

Derek Maheux Program Manager
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Mobile: (508)649-3407
Dmaheux@clinellc.com

April 18, 2024

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

**RE: Notice of Exempt Modification // Site: MANSFIELD FOUR CORNERS CT (ATC:
283563)
343 Daleville Road, Willington, CT 06279
N 41.836606 // W -72.254976**

Dear Ms. Bachman,

Cellco Partnership d/b/a Verizon Wireless currently maintains twelve (12) antenna at the 97-ft level on the existing 160 ft Tower, located at 343 Daleville Road, Willington, CT. The tower is owned by American Tower. Verizon Wireless proposed modification involves the installation of a new mount modification and side by side mounts, adding three (3) RRH and two (2) OVP on Verizon Wireless existing antenna platform and mounting assembly.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Willington's Chief Elected Official and Land Use Officer.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated April 2, 2024, by A.T Engineering Services, LLC, a structural analysis dated February 8, 2024, by American Tower Corp., and a structural mount analysis by Colliers Engineering and Design dated January 26, 2024, and Non-Ionizing Electromagnetic Radiation (NIER) Study dated February 29, 2024, by Tower Engineering Professionals.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analysis and a structural mount analysis, pursuant to certain conditions defined therein. Design and engineering are fully illustrated within final construction drawings.

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

Sincerely,

Derek Maheux

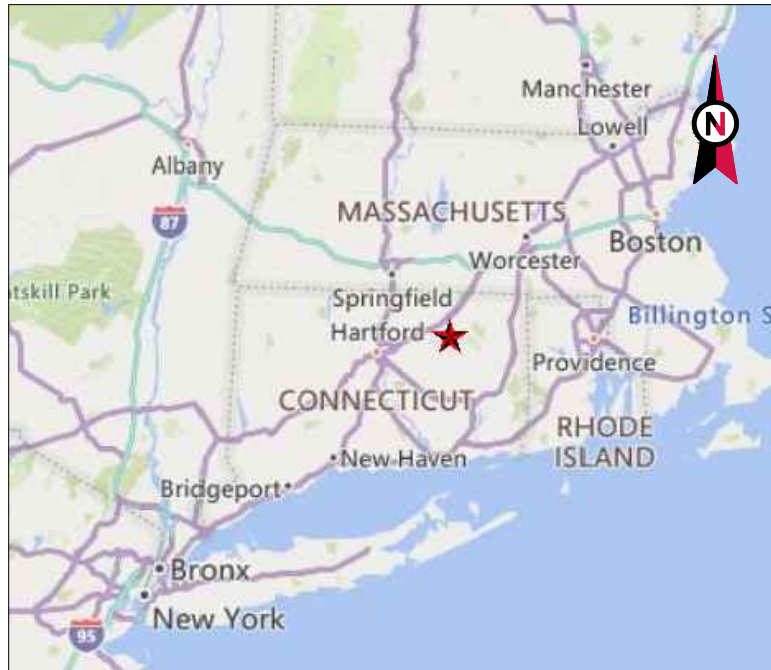
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Attachments: Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Mount Analysis
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Available Original Tower Approval Records
Exhibit 7 – Notice Deliver Confirmations

cc: Peter Tanaka – First Selectman – Chief Elected Official
Michael D’Amato – Zoning Agent - as P&Z official
Richard & Muriel Kreuzscher – as ground owner
American Tower Corporation - as tower owner

EXHIBIT 1





VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: MANSFIELD CT
 ATC SITE NUMBER: 283563
 VERIZON SITE NAME: MANSFIELD FOUR CORNERS CT
 VERIZON SITE NUMBER: 5000243474
 VERIZON FUZE PID: 16092590
 SITE ADDRESS: 343 DALEVILLE ROAD
 WILLINGTON, CT 06279



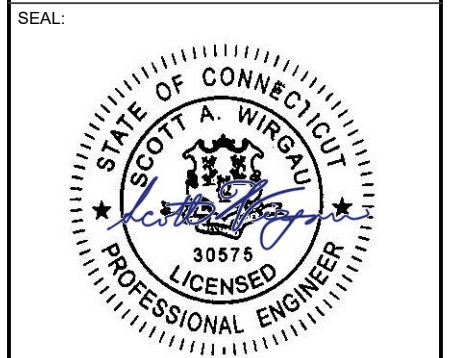
LOCATION MAP

AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 PEC.0001553

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	4/2/2024

ATC SITE NUMBER:
283563
 ATC SITE NAME:
MANSFIELD CT
 VERIZON SITE NAME:
MANSFIELD FOUR CORNERS CT
 SITE ADDRESS:
 343 DALEVILLE ROAD
 WILLINGTON, CT 06279



VERIZON AMENDMENT DRAWINGS

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 2021 IBC NATIONAL ELECTRICAL CODE (NFPA 70, NEC 2020 W/ AMND) 2022 CONNECTICUT STATE BUILDING CODE, IMC PORTION (IMC 2021 W/ AMND) 2022 CONNECTICUT STATE BUILDING CODE, IPC PORTION (IPC 2021 W/ AMND) 2022 CONNECTICUT STATE BUILDING CODE, IECC PORTION (IECC 2021 W/ AMND) PART III OF THE 2022 CT STATE FIRE SAFETY CODE (IFC 2021 W/ AMND) 2022 CONNECTICUT STATE BUILDING CODE, IEBC PORTION (IEBC 2021 W/ AMND) 2022 CONNECTICUT STATE BUILDING CODE, IRC PORTION (IRC 2021 W/ AMND) CONNECTICUT STATE FUEL GAS CODE (IFGC 2021 W/ AMND)	<u>SITE ADDRESS:</u> 343 DALEVILLE ROAD WILLINGTON, CT 06279 COUNTY: TOLLAND <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41° 50' 11.782" N LONGITUDE: 72° 15' 17.915" W GROUND ELEVATION: 472' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: REMOVE (12) ANTENNA(S), (3) RRH(S), AND (2) OVP(S) INSTALL MOUNT MODIFICATIONS, (3) SIDE BY SIDE MOUNT(S), (9) ANTENNA(S), (6) RRH(S), AND (1) OVP EXISTING (2) 1-5/8" HYBRIFLEX CABLE(S) TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>APPLICANT:</u> VERIZON WIRELESS <u>ENGINEER:</u> A.T. ENGINEERING SERVICES LLC 1 FENTON MAIN, STE 300 CARY, NC 27511 <u>PROPERTY OWNER:</u> MURIEL KREUSCHER 343 DALEVILLE ROAD WILLINGTON, CT 06279	1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	G-001	TITLE SHEET	0	4/2/2024	MNC
			G-002	GENERAL NOTES	0	4/2/2024	MNC
<u>UTILITY COMPANIES</u> POWER COMPANY: EVERSOURCE PHONE: (877) 659-6326 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843 	<u>PROJECT LOCATION DIRECTIONS</u> FROM DOWNTOWN WILLIMANTIC CT START OUT GOING WEST ON MAIN ST/CT-32/CT-66 TOWARD TINGLEY ST. CONTINUE TO FOLLOW CT-32. TURN RIGHT ONTO MIDDLE TURNPIKE/US-44 E. TURN LEFT ONTO DALEVILLE RD. 98 DALEVILLE RD IS ON THE RIGHT.	C-001	EXISTING SURVEY	0	4/2/2024	MNC	
		C-101	DETAILED SITE PLAN	0	4/2/2024	MNC	
		C-201	TOWER ELEVATION	0	4/2/2024	MNC	
		C-401	ANTENNA INFORMATION & SCHEDULE	0	4/2/2024	MNC	
		C-501	CONSTRUCTION DETAILS	0	4/2/2024	MNC	
		E-501	GROUNDING DETAILS	0	4/2/2024	MNC	
		R-601	SUPPLEMENTAL				
		R-602	SUPPLEMENTAL				
		R-603	SUPPLEMENTAL				
		R-604	SUPPLEMENTAL				
R-605	SUPPLEMENTAL						
<u>CONTRACTOR PMI REQUIREMENTS</u> PMI ACCESSED AT: HTTPS://PMI.VZWSMART.COM SMART TOOL VENDOR PROJECT NUMBER: 10220001 VZW LOCATION CODE (PSLC): 5000243474 ***PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT MOUNT MODIFICATION REQUIRED: YES VZW APPROVED SMART KIT VENDORS: REFER TO MOUNT MODIFICATION DRAWINGS PAGES FOR VZW SMART KIT APPROVED VENDORS							



ATC JOB NO: 14569639_GO
 CUSTOMER ID: MANSFIELD FOUR CORNERS CT
 CUSTOMER #: 5000243474

TITLE SHEET

SHEET NUMBER:
G-001
 REVISION:
0

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, VERIZON "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
 - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
 - B. AC/TELCO INTERFACE BOX (PPC)
 - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
 - D. TOWERS, MONOPOLES
 - E. TOWER LIGHTING
 - F. GENERATORS & LIQUID PROPANE TANK
 - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
 - H. ANTENNAS (INSTALLED BY OTHERS)
 - I. TRANSMISSION LINE
 - J. TRANSMISSION LINE JUMPERS
 - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
 - L. TRANSMISSION LINE GROUND KITS
 - M. HANGERS
 - N. HOISTING GRIPS
 - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF VERIZON TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH VERIZON AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY VERIZON REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
29. COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
31. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
32. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON REP. ANY WORK FOUND BY THE VERIZON REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
33. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
34. VERIZON FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE VERIZON WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
35. VERIZON OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO VERIZON OR THEIR ARCHITECT/ENGINEER.

- B. ALL COAXIAL/HYBRID CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL/HYBRID CABLE (NOT WITHIN BENDS)

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
 - A. ANTENNA AND COAXIAL/HYBRID CABLES ARE FURNISHED BY VERIZON UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
 - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND VERIZON SPECIFICATIONS.
 - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
 - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
 - E. INSTALL COAXIAL/HYBRID CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL/HYBRID CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
2. ANTENNA AND COAXIAL/HYBRID CABLE GROUNDING:
 - A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	4/2/2024

ATC SITE NUMBER:
283563
 ATC SITE NAME:
MANSFIELD CT
 VERIZON SITE NAME:
MANSFIELD FOUR CORNERS CT
 SITE ADDRESS:
 343 DALEVILLE ROAD
 WILLINGTON, CT 06279



Digitally Signed: 2024-04-03

ATC JOB NO:	14569639_GO
CUSTOMER ID:	MANSFIELD FOUR CORNERS CT
CUSTOMER #:	5000243474

GENERAL NOTES	
SHEET NUMBER: G-002	REVISION: 0

PROJECT SUMMARY

FIELD SURVEY DATE: 11/17/2016
 SITE ADDRESS: 343 DALEVILLE RD., WILLINGTON, CT 06279

PARCEL INFORMATION
 OWNER: MUREL KREUSCHER
 OWNER ADDRESS: 343 DALEVILLE RD., WILLINGTON, CT 06279
 TAX MAP 2, LOT 5, BOOK 89, PG. 941

TOTAL AREA:
 PARENT PARCEL: 22.4 ACRES (PER TAX RECORDS)
 ATC LEASE AREA: 6,400 SQ. FT. 0.147 ACRES
 ACCESS & UTILITY EASEMENT: 34,738 SQ. FT. 0.797 ACRES

BASE OF BEARINGS:
 BEARINGS ARE BASED ON CONNECTICUT STATE PLANE COORDINATE SYSTEM BY GPS OBSERVATION.
 COORDINATES BASED ON CONNECTICUT STATE PLANE COORDINATE SYSTEM.

ENCROACHMENTS:
 PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE C.
 COMMUNITY PANEL NO.: 060180020A DATED: 06/15/1982

ENCROACHMENT STATEMENT:
 AT THE TIME OF SURVEY NO VISIBLE ENCROACHMENTS WERE EVIDENT ONTO OR BEYOND THE ATC LEASE AREA OR THE ACCESS & UTILITY EASEMENTS.

TOWER INFORMATION:
 LATITUDE: 41° 55' 13.38" N, NAD 83
 LONGITUDE: 72° 15' 57.92" W, NAD 83
 GROUND ELEVATION AT BASE OF TOWER: 497 FEET (NAVD 1988)
 TOP OF TOWER HEIGHT ABOVE GROUND: 150' (AGL)
 ELEVATION OF TOP OF TOWER: 602' (NAVD 1988)
 HEIGHT OF ANTENNA ABOVE TOWER TOP: 107' (AGL)
 ELEVATION OF TOP OF HIGHEST APPURTENANCE: 604' (NAVD 1988)

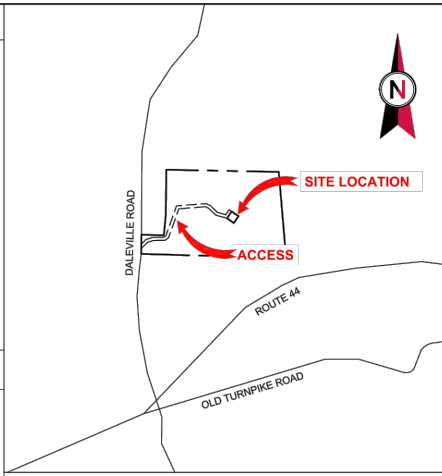
SURVEYOR'S NOTES

1. THERE IS ACCESS TO THE ATC LEASE AREA FROM DALEVILLE ROAD PER THE AS-SURVEYED ACCESS EASEMENT SHOWN HEREON.
2. THE LOCATIONS OF ALL UTILITIES SHOWN ON THE SURVEY ARE FROM VISIBLE SURFACE EVIDENCE ONLY.
3. AT THE TIME OF THIS SURVEY THERE WAS NO OBSERVABLE SURFACE EVIDENCE OF EARTH MOVING, FOUNDATION CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.
4. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF THE SUBJECT PROPERTY BEING USED AS A BOLD WASTE DUMP, SLUMP OR SANITARY LANDFILL.
5. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT CHANGES IN STREET RIGHT-OF-WAY, EITHER COMPLETED OR PROPOSED, AND AVAILABLE FROM THE CONTROLLING JURISDICTION.
6. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
7. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PARENT TRACT. ANY PARENT TRACT PROPERTY LINES SHOWN HEREON ARE FROM SUPPLIED INFORMATION AND MAY NOT BE FIELD VERIFIED.
8. THIS IS AN AS BUILT SURVEY OF AN EXISTING ATC LEASE PARCEL WITH AN EXISTING PARCEL OF LAND, THE BOUNDARIES OF WHICH HAVE NOT BEEN SURVEYED.
9. ALL CALLS ARE MEASURED UNLESS OTHERWISE NOTED.
10. UNLESS OTHERWISE SPECIFIED, UTILITY POLES DID NOT IDENTIFY OWNERSHIP.
11. THIS SURVEY IS A HORIZONTAL ACCURACY CLASS AA AND A TOPOGRAPHICAL ACCURACY CLASS 1 AS DEFINED IN REG. 36-306B-11 OF THE CONNECTICUT STANDARDS FOR SURVEYS.

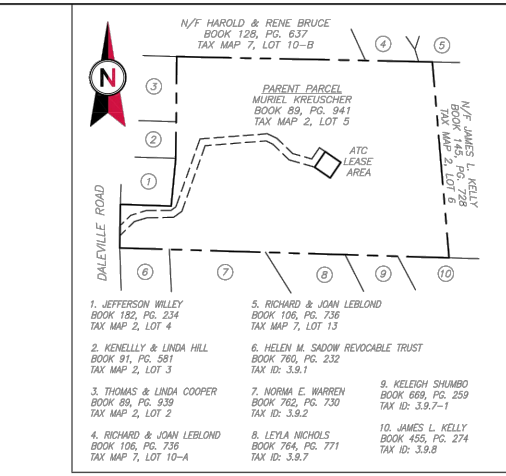
ZONING INFORMATION

TOWN OF WILLINGTON
 40 OLD PARK RD., WILLINGTON, CT 06279
 760-487-3123

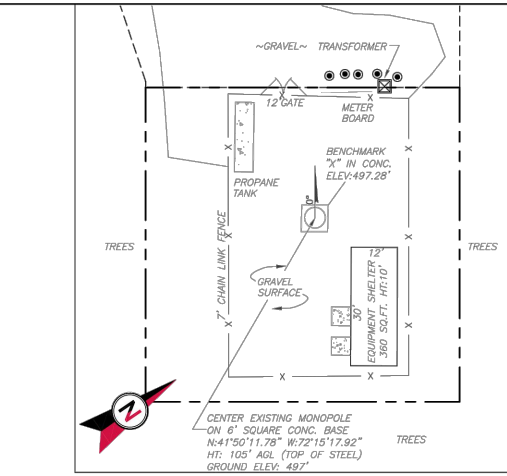
ZONING INFORMATION WAS NOT PROVIDED AT THE TIME OF SURVEY.



1 VICINITY MAP



2 PARENT PARCEL GRAPHIC REPRESENTATION NOT TO SCALE



3 COMPOUND DETAIL

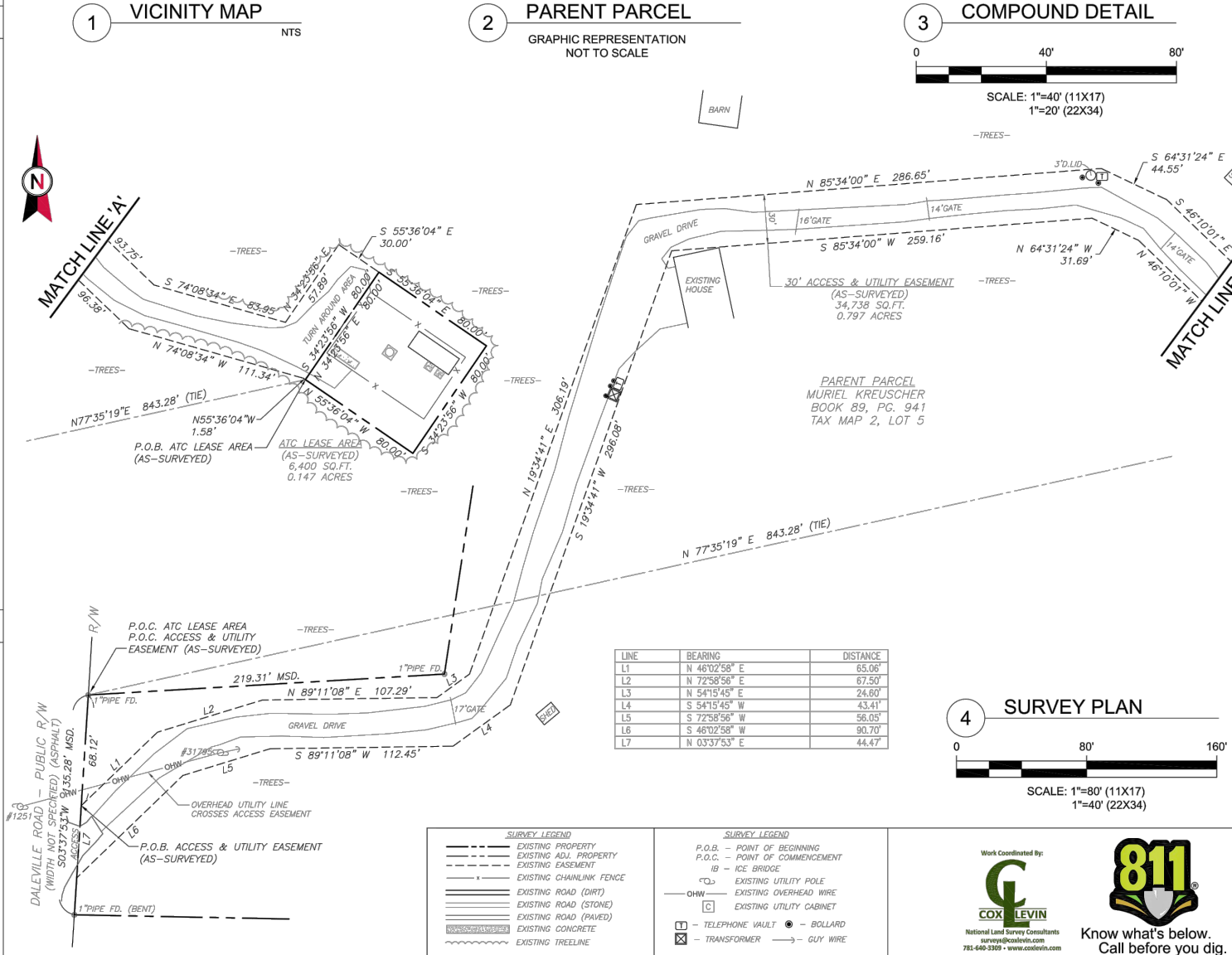
LEGAL DESCRIPTIONS

REPORT OF TITLE LEGAL DESCRIPTION (PARENT PARCEL - FOR INFORMATION ONLY - NOT SURVEYED):
 PROPERTY LOCATED IN NEW LONDON, CT
 A CERTAIN PIECE OR PARCEL OF LAND SITUATED ON THE EASTERLY LINE OF DENNIS ROAD IN THE TOWN OF WILLINGTON, COUNTY OF TOLLAND AND STATE OF CONNECTICUT, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS, TO WIT:
 BEGINNING AT A POINT IN THE EASTERLY LINE OF DENNIS ROAD AT THE SOUTHWESTERLY CORNER HEREOF AND AT THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF RACHELLE S. BARRY, THE LINE RUNS THENCE EASTERLY ALONG THE WILLINGTON - MANSFIELD TOWN LINE ALONG SAID BARRY, ALONG LAND NOW OR FORMERLY OF DONALD B. AND NORMA H. WARREN AND ALONG LAND NOW OR FORMERLY OF MASON AND HAZEL M. PARKER, IN PART BY EACH, TO LAND NOW OR FORMERLY OF ALBERT AND NATI B. CORNELL, THENCE NORTHERLY ALONG SAID CORNELL ABOUT 800 FEET TO LAND OF RICHARD P. AND JOAN P. LEBLOND, THENCE WESTERLY BY LAND OF SAID RICHARD P. AND JOAN P. LEBLOND ABOUT 1.284 FEET TO THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF FRED H. EMMERT AND PAULA LUCILLE EMMERT; THENCE SOUTHERLY ABOUT 175 FEET ALONG SAID EMMERT LAND, ALONG LAND NOW OR FORMERLY OF PAUL AND MARY E. NICOLIANI, ALONG LAND NOW OR FORMERLY OF FRISCELLA B. CRIPPS, IN PART BY EACH, TO A CORNER, THENCE WESTERLY BY SAID CRIPPS LAND ABOUT 218 FEET TO THE EASTERLY LINE OF DENNIS ROAD, THENCE SOUTHERLY ALONG THE EASTERLY LINE OF DENNIS ROAD ABOUT 135 FEET TO THE POINT AND PL-6 OF BEGINNING, SAID PARCEL CONTAINING ABOUT 22 ACRES, MORE OR LESS, AND BEING THE SAME PROPERTY CONVEYED TO MURIEL, TODD FROM RICHARD P. LEBLOND AND JOAN P. LEBLOND BY STATUTORY FORM WARRANTY DEED DATED APRIL 03, 1986 AND RECORDED APRIL 03, 1986 IN DEED BOOK 89, PAGE 941.
 TAX PARCEL NO. MAP 2 LOT 5
 ATC LEASE AREA (AS-SURVEYED):
 SITUATED IN THE TOWN OF WILLINGTON, COUNTY OF TOLLAND AND STATE OF CONNECTICUT, LYING WITHIN THAT TRACT OF LAND CONVEYED TO MUREL KREUSCHER IN BOOK 89, PAGE 941, WILLINGTON TOWN RECORDS AND BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS, TO WIT:
 COMMENCING AT A 1" IRON PIPE FOUND IN THE EASTERLY LINE OF DALEVILLE ROAD FOR THE NORTHWEST CORNER OF THE AFORESAID MUREL KREUSCHER TRACT;
 THENCE LEAVING DALEVILLE ROAD AND CROSSING THE KREUSCHER TRACT, NORTH 77°35'19" EAST, A DISTANCE OF 843.28 FEET TO THE POINT OF BEGINNING;
 THENCE NORTH 34°23'09" EAST, A DISTANCE OF 80.00 FEET TO A POINT;
 THENCE SOUTH 82°36'04" EAST, A DISTANCE OF 80.00 FEET TO A POINT;
 THENCE SOUTH 84°23'09" WEST, A DISTANCE OF 80.00 FEET TO A POINT;
 THENCE NORTH 52°36'04" WEST, A DISTANCE OF 80.00 FEET TO THE POINT OF BEGINNING.
 HAVING AN AREA OF 6,400 SQUARE FEET, 0.147 ACRES OF LAND, MORE OR LESS.
 ACCESS & UTILITY EASEMENT (AS-SURVEYED):
 SITUATED IN THE TOWN OF WILLINGTON, COUNTY OF TOLLAND AND STATE OF CONNECTICUT, LYING WITHIN THAT TRACT OF LAND CONVEYED TO MUREL KREUSCHER IN BOOK 89, PAGE 941, WILLINGTON TOWN RECORDS AND BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS, TO WIT:
 COMMENCING AT A 1" IRON PIPE FOUND IN THE EASTERLY LINE OF DALEVILLE ROAD FOR THE NORTHWEST CORNER OF THE AFORESAID MUREL KREUSCHER TRACT;
 THENCE ALONG THE EASTERLY LINE OF DALEVILLE ROAD, SOUTH 03°37'50" WEST, A DISTANCE OF 68 FEET TO THE POINT OF BEGINNING;
 THENCE LEAVING DALEVILLE ROAD AND CROSSING SAID KREUSCHER TRACT, NORTH 48°02'58" EAST, A DISTANCE OF 66.06 FEET TO A POINT;
 THENCE NORTH 12°59'58" EAST, A DISTANCE OF 67.50 FEET TO A POINT;
 THENCE NORTH 11°00'00" EAST, A DISTANCE OF 67.50 FEET TO A POINT;
 THENCE NORTH 84°19'48" EAST, A DISTANCE OF 84.60 FEET TO A POINT;
 THENCE NORTH 10°10'00" EAST, A DISTANCE OF 68.75 FEET TO A POINT;
 THENCE NORTH 85°34'00" EAST, A DISTANCE OF 286.65 FEET TO A POINT;
 THENCE SOUTH 84°19'48" EAST, A DISTANCE OF 84.60 FEET TO A POINT;
 THENCE SOUTH 82°36'04" EAST, A DISTANCE OF 80.00 FEET TO A POINT;
 THENCE SOUTH 84°23'09" WEST, A DISTANCE OF 80.00 FEET TO A POINT;
 THENCE SOUTH 52°36'04" WEST, A DISTANCE OF 80.00 FEET TO A POINT;
 THENCE NORTH 52°36'04" WEST, A DISTANCE OF 1.58 FEET TO A POINT;
 THENCE NORTH 48°10'00" WEST, A DISTANCE OF 86.38 FEET TO A POINT;
 THENCE NORTH 64°19'48" WEST, A DISTANCE OF 31.69 FEET TO A POINT;
 THENCE SOUTH 84°19'48" WEST, A DISTANCE OF 286.65 FEET TO A POINT;
 THENCE SOUTH 84°19'48" WEST, A DISTANCE OF 84.60 FEET TO A POINT;
 THENCE SOUTH 84°19'48" WEST, A DISTANCE OF 84.60 FEET TO A POINT;
 THENCE SOUTH 84°19'48" WEST, A DISTANCE OF 84.60 FEET TO A POINT;
 THENCE SOUTH 84°19'48" WEST, A DISTANCE OF 84.60 FEET TO A POINT;
 THENCE SOUTH 84°19'48" WEST, A DISTANCE OF 84.60 FEET TO A POINT;
 THENCE NORTH 03°37'50" EAST, A DISTANCE OF 44.47 FEET TO THE POINT OF BEGINNING.
 HAVING AN AREA OF 34,738 SQUARE FEET, 0.797 ACRES OF LAND, MORE OR LESS.
 NOTE: AT THE TIME OF SURVEY, NO LEGAL DESCRIPTIONS OF THE ATC LEASE AREA, ACCESS AND/OR UTILITY EASEMENTS WERE PROVIDED TO THE SURVEY.

