20	74140.20	0.219 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T2	80 - 60	P3x0.246	20.03	4.01	49.2 K=1.00	2.1284	-43948.60	80248.50	0.548 [1] ✔
T3	60 - 40	P3.5x0.260	20.03	5.01	52.3 K=1.00	2.6465	-64287.40	97513.00	0.659 [1] ✔
T4	40 - 20	P3.5x0.303	20.03	6.68	70.6 K=1.00	3.0432	-79866.00	95136.40	0.839 [1] ✔
T5	20 - 1	P4x0.326	19.05	6.35	58.4 K=1.00	3.7628	-91881.70	131927.00	0.696 [1] ✔

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	L1 1/4x1 1/4x1/8	6.04	2.98	145.7 K=1.00	0.2969	-2397.96	4000.95	0.599 [1] ✔
T2	80 - 60	L2x2x1/8	6.35	3.16	101.5 K=1.06	0.4844	-3161.09	11576.00	0.273 [1] ✔
T3	60 - 40	L1 1/2x1 1/2x3/16	9.79	4.86	198.9 K=1.00	0.5273	-2598.92	3815.83	0.681 [1] ✔
T4	40 - 20	L2x2x1/8	12.31	6.19	186.7 K=1.00	0.4844	-2695.36	3977.20	0.678 [1] ✔
T5	20 - 1	L2 1/2x2 1/2x3/16	14.12	7.09	171.8 K=1.00	0.9020	-2524.17	8744.88	0.289 [1] ✔

[1] $P_u / \phi P_n$ controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	L1 1/4x1 1/4x1/8	2.75	2.50	121.3 K=0.99	0.2969	-18.04	5744.18	0.003 [1] ✔
T2	80 - 60	L1 1/4x1 1/4x1/8	4.72	4.47	180.4 K=0.83	0.2969	-3.81	2609.56	0.001 [1] ✔
T3	60 - 40	L1 1/2x1 1/2x3/16	6.76	6.47	208.9 K=0.79	0.5273	-503.02	3457.80	0.145 [1] ✔
T4	40 - 20	KL/R > 200 (C) - 77 L2x2x1/8	8.65	8.36	201.4 K=0.80	0.4844	-567.32	3419.11	0.166 [1] ✔
T5	20 - 1	KL/R > 200 (C) - 107 L2 1/2x2 1/2x3/16 KL/R > 200 (C) - 131	10.69	10.36	200.6 K=0.80	0.9020	-787.45	6415.13	0.123 [1] ✔

[1] $P_u / \phi P_n$ controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	100 - 80	P3x0.225	20.03	4.01	48.8	1.9615	12090.00	88268.90	0.137 [1] ✓
T2	80 - 60	P3x0.246	20.03	4.01	49.2	2.1284	38281.80	95777.00	0.400 [1] ✓
T3	60 - 40	P3.5x0.260	20.03	5.01	52.3	2.6465	57083.00	119091.00	0.479 [1] ✓
T4	40 - 20	P3.5x0.303	20.03	6.68	70.6	3.0432	71194.00	136945.00	0.520 [1] ✓
T5	20 - 1	P4x0.326	19.05	6.35	58.4	3.7628	81279.70	169324.00	0.480 [1] ✓

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	100 - 80	L1 1/4x1 1/4x1/8	6.04	2.98	93.1	0.2969	2305.77	9618.75	0.240 [1] ✓
T2	80 - 60	L2x2x1/8	6.35	3.16	60.5	0.4844	3066.77	15693.80	0.195 [1] ✓
T3	60 - 40	L1 1/2x1 1/2x3/16	8.99	4.47	117.4	0.5273	2638.18	17085.90	0.154 [1] ✓
T4	40 - 20	L2x2x1/8	11.75	5.91	113.2	0.4844	2583.94	15693.80	0.165 [1] ✓
T5	20 - 1	L2 1/2x2 1/2x3/16	13.43	6.75	104.1	0.9020	2289.26	29224.80	0.078 [1] ✓

[1] $P_u / \phi P_n$ controls

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T2	80 - 60	L1 1/4x1 1/4x1/8	4.72	4.47	139.4	0.2969	102.80	9618.75	0.011 [1] ✓
T3	60 - 40	L1 1/2x1 1/2x3/16	6.76	6.47	170.0	0.5273	566.81	17085.90	0.033 [1] ✓
T4	40 - 20	L2x2x1/8	8.65	8.36	160.2	0.4844	609.55	15693.80	0.039 [1] ✓
T5	20 - 1	L2 1/2x2 1/2x3/16	10.69	10.36	159.7	0.9020	785.06	29224.80	0.027 [1] ✓

[1] $P_u / \phi P_n$ controls

tnxTower	Job	Page
	REDDING CT	14 of 14
TEP Northeast *45 Beechwood Drive* *North Andover, MA 01845* *Phone: 978-557-553* *FAX:*	**Project** 100 ft Self Supporting Tower	**Date** 17:44:21 06/25/24
	Client VERIZON	**Designed by** LBW

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	100 - 80	Leg	P3x0.225	1	-16230.20	74140.20	21.9	Pass
T2	80 - 60	Leg	P3x0.246	37	-43948.60	80248.50	54.8	Pass
T3	60 - 40	Leg	P3.5x0.260	73	-64287.40	97513.00	65.9	Pass
T4	40 - 20	Leg	P3.5x0.303	103	-79866.00	95136.40	83.9	Pass
T5	20 - 1	Leg	P4x0.326	127	-91881.70	131927.00	69.6	Pass
T1	100 - 80	Diagonal	L1 1/4x1 1/4x1/8	9	-2397.96	4000.95	59.9	Pass
T2	80 - 60	Diagonal	L2x2x1/8	71	-3161.09	11576.00	27.3	Pass
T3	60 - 40	Diagonal	L1 1/2x1 1/2x3/16	80	-2598.92	3815.83	68.1	Pass
T4	40 - 20	Diagonal	L2x2x1/8	110	-2695.36	3977.20	67.8	Pass
T5	20 - 1	Diagonal	L2 1/2x2 1/2x3/16	134	-2524.17	8744.88	28.9	Pass
T1	100 - 80	Top Girt	L1 1/4x1 1/4x1/8	6	-18.04	5744.18	0.3	Pass
T2	80 - 60	Top Girt	L1 1/4x1 1/4x1/8	42	102.80	9618.75	1.1	Pass
T3	60 - 40	Top Girt	L1 1/2x1 1/2x3/16	77	-503.02	3457.80	14.5	Pass
T4	40 - 20	Top Girt	L2x2x1/8	107	-567.32	3419.11	16.6	Pass
T5	20 - 1	Top Girt	L2 1/2x2 1/2x3/16	131	-787.45	6415.13	12.3	Pass
							Summary	
						Leg (T4)	83.9	Pass
						Diagonal (T3)	68.1	Pass
						Top Girt (T4)	16.6	Pass
						RATING =	**83.9**	**Pass**

SST Unit Base Foundation

BU # :	
Site Name:	Redding CT
App. Number:	321193.966550
TIA-222 Revision:	H

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

Superstructure Analysis Reactions		
Global Moment, **M**:	1007.37	ft-kips
Global Axial, **P**:	13.13	kips
Global Shear, **V**:	15.48	kips
Leg Compression, P_{comp}:	93.85	kips
Leg Comp. Shear, V_{u_comp}:	10.22	kips
Leg Uplift, P_{uplift}:	82.82	kips
Leg Uplift. Shear, V_{u_uplift}:	8.96	kips
Tower Height, **H**:	100	ft
Base Face Width, **BW**:	13	ft
BP Dist. Above Fdn, bp_{dist}:	11	in

Pier Properties		
Pier Shape:	Square	
Pier Diameter, **dpier**:	2.0	ft
Ext. Above Grade, **E**:	0.83	ft
Pier Rebar Size, **Sc**:	5	
Pier Rebar Quantity, **mc**:	6	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:		
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	4.00	ft
Pad Width, W_1:	18.50	ft
Pad Width, W_2:	15.50	ft
Pad Thickness, **T**:	4.50	ft
Pad Rebar Size (Bottom dir. 1), Sp_1:	8	
Pad Rebar Quantity (Bottom dir. 1), mp_1:	16	
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	16	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3.5	ksi
Dry Concrete Density, δc:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	120	pcf
Ultimate Gross Bearing, Qult:	8.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	30	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.45	
Neglected Depth, **N**:	0.0	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<-- Toggle between Gross and Net

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	96.05	15.48	**15.3%**	**Pass**
Bearing Pressure (ksf)	6.00	2.67	**44.5%**	**Pass**
*Overturning (kip*ft)*	1297.45	1104.07	**85.1%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	138.32	8.48	**5.8%**	**Pass**
*Pier Flexure (Tension) (kip*ft)*	24.21	7.44	**29.3%**	**Pass**
Pier Compression (kip)	1392.30	94.45	**6.5%**	**Pass**
*Pad Flexure (kip*ft)*	2776.58	273.25	**9.4%**	**Pass**
Pad Shear - 1-way (kips)	817.04	21.03	**2.5%**	**Pass**
Pad Shear - Comp 2-way (ksi)	0.177	0.008	**4.4%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	872.85	5.09	**0.6%**	**Pass**
Pad Shear - Tension 2-way (ksi)	0.177	0.008	**4.3%**	**Pass**
*Flexural 2-way (Tension) (kip*ft)*	872.85	4.46	**0.5%**	**Pass**

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

Structural Rating*:	**29.3%**
Soil Rating*:	**85.1%**

Version 5.0.2

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 #: 10232772
Colliers Engineering & Design Project #: 20777382A (Rev 3)

June 5, 2024

Site Information	*Site ID:*	*5000386561-VZW / Redding CT*
	Site Name:	*Redding CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*80 Lonetown Rd* *Redding, Connecticut 06896* *Fairfield County*
	Latitude:	*41.31778333°*
	Longitude:	*-73.38334167°*
Structure Information	*Tower Type:*	*100-Ft Self Support*
	Mount Type:	*12.33-Ft T-Frame*

FUZE ID # 16244644

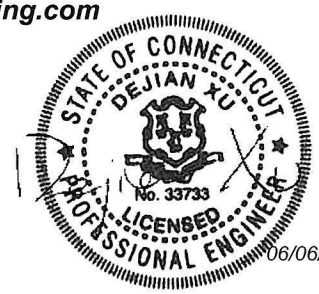
Analysis Results

Sector Frame: **68.9%** **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: David Anuka



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: 324760, dated March 21, 2024*
Mount Mapping Report	*Tower Engineering Professionals Project #: 468848, dated November 17, 2020*
Previous Mount Analysis	*Colliers Engineering & Design Project #: 2077382A (Rev 2) dated April 11, 2024*
Mount Modification Drawings	*Colliers Engineering & Design Project #: 2077382A (Rev 3), dated June 5, 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:	0.976
Seismic Parameters:	S_S:	0.228 g
	S_1:	0.056 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Load, Lv:	250 lbs.
	Maintenance Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
81.00	82.00	3	Samsung	MT6413-77A	Added
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	
		2	Raycap	RHSDC-3315-PF-48	Retained
		4	Commscope	NHH-45B-R2B	
		2	Commscope	NHH-65B-R2B	

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
Face Horizontal	68.9 %	Pass
Mast Pipe	39.7 %	Pass
Standoff Horizontal	28.1 %	Pass
Standoff Vertical	62.9 %	Pass
Face Veritcal	38.0 %	Pass
Antenna Pipe	46.8 %	Pass
Tie Back	21.6 %	Pass
Antenna Pipe 2	30.6 %	Pass
Proposed Face Horizontal	25.4 %	Pass
Proposed Bracing	17.0 %	Pass
Proposed Mount Pipe	43.2 %	Pass
Connection Check	64.4 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**68.9%**

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector A Top Standoff	82.1	N48A	893	2308	1.322	0.000	1218	2988	0.854	0.000
Sector A Bottom Standoff	79.9	N49A	899	1710	0.683	0.000	1083	2761	0.671	0.000
Sector A Reinforcement	83.6	N50A	84	521	0.000	0.000	56	190	0.000	0.000

Notes:
- Axial loads act along the axis of the tower leg
- Lateral reactions act perpendicular to the tower leg
- Moment loads introduce bending moment to the tower leg
- Torsion loads introduce twisting moment to the tower leg
- 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	32.8	13.0	43.2	23.4
0.5	42.4	18.5	57.0	33.1
1	51.3	23.2	70.1	41.9

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 2 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

The existing mounts 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

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MDG #: 5000386561 SMART Project #: 10232772 Fuze Project ID: 16244644

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 RF4439d-25A & RF4461d-13A RRH units on the face vertical pipes on either side of the existing LTE antennas.

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:

Contractor to provide measurement from top of the highest equipment/steel to the bottom of the lowest equipment/steel by documenting it using the most appropriate illustration below along with supporting photos:

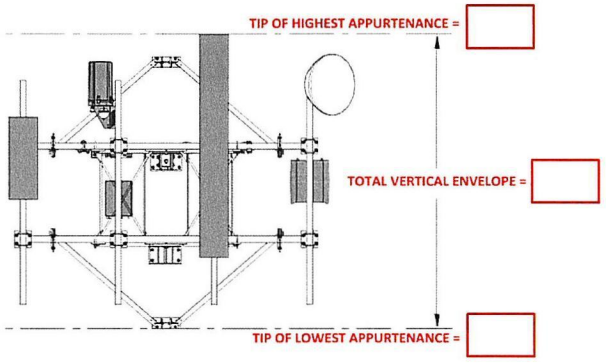


Illustration #1

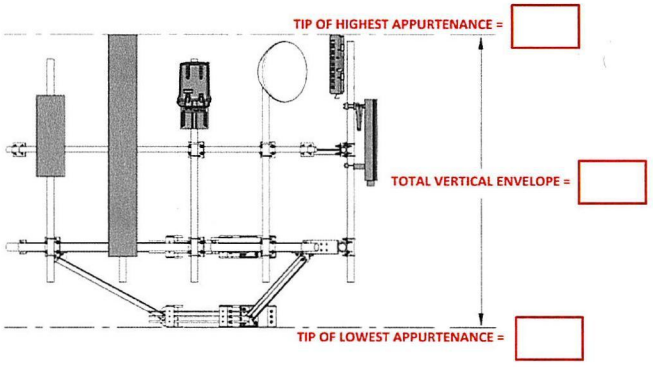


Illustration #2

Certifying Individual:

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

Structure: 5000386561-VZW - Redding CT

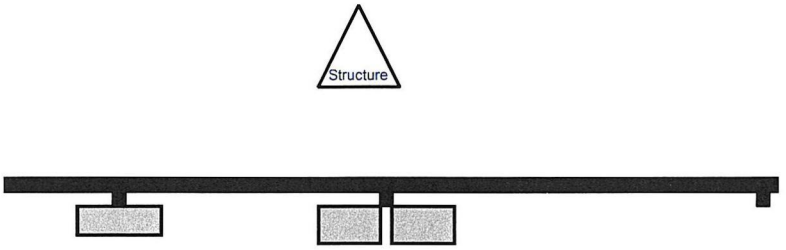
Sector: **A** 5/30/2024

Structure Type: Self Support 10232772

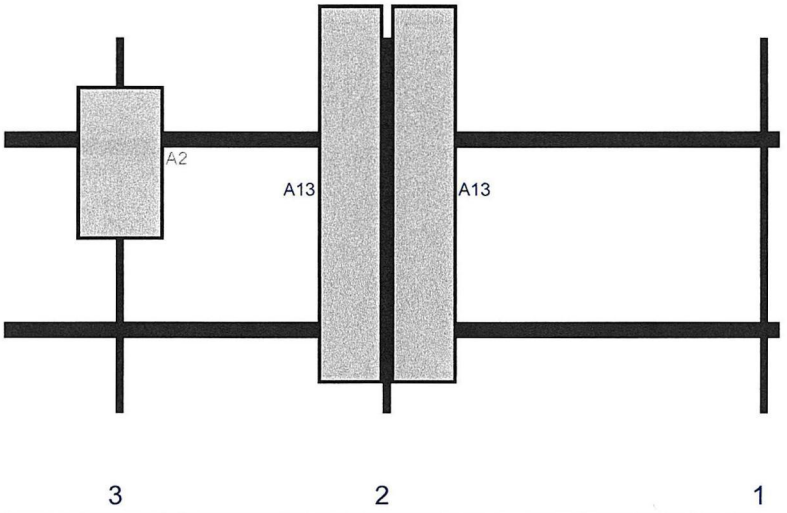
Mount Elev: 81.00 Page: 1

Colliers Engineering & Design

Plan View

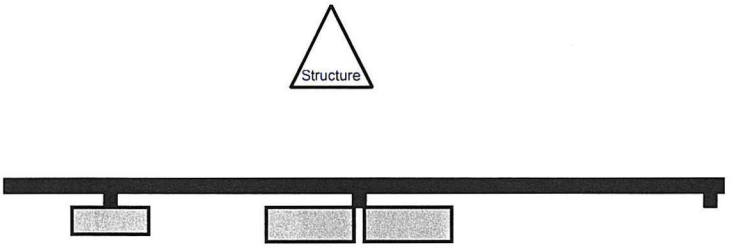


Front View - Looking at Structure

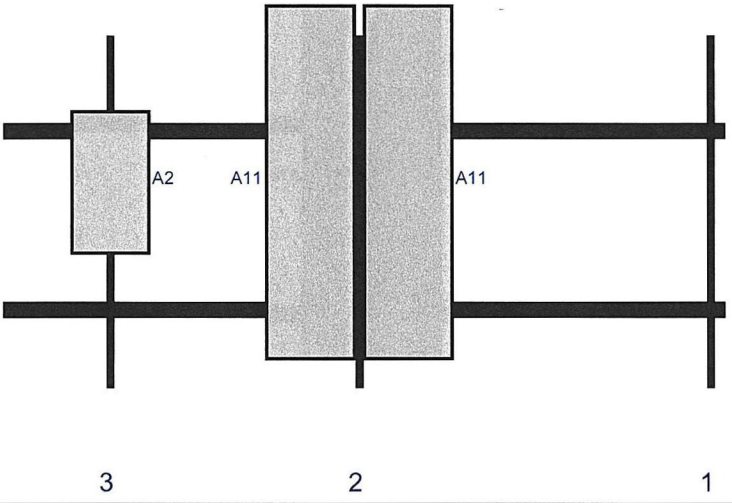


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A13	NHH-65B-R2B	72	11.9	73	2	a	Front	30	-7	Retained	11/17/2020
A13	NHH-65B-R2B	72	11.9	73	2	b	Front	30	7	Retained	11/17/2020
A2	MT6413-77A	28.9	15.8	22	3	a	Front	24	0	Added	
OVP	RHSDC-3315-PF-48	25.7	17.3		Member					Retained	11/17/2020
RRH1	RF4439d-25A	15	15		Member					Added	
RRH2	RF4461d-13A	15	15		Member					Added	

Plan View

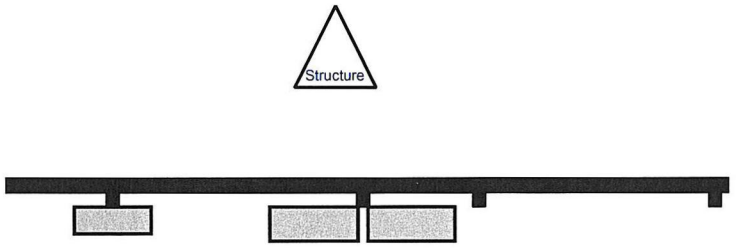


Front View - Looking at Structure

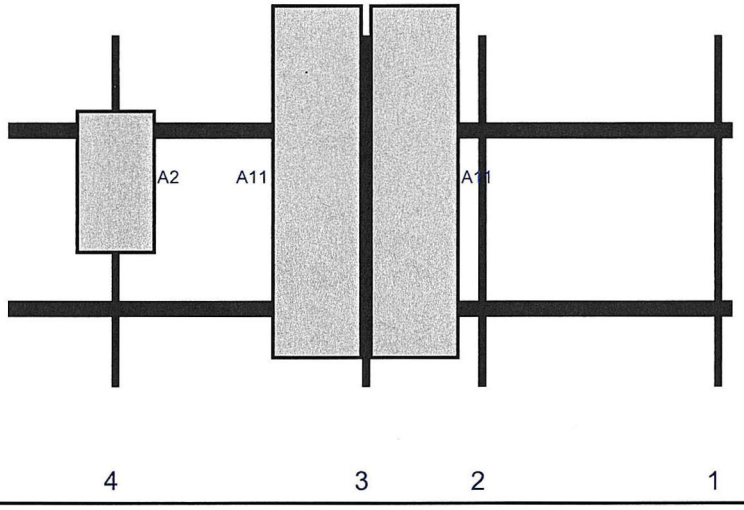


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A11	NHH-45B-R2B	72	18	73	2	a	Front	30	10	Retained	11/17/2020
A11	NHH-45B-R2B	72	18	73	2	b	Front	30	-10	Retained	11/17/2020
A2	MT6413-77A	28.9	15.8	22	3	a	Front	30	0	Added	

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
A11	NHH-45B-R2B	72	18	73	3	a	Front	30	10	Retained	11/17/2020
A11	NHH-45B-R2B	72	18	73	3	b	Front	30	-10	Retained	11/17/2020
A2	MT6413-77A	28.9	15.8	22	4	a	Front	30	0	Added	

MOUNT MODIFICATION DRAWINGS
EXISTING 12.33' T-FRAME

TOWER OWNER: UNKNOWN
TOWER OWNER SITE NUMBER: UNKNOWN

CARRIER SITE NAME: REDDING CT
CARRIER SITE NUMBER: 5000386561
FUZE ID: 16244644

80 LONETOWN RD
REDDING, CT 06896
FAIRFIELD COUNTY

LATITUDE: 41.31778333° N
LONGITUDE: 73.38334167° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 681.67'

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 = .228
LONG TERM MCER GROUND MOTION, S_1 = .056

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

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

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10232772
VZW MDG #: 5000386561
ANALYSIS DATE: 06/05/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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SCALE: AS SHOWN
JOB NUMBER: 20777382

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
2	06/05/2024	ISSUED FOR CONSTRUCTION	DA	DX
1	12/21/2023	ISSUED FOR CONSTRUCTION	CMS	DX
0	12/31/2020	ISSUED FOR CONSTRUCTION	MSG	DX

COLLIERS ENGINEERING & DESIGN CT, P.C.
C.T. PC 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:
REDDING CT
5000386561
80 LONETOWN RD
REDDING, CT 06896
FAIRFIELD COUNTY

Colliers Engineering & Design
MT. LAUREL
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: TITLE SHEET
SHEET NUMBER: ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	VZWSMART	VZWSMART-SFK3-SL	V-BRACING KIT FOR SMALL LEGS	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	117	351
3		VZWSMART-AL333	CLIP ANGLE		3	9
9		VZWSMART-MSK1	CROSSOVER PLATE		14	126
6		VZWSMART-P40-238X096	96" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		29	174

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-		PROPOSED 156" LONG, PIPE 2 1/2 SCH40	GALVANIZED.	74	221

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
					TOTAL:	881

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

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

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

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

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

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SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

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

STRUCTURAL STEEL

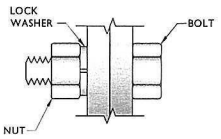
1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL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

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

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

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

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

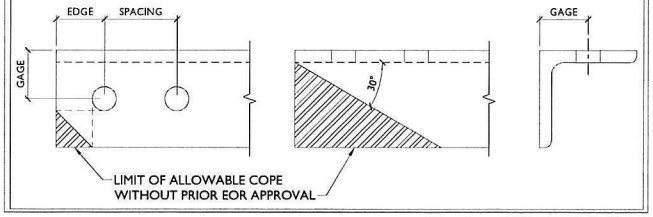


TYP. BOLT ASSEMBLY

NOTES:

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

ALLOWABLE COPING



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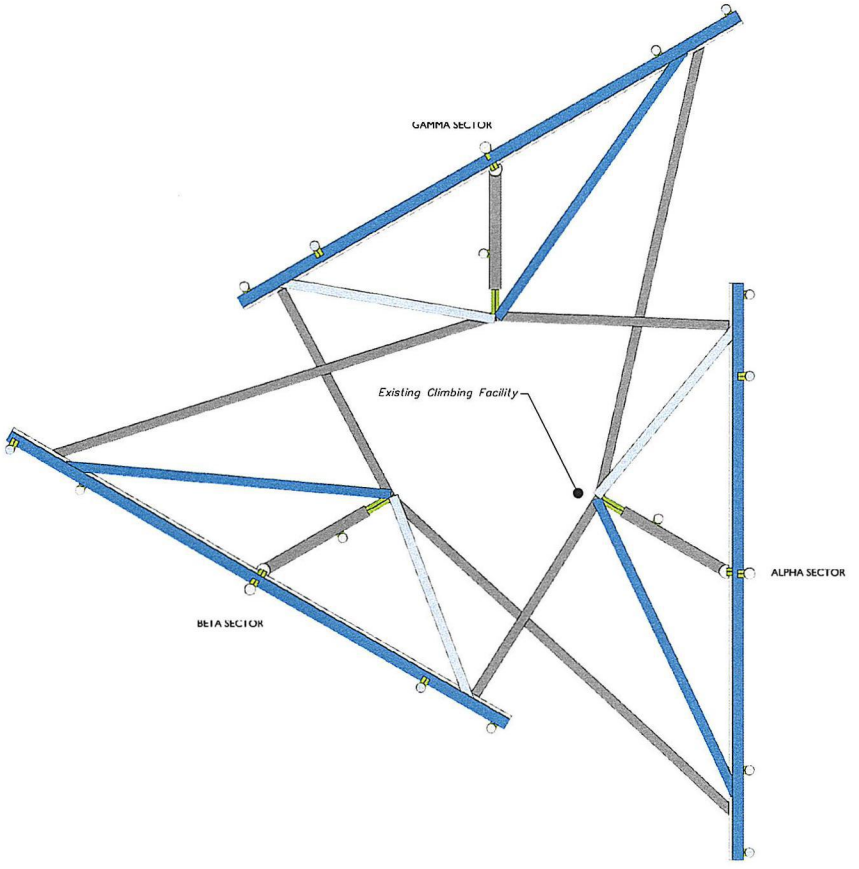
SHEET TITLE: GENERAL NOTES

SHEET NUMBER: SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



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

CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY TOWER ENGINEERING PROFESSIONALS ON 11/17/2020, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (81'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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Phone: 856.797.0412
LOCATIONS THROUGHOUT ILLINOIS, CT, DE/MD, NJ & NY AS MASER CONSULTING

SHEET TITLE:
CLIMBING FACILITY DETAIL

SHEET NUMBER:
SCF-1

LEGEND:

PROPOSED

RELOCATED

EXISTING

TOTAL VERTICAL ENVELOPE:

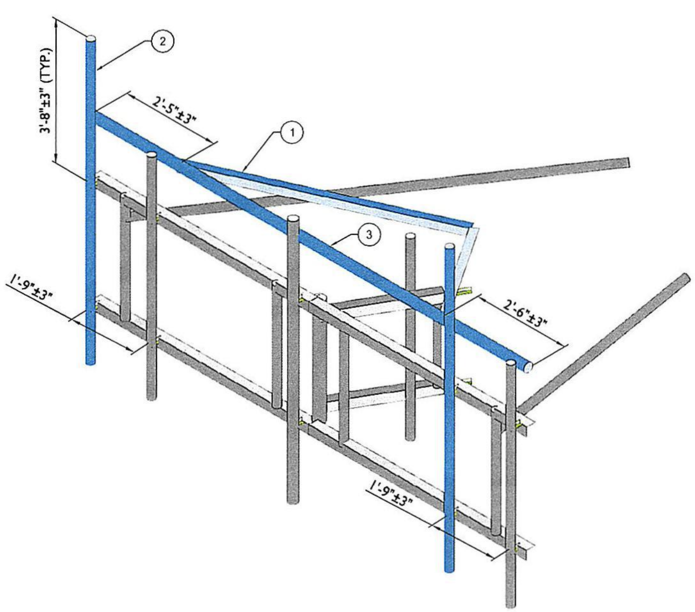
CONTRACTOR SHALL VERIFY AND CONFIRM IN FIELD THAT VERIZON'S OVERALL TIP TO TIP VERTICAL SPACE CONFIGURATION (EQUIPMENT AND STEEL COMBINED) DOES NOT EXCEED THE VERTICAL ENVELOPE LISTED IN THESE DRAWINGS. IF THE SITE'S EXISTING OR PROPOSED CONFIGURATION EXCEEDS THE ALLOWED VERTICAL ENVELOPE LISTED IN THESE DRAWINGS, CONTRACTOR SHALL CONTACT EOR IMMEDIATELY FOR A SOLUTION ON HOW TO CORRECT THE ISSUE PRIOR TO LEAVING THE SITE.

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	81'-0"	3	PROPOSED V-BRACING KIT FOR SMALL LEGS (PART #: VZWSMART-SFK3-SL)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. SEE GENERAL NOTE B. CONTRACTOR SHALL INSTALL ONE PROPOSED CLIP ANGLE (PART #:VZWSMART-AL333) AT EITHER END OF EACH LONG ANGLE IN THE SFK3 KIT.
2		6	PROPOSED 96" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X096)	CONNECT NEW MOUNT PIPE TO EACH EXISTING FACE HORIZONTAL ANGLE WITH (1) NEW 1/2" DIA. U-BOLT. UTILIZE EXISTING PRE-DRILLED HOLES IN FACE HORIZONTALS.
3		3	PROPOSED 156" LONG, PIPE 2 1/2 SCH40 FACE HORIZONTAL	CONNECT NEW HORIZONTAL TO POSITION 2, 3, & 5 VERTICAL MOUNT PIPES OF THE ALPHA & BETA SECTORS WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1). CONNECT NEW HORIZONTAL TO POSITION 2, 4, & 6 VERTICAL MOUNT PIPES OF THE GAMMA SECTOR WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).

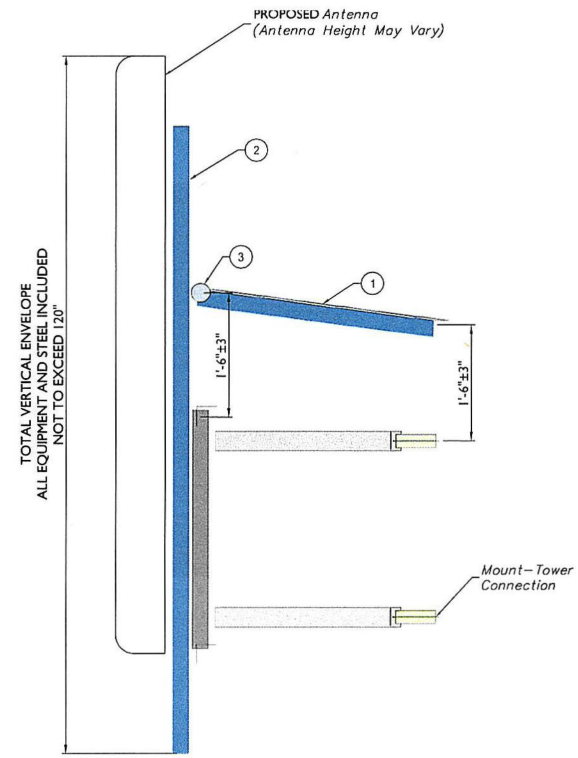
GENERAL NOTES:

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



1 PROPOSED ISOMETRIC VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

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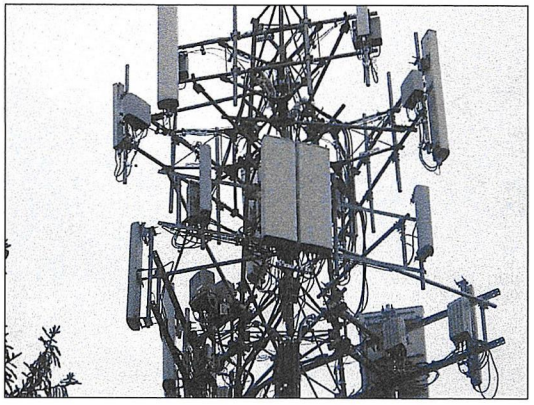
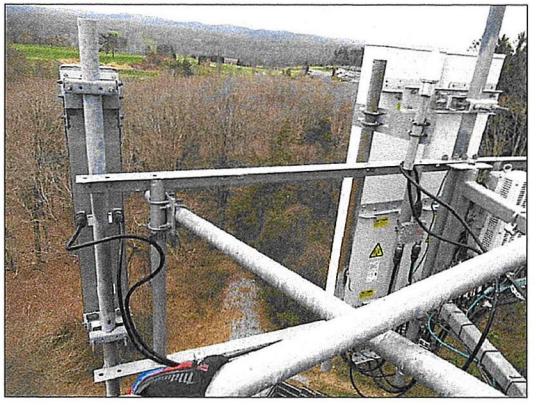
SHEET TITLE: MODIFICATION DETAILS

SHEET NUMBER: SS-1

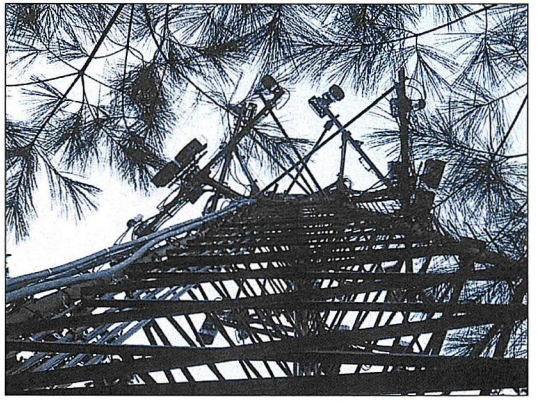


MOUNT PHOTO 1



MOUNT PHOTO 2

MOUNT PHOTO 3



MOUNT PHOTO 4

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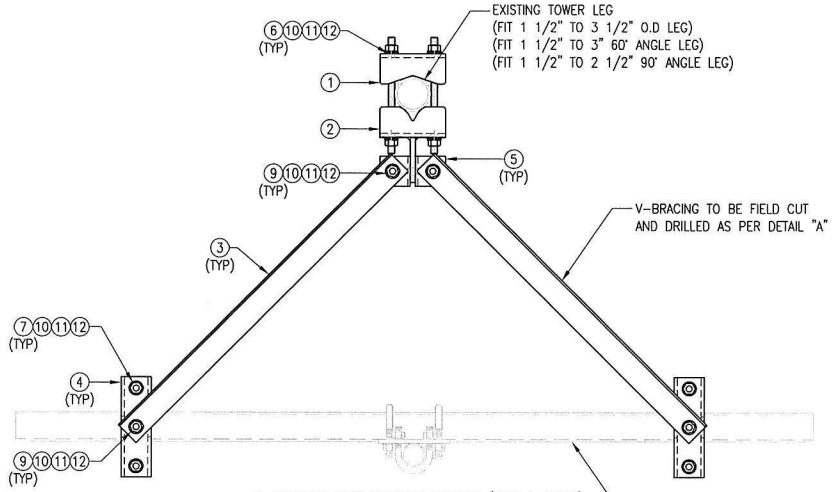
SHEET TITLE:

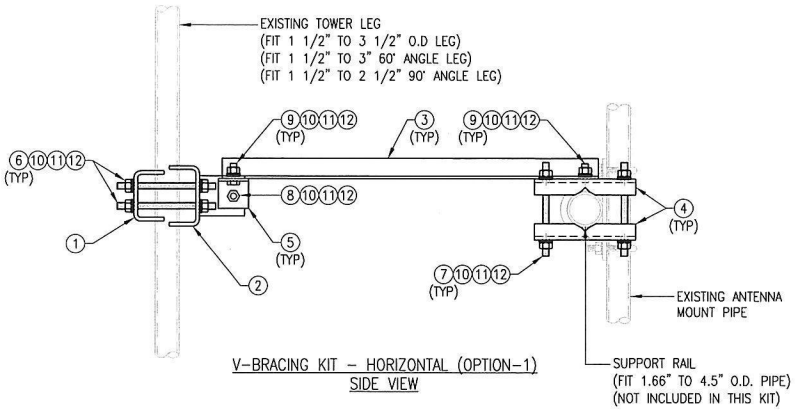
MOUNT PHOTOS

SHEET NUMBER:

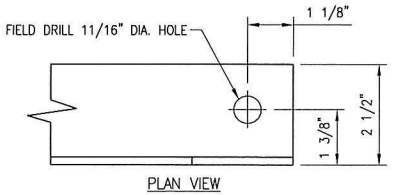
SS-2



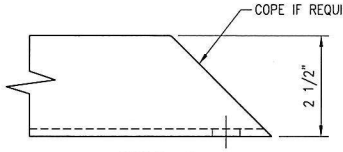
V-BRACING FOR SECTOR MOUNT (SMALL LEGS)
PLAN VIEW



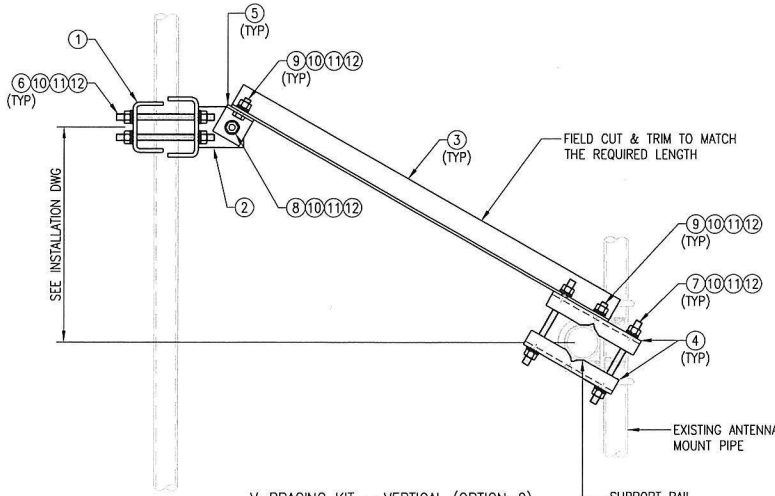
V-BRACING KIT – HORIZONTAL (OPTION-1)
SIDE VIEW



PLAN VIEW



FRONT VIEW
DETAIL "A"



V-BRACING KIT – VERTICAL (OPTION-2)
SIDE VIEW

VZWSMART-SFK3-SL (V-BRACING KIT FOR SMALL LEGS)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	BP9625-65	PL 3/8" X 9 5/8" X 6 1/2" A36 BENT PLATE	VBSM-SL-F1	12
2	1	BRKW-VBSM-SL	WELDMENT BRACKET	VBSM-SL-F3	11
3	2	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	VBSM-F5	67
4	4	BP6875-10	PL 3/8" X 6 7/8" X 10" A36 BENT PLATE	VBSM-F2	20
5	2	AL-333	L 3" X 3" X 1/4" X 3" A36	VBSM-F2	3
6	4	---	THREADED ROD 5/8" DIA. X 1'-0" F1554-36 HDG	---	--
7	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	--
8	1	---	BOLT 5/8" X 2 1/4" A325	---	--
9	4	---	BOLT 5/8" X 1 3/4" A325	---	--
10	21	FW-625	5/8" HDG USS FLAT WASHER	---	2
11	21	LW-625	5/8" HDG LOCK WASHER	---	0
12	21	NUT-625	5/8" HDG HEX NUT	---	2
				GALVANIZED WT	117

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

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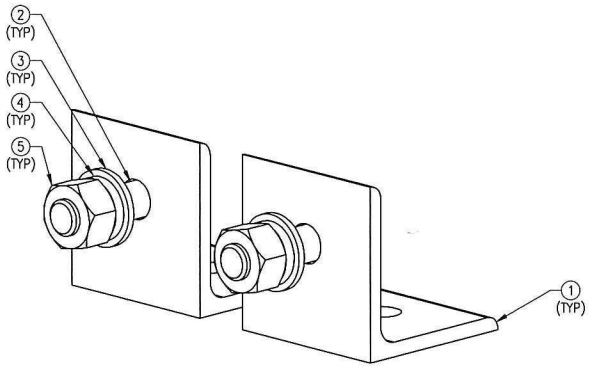
FOR REFERENCE ONLY

DRAWN BY: BT	CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	04/10/21

SHEET TITLE:
VZWSMART-SFK3-SL
V-BRACING KIT
FOR SMALL LEGS

SHEET NUMBER:	REV #:
VZWSMART-SFK3-SL	0



CLIP ANGLE
ISOMETRIC VIEW

VZWSMART-AL333 (CLIP ANGLE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	AL-333	L 3" X 3" X 1/4" X 3" A36	AL333-F1	2.50
2	2	---	BOLT 5/8" X 2" FULL THREAD SAE GR-5	---	0.77
3	2	FW-625	5/8" HDG USS FLAT WASHER	---	0
4	2	LW-625	5/8" HDG LOCK WASHER	---	0
5	2	NUT-625	5/8" HDG HEX NUT	---	0
				GALVANIZED WT	3.27

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

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FOR REFERENCE ONLY

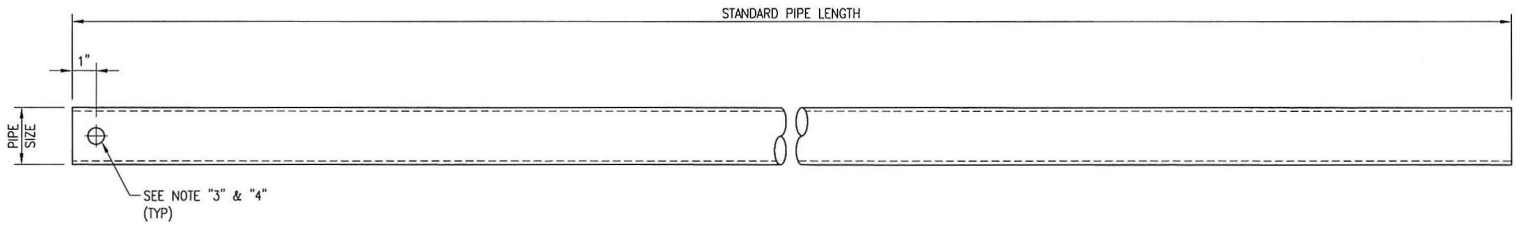
DRAWN BY: JBM | CHECKED BY: ----

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	JBM	10/08/21

SHEET TITLE:
VZWSMART-AL333
CLIP ANGLE

SHEET NUMBER: VZWSMART-AL333

REV #: 0



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

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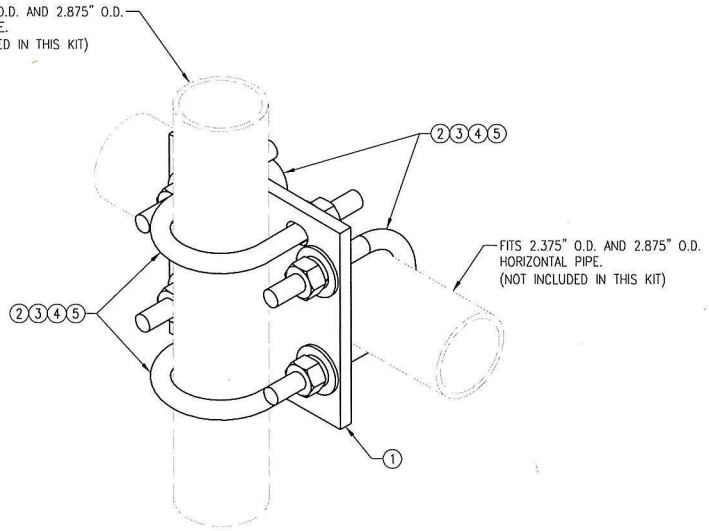
FOR REFERENCE ONLY

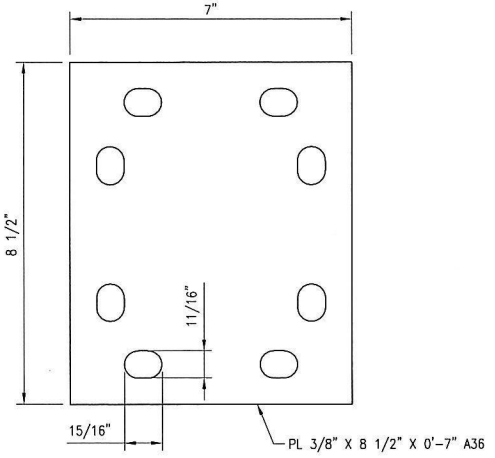
DRAWN BY: BT	CHECKED BY: HMA/KW

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

SHEET TITLE:
VZWSMART STANDARD PIPE

SHEET NUMBER:	REV #:
VZWSMART-PIPE	0





PL375-857

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.

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: H.R	CHECKED BY: HMA

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

SHEET TITLE:
VZWSMART-MSK1
CROSSOVER PLATE

SHEET NUMBER: VZWSMART-MSK1

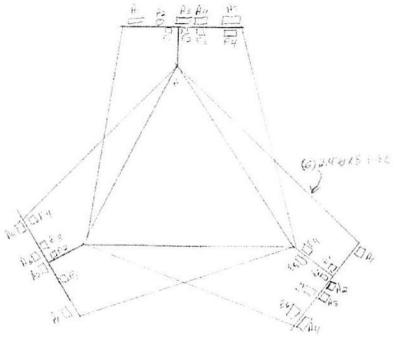
REV #: 0

V3.0 Updated on 8-31-2020

Antenna Mount Mapping Form (PATENT PENDING)

FCC #

Tower Owner:	Unknown	**Mapping Date:**	11/17/2020
Site Name:	Redding CT	**Tower Type:**	Self Support
Site Number or ID:	468848	**Tower Height (Ft.):**	100
Mapping Contractor:	TEP	**Mount Elevation (Ft.):**	80

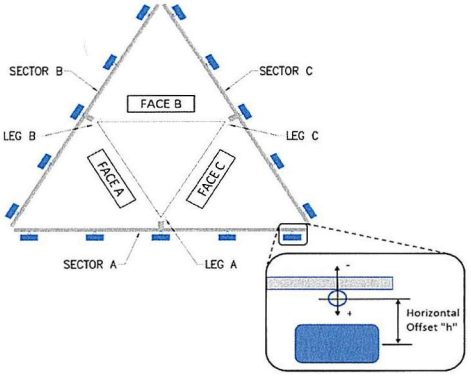


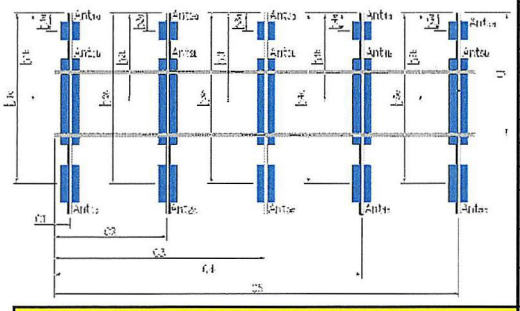
Mount Pipe Configuration and Geometries [Unit = Inches]

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	2.4"x6'-0"	56.00	3.00	C1	2.4"x6'-0"	56.00	3.00
A2	2.4"x6'-0"	56.00	51.00	C2	2.9"x7'-0"	61.50	75.00
A3	2.4"x7'-0"	61.50	75.00	C3	2.4"x6'-0"	56.00	126.00
A4	2.4"x6'-0"	56.00	126.00	C4			
A5				C5			
A6				C6			
B1	2.4"x6'-0"	56.00	3.00	D1			
B2	2.9"x7'-0"	61.50	75.00	D2			
B3	2.4"x6'-0"	56.00	126.00	D3			
B4				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. :	18.25
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	9.5
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	
Please enter additional infomation or comments below.	