NOTES CORRESPONDING TO REPORT OF TITLE

THE REPORT OF TITLE ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY ORDER NO. 24104989, ISSUE DATE OF NOVEMBER 3, 2016, CONTAINS THE FOLLOWING ITEMS:

2. NOTICE OF LEASE: DATED: 01/01/2008 (HOME EQUITY LINE OF CREDIT ACCOUNT) FROM: MUREL KREUSCHER, AS LANDLORD/LESSOR TENANT: CELCO PARTNERSHIP DBIA VERIZON WIRELESS, AS TENANT/LESSEE RECORDED ON: 11/22/2008 RECORDED IN: DEED BOOK 181, PAGE 204 ORIGINAL & AMF: \$10,000.00 NOT A SURVEY RELATED ITEM
3. OPEN END MORTGAGE VARIABLE INTEREST RATE (HOME EQUITY LINE OF CREDIT ACCOUNT) FROM: MUREL KREUSCHER, AS LANDLORD/LESSOR IN FAVOR OF: NEW ALLIANCE BANK DATED: 10/31/2006 RECORDED ON: 11/22/2008 RECORDED IN: DEED BOOK 181, PAGE 204 ORIGINAL & AMF: \$10,000.00 NOT A SURVEY RELATED ITEM
4. MEMORANDUM OF TOWER LEASE AGREEMENT: DATED: 07/06/2015 LANDLORD: CONSTRUCTION SERVICES TOWERS, LLC, A CONNECTICUT LIMITED LIABILITY COMPANY, AS LANDLORD/LESSOR TENANT: CELCO PARTNERSHIP, A DELAWARE GENERAL PARTNERSHIP DBIA VERIZON WIRELESS, AS TENANT/LESSEE RECORDED ON: 07/15/2015 RECORDED IN: DEED BOOK 204, PAGE 089
5. ELECTRIC DISTRIBUTION EASEMENT IN FAVOR OF: THE CONNECTICUT LIGHT AND POWER COMPANY, A SPECIALLY CHARTERED CONNECTICUT CORPORATION, ITS SUCCESSORS AND ASSIGNS RECORDED ON: 02/24/2014 RECORDED IN: DEED BOOK 206, PAGE 080



4 SURVEY PLAN

AMERICAN TOWER®
ATC TOWER SERVICES, INC.
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 FAX: (919) 466-5415

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	PRELIM	LKC	11/23/16
1	REPORT OF TITLE	LKC	12/6/2016

ATC SITE NUMBER:
283563

ATC SITE NAME:
MANSFIELD CT

SITE ADDRESS:
 343 DALEVILLE ROAD
 WILLINGTON, CT 06279

THIS IS TO CERTIFY THAT THE UNDERSIGNED AT THE REQUEST AND FOR THE EXCLUSIVE USE OF AMERICAN TOWER CORPORATION AND FIDELITY NATIONAL TITLE INSURANCE COMPANY HAS PERFORMED THIS AS-BUILT SURVEY OF THE ATC LEASE AREA ONLY, FROM THE RECORD SOURCES AND ACTUAL FIELD SURVEY ON NOVEMBER 17, 2016 IN ACCORDANCE WITH THE MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS. ALL LINE AND ANGLE VALUES SHOWN ARE BASED UPON DEED OR RECORD INFORMATION UNLESS OTHERWISE NOTED.

DATE OF PLAT OR MAP: NOVEMBER 23, 2016

PRELIMINARY SURVEY
 TIMOTHY R. DURR
 PLS: 70198
 IN THE STATE OF CONNECTICUT

LMS SURVEYING LTD
 P.O. Box 65 Sharon Center, OH 44274
 Phone: 330-329-6812 / Fax: 330-239-1529

DRAWN BY: LKC
 APPROVED BY: TRD
 DATE DRAWN: 11/23/2016
 JOB NO: B-160827

AS-BUILT SURVEY

SHEET NUMBER: **V-101**
 REVISION: **1**

AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 PEC.0001553

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	4/2/2024
1			
2			
3			
4			

ATC SITE NUMBER:
283563

ATC SITE NAME:
MANSFIELD CT

VERIZON SITE NAME:
MANSFIELD FOUR CORNERS CT

SITE ADDRESS:
 343 DALEVILLE ROAD
 WILLINGTON, CT 06279

SEAL:

FOR REFERENCE ONLY

ATC JOB NO: 14569639_GO
 CUSTOMER ID: MANSFIELD FOUR CORNERS CT
 CUSTOMER #: 5000243474

EXISTING SURVEY

SHEET NUMBER: **C-001**
 REVISION: **0**

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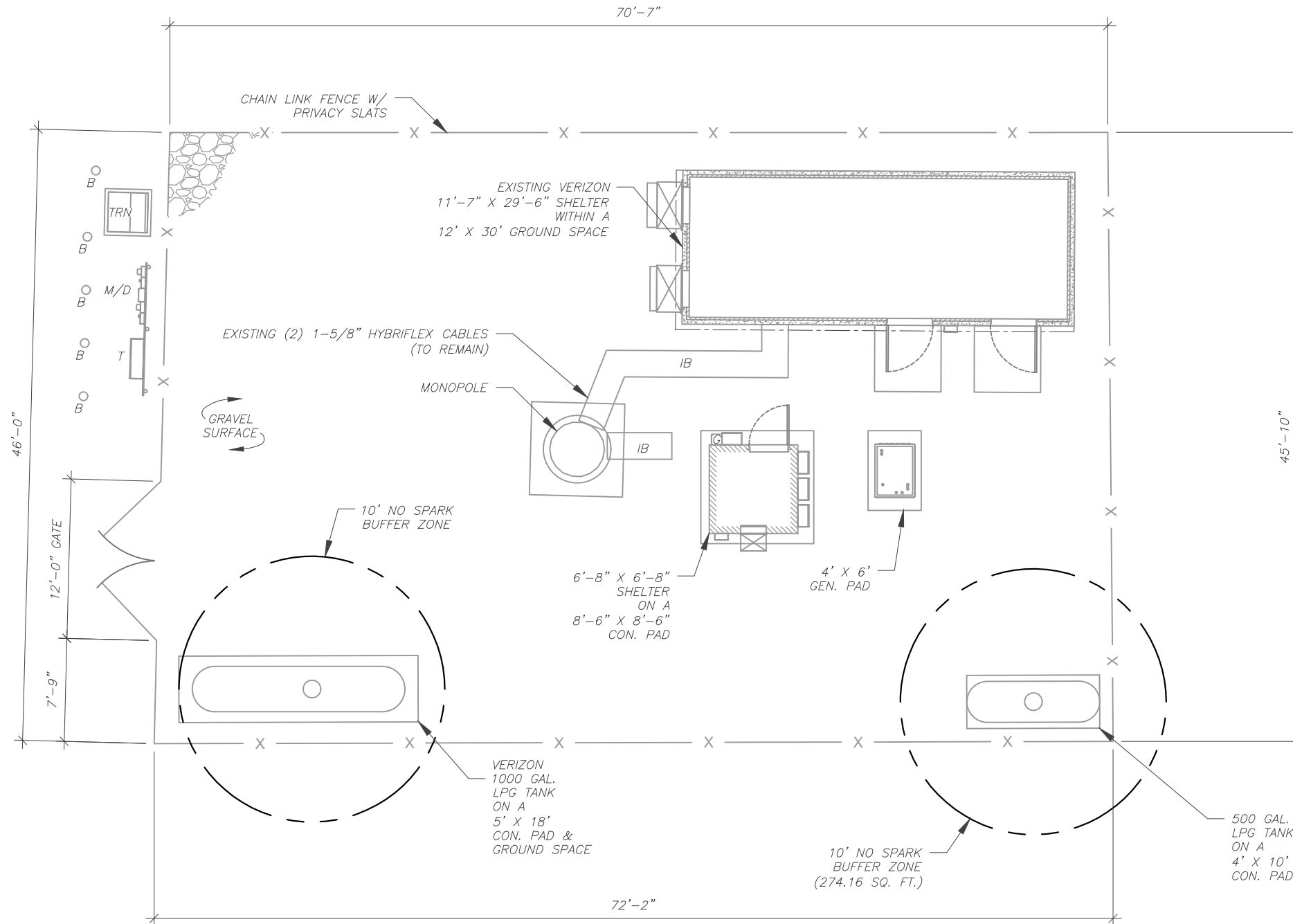
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Work Coordinated By:
811
 National Land Survey Consultants
 surveys@coxlevin.com
 781-640-3928 • www.coxlevin.com

Know what's below.
 Call before you dig.

SITE PLAN NOTES:

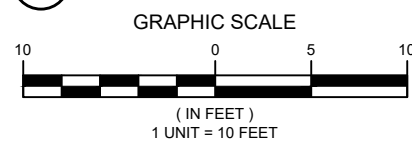

- THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
- NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.



LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
—	CHAINLINK FENCE

1 DETAILED SITE PLAN

AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	4/2/2024

ATC SITE NUMBER:
283563
 ATC SITE NAME:
MANSFIELD CT
 VERIZON SITE NAME:
MANSFIELD FOUR CORNERS CT
 SITE ADDRESS:
 343 DALEVILLE ROAD
 WILLINGTON, CT 06279



Digitally Signed: 2024-04-03

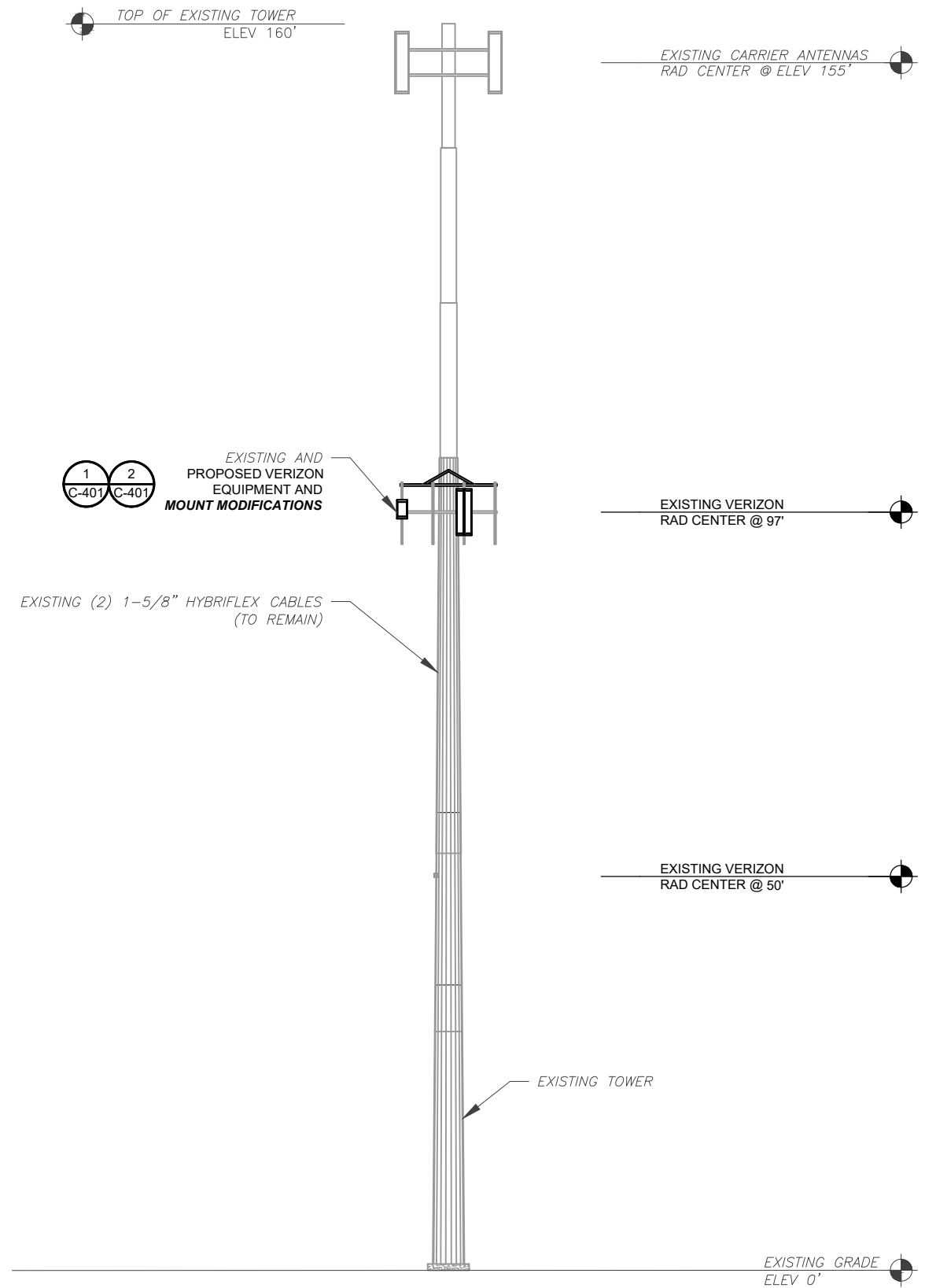


ATC JOB NO:	14569639_GO
CUSTOMER ID:	MANSFIELD FOUR CORNERS CT
CUSTOMER #:	5000243474

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

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1 TOWER ELEVATION
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY COLLIERS ENGINEERING & DESIGN, DATED 01/26/24, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
1 FENTON MAIN
SUITE 300
CARY, NC 27511
PHONE: (919) 468-0112
PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	4/2/2024

ATC SITE NUMBER:
283563
ATC SITE NAME:
MANSFIELD CT
VERIZON SITE NAME:
MANSFIELD FOUR CORNERS CT
SITE ADDRESS:
343 DALEVILLE ROAD
WILLINGTON, CT 06279



Digitally Signed: 2024-04-03

ALL ELEVATIONS REFLECT ABOVE GROUND LEVEL (A.G.L.)

- TOWER NOTE:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
 - WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
 - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.



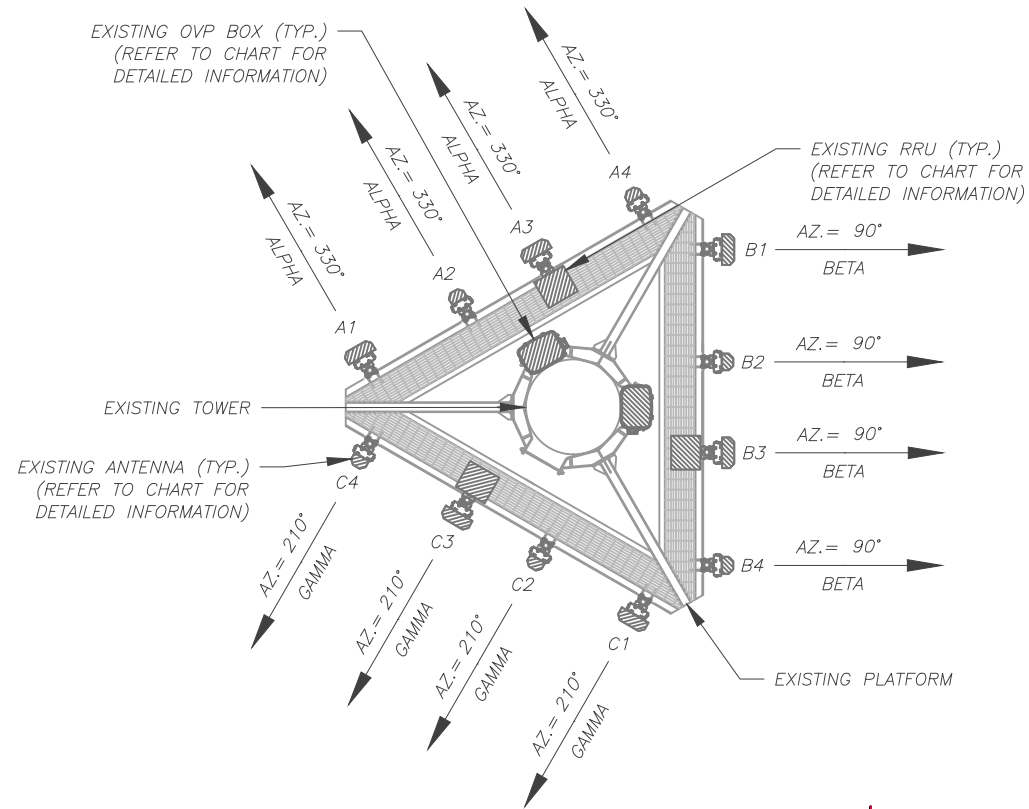
ATC JOB NO: 14569639_GO
CUSTOMER ID: MANSFIELD FOUR CORNERS CT
CUSTOMER #: 5000243474

TOWER ELEVATION

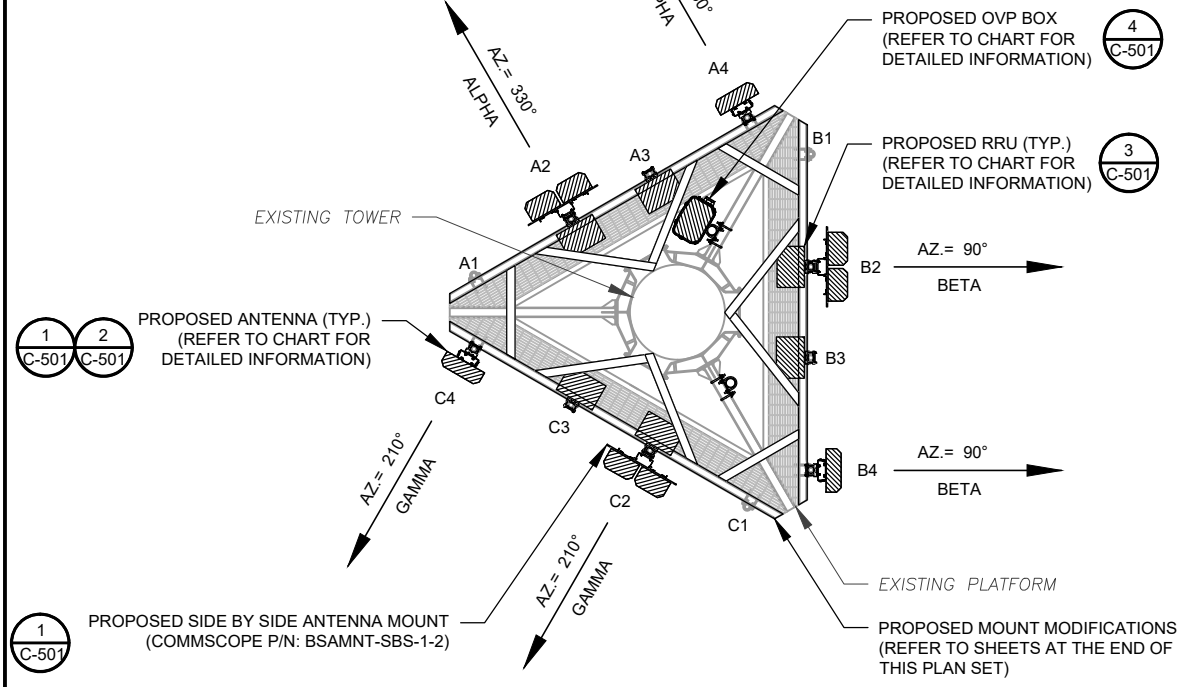
SHEET NUMBER: **C-201** REVISION: **0**

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PER MOUNT ANALYSIS COMPLETED BY COLLIERS ENGINEERING & DESIGN., DATED 01/26/24, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



1 EXISTING ANTENNA PLAN SCALE: N.T.S.



2 FINAL ANTENNA PLAN SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	97'	330°	A1	BXA-70063/6CF	L700	RMV	-	-
			A2	BXA-171063/12CF	-	RMV	-	-
			A3	BXA-70063/6CF	L700	RMV	UHBB B13 RRH 2x40	RMV
			A4	BXA-171063/12CF	-	RMV	-	-
BETA	97'	90°	B1	BXA-70063/6CF	L700	RMV	-	-
			B2	BXA-171063/12CF	-	RMV	-	-
			B3	BXA-70063/6CF	L700	RMV	UHBB B13 RRH 2x40	RMV
			B4	BXA-171063/12CF	-	RMV	-	-
GAMMA	97'	210°	C1	BXA-70063/6CF	L700	RMV	-	-
			C2	BXA-171063/12CF	-	RMV	-	-
			C3	BXA-70063/6CF	L700	RMV	UHBB B13 RRH 2x40	RMV
			C4	BXA-171063/12CF	-	RMV	-	-

NOTES

- GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.
- GC TO CAP ALL UNUSED PORTS.
- GC TO CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
 RMN: TO REMAIN
 REL: TO BE RELOCATED
 ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
 RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	97'	330°	A1	-	-	-	-	-
			A2	(2) NHH-65B-R2B	L700,L850,L1900,LAWS, 850 5G	ADD	RF4439D-25A	ADD
			A3	-	-	-	RF4461D-13A	ADD
			A4	MT6413-77A	L-SUB6 5G	ADD	-	-
BETA	97'	90°	B1	-	-	-	-	-
			B2	(2) NHH-65B-R2B	L700,L850,L1900,LAWS, 850 5G	ADD	RF4439D-25A	ADD
			B3	-	-	-	RF4461D-13A	ADD
			B4	MT6413-77A	L-SUB6 5G	ADD	-	-
GAMMA	97'	210°	C1	-	-	-	-	-
			C2	(2) NHH-65B-R2B	L700,L850,L1900,LAWS, 850 5G	ADD	RF4439D-25A	ADD
			C3	-	-	-	RF4461D-13A	ADD
			C4	MT6413-77A	L-SUB6 5G	ADD	-	-

EXISTING FIBER DISTRIBUTION / OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
(2) DB-T1-6Z-8AB-0Z	RMV	(2) 1-5/8" HYBRIFLEX CABLES	RMN

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
(1) RVZDC-6627-PF-48	ADD	(2) 1-5/8" HYBRIFLEX CABLES	RMN

AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	4/2/2024

ATC SITE NUMBER:
 283563
 ATC SITE NAME:
 MANSFIELD CT
 VERIZON SITE NAME:
 MANSFIELD FOUR CORNERS CT
 SITE ADDRESS:
 343 DALEVILLE ROAD
 WILLINGTON, CT 06279

SEAL:

Digitally Signed: 2024-04-03

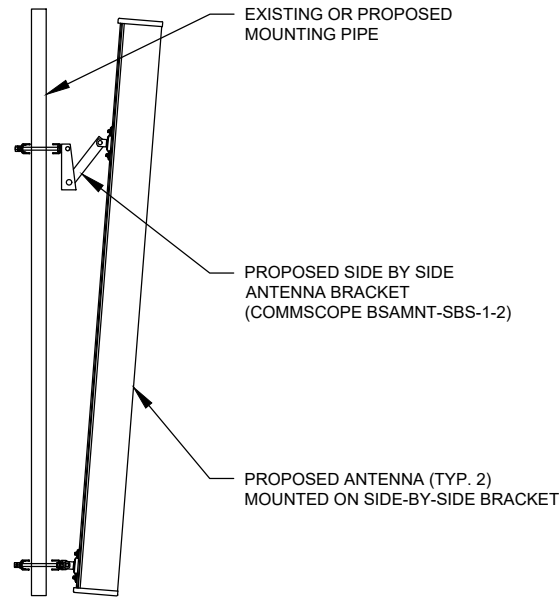
ATC JOB NO: 14569639_GO
 CUSTOMER ID: MANSFIELD FOUR CORNERS CT
 CUSTOMER #: 5000243474

ANTENNA INFORMATION & SCHEDULE

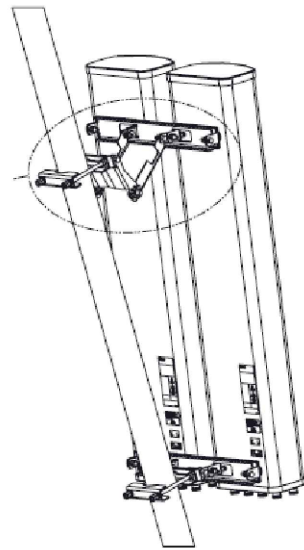
SHEET NUMBER: **C-401**
 REVISION: **0**

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EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.

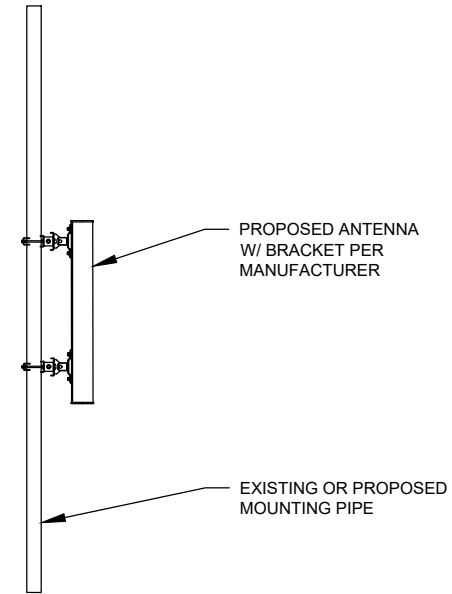


PROFILE VIEW

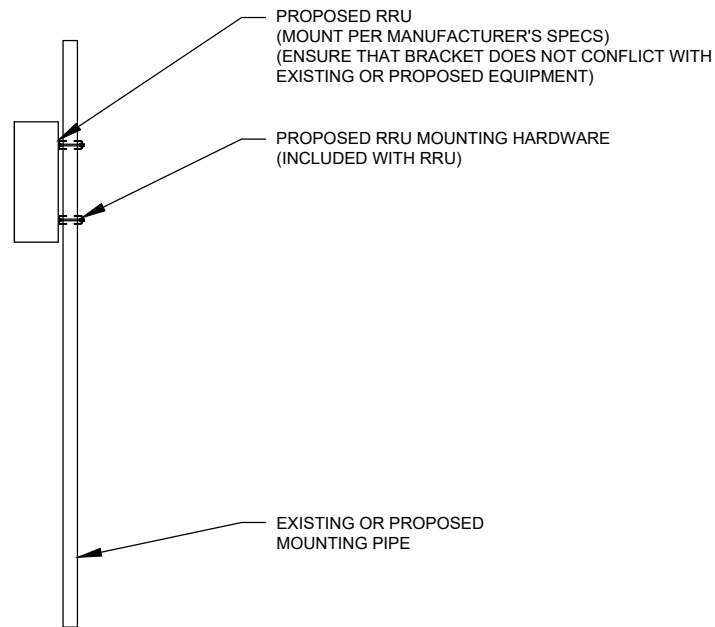


ISOMETRIC VIEW (BY MANUFACTURER)

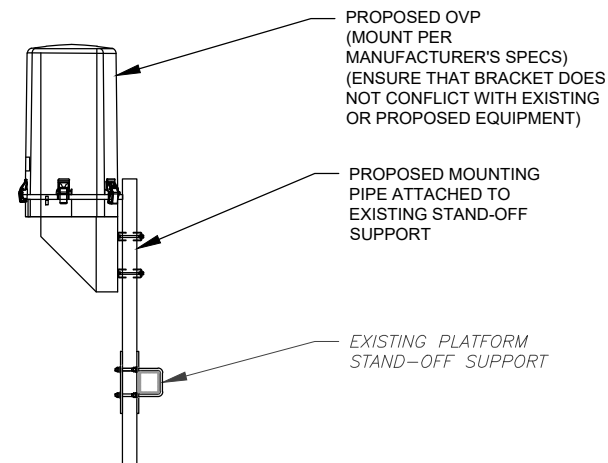
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



3 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



4 PROPOSED OVP MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



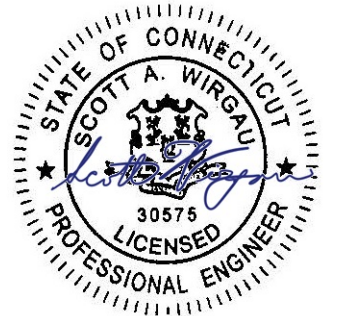
AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
1 FENTON MAIN
SUITE 300
CARY, NC 27511
PHONE: (919) 468-0112
PEC.0001553

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	4/2/2024

ATC SITE NUMBER:
283563
ATC SITE NAME:
MANSFIELD CT
VERIZON SITE NAME:
MANSFIELD FOUR CORNERS CT
SITE ADDRESS:
343 DALEVILLE ROAD
WILLINGTON, CT 06279

SEAL:



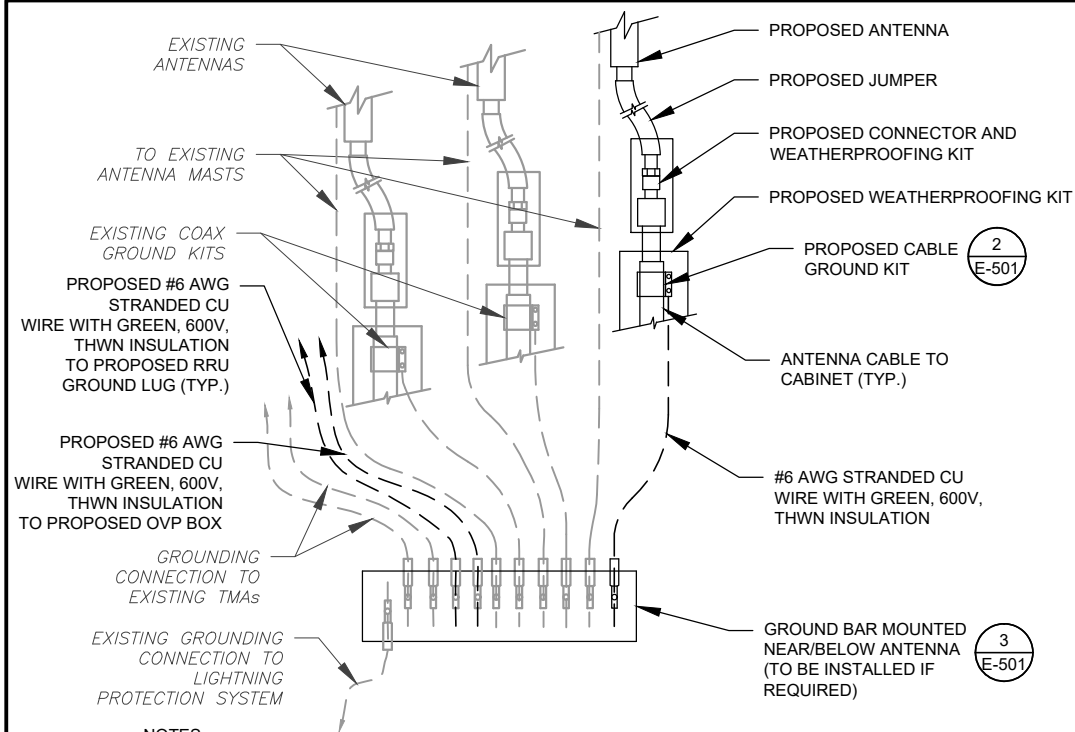
Digitally Signed: 2024-04-03



ATC JOB NO: 14569639_G0
CUSTOMER ID: MANSFIELD FOUR CORNERS CT
CUSTOMER #: 5000243474

CONSTRUCTION
DETAILS

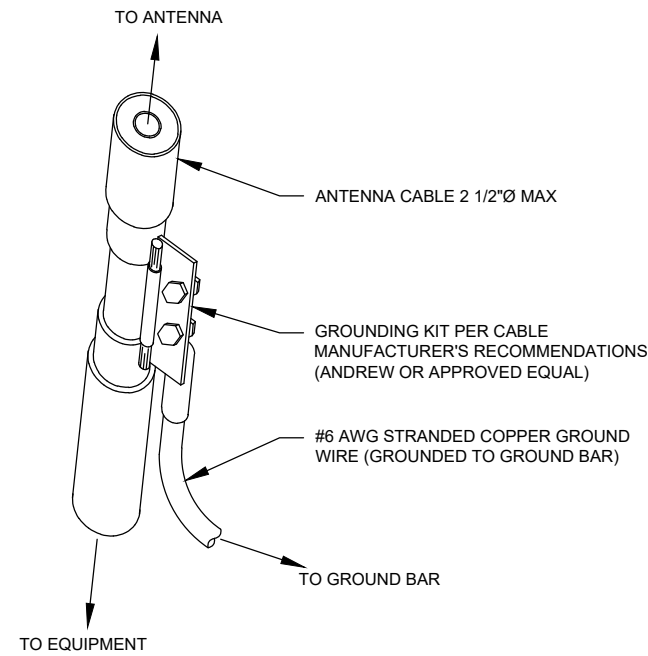
SHEET NUMBER:
C-501
REVISION:
0



NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH VERIZON GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

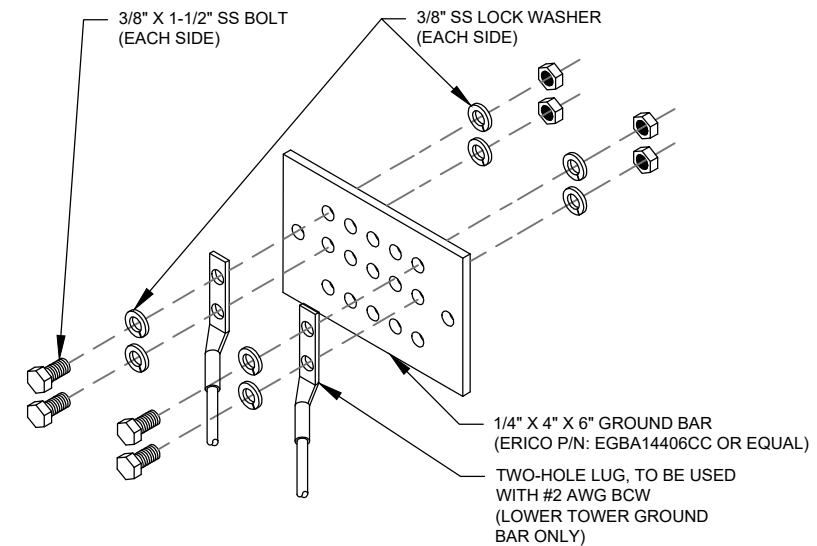
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	4/2/2024

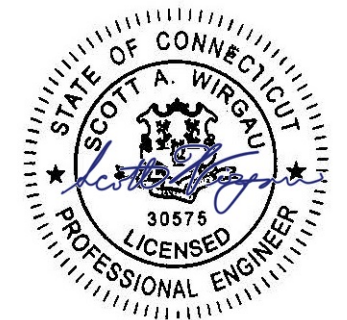
ATC SITE NUMBER:
283563

ATC SITE NAME:
MANSFIELD CT

VERIZON SITE NAME:
MANSFIELD FOUR CORNERS CT

SITE ADDRESS:
343 DALEVILLE ROAD
WILLINGTON, CT 06279

SEAL:



Digitally Signed: 2024-04-03



ATC JOB NO: 14569639_GO
CUSTOMER ID: MANSFIELD FOUR CORNERS CT
CUSTOMER #: 5000243474

GROUNDING DETAILS

SHEET NUMBER:
E-501

REVISION:
0



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 #: 10220001
Colliers Engineering & Design Project #: 23777010 (Rev 1)

January 26, 2024

Site Information

Site ID: 5000243474-VZW /
MANSFIELD FOUR CORNERS CT
Site Name: MANSFIELD FOUR CORNERS CT
Carrier Name: Verizon Wireless
Address: 343 Daleville Rd
Willington, Connecticut 06279
Tolland County
Latitude: 41.836606°
Longitude: -72.254976°

Structure Information

Tower Type: 159-Ft Monopole
Mount Type: 13.67-Ft Platform

FUZE ID # 16092590

Analysis Results

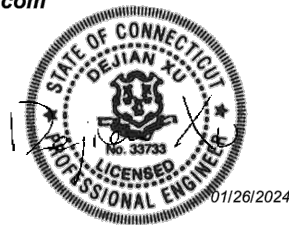
Platform: 44.8% Pass w/ Modifications*

*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: Carol Luengas



Mount Post-Modification Analysis Report
(1) 13.67-Ft Platform

January 26, 2024
Site ID: 5000243474-VZW / MANSFIELD FOUR
CORNERS CT
Page | 5

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector B Standoff	97	N45	464	1560	0.638	0.852	1043	1924	1.515	0.316
Sector A Standoff	97	N53	461	1561	0.649	0.895	1030	1939	1.591	0.325
Sector C Standoff	97	N61	399	1466	0.656	0.782	822	1892	1.402	0.292
Sector A Reinforcement	102.5	N180	889	1407	0.000	0.000	1952	2948	0.000	0.000
Sector C Reinforcement	102.5	N183	888	1406	0.000	0.000	1948	2942	0.000	0.000
Sector B Reinforcement	102.5	N186	893	1414	0.000	0.000	1955	2954	0.000	0.000

Notes:

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

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

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	32.0	32.0	47.9	47.9
0.5	42.1	42.1	64.8	64.8
1	51.5	51.5	80.9	80.9

Notes:

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

Requirements:

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

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

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.



MOUNT MODIFICATION DRAWINGS
EXISTING 13.67' PLATFORM

TOWER OWNER: AMERICAN TOWER CORPORATION
TOWER OWNER SITE NUMBER: 283563

CARRIER SITE NAME: MANSFIELD FOUR CORNERS CT
CARRIER SITE NUMBER: 5000243474
FUZE ID: 16092590

343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY

LATITUDE: 41.836606° N
LONGITUDE: 72.254976° W

DESIGN CRITERIA

WIND LOADS
Basic Wind Speed (Second Gust), V = 120 MPH
Exposure Category B
Topographic Considered: N/A
Topographic Method: N/A
Mean Rain Elevation (MRE) = 49.899'
ICE LOADS
Ice Wind Speed (Second Gust), V = 38 MPH
Ice Thickness = 1.50 IN
SEISMIC LOADS
Seismic Design Category B
Short Term P-DELTA Ground Motion, S₁ = .180
Long Term P-DELTA Ground Motion, S₁ = .265

PROJECT INFORMATION

APPLICANT/LESSEE
COMPANY: VERIZON WIRELESS
CLIENT REPRESENTATIVE
COMPANY: VERIZON WIRELESS
PROJECT MANAGER
COMPANY: COLLIER ENGINEERING & DESIGN
CONTACT: PETER ALANO
PHONE: 861.968.8414
EMAIL: PETER.ALANO@COLLIERENGINEERING.COM

SHEET INDEX

SY	TITLE SHEET
1	GENERAL NOTES
2	BILL OF MATERIALS
3	CLIMBING FACILITY DETAIL
4	MODIFICATION DETAILS
5	PHOTOGRAPHS
6	MODIFICATION SHEETS



SITE NAME: MANSFIELD FOUR CORNERS
5000243474
343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY
TITLE SHEET

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COLLIER ENGINEERING & DESIGN
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THIS DRAWING AND ALL THE INFORMATION CONTAINED HEREIN IS AUTHORIZED FOR USE ONLY BY THE PARTY FOR WHOM THE WORK WAS CONTRACTED OR TO WHOM IT IS REFERENCED. THIS DRAWING MAY NOT BE COPIED, REPRODUCED, DISCLOSED, DISTRIBUTED OR REPRODUCED FOR ANY OTHER PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF COLLIER ENGINEERING & DESIGN.

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 STRUCTURE. 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 DISTANCE CONDITIONS BEFORE BEGINNING WORK. ORDERING MATERIALS AND PREPARING SHOP DRAWINGS, ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE PRESENCE 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 ACCOMPANIED 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, SEQUENCE, TECHNIQUES, SEQUENCES AND PROCEDURES.
6. ALL CONSTRUCTION METHODS AND METHODS INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, BRACING PLANS, CLIMBING PLANS AND RIGGING PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE ERECTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI-2012 (LATEST EDITIONS), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL CONFORM TO ANSI-2012 (LATEST EDITIONS) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS 'C' 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 DAWN DRY DAYS (WINDS LESS THAN 20 MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY AS COMPLETED FROM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, BRACING, BRACING AND ANY OTHER STRUCTURAL SYSTEM AS REQUIRED TO MAINTAIN ALL LOADS THAT MAY OCCUR DURING HANDLING AND ERECTION UNITS. 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-222.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GRASS, BRICKS, AND SURROUNDING GRASS SHALL BE REPLACED AND MATCH EXISTING AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITES 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 CONNECTICUT. SUBMIT DESIGN AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT USE 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, ALTIMET, BUSH AND/OR STEEL SHALL BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

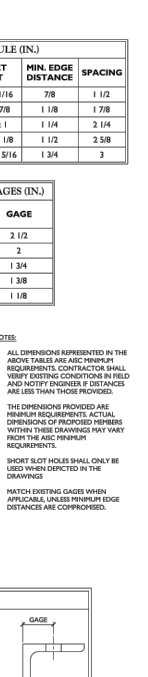
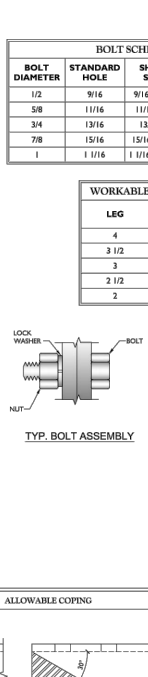
STRUCTURAL STEEL
1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS:
A. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (13TH EDITION)
B. SPECIFICATIONS 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 30)
STEEL PIPE: ASTM A53 (GR 30)
ASTM A325
ASTM A490
NUTS: 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 COST/DIFFERENCES 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 REQUIRED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
A. SUBMIT SHOP DRAWINGS TO: PETER.ALANO@COLLIERENGINEERING.COM
B. PROVIDE COLLIER ENGINEERING & DESIGN PROJECT # AND COLLIER ENGINEERING & DESIGN PROJECT ENGINEER CONTACT AT 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 DIP 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 THE DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.3.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO MEET LOADS AND MOMENTS SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. JOINT 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 AND IS NOT PERMITTED TO GO 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 DIP 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 REPAIR INCLUDING AREA UNDER TRAFFER PLATE SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COATING OR EQR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL BOLTS IN STEEL MEMBERS SHALL BE USED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

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

BOLT SCHEDULE (IN.)

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



SITE NAME: MANSFIELD FOUR CORNERS
CT
5000243474
343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY
GENERAL NOTES
SGN-1

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
2		VZWSMART-40-238048	48" LONG, PIPE 3 SCH40 (2.375" OD X 0.156" THK)		15	30
2		VZWSMART-FLK3	SUPPORT RAIL CORNER BRACKET		30	60
2		VZWSMART-PRK6	BACK TO BACK CROSSOVER PLATE		34	68
2		VZWSMART-PLK6	V-BRACING KIT FOR MONOPOLE	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SGN-1.	109	217
1	VZWSMART	VZWSMART-FLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150
3		VZWSMART-AL33	CLIP ANGLE		3	9
12		VZWSMART-PRK1	CROSSOVER PLATE		14	168
SECTION 2 - OTHER REQUIRED PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
2			1/8" LONG, P3.3 SCH40 (2.875" OD X 0.287" THK)	GALVANIZED. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SGN-1.	78	156
2			3/4" LONG LXXX-H SUPPORT RAIL CORNER ANGLE	GALVANIZED. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SGN-1.	15	30
SECTION 3 - REQUIRED SAFETY CLIMB PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS)	WEIGHT (LBS)
1	PERFECT VISION	PV-SCB-BH4J	ROUTING BRACKET	OR EQR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CHK-CC-80	WIRE ROPE GUIDE	OR EQR APPROVED EQUIVALENT	-	-
			TOTAL:			1121

NOTES

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZWSMART KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZWSMART APPROVAL PROCESS AND THEY ARE IN FULL APPROVAL TO BE USED. PLEASE NOTE THAT THE MATERIALS UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PH completed by the SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZWSMART 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

CONTACT	PHONE	EMAIL	WEBSITE
COMMISSCOPE SALVADOR ANGIANO (817) 304-7402 SALVADOR.ANGIANO@COMMISSCOPE.COM WWW.COMMISSCOPE.COM	PERFECTVISION WHELLES DALES (848) 887-4723 WWW.PERFECTVISION.COM WHELLES@PERFECTVISION.COM	SITE PRO 1 PALLA ROYVILL (875) 224-8843 PALLA.ROYVILL@SITETPRO.COM WWW.SITETPRO.COM	
METROSTEEL FABRICATORS, LLC KENT SAMPY (706) 756-0316 / (706) 963-9706 (FX) KENT@METROSTEEL.COM METROSTEELFABRICATORS.COM	SABRE INDUSTRIES, INC. ANGE WELCH PHONE: 804-843-8117 AKWELCH@SABREINDUSTRIES.COM WWW.SABREINDUSTRIES.COM		



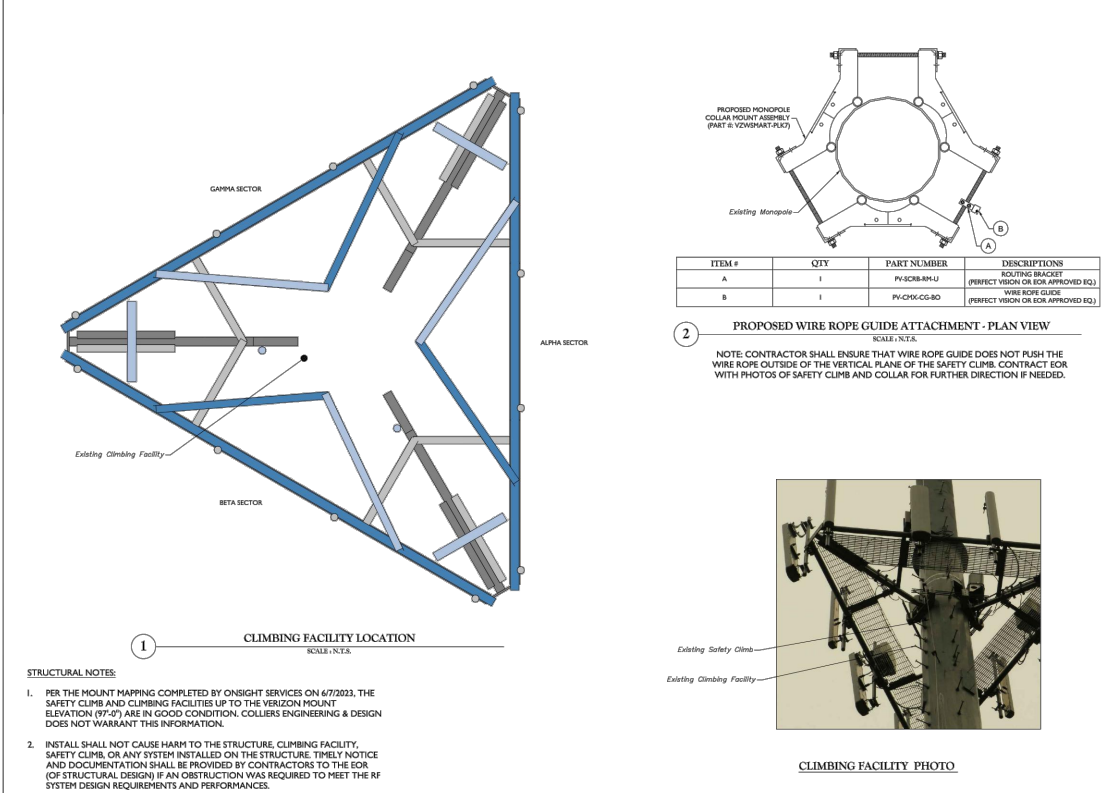
SITE NAME: MANSFIELD FOUR CORNERS
CT
5000243474
343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY
BILL OF MATERIALS
SBOM-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

NOTES

1. PER THE MOUNT MAPPING COMPLETED BY ON-SITE SERVICES ON 6/7/2023, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (97.4') ARE IN GOOD CONDITION. COLLIER 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 PERFORMANCE.

SITE NAME: MANSFIELD FOUR CORNERS
CT
5000243474
343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY
GENERAL NOTES
SGN-1



CLIMBING FACILITY PHOTO



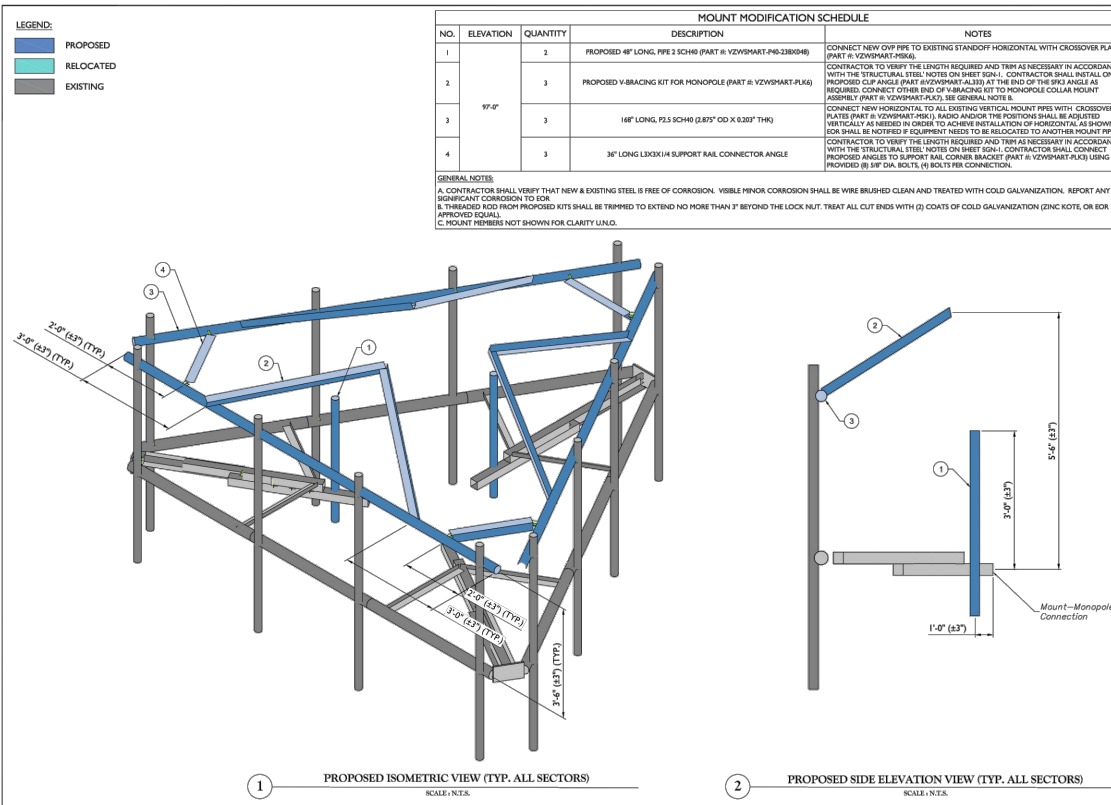
SITE NAME: MANSFIELD FOUR CORNERS
CT
5000243474
343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY
CLIMBING FACILITY DETAIL
SCF-1

SUPPLEMENTAL

SHEET NUMBER: **R-602**
REVISION: **0**

1 MOUNT MODIFICATION

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.



MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1		2	PROPOSED 48" LONG, PIPE 2 SCH40 (PART # VZVSMART-PLK6)	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH CROSSOVER PLATES (PART # VZVSMART-PLK6)
2	97'-0"	3	PROPOSED V-BRACING KIT FOR MONOPOLE (PART # VZVSMART-PLK6)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET S041. CONTRACTOR SHALL INSTALL ONE PROPOSED CLIP ANGLE (PART # VZVSMART-PLK3) AT THE END OF THE BRK ANGLE AS REQUIRED. CONNECT OTHER END OF V-BRACING KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART # VZVSMART-PLK7). SEE GENERAL NOTE 8.
3		3	148" LONG, PLS SCH40 (2.875" OD X 0.203" THK)	CONNECT NEW HORIZONTAL TO ALL EXISTING VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART # VZVSMART-PLK6). RADIO AND/OR THE POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. FOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
4		3	36" LONG L8X11/4 SUPPORT RAIL CONNECTOR ANGLE	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET S041. CONTRACTOR SHALL CONNECT PROPOSED ANGLES TO SUPPORT RAIL CORNER BRACKET (PART # VZVSMART-PLK6) USING THE PROVIDED (8) 3/8" DIA. BOLTS (4) BOLTS PER CONNECTION.

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 2" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC COAT, OR EOR APPROVED EQUAL).
 C. MOUNT DIMENSIONS NOT SHOWN FOR CLARITY U.N.O.