Tower Face Width at Mount Elev. (ft.):	4.5	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	2.9



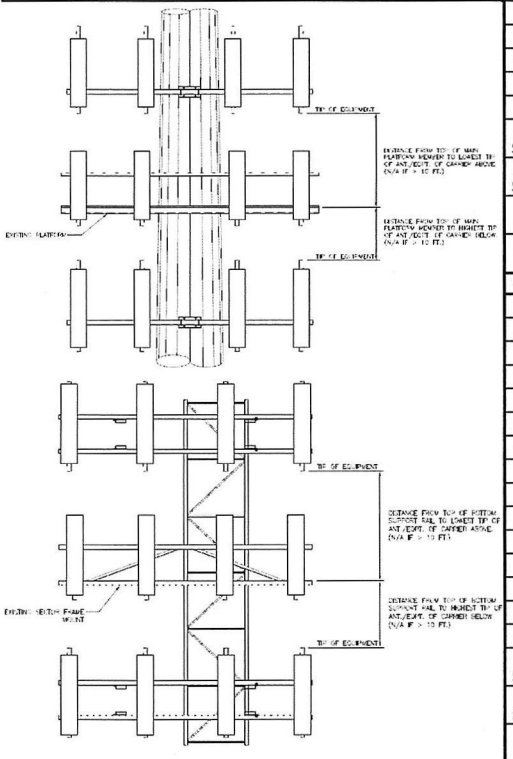


Antenna Layout (Looking Out From Tower)

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Mounting Locations [Units are inches and degrees] Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photos of antennas Photo Numbers
	Sector A									
Ant_{1a}										
Ant_{1b}	BXA-80080-4CF	11.20	5.90	48.20	) 1 5/8" F	80.4792	32.00	9.00	305.00	113
Ant_{1c}										
Ant_{2a}	GPS					83.1458				115
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	(2) NHH-45B-R2B	17.99	7.01	72.01	) 1 5/8" F	80.7292	34.50	13.00	305.00	117-119
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA-171085-8BF	8.00	5.90	71.00	) 1 5/8" F	80.2292	35.00	8.50	305.00	127
Ant_{4c}	B66a RRH 4x45	11.80	7.20	25.80	er from R	80.1458	36.00	-7.00		128-130
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	(2) FD9R6004	6.50	1.50	5.80	er from Raycap					122-125
Ant on Standoff	B13 RRH 4x30	11.80	7.50	20.90	er from Raycap					120-121
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	305.00	Deg	Leg A:	320.00	Deg
Sector B:	60.00	Deg	Leg B:	80.00	Deg
Sector C:	142.00	Deg	Leg C:	200.00	Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information		
Location:	320.00 Deg	On Leg A
Climbing Facility	Corrosion Type:	Good condition.
	Access:	Climbing path was unobstructed.
	Condition:	Good condition.



Sector B										
Ant_{1a}										
Ant_{1b}	BXA-80063-6CF	11.20	4.50	71.10	) 1 5/8" F	80.0625	37.00	8.50	60.00	133-134
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	(2) NHH-65B-R2B	11.85	7.09	71.97	) 1 5/8" F	80.9375	32.00	9.00	60.00	140-142
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	BXA-171063-12BF	6.10	4.10	72.50	) 1 5/8" F	80.2292	35.00	8.50	60.00	146
Ant_{3c}	B66a RRH 4x45	11.80	7.20	25.80	er from R	80.1458	36.00	-7.00		147-148
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	FD9R6004	6.50	1.50	5.80	er from Raycap					149-151
Ant on Standoff	B13 RRH 4x30	11.80	7.50	20.90	er from Raycap					143-144
Ant on Tower	(2) RHSDC-3315-PF-4	15.73	10.30	28.93	) 1 1/4" SM					135-138
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	BXA-80063-6CF	11.20	4.50	71.10	1 5/8" FH	80.0625	37.00	8.50	145.00	87-89
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	(2) NHH-45B-R2B	11.85	7.09	71.97	1 5/8" FH	80.7292	34.50	13.00	145.00	94-96
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	BXA-171063-12BF	6.10	4.10	72.50	1 5/8" FH	80.2292	35.00	8.50	145.00	106
Ant_{3c}	B66a RRH 4x45	11.80	7.20	25.80	er from R	80.1458	36.00	-7.00		107-108
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	FD9R6004	6.50	1.50	5.80	er from Raycap					101-104
Ant on Standoff	B13 RRH 4x30	11.80	7.50	20.90	er from Raycap					099-100
Ant on Tower										
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

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

1		
2		
3		
4		
5		
6		
7		
8		

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

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

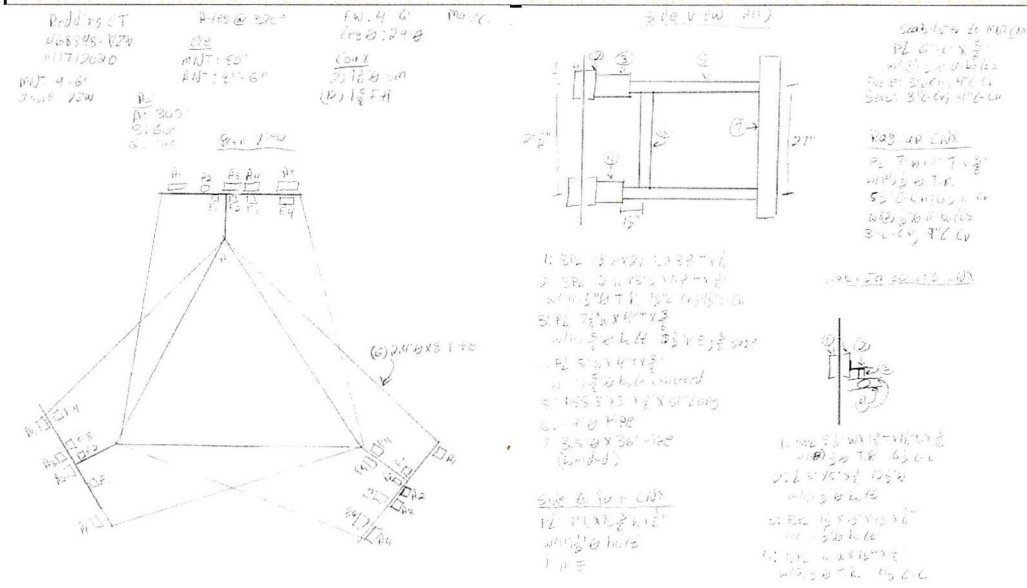
V3.0 Updated on 8-31-2020

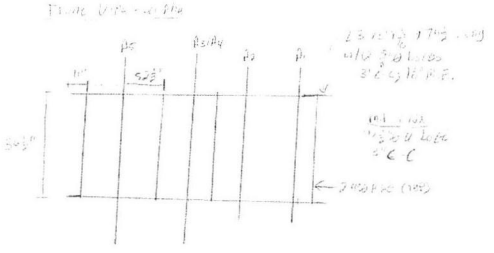
Antenna Mount Mapping Form (PATENT PENDING)

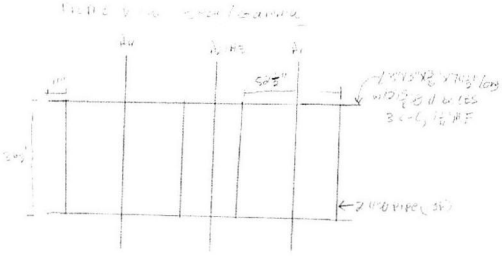
FCC #

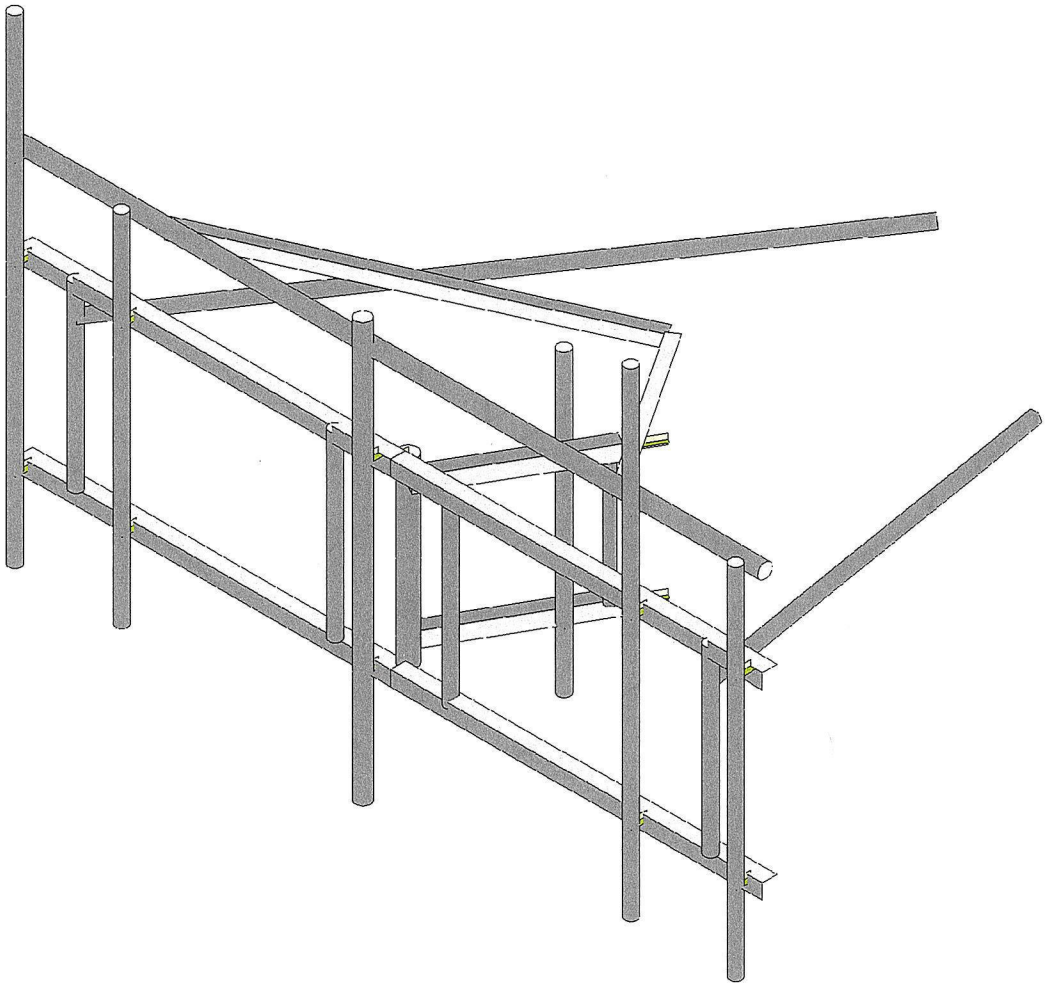
Tower Owner:	Unknown	**Mapping Date:**	11/17/2020
Site Name:	Redding CT	**Tower Type:**	Self Support
Site Number or ID:	468848	**Tower Height (Ft.):**	100
Mapping Contractor:	TEP	**Mount Elevation (Ft.):**	80

Please Insert Sketches of the Antenna Mount

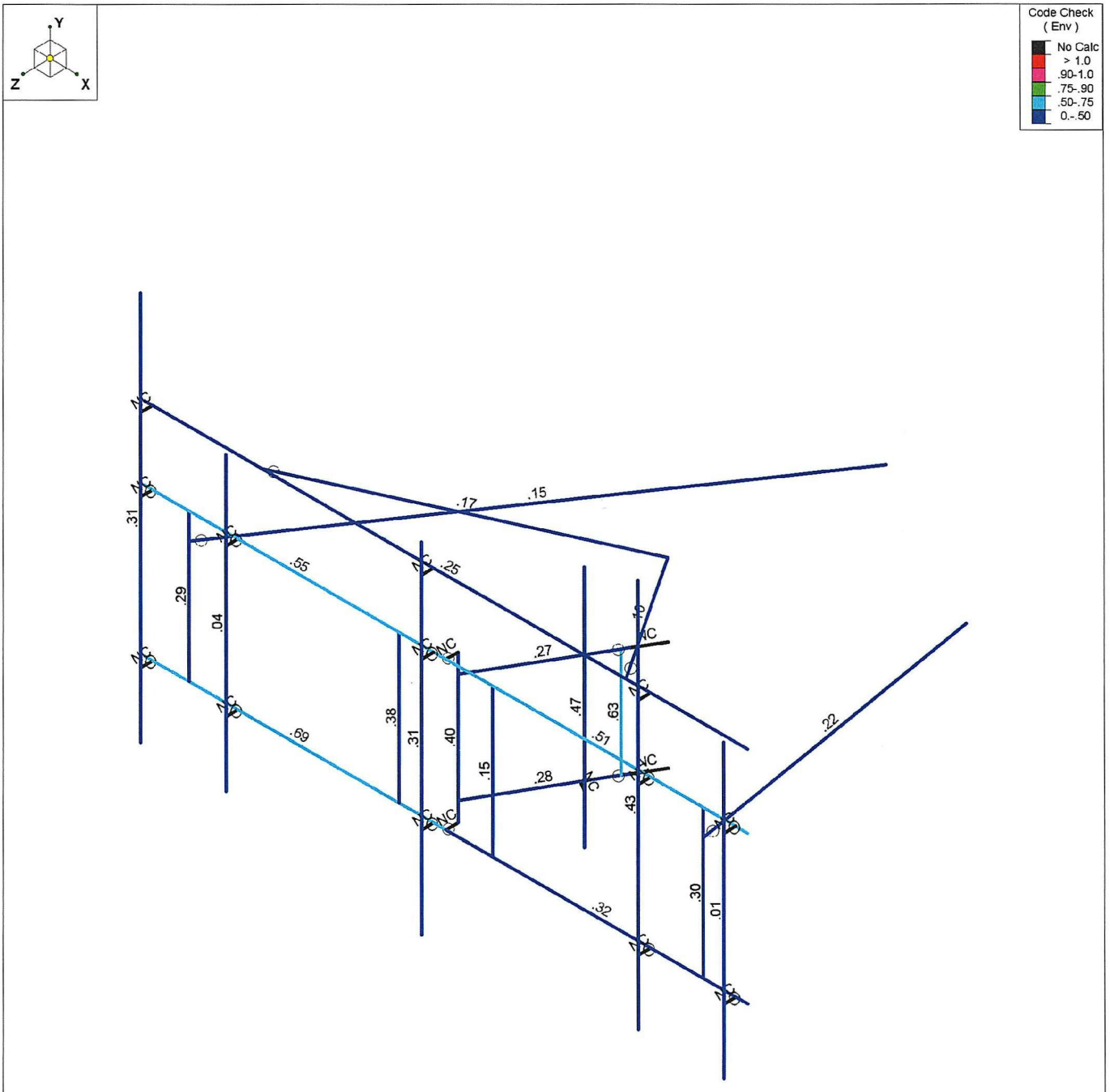






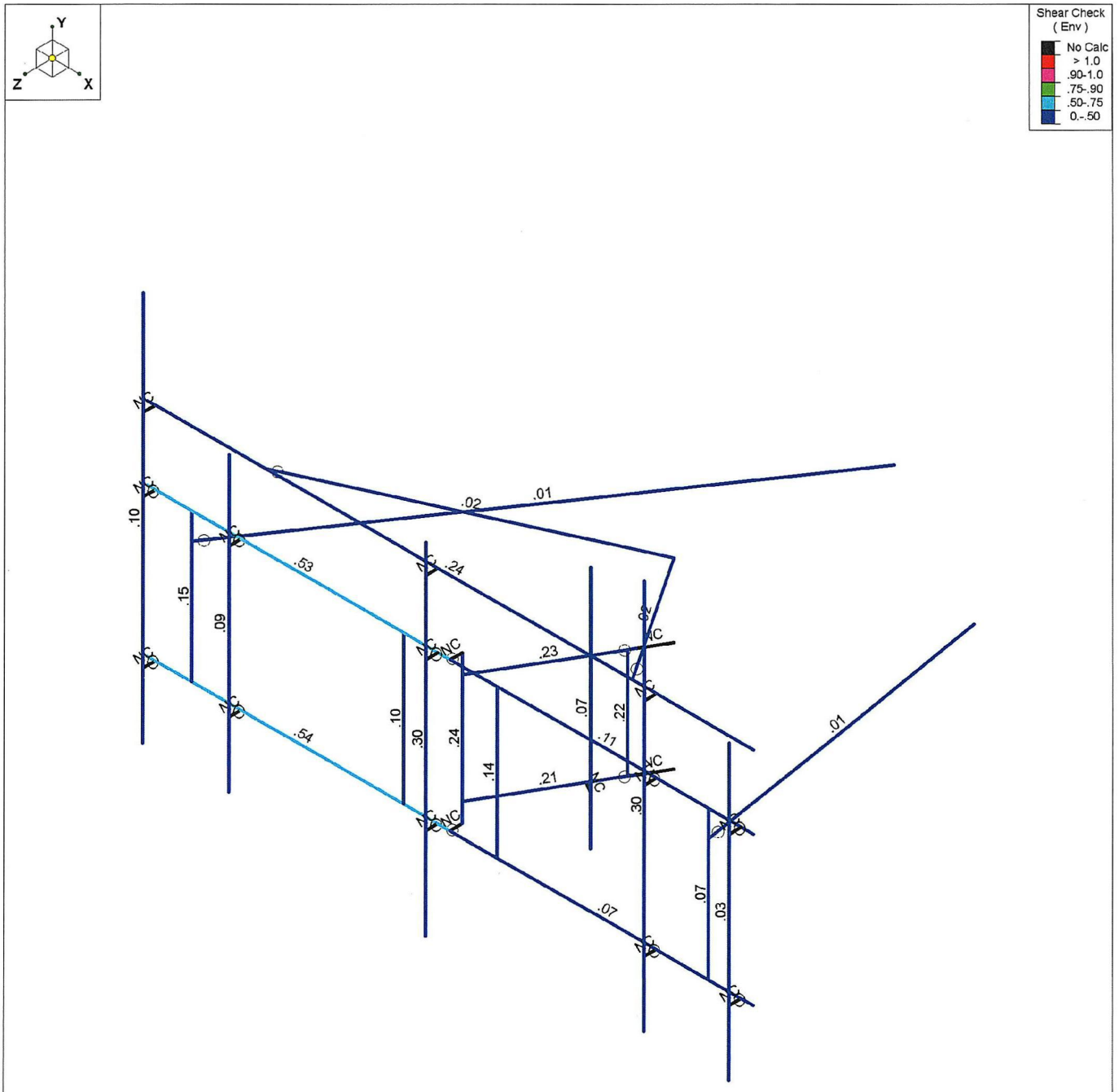


Colliers Engineering & Des..	5000386561-VZW_MT_LOT_SectorA_H	SK - 1
		May 30, 2024 at 5:16 PM
Project No. 10229220		5000386561-VZW_MT_LOT_A_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des..	5000386561-VZW_MT_LOT_SectorA_H	SK - 2
		May 30, 2024 at 5:17 PM
Project No. 10229220		5000386561-VZW_MT_LOT_A_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des..	5000386561-VZW_MT_LOT_SectorA_H	SK - 3
		May 30, 2024 at 5:18 PM
Project No. 10229220		5000386561-VZW_MT_LOT_A_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					30			
2	Antenna Di	None					30			
3	Antenna Wo (0 Deg)	None					30			
4	Antenna Wo (30 Deg)	None					30			
5	Antenna Wo (60 Deg)	None					30			
6	Antenna Wo (90 Deg)	None					30			
7	Antenna Wo (120 Deg)	None					30			
8	Antenna Wo (150 Deg)	None					30			
9	Antenna Wo (180 Deg)	None					30			
10	Antenna Wo (210 Deg)	None					30			
11	Antenna Wo (240 Deg)	None					30			
12	Antenna Wo (270 Deg)	None					30			
13	Antenna Wo (300 Deg)	None					30			
14	Antenna Wo (330 Deg)	None					30			
15	Antenna Wi (0 Deg)	None					30			
16	Antenna Wi (30 Deg)	None					30			
17	Antenna Wi (60 Deg)	None					30			
18	Antenna Wi (90 Deg)	None					30			
19	Antenna Wi (120 Deg)	None					30			
20	Antenna Wi (150 Deg)	None					30			
21	Antenna Wi (180 Deg)	None					30			
22	Antenna Wi (210 Deg)	None					30			
23	Antenna Wi (240 Deg)	None					30			
24	Antenna Wi (270 Deg)	None					30			
25	Antenna Wi (300 Deg)	None					30			
26	Antenna Wi (330 Deg)	None					30			
27	Antenna Wm (0 Deg)	None					30			
28	Antenna Wm (30 Deg)	None					30			
29	Antenna Wm (60 Deg)	None					30			
30	Antenna Wm (90 Deg)	None					30			
31	Antenna Wm (120 De...	None					30			
32	Antenna Wm (150 De...	None					30			
33	Antenna Wm (180 De...	None					30			
34	Antenna Wm (210 De...	None					30			
35	Antenna Wm (240 De...	None					30			
36	Antenna Wm (270 De...	None					30			
37	Antenna Wm (300 De...	None					30			
38	Antenna Wm (330 De...	None					30			
39	Structure D	None		-1						
40	Structure Di	None						23		
41	Structure Wo (0 Deg)	None						46		
42	Structure Wo (30 Deg)	None						46		
43	Structure Wo (60 Deg)	None						46		
44	Structure Wo (90 Deg)	None						46		
45	Structure Wo (120 D...	None						46		
46	Structure Wo (150 D...	None						46		
47	Structure Wo (180 D...	None						46		
48	Structure Wo (210 D...	None						46		

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						46		
50	Structure Wo (270 D...	None						46		
51	Structure Wo (300 D...	None						46		
52	Structure Wo (330 D...	None						46		
53	Structure Wi (0 Deg)	None						46		
54	Structure Wi (30 Deg)	None						46		
55	Structure Wi (60 Deg)	None						46		
56	Structure Wi (90 Deg)	None						46		
57	Structure Wi (120 De...	None						46		
58	Structure Wi (150 De...	None						46		
59	Structure Wi (180 De...	None						46		
60	Structure Wi (210 De...	None						46		
61	Structure Wi (240 De...	None						46		
62	Structure Wi (270 De...	None						46		
63	Structure Wi (300 De...	None						46		
64	Structure Wi (330 De...	None						46		
65	Structure Wm (0 Deg)	None						46		
66	Structure Wm (30 D...	None						46		
67	Structure Wm (60 D...	None						46		
68	Structure Wm (90 D...	None						46		
69	Structure Wm (120 ...	None						46		
70	Structure Wm (150 ...	None						46		
71	Structure Wm (180 ...	None						46		
72	Structure Wm (210 ...	None						46		
73	Structure Wm (240 ...	None						46		
74	Structure Wm (270 ...	None						46		
75	Structure Wm (300 ...	None						46		
76	Structure Wm (330 ...	None						46		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					30			
82	Antenna Eh (0 Deg)	None					20			
83	Antenna Eh (90 Deg)	None					20			
84	Structure Ev	ELY		-.049						
85	Structure Eh (0 Deg)	ELZ			-.122					
86	Structure Eh (90 Deg)	ELX	.122							

Load Combinations

	Description	So...	PDelta	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.2D+1.0Wo (0 ...	Yes	Y		1	1.2	39	1.2	3	1	41	1														
2	1.2D+1.0Wo (30...	Yes	Y		1	1.2	39	1.2	4	1	42	1														
3	1.2D+1.0Wo (60...	Yes	Y		1	1.2	39	1.2	5	1	43	1														
4	1.2D+1.0Wo (90...	Yes	Y		1	1.2	39	1.2	6	1	44	1														
5	1.2D+1.0Wo (12...	Yes	Y		1	1.2	39	1.2	7	1	45	1														
6	1.2D+1.0Wo (15...	Yes	Y		1	1.2	39	1.2	8	1	46	1														
7	1.2D+1.0Wo (18...	Yes	Y		1	1.2	39	1.2	9	1	47	1														
8	1.2D+1.0Wo (21...	Yes	Y		1	1.2	39	1.2	10	1	48	1														
9	1.2D+1.0Wo (24...	Yes	Y		1	1.2	39	1.2	11	1	49	1														

Load Combinations (Continued)

	Description	So...	PDelta	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
10	1.2D+1.0Wo (27..	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0Wo (30..	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0Wo (33..	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1..	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 ...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 ...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX					
53	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	.5	ELZ	.866	ELX	.5				
54	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	.866	ELZ	.5	ELX	.866				
55	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1				
56	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
57	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
58	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX					
59	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
60	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
61	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1				

Load Combinations (Continued)

	Description	So...	PDelta	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
62	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.866	ELZ	.5	ELX	-.866		
63	1.2D + 1.0Ev + ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5	ELZ	.866	ELX	-.5		
64	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX			
65	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5	ELZ	.866	ELX	.5		
66	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866	ELZ	.5	ELX	.866		
67	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1		
68	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866	ELZ	-.5	ELX	.866		
69	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	.5	ELZ	-.866	ELX	.5		
70	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX			
71	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5		
72	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866		
73	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1		
74	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.866	ELZ	.5	ELX	-.866		
75	0.9D - 1.0Ev + 1...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5	ELZ	.866	ELX	-.5		