Collins Engineering & Design

www.collinsengineering.com

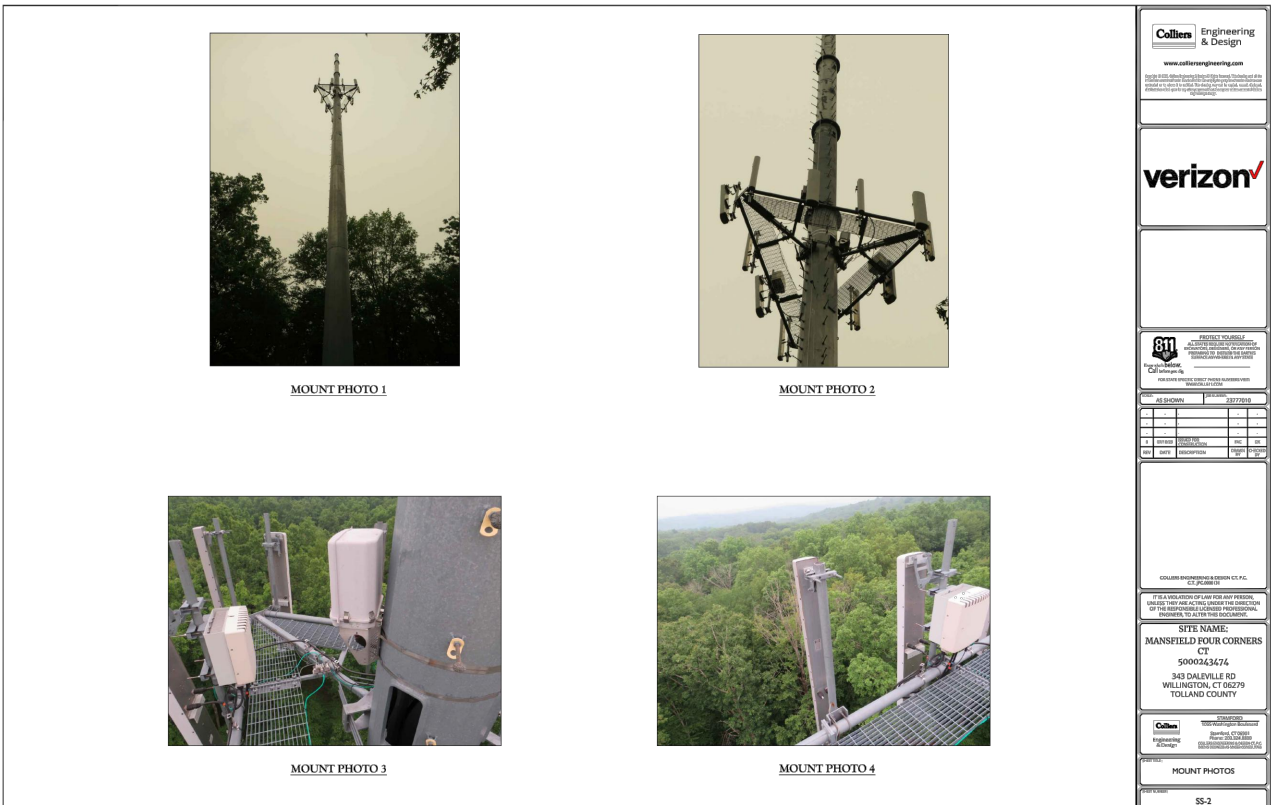
811 PROJECT NUMBER: 20230108

DATE: 05/11/2023

PROJECT: MANSFIELD FOUR CORNERS

343 DALEVILLE RD
 WILMINGTON, CT 06279
 TOLLAND COUNTY

SHEET: SS-1



Collins Engineering & Design

www.collinsengineering.com

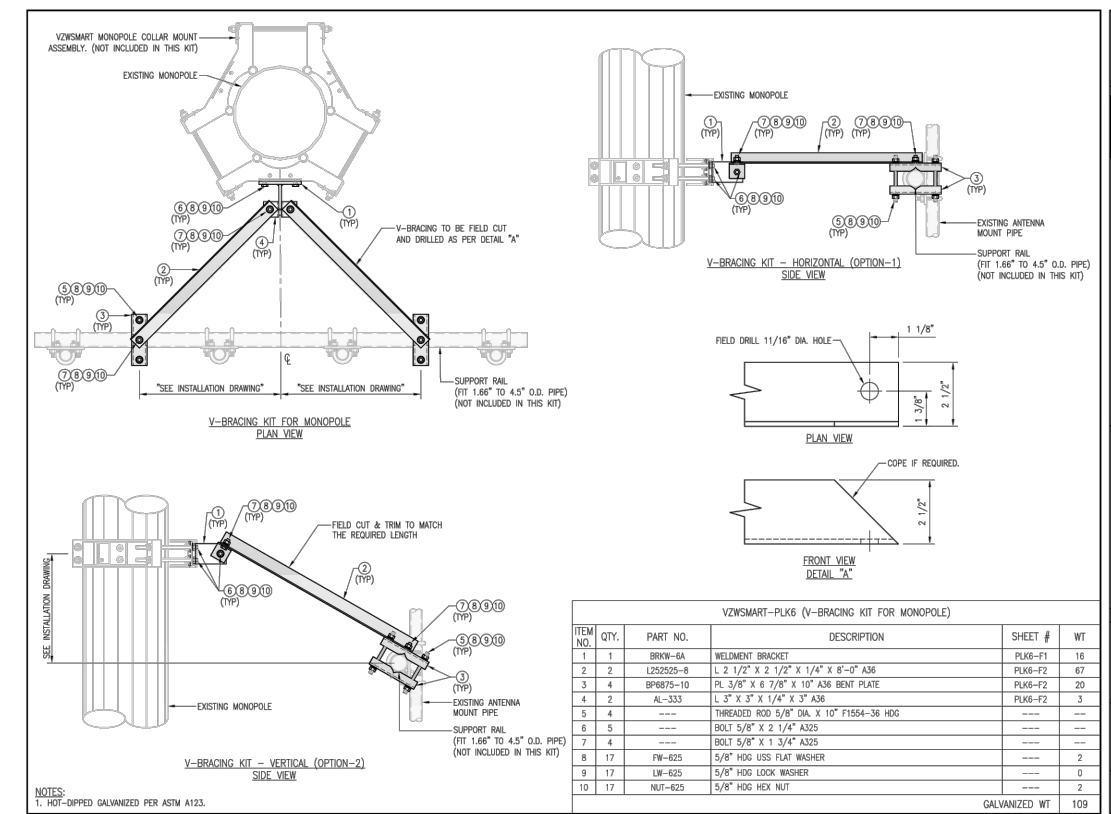
811 PROJECT NUMBER: 20230108

DATE: 05/11/2023

PROJECT: MANSFIELD FOUR CORNERS

343 DALEVILLE RD
 WILMINGTON, CT 06279
 TOLLAND COUNTY

SHEET: SS-2



VzW SMART Tool Vendor

verizon

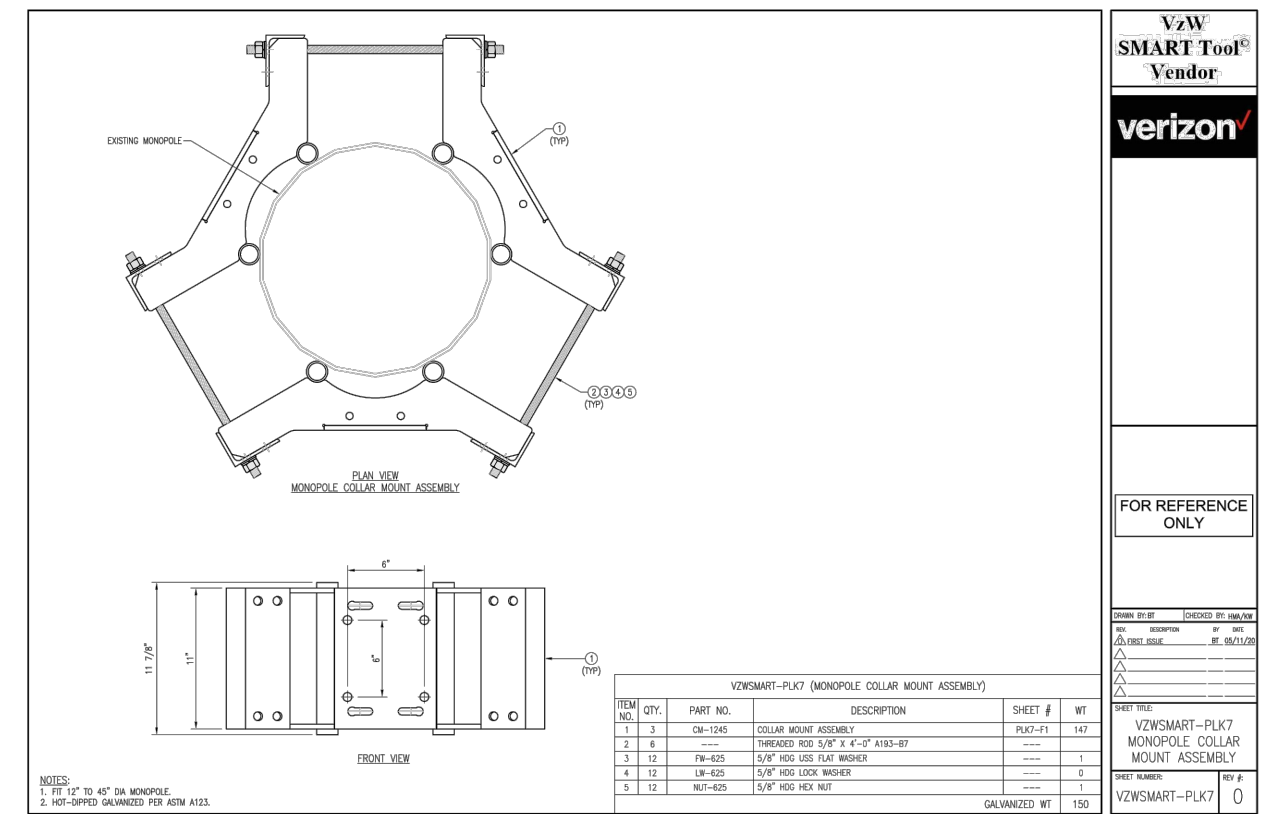
FOR REFERENCE ONLY

DRAWN BY: FL CHECKED BY: RL/BS

DATE: 05/11/2023

SHEET TITLE: V-ZVSMART-PLK6 V-BRACING KIT FOR MONOPOLE

SHEET NUMBER: 0



VzW SMART Tool Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: FL CHECKED BY: RL/BS

DATE: 05/11/2023

SHEET TITLE: VZVSMART-PLK7 MONOPOLE COLLAR MOUNT ASSEMBLY

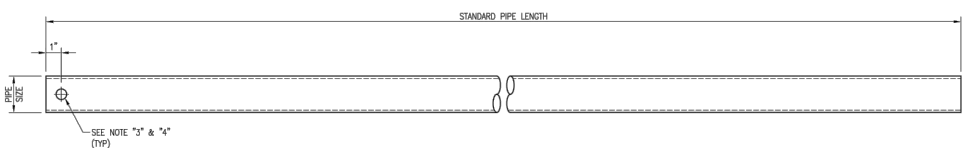
SHEET NUMBER: 0

1 MOUNT MODIFICATION

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-603	REVISION: 0
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VZSMART Standard Pipe		
VZSMART 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"

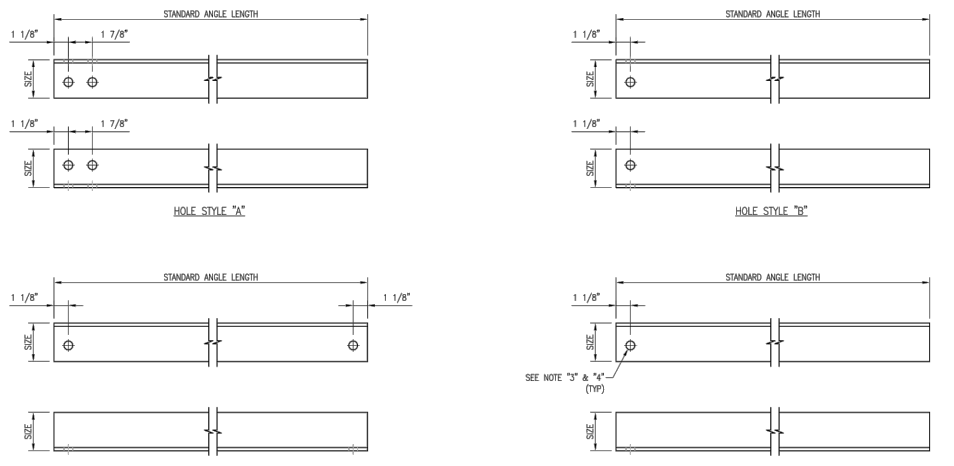
NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
PIECES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. UNLESS NOTED OTHERWISE.
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 ZINCA OR ZINC COATE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool Vendor
verizon

FOR REFERENCE ONLY

DRAWN BY: HJR CHECKED BY: HMA
REV. DESCRIPTION BY DATE
FIRST ISSUE HJR 05/04/20
SHEET TITLE:
VZSMART STANDARD PIPE
SHEET NUMBER: VZSMART-PIPE REV. # 0



VZSMART Standard Angle					
VZSMART Number	Size	Length	Hole Style	Hole Gage	Also Used In:
A-PLK2-01	1.3" X 3" X 1/4"	96"	A	1-3/4"	VZSMART-PLK2
A-PLK3-01	1.3" X 3" X 3/16"	96"	B	1-3/4"	VZSMART-PLK3
A-SFK3-01	1.2-1/2" X 2-1/2" X 1/4"	96"	C	1-3/4"	VZSMART-SFK3, SFK3-SL, -PLK6, & -PLK8
A-125X25X4X120	1.2-1/2" X 2-1/2" X 1/4"	120"	D	1-5/16"	
A-125X25X4X240	1.2-1/2" X 2-1/2" X 1/4"	240"	D	1-5/16"	
A-130X30X4X120	1.3" X 3" X 1/4"	120"	D	1-1/2"	
A-130X30X4X240	1.3" X 3" X 1/4"	240"	D	1-1/2"	
A-140X40X4X120	1.4" X 4" X 1/4"	120"	D	2"	
A-140X40X4X240	1.4" X 4" X 1/4"	240"	D	2"	
A-150X30X6X120	1.5" X 3" X 3/8"	120"	D	2-1/2"	
A-150X30X6X240	1.5" X 3" X 3/8"	240"	D	2-1/2"	

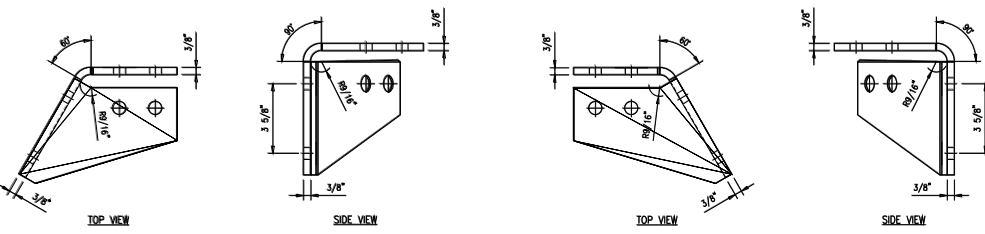
NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
ANGLES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL ANGLE GRADE A36 OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. UNLESS NOTED OTHERWISE.
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 ZINCA OR ZINC COATE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool Vendor
verizon

FOR REFERENCE ONLY

DRAWN BY: HJR CHECKED BY: HMA
REV. DESCRIPTION BY DATE
FIRST ISSUE HJR 05/04/20
SHEET TITLE:
VZSMART STANDARD ANGLE
SHEET NUMBER: VZSMART-ANGLE REV. # 0



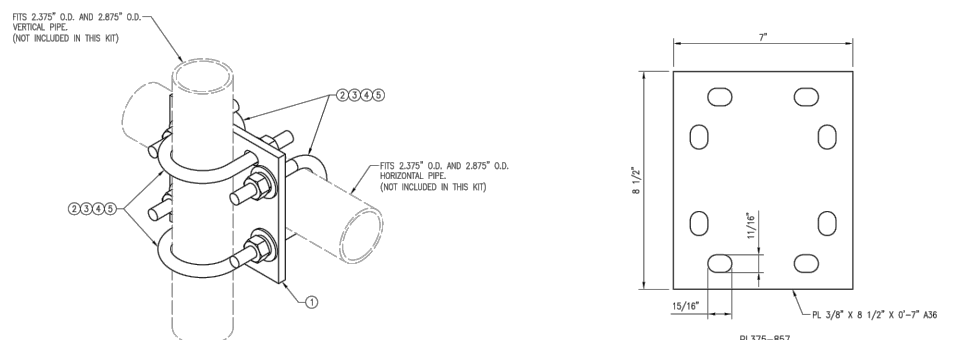
NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZSMART-PLK3 (SUPPORT RAIL CORNER BRACKET)						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT	
1	1	CBP-L	CORNER BENT PLATE BRACKET	PLK3-F1	9	
2	1	CBP-R	CORNER BENT PLATE BRACKET	PLK3-F1	9	
3	4	MS02-625-300-500	RU-BOLT 5/8" X 3" LW X 5" LL A36 (OR EQUIV.)	RBC-1	5	
4	8	---	BOLT 5/8" X 2" A36	---	3	
5	16	FW-625	5/8" HDG LSS FLAT WASHER	---	1	
6	16	LW-625	5/8" HDG LOCK WASHER	---	0	
7	16	NUT-625	5/8" HDG HEX NUT	---	2	
					GALVANIZED WT	30

VzW SMART Tool Vendor
verizon

FOR REFERENCE ONLY

DRAWN BY: HJR CHECKED BY: HMA
REV. DESCRIPTION BY DATE
FIRST ISSUE HJR 05/04/20
SHEET TITLE:
VZSMART-PLK3 SUPPORT RAIL CORNER BRACKET
SHEET NUMBER: VZSMART-PLK3 REV. # 0



VZSMART-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" LW X 5" LL A36 (OR EQUIV.)	RBC-1	5	
3	8	FW-625	5/8" HDG LSS 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

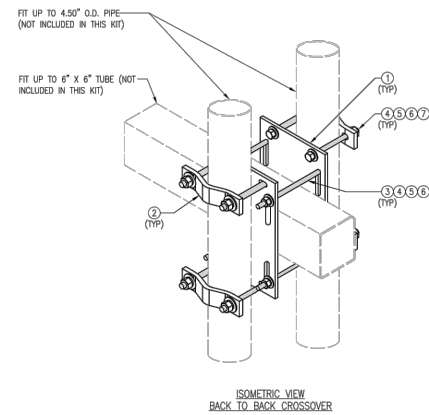
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REV. DESCRIPTION BY DATE
FIRST ISSUE HJR 05/04/20
SHEET TITLE:
VZSMART-MSK1 CROSSOVER PLATE
SHEET NUMBER: VZSMART-MSK1 REV. # 0

1 MOUNT MODIFICATION

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-604
REVISION: 0



ISOMETRIC VIEW
BACK TO BACK CROSSOVER

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

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

VzW
SMART Tool
Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: SK CHECKED BY: SK/2020

REV. DESCRIPTION BY DATE

1. FIRST ISSUE SK 05/08/20

2. ---

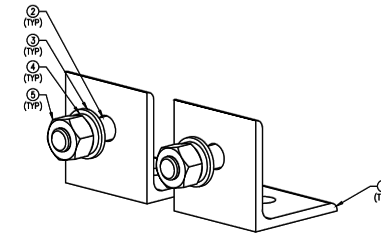
3. ---

4. ---

5. ---

SHEET TITLE:
VZWSMART-MSK6
BACK TO BACK
CROSSOVER

SHEET NUMBER: VZWSMART-MSK6 REV. # 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.

VzW
SMART Tool
Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: SK CHECKED BY: ---

REV. DESCRIPTION BY DATE

1. FIRST ISSUE SK 10/09/21

2. ---

3. ---

4. ---

SHEET TITLE:
VZWSMART-AL333
CLIP ANGLE

SHEET NUMBER: VZWSMART-AL333 REV. # 0

EXHIBIT 2



343 DALEVILLE RD

Location 343 DALEVILLE RD

Mblu 02 / / 005-00 / /

Acct# 00115400

Owner KREUSCHER MURIEL &
RICHARD

Assessment \$506,220

Appraisal \$745,250

PID 3565

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$465,370	\$279,880	\$745,250

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$325,760	\$180,460	\$506,220

Owner of Record

Owner KREUSCHER MURIEL & RICHARD

Sale Price \$0

Co-Owner

Certificate

Address 343 DALEVILLE RD
WILLINGTON, CT 06279

Book & Page 217/1022

Sale Date 06/12/2018

Instrument 04

Building Information

Building 1 : Section 1

Year Built: 1987
Living Area: 2,138
Replacement Cost: \$292,316
Building Percent Good: 81
**Replacement Cost
Less Depreciation:** \$236,780

Building Attributes	
Field	Description
Style:	Cape Cod
Model:	Residential
Grade:	Average ++

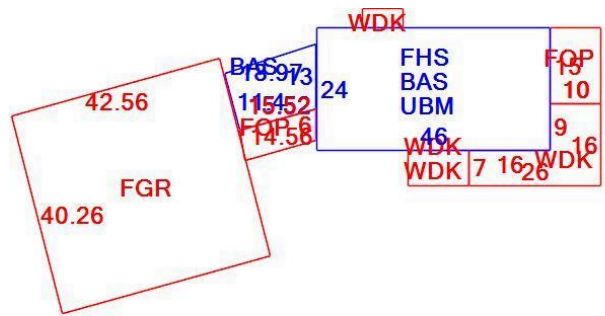
Stories:	1.50
Occupancy	1
Exterior Wall 1	Board + Batten
Exterior Wall 2	
Roof Structure:	Gable or Hip
Roof Cover	Fiberglass
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Slate
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	3 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	0
Total Rooms:	6
Bath Style:	
Kitchen Style:	
Fireplaces	1
Bsmt Garage	None

Building Photo



(<https://images.vgsi.com/photos/WilmingtonCTPhotos/00\00\07\52.jpg>)

Building Layout



(ParcelSketch.ashx?pid=3565&bid=3565)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,310	1,310
FHS	Half Story, Finished	1,104	828
FGR	Garage	1,713	0
FOP	Open Porch	239	0
UBM	Unfinished Basement	1,104	0
WDK	Wood Deck	472	0
		5,942	2,138

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
WDS	WOODSTOVE	1.00 UNITS	\$0	1

Land

Land Use

Use Code 1010
Description Single Fam MDL-01
Zone R80
Neighborhood 110
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 22.00
Frontage
Depth
Assessed Value \$180,460
Appraised Value \$279,880

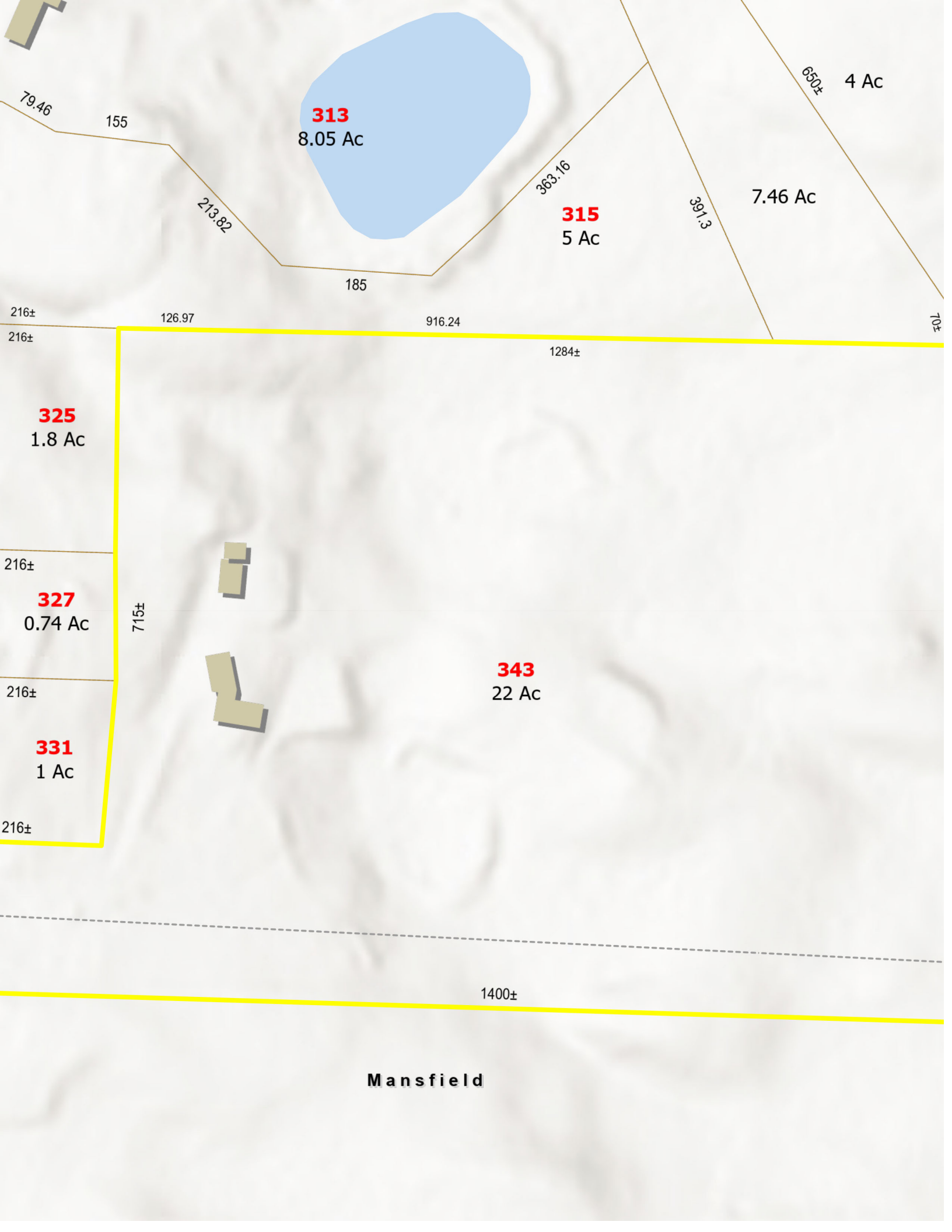
Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
BRN8	POLE BARN			960.00 S.F.	\$13,460	1
SHD1	SHED FRAME			120.00 S.F.	\$720	1
SHD1	SHED FRAME			240.00 S.F.	\$1,440	1
CELL	CELL TENENT			2.00 EA	\$126,000	1
FN5	FENCE-10'CHAIN			208.00 L.F.	\$2,970	1
CELL	CELL TENENT			1.00 EA	\$84,000	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2023	\$465,370	\$279,880	\$745,250

Assessment			
Valuation Year	Improvements	Land	Total
2023	\$325,760	\$180,460	\$506,220



Mansfield

EXHIBIT 3

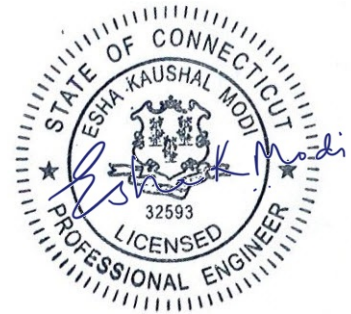




AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 160 ft Monopole
ATC Asset Name : MANSFIELD CT
ATC Asset Number : 283563
Engineering Number : 14569639_C3_03
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : MANSFIELD FOUR CORNERS CT
Carrier Site Number : 5000243474
Site Location : 343 Daleville Road
Willington, CT 06279-2014
41.8366° N, 72.255° W
County : Tolland
Date : February 8, 2024
Max Usage : 64%
Analysis Result : Pass



COA: PEC.0001553



Table of Contents

Introduction3

Supporting Documents.....3

Analysis3

Conclusion3

Structure Usages4

Maximum Reactions4

Tower Loading5

Standard Conditions Attached

Calculations..... Attached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 160 ft Monopole tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower:	TransAmerican Order #TP-11556, dated August 1, 2013
Foundation:	TransAmerican Job #23513-0339, dated July 30, 2013
Geotechnical:	Design Eart Technology Job #2010-11, dated September 10, 2010

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	119 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.50" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.18, S_i = 0.06$
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact Engineering@americantower.com. Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

Structure Usages

Structural Component	Usage	Control	Result
Pole Shaft	58.8%	1.2D + 1.0W	Pass
Serviceability Usage	36.3%	1.0D + 1.0W	Pass
Base Plate @ 0.0 ft	41.4%	Rods	Pass
Mat & Pier	64.6%	Bearing [Soil]	Pass
Mat & Pier	31.5%	Moment [Soil]	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Shear (k)
Monopole Base	1,758.9	34.3	17.2

**Reactions shown reflect the results from the Load Case with maximum Moment*

Structure base reactions were analyzed using available geotechnical and foundation information.