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Antenna Pipe	PIPE_2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	Dish Pipe	PIPE_3.0	Column	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
3	Face Horizontal	L3X3X3	Beam	Single An...	A36 Gr.36	Typical	1.09	.948	.948	.014
4	Face Veritcal	PIPE_2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
5	Standoff Horizontal	HSS3X3X4	Beam	SquareT...	A500 Gr. B 46	Typical	2.44	3.02	3.02	5.08
6	Standoff Vertical	PIPE_1.5	Column	Pipe	A53 Gr. B	Typical	.749	.293	.293	.586
7	Mast Pipe	PIPE_3.0	Column	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
8	Tie Back	PIPE_2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
9	Antenna Pipe 2	PIPE_2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
10	Proposed Face Horiz...	PIPE_2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
11	Proposed Bracing	L2.5x2.5x4	Beam	Pipe	A36 Gr.36	Typical	1.19	.692	.692	.026
12	PROPOSED 2X	PIPE_2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25

Hot Rolled Steel Properties

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

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N6	N4		90	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
2	M2	N4	N5		90	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
3	M3	N3	ALPHA		90	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
4	M4	ALPHA	N2		90	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
5	M5	N20	N4			RIGID	None	None	RIGID	Typical
6	M6	N19	ALPHA			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
7	M7	N19	N20			Mast Pipe	Column	Pipe	A53 Gr. B	Typical
8	M8	N24	N22			Standoff Horiz...	Beam	SquareTube	A500 Gr. ...	Typical
9	M9	N25	N23			Standoff Horiz...	Beam	SquareTube	A500 Gr. ...	Typical
10	M10	N27	N26			Standoff Vertical	Column	Pipe	A53 Gr. B	Typical
11	M11	N12	N11			Face Veritcal	Column	Pipe	A53 Gr. B	Typical
12	RRH1	N8	N7			Face Veritcal	Column	Pipe	A53 Gr. B	Typical
13	RRH2	N10	N9			Face Veritcal	Column	Pipe	A53 Gr. B	Typical
14	M14	N14	N13			Face Veritcal	Column	Pipe	A53 Gr. B	Typical
15	M15	N16	N31			RIGID	None	None	RIGID	Typical
16	M16	N15	N30			RIGID	None	None	RIGID	Typical
17	MP1A	N35	N37			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
18	M25	N54	N51A			Tie Back	Beam	Pipe	A53 Gr. B	Typical
19	M26	N55	N50A			Tie Back	Beam	Pipe	A53 Gr. B	Typical
20	M24	N43	N45			RIGID	None	None	RIGID	Typical
21	M25A	N42	N44			RIGID	None	None	RIGID	Typical
22	MP2A	N46	N47			Antenna Pipe 2	Beam	Pipe	A53 Gr. B	Typical
23	M27	N49	N51			RIGID	None	None	RIGID	Typical
24	M28	N48	N50			RIGID	None	None	RIGID	Typical
25	MP3A	N52	N53			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
26	M26A	N24	N48A			RIGID	None	None	RIGID	Typical
27	M27A	N25	N49A			RIGID	None	None	RIGID	Typical
28	M31	N50B	N51B			Proposed Face...	Beam	Pipe	A53 Gr. B	Typical
29	M32	N60	N58		180	Proposed Brac...	Beam	Pipe	A36 Gr.36	Typical
30	M33	N59A	N58		90	Proposed Brac...	Beam	Pipe	A36 Gr.36	Typical
31	M34	N62	N64			RIGID	None	None	RIGID	Typical
32	M35	N61	N63			RIGID	None	None	RIGID	Typical
33	MP2A_NEW	N65	N66			PROPOSED 2X	Beam	Pipe	A53 Gr. B	Typical
34	M37	N68	N70			RIGID	None	None	RIGID	Typical
35	M38	N67	N69			RIGID	None	None	RIGID	Typical
36	MP1A_NEW	N71	N72			PROPOSED 2X	Beam	Pipe	A53 Gr. B	Typical
37	M40	N75	N76			RIGID	None	None	RIGID	Typical
38	M41	N77	N78			RIGID	None	None	RIGID	Typical
39	M40A	N77A	N76A			RIGID	None	None	RIGID	Typical
40	OVP	N78A	N79			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
41	M41A	N78B	N79A			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes				None
2	M2						Yes	Default			None
3	M3						Yes				None
4	M4						Yes				None
5	M5	OOOOXO					Yes	** NA **			None
6	M6	OOOOXO					Yes	** NA **			None
7	M7						Yes	** NA **			None
8	M8	OOOOOX					Yes	Default			None
9	M9	OOOOOX					Yes	Default			None
10	M10						Yes	** NA **			None
11	M11						Yes	** NA **			None
12	RRH1						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
13	RRH2						Yes	** NA **			None
14	M14						Yes	** NA **			None
15	M15		OOOXOO				Yes	** NA **			None
16	M16		OOOXOO				Yes	** NA **			None
17	MP1A						Yes	** NA **			None
18	M25	OOOOXO					Yes				None
19	M26	OOOOXO					Yes				None
20	M24		OOOXOO				Yes	** NA **			None
21	M25A		OOOXOO				Yes	** NA **			None
22	MP2A						Yes	Default			None
23	M27		OOOXOO				Yes	** NA **			None
24	M28		OOOXOO				Yes	** NA **			None
25	MP3A						Yes	** NA **			None
26	M26A						Yes	** NA **			None
27	M27A						Yes	** NA **			None
28	M31						Yes				None
29	M32	BenPIN					Yes				None
30	M33	BenPIN					Yes				None
31	M34		OOOXOO				Yes	** NA **			None
32	M35		OOOXOO				Yes	** NA **			None
33	MP2A_NEW						Yes	Default			None
34	M37		OOOXOO				Yes	** NA **			None
35	M38		OOOXOO				Yes	** NA **			None
36	MP1A_NEW						Yes	Default			None
37	M40						Yes	** NA **			None
38	M41						Yes	** NA **			None
39	M40A						Yes	** NA **			None
40	OVP						Yes	** NA **			None
41	M41A						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	Y	-44	.5
2	OVP	My	.009	.5
3	OVP	Mz	-.02	.5
4	MP3A	Y	-28.65	1
5	MP3A	My	.002	1
6	MP3A	Mz	.014	1
7	MP3A	Y	-28.65	3
8	MP3A	My	.002	3
9	MP3A	Mz	.014	3
10	RRH1	Y	-74.7	.75
11	RRH1	My	.037	.75
12	RRH1	Mz	0	.75
13	RRH2	Y	-79.1	.75
14	RRH2	My	.04	.75
15	RRH2	Mz	0	.75
16	OVP	Y	-44	.5
17	OVP	My	-.02	.5
18	OVP	Mz	-.009	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP2A	Y	-21.85	.5
20	MP2A	My	-.011	.5
21	MP2A	Mz	.013	.5
22	MP2A	Y	-21.85	4.5
23	MP2A	My	-.011	4.5
24	MP2A	Mz	.013	4.5
25	MP2A	Y	-21.85	.5
26	MP2A	My	.014	.5
27	MP2A	Mz	.009	.5
28	MP2A	Y	-21.85	4.5
29	MP2A	My	.014	4.5
30	MP2A	Mz	.009	4.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	Y	-69.6	.5
2	OVP	My	.015	.5
3	OVP	Mz	-.032	.5
4	MP3A	Y	-28.051	1
5	MP3A	My	.002	1
6	MP3A	Mz	.014	1
7	MP3A	Y	-28.051	3
8	MP3A	My	.002	3
9	MP3A	Mz	.014	3
10	RRH1	Y	-42.276	.75
11	RRH1	My	.021	.75
12	RRH1	Mz	0	.75
13	RRH2	Y	-42.726	.75
14	RRH2	My	.021	.75
15	RRH2	Mz	0	.75
16	OVP	Y	-69.6	.5
17	OVP	My	-.032	.5
18	OVP	Mz	-.015	.5
19	MP2A	Y	-57.126	.5
20	MP2A	My	-.028	.5
21	MP2A	Mz	.034	.5
22	MP2A	Y	-57.126	4.5
23	MP2A	My	-.028	4.5
24	MP2A	Mz	.034	4.5
25	MP2A	Y	-57.126	.5
26	MP2A	My	.038	.5
27	MP2A	Mz	.022	.5
28	MP2A	Y	-57.126	4.5
29	MP2A	My	.038	4.5
30	MP2A	Mz	.022	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	0	.5
2	OVP	Z	-92.127	.5
3	OVP	Mx	.042	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP3A	X	0	1
5	MP3A	Z	-21.813	1
6	MP3A	Mx	-.011	1
7	MP3A	X	0	3
8	MP3A	Z	-21.813	3
9	MP3A	Mx	-.011	3
10	RRH1	X	0	.75
11	RRH1	Z	-57.706	.75
12	RRH1	Mx	0	.75
13	RRH2	X	0	.75
14	RRH2	Z	-69.619	.75
15	RRH2	Mx	0	.75
16	OVP	X	0	.5
17	OVP	Z	-128.12	.5
18	OVP	Mx	.027	.5
19	MP2A	X	0	.5
20	MP2A	Z	-45.113	.5
21	MP2A	Mx	-.027	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-45.113	4.5
24	MP2A	Mx	-.027	4.5
25	MP2A	X	0	.5
26	MP2A	Z	-45.113	.5
27	MP2A	Mx	-.018	.5
28	MP2A	X	0	4.5
29	MP2A	Z	-45.113	4.5
30	MP2A	Mx	-.018	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	41.275	.5
2	OVP	Z	-71.491	.5
3	OVP	Mx	.041	.5
4	MP3A	X	18.215	1
5	MP3A	Z	-31.549	1
6	MP3A	Mx	-.014	1
7	MP3A	X	18.215	3
8	MP3A	Z	-31.549	3
9	MP3A	Mx	-.014	3
10	RRH1	X	26.48	.75
11	RRH1	Z	-45.864	.75
12	RRH1	Mx	.013	.75
13	RRH2	X	32.041	.75
14	RRH2	Z	-55.496	.75
15	RRH2	Mx	.016	.75
16	OVP	X	68.848	.5
17	OVP	Z	-119.249	.5
18	OVP	Mx	-.006	.5
19	MP2A	X	33.608	.5
20	MP2A	Z	-58.21	.5
21	MP2A	Mx	-.051	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	33.608	4.5
23	MP2A	Z	-58.21	4.5
24	MP2A	Mx	-.051	4.5
25	MP2A	X	33.608	.5
26	MP2A	Z	-58.21	.5
27	MP2A	Mx	-.000542	.5
28	MP2A	X	33.608	4.5
29	MP2A	Z	-58.21	4.5
30	MP2A	Mx	-.000542	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	87.077	.5
2	OVP	Z	-50.274	.5
3	OVP	Mx	.041	.5
4	MP3A	X	47.076	1
5	MP3A	Z	-27.179	1
6	MP3A	Mx	-.009	1
7	MP3A	X	47.076	3
8	MP3A	Z	-27.179	3
9	MP3A	Mx	-.009	3
10	RRH1	X	37.642	.75
11	RRH1	Z	-21.733	.75
12	RRH1	Mx	.019	.75
13	RRH2	X	45.904	.75
14	RRH2	Z	-26.503	.75
15	RRH2	Mx	.023	.75
16	OVP	X	103.663	.5
17	OVP	Z	-59.85	.5
18	OVP	Mx	-.034	.5
19	MP2A	X	81.69	.5
20	MP2A	Z	-47.164	.5
21	MP2A	Mx	-.068	.5
22	MP2A	X	81.69	4.5
23	MP2A	Z	-47.164	4.5
24	MP2A	Mx	-.068	4.5
25	MP2A	X	81.69	.5
26	MP2A	Z	-47.164	.5
27	MP2A	Mx	.036	.5
28	MP2A	X	81.69	4.5
29	MP2A	Z	-47.164	4.5
30	MP2A	Mx	.036	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	128.12	.5
2	OVP	Z	0	.5
3	OVP	Mx	.027	.5
4	MP3A	X	57.672	1
5	MP3A	Z	0	1
6	MP3A	Mx	.005	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP3A	X	57.672	3
8	MP3A	Z	0	3
9	MP3A	Mx	.005	3
10	RRH1	X	38.719	.75
11	RRH1	Z	0	.75
12	RRH1	Mx	.019	.75
13	RRH2	X	47.468	.75
14	RRH2	Z	0	.75
15	RRH2	Mx	.024	.75
16	OVP	X	92.127	.5
17	OVP	Z	0	.5
18	OVP	Mx	-.042	.5
19	MP2A	X	99.338	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.048	.5
22	MP2A	X	99.338	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.048	4.5
25	MP2A	X	99.338	.5
26	MP2A	Z	0	.5
27	MP2A	Mx	.066	.5
28	MP2A	X	99.338	4.5
29	MP2A	Z	0	4.5
30	MP2A	Mx	.066	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	119.249	.5
2	OVP	Z	68.848	.5
3	OVP	Mx	-.006	.5
4	MP3A	X	37.287	1
5	MP3A	Z	21.528	1
6	MP3A	Mx	.014	1
7	MP3A	X	37.287	3
8	MP3A	Z	21.528	3
9	MP3A	Mx	.014	3
10	RRH1	X	37.642	.75
11	RRH1	Z	21.733	.75
12	RRH1	Mx	.019	.75
13	RRH2	X	45.904	.75
14	RRH2	Z	26.503	.75
15	RRH2	Mx	.023	.75
16	OVP	X	71.491	.5
17	OVP	Z	41.275	.5
18	OVP	Mx	-.041	.5
19	MP2A	X	66.888	.5
20	MP2A	Z	38.618	.5
21	MP2A	Mx	-.01	.5
22	MP2A	X	66.888	4.5
23	MP2A	Z	38.618	4.5
24	MP2A	Mx	-.01	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP2A	X	66.888	.5
26	MP2A	Z	38.618	.5
27	MP2A	Mx	.059	.5
28	MP2A	X	66.888	4.5
29	MP2A	Z	38.618	4.5
30	MP2A	Mx	.059	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	59.85	.5
2	OVP	Z	103.663	.5
3	OVP	Mx	-.034	.5
4	MP3A	X	12.563	1
5	MP3A	Z	21.76	1
6	MP3A	Mx	.012	1
7	MP3A	X	12.563	3
8	MP3A	Z	21.76	3
9	MP3A	Mx	.012	3
10	RRH1	X	26.48	.75
11	RRH1	Z	45.864	.75
12	RRH1	Mx	.013	.75
13	RRH2	X	32.041	.75
14	RRH2	Z	55.496	.75
15	RRH2	Mx	.016	.75
16	OVP	X	50.274	.5
17	OVP	Z	87.077	.5
18	OVP	Mx	-.041	.5
19	MP2A	X	25.061	.5
20	MP2A	Z	43.408	.5
21	MP2A	Mx	.014	.5
22	MP2A	X	25.061	4.5
23	MP2A	Z	43.408	4.5
24	MP2A	Mx	.014	4.5
25	MP2A	X	25.061	.5
26	MP2A	Z	43.408	.5
27	MP2A	Mx	.034	.5
28	MP2A	X	25.061	4.5
29	MP2A	Z	43.408	4.5
30	MP2A	Mx	.034	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	0	.5
2	OVP	Z	92.127	.5
3	OVP	Mx	-.042	.5
4	MP3A	X	0	1
5	MP3A	Z	21.813	1
6	MP3A	Mx	.011	1
7	MP3A	X	0	3
8	MP3A	Z	21.813	3
9	MP3A	Mx	.011	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
10	RRH1	X	0	.75
11	RRH1	Z	57.706	.75
12	RRH1	Mx	0	.75
13	RRH2	X	0	.75
14	RRH2	Z	69.619	.75
15	RRH2	Mx	0	.75
16	OVP	X	0	.5
17	OVP	Z	128.12	.5
18	OVP	Mx	-.027	.5
19	MP2A	X	0	.5
20	MP2A	Z	45.113	.5
21	MP2A	Mx	.027	.5
22	MP2A	X	0	4.5
23	MP2A	Z	45.113	4.5
24	MP2A	Mx	.027	4.5
25	MP2A	X	0	.5
26	MP2A	Z	45.113	.5
27	MP2A	Mx	.018	.5
28	MP2A	X	0	4.5
29	MP2A	Z	45.113	4.5
30	MP2A	Mx	.018	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-41.275	.5
2	OVP	Z	71.491	.5
3	OVP	Mx	-.041	.5
4	MP3A	X	-18.215	1
5	MP3A	Z	31.549	1
6	MP3A	Mx	.014	1
7	MP3A	X	-18.215	3
8	MP3A	Z	31.549	3
9	MP3A	Mx	.014	3
10	RRH1	X	-26.48	.75
11	RRH1	Z	45.864	.75
12	RRH1	Mx	-.013	.75
13	RRH2	X	-32.041	.75
14	RRH2	Z	55.496	.75
15	RRH2	Mx	-.016	.75
16	OVP	X	-68.848	.5
17	OVP	Z	119.249	.5
18	OVP	Mx	.006	.5
19	MP2A	X	-33.608	.5
20	MP2A	Z	58.21	.5
21	MP2A	Mx	.051	.5
22	MP2A	X	-33.608	4.5
23	MP2A	Z	58.21	4.5
24	MP2A	Mx	.051	4.5
25	MP2A	X	-33.608	.5
26	MP2A	Z	58.21	.5
27	MP2A	Mx	.000542	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2A	X	-33.608	4.5
29	MP2A	Z	58.21	4.5
30	MP2A	Mx	.000542	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-87.077	.5
2	OVP	Z	50.274	.5
3	OVP	Mx	-.041	.5
4	MP3A	X	-47.076	1
5	MP3A	Z	27.179	1
6	MP3A	Mx	.009	1
7	MP3A	X	-47.076	3
8	MP3A	Z	27.179	3
9	MP3A	Mx	.009	3
10	RRH1	X	-37.642	.75
11	RRH1	Z	21.733	.75
12	RRH1	Mx	-.019	.75
13	RRH2	X	-45.904	.75
14	RRH2	Z	26.503	.75
15	RRH2	Mx	-.023	.75
16	OVP	X	-103.663	.5
17	OVP	Z	59.85	.5
18	OVP	Mx	.034	.5
19	MP2A	X	-81.69	.5
20	MP2A	Z	47.164	.5
21	MP2A	Mx	.068	.5
22	MP2A	X	-81.69	4.5
23	MP2A	Z	47.164	4.5
24	MP2A	Mx	.068	4.5
25	MP2A	X	-81.69	.5
26	MP2A	Z	47.164	.5
27	MP2A	Mx	-.036	.5
28	MP2A	X	-81.69	4.5
29	MP2A	Z	47.164	4.5
30	MP2A	Mx	-.036	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-128.12	.5
2	OVP	Z	0	.5
3	OVP	Mx	-.027	.5
4	MP3A	X	-57.672	1
5	MP3A	Z	0	1
6	MP3A	Mx	-.005	1
7	MP3A	X	-57.672	3
8	MP3A	Z	0	3
9	MP3A	Mx	-.005	3
10	RRH1	X	-38.719	.75
11	RRH1	Z	0	.75
12	RRH1	Mx	-.019	.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	RRH2	X	-47.468	.75
14	RRH2	Z	0	.75
15	RRH2	Mx	-.024	.75
16	OVP	X	-92.127	.5
17	OVP	Z	0	.5
18	OVP	Mx	.042	.5
19	MP2A	X	-99.338	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.048	.5
22	MP2A	X	-99.338	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.048	4.5
25	MP2A	X	-99.338	.5
26	MP2A	Z	0	.5
27	MP2A	Mx	-.066	.5
28	MP2A	X	-99.338	4.5
29	MP2A	Z	0	4.5
30	MP2A	Mx	-.066	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-119.249	.5
2	OVP	Z	-68.848	.5
3	OVP	Mx	.006	.5
4	MP3A	X	-37.287	1
5	MP3A	Z	-21.528	1
6	MP3A	Mx	-.014	1
7	MP3A	X	-37.287	3
8	MP3A	Z	-21.528	3
9	MP3A	Mx	-.014	3
10	RRH1	X	-37.642	.75
11	RRH1	Z	-21.733	.75
12	RRH1	Mx	-.019	.75
13	RRH2	X	-45.904	.75
14	RRH2	Z	-26.503	.75
15	RRH2	Mx	-.023	.75
16	OVP	X	-71.491	.5
17	OVP	Z	-41.275	.5
18	OVP	Mx	.041	.5
19	MP2A	X	-66.888	.5
20	MP2A	Z	-38.618	.5
21	MP2A	Mx	.01	.5
22	MP2A	X	-66.888	4.5
23	MP2A	Z	-38.618	4.5
24	MP2A	Mx	.01	4.5
25	MP2A	X	-66.888	.5
26	MP2A	Z	-38.618	.5
27	MP2A	Mx	-.059	.5
28	MP2A	X	-66.888	4.5
29	MP2A	Z	-38.618	4.5
30	MP2A	Mx	-.059	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-59.85	.5
2	OVP	Z	-103.663	.5
3	OVP	Mx	.034	.5
4	MP3A	X	-12.563	1
5	MP3A	Z	-21.76	1
6	MP3A	Mx	-.012	1
7	MP3A	X	-12.563	3
8	MP3A	Z	-21.76	3
9	MP3A	Mx	-.012	3
10	RRH1	X	-26.48	.75
11	RRH1	Z	-45.864	.75
12	RRH1	Mx	-.013	.75
13	RRH2	X	-32.041	.75
14	RRH2	Z	-55.496	.75
15	RRH2	Mx	-.016	.75
16	OVP	X	-50.274	.5
17	OVP	Z	-87.077	.5
18	OVP	Mx	.041	.5
19	MP2A	X	-25.061	.5
20	MP2A	Z	-43.408	.5
21	MP2A	Mx	-.014	.5
22	MP2A	X	-25.061	4.5
23	MP2A	Z	-43.408	4.5
24	MP2A	Mx	-.014	4.5
25	MP2A	X	-25.061	.5
26	MP2A	Z	-43.408	.5
27	MP2A	Mx	-.034	.5
28	MP2A	X	-25.061	4.5
29	MP2A	Z	-43.408	4.5
30	MP2A	Mx	-.034	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	0	.5
2	OVP	Z	-18.7	.5
3	OVP	Mx	.008	.5
4	MP3A	X	0	1
5	MP3A	Z	-6.088	1
6	MP3A	Mx	-.003	1
7	MP3A	X	0	3
8	MP3A	Z	-6.088	3
9	MP3A	Mx	-.003	3
10	RRH1	X	0	.75
11	RRH1	Z	-14.332	.75
12	RRH1	Mx	0	.75
13	RRH2	X	0	.75
14	RRH2	Z	-14.332	.75
15	RRH2	Mx	0	.75
16	OVP	X	0	.5
17	OVP	Z	-25.237	.5
18	OVP	Mx	.005	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP2A	X	0	.5
20	MP2A	Z	-19.99	.5
21	MP2A	Mx	-.012	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-19.99	4.5
24	MP2A	Mx	-.012	4.5
25	MP2A	X	0	.5
26	MP2A	Z	-19.99	.5
27	MP2A	Mx	-.008	.5
28	MP2A	X	0	4.5
29	MP2A	Z	-19.99	4.5
30	MP2A	Mx	-.008	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	8.48	.5
2	OVP	Z	-14.688	.5
3	OVP	Mx	.008	.5
4	MP3A	X	4.588	1
5	MP3A	Z	-7.947	1
6	MP3A	Mx	-.004	1
7	MP3A	X	4.588	3
8	MP3A	Z	-7.947	3
9	MP3A	Mx	-.004	3
10	RRH1	X	6.618	.75
11	RRH1	Z	-11.463	.75
12	RRH1	Mx	.003	.75
13	RRH2	X	6.64	.75
14	RRH2	Z	-11.501	.75
15	RRH2	Mx	.003	.75
16	OVP	X	13.488	.5
17	OVP	Z	-23.363	.5
18	OVP	Mx	-.001	.5
19	MP2A	X	11.706	.5
20	MP2A	Z	-20.276	.5
21	MP2A	Mx	-.018	.5
22	MP2A	X	11.706	4.5
23	MP2A	Z	-20.276	4.5
24	MP2A	Mx	-.018	4.5
25	MP2A	X	11.706	.5
26	MP2A	Z	-20.276	.5
27	MP2A	Mx	-.000189	.5
28	MP2A	X	11.706	4.5
29	MP2A	Z	-20.276	4.5
30	MP2A	Mx	-.000189	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	17.519	.5
2	OVP	Z	-10.115	.5
3	OVP	Mx	.008	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP3A	X	11.229	1
5	MP3A	Z	-6.483	1
6	MP3A	Mx	-.002	1
7	MP3A	X	11.229	3
8	MP3A	Z	-6.483	3
9	MP3A	Mx	-.002	3
10	RRH1	X	9.565	.75
11	RRH1	Z	-5.522	.75
12	RRH1	Mx	.005	.75
13	RRH2	X	9.678	.75
14	RRH2	Z	-5.588	.75
15	RRH2	Mx	.005	.75
16	OVP	X	20.532	.5
17	OVP	Z	-11.854	.5
18	OVP	Mx	-.007	.5
19	MP2A	X	23.913	.5
20	MP2A	Z	-13.806	.5
21	MP2A	Mx	-.02	.5
22	MP2A	X	23.913	4.5
23	MP2A	Z	-13.806	4.5
24	MP2A	Mx	-.02	4.5
25	MP2A	X	23.913	.5
26	MP2A	Z	-13.806	.5
27	MP2A	Mx	.01	.5
28	MP2A	X	23.913	4.5
29	MP2A	Z	-13.806	4.5
30	MP2A	Mx	.01	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	25.237	.5
2	OVP	Z	0	.5
3	OVP	Mx	.005	.5
4	MP3A	X	13.666	1
5	MP3A	Z	0	1
6	MP3A	Mx	.001	1
7	MP3A	X	13.666	3
8	MP3A	Z	0	3
9	MP3A	Mx	.001	3
10	RRH1	X	9.948	.75
11	RRH1	Z	0	.75
12	RRH1	Mx	.005	.75
13	RRH2	X	10.124	.75
14	RRH2	Z	0	.75
15	RRH2	Mx	.005	.75
16	OVP	X	18.7	.5
17	OVP	Z	0	.5
18	OVP	Mx	-.008	.5
19	MP2A	X	28.388	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.014	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	28.388	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.014	4.5
25	MP2A	X	28.388	.5
26	MP2A	Z	0	.5
27	MP2A	Mx	.019	.5
28	MP2A	X	28.388	4.5
29	MP2A	Z	0	4.5
30	MP2A	Mx	.019	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	23.363	.5
2	OVP	Z	13.488	.5
3	OVP	Mx	-.001	.5
4	MP3A	X	9.16	1
5	MP3A	Z	5.288	1
6	MP3A	Mx	.003	1
7	MP3A	X	9.16	3
8	MP3A	Z	5.288	3
9	MP3A	Mx	.003	3
10	RRH1	X	9.565	.75
11	RRH1	Z	5.522	.75
12	RRH1	Mx	.005	.75
13	RRH2	X	9.678	.75
14	RRH2	Z	5.588	.75
15	RRH2	Mx	.005	.75
16	OVP	X	14.688	.5
17	OVP	Z	8.48	.5
18	OVP	Mx	-.008	.5
19	MP2A	X	21.62	.5
20	MP2A	Z	12.482	.5
21	MP2A	Mx	-.003	.5
22	MP2A	X	21.62	4.5
23	MP2A	Z	12.482	4.5
24	MP2A	Mx	-.003	4.5
25	MP2A	X	21.62	.5
26	MP2A	Z	12.482	.5
27	MP2A	Mx	.019	.5
28	MP2A	X	21.62	4.5
29	MP2A	Z	12.482	4.5
30	MP2A	Mx	.019	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	11.854	.5
2	OVP	Z	20.532	.5
3	OVP	Mx	-.007	.5
4	MP3A	X	3.394	1
5	MP3A	Z	5.879	1
6	MP3A	Mx	.003	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP3A	X	3.394	3
8	MP3A	Z	5.879	3
9	MP3A	Mx	.003	3
10	RRH1	X	6.618	.75
11	RRH1	Z	11.463	.75
12	RRH1	Mx	.003	.75
13	RRH2	X	6.64	.75
14	RRH2	Z	11.501	.75
15	RRH2	Mx	.003	.75
16	OVP	X	10.115	.5
17	OVP	Z	17.519	.5
18	OVP	Mx	-.008	.5
19	MP2A	X	10.383	.5
20	MP2A	Z	17.984	.5
21	MP2A	Mx	.006	.5
22	MP2A	X	10.383	4.5
23	MP2A	Z	17.984	4.5
24	MP2A	Mx	.006	4.5
25	MP2A	X	10.383	.5
26	MP2A	Z	17.984	.5
27	MP2A	Mx	.014	.5
28	MP2A	X	10.383	4.5
29	MP2A	Z	17.984	4.5
30	MP2A	Mx	.014	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	0	.5
2	OVP	Z	18.7	.5
3	OVP	Mx	-.008	.5
4	MP3A	X	0	1
5	MP3A	Z	6.088	1
6	MP3A	Mx	.003	1
7	MP3A	X	0	3
8	MP3A	Z	6.088	3
9	MP3A	Mx	.003	3
10	RRH1	X	0	.75
11	RRH1	Z	14.332	.75
12	RRH1	Mx	0	.75
13	RRH2	X	0	.75
14	RRH2	Z	14.332	.75
15	RRH2	Mx	0	.75
16	OVP	X	0	.5
17	OVP	Z	25.237	.5
18	OVP	Mx	-.005	.5
19	MP2A	X	0	.5
20	MP2A	Z	19.99	.5
21	MP2A	Mx	.012	.5
22	MP2A	X	0	4.5
23	MP2A	Z	19.99	4.5
24	MP2A	Mx	.012	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP2A	X	0	.5
26	MP2A	Z	19.99	.5
27	MP2A	Mx	.008	.5
28	MP2A	X	0	4.5
29	MP2A	Z	19.99	4.5
30	MP2A	Mx	.008	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-8.48	.5
2	OVP	Z	14.688	.5
3	OVP	Mx	-.008	.5
4	MP3A	X	-4.588	1
5	MP3A	Z	7.947	1
6	MP3A	Mx	.004	1
7	MP3A	X	-4.588	3
8	MP3A	Z	7.947	3
9	MP3A	Mx	.004	3
10	RRH1	X	-6.618	.75
11	RRH1	Z	11.463	.75
12	RRH1	Mx	-.003	.75
13	RRH2	X	-6.64	.75
14	RRH2	Z	11.501	.75
15	RRH2	Mx	-.003	.75
16	OVP	X	-13.488	.5
17	OVP	Z	23.363	.5
18	OVP	Mx	.001	.5
19	MP2A	X	-11.706	.5
20	MP2A	Z	20.276	.5
21	MP2A	Mx	.018	.5
22	MP2A	X	-11.706	4.5
23	MP2A	Z	20.276	4.5
24	MP2A	Mx	.018	4.5
25	MP2A	X	-11.706	.5
26	MP2A	Z	20.276	.5
27	MP2A	Mx	.000189	.5
28	MP2A	X	-11.706	4.5
29	MP2A	Z	20.276	4.5
30	MP2A	Mx	.000189	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-17.519	.5
2	OVP	Z	10.115	.5
3	OVP	Mx	-.008	.5
4	MP3A	X	-11.229	1
5	MP3A	Z	6.483	1
6	MP3A	Mx	.002	1
7	MP3A	X	-11.229	3
8	MP3A	Z	6.483	3
9	MP3A	Mx	.002	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
10	RRH1	X	-9.565	.75
11	RRH1	Z	5.522	.75
12	RRH1	Mx	-.005	.75
13	RRH2	X	-9.678	.75
14	RRH2	Z	5.588	.75
15	RRH2	Mx	-.005	.75
16	OVP	X	-20.532	.5
17	OVP	Z	11.854	.5
18	OVP	Mx	.007	.5
19	MP2A	X	-23.913	.5
20	MP2A	Z	13.806	.5
21	MP2A	Mx	.02	.5
22	MP2A	X	-23.913	4.5
23	MP2A	Z	13.806	4.5
24	MP2A	Mx	.02	4.5
25	MP2A	X	-23.913	.5
26	MP2A	Z	13.806	.5
27	MP2A	Mx	-.01	.5
28	MP2A	X	-23.913	4.5
29	MP2A	Z	13.806	4.5
30	MP2A	Mx	-.01	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-25.237	.5
2	OVP	Z	0	.5
3	OVP	Mx	-.005	.5
4	MP3A	X	-13.666	1
5	MP3A	Z	0	1
6	MP3A	Mx	-.001	1
7	MP3A	X	-13.666	3
8	MP3A	Z	0	3
9	MP3A	Mx	-.001	3
10	RRH1	X	-9.948	.75
11	RRH1	Z	0	.75
12	RRH1	Mx	-.005	.75
13	RRH2	X	-10.124	.75
14	RRH2	Z	0	.75
15	RRH2	Mx	-.005	.75
16	OVP	X	-18.7	.5
17	OVP	Z	0	.5
18	OVP	Mx	.008	.5
19	MP2A	X	-28.388	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.014	.5
22	MP2A	X	-28.388	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.014	4.5
25	MP2A	X	-28.388	.5
26	MP2A	Z	0	.5
27	MP2A	Mx	-.019	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2A	X	-28.388	4.5
29	MP2A	Z	0	4.5
30	MP2A	Mx	-.019	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-23.363	.5
2	OVP	Z	-13.488	.5
3	OVP	Mx	.001	.5
4	MP3A	X	-9.16	1
5	MP3A	Z	-5.288	1
6	MP3A	Mx	-.003	1
7	MP3A	X	-9.16	3
8	MP3A	Z	-5.288	3
9	MP3A	Mx	-.003	3
10	RRH1	X	-9.565	.75
11	RRH1	Z	-5.522	.75
12	RRH1	Mx	-.005	.75
13	RRH2	X	-9.678	.75
14	RRH2	Z	-5.588	.75
15	RRH2	Mx	-.005	.75
16	OVP	X	-14.688	.5
17	OVP	Z	-8.48	.5
18	OVP	Mx	.008	.5
19	MP2A	X	-21.62	.5
20	MP2A	Z	-12.482	.5
21	MP2A	Mx	.003	.5
22	MP2A	X	-21.62	4.5
23	MP2A	Z	-12.482	4.5
24	MP2A	Mx	.003	4.5
25	MP2A	X	-21.62	.5
26	MP2A	Z	-12.482	.5
27	MP2A	Mx	-.019	.5
28	MP2A	X	-21.62	4.5
29	MP2A	Z	-12.482	4.5
30	MP2A	Mx	-.019	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-11.854	.5
2	OVP	Z	-20.532	.5
3	OVP	Mx	.007	.5
4	MP3A	X	-3.394	1
5	MP3A	Z	-5.879	1
6	MP3A	Mx	-.003	1
7	MP3A	X	-3.394	3
8	MP3A	Z	-5.879	3
9	MP3A	Mx	-.003	3
10	RRH1	X	-6.618	.75
11	RRH1	Z	-11.463	.75
12	RRH1	Mx	-.003	.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	RRH2	X	-6.64	.75
14	RRH2	Z	-11.501	.75
15	RRH2	Mx	-.003	.75
16	OVP	X	-10.115	.5
17	OVP	Z	-17.519	.5
18	OVP	Mx	.008	.5
19	MP2A	X	-10.383	.5
20	MP2A	Z	-17.984	.5
21	MP2A	Mx	-.006	.5
22	MP2A	X	-10.383	4.5
23	MP2A	Z	-17.984	4.5
24	MP2A	Mx	-.006	4.5
25	MP2A	X	-10.383	.5
26	MP2A	Z	-17.984	.5
27	MP2A	Mx	-.014	.5
28	MP2A	X	-10.383	4.5
29	MP2A	Z	-17.984	4.5
30	MP2A	Mx	-.014	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	0	.5
2	OVP	Z	-5.758	.5
3	OVP	Mx	.003	.5
4	MP3A	X	0	1
5	MP3A	Z	-1.363	1
6	MP3A	Mx	-.000671	1
7	MP3A	X	0	3
8	MP3A	Z	-1.363	3
9	MP3A	Mx	-.000671	3
10	RRH1	X	0	.75
11	RRH1	Z	-3.607	.75
12	RRH1	Mx	0	.75
13	RRH2	X	0	.75
14	RRH2	Z	-4.351	.75
15	RRH2	Mx	0	.75
16	OVP	X	0	.5
17	OVP	Z	-8.008	.5
18	OVP	Mx	.002	.5
19	MP2A	X	0	.5
20	MP2A	Z	-2.82	.5
21	MP2A	Mx	-.002	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-2.82	4.5
24	MP2A	Mx	-.002	4.5
25	MP2A	X	0	.5
26	MP2A	Z	-2.82	.5
27	MP2A	Mx	-.001	.5
28	MP2A	X	0	4.5
29	MP2A	Z	-2.82	4.5
30	MP2A	Mx	-.001	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	2.58	.5
2	OVP	Z	-4.468	.5
3	OVP	Mx	.003	.5
4	MP3A	X	1.138	1
5	MP3A	Z	-1.972	1
6	MP3A	Mx	-.000872	1
7	MP3A	X	1.138	3
8	MP3A	Z	-1.972	3
9	MP3A	Mx	-.000872	3
10	RRH1	X	1.655	.75
11	RRH1	Z	-2.866	.75
12	RRH1	Mx	.000828	.75
13	RRH2	X	2.003	.75
14	RRH2	Z	-3.469	.75
15	RRH2	Mx	.001	.75
16	OVP	X	4.303	.5
17	OVP	Z	-7.453	.5
18	OVP	Mx	-.000375	.5
19	MP2A	X	2.1	.5
20	MP2A	Z	-3.638	.5
21	MP2A	Mx	-.003	.5
22	MP2A	X	2.1	4.5
23	MP2A	Z	-3.638	4.5
24	MP2A	Mx	-.003	4.5
25	MP2A	X	2.1	.5
26	MP2A	Z	-3.638	.5
27	MP2A	Mx	-3.4e-5	.5
28	MP2A	X	2.1	4.5
29	MP2A	Z	-3.638	4.5
30	MP2A	Mx	-3.4e-5	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	5.442	.5
2	OVP	Z	-3.142	.5
3	OVP	Mx	.003	.5
4	MP3A	X	2.942	1
5	MP3A	Z	-1.699	1
6	MP3A	Mx	-.000581	1
7	MP3A	X	2.942	3
8	MP3A	Z	-1.699	3
9	MP3A	Mx	-.000581	3
10	RRH1	X	2.353	.75
11	RRH1	Z	-1.358	.75
12	RRH1	Mx	.001	.75
13	RRH2	X	2.869	.75
14	RRH2	Z	-1.656	.75
15	RRH2	Mx	.001	.75
16	OVP	X	6.479	.5
17	OVP	Z	-3.741	.5
18	OVP	Mx	-.002	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP2A	X	5.106	.5
20	MP2A	Z	-2.948	.5
21	MP2A	Mx	-.004	.5
22	MP2A	X	5.106	4.5
23	MP2A	Z	-2.948	4.5
24	MP2A	Mx	-.004	4.5
25	MP2A	X	5.106	.5
26	MP2A	Z	-2.948	.5
27	MP2A	Mx	.002	.5
28	MP2A	X	5.106	4.5
29	MP2A	Z	-2.948	4.5
30	MP2A	Mx	.002	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	8.008	.5
2	OVP	Z	0	.5
3	OVP	Mx	.002	.5
4	MP3A	X	3.605	1
5	MP3A	Z	0	1
6	MP3A	Mx	.000313	1
7	MP3A	X	3.605	3
8	MP3A	Z	0	3
9	MP3A	Mx	.000313	3
10	RRH1	X	2.42	.75
11	RRH1	Z	0	.75
12	RRH1	Mx	.001	.75
13	RRH2	X	2.967	.75
14	RRH2	Z	0	.75
15	RRH2	Mx	.001	.75
16	OVP	X	5.758	.5
17	OVP	Z	0	.5
18	OVP	Mx	-.003	.5
19	MP2A	X	6.209	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.003	.5
22	MP2A	X	6.209	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.003	4.5
25	MP2A	X	6.209	.5
26	MP2A	Z	0	.5
27	MP2A	Mx	.004	.5
28	MP2A	X	6.209	4.5
29	MP2A	Z	0	4.5
30	MP2A	Mx	.004	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	7.453	.5
2	OVP	Z	4.303	.5
3	OVP	Mx	-.000375	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP3A	X	2.33	1
5	MP3A	Z	1.345	1
6	MP3A	Mx	.000865	1
7	MP3A	X	2.33	3
8	MP3A	Z	1.345	3
9	MP3A	Mx	.000865	3
10	RRH1	X	2.353	.75
11	RRH1	Z	1.358	.75
12	RRH1	Mx	.001	.75
13	RRH2	X	2.869	.75
14	RRH2	Z	1.656	.75
15	RRH2	Mx	.001	.75
16	OVP	X	4.468	.5
17	OVP	Z	2.58	.5
18	OVP	Mx	-.003	.5
19	MP2A	X	4.181	.5
20	MP2A	Z	2.414	.5
21	MP2A	Mx	-.000606	.5
22	MP2A	X	4.181	4.5
23	MP2A	Z	2.414	4.5
24	MP2A	Mx	-.000606	4.5
25	MP2A	X	4.181	.5
26	MP2A	Z	2.414	.5
27	MP2A	Mx	.004	.5
28	MP2A	X	4.181	4.5
29	MP2A	Z	2.414	4.5
30	MP2A	Mx	.004	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	3.741	.5
2	OVP	Z	6.479	.5
3	OVP	Mx	-.002	.5
4	MP3A	X	.785	1
5	MP3A	Z	1.36	1
6	MP3A	Mx	.000738	1
7	MP3A	X	.785	3
8	MP3A	Z	1.36	3
9	MP3A	Mx	.000738	3
10	RRH1	X	1.655	.75
11	RRH1	Z	2.866	.75
12	RRH1	Mx	.000828	.75
13	RRH2	X	2.003	.75
14	RRH2	Z	3.469	.75
15	RRH2	Mx	.001	.75
16	OVP	X	3.142	.5
17	OVP	Z	5.442	.5
18	OVP	Mx	-.003	.5
19	MP2A	X	1.566	.5
20	MP2A	Z	2.713	.5
21	MP2A	Mx	.000847	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP2A	X	1.566	4.5
23	MP2A	Z	2.713	4.5
24	MP2A	Mx	.000847	4.5
25	MP2A	X	1.566	.5
26	MP2A	Z	2.713	.5
27	MP2A	Mx	.002	.5
28	MP2A	X	1.566	4.5
29	MP2A	Z	2.713	4.5
30	MP2A	Mx	.002	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	0	.5
2	OVP	Z	5.758	.5
3	OVP	Mx	-.003	.5
4	MP3A	X	0	1
5	MP3A	Z	1.363	1
6	MP3A	Mx	.000671	1
7	MP3A	X	0	3
8	MP3A	Z	1.363	3
9	MP3A	Mx	.000671	3
10	RRH1	X	0	.75
11	RRH1	Z	3.607	.75
12	RRH1	Mx	0	.75
13	RRH2	X	0	.75
14	RRH2	Z	4.351	.75
15	RRH2	Mx	0	.75
16	OVP	X	0	.5
17	OVP	Z	8.008	.5
18	OVP	Mx	-.002	.5
19	MP2A	X	0	.5
20	MP2A	Z	2.82	.5
21	MP2A	Mx	.002	.5
22	MP2A	X	0	4.5
23	MP2A	Z	2.82	4.5
24	MP2A	Mx	.002	4.5
25	MP2A	X	0	.5
26	MP2A	Z	2.82	.5
27	MP2A	Mx	.001	.5
28	MP2A	X	0	4.5
29	MP2A	Z	2.82	4.5
30	MP2A	Mx	.001	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-2.58	.5
2	OVP	Z	4.468	.5
3	OVP	Mx	-.003	.5
4	MP3A	X	-1.138	1
5	MP3A	Z	1.972	1
6	MP3A	Mx	.000872	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP3A	X	-1.138	3
8	MP3A	Z	1.972	3
9	MP3A	Mx	.000872	3
10	RRH1	X	-1.655	.75
11	RRH1	Z	2.866	.75
12	RRH1	Mx	-.000828	.75
13	RRH2	X	-2.003	.75
14	RRH2	Z	3.469	.75
15	RRH2	Mx	-.001	.75
16	OVP	X	-4.303	.5
17	OVP	Z	7.453	.5
18	OVP	Mx	.000375	.5
19	MP2A	X	-2.1	.5
20	MP2A	Z	3.638	.5
21	MP2A	Mx	.003	.5
22	MP2A	X	-2.1	4.5
23	MP2A	Z	3.638	4.5
24	MP2A	Mx	.003	4.5
25	MP2A	X	-2.1	.5
26	MP2A	Z	3.638	.5
27	MP2A	Mx	3.4e-5	.5
28	MP2A	X	-2.1	4.5
29	MP2A	Z	3.638	4.5
30	MP2A	Mx	3.4e-5	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-5.442	.5
2	OVP	Z	3.142	.5
3	OVP	Mx	-.003	.5
4	MP3A	X	-2.942	1
5	MP3A	Z	1.699	1
6	MP3A	Mx	.000581	1
7	MP3A	X	-2.942	3
8	MP3A	Z	1.699	3
9	MP3A	Mx	.000581	3
10	RRH1	X	-2.353	.75
11	RRH1	Z	1.358	.75
12	RRH1	Mx	-.001	.75
13	RRH2	X	-2.869	.75
14	RRH2	Z	1.656	.75
15	RRH2	Mx	-.001	.75
16	OVP	X	-6.479	.5
17	OVP	Z	3.741	.5
18	OVP	Mx	.002	.5
19	MP2A	X	-5.106	.5
20	MP2A	Z	2.948	.5
21	MP2A	Mx	.004	.5
22	MP2A	X	-5.106	4.5
23	MP2A	Z	2.948	4.5
24	MP2A	Mx	.004	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP2A	X	-5.106	.5
26	MP2A	Z	2.948	.5
27	MP2A	Mx	-.002	.5
28	MP2A	X	-5.106	4.5
29	MP2A	Z	2.948	4.5
30	MP2A	Mx	-.002	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-8.008	.5
2	OVP	Z	0	.5
3	OVP	Mx	-.002	.5
4	MP3A	X	-3.605	1
5	MP3A	Z	0	1
6	MP3A	Mx	-.000313	1
7	MP3A	X	-3.605	3
8	MP3A	Z	0	3
9	MP3A	Mx	-.000313	3
10	RRH1	X	-2.42	.75
11	RRH1	Z	0	.75
12	RRH1	Mx	-.001	.75
13	RRH2	X	-2.967	.75
14	RRH2	Z	0	.75
15	RRH2	Mx	-.001	.75
16	OVP	X	-5.758	.5
17	OVP	Z	0	.5
18	OVP	Mx	.003	.5
19	MP2A	X	-6.209	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.003	.5
22	MP2A	X	-6.209	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.003	4.5
25	MP2A	X	-6.209	.5
26	MP2A	Z	0	.5
27	MP2A	Mx	-.004	.5
28	MP2A	X	-6.209	4.5
29	MP2A	Z	0	4.5
30	MP2A	Mx	-.004	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-7.453	.5
2	OVP	Z	-4.303	.5
3	OVP	Mx	.000375	.5
4	MP3A	X	-2.33	1
5	MP3A	Z	-1.345	1
6	MP3A	Mx	-.000865	1
7	MP3A	X	-2.33	3
8	MP3A	Z	-1.345	3
9	MP3A	Mx	-.000865	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
10	RRH1	X	-2.353	.75
11	RRH1	Z	-1.358	.75
12	RRH1	Mx	-.001	.75
13	RRH2	X	-2.869	.75
14	RRH2	Z	-1.656	.75
15	RRH2	Mx	-.001	.75
16	OVP	X	-4.468	.5
17	OVP	Z	-2.58	.5
18	OVP	Mx	.003	.5
19	MP2A	X	-4.181	.5
20	MP2A	Z	-2.414	.5
21	MP2A	Mx	.000606	.5
22	MP2A	X	-4.181	4.5
23	MP2A	Z	-2.414	4.5
24	MP2A	Mx	.000606	4.5
25	MP2A	X	-4.181	.5
26	MP2A	Z	-2.414	.5
27	MP2A	Mx	-.004	.5
28	MP2A	X	-4.181	4.5
29	MP2A	Z	-2.414	4.5
30	MP2A	Mx	-.004	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	-3.741	.5
2	OVP	Z	-6.479	.5
3	OVP	Mx	.002	.5
4	MP3A	X	-.785	1
5	MP3A	Z	-1.36	1
6	MP3A	Mx	-.000738	1
7	MP3A	X	-.785	3
8	MP3A	Z	-1.36	3
9	MP3A	Mx	-.000738	3
10	RRH1	X	-1.655	.75
11	RRH1	Z	-2.866	.75
12	RRH1	Mx	-.000828	.75
13	RRH2	X	-2.003	.75
14	RRH2	Z	-3.469	.75
15	RRH2	Mx	-.001	.75
16	OVP	X	-3.142	.5
17	OVP	Z	-5.442	.5
18	OVP	Mx	.003	.5
19	MP2A	X	-1.566	.5
20	MP2A	Z	-2.713	.5
21	MP2A	Mx	-.000847	.5
22	MP2A	X	-1.566	4.5
23	MP2A	Z	-2.713	4.5
24	MP2A	Mx	-.000847	4.5
25	MP2A	X	-1.566	.5
26	MP2A	Z	-2.713	.5
27	MP2A	Mx	-.002	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2A	X	-1.566	4.5
29	MP2A	Z	-2.713	4.5
30	MP2A	Mx	-.002	4.5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M25A	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M28	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M3	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M3	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	Y	-2.14	.5
2	OVP	My	.000452	.5
3	OVP	Mz	-.00097	.5
4	MP3A	Y	-1.394	1
5	MP3A	My	.000121	1
6	MP3A	Mz	.000686	1
7	MP3A	Y	-1.394	3
8	MP3A	My	.000121	3
9	MP3A	Mz	.000686	3
10	RRH1	Y	-3.633	.75
11	RRH1	My	.002	.75
12	RRH1	Mz	0	.75
13	RRH2	Y	-3.847	.75
14	RRH2	My	.002	.75
15	RRH2	Mz	0	.75
16	OVP	Y	-2.14	.5
17	OVP	My	-.00097	.5
18	OVP	Mz	-.000452	.5
19	MP2A	Y	-1.063	.5
20	MP2A	My	-.000518	.5
21	MP2A	Mz	.000631	.5
22	MP2A	Y	-1.063	4.5
23	MP2A	My	-.000518	4.5
24	MP2A	Mz	.000631	4.5
25	MP2A	Y	-1.063	.5
26	MP2A	My	.000703	.5
27	MP2A	Mz	.000416	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2A	Y	-1.063	4.5
29	MP2A	My	.000703	4.5
30	MP2A	Mz	.000416	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	Z	-5.35	.5
2	OVP	Mx	.002	.5
3	MP3A	Z	-3.484	1
4	MP3A	Mx	-.002	1
5	MP3A	Z	-3.484	3
6	MP3A	Mx	-.002	3
7	RRH1	Z	-9.084	.75
8	RRH1	Mx	0	.75
9	RRH2	Z	-9.619	.75
10	RRH2	Mx	0	.75
11	OVP	Z	-5.35	.5
12	OVP	Mx	.001	.5
13	MP2A	Z	-2.657	.5
14	MP2A	Mx	-.002	.5
15	MP2A	Z	-2.657	4.5
16	MP2A	Mx	-.002	4.5
17	MP2A	Z	-2.657	.5
18	MP2A	Mx	-.001	.5
19	MP2A	Z	-2.657	4.5
20	MP2A	Mx	-.001	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	OVP	X	5.35	.5
2	OVP	Mx	.001	.5
3	MP3A	X	3.484	1
4	MP3A	Mx	.000302	1
5	MP3A	X	3.484	3
6	MP3A	Mx	.000302	3
7	RRH1	X	9.084	.75
8	RRH1	Mx	.005	.75
9	RRH2	X	9.619	.75
10	RRH2	Mx	.005	.75
11	OVP	X	5.35	.5
12	OVP	Mx	-.002	.5
13	MP2A	X	2.657	.5
14	MP2A	Mx	-.001	.5
15	MP2A	X	2.657	4.5
16	MP2A	Mx	-.001	4.5
17	MP2A	X	2.657	.5
18	MP2A	Mx	.002	.5
19	MP2A	X	2.657	4.5
20	MP2A	Mx	.002	4.5