VERIZON WIRELESS Final Loading

Elev (ft)	Qty	Equipment	Lines
97.0	2	Raycap RVZDC-6627-PF-48	(2) 1 5/8" Hybriflex
	3	Samsung B2/B66A RRH ORAN (RF 4439d-25A)	
	3	Samsung MT6413-77A	
	3	Samsung RF4461d-13A	
	6	Commscope NHH-65B-R2B	
50.0	1	2" x 8" GPS	-

Install proposed lines inside the pole shaft.

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines	Carrier
155.0	3	Light Sector Frame	-	-
	1	Raycap DC6-48-60-18-8C-EV	(2) 0.40" (10.3mm) Fiber (4) 0.92" (23.4mm) Cable (3) 2" conduit	AT&T MOBILITY
	1	Raycap DC9-48-60-24-8C-EV		
	3	CCI DMP65R-BU8D		
	3	CCI TPA65R-BU8D		
	3	Ericsson RRUS 4415 B30		
	3	Ericsson RRUS 4449 B5, B12		
	3	Ericsson RRUS 4478 B14		
	3	Ericsson RRUS 8843 B2, B66A		
96.0	1	Low Profile Platform		
86.0	1	Commscope RDIDC-9181-PF-48	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604		
	3	Fujitsu TA08025-B605		
	3	JMA Wireless MX08FRO665-21		

(If table breaks across pages, please see previous page for data in merged cells)



Standard Conditions

All engineering services performed by A.T. Engineering Services LLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts, and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Services LLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Services LLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Services LLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

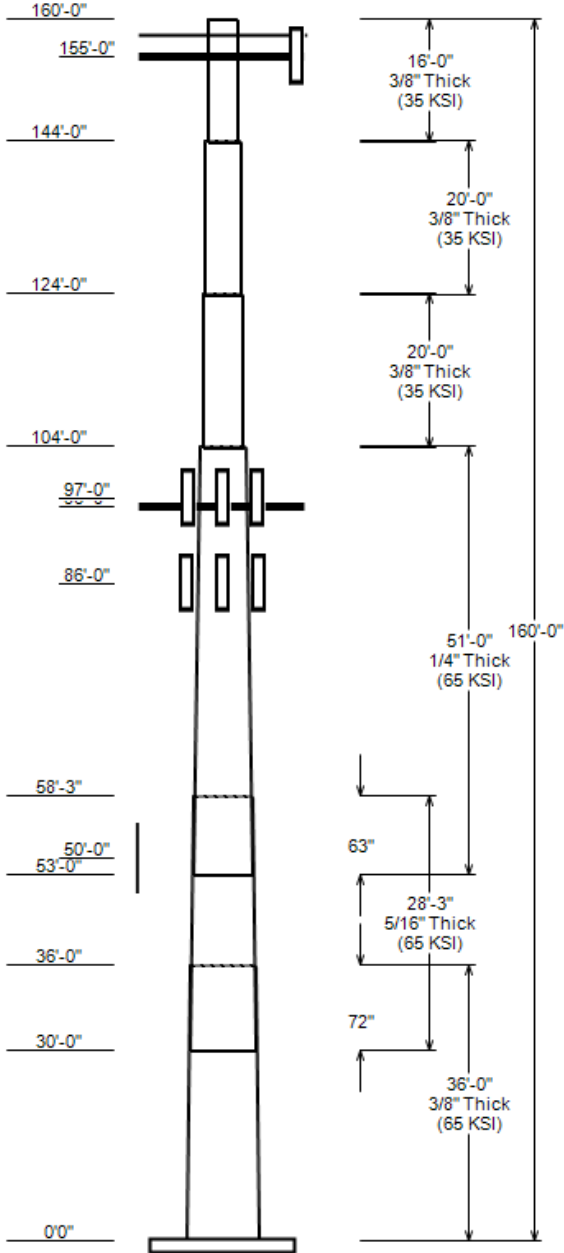
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

ANALYSIS PARAMETERS

Nominal Wind: 119 mph	Ice Wind: 50 mph w/ 1.5" ice	Service Wind: 60 mph
Risk Category: II	Exposure: B	S _s : 0.183 S _i : 0.055
Topo Category: 1	Topo Factor: Method 1	Topo Feature:
Structure Height: 160 ft	Base Elevation: 0.00 ft	Structure Type: Custom
Base Diameter: 48 in	Base Rotation: 0°	Taper: 0.2030 (in/ft)

POLE SECTION PROPERTIES

Section	Length (ft)	Flat Diameter (in)		Thick (in)	Joint Type	Joint Length (in)	Pole Shape	Yield Strength (ksi)
		Top	Bottom					
1	36.000	40.70	48.00	0.375		0.000	18 Sides	65
2	28.250	36.82	42.55	0.312	Slip Joint	72.000	18 Sides	65
3	51.000	28.05	38.38	0.250	Slip Joint	63.000	18 Sides	65
4	20.000	26.00	26.00	0.375	Butt Joint	0.000	Round	35
5	20.000	24.00	24.00	0.375	Butt Joint	0.000	Round	35
6	16.000	20.00	20.00	0.375	Butt Joint	0.000	Round	35



DISCRETE APPURTENANCE

Elev (ft)	Description
155.0	(3) Ericsson RRUS 8843 B2, B66A
155.0	(3) Ericsson RRUS 4415 B30
155.0	(3) Ericsson RRUS 4449 B5, B12
155.0	(3) Ericsson RRUS 4478 B14
155.0	(1) Raycap DC6-48-60-18-8C-EV
155.0	(1) Raycap DC9-48-60-24-8C-EV
155.0	(3) CCI DMP65R-BU8D
155.0	(3) Generic Flat Light Sector Fram
155.0	(3) CCI TPA65R-BU8D
97.0	(3) Samsung B2/B66A RRH ORAN (RF 4
97.0	(3) Samsung RF4461d-13A
97.0	(2) Raycap RVZDC-6627-PF-48
97.0	(3) Samsung MT6413-77A
97.0	(6) Commscope NHH-65B-R2B
96.0	(1) Generic Round Low Profile Plat
86.0	(1) Commscope RDIDC-9181-PF-48
86.0	(3) Fujitsu TA08025-B605
86.0	(3) Fujitsu TA08025-B604
86.0	(3) JMA Wireless MX08FRO665-21
50.0	(1) Generic 2" x 8" GPS

LINEAR APPURTENANCE

Elev To (ft)	Description
155.0	(3) 2" conduit
155.0	(4) 0.92" (23.4mm) Cable
155.0	(2) 0.40" (10.3mm) Fiber
97.0	(2) 1 5/8" Hybriflex
86.0	(1) 1.60" (40.6mm) Hybrid

GLOBAL BASE REACTIONS

Load Case	Moment (kip-ft)	Axial (kip)	Shear (kip)
1.2D + 1.0W	1758.91	34.34	17.24
0.9D + 1.0W	1735.50	25.75	17.23
1.2D + 1.0Di + 1.0Wi	546.96	51.62	5.22
1.2D + 1.0Ev + 1.0Eh	109.93	34.17	0.86
0.9D - 1.0Ev + 1.0Eh	108.05	23.75	0.86
1.0D + 1.0W	396.85	28.63	3.92

ANALYSIS PARAMETERS

Location:	Tolland County,CT	Height:	160 ft
Type and Shape:	Custom, Round	Base Diameter:	48.00 in
Manufacturer:	Undetermined	Top Diameter:	20.00 in
K_d (non-service):	0.95	Taper:	0.2030 in/ft
K_e:	0.98	Rotation:	0.000°

ICE & WIND PARAMETERS

Risk Category:	II	Design Wind Speed:	119 mph
Exposure Category:	B	Design Wind Speed w/ Ice:	50 mph
Topo Factor Procedure:	Method 1	Design Ice Thickness:	1.50 in
Topographic Category:	1	Service Wind Speed:	60 mph
Crest Height:	0 ft	HMSL:	472.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	2.62
T_L (sec):	6	P:	1
S_s:	0.183	S₁:	0.055
F_a:	1.600	F_v:	2.400
S_{ds}:	0.195	S_{d1}:	0.088
		C_s:	0.030
		C_s Max:	0.030
		C_s Min:	0.030

LOAD CASES

1.2D + 1.0W	119 mph Wind with No Ice
0.9D + 1.0W	119 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph Wind with 1.5" Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Section	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Bottom						Top								
						Weight (lb)	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)	
1-18	36.00	0.3750	65		0.00	6,412	48.00	0.000	56.68	16,243.5	20.81	128.00	40.70	36.00	48.00	9,865.2	17.38	108.55	0.2026	
2-18	28.25	0.3125	65	Slip	72.00	3,754	42.55	30.000	41.89	9,440.5	22.24	136.15	36.82	58.25	36.21	6,099.1	19.01	117.83	0.2026	
3-18	51.00	0.2500	65	Slip	63.00	4,540	38.38	53.000	30.26	5,560.7	25.31	153.54	28.05	104.00	22.06	2,154.9	18.02	112.20	0.2026	
4-R	20.00	0.3750	35	Butt	0.00	2,055	26.00	104.000	30.19	2,479.8	0.00	69.33	26.00	124.00	30.19	2,479.8	0.00	69.33	0.0000	
5-R	20.00	0.3750	35	Butt	0.00	1,894	24.00	124.000	27.83	1,943.3	0.00	64.00	24.00	144.00	27.83	1,943.3	0.00	64.00	0.0000	
6-R	16.00	0.3750	35	Butt	0.00	1,259	20.00	144.000	23.12	1,113.9	0.00	53.33	20.00	160.00	23.12	1,113.9	0.00	53.33	0.0000	
Total Shaft Weight						19,914														

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice		
					Weight (lb)	EPAa (sf)	Orientation Factor	Weight (lb)	EPAa (sf)	Orientation Factor
155.00	Ericsson RRUS 8843 B2, B66A	3	0.80	0.000	72.00	1.639	0.50	133.52	2.487	0.50
155.00	Ericsson RRUS 4415 B30	3	0.80	0.000	46.00	1.842	0.50	95.21	2.742	0.50
155.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	135.69	2.905	0.50
155.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.40	2.021	0.67	121.00	2.968	0.67
155.00	CCI TPA65R-BU8D	3	0.80	0.000	82.50	18.089	0.63	428.57	21.795	0.63
155.00	Raycap DC9-48-60-24-8C-EV	1	0.80	0.000	16.00	4.788	1.00	145.58	6.264	1.00
155.00	CCI DMP65R-BU8D	3	0.80	0.000	95.70	17.871	0.63	436.84	21.570	0.63
155.00	Generic Flat Light Sector Fram	3	0.75	0.000	400.00	17.900	0.75	702.07	33.045	0.75
155.00	Raycap DC6-48-60-18-8C-EV	1	0.80	0.000	16.00	4.788	1.00	145.61	6.264	1.00
97.00	Samsung MT6413-77A	3	0.80	0.000	57.30	3.805	0.61	138.71	5.078	0.61
97.00	Commscope NHH-65B-R2B	6	0.80	0.000	43.70	8.079	0.69	210.87	10.750	0.69
97.00	Raycap RVZDC-6627-PF-48	2	0.80	0.000	32.00	3.781	0.77	137.14	5.049	0.77
97.00	Samsung RF4461d-13A	3	0.80	0.000	79.10	1.875	0.50	140.92	2.740	0.50
97.00	Samsung B2/B66A RRH ORAN (RF 4	3	0.80	0.000	74.70	1.875	0.50	135.97	2.738	0.50
96.00	Generic Round Low Profile Plat	1	1.00	0.000	1875.00	21.700	1.00	2650.70	40.089	1.00
86.00	JMA Wireless MX08FRO665-21	3	0.80	0.000	64.50	12.489	0.64	307.97	15.151	0.64
86.00	Fujitsu TA08025-B604	3	0.80	0.000	63.90	1.962	0.50	119.14	2.833	0.50
86.00	Fujitsu TA08025-B605	3	0.80	0.000	75.00	1.962	0.50	134.34	2.833	0.50
86.00	Commscope RDIDC-9181-PF-48	1	0.80	0.000	21.90	1.867	1.00	75.81	2.720	1.00
50.00	Generic 2" x 8" GPS	1	1.00	0.000	10.00	0.141	1.00	14.94	0.443	1.00
Totals	Row Count: 20	52			5,988.40			13,661.99		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg): 0.00

Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/Row	Distance Between Rows (in)	Distance Between Cols (in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind	Carrier
0.00	155.00	4	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	155.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	155.00	2	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	97.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIRELESS
0.00	86.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	0	0	0	0	0	N	DISH WIRELESS L.L.C.

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3750	48.000	56.684	16,243.50	20.81	128.00	76.9	666.5	0.0	0.0
5.00		0.3750	46.987	55.478	15,228.90	20.33	125.30	77.5	638.4	0.0	954.2
10.00		0.3750	45.974	54.272	14,257.40	19.85	122.60	78	610.8	0.0	933.6
15.00		0.3750	44.961	53.067	13,328.20	19.38	119.90	78.6	583.9	0.0	913.1
20.00		0.3750	43.948	51.861	12,440.20	18.90	117.19	79.2	557.5	0.0	892.6
25.00		0.3750	42.935	50.655	11,592.60	18.42	114.49	79.7	531.8	0.0	872.1
30.00	Bot - Section 2	0.3750	41.922	49.450	10,784.40	17.95	111.79	80.3	506.7	0.0	851.6
35.00		0.3750	40.909	48.244	10,014.60	17.47	109.09	80.8	482.2	0.0	1,535.2
36.00	Top - Section 1	0.3125	41.331	40.684	8,648.60	21.56	132.26	76	412.1	0.0	302.5

SEGMENT PROPERTIES												
Seg Top Elev (ft)	Description	(Max Length: 5 ft)	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
40.00			0.3125	40.521	39.880	8,146.10	21.10	129.67	76.6	396.0	0.0	548.3
45.00			0.3125	39.508	38.876	7,545.80	20.53	126.43	77.3	376.2	0.0	670.0
50.00			0.3125	38.495	37.871	6,975.70	19.96	123.18	77.9	356.9	0.0	652.9
53.00	Bot - Section 3		0.3125	37.887	37.268	6,647.80	19.61	121.24	78.3	345.6	0.0	383.5
55.00			0.3125	37.482	36.866	6,435.10	19.39	119.94	78.6	338.2	0.0	457.1
58.25	Top - Section 2		0.2500	37.324	29.417	5,108.30	24.56	149.29	72.5	269.6	0.0	732.3
60.00			0.2500	36.969	29.135	4,963.10	24.31	147.88	72.8	264.4	0.0	174.3
65.00			0.2500	35.956	28.332	4,563.60	23.60	143.82	73.6	250.0	0.0	488.9
70.00			0.2500	34.943	27.528	4,186.10	22.88	139.77	74.5	236.0	0.0	475.2
75.00			0.2500	33.930	26.724	3,830.00	22.17	135.72	75.3	222.3	0.0	461.5
80.00			0.2500	32.917	25.920	3,494.70	21.45	131.67	76.2	209.1	0.0	447.8
85.00			0.2500	31.904	25.117	3,179.60	20.74	127.62	77	196.3	0.0	434.2
86.00			0.2500	31.701	24.956	3,118.90	20.60	126.81	77.2	193.8	0.0	85.2
90.00			0.2500	30.891	24.313	2,884.00	20.02	123.56	77.8	183.9	0.0	335.3
95.00			0.2500	29.878	23.509	2,607.30	19.31	119.51	78.7	171.9	0.0	406.8
96.00			0.2500	29.675	23.348	2,554.20	19.17	118.70	78.9	169.5	0.0	79.7
97.00			0.2500	29.473	23.187	2,501.80	19.02	117.89	79	167.2	0.0	79.2
100.00			0.2500	28.865	22.705	2,348.90	18.60	115.46	79.5	160.3	0.0	234.2
104.00	Top - Section 3		0.2500	28.055	22.062	2,154.90	18.02	112.22	80.2	151.3	0.0	304.7
104.00	Bot - Section 4		0.3750	26.000	30.189	2,479.80	0.00	69.33	35	190.8	246.3	
105.00			0.3750	26.000	30.189	2,479.80	0.00	69.33	35	190.8	246.3	102.7
110.00			0.3750	26.000	30.189	2,479.80	0.00	69.33	35	190.8	246.3	513.6
115.00			0.3750	26.000	30.189	2,479.80	0.00	69.33	35	190.8	246.3	513.6
120.00			0.3750	26.000	30.189	2,479.80	0.00	69.33	35	190.8	246.3	513.6
124.00	Top - Section 4		0.3750	26.000	30.189	2,479.80	0.00	69.33	35	190.8	246.3	410.9
124.00	Bot - Section 5		0.3750	24.000	27.833	1,943.30	0.00	64.00	35	161.9	209.3	
125.00			0.3750	24.000	27.833	1,943.30	0.00	64.00	35	161.9	209.3	94.7
130.00			0.3750	24.000	27.833	1,943.30	0.00	64.00	35	161.9	209.3	473.5
135.00			0.3750	24.000	27.833	1,943.30	0.00	64.00	35	161.9	209.3	473.5
140.00			0.3750	24.000	27.833	1,943.30	0.00	64.00	35	161.9	209.3	473.5
144.00	Top - Section 5		0.3750	24.000	27.833	1,943.30	0.00	64.00	35	161.9	209.3	378.8
144.00	Bot - Section 6		0.3750	20.000	23.120	1,113.90	0.00	53.33	35	111.4	144.4	
145.00			0.3750	20.000	23.120	1,113.90	0.00	53.33	35	111.4	144.4	78.7
150.00			0.3750	20.000	23.120	1,113.90	0.00	53.33	35	111.4	144.4	393.4
155.00			0.3750	20.000	23.120	1,113.90	0.00	53.33	35	111.4	144.4	393.4
160.00			0.3750	20.000	23.120	1,113.90	0.00	53.33	35	111.4	144.4	393.4
Total:												19,913.3

CALCULATED FORCES													
Load Case: 1.2D + 1.0W			119 mph Wind with No Ice										27 Iterations
Gust Response Factor:		1.10											
Dead load Factor:		1.20											
Wind Load Factor:		1.00											
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.34	-17.24	0.00	-1,758.9	0.00	1,758.91	3,924.52	994.80	4,279.24	3,845.64	0	0	0.466
5.00	-33.03	-16.95	0.00	-1,672.7	0.00	1,672.70	3,869.02	973.64	4,099.15	3,709.98	0.08	-0.15	0.460
10.00	-31.75	-16.66	0.00	-1,588.0	0.00	1,587.96	3,812.30	952.48	3,922.94	3,575.51	0.32	-0.3	0.453
15.00	-30.49	-16.37	0.00	-1,504.7	0.00	1,504.67	3,754.36	931.32	3,750.60	3,442.31	0.72	-0.46	0.446
20.00	-29.26	-16.09	0.00	-1,422.8	0.00	1,422.81	3,695.21	910.16	3,582.13	3,310.46	1.28	-0.61	0.438
25.00	-28.06	-15.80	0.00	-1,342.4	0.00	1,342.38	3,634.84	889.00	3,417.53	3,180.03	2.01	-0.77	0.430
30.00	-26.88	-15.52	0.00	-1,263.4	0.00	1,263.36	3,573.26	867.84	3,256.80	3,051.09	2.9	-0.93	0.422
35.00	-24.90	-15.32	0.00	-1,185.8	0.00	1,185.77	3,510.46	846.68	3,099.94	2,923.73	3.96	-1.09	0.413
36.00	-24.49	-15.17	0.00	-1,170.4	0.00	1,170.45	2,784.44	714.01	2,645.33	2,350.60	4.2	-1.13	0.507
40.00	-23.71	-14.90	0.00	-1,109.8	0.00	1,109.77	2,748.73	699.90	2,541.85	2,274.26	5.2	-1.26	0.497
45.00	-22.75	-14.60	0.00	-1,035.3	0.00	1,035.26	2,703.00	682.27	2,415.40	2,179.65	6.61	-1.44	0.484
50.00	-21.80	-14.34	0.00	-962.3	0.00	962.28	2,656.05	664.63	2,292.18	2,086.00	8.23	-1.63	0.470
53.00	-21.25	-14.18	0.00	-919.3	0.00	919.26	2,627.30	654.05	2,219.79	2,030.31	9.29	-1.75	0.461
55.00	-20.64	-14.01	0.00	-890.9	0.00	890.90	2,607.89	647.00	2,172.18	1,993.40	10.04	-1.83	0.455
58.25	-19.67	-13.83	0.00	-845.4	0.00	845.39	1,919.77	516.26	1,728.70	1,466.05	11.33	-1.95	0.588
60.00	-19.39	-13.62	0.00	-821.2	0.00	821.19	1,909.12	511.33	1,695.79	1,443.88	12.05	-2.02	0.580

CALCULATED FORCES

65.00	-18.65	-13.31	0.00	-753.1	0.00	753.08	1,877.88	497.22	1,603.53	1,380.81	14.29	-2.24	0.556
70.00	-17.93	-12.99	0.00	-686.5	0.00	686.54	1,845.42	483.11	1,513.84	1,318.18	16.76	-2.47	0.531
75.00	-17.22	-12.67	0.00	-621.6	0.00	621.58	1,811.75	469.01	1,426.73	1,256.07	19.46	-2.69	0.505
80.00	-16.54	-12.35	0.00	-558.2	0.00	558.22	1,776.86	454.90	1,342.21	1,194.55	22.4	-2.91	0.477
85.00	-15.88	-12.15	0.00	-496.4	0.00	496.45	1,740.76	440.80	1,260.27	1,133.71	25.56	-3.12	0.448
86.00	-15.04	-11.06	0.00	-484.3	0.00	484.30	1,733.39	437.97	1,244.19	1,121.63	26.22	-3.17	0.441
90.00	-14.54	-10.78	0.00	-440.1	0.00	440.06	1,703.44	426.69	1,180.90	1,073.63	28.95	-3.34	0.419
95.00	-13.94	-10.57	0.00	-386.2	0.00	386.18	1,664.90	412.58	1,104.12	1,014.37	32.55	-3.54	0.390
96.00	-11.62	-9.57	0.00	-375.6	0.00	375.61	1,657.05	409.76	1,089.08	1,002.62	33.29	-3.58	0.382
97.00	-10.45	-7.87	0.00	-366.0	0.00	366.04	1,649.15	406.94	1,074.13	990.91	34.05	-3.62	0.376
100.00	-10.11	-7.64	0.00	-342.4	0.00	342.44	1,625.15	398.48	1,029.92	956.01	36.36	-3.74	0.365
104.00	-9.67	-7.48	0.00	-311.9	0.00	311.87	1,592.47	387.19	972.42	910.03	39.57	-3.9	0.349
104.00	-9.67	-7.48	0.00	-311.9	0.00	311.87	950.95	285.28	642.72	624.60	39.57	-3.9	0.510
105.00	-9.53	-7.34	0.00	-304.4	0.00	304.40	950.95	285.28	642.72	624.60	40.39	-3.94	0.498
110.00	-8.82	-7.07	0.00	-267.7	0.00	267.72	950.95	285.28	642.72	624.60	44.6	-4.11	0.439
115.00	-8.12	-6.79	0.00	-232.4	0.00	232.39	950.95	285.28	642.72	624.60	48.98	-4.25	0.381
120.00	-7.43	-6.52	0.00	-198.5	0.00	198.46	950.95	285.28	642.72	624.60	53.49	-4.37	0.326
124.00	-6.87	-6.36	0.00	-172.4	0.00	172.38	950.95	285.28	642.72	624.60	57.19	-4.46	0.284
124.00	-6.87	-6.36	0.00	-172.4	0.00	172.38	876.73	263.02	546.31	539.02	57.19	-4.46	0.328
125.00	-6.74	-6.21	0.00	-166.0	0.00	166.03	876.73	263.02	546.31	539.02	58.13	-4.48	0.316
130.00	-6.10	-5.94	0.00	-135.0	0.00	134.95	876.73	263.02	546.31	539.02	62.87	-4.59	0.258
135.00	-5.45	-5.65	0.00	-105.3	0.00	105.28	876.73	263.02	546.31	539.02	67.72	-4.68	0.202
140.00	-4.81	-5.38	0.00	-77.0	0.00	77.03	876.73	263.02	546.31	539.02	72.65	-4.74	0.149
144.00	-4.30	-5.22	0.00	-55.5	0.00	55.49	876.73	263.02	546.31	539.02	76.64	-4.78	0.108
144.00	-4.30	-5.22	0.00	-55.5	0.00	55.49	728.28	218.49	376.97	379.17	76.64	-4.78	0.153
145.00	-4.19	-5.09	0.00	-50.3	0.00	50.27	728.28	218.49	376.97	379.17	77.64	-4.79	0.139
150.00	-3.65	-4.84	0.00	-24.8	0.00	24.80	728.28	218.49	376.97	379.17	82.68	-4.84	0.071
155.00	-0.46	-0.12	0.00	-0.6	0.00	0.59	728.28	218.49	376.97	379.17	87.75	-4.85	0.002
160.00	0.00	-0.08	0.00	0.0	0.00	0.00	728.28	218.49	376.97	379.17	92.83	-4.86	0.000

CALCULATED FORCES

Load Case: 0.9D + 1.0W 119 mph Wind with No Ice (Reduced DL) 27 Iterations
 Gust Response Factor: 1.10
 Dead load Factor: 0.90
 Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-25.75	-17.23	0.00	-1,735.5	0.00	1,735.50	3,924.52	994.80	4,279.24	3,845.64	0	0	0.458
5.00	-24.76	-16.91	0.00	-1,649.4	0.00	1,649.36	3,869.02	973.64	4,099.15	3,709.98	0.08	-0.15	0.451
10.00	-23.78	-16.60	0.00	-1,564.8	0.00	1,564.78	3,812.30	952.48	3,922.94	3,575.51	0.32	-0.3	0.444
15.00	-22.83	-16.30	0.00	-1,481.8	0.00	1,481.77	3,754.36	931.32	3,750.60	3,442.31	0.71	-0.45	0.437
20.00	-21.90	-15.99	0.00	-1,400.3	0.00	1,400.29	3,695.21	910.16	3,582.13	3,310.46	1.26	-0.6	0.429
25.00	-20.99	-15.69	0.00	-1,320.3	0.00	1,320.32	3,634.84	889.00	3,417.53	3,180.03	1.98	-0.76	0.421
30.00	-20.10	-15.39	0.00	-1,241.8	0.00	1,241.85	3,573.26	867.84	3,256.80	3,051.09	2.86	-0.92	0.413
35.00	-18.61	-15.19	0.00	-1,164.9	0.00	1,164.88	3,510.46	846.68	3,099.94	2,923.73	3.9	-1.08	0.404
36.00	-18.30	-15.04	0.00	-1,149.7	0.00	1,149.69	2,784.44	714.01	2,645.33	2,350.60	4.13	-1.11	0.496
40.00	-17.70	-14.75	0.00	-1,089.6	0.00	1,089.55	2,748.73	699.90	2,541.85	2,274.26	5.12	-1.24	0.486
45.00	-16.97	-14.43	0.00	-1,015.8	0.00	1,015.79	2,703.00	682.27	2,415.40	2,179.65	6.51	-1.42	0.473
50.00	-16.26	-14.17	0.00	-943.6	0.00	943.62	2,656.05	664.63	2,292.18	2,086.00	8.1	-1.61	0.459
53.00	-15.84	-14.00	0.00	-901.1	0.00	901.11	2,627.30	654.05	2,219.79	2,030.31	9.15	-1.72	0.450
55.00	-15.38	-13.82	0.00	-873.1	0.00	873.11	2,607.89	647.00	2,172.18	1,993.40	9.88	-1.79	0.444
58.25	-14.65	-13.64	0.00	-828.2	0.00	828.19	1,919.77	516.26	1,728.70	1,466.05	11.15	-1.92	0.573
60.00	-14.43	-13.43	0.00	-804.3	0.00	804.31	1,909.12	511.33	1,695.79	1,443.88	11.86	-1.98	0.565
65.00	-13.87	-13.10	0.00	-737.2	0.00	737.17	1,877.88	497.22	1,603.53	1,380.81	14.06	-2.2	0.542
70.00	-13.32	-12.77	0.00	-671.7	0.00	671.67	1,845.42	483.11	1,513.84	1,318.18	16.49	-2.42	0.517
75.00	-12.78	-12.44	0.00	-607.8	0.00	607.81	1,811.75	469.01	1,426.73	1,256.07	19.14	-2.64	0.492
80.00	-12.26	-12.12	0.00	-545.6	0.00	545.59	1,776.86	454.90	1,342.21	1,194.55	22.02	-2.86	0.464
85.00	-11.77	-11.91	0.00	-485.0	0.00	485.01	1,740.76	440.80	1,260.27	1,133.71	25.13	-3.07	0.435
86.00	-11.15	-10.83	0.00	-473.1	0.00	473.10	1,733.39	437.97	1,244.19	1,121.63	25.77	-3.11	0.429
90.00	-10.77	-10.54	0.00	-429.8	0.00	429.80	1,703.44	426.69	1,180.90	1,073.63	28.45	-3.27	0.407
95.00	-10.31	-10.33	0.00	-377.1	0.00	377.12	1,664.90	412.58	1,104.12	1,014.37	31.98	-3.47	0.379
96.00	-8.59	-9.37	0.00	-366.8	0.00	366.79	1,657.05	409.76	1,089.08	1,002.62	32.71	-3.51	0.372
97.00	-7.73	-7.68	0.00	-357.4	0.00	357.42	1,649.15	406.94	1,074.13	990.91	33.45	-3.55	0.366
100.00	-7.48	-7.46	0.00	-334.4	0.00	334.37	1,625.15	398.48	1,029.92	956.01	35.72	-3.67	0.355
104.00	-7.15	-7.29	0.00	-304.6	0.00	304.55	1,592.47	387.19	972.42	910.03	38.86	-3.83	0.340
104.00	-7.15	-7.29	0.00	-304.6	0.00	304.55	950.95	285.28	642.72	624.60	38.86	-3.83	0.496
105.00	-7.04	-7.15	0.00	-297.3	0.00	297.26	950.95	285.28	642.72	624.60	39.67	-3.87	0.484
110.00	-6.51	-6.89	0.00	-261.5	0.00	261.51	950.95	285.28	642.72	624.60	43.8	-4.03	0.426
115.00	-5.99	-6.61	0.00	-227.1	0.00	227.07	950.95	285.28	642.72	624.60	48.09	-4.17	0.370
120.00	-5.47	-6.36	0.00	-194.0	0.00	194.00	950.95	285.28	642.72	624.60	52.51	-4.29	0.317
124.00	-5.05	-6.21	0.00	-168.6	0.00	168.57	950.95	285.28	642.72	624.60	56.13	-4.37	0.276
124.00	-5.05	-6.21	0.00	-168.6	0.00	168.57	876.73	263.02	546.31	539.02	56.13	-4.37	0.319
125.00	-4.95	-6.06	0.00	-162.4	0.00	162.36	876.73	263.02	546.31	539.02	57.05	-4.39	0.307
130.00	-4.47	-5.80	0.00	-132.0	0.00	132.04	876.73	263.02	546.31	539.02	61.7	-4.5	0.251
135.00	-3.99	-5.52	0.00	-103.1	0.00	103.06	876.73	263.02	546.31	539.02	66.45	-4.58	0.196
140.00	-3.52	-5.27	0.00	-75.4	0.00	75.45	876.73	263.02	546.31	539.02	71.28	-4.65	0.144
144.00	-3.13	-5.12	0.00	-54.4	0.00	54.38	876.73	263.02	546.31	539.02	75.19	-4.69	0.105
144.00	-3.13	-5.12	0.00	-54.4	0.00	54.38	728.28	218.49	376.97	379.17	75.19	-4.69	0.148
145.00	-3.05	-4.99	0.00	-49.3	0.00	49.26	728.28	218.49	376.97	379.17	76.17	-4.69	0.135
150.00	-2.65	-4.75	0.00	-24.3	0.00	24.30	728.28	218.49	376.97	379.17	81.11	-4.74	0.068
155.00	-0.35	-0.11	0.00	-0.5	0.00	0.54	728.28	218.49	376.97	379.17	86.08	-4.76	0.002
160.00	0.00	-0.08	0.00	0.0	0.00	0.00	728.28	218.49	376.97	379.17	91.06	-4.76	0.000

CALCULATED FORCES

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind with 1.5" Radial Ice 26 Iterations
 Gust Response Factor: 1.10 Ice Dead Load Factor: 1.00
 Dead Load Factor: 1.20 Ice Importance Factor: 1.00
 Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-51.62	-5.22	0.00	-547.0	0.00	546.96	3,924.52	994.80	4,279.24	3,845.64	0	0	0.155
5.00	-50.00	-5.15	0.00	-520.9	0.00	520.86	3,869.02	973.64	4,099.15	3,709.98	0.03	-0.05	0.153
10.00	-48.38	-5.07	0.00	-495.1	0.00	495.13	3,812.30	952.48	3,922.94	3,575.51	0.1	-0.09	0.151
15.00	-46.77	-4.99	0.00	-469.8	0.00	469.79	3,754.36	931.32	3,750.60	3,442.31	0.22	-0.14	0.149
20.00	-45.17	-4.92	0.00	-444.8	0.00	444.81	3,695.21	910.16	3,582.13	3,310.46	0.4	-0.19	0.147
25.00	-43.60	-4.84	0.00	-420.2	0.00	420.22	3,634.84	889.00	3,417.53	3,180.03	0.63	-0.24	0.144
30.00	-42.06	-4.77	0.00	-396.0	0.00	395.99	3,573.26	867.84	3,256.80	3,051.09	0.9	-0.29	0.142
35.00	-39.69	-4.71	0.00	-372.2	0.00	372.16	3,510.46	846.68	3,099.94	2,923.73	1.24	-0.34	0.139
36.00	-39.22	-4.67	0.00	-367.4	0.00	367.45	2,784.44	714.01	2,645.33	2,350.60	1.31	-0.35	0.170
40.00	-38.15	-4.60	0.00	-348.8	0.00	348.76	2,748.73	699.90	2,541.85	2,274.26	1.62	-0.39	0.167
45.00	-36.83	-4.51	0.00	-325.8	0.00	325.77	2,703.00	682.27	2,415.40	2,179.65	2.06	-0.45	0.163
50.00	-35.52	-4.44	0.00	-303.2	0.00	303.20	2,656.05	664.63	2,292.18	2,086.00	2.57	-0.51	0.159
53.00	-34.75	-4.40	0.00	-289.9	0.00	289.88	2,627.30	654.05	2,219.79	2,030.31	2.9	-0.55	0.156
55.00	-34.00	-4.35	0.00	-281.1	0.00	281.09	2,607.89	647.00	2,172.18	1,993.40	3.14	-0.57	0.154
58.25	-32.79	-4.29	0.00	-267.0	0.00	266.96	1,919.77	516.26	1,728.70	1,466.05	3.54	-0.61	0.199
60.00	-32.40	-4.24	0.00	-259.4	0.00	259.45	1,909.12	511.33	1,695.79	1,443.88	3.77	-0.63	0.197
65.00	-31.32	-4.15	0.00	-238.2	0.00	238.25	1,877.88	497.22	1,603.53	1,380.81	4.47	-0.7	0.189
70.00	-30.26	-4.06	0.00	-217.5	0.00	217.49	1,845.42	483.11	1,513.84	1,318.18	5.25	-0.78	0.181
75.00	-29.22	-3.97	0.00	-197.2	0.00	197.17	1,811.75	469.01	1,426.73	1,256.07	6.1	-0.85	0.173
80.00	-28.21	-3.88	0.00	-177.3	0.00	177.32	1,776.86	454.90	1,342.21	1,194.55	7.02	-0.92	0.164
85.00	-27.23	-3.81	0.00	-157.9	0.00	157.93	1,740.76	440.80	1,260.27	1,133.71	8.01	-0.98	0.155
86.00	-25.32	-3.54	0.00	-154.1	0.00	154.12	1,733.39	437.97	1,244.19	1,121.63	8.22	-1	0.152
90.00	-24.56	-3.45	0.00	-140.0	0.00	139.96	1,703.44	426.69	1,180.90	1,073.63	9.08	-1.05	0.145
95.00	-23.64	-3.39	0.00	-122.7	0.00	122.69	1,664.90	412.58	1,104.12	1,014.37	10.22	-1.12	0.135
96.00	-20.55	-3.05	0.00	-119.3	0.00	119.31	1,657.05	409.76	1,089.08	1,002.62	10.45	-1.13	0.131
97.00	-17.68	-2.60	0.00	-116.2	0.00	116.25	1,649.15	406.94	1,074.13	990.91	10.69	-1.14	0.128
100.00	-17.15	-2.53	0.00	-108.4	0.00	108.45	1,625.15	398.48	1,029.92	956.01	11.42	-1.18	0.124
104.00	-16.46	-2.47	0.00	-98.3	0.00	98.33	1,592.47	387.19	972.42	910.03	12.43	-1.23	0.118
104.00	-16.46	-2.47	0.00	-98.3	0.00	98.33	950.95	285.28	642.72	624.60	12.43	-1.23	0.175
105.00	-16.26	-2.42	0.00	-95.9	0.00	95.86	950.95	285.28	642.72	624.60	12.69	-1.24	0.171
110.00	-15.28	-2.31	0.00	-83.8	0.00	83.77	950.95	285.28	642.72	624.60	14.02	-1.29	0.150
115.00	-14.28	-2.20	0.00	-72.2	0.00	72.21	950.95	285.28	642.72	624.60	15.4	-1.34	0.131
120.00	-13.29	-2.09	0.00	-61.2	0.00	61.21	950.95	285.28	642.72	624.60	16.82	-1.38	0.112
124.00	-12.50	-2.03	0.00	-52.8	0.00	52.84	950.95	285.28	642.72	624.60	17.99	-1.4	0.098
124.00	-12.50	-2.03	0.00	-52.8	0.00	52.84	876.73	263.02	546.31	539.02	17.99	-1.4	0.112
125.00	-12.32	-1.97	0.00	-50.8	0.00	50.81	876.73	263.02	546.31	539.02	18.28	-1.41	0.108
130.00	-11.39	-1.86	0.00	-41.0	0.00	40.96	876.73	263.02	546.31	539.02	19.78	-1.44	0.089
135.00	-10.47	-1.74	0.00	-31.7	0.00	31.67	876.73	263.02	546.31	539.02	21.31	-1.47	0.071
140.00	-9.54	-1.63	0.00	-23.0	0.00	22.97	876.73	263.02	546.31	539.02	22.86	-1.49	0.054
144.00	-8.80	-1.56	0.00	-16.4	0.00	16.44	876.73	263.02	546.31	539.02	24.11	-1.5	0.041
144.00	-8.80	-1.56	0.00	-16.4	0.00	16.44	728.28	218.49	376.97	379.17	24.11	-1.5	0.055
145.00	-8.64	-1.51	0.00	-14.9	0.00	14.88	728.28	218.49	376.97	379.17	24.43	-1.5	0.051
150.00	-7.85	-1.41	0.00	-7.3	0.00	7.32	728.28	218.49	376.97	379.17	26.01	-1.52	0.030
155.00	-0.70	-0.06	0.00	-0.3	0.00	0.29	728.28	218.49	376.97	379.17	27.6	-1.52	0.002
160.00	0.00	-0.04	0.00	0.0	0.00	0.00	728.28	218.49	376.97	379.17	29.2	-1.52	0.000

CALCULATED FORCES

Load Case: 1.0D + 1.0W

60 mph Wind with No Ice

26 Iterations

Gust Response Factor: 1.10
 Dead load Factor: 1.00
 Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-28.63	-3.92	0.00	-396.8	0.00	396.85	3,924.52	994.80	4,279.24	3,845.64	0	0	0.111
5.00	-27.58	-3.85	0.00	-377.2	0.00	377.25	3,869.02	973.64	4,099.15	3,709.98	0.02	-0.03	0.109
10.00	-26.54	-3.78	0.00	-358.0	0.00	358.00	3,812.30	952.48	3,922.94	3,575.51	0.07	-0.07	0.107
15.00	-25.53	-3.71	0.00	-339.1	0.00	339.10	3,754.36	931.32	3,750.60	3,442.31	0.16	-0.1	0.105
20.00	-24.54	-3.64	0.00	-320.5	0.00	320.54	3,695.21	910.16	3,582.13	3,310.46	0.29	-0.14	0.103
25.00	-23.56	-3.58	0.00	-302.3	0.00	302.32	3,634.84	889.00	3,417.53	3,180.03	0.45	-0.17	0.102
30.00	-22.61	-3.51	0.00	-284.4	0.00	284.42	3,573.26	867.84	3,256.80	3,051.09	0.65	-0.21	0.100
35.00	-20.98	-3.47	0.00	-266.9	0.00	266.87	3,510.46	846.68	3,099.94	2,923.73	0.89	-0.25	0.097
36.00	-20.65	-3.43	0.00	-263.4	0.00	263.40	2,784.44	714.01	2,645.33	2,350.60	0.95	-0.25	0.119
40.00	-20.03	-3.37	0.00	-249.7	0.00	249.68	2,748.73	699.90	2,541.85	2,274.26	1.17	-0.28	0.117
45.00	-19.26	-3.30	0.00	-232.8	0.00	232.85	2,703.00	682.27	2,415.40	2,179.65	1.49	-0.33	0.114
50.00	-18.49	-3.24	0.00	-216.4	0.00	216.36	2,656.05	664.63	2,292.18	2,086.00	1.85	-0.37	0.111
53.00	-18.05	-3.20	0.00	-206.7	0.00	206.66	2,627.30	654.05	2,219.79	2,030.31	2.09	-0.39	0.109
55.00	-17.55	-3.16	0.00	-200.3	0.00	200.26	2,607.89	647.00	2,172.18	1,993.40	2.26	-0.41	0.107
58.25	-16.76	-3.12	0.00	-190.0	0.00	189.99	1,919.77	516.26	1,728.70	1,466.05	2.55	-0.44	0.138
60.00	-16.55	-3.07	0.00	-184.5	0.00	184.53	1,909.12	511.33	1,695.79	1,443.88	2.72	-0.45	0.137
65.00	-15.96	-3.00	0.00	-169.2	0.00	169.18	1,877.88	497.22	1,603.53	1,380.81	3.22	-0.51	0.131
70.00	-15.38	-2.92	0.00	-154.2	0.00	154.19	1,845.42	483.11	1,513.84	1,318.18	3.78	-0.56	0.125
75.00	-14.82	-2.85	0.00	-139.6	0.00	139.57	1,811.75	469.01	1,426.73	1,256.07	4.38	-0.61	0.119
80.00	-14.27	-2.78	0.00	-125.3	0.00	125.32	1,776.86	454.90	1,342.21	1,194.55	5.04	-0.65	0.113
85.00	-13.74	-2.73	0.00	-111.4	0.00	111.43	1,740.76	440.80	1,260.27	1,133.71	5.76	-0.7	0.106
86.00	-13.01	-2.48	0.00	-108.7	0.00	108.70	1,733.39	437.97	1,244.19	1,121.63	5.9	-0.71	0.104
90.00	-12.60	-2.42	0.00	-98.8	0.00	98.77	1,703.44	426.69	1,180.90	1,073.63	6.52	-0.75	0.099
95.00	-12.11	-2.37	0.00	-86.7	0.00	86.68	1,664.90	412.58	1,104.12	1,014.37	7.33	-0.8	0.093
96.00	-10.14	-2.15	0.00	-84.3	0.00	84.31	1,657.05	409.76	1,089.08	1,002.62	7.5	-0.81	0.090
97.00	-9.09	-1.76	0.00	-82.2	0.00	82.16	1,649.15	406.94	1,074.13	990.91	7.67	-0.81	0.088
100.00	-8.81	-1.71	0.00	-76.9	0.00	76.86	1,625.15	398.48	1,029.92	956.01	8.19	-0.84	0.086
104.00	-8.44	-1.68	0.00	-70.0	0.00	70.01	1,592.47	387.19	972.42	910.03	8.91	-0.88	0.082
104.00	-8.44	-1.68	0.00	-70.0	0.00	70.01	950.95	285.28	642.72	624.60	8.91	-0.88	0.121
105.00	-8.33	-1.64	0.00	-68.3	0.00	68.34	950.95	285.28	642.72	624.60	9.09	-0.89	0.118
110.00	-7.74	-1.58	0.00	-60.1	0.00	60.12	950.95	285.28	642.72	624.60	10.04	-0.92	0.104
115.00	-7.15	-1.52	0.00	-52.2	0.00	52.20	950.95	285.28	642.72	624.60	11.03	-0.96	0.091
120.00	-6.57	-1.46	0.00	-44.6	0.00	44.59	950.95	285.28	642.72	624.60	12.04	-0.98	0.078
124.00	-6.10	-1.43	0.00	-38.7	0.00	38.74	950.95	285.28	642.72	624.60	12.87	-1	0.068
124.00	-6.10	-1.43	0.00	-38.7	0.00	38.74	876.73	263.02	546.31	539.02	12.87	-1	0.079
125.00	-5.99	-1.39	0.00	-37.3	0.00	37.32	876.73	263.02	546.31	539.02	13.08	-1.01	0.076
130.00	-5.44	-1.33	0.00	-30.4	0.00	30.35	876.73	263.02	546.31	539.02	14.15	-1.03	0.063
135.00	-4.89	-1.27	0.00	-23.7	0.00	23.68	876.73	263.02	546.31	539.02	15.24	-1.05	0.050
140.00	-4.35	-1.21	0.00	-17.3	0.00	17.33	876.73	263.02	546.31	539.02	16.35	-1.07	0.037
144.00	-3.91	-1.18	0.00	-12.5	0.00	12.49	876.73	263.02	546.31	539.02	17.25	-1.08	0.028
144.00	-3.91	-1.18	0.00	-12.5	0.00	12.49	728.28	218.49	376.97	379.17	17.25	-1.08	0.038
145.00	-3.82	-1.15	0.00	-11.3	0.00	11.32	728.28	218.49	376.97	379.17	17.48	-1.08	0.035
150.00	-3.35	-1.09	0.00	-5.6	0.00	5.58	728.28	218.49	376.97	379.17	18.61	-1.09	0.019
155.00	-0.39	-0.03	0.00	-0.1	0.00	0.13	728.28	218.49	376.97	379.17	19.75	-1.09	0.001
160.00	0.00	-0.02	0.00	0.0	0.00	0.00	728.28	218.49	376.97	379.17	20.89	-1.09	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_s):	0.183
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.055
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a :	1.600
Site Coefficient F_v :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.195
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.088
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_s :	0.030
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	2.620
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	28.630 k
Seismic Base Shear (E):	0.860 k

SEISMIC FORCES

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
41	157.5	393	9,758	0.041	35	487
40	152.5	467	10,856	0.045	39	578
39	147.5	467	10,156	0.042	37	578
38	144.5	93	1,949	0.008	7	116
37	142	438	8,824	0.037	32	542
36	137.5	547	10,342	0.043	37	678
35	132.5	547	9,603	0.040	35	678
34	127.5	547	8,892	0.037	32	678
33	124.5	109	1,696	0.007	6	136
32	122	470	6,990	0.029	25	582
31	117.5	587	8,105	0.034	29	727
30	112.5	587	7,430	0.031	27	727
29	107.5	587	6,784	0.028	24	727
28	104.5	117	1,282	0.005	5	145
27	102	363	3,781	0.016	14	450
26	98.5	278	2,700	0.011	10	345
25	96.5	96	898	0.004	3	120
24	95.5	97	885	0.004	3	120
23	92.5	493	4,221	0.018	15	611
22	88	404	3,132	0.013	11	501
21	85.5	105	766	0.003	3	130
20	82.5	532	3,623	0.015	13	660
19	77.5	546	3,279	0.014	12	677
18	72.5	560	2,942	0.012	11	693
17	67.5	573	2,612	0.011	9	710
16	62.5	587	2,293	0.010	8	727
15	59.125	209	730	0.003	3	259
14	56.625	796	2,553	0.011	9	986
13	54	496	1,447	0.006	5	615
12	51.5	442	1,173	0.005	4	548
11	47.5	751	1,695	0.007	6	931
10	42.5	768	1,387	0.006	5	952
9	38	627	905	0.004	3	777
8	35.5	322	406	0.002	1	399
7	32.5	1,633	1,725	0.007	6	2,024
6	27.5	950	718	0.003	3	1,177
5	22.5	970	491	0.002	2	1,202
4	17.5	991	303	0.001	1	1,228

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
3	12.5	1,011	158	0.001	1	1,253
2	7.5	1,032	58	0.000	0	1,278
1	2.5	1,052	7	0.000	0	1,304
Ericsson RRUS 8843 B2, B66A	155	216	5,189	0.022	19	268
Ericsson RRUS 4415 B30	155	138	3,315	0.014	12	171
Ericsson RRUS 4449 B5, B12	155	213	5,117	0.021	18	264
Ericsson RRUS 4478 B14	155	178	4,281	0.018	15	221
Raycap DC6-48-60-18-8C-EV	155	16	384	0.002	1	20
Raycap DC9-48-60-24-8C-EV	155	16	384	0.002	1	20
CCI DMP65R-BU8D	155	287	6,898	0.029	25	356
Generic Flat Light Sector Frame	155	1,200	28,830	0.121	104	1,487
CCI TPA65R-BU8D	155	248	5,946	0.025	21	307
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	97	224	2,109	0.009	8	278
Samsung RF4461d-13A	97	237	2,233	0.009	8	294
Raycap RVZDC-6627-PF-48	97	64	602	0.002	2	79
Samsung MT6413-77A	97	172	1,617	0.007	6	213
Commscope NHH-65B-R2B	97	262	2,467	0.010	9	325
Generic Round Low Profile Platform	96	1,875	17,280	0.072	62	2,323
Commscope RDIDC-9181-PF-48	86	22	162	0.001	1	27
Fujitsu TA08025-B605	86	225	1,664	0.007	6	279
Fujitsu TA08025-B604	86	192	1,418	0.006	5	238
JMA Wireless MX08FRO665-21	86	194	1,431	0.006	5	240
Generic 2" x 8" GPS	50	10	25	0.000	0	12
Totals:		28,632	238,912	1.000	859	35,477

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
41	157.5	393	9,758	0.041	35	339
40	152.5	467	10,856	0.045	39	402
39	147.5	467	10,156	0.042	37	402
38	144.5	93	1,949	0.008	7	80
37	142	438	8,824	0.037	32	377
36	137.5	547	10,342	0.043	37	471
35	132.5	547	9,603	0.040	35	471
34	127.5	547	8,892	0.037	32	471
33	124.5	109	1,696	0.007	6	94
32	122	470	6,990	0.029	25	404
31	117.5	587	8,105	0.034	29	505
30	112.5	587	7,430	0.031	27	505
29	107.5	587	6,784	0.028	24	505
28	104.5	117	1,282	0.005	5	101
27	102	363	3,781	0.016	14	313
26	98.5	278	2,700	0.011	10	240
25	96.5	96	898	0.004	3	83
24	95.5	97	885	0.004	3	84
23	92.5	493	4,221	0.018	15	425
22	88	404	3,132	0.013	11	348
21	85.5	105	766	0.003	3	90
20	82.5	532	3,623	0.015	13	458
19	77.5	546	3,279	0.014	12	470
18	72.5	560	2,942	0.012	11	482
17	67.5	573	2,612	0.011	9	494
16	62.5	587	2,293	0.010	8	505
15	59.125	209	730	0.003	3	180
14	56.625	796	2,553	0.011	9	685
13	54	496	1,447	0.006	5	427
12	51.5	442	1,173	0.005	4	381
11	47.5	751	1,695	0.007	6	647
10	42.5	768	1,387	0.006	5	661

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
9	38	627	905	0.004	3	540
8	35.5	322	406	0.002	1	277
7	32.5	1,633	1,725	0.007	6	1,406
6	27.5	950	718	0.003	3	818
5	22.5	970	491	0.002	2	835
4	17.5	991	303	0.001	1	853
3	12.5	1,011	158	0.001	1	871
2	7.5	1,032	58	0.000	0	888
1	2.5	1,052	7	0.000	0	906
Ericsson RRUS 8843 B2, B66A	155	216	5,189	0.022	19	186
Ericsson RRUS 4415 B30	155	138	3,315	0.014	12	119
Ericsson RRUS 4449 B5, B12	155	213	5,117	0.021	18	183
Ericsson RRUS 4478 B14	155	178	4,281	0.018	15	153
Raycap DC6-48-60-18-8C-EV	155	16	384	0.002	1	14
Raycap DC9-48-60-24-8C-EV	155	16	384	0.002	1	14
CCI DMP65R-BU8D	155	287	6,898	0.029	25	247
Generic Flat Light Sector Frame	155	1,200	28,830	0.121	104	1,033
CCI TPA65R-BU8D	155	248	5,946	0.025	21	213
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	97	224	2,109	0.009	8	193
Samsung RF4461d-13A	97	237	2,233	0.009	8	204
Raycap RVZDC-6627-PF-48	97	64	602	0.002	2	55
Samsung MT6413-77A	97	172	1,617	0.007	6	148
Commscope NHH-65B-R2B	97	262	2,467	0.010	9	226
Generic Round Low Profile Platform	96	1,875	17,280	0.072	62	1,614
Commscope RDIDC-9181-PF-48	86	22	162	0.001	1	19
Fujitsu TA08025-B605	86	225	1,664	0.007	6	194
Fujitsu TA08025-B604	86	192	1,418	0.006	5	165
JMA Wireless MX08FRO665-21	86	194	1,431	0.006	5	167
Generic 2" x 8" GPS	50	10	25	0.000	0	9
Totals:		28,632	238,912	1.000	859	24,651