Member Area Loads

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

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	N48A	max	1593.825	42	1217.589	20	-265.24	1	.348	5	0	75	.818	12
2		min	97.763	12	183.896	2	-2577.492	18	-.794	11	0	1	-1.511	42
3	N49A	max	-245.319	11	1083.33	14	2453.807	39	.26	42	0	75	.519	49
4		min	-1526.049	41	55.34	8	740.096	73	-.731	49	0	1	-1.412	42
5	N50A	max	45.404	10	84.418	9	488.337	5	0	75	0	75	0	75
6		min	-37.778	4	-50.619	3	-519.633	11	0	1	0	1	0	1
7	N51A	max	726.747	6	123.117	6	826.309	12	0	75	0	75	0	75
8		min	-712.918	12	-74.826	12	-859.224	6	0	1	0	1	0	1
9	N58	max	1932.645	11	86.226	24	416.513	12	0	75	0	75	0	75
10		min	-2003.346	5	-19.941	6	-266.065	6	0	1	0	1	0	1
11	Totals:	max	1504.483	10	2283.431	18	1808.956	1						
12		min	-1504.483	4	771.288	74	-1808.952	7						

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N48A	111.464	230.346	-265.24	-.432	0	.479
2	1	N49A	-550.445	858.032	1165.97	-.588	0	.018
3	1	N50A	4.418	-9.39	-108.295	0	0	0
4	1	N51A	-557.411	-57.124	624.397	0	0	0
5	1	N58	991.975	65.27	392.124	0	0	0
6	1	Totals:	.002	1087.134	1808.956			
7	1	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
8	2	N48A	292.211	183.896	-492.891	-.046	0	-.135
9	2	N49A	-767.065	899.462	1337.466	-.418	0	-.326
10	2	N50A	-10.277	-42.583	205.848	0	0	0
11	2	N51A	-157.839	-7.094	172.91	0	0	0
12	2	N58	-210.109	53.457	254.243	0	0	0
13	2	Totals:	-853.078	1087.138	1477.577			
14	2	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
15	3	N48A	543.666	237.751	-874.131	.226	0	-.67
16	3	N49A	-912.824	827.369	1393.897	-.249	0	-.535
17	3	N50A	-27.425	-50.619	398.205	0	0	0
18	3	N51A	210.078	42.86	-232.351	0	0	0
19	3	N58	-1159.263	29.78	91.295	0	0	0
20	3	Totals:	-1345.767	1087.141	776.915			
21	3	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
22	4	N48A	802.947	378.577	-1315.687	.33	0	-1.014
23	4	N49A	-997.03	672.345	1389.105	-.115	0	-.585
24	4	N50A	-37.778	-48.075	479.262	0	0	0
25	4	N51A	433.898	77.168	-504.538	0	0	0
26	4	N58	-1706.519	7.128	-48.247	0	0	0
27	4	Totals:	-1504.483	1087.143	-.104			
28	4	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
29	5	N48A	1042.387	560.559	-1728.546	.348	0	-1.258

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
30	5	N49A	-1017.484	468.125	1355.552	.056	0	-.643
31	5	N50A	-30.15	-35.99	488.337	0	0	0
32	5	N51A	616.717	106.381	-742.505	0	0	0
33	5	N58	-2003.346	-11.93	-176.568	0	0	0
34	5	Totals:	-1391.876	1087.145	-803.73			
35	5	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
36	6	N48A	1189.965	730.698	-1977.303	.257	0	-1.297
37	6	N49A	-919.991	255.832	1221.6	.204	0	-.652
38	6	N50A	-14.021	-2.56	357.183	0	0	0
39	6	N51A	726.747	123.117	-859.224	0	0	0
40	6	N58	-1862.401	-19.941	-266.065	0	0	0
41	6	Totals:	-879.7	1087.146	-1523.809			
42	6	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
43	7	N48A	1172.196	850.097	-1963.005	-.025	0	-.948
44	7	N49A	-710.056	99.18	991.86	.188	0	-.442
45	7	N50A	-2.055	43.127	63.337	0	0	0
46	7	N51A	578.297	102.272	-655.372	0	0	0
47	7	N58	-1038.386	-7.533	-245.772	0	0	0
48	7	Totals:	-.003	1087.143	-1808.952			
49	7	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
50	8	N48A	1006.683	893.002	-1725.11	-.4	0	-.35
51	8	N49A	-493.292	55.34	816.675	.027	0	-.112
52	8	N50A	11.778	74.904	-245.342	0	0	0
53	8	N51A	192.539	50.165	-210.628	0	0	0
54	8	N58	135.371	13.728	-113.171	0	0	0
55	8	Totals:	853.078	1087.14	-1477.576			
56	8	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
57	9	N48A	769.375	841.515	-1360.729	-.665	0	.169
58	9	N49A	-349.32	129.609	774.29	-.135	0	.082
59	9	N50A	32.029	84.418	-429.79	0	0	0
60	9	N51A	-172.669	1.404	189.088	0	0	0
61	9	N58	1066.352	30.192	50.224	0	0	0
62	9	Totals:	1345.767	1087.136	-776.916			
63	9	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
64	10	N48A	509.827	704.478	-938.179	-.769	0	.511
65	10	N49A	-266.458	287.627	792.056	-.269	0	.13
66	10	N50A	45.404	83.813	-508.477	0	0	0
67	10	N51A	-402.479	-30.97	461.444	0	0	0
68	10	N58	1618.19	42.186	193.258	0	0	0
69	10	Totals:	1504.483	1087.134	.102			
70	10	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
71	11	N48A	260.079	525.874	-537.559	-.794	0	.761
72	11	N49A	-245.319	493.997	832.423	-.444	0	.193
73	11	N50A	39.624	73.3	-519.633	0	0	0
74	11	N51A	-595.151	-58.28	703.196	0	0	0
75	11	N58	1932.645	52.242	325.301	0	0	0
76	11	Totals:	1391.876	1087.132	803.728			
77	11	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
78	12	N48A	97.763	355.543	-280.452	-.712	0	.818
79	12	N49A	-341.493	705.736	957.499	-.602	0	.22
80	12	N50A	21.455	39.408	-396.059	0	0	0
81	12	N51A	-712.918	-74.826	826.309	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
82	12	N58	1814.892	61.27	416.513	0	0	0
83	12	Totals:	879.698	1087.132	1523.811			
84	12	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
85	13	N48A	1216.076	1072.234	-2101.754	-.571	0	-.262
86	13	N49A	-1308.226	1075.079	2298.141	-.543	0	-.313
87	13	N50A	2.634	28.504	-70.762	0	0	0
88	13	N51A	-128.991	21.728	147.299	0	0	0
89	13	N58	218.508	85.882	253.4	0	0	0
90	13	Totals:	0	2283.428	526.324			
91	13	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
92	14	N48A	1270.964	1064.222	-2180.771	-.461	0	-.443
93	14	N49A	-1366.46	1083.33	2354.336	-.479	0	-.435
94	14	N50A	-1.854	18.033	24.412	0	0	0
95	14	N51A	-11.994	37.13	13.351	0	0	0
96	14	N58	-133.95	80.714	210.081	0	0	0
97	14	Totals:	-243.295	2283.429	421.409			
98	14	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
99	15	N48A	1341	1077.331	-2290.82	-.381	0	-.598
100	15	N49A	-1402.186	1065.512	2371.862	-.418	0	-.518
101	15	N50A	-7.712	15.128	79.991	0	0	0
102	15	N51A	92.131	51.512	-101.261	0	0	0
103	15	N58	-401.33	73.947	158.508	0	0	0
104	15	Totals:	-378.097	2283.43	218.279			
105	15	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
106	16	N48A	1408.372	1107.98	-2404.565	-.342	0	-.7
107	16	N49A	-1420.267	1029.488	2367.531	-.372	0	-.557
108	16	N50A	-11.354	16.038	100.947	0	0	0
109	16	N51A	157.248	61.591	-180.88	0	0	0
110	16	N58	-560.274	68.334	116.94	0	0	0
111	16	Totals:	-426.275	2283.43	-.027			
112	16	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
113	17	N48A	1471.199	1147.187	-2510.797	-.326	0	-.773
114	17	N49A	-1421.191	982.757	2351.963	-.322	0	-.589
115	17	N50A	-9.065	19.428	105.106	0	0	0
116	17	N51A	215.532	70.721	-256.513	0	0	0
117	17	N58	-660.02	63.338	77.222	0	0	0
118	17	Totals:	-403.545	2283.431	-233.018			
119	17	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
120	18	N48A	1511.445	1184.244	-2577.492	-.347	0	-.78
121	18	N49A	-1390.254	934.544	2306.789	-.289	0	-.589
122	18	N50A	-3.73	28.767	71.161	0	0	0
123	18	N51A	249.926	75.726	-292.717	0	0	0
124	18	N58	-625.381	60.15	45.366	0	0	0
125	18	Totals:	-257.994	2283.431	-446.893			
126	18	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
127	19	N48A	1502.826	1209.87	-2567.301	-.427	0	-.671
128	19	N49A	-1330.348	899.844	2234.706	-.312	0	-.51
129	19	N50A	.486	42.593	-14.915	0	0	0
130	19	N51A	202.188	69.144	-227.791	0	0	0
131	19	N58	-375.153	61.979	48.984	0	0	0
132	19	Totals:	-.001	2283.43	-526.317			
133	19	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
134	20	N48A	1449.198	1217.589	-2487.477	-.536	0	-.492
135	20	N49A	-1272.008	891.375	2178.271	-.376	0	-.39
136	20	N50A	4.89	52.924	-109.594	0	0	0
137	20	N51A	86.401	53.572	-94.446	0	0	0
138	20	N58	-25.186	67.971	91.843	0	0	0
139	20	Totals:	243.295	2283.429	-421.402			
140	20	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
141	21	N48A	1380.228	1204.691	-2378.866	-.616	0	-.339
142	21	N49A	-1236.318	909.353	2161.955	-.435	0	-.308
143	21	N50A	11.013	55.953	-164.511	0	0	0
144	21	N51A	-17.501	39.298	19.707	0	0	0
145	21	N58	240.675	74.134	143.444	0	0	0
146	21	Totals:	378.097	2283.428	-218.272			
147	21	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
148	22	N48A	1312.863	1174.379	-2266.726	-.654	0	-.237
149	22	N49A	-1218.328	945.626	2167.391	-.481	0	-.269
150	22	N50A	14.906	55.216	-185.256	0	0	0
151	22	N51A	-83.114	29.393	99.328	0	0	0
152	22	N58	399.947	78.813	185.296	0	0	0
153	22	Totals:	426.275	2283.428	.033			
154	22	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
155	23	N48A	1249.285	1135.483	-2161.64	-.671	0	-.163
156	23	N49A	-1217.436	992.572	2183.597	-.532	0	-.237
157	23	N50A	12.794	51.978	-189.562	0	0	0
158	23	N51A	-142.274	20.441	175.266	0	0	0
159	23	N58	501.175	82.953	225.363	0	0	0
160	23	Totals:	403.544	2283.427	233.025			
161	23	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
162	24	N48A	1207.797	1098.392	-2094.203	-.651	0	-.154
163	24	N49A	-1248.378	1040.759	2227.955	-.565	0	-.235
164	24	N50A	7.303	42.612	-156.298	0	0	0
165	24	N51A	-177.378	15.438	212.054	0	0	0
166	24	N58	468.649	86.226	257.393	0	0	0
167	24	Totals:	257.993	2283.427	446.9			
168	24	COG (ft):	X: -1.357	Y: 2.206	Z: 2.009			
169	25	N48A	1104.902	872.492	-1897.676	-.395	0	-.333
170	25	N49A	-1121.314	888.063	1937.617	-.399	0	-.344
171	25	N50A	1.452	19.402	-40.26	0	0	0
172	25	N51A	-5.287	19.331	7.067	0	0	0
173	25	N58	20.248	37.853	106.316	0	0	0
174	25	Totals:	0	1837.141	113.063			
175	25	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
176	26	N48A	1115.471	869.739	-1912.577	-.371	0	-.372
177	26	N49A	-1134.388	890.7	1948.819	-.389	0	-.366
178	26	N50A	.553	17.339	-20.707	0	0	0
179	26	N51A	19.325	22.556	-21.012	0	0	0
180	26	N58	-54.277	36.808	97.827	0	0	0
181	26	Totals:	-53.315	1837.142	92.349			
182	26	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
183	27	N48A	1130.514	873.08	-1936.147	-.354	0	-.405
184	27	N49A	-1143.038	886.088	1952.183	-.378	0	-.379
185	27	N50A	-.617	16.768	-8.853	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
186	27	N51A	42.281	25.675	-46.226	0	0	0
187	27	N58	-113.252	35.531	87.603	0	0	0
188	27	Totals:	-84.112	1837.142	48.56			
189	27	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
190	28	N48A	1146.559	881.82	-1963.291	-.348	0	-.427
191	28	N49A	-1148.004	876.257	1951.614	-.369	0	-.382
192	28	N50A	-1.357	16.856	-3.815	0	0	0
193	28	N51A	56.47	27.782	-63.272	0	0	0
194	28	N58	-147.701	34.427	78.759	0	0	0
195	28	Totals:	-94.034	1837.142	-.005			
196	28	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
197	29	N48A	1161.706	893.143	-1988.787	-.346	0	-.442
198	29	N49A	-1149.124	863.376	1949.369	-.358	0	-.386
199	29	N50A	-.936	17.558	-3.161	0	0	0
200	29	N51A	68.194	29.569	-78.271	0	0	0
201	29	N58	-166.834	33.496	70.618	0	0	0
202	29	Totals:	-86.994	1837.142	-50.232			
203	29	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
204	30	N48A	1171.324	903.803	-2004.521	-.352	0	-.445
205	30	N49A	-1143.041	850.094	1941.193	-.349	0	-.387
206	30	N50A	.135	19.669	-11.136	0	0	0
207	30	N51A	75.288	30.617	-85.749	0	0	0
208	30	N58	-158.687	32.96	64.977	0	0	0
209	30	Totals:	-54.98	1837.142	-95.236			
210	30	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
211	31	N48A	1170.471	911.414	-2004.219	-.369	0	-.423
212	31	N49A	-1130.214	840.426	1927.175	-.35	0	-.374
213	31	N50A	1.035	22.638	-29.376	0	0	0
214	31	N51A	65.77	29.389	-73.023	0	0	0
215	31	N58	-107.063	33.275	66.383	0	0	0
216	31	Totals:	0	1837.142	-113.06			
217	31	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
218	32	N48A	1159.961	914.153	-1989.279	-.394	0	-.385
219	32	N49A	-1117.139	837.779	1915.958	-.361	0	-.353
220	32	N50A	1.93	24.696	-48.907	0	0	0
221	32	N51A	41.213	26.156	-44.97	0	0	0
222	32	N58	-32.649	34.358	74.851	0	0	0
223	32	Totals:	53.315	1837.142	-92.347			
224	32	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
225	33	N48A	1144.973	910.821	-1965.776	-.411	0	-.351
226	33	N49A	-1108.495	842.4	1912.65	-.371	0	-.339
227	33	N50A	3.112	25.272	-60.73	0	0	0
228	33	N51A	18.267	23.042	-19.778	0	0	0
229	33	N58	26.254	35.606	85.077	0	0	0
230	33	Totals:	84.111	1837.141	-48.557			
231	33	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
232	34	N48A	1128.927	902.097	-1938.707	-.417	0	-.33
233	34	N49A	-1103.534	852.242	1913.271	-.38	0	-.336
234	34	N50A	3.864	25.192	-65.758	0	0	0
235	34	N51A	4.055	20.942	-2.732	0	0	0
236	34	N58	60.721	36.668	93.934	0	0	0
237	34	Totals:	94.033	1837.141	.008			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
238	34	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
239	35	N48A	1113.74	890.787	-1913.259	-.419	0	-.314
240	35	N49A	-1102.412	865.132	1915.543	-.391	0	-.332
241	35	N50A	3.45	24.496	-66.421	0	0	0
242	35	N51A	-7.709	19.163	12.282	0	0	0
243	35	N58	79.923	37.563	102.09	0	0	0
244	35	Totals:	86.993	1837.141	50.234			
245	35	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
246	36	N48A	1104.065	880.127	-1897.492	-.413	0	-.311
247	36	N49A	-1108.491	878.412	1923.683	-.401	0	-.331
248	36	N50A	2.372	22.384	-58.475	0	0	0
249	36	N51A	-14.833	18.115	19.785	0	0	0
250	36	N58	71.868	38.102	107.738	0	0	0
251	36	Totals:	54.98	1837.141	95.239			
252	36	COG (ft):	X: -1.451	Y: 1.139	Z: 2.206			
253	37	N48A	1528.024	941.001	-2451.736	.173	0	-1.397
254	37	N49A	-1498.916	861.282	2438.065	.209	0	-1.367
255	37	N50A	-.763	-14.837	23.142	0	0	0
256	37	N51A	-50.344	18.666	56.284	0	0	0
257	37	N58	21.997	31.04	47.256	0	0	0
258	37	Totals:	-.003	1837.153	113.012			
259	37	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
260	38	N48A	1538.617	938.441	-2467.468	.197	0	-1.437
261	38	N49A	-1511.759	864.055	2449.958	.22	0	-1.39
262	38	N50A	-1.596	-16.766	42.711	0	0	0
263	38	N51A	-25.801	22.105	28.239	0	0	0
264	38	N58	-52.778	29.317	38.859	0	0	0
265	38	Totals:	-53.318	1837.153	92.298			
266	38	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
267	39	N48A	1553.557	941.943	-2491.636	.215	0	-1.471
268	39	N49A	-1520.215	859.544	2453.807	.231	0	-1.403
269	39	N50A	-2.721	-17.248	54.531	0	0	0
270	39	N51A	-2.94	25.421	3.087	0	0	0
271	39	N58	-111.795	27.495	28.719	0	0	0
272	39	Totals:	-84.114	1837.153	48.508			
273	39	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
274	40	N48A	1569.451	950.787	-2519.105	.221	0	-1.493
275	40	N49A	-1525.051	849.756	2453.493	.24	0	-1.407
276	40	N50A	-3.437	-17.115	59.519	0	0	0
277	40	N51A	11.163	27.657	-13.895	0	0	0
278	40	N58	-146.163	26.069	19.931	0	0	0
279	40	Totals:	-94.036	1837.153	-.057			
280	40	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
281	41	N48A	1584.418	962.173	-2544.743	.223	0	-1.508
282	41	N49A	-1526.049	836.876	2451.342	.251	0	-1.411
283	41	N50A	-3.005	-16.397	60.122	0	0	0
284	41	N51A	22.81	29.546	-28.834	0	0	0
285	41	N58	-165.169	24.955	11.83	0	0	0
286	41	Totals:	-86.996	1837.153	-50.283			
287	41	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
288	42	N48A	1593.825	972.816	-2560.28	.217	0	-1.511
289	42	N49A	-1519.91	823.55	2442.973	.26	0	-1.412