1.2D + 1.0Ev + 1.0Eh

Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.17	-0.86	0.00	-109.93	0.00	109.93	3,924.52	994.80	4,279	3,845.64	0.00	0.00	0.04
5.00	-32.89	-0.87	0.00	-105.62	0.00	105.62	3,869.02	973.64	4,099	3,709.98	0.01	-0.01	0.04
10.00	-31.64	-0.87	0.00	-101.30	0.00	101.30	3,812.30	952.48	3,923	3,575.51	0.02	-0.02	0.04
15.00	-30.41	-0.87	0.00	-96.95	0.00	96.95	3,754.36	931.32	3,751	3,442.31	0.05	-0.03	0.04
20.00	-29.21	-0.88	0.00	-92.58	0.00	92.58	3,695.21	910.16	3,582	3,310.46	0.08	-0.04	0.04
25.00	-28.03	-0.88	0.00	-88.19	0.00	88.19	3,634.84	889.00	3,418	3,180.03	0.13	-0.05	0.04
30.00	-26.01	-0.87	0.00	-83.80	0.00	83.80	3,573.26	867.84	3,257	3,051.09	0.19	-0.06	0.04
35.00	-25.61	-0.88	0.00	-79.43	0.00	79.43	3,510.46	846.68	3,100	2,923.73	0.25	-0.07	0.03
36.00	-24.83	-0.87	0.00	-78.55	0.00	78.55	2,784.44	714.01	2,645	2,350.60	0.27	-0.07	0.04
40.00	-23.88	-0.87	0.00	-75.06	0.00	75.06	2,748.73	699.90	2,542	2,274.26	0.33	-0.08	0.04
45.00	-22.95	-0.87	0.00	-70.69	0.00	70.69	2,703.00	682.27	2,415	2,179.65	0.43	-0.09	0.04
50.00	-22.39	-0.87	0.00	-66.34	0.00	66.34	2,656.05	664.63	2,292	2,086.00	0.53	-0.11	0.04
53.00	-21.78	-0.86	0.00	-63.74	0.00	63.74	2,627.30	654.05	2,220	2,030.31	0.60	-0.12	0.04
55.00	-20.79	-0.86	0.00	-62.01	0.00	62.01	2,607.89	647.00	2,172	1,993.40	0.65	-0.12	0.04
58.25	-20.53	-0.86	0.00	-59.23	0.00	59.23	1,919.77	516.26	1,729	1,466.05	0.74	-0.13	0.05
60.00	-19.80	-0.85	0.00	-57.73	0.00	57.73	1,909.12	511.33	1,696	1,443.88	0.79	-0.13	0.05
65.00	-19.09	-0.84	0.00	-53.48	0.00	53.48	1,877.88	497.22	1,604	1,380.81	0.93	-0.15	0.05
70.00	-18.40	-0.84	0.00	-49.27	0.00	49.27	1,845.42	483.11	1,514	1,318.18	1.10	-0.17	0.05
75.00	-17.72	-0.83	0.00	-45.09	0.00	45.09	1,811.75	469.01	1,427	1,256.07	1.28	-0.18	0.05
80.00	-17.06	-0.82	0.00	-40.95	0.00	40.95	1,776.86	454.90	1,342	1,194.55	1.48	-0.20	0.04
85.00	-16.93	-0.82	0.00	-36.87	0.00	36.87	1,740.76	440.80	1,260	1,133.71	1.70	-0.21	0.04
86.00	-15.65	-0.79	0.00	-36.05	0.00	36.05	1,733.39	437.97	1,244	1,121.63	1.74	-0.22	0.04
90.00	-15.04	-0.77	0.00	-32.91	0.00	32.91	1,703.44	426.69	1,181	1,073.63	1.93	-0.23	0.04
95.00	-14.92	-0.77	0.00	-29.05	0.00	29.05	1,664.90	412.58	1,104	1,014.37	2.18	-0.25	0.04

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
96.00	-12.47	-0.70	0.00	-28.28	0.00	28.28	1,657.05	409.76	1,089	1,002.62	2.23	-0.25	0.04
97.00	-10.94	-0.65	0.00	-27.59	0.00	27.59	1,649.15	406.94	1,074	990.91	2.29	-0.25	0.03
100.00	-10.49	-0.63	0.00	-25.64	0.00	25.64	1,625.15	398.48	1,030	956.01	2.45	-0.26	0.03
104.00	-10.34	-0.63	0.00	-23.11	0.00	23.11	1,592.47	387.19	972	910.03	2.67	-0.27	0.03
104.00	-10.34	-0.63	0.00	-23.11	0.00	23.11	950.95	285.28	643	624.60	2.67	-0.27	0.05
105.00	-9.62	-0.60	0.00	-22.48	0.00	22.48	950.95	285.28	643	624.60	2.73	-0.28	0.05
110.00	-8.89	-0.57	0.00	-19.46	0.00	19.46	950.95	285.28	643	624.60	3.02	-0.29	0.04
115.00	-8.16	-0.54	0.00	-16.58	0.00	16.58	950.95	285.28	643	624.60	3.33	-0.30	0.04
120.00	-7.58	-0.52	0.00	-13.87	0.00	13.87	950.95	285.28	643	624.60	3.65	-0.31	0.03
124.00	-7.44	-0.51	0.00	-11.80	0.00	11.80	950.95	285.28	643	624.60	3.90	-0.31	0.03
124.00	-7.44	-0.51	0.00	-11.80	0.00	11.80	876.73	263.02	546	539.02	3.90	-0.31	0.03
125.00	-6.77	-0.47	0.00	-11.29	0.00	11.29	876.73	263.02	546	539.02	3.97	-0.31	0.03
130.00	-6.09	-0.44	0.00	-8.92	0.00	8.92	876.73	263.02	546	539.02	4.30	-0.32	0.02
135.00	-5.41	-0.40	0.00	-6.73	0.00	6.73	876.73	263.02	546	539.02	4.64	-0.33	0.02
140.00	-4.87	-0.36	0.00	-4.75	0.00	4.75	876.73	263.02	546	539.02	4.99	-0.33	0.01
144.00	-4.75	-0.35	0.00	-3.30	0.00	3.30	876.73	263.02	546	539.02	5.27	-0.33	0.01
144.00	-4.75	-0.35	0.00	-3.30	0.00	3.30	728.28	218.49	377	379.17	5.27	-0.33	0.02
145.00	-4.18	-0.32	0.00	-2.94	0.00	2.94	728.28	218.49	377	379.17	5.34	-0.33	0.01
150.00	-3.60	-0.27	0.00	-1.36	0.00	1.36	728.28	218.49	377	379.17	5.69	-0.34	0.01
155.00	0.00	0.00	0.00	0.00	0.00	0.00	728.28	218.49	377	379.17	6.04	-0.34	0.00
160.00	0.00	0.00	0.00	0.00	0.00	0.00	728.28	218.49	377	379.17	6.39	-0.34	0.00

0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-23.75	-0.86	0.00	-108.05	0.00	108.05	3,924.52	994.80	4,279	3,845.64	0.00	0.00	0.03
5.00	-22.86	-0.86	0.00	-103.75	0.00	103.75	3,869.02	973.64	4,099	3,709.98	0.00	-0.01	0.03
10.00	-21.99	-0.87	0.00	-99.44	0.00	99.44	3,812.30	952.48	3,923	3,575.51	0.02	-0.02	0.03
15.00	-21.13	-0.87	0.00	-95.11	0.00	95.11	3,754.36	931.32	3,751	3,442.31	0.04	-0.03	0.03
20.00	-20.30	-0.87	0.00	-90.77	0.00	90.77	3,695.21	910.16	3,582	3,310.46	0.08	-0.04	0.03
25.00	-19.48	-0.87	0.00	-86.42	0.00	86.42	3,634.84	889.00	3,418	3,180.03	0.13	-0.05	0.03
30.00	-18.07	-0.87	0.00	-82.07	0.00	82.07	3,573.26	867.84	3,257	3,051.09	0.18	-0.06	0.03
35.00	-17.80	-0.87	0.00	-77.74	0.00	77.74	3,510.46	846.68	3,100	2,923.73	0.25	-0.07	0.03
36.00	-17.26	-0.86	0.00	-76.88	0.00	76.88	2,784.44	714.01	2,645	2,350.60	0.26	-0.07	0.04
40.00	-16.59	-0.86	0.00	-73.42	0.00	73.42	2,748.73	699.90	2,542	2,274.26	0.33	-0.08	0.04
45.00	-15.95	-0.86	0.00	-69.12	0.00	69.12	2,703.00	682.27	2,415	2,179.65	0.42	-0.09	0.04
50.00	-15.56	-0.85	0.00	-64.83	0.00	64.83	2,656.05	664.63	2,292	2,086.00	0.52	-0.11	0.04
53.00	-15.13	-0.85	0.00	-62.27	0.00	62.27	2,627.30	654.05	2,220	2,030.31	0.59	-0.11	0.04
55.00	-14.44	-0.84	0.00	-60.57	0.00	60.57	2,607.89	647.00	2,172	1,993.40	0.64	-0.12	0.04
58.25	-14.27	-0.84	0.00	-57.83	0.00	57.83	1,919.77	516.26	1,729	1,466.05	0.72	-0.13	0.05
60.00	-13.76	-0.83	0.00	-56.36	0.00	56.36	1,909.12	511.33	1,696	1,443.88	0.77	-0.13	0.05
65.00	-13.27	-0.83	0.00	-52.19	0.00	52.19	1,877.88	497.22	1,604	1,380.81	0.92	-0.15	0.05
70.00	-12.78	-0.82	0.00	-48.06	0.00	48.06	1,845.42	483.11	1,514	1,318.18	1.08	-0.16	0.04
75.00	-12.31	-0.81	0.00	-43.97	0.00	43.97	1,811.75	469.01	1,427	1,256.07	1.26	-0.18	0.04
80.00	-11.86	-0.80	0.00	-39.93	0.00	39.93	1,776.86	454.90	1,342	1,194.55	1.45	-0.19	0.04
85.00	-11.76	-0.80	0.00	-35.94	0.00	35.94	1,740.76	440.80	1,260	1,133.71	1.66	-0.21	0.04
86.00	-10.87	-0.77	0.00	-35.15	0.00	35.15	1,733.39	437.97	1,244	1,121.63	1.71	-0.21	0.04
90.00	-10.45	-0.75	0.00	-32.08	0.00	32.08	1,703.44	426.69	1,181	1,073.63	1.89	-0.22	0.04
95.00	-10.36	-0.75	0.00	-28.32	0.00	28.32	1,664.90	412.58	1,104	1,014.37	2.14	-0.24	0.03
96.00	-8.67	-0.68	0.00	-27.57	0.00	27.57	1,657.05	409.76	1,089	1,002.62	2.19	-0.24	0.03
97.00	-7.60	-0.63	0.00	-26.90	0.00	26.90	1,649.15	406.94	1,074	990.91	2.24	-0.25	0.03
100.00	-7.29	-0.62	0.00	-25.00	0.00	25.00	1,625.15	398.48	1,030	956.01	2.39	-0.25	0.03
104.00	-7.19	-0.61	0.00	-22.53	0.00	22.53	1,592.47	387.19	972	910.03	2.61	-0.27	0.03
104.00	-7.19	-0.61	0.00	-22.53	0.00	22.53	950.95	285.28	643	624.60	2.61	-0.27	0.04
105.00	-6.68	-0.59	0.00	-21.91	0.00	21.91	950.95	285.28	643	624.60	2.67	-0.27	0.04
110.00	-6.18	-0.56	0.00	-18.97	0.00	18.97	950.95	285.28	643	624.60	2.96	-0.28	0.04
115.00	-5.67	-0.53	0.00	-16.17	0.00	16.17	950.95	285.28	643	624.60	3.26	-0.29	0.03
120.00	-5.27	-0.50	0.00	-13.52	0.00	13.52	950.95	285.28	643	624.60	3.57	-0.30	0.03

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
124.00	-5.17	-0.50	0.00	-11.51	0.00	11.51	950.95	285.28	643	624.60	3.82	-0.31	0.02
124.00	-5.17	-0.50	0.00	-11.51	0.00	11.51	876.73	263.02	546	539.02	3.82	-0.31	0.03
125.00	-4.70	-0.46	0.00	-11.01	0.00	11.01	876.73	263.02	546	539.02	3.88	-0.31	0.03
130.00	-4.23	-0.43	0.00	-8.69	0.00	8.69	876.73	263.02	546	539.02	4.21	-0.31	0.02
135.00	-3.76	-0.39	0.00	-6.56	0.00	6.56	876.73	263.02	546	539.02	4.54	-0.32	0.02
140.00	-3.38	-0.35	0.00	-4.63	0.00	4.63	876.73	263.02	546	539.02	4.88	-0.32	0.01
144.00	-3.30	-0.35	0.00	-3.21	0.00	3.21	876.73	263.02	546	539.02	5.15	-0.33	0.01
144.00	-3.30	-0.35	0.00	-3.21	0.00	3.21	728.28	218.49	377	379.17	5.15	-0.33	0.01
145.00	-2.90	-0.31	0.00	-2.87	0.00	2.87	728.28	218.49	377	379.17	5.22	-0.33	0.01
150.00	-2.50	-0.27	0.00	-1.33	0.00	1.33	728.28	218.49	377	379.17	5.56	-0.33	0.01
155.00	0.00	0.00	0.00	0.00	0.00	0.00	728.28	218.49	377	379.17	5.90	-0.33	0.00
160.00	0.00	0.00	0.00	0.00	0.00	0.00	728.28	218.49	377	379.17	6.25	-0.33	0.00

ANALYSIS SUMMARY

Load Case	Base Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	17.24	0.00	34.34	0.00	0.00	1758.91	58.25	0.59
0.9D + 1.0W	17.23	0.00	25.75	0.00	0.00	1735.50	58.25	0.57
1.2D + 1.0Di + 1.0Wi	5.22	0.00	51.62	0.00	0.00	546.96	58.25	0.2
1.2D + 1.0Ev + 1.0Eh	0.88	0.00	34.17	0.00	0.00	109.93	58.25	0.05
0.9D - 1.0Ev + 1.0Eh	0.87	0.00	23.75	0.00	0.00	108.05	58.25	0.05
1.0D + 1.0W	3.92	0.00	28.63	0.00	0.00	396.85	58.25	0.14

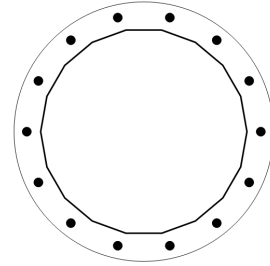
BASE PLATE ANALYSIS @ 0 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
1758.91	34.34	17.24

PLATE PARAMETERS (ID# 10933)

Width:	61	in
Shape:	Round	
Thickness:	2.25	in
Grade:	A572-55	
Yield Strength:	55	ksi
Tensile Strength:	70	ksi
Rod Detail Type:	d	
Clear Distance	3	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	180	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F _y (ksi)	F _u (ksi)	Spacing (in)	Offset (°)
Original [ID#2294]	Radial	14	2.25	55	A615-75	75	100	-	-

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	48"Ø x 0.375" (18 Sides)	55.8225	-	-	15829.28	-
Bolt Group	Original (14) 2.25"Ø	3.9761	3.2477	0.8393	15602.27	4.5

REACTION DISTRIBUTION

Component	ID	Moment M _u (k-ft)	Axial Load P _u (k)	Shear V _u (k)	Moment Factor
Pole	48"Ø x 0.375" (18 Sides)	1758.9	34.34	17.24	1.000
Bolt Group	Original (14) 2.25"Ø	1758.9	-	17.24	1.000

BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	48.12	in
Point-to-Point Diameter:	48.87	in
Orientation Offset:	-	°

Flat Width:	8.486	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	180	°
Bend Line Limits:	4.186 to 5.239	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in ³)	Applied Moment M _u (k-in)	Moment Capacity ΦM _n (k-in)	Flexure Result M _u /ΦM _n
Flats	33.066	0.00	41.849	336.6	2071.5	16.3%
Corners	31.959	0.00	40.448	251.5	2002.2	12.6%
Circumferential	40.283	0.00	50.984	402.1	2523.7	15.9%

PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load P _u (k)	Applied Shear Load V _u (k)	Compressive Capacity ΦP _n (k)	Interaction Result
Original	14	2.25	97.0	2.0	243.6	41.4%



APPLIED GLOBAL REACTIONS

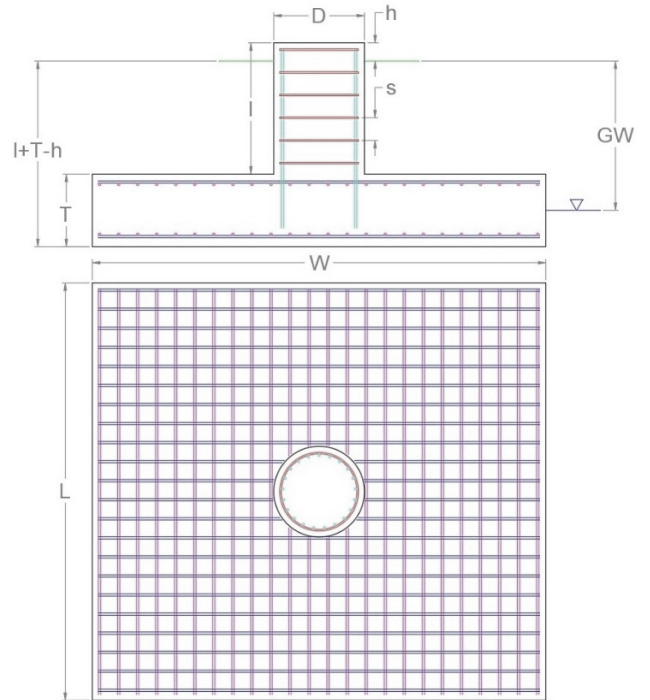
Moment (k-ft)	Axial (k)	Shear (k)
1,758.91	34.34	17.24

FOUNDATION PARAMETERS

Mat Length:	L	24	ft
Mat Width:	W	24	ft
Mat Thickness:	T	3	ft
Base Depth:	L+T-h	9	ft
Pier Shape:		Round	
Pier Diameter:	D	7	ft
Pier Height above Grade:	h	0.5	ft
Tower Eccentricity:	ecc		ft
Tower Leg Count		1	

SOIL PARAMETERS


Water Table Depth [BGL]:	GW		ft
Soil Unit Weight:		125	pcf
Ultimate Skin Friction:		500	psf
Ultimate Bearing Pressure:		3,545	psf
Bearing Pressure Type:		Gross	
Coefficient of Shear Friction:		0.1	




SOIL STRENGTH ANALYSIS

Soil Strength Reduction Factor, Φ_s	Uplift Strength Reduction Factor, Φ_s	Asset Dead Load Factor	Dead Load Factor
0.75	0.75	0.9	1.2


SOIL OVERTURNING ANALYSIS

Design Moment, $M_{u,Design}$ (k-ft)	Nominal Overturning Capacity, $\Phi_m M_n$ (k-ft)	Soil Overturning Usage, $M_{u,Design} / \Phi_m M_n$
1,922.69	7,943.47	24.2% 

SOIL BEARING ANALYSIS

Net Bearing Pressure, $P_{u,Net}$ (psf)	Nominal Bearing Capacity, $\Phi_b P_n$ (k-ft)	Bearing Pressure Controlling Load Direction	Soil Bearing Usage, $P_{u,net} / \Phi_b P_n$
1,500.00	2,321.00	Parallel to Pad Edge	64.6% 

SOIL SLIDING SHEAR ANALYSIS

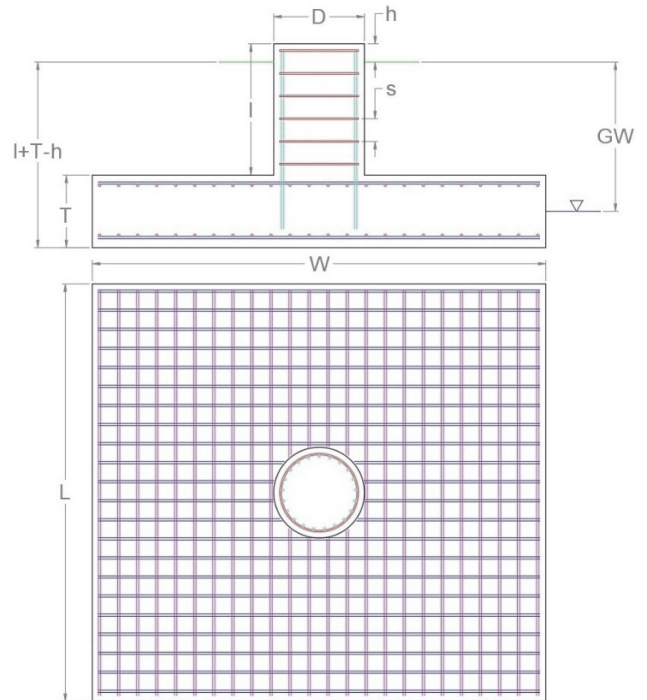
Applied Shear Force, V_u (k)	Friction Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Nominal Shear Capacity, Φ_s V_n (k)	Soil Sliding Shear Usage, $V_u / \Phi_s V_n$
17.24	144.00	937.5	67.50	105.26	16.0% 

APPLIED GLOBAL REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
1,758.91	34.34	17.24

FOUNDATION PARAMETERS

Mat Length:	L	24	ft
Mat Width:	W	24	ft
Mat Thickness:	T	3	ft
Base Depth:	L+T-h	6	ft
Pier Shape:		Round	
Pier Diameter:	D	7	ft
Pier Height above Grade:	h	0.5	ft
Concrete Compressive Strength:		4,000	psi
Mat Top Rebar:		(25) #10 bars [60 ksi]	
Mat Bottom Rebar:		(25) #10 bars [60 ksi]	
Pier Vertical Rebar:		(36) #10 bars [60 ksi]	
Pier Rebar Ties:	s	#5 bars @ 6.0" c/c [40 ksi]	
Rebar Clear Cover:		3.0	in
Tower Eccentricity:	ecc	0	ft
Tower Leg Count		1	



SOIL PARAMETERS

Water Table Depth [BGL]:	GW	-	ft
Soil Unit Weight:		131	pcf
Ultimate Skin Friction:			psf
Ultimate Bearing Pressure:		14,050	psf
Bearing Pressure Type:		Gross	
Coefficient of Shear Friction:		0.2	

SOIL STRENGTH ANALYSIS

Soil Strength Reduction Factor, Φ_s	Uplift Strength Reduction Factor, Φ_s	Asset Dead Load Factor	Dead Load Factor
0.75	0.75	0.9	1.2

SOIL OVERTURNING ANALYSIS

Design Moment, $M_{u,Design}$ (k-ft)	Nominal Overturning Capacity, $\Phi_m M_n$ (k-ft)	Soil Overturning Usage, $M_{u,Design} / \Phi_m M_n$
1,870.97	5,934.85	31.5% ✔

SOIL BEARING ANALYSIS

Net Bearing Pressure, $P_{u,Net}$ (psf)	Nominal Bearing Capacity, $\Phi_b P_n$ (k-ft)	Bearing Pressure Controlling Load Direction	Soil Bearing Usage, $P_{u,net} / \Phi_b P_n$
1,197.00	10,538.00	Diagonal to Pad Edge	11.4% ✔

SOIL SLIDING SHEAR ANALYSIS

Applied Shear Force, V_u (k)	Friction Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Nominal Shear Capacity, $\Phi_s V_n$ (k)	Soil Sliding Shear Usage, $V_u / \Phi_s V_n$
17.24	0.00	589.5	42.44	109.72	16.0% ✔

MAT REINFORCING STEEL STRENGTH ANALYSIS

Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
29,000	0.9	0.75	0.65

MAT REINFORCING ONE WAY SHEAR ANALYSIS

One Way Design Shear, V_u (k)	Nominal One Way Shear Capacity, $\Phi_c V_n$ (k)	One Way Shear Controlling Load Direction	Mat One Way Shear Usage, $V_u / \Phi_c V_n$
48.13	782.52	Diagonal to Pad Edge	6.2%

MAT REINFORCING PUNCHING SHEAR ANALYSIS

Punching Shear Design Stress, v_u (psi)	Nominal Punching Shear Capacity, $\Phi_c v_n$ (psi)	Mat Punching Shear Usage, $v_u / \Phi_c v_n$
22.5	189.7	11.9%

MAT REINFORCING MOMENT TRANSFER ANALYSIS

Moment Transfer Effective Flexural Width, w_f (in)	Neutral Axis Depth (in)	Pier Moment at Joint, M_{ut} (k-in)	Nominal Moment Transfer Capacity, $\Phi M_{sc,f}$ (k-in)	Mat Moment Transfer Usage, $0.6 M_{ut} / \Phi M_{sc,f}$
16.00	2.03	0.00	36,809.0	0.0%

MAT REINFORCING FLEXURE ANALYSIS – UPPER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Upper Rebar Flexure Usage, $M_u / \Phi M_n$
697.21	4,418.15	Parallel to Pad Edge	15.8%

MAT REINFORCING FLEXURE ANALYSIS – LOWER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Lower Rebar Flexure Usage, $M_u / \Phi M_n$
670.50	4,418.15	Parallel to Pad Edge	15.2%

PIER REINFORCING STEEL STRENGTH ANALYSIS

Rebar Cage Diameter (in)	Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
75.50	29,000	0.9	0.75	0.65

PIER REINFORCING MOMENT ANALYSIS

Design Moment, M_u (k-ft)	Nominal Moment Capacity, $\Phi_b M_n$ (k-ft)	Bending Reinforcement Ratio	Pier Rebar Flexure Usage, $M_u / \Phi_b M_n$
1,819.25	7,596.22	0.008	23.9%

PIER REINFORCING COMPRESSION ANALYSIS

Design Compression, P_u (k)	Nominal Compressive Capacity, $\Phi_p P_n$ (k)	Pier Rebar Compressive Usage, $P_u / \Phi_p P_n$
34.34	9,756.64	0.4%

PIER REINFORCING SHEAR ANALYSIS

Design Shear, V_u (k)	Nominal Shear Capacity, $\Phi_v V_n$ (k)	Pier Rebar Shear Usage, $V_u / \Phi_v V_n$
17.24	735.69	2.3%

EXHIBIT 4



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 #: 10220001
Colliers Engineering & Design Project #: 23777010 (Rev 1)

January 26, 2024

Site Information

Site ID: 5000243474-VZW /
MANSFIELD FOUR CORNERS CT
Site Name: MANSFIELD FOUR CORNERS CT
Carrier Name: Verizon Wireless
Address: 343 Daleville Rd
Willington, Connecticut 06279
Tolland County
Latitude: 41.836606°
Longitude: -72.254976°

Structure Information

Tower Type: 159-Ft Monopole
Mount Type: 13.67-Ft Platform

FUZE ID # 16092590

Analysis Results

Platform: 44.8% **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: Carol Luengas



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
<i>Radio Frequency Data Sheet (RFDS)</i>	<i>Verizon RFDS, Site ID: 1635343, dated September 22, 2023</i>
<i>Mount Mapping Report</i>	<i>Onsight Services, Site ID: 16092590, dated June 7, 2023</i>
<i>Previous Mount Analysis</i>	<i>Colliers Engineering & Design Project #: 23777010 (Rev 1), dated January 8, 2024</i>
<i>Mount Modification Drawing</i>	<i>Colliers Engineering & Design Project #: 23777010, dated July 18, 2023</i>

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 120 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.50 in Risk Category: II Exposure Category: B Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.982
Seismic Parameters:	S_s : 0.181 g S_1 : 0.055 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, L_v : 250 lbs. Maintenance Load, L_m : 500 lbs.
Analysis Software:	RISA-3D (V17)

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
97.00	97.00	3	Samsung	MT6413-77A	Added
		6	Commscope	NHH-65B-R2B	
		2	Raycap	RVZDC-6627-PF-48	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	

Any proposed antennas not currently installed should be mounted such that the centerline of the antennas does not exceed 6 inches vertically from the center of the antenna mount.