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
290	42	N50A	-1.952	-14.333	52.083	0	0	0
291	42	N51A	29.844	30.64	-36.263	0	0	0
292	42	N58	-156.789	24.48	6.199	0	0	0
293	42	Totals:	-54.983	1837.153	-95.288			
294	42	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
295	43	N48A	1592.809	980.295	-2559.315	.199	0	-1.488
296	43	N49A	-1507.199	813.778	2428.387	.259	0	-1.398
297	43	N50A	-1.107	-11.483	33.784	0	0	0
298	43	N51A	20.325	29.313	-23.523	0	0	0
299	43	N58	-104.831	25.25	7.556	0	0	0
300	43	Totals:	-.003	1837.153	-113.111			
301	43	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
302	44	N48A	1582.276	982.841	-2543.544	.174	0	-1.449
303	44	N49A	-1494.355	810.996	2416.481	.248	0	-1.375
304	44	N50A	-.278	-9.559	14.237	0	0	0
305	44	N51A	-4.163	25.865	4.495	0	0	0
306	44	N58	-30.169	27.009	15.932	0	0	0
307	44	Totals:	53.312	1837.153	-92.399			
308	44	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
309	45	N48A	1567.391	979.351	-2519.447	.157	0	-1.415
310	45	N49A	-1485.904	815.516	2412.69	.237	0	-1.362
311	45	N50A	.86	-9.07	2.448	0	0	0
312	45	N51A	-27.013	22.555	29.626	0	0	0
313	45	N58	28.776	28.801	26.074	0	0	0
314	45	Totals:	84.109	1837.153	-48.608			
315	45	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
316	46	N48A	1551.495	970.522	-2492.055	.15	0	-1.393
317	46	N49A	-1481.072	825.315	2413.058	.228	0	-1.358
318	46	N50A	1.587	-9.195	-2.53	0	0	0
319	46	N51A	-41.141	20.326	46.608	0	0	0
320	46	N58	63.161	30.184	34.876	0	0	0
321	46	Totals:	94.031	1837.153	-.043			
322	46	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
323	47	N48A	1536.487	959.15	-2466.465	.149	0	-1.377
324	47	N49A	-1480.071	838.203	2415.235	.217	0	-1.354
325	47	N50A	1.163	-9.907	-3.142	0	0	0
326	47	N51A	-52.826	18.445	61.563	0	0	0
327	47	N58	82.237	31.262	42.992	0	0	0
328	47	Totals:	86.991	1837.153	50.183			
329	47	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
330	48	N48A	1527.023	948.505	-2450.891	.155	0	-1.374
331	48	N49A	-1486.207	851.527	2423.566	.208	0	-1.353
332	48	N50A	.102	-11.974	4.867	0	0	0
333	48	N51A	-59.89	17.351	69.017	0	0	0
334	48	N58	73.95	31.743	48.63	0	0	0
335	48	Totals:	54.977	1837.153	95.188			
336	48	COG (ft):	X: -3.101	Y: 1.139	Z: 2.206			
337	49	N48A	650.949	698.163	-1259.252	-.764	0	.509
338	49	N49A	-609.176	640.454	1179.925	-.731	0	.519
339	49	N50A	2.12	53.599	-56.701	0	0	0
340	49	N51A	46.827	21.592	-50.964	0	0	0
341	49	N58	-90.719	48.325	187.035	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
342	49	Totals:	.002	1462.134	.044			
343	49	COG (ft):	X: .228	Y: 1.532	Z: 2.134			
344	50	N48A	881.236	714.896	-1514.361	-.32	0	-.281
345	50	N49A	-866.137	670.519	1489.213	-.305	0	-.254
346	50	N50A	.997	19.259	-27.877	0	0	0
347	50	N51A	23.998	22.808	-26.155	0	0	0
348	50	N58	-40.094	34.657	79.181	0	0	0
349	50	Totals:	0	1462.14	.002			
350	50	COG (ft):	X: -1.364	Y: 1.532	Z: 2.134			
351	51	N48A	757.748	628.878	-1294.683	-.26	0	-.283
352	51	N49A	-735.592	556.368	1257.482	-.227	0	-.255
353	51	N50A	.828	18.934	-23.201	0	0	0
354	51	N51A	20.092	25.075	-21.9	0	0	0
355	51	N58	-43.077	39.074	82.303	0	0	0
356	51	Totals:	0	1268.328	0			
357	51	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
358	52	N48A	640.931	544.026	-1097.09	-.243	0	-.213
359	52	N49A	-650.983	515.428	1124.706	-.224	0	-.213
360	52	N50A	1.11	16.549	-29.675	0	0	0
361	52	N51A	-14.605	17.899	18.069	0	0	0
362	52	N58	23.546	37.303	94.158	0	0	0
363	52	Totals:	0	1131.204	110.168			
364	52	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
365	53	N48A	651.757	542.369	-1112.945	-.223	0	-.247
366	53	N49A	-664.526	517.792	1136.554	-.214	0	-.233
367	53	N50A	-.157	14.279	-10.56	0	0	0
368	53	N51A	4.695	20.433	-4.424	0	0	0
369	53	N58	-46.85	36.331	86.778	0	0	0
370	53	Totals:	-55.082	1131.204	95.402			
371	53	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
372	54	N48A	669.033	545.566	-1140.007	-.205	0	-.282
373	54	N49A	-675.82	514.496	1144.377	-.201	0	-.252
374	54	N50A	-1.174	12.714	5.84	0	0	0
375	54	N51A	27.516	23.488	-30.961	0	0	0
376	54	N58	-114.955	34.94	75.828	0	0	0
377	54	Totals:	-95.401	1131.204	55.078			
378	54	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
379	55	N48A	688.106	552.758	-1170.998	-.194	0	-.309
380	55	N49A	-681.838	506.418	1146.056	-.188	0	-.264
381	55	N50A	-1.674	12.273	15.12	0	0	0
382	55	N51A	47.742	26.243	-54.425	0	0	0
383	55	N58	-162.5	33.513	64.239	0	0	0
384	55	Totals:	-110.163	1131.204	-.007			
385	55	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
386	56	N48A	703.863	562.007	-1197.571	-.193	0	-.321
387	56	N49A	-680.963	495.716	1141.109	-.18	0	-.267
388	56	N50A	-1.528	13.068	14.783	0	0	0
389	56	N51A	59.962	27.957	-68.523	0	0	0
390	56	N58	-176.735	32.456	55.112	0	0	0
391	56	Totals:	-95.401	1131.204	-55.09			
392	56	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
393	57	N48A	712.102	570.832	-1212.59	-.203	0	-.314

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
394	57	N49A	-673.432	485.255	1130.857	-.177	0	-.259
395	57	N50A	-.779	14.885	4.928	0	0	0
396	57	N51A	60.919	28.167	-69.489	0	0	0
397	57	N58	-153.891	32.066	50.885	0	0	0
398	57	Totals:	-55.082	1131.204	-95.408			
399	57	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
400	58	N48A	710.643	576.873	-1212.064	-.22	0	-.291
401	58	N49A	-661.265	477.841	1118.073	-.182	0	-.243
402	58	N50A	.377	17.238	-11.791	0	0	0
403	58	N51A	50.366	26.82	-57.075	0	0	0
404	58	N58	-100.121	32.433	52.69	0	0	0
405	58	Totals:	0	1131.204	-110.167			
406	58	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
407	59	N48A	699.876	578.518	-1196.171	-.241	0	-.258
408	59	N49A	-647.723	475.469	1106.212	-.192	0	-.222
409	59	N50A	1.639	19.501	-30.887	0	0	0
410	59	N51A	31.115	24.28	-34.606	0	0	0
411	59	N58	-29.824	33.436	60.052	0	0	0
412	59	Totals:	55.081	1131.204	-95.401			
413	59	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
414	60	N48A	682.668	575.332	-1169.19	-.259	0	-.223
415	60	N49A	-636.436	478.776	1098.457	-.205	0	-.204
416	60	N50A	2.669	21.071	-47.248	0	0	0
417	60	N51A	8.31	21.231	-8.098	0	0	0
418	60	N58	38.189	34.794	71.002	0	0	0
419	60	Totals:	95.401	1131.204	-55.077			
420	60	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
421	61	N48A	663.603	568.165	-1138.315	-.27	0	-.195
422	61	N49A	-630.423	486.872	1096.861	-.218	0	-.191
423	61	N50A	3.188	21.524	-56.508	0	0	0
424	61	N51A	-11.947	18.487	15.362	0	0	0
425	61	N58	85.742	36.156	82.609	0	0	0
426	61	Totals:	110.163	1131.204	.008			
427	61	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
428	62	N48A	647.787	558.926	-1111.78	-.271	0	-.183
429	62	N49A	-631.296	497.582	1101.822	-.226	0	-.189
430	62	N50A	3.049	20.735	-56.19	0	0	0
431	62	N51A	-24.215	16.779	29.485	0	0	0
432	62	N58	100.076	37.18	91.754	0	0	0
433	62	Totals:	95.401	1131.204	55.091			
434	62	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
435	63	N48A	639.48	550.09	-1096.681	-.261	0	-.19
436	63	N49A	-638.82	508.032	1112.004	-.229	0	-.196
437	63	N50A	2.287	18.913	-46.374	0	0	0
438	63	N51A	-25.19	16.563	30.48	0	0	0
439	63	N58	77.325	37.604	95.981	0	0	0
440	63	Totals:	55.081	1131.204	95.409			
441	63	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
442	64	N48A	425.739	364.967	-729.569	-.169	0	-.132
443	64	N49A	-442.127	358.092	767.742	-.16	0	-.14
444	64	N50A	.876	11.168	-23.119	0	0	0
445	64	N51A	-20.329	10.803	24.305	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
446	64	N58	35.841	26.258	70.809	0	0	0
447	64	Totals:	0	771.288	110.168			
448	64	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
449	65	N48A	436.667	363.287	-745.264	-.149	0	-.166
450	65	N49A	-455.838	360.464	779.437	-.15	0	-.16
451	65	N50A	-.39	8.915	-4.026	0	0	0
452	65	N51A	-1.034	13.316	1.82	0	0	0
453	65	N58	-34.486	25.307	63.436	0	0	0
454	65	Totals:	-55.082	771.289	95.402			
455	65	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
456	66	N48A	454.058	366.454	-772.184	-.131	0	-.201
457	66	N49A	-467.31	357.19	787.126	-.137	0	-.179
458	66	N50A	-1.406	7.366	12.353	0	0	0
459	66	N51A	21.784	16.347	-24.71	0	0	0
460	66	N58	-102.527	23.932	52.493	0	0	0
461	66	Totals:	-95.401	771.289	55.077			
462	66	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
463	67	N48A	473.231	373.615	-803.092	-.12	0	-.227
464	67	N49A	-473.468	349.144	788.725	-.125	0	-.191
465	67	N50A	-1.904	6.934	21.62	0	0	0
466	67	N51A	42.009	19.082	-48.169	0	0	0
467	67	N58	-150.03	22.514	40.91	0	0	0
468	67	Totals:	-110.163	771.289	-.007			
469	67	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
470	68	N48A	489.043	382.842	-829.66	-.12	0	-.239
471	68	N49A	-472.659	338.474	783.773	-.116	0	-.194
472	68	N50A	-1.758	7.732	21.279	0	0	0
473	68	N51A	54.23	20.784	-62.268	0	0	0
474	68	N58	-164.258	21.456	31.786	0	0	0
475	68	Totals:	-95.401	771.289	-55.09			
476	68	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
477	69	N48A	497.281	391.66	-844.755	-.129	0	-.233
478	69	N49A	-465.102	328.039	773.595	-.114	0	-.186
479	69	N50A	-1.009	9.542	11.432	0	0	0
480	69	N51A	55.192	20.995	-63.239	0	0	0
481	69	N58	-141.443	21.054	27.558	0	0	0
482	69	Totals:	-55.082	771.289	-95.408			
483	69	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
484	70	N48A	495.762	397.71	-844.365	-.147	0	-.21
485	70	N49A	-452.823	320.635	760.942	-.118	0	-.17
486	70	N50A	.146	11.881	-5.27	0	0	0
487	70	N51A	44.643	19.661	-50.833	0	0	0
488	70	N58	-87.729	21.403	29.359	0	0	0
489	70	Totals:	0	771.289	-110.167			
490	70	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
491	71	N48A	484.894	399.378	-828.632	-.167	0	-.177
492	71	N49A	-439.115	318.255	749.234	-.128	0	-.15
493	71	N50A	1.407	14.128	-24.344	0	0	0
494	71	N51A	25.397	17.142	-28.373	0	0	0
495	71	N58	-17.502	22.385	36.714	0	0	0
496	71	Totals:	55.081	771.289	-95.401			
497	71	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
498	72	N48A	467.571	396.223	-801.791	-.185	0	-.142
499	72	N49A	-427.65	321.54	741.613	-.141	0	-.131
500	72	N50A	2.436	15.682	-40.684	0	0	0
501	72	N51A	2.597	14.117	-1.872	0	0	0
502	72	N58	50.447	23.727	47.657	0	0	0
503	72	Totals:	95.401	771.288	-55.077			
504	72	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
505	73	N48A	448.406	389.086	-771	-.196	0	-.115
506	73	N49A	-421.497	329.604	740.096	-.153	0	-.119
507	73	N50A	2.954	16.126	-49.93	0	0	0
508	73	N51A	-17.66	11.393	21.584	0	0	0
509	73	N58	97.959	25.08	59.258	0	0	0
510	73	Totals:	110.163	771.288	.008			
511	73	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
512	74	N48A	432.534	379.869	-744.469	-.196	0	-.103
513	74	N49A	-422.304	340.281	745.061	-.162	0	-.117
514	74	N50A	2.814	15.335	-49.608	0	0	0
515	74	N51A	-29.929	9.697	35.707	0	0	0
516	74	N58	112.286	26.106	68.4	0	0	0
517	74	Totals:	95.401	771.288	55.091			
518	74	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			
519	75	N48A	424.229	371.04	-729.295	-.187	0	-.11
520	75	N49A	-429.854	350.706	755.17	-.164	0	-.124
521	75	N50A	2.052	13.52	-39.8	0	0	0
522	75	N51A	-30.908	9.48	36.707	0	0	0
523	75	N58	89.563	26.542	72.628	0	0	0
524	75	Totals:	55.081	771.288	95.409			
525	75	COG (ft):	X: -1.389	Y: 2.198	Z: 2.013			

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

	Member	Shape	Code Check	Loc[..	LC	Shear..	Loc[..	Dir	LC	phi*Pn...	phi*Pnt..	phi*Mn...	phi*Mn...	Cb	Eqn
1	M1	L3X3X3	.513	1.94	11	.115	1.94	y	5	23042....	35316	1.32	2.131	1	H2-1
2	M2	L3X3X3	.553	.97	37	.534	0	z	15	23042....	35316	1.32	2.751	1.88	H2-1
3	M3	L3X3X3	.318	6.208	12	.073	1.94	z	49	23042....	35316	1.32	2.131	1	H2-1
4	M4	L3X3X3	.689	.97	41	.540	0	z	17	23042....	35316	1.32	2.702	1.704	H2-1
5	M7	PIPE_3.0	.397	2.63	42	.238	2.63		42	62054....	65205	5.749	5.749	2.329	H1-1b
6	M8	HSS3X3X4	.274	2.583	42	.228	0	y	42	95875....	101016	8.556	8.556	2.143	H1-1b
7	M9	HSS3X3X4	.281	2.583	42	.215	0	y	42	95875....	101016	8.556	8.556	2.082	H1-1b
8	M10	PIPE_1.5	.629	0	20	.220	2.25		42	22661....	23593.5	1.105	1.105	2.267	H1-1b
9	M11	PIPE_2.0	.286	0	48	.152	.539		6	28756....	32130	1.872	1.872	2.184	H1-1b
10	RRH1	PIPE_2.0	.380	3.042	38	.100	0		11	28756....	32130	1.872	1.872	2.262	H1-1b
11	RRH2	PIPE_2.0	.154	0	49	.136	0		12	28756....	32130	1.872	1.872	2.268	H1-1b
12	M14	PIPE_2.0	.303	3.042	49	.070	0		11	28756....	32130	1.872	1.872	2.245	H1-1b
13	MP1A	PIPE_2.0	.007	1.625	5	.031	1.625		49	20866....	32130	1.872	1.872	1.879	H1-1b
14	M25	PIPE_2.0	.146	3.833	12	.006	0		5	9414.1...	32130	1.872	1.872	1.183	H1-1b
15	M26	PIPE_2.0	.216	0	5	.009	0		11	22642....	32130	1.872	1.872	1.61	H1-1b
16	MP2A	PIPE_2.5	.306	.583	11	.296	.583		5	33961....	50715	3.596	3.596	2.576	H3-6
17	MP3A	PIPE_2.0	.035	1.625	4	.092	1.625		5	20866....	32130	1.872	1.872	1.876	H1-1b
18	M31	PIPE_2.5	.254	2.457	5	.242	9.959		11	14754....	50715	3.596	3.596	1.546	H1-1b
19	M32	L2.5x2.5x4	.170	2.697	6	.017	6.165	z	12	11413....	38556	1.114	2.159	1.178	H2-1

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

	Member	Shape	Code Check	Loc[..	LC	Shear..	Loc[..	Dir	LC	phi*Pn...	phi*Pnt..	phi*Mn...	phi*Mn...	Cb	Eqn
20	M33	L2.5x2.5x4	.099	3.691	12	.023	0	z	5	24716....	38556	1.114	2.473	1.393	H2-1
21	MP2A_N...	PIPE_2.0	.307	2.167	11	.104	3.583		6	14916....	32130	1.872	1.872	2.289	H1-1b
22	MP1A_N...	PIPE_2.0	.432	2.167	11	.296	2.167		5	14916....	32130	1.872	1.872	2.035	H3-6
23	OVP	PIPE_2.0	.468	3.958	9	.072	3.958		6	23808....	32130	1.872	1.872	1.491	H1-1b

VzW SMART Tool© Vendor

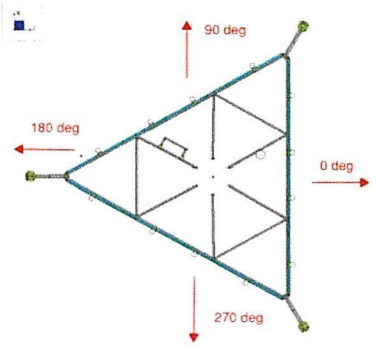
Client:	Verizon Wireless	Date:	5/30/2024
Site Name:	Redding CT		
MDG #:	5000386561		
Fuze ID #:	16244644	Page:	1

Version 2.00

I. Mount-to-Tower Connection Check

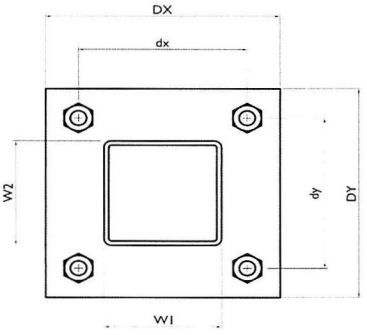
Custom Orientation Required	Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N48A	300
N49A	300



Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel

Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	9.5
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	2
Bolt Type:	A307
Bolt Diameter (in):	0.5
Required Tensile Strength / bolt (kips):	4.3
Required Shear Strength / bolt (kips):	1.0
Tensile Capacity / bolt (kips):	6.6
Shear Capacity / bolt (kips):	4.0
Bolt Overall Utilization:	**64.4%**



Tower Connection Baseplate Checks	No

verizon

MOUNT MODIFICATION DRAWINGS
EXISTING 12.33' T-FRAME

TOWER OWNER: UNKNOWN
TOWER OWNER SITE NUMBER: UNKNOWN

CARRIER SITE NAME: REDDING CT
CARRIER SITE NUMBER: 5000386561
FUZE ID: 16244644

80 LONETOWN RD
REDDING, CT 06896
FAIRFIELD COUNTY

LATITUDE: 41.31778333° N
LONGITUDE: 73.38334167° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 681.67'

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 = .228
LONG TERM MCER GROUND MOTION, S_1 = .056

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

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

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10232772
VZW MDG #: 5000386561
ANALYSIS DATE: 06/05/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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SCALE:	JOB NUMBER:
AS SHOWN	20777382

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
2	06/05/2024	ISSUED FOR CONSTRUCTION	DA	DK
1	12/21/2023	ISSUED FOR CONSTRUCTION	CMS	DK
0	12/11/2020	ISSUED FOR CONSTRUCTION	MSO	DK

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
06/06/2024
COLLIERS ENGINEERING & DESIGN (CT), P.C.

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

SITE NAME:
REDDING CT
5000386561
80 LONETOWN RD
REDDING, CT 06896
FAIRFIELD COUNTY

Colliers Engineering & Design
MT. LAUREL
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: TITLE SHEET

SHEET NUMBER: ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	VZWSMART	VZWSMART-SFK3-SL	V-BRACING KIT FOR SMALL LEGS	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	117	351
3		VZWSMART-AL333	CLIP ANGLE		3	9
9		VZWSMART-MSK1	CROSSOVER PLATE		14	126
6		VZWSMART-P40-238X096	96" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		29	174

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-		PROPOSED 156" LONG, PIPE 2 1/2 SCH40	GALVANIZED.	74	221

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
				TOTAL:		881

NOTES:

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

VZWSMART KITS - APPROVED VENDORS

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

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

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

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

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

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SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

GENERAL NOTES

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

STRUCTURAL STEEL

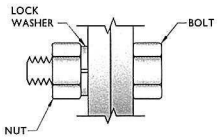
1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL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

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

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

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

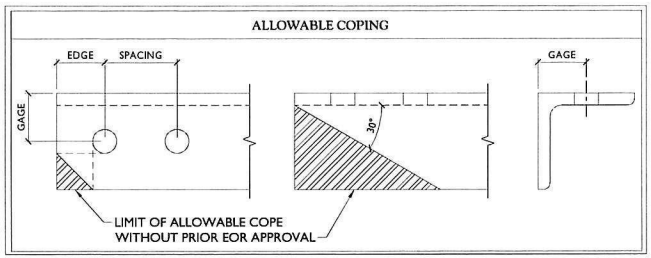
WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

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



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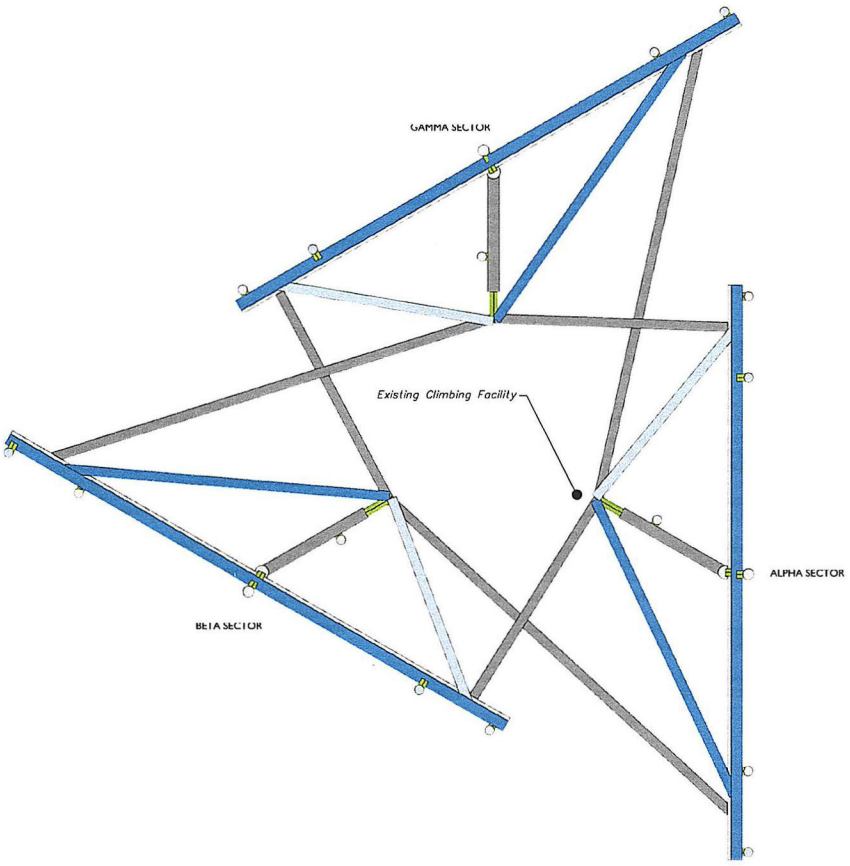
Colliers Engineering & Design
MT. LAUREL
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0432
COLLIERS ENGINEERING & DESIGN, INC. (DOING BUSINESS AS MASER CONSULTING)

SHEET TITLE: GENERAL NOTES

SHEET NUMBER: SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



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

CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY TOWER ENGINEERING PROFESSIONALS ON 11/17/2020, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (81'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
CLIMBING FACILITY DETAIL

SHEET NUMBER:
SCF-1

LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

TOTAL VERTICAL ENVELOPE:

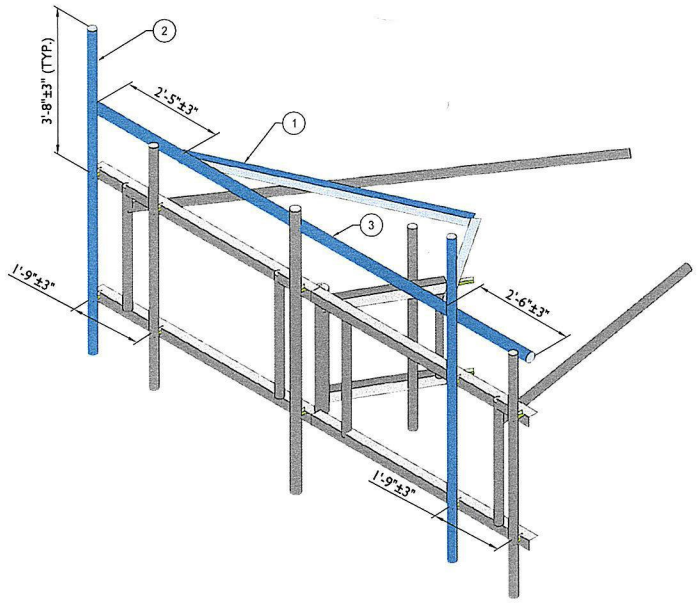
CONTRACTOR SHALL VERIFY AND CONFIRM IN FIELD THAT VERIZON'S OVERALL TIP TO TIP VERTICAL SPACE CONFIGURATION (EQUIPMENT AND STEEL COMBINED) DOES NOT EXCEED THE VERTICAL ENVELOPE LISTED IN THESE DRAWINGS. IF THE SITE'S EXISTING OR PROPOSED CONFIGURATION EXCEEDS THE ALLOWED VERTICAL ENVELOPE LISTED IN THESE DRAWINGS, CONTRACTOR SHALL CONTACT EOR IMMEDIATELY FOR A SOLUTION ON HOW TO CORRECT THE ISSUE PRIOR TO LEAVING THE SITE.

MOUNT MODIFICATION SCHEDULE

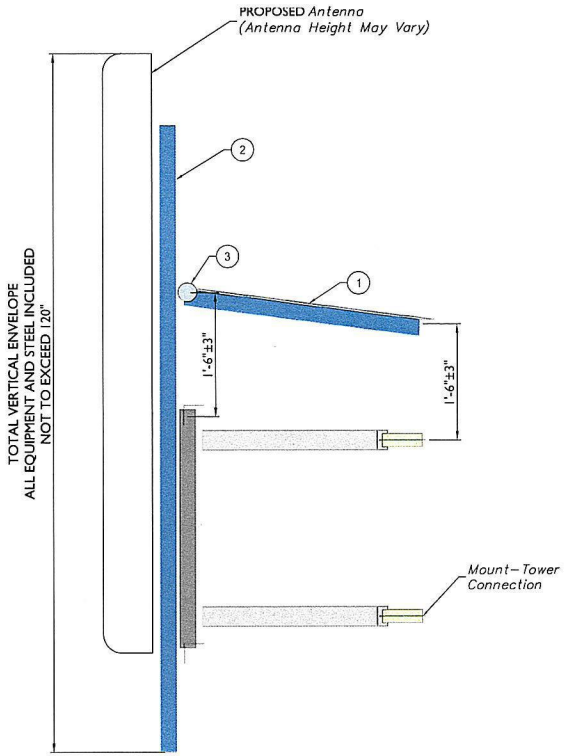
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	81'-0"	3	PROPOSED V-BRACING KIT FOR SMALL LEGS (PART #: VZWSMART-SFK3-SL)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. SEE GENERAL NOTE B. CONTRACTOR SHALL INSTALL ONE PROPOSED CLIP ANGLE (PART #:VZWSMART-AL333) AT EITHER END OF EACH LONG ANGLE IN THE SFK3 KIT.
2		6	PROPOSED 96" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X096)	CONNECT NEW MOUNT PIPE TO EACH EXISTING FACE HORIZONTAL ANGLE WITH (1) NEW 1/2" DIA. U-BOLT. UTILIZE EXISTING PRE-DRILLED HOLES IN FACE HORIZONTALS.
3		3	PROPOSED 156" LONG, PIPE 2 1/2 SCH40 FACE HORIZONTAL	CONNECT NEW HORIZONTAL TO POSITION 1, 3, & 5 VERTICAL MOUNT PIPES OF THE ALPHA & BETA SECTORS WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1). CONNECT NEW HORIZONTAL TO POSITION 2, 4, & 6 VERTICAL MOUNT PIPES OF THE GAMMA SECTOR WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).

GENERAL NOTES:

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



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



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

Colliers Engineering & Design
www.colliersengineering.com

Doing Business as MASER CONSULTING

verizon

811 Know what's below. Call before you dig.
PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIGSAFE PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE:	JOB NUMBER:
AS SHOWN	20777382

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
2	06/05/2024	ISSUED FOR CONSTRUCTION	DA	DK
1	12/07/2023	ISSUED FOR CONSTRUCTION	CMS	DK
0	12/01/2020	ISSUED FOR CONSTRUCTION	MSG	DK

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
06/06/2024
COLLIERS ENGINEERING & DESIGN (CT), P.C.

SITE NAME:

REDDING CT
5000386561

80 LONETOWN RD
REDDING, CT 06896
FAIRFIELD COUNTY

Colliers Engineering & Design
MT. LAUREL
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN (NJ), INC. DOING BUSINESS AS MASER CONSULTING

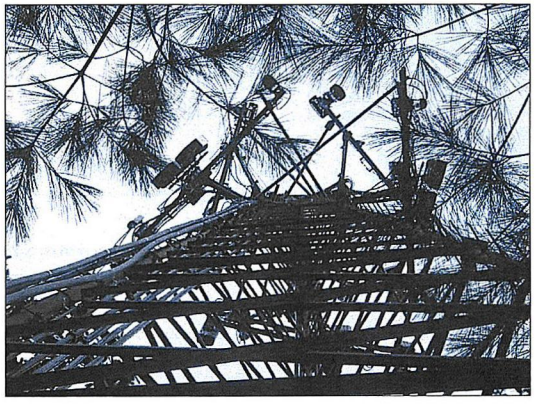
SHEET TITLE: MODIFICATION DETAILS

SHEET NUMBER: SS-1

MOUNT PHOTO 1

MOUNT PHOTO 2

MOUNT PHOTO 3



MOUNT PHOTO 4

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Know what's below. Call before you dig.
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE:	JOB NUMBER:
AS SHOWN	20777382

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
2	06/05/2024	ISSUED FOR CONSTRUCTION	DA	DX
1	12/01/2023	ISSUED FOR CONSTRUCTION	EMS	DX
0	12/01/2020	ISSUED FOR CONSTRUCTION	MSG	DX

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
06/06/2024
COLLIERS ENGINEERING & DESIGN CT, P.C.

SITE NAME:

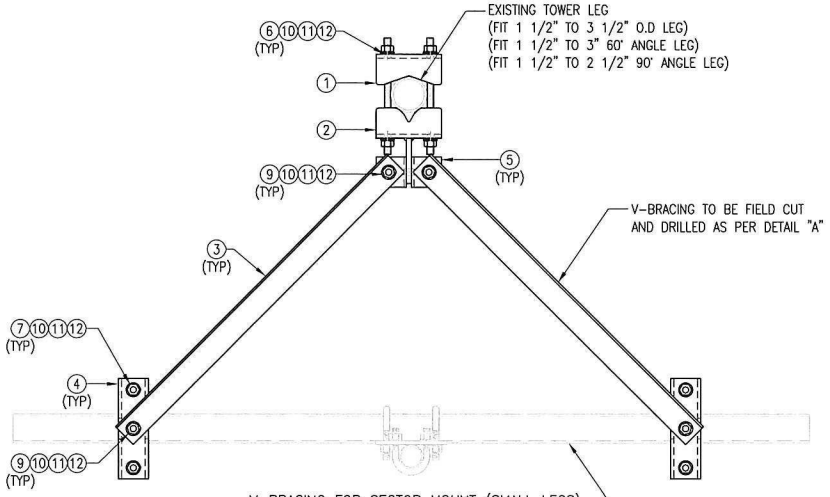
REDDING CT
5000386561

80 LONETOWN RD
REDDING, CT 06896
FAIRFIELD COUNTY

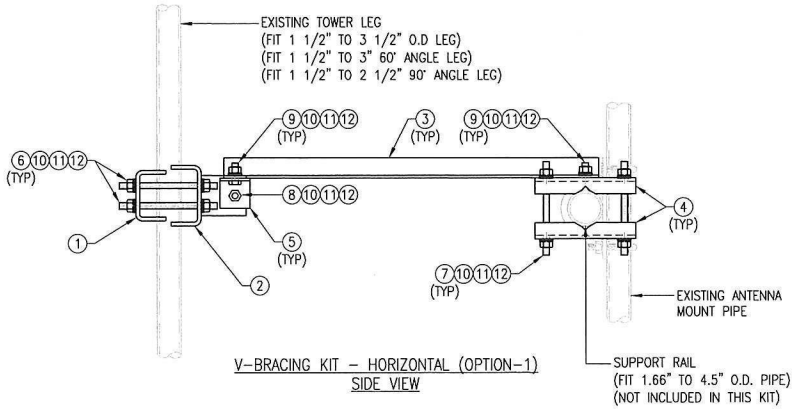
Colliers Engineering & Design
MT. LAUREL
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0432
COLLIERS ENGINEERING & DESIGN, INC. (DOING BUSINESS AS MASER CONSULTING)

SHEET TITLE:
MOUNT PHOTOS

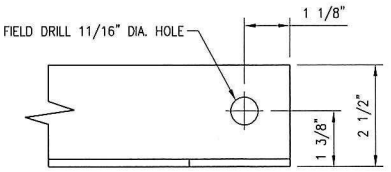
SHEET NUMBER:
SS-2



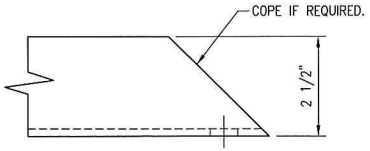
V-BRACING FOR SECTOR MOUNT (SMALL LEGS)
PLAN VIEW



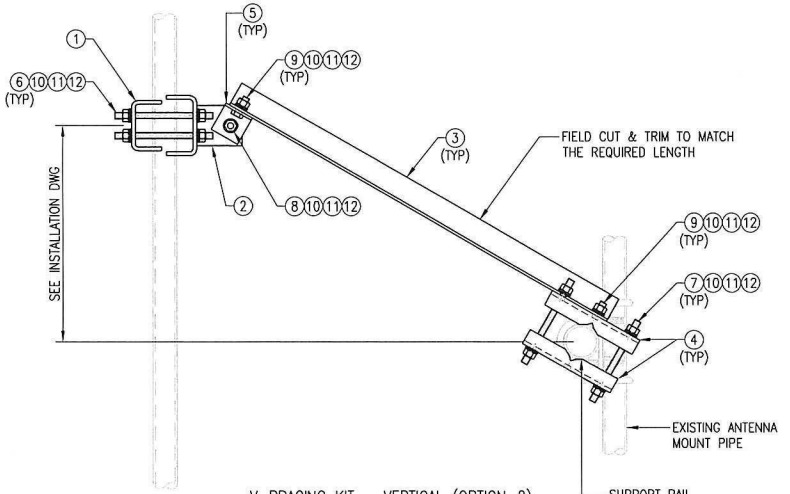
V-BRACING KIT - HORIZONTAL (OPTION-1)
SIDE VIEW



PLAN VIEW



FRONT VIEW
DETAIL "A"



V-BRACING KIT - VERTICAL (OPTION-2)
SIDE VIEW

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

VZWSMART-SFK3-SL (V-BRACING KIT FOR SMALL LEGS)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	BP9625-65	PL 3/8" X 9 5/8" X 6 1/2" A36 BENT PLATE	VBSM-SL-F1	12
2	1	BRKW-VBSM-SL	WELDMENT BRACKET	VBSM-SL-F3	11
3	2	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	VBSM-F5	67
4	4	BP6875-10	PL 3/8" X 6 7/8" X 10" A36 BENT PLATE	VBSM-F2	20
5	2	AL-333	L 3" X 3" X 1/4" X 3" A36	VBSM-F2	3
6	4	---	THREADED ROD 5/8" DIA. X 1'-0" F1554-36 HDG	---	--
7	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	--
8	1	---	BOLT 5/8" X 2 1/4" A325	---	--
9	4	---	BOLT 5/8" X 1 3/4" A325	---	--
10	21	FW-625	5/8" HDG USS FLAT WASHER	---	2
11	21	LW-625	5/8" HDG LOCK WASHER	---	0
12	21	NUT-625	5/8" HDG HEX NUT	---	2
				GALVANIZED WT	117

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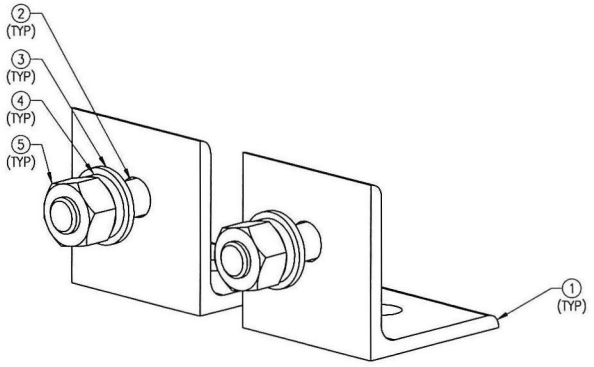
DRAWN BY: BT	CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	04/10/21

SHEET TITLE:
VZWSMART-SFK3-SL
V-BRACING KIT
FOR SMALL LEGS

SHEET NUMBER:	REV #:
VZWSMART-SFK3-SL	0



CLIP ANGLE
ISOMETRIC VIEW

VZWSMART-AL333 (CLIP ANGLE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	AL-333	L 3" X 3" X 1/4" X 3" A36	AL333-F1	2.50
2	2	---	BOLT 5/8" X 2" FULL THREAD SAE GR-5	---	0.77
3	2	FW-625	5/8" HDG USS FLAT WASHER	---	0
4	2	LW-625	5/8" HDG LOCK WASHER	---	0
5	2	NUT-625	5/8" HDG HEX NUT	---	0
				GALVANIZED WT	3.27

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

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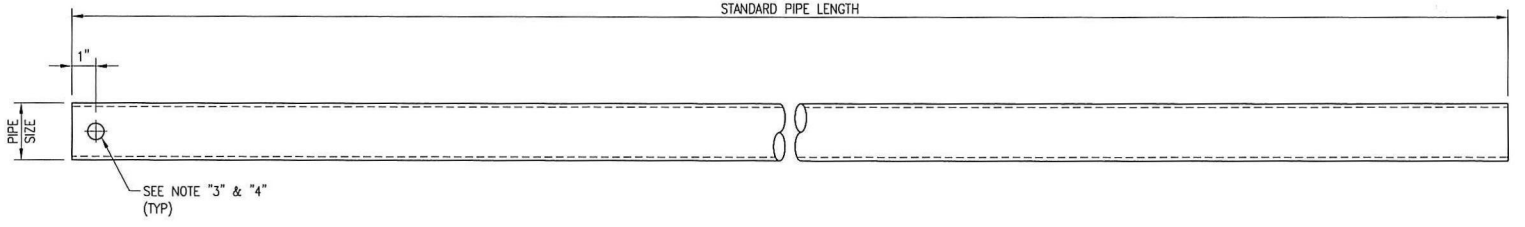
DRAWN BY: JBM	CHECKED BY: ----

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	JBM	10/08/21

SHEET TITLE:
VZWSMART-AL333
CLIP ANGLE

SHEET NUMBER:	REV #:
VZWSMART-AL333	0



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

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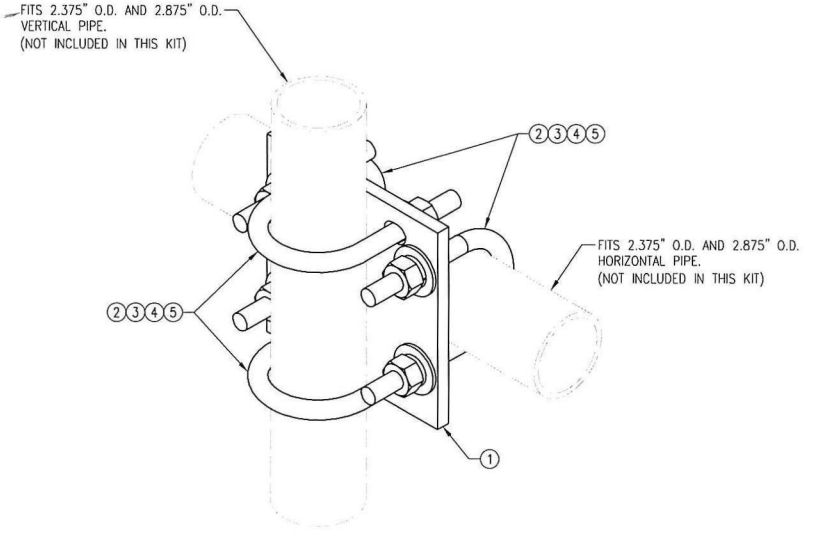
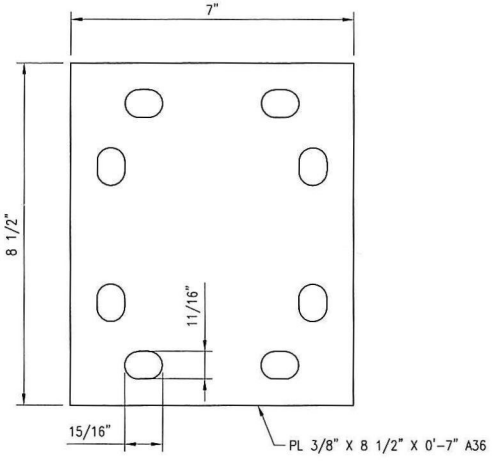
DRAWN BY: BT	CHECKED BY: HMA/KW

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

SHEET TITLE:
VZWSMART STANDARD PIPE

SHEET NUMBER:	REV #:
VZWSMART-PIPE	0





PL375-857

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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verizon

FOR REFERENCE ONLY

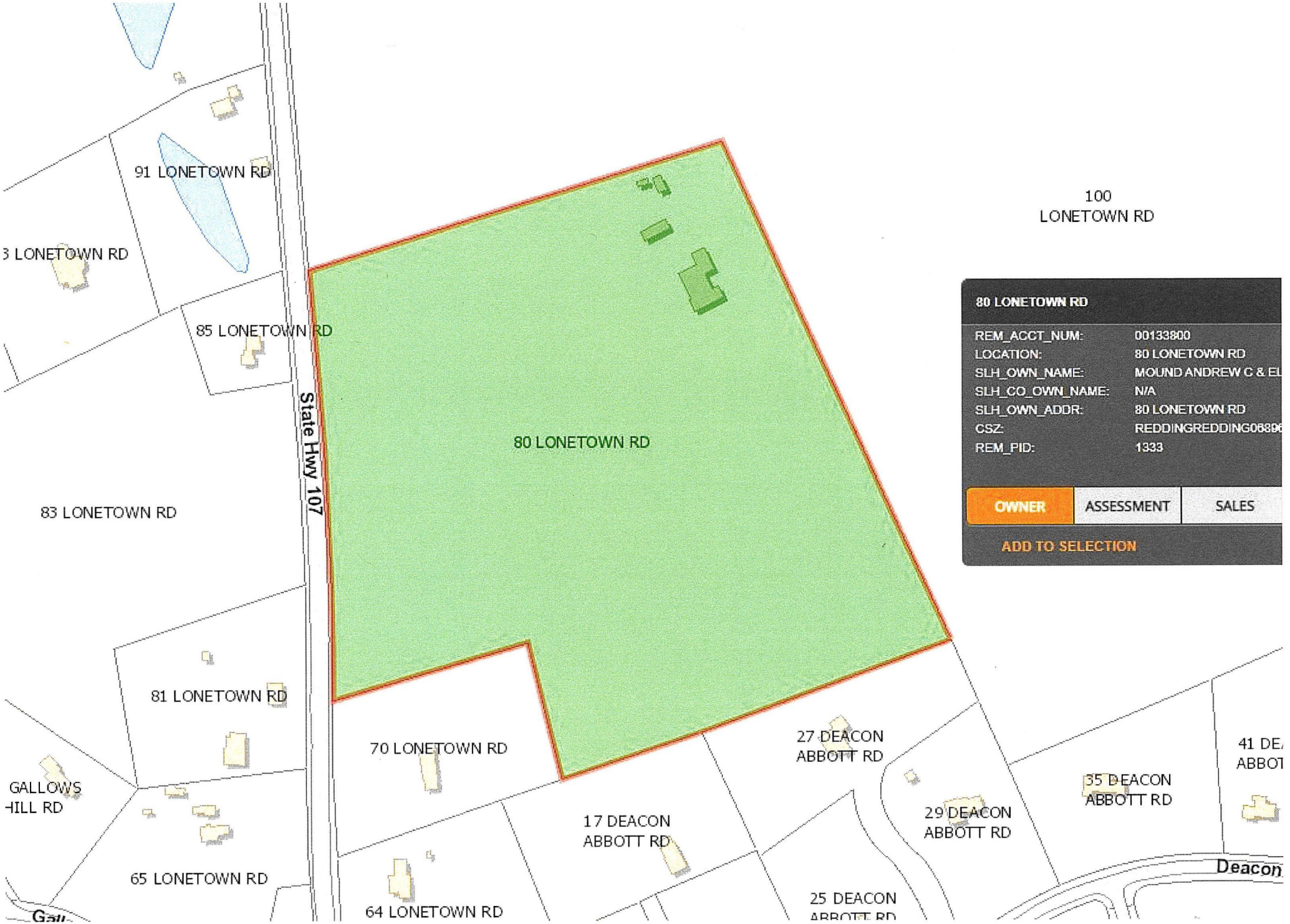
DRAWN BY: H.R	CHECKED BY: HMA

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

SHEET TITLE:
VZWSMART-MSK1
CROSSOVER PLATE

SHEET NUMBER:	REV #:
VZWSMART-MSK1	0

ATTACHMENT 5


91 LONETOWN RD
3 LONETOWN RD
85 LONETOWN RD
State Hwy 107
80 LONETOWN RD
100
LONETOWN RD
83 LONETOWN RD
81 LONETOWN RD
70 LONETOWN RD
27 DEACON
ABBOTT RD
GALLOWS
HILL RD
17 DEACON
ABBOTT RD
29 DEACON
ABBOTT RD
35 DEACON
ABBOTT RD
65 LONETOWN RD
64 LONETOWN RD
25 DEACON
Deacon
80 LONETOWN RD
REM_ACCT_NUM: 00133800
LOCATION: 80 LONETOWN RD
SLH_OWN_NAME: MOUND ANDREW C & EL
SLH_CO_OWN_NAME: N/A
SLH_OWN_ADDR: 80 LONETOWN RD
CSZ: REDDINGREDDING06896
REM_PID: 1333
OWNER
ASSESSMENT
SALES
ADD TO SELECTION

80 LONETOWN RD

Location	80 LONETOWN RD	**Mblu**	14/ / 21/ C/
Acct#	1421C	**Owner**	MOUND ANDREW C & ELIZABETH C
Assessment	$252,000	**Appraisal**	$360,000
PID	100604	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$0	$360,000	$360,000
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$0	$252,000	$252,000

Owner of Record

Owner	MOUND ANDREW C & ELIZABETH C	**Sale Price**	$967,500
Co-Owner		**Certificate**	
Address	80 LONETOWN RD REDDING, CT ~~06752~~ 06896	**Book & Page**	0229/0721
		Sale Date	05/04/1999
		Instrument	00

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
MOUND ANDREW C & ELIZABETH C	$967,500		0229/0721	00	05/04/1999
MOHAWK HILL TRUST	$0		0187/0735	XX	11/15/1994

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0

ATTACHMENT 6

Verizon/Redding

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP One State Street Hartford, CT 06103		3	quadient CORRECTION IMI $003.44 09/25/2024 ZIP 06103 US POSTAGE
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Julia Pemberton, First Selectwoman Town of Redding 100 Hill Road Redding, CT 06875				
2.	Aimee Pardee, Land Use Director Town of Redding - Old Town House 23 Cross Highway Redding, CT 06875				
3.	Andrew and Elizabeth Mound 80 Lonetown Road Redding, CT 06896				
4.					
5.					
6.					

OLD STATE HOUSE STATION 06103 SEP 25 2024 USPS