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

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

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.

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

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

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.
6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.
7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
 - o Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - o HSS (Rectangular) ASTM 500 (Gr. B-46)
 - o Pipe ASTM A53 (Gr. B-35)
 - o Threaded Rod F1554 (Gr. 36)
 - o 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	10.4 %	Pass
End Plate	14.4 %	Pass
Standoff Horizontal	19.7 %	Pass
Cross Brace	36.4 %	Pass
Antenna Pipe	23.0 %	Pass
Grating Support	4.4 %	Pass
MOD Support Rail	44.8 %	Pass
MOD Support Rail Corner	30.4 %	Pass
MOD V-bracing	11.9 %	Pass
Mount Connection	21.3 %	Pass

Structure Rating – (Controlling Utilization of all Components)	44.8%
---	--------------

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector B Standoff	97	N45	464	1560	0.638	0.852	1043	1924	1.515	0.316
Sector A Standoff	97	N53	461	1561	0.649	0.895	1030	1939	1.591	0.325
Sector C Standoff	97	N61	399	1466	0.656	0.782	822	1892	1.402	0.292
Sector A Reinforcement	102.5	N180	889	1407	0.000	0.000	1952	2948	0.000	0.000
Sector C Reinforcement	102.5	N183	888	1406	0.000	0.000	1948	2942	0.000	0.000
Sector B Reinforcement	102.5	N186	893	1414	0.000	0.000	1955	2954	0.000	0.000

Notes:

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

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

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	32.0	32.0	47.9	47.9
0.5	42.1	42.1	64.8	64.8
1	51.5	51.5	80.9	80.9

Notes:

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

Requirements:

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

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

Attachments:

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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Electronic pdf version of this can be downloaded at <https://pmi.vzwsmart.com>

For additional questions and support, please reach out to pmisupport@colliersengineering.com

MDG #: 5000243474

SMART Project #: 10220001

Fuze Project ID: 16092590

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:

Proposed OVPs to be installed on the proposed OVP pipes, refer to the Mount Modification Drawings.

Response:

Special Instruction Confirmation:

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

Comments:

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

- Yes No

Contractor certifies no new damage created during the current installation:

- Yes No

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

- Safety Climb in Good Condition Safety Climb Damaged

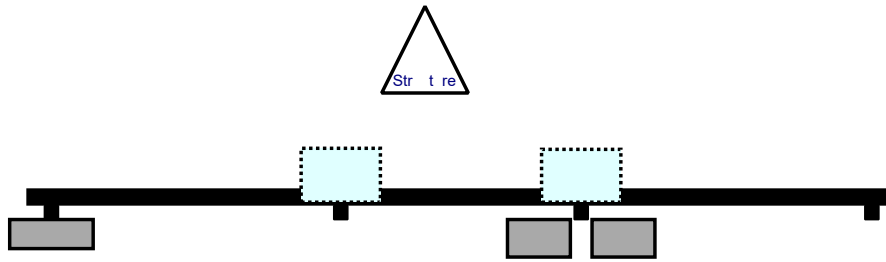
Comments:

--

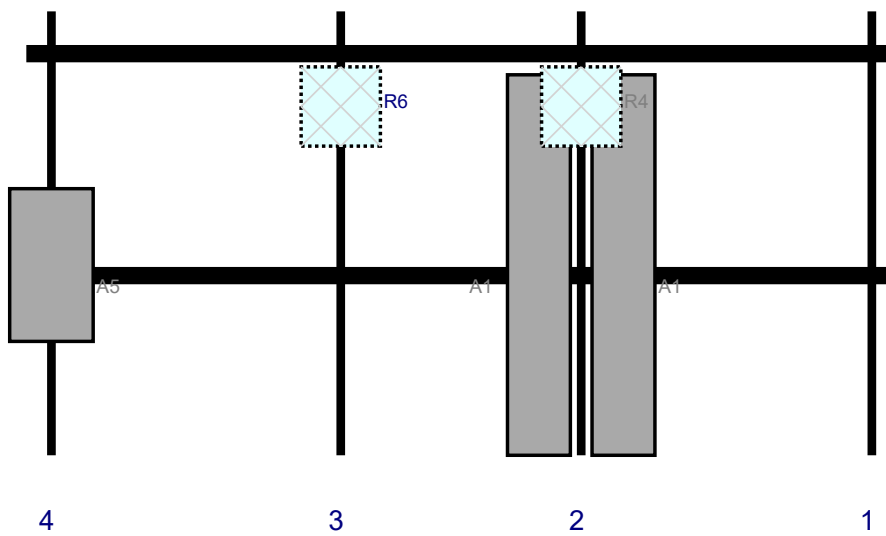
Certifying Individual:

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

Plan View

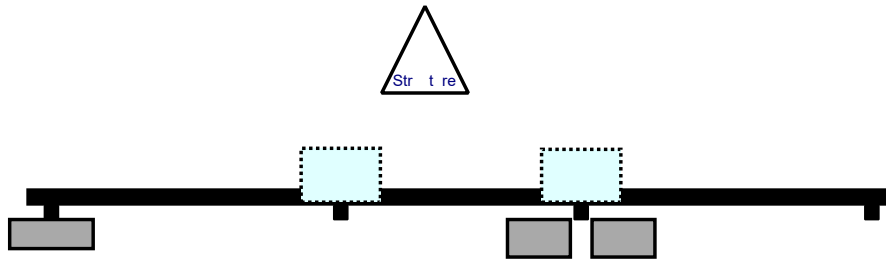


Front View - Looking at Structure

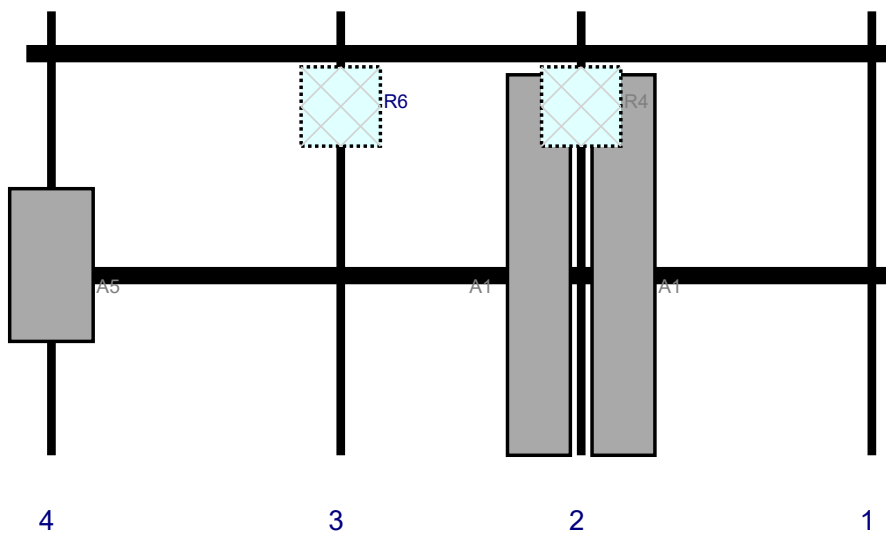


Re #	Model	Height (i)	Width (i)	H Dist Fr L.	Pipe #	Pipe Pos V	A t Pos	C. A t Fr T.	A t H O	St t s	V lid tio
A1	NHH-65B-R2B	72	11.9	105	2		Fro t	48	-8	Added	
A1	NHH-65B-R2B	72	11.9	105	2		Fro t	48	8	Added	
R4	RF4439d-25A	15	15	105	2		Behi d	18	0	Added	
R6	RF4461d-13A	15	15	59.5	3		Behi d	18	0	Added	
A5	MT6413-77A	28.9	15.8	4.75	4		Fro t	48	0	Added	
OVP	RVZDC-6627-PF-48	29.5	16.5			Me er				Added	
OVP1	RVZDC-6627-PF-48	29.5	16.5			Me er				Added	

Plan View

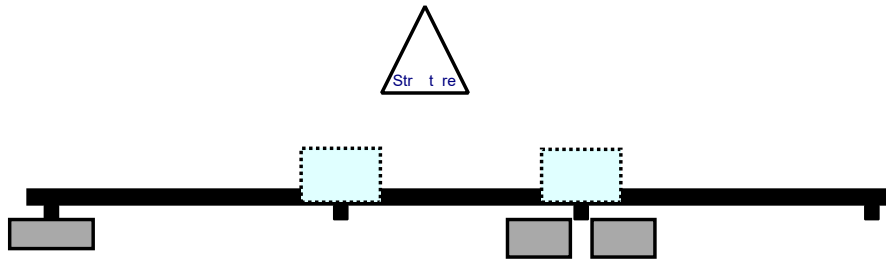


Front View - Looking at Structure

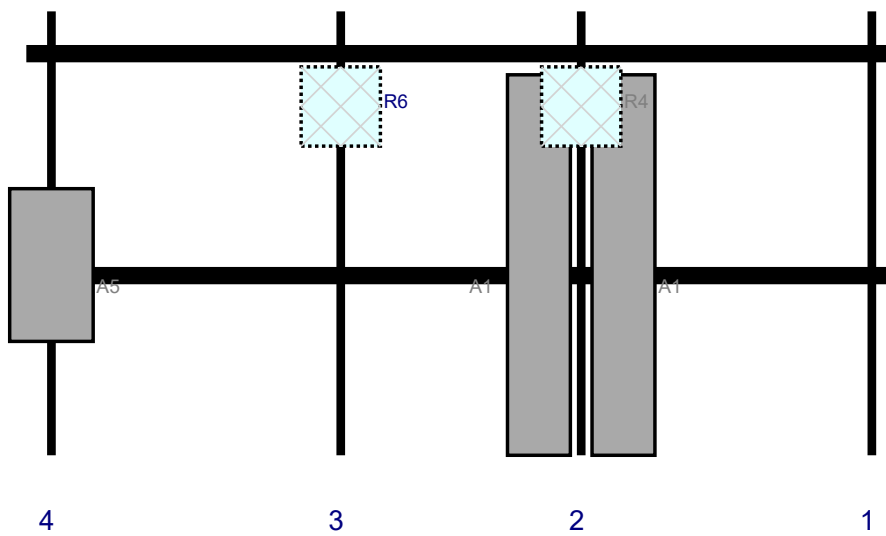


Re #	Model	Height (i)	Width (i)	H Dist Fr L.	Pipe #	Pipe Pos V	A t Pos	C. A t Fr T.	A t H O	St t s	V lid tio
A1	NHH-65B-R2B	72	11.9	105	2		Fro t	48	-8	Added	
A1	NHH-65B-R2B	72	11.9	105	2		Fro t	48	8	Added	
R4	RF4439d-25A	15	15	105	2		Behi d	18	0	Added	
R6	RF4461d-13A	15	15	59.5	3		Behi d	18	0	Added	
A5	MT6413-77A	28.9	15.8	4.75	4		Fro t	48	0	Added	

Plan View



Front View - Looking at Str t re



Re #	Model	Height (i)	Width (i)	H Dist Fr L.	Pipe #	Pipe Pos V	A t Pos	C. A t Fr T.	A t H O	St t s	V lid tio
A1	NHH-65B-R2B	72	11.9	105	2		Fro t	48	-8	Added	
A1	NHH-65B-R2B	72	11.9	105	2		Fro t	48	8	Added	
R4	RF4439d-25A	15	15	105	2		Behi d	18	0	Added	
R6	RF4461d-13A	15	15	59.5	3		Behi d	18	0	Added	
A5	MT6413-77A	28.9	15.8	4.75	4		Fro t	48	0	Added	



MOUNT MODIFICATION DRAWINGS
EXISTING 13.67' PLATFORM

TOWER OWNER: AMERICAN TOWER CORPORATION
TOWER OWNER SITE NUMBER: 283563

CARRIER SITE NAME: MANSFIELD FOUR CORNERS CT
CARRIER SITE NUMBER: 5000243474
FUZE ID: 16092590

343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY

LATITUDE: 41.836606° N
LONGITUDE: 72.254976° W



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

SCALE: AS SHOWN JOB NUMBER: 23777010

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	07/18/23	ISSUED FOR CONSTRUCTION	FAC	DX

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

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

SITE NAME:
MANSFIELD FOUR CORNERS
CT
5000243474
343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY

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

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
ST-1

DESIGN CRITERIA
WIND LOADS BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH EXPOSURE CATEGORY B TOPOGRAPHIC CATEGORY: I TOPOGRAPHIC CONSIDERED: N/A TOPOGRAPHIC METHOD: N/A MEAN BASE ELEVATION (AMSL) = 493.099'
ICE LOADS ICE WIND SPEED (3 SECOND GUST), V = 50 MPH ICE THICKNESS = 1.50 IN
SEISMIC LOADS SEISMIC DESIGN CATEGORY B SHORT TERM MCER GROUND MOTION, S _s = .183 LONG TERM MCER GROUND MOTION, S _l = .055

PROJECT INFORMATION
APPLICANT/LESSEE COMPANY: VERIZON WIRELESS CLIENT REPRESENTATIVE COMPANY: VERIZON WIRELESS PROJECT MANAGER COMPANY: COLLIERS ENGINEERING & DESIGN CONTACT: PETER ALBANO PHONE: 856.797.0412 E-MAIL: PETER.ALBANO@COLLIERSENG.COM
CONTRACTOR PMI REQUIREMENTS PMI LOCATION: HTTPS://PMI.VZWSMART.COM SMART TOOL PROJECT #: 10205678 VZW MDG #: 5000243474 ANALYSIS DATE: 7/18/2023 PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

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

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BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
2	VZWSMART	VZWSMART-P40-238X048	48" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		15	30
3		VZWSMART-PLK3	SUPPORT RAIL CORNER BRACKET		30	90
2		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE		34	68
3		VZWSMART-PLK6	V-BRACING KIT FOR MONOPOLE	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	109	327
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150
3		VZWSMART-AL333	CLIP ANGLE		3	9
12		VZWSMART-MSK1	CROSSOVER PLATE		14	168

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-	-	168" LONG, P2.5 SCH40 (2.875" OD X 0.203" THK)	GALVANIZED	78	234
3	-	-	36" LONG L3X3X1/4 SUPPORT RAIL CONNECTOR ANGLE	GALVANIZED, CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	15	45

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISION	PV-SCRB-RM-U	ROUTING BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
TOTAL:						1121

NOTES:

- 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.
- 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	WIRELESSALES@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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343 DALEVILLE RD
WILLINGTON, CT 06279
TOLLAND COUNTY

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

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER:
SBOM-1

GENERAL NOTES

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

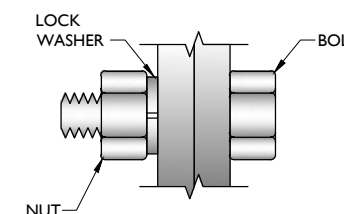
STRUCTURAL STEEL

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

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE
- ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - SUBMIT SHOP DRAWINGS TO
PETER.ALBANO@COLLIERSENG.COM
 - PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
- WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
- ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

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

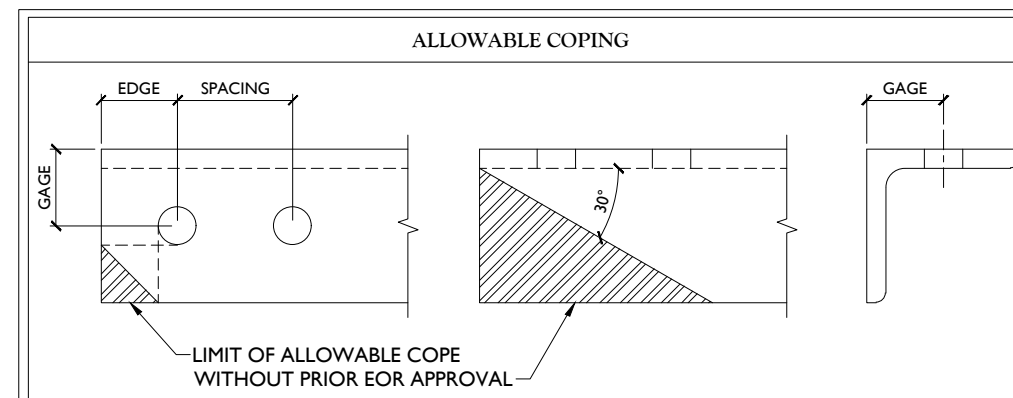
WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

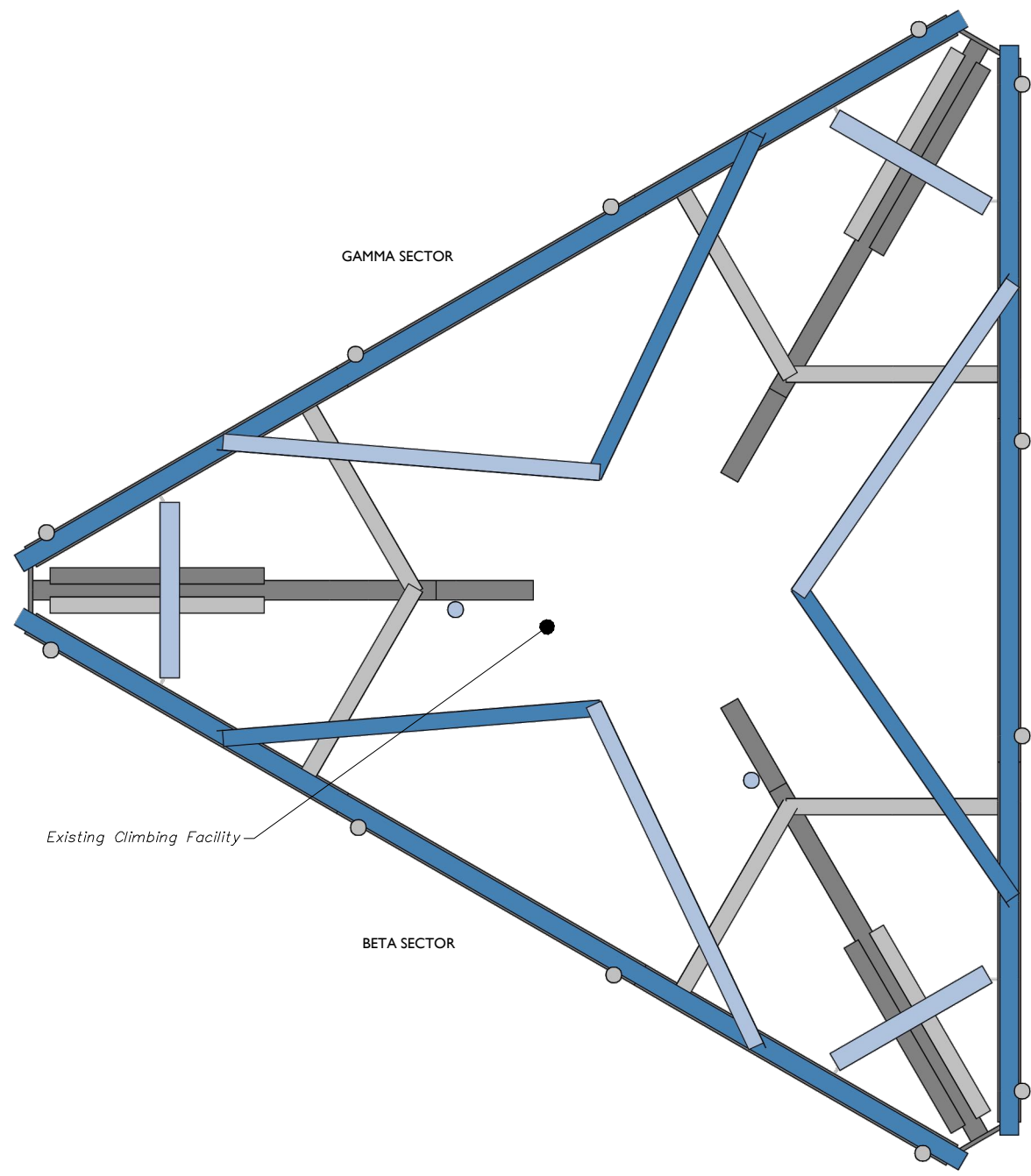
NOTES:

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



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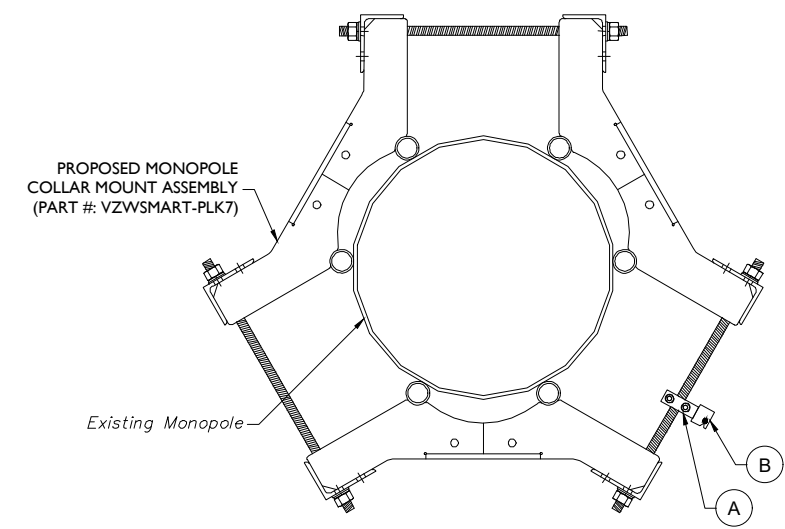
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REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY



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

STRUCTURAL NOTES:

- PER THE MOUNT MAPPING COMPLETED BY ONSIGHT SERVICES ON 6/7/2023, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (97'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.



ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	PV-SCRB-RM-U	ROUTING BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

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

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



CLIMBING FACILITY PHOTO



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WILLINGTON, CT 06279
TOLLAND COUNTY

Colliers STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
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SHEET TITLE:
CLIMBING FACILITY DETAIL

SHEET NUMBER:
SCF-1

LEGEND:

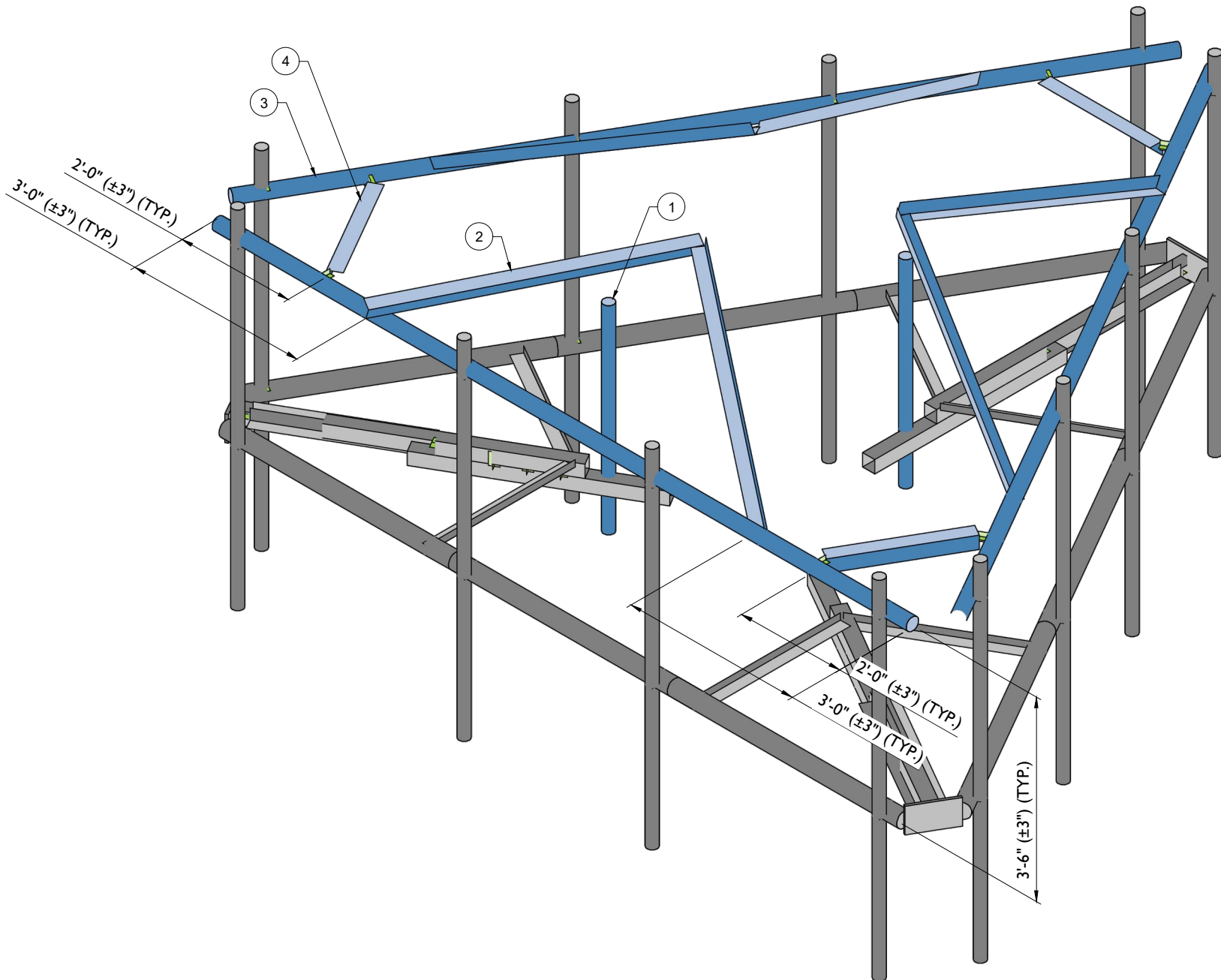
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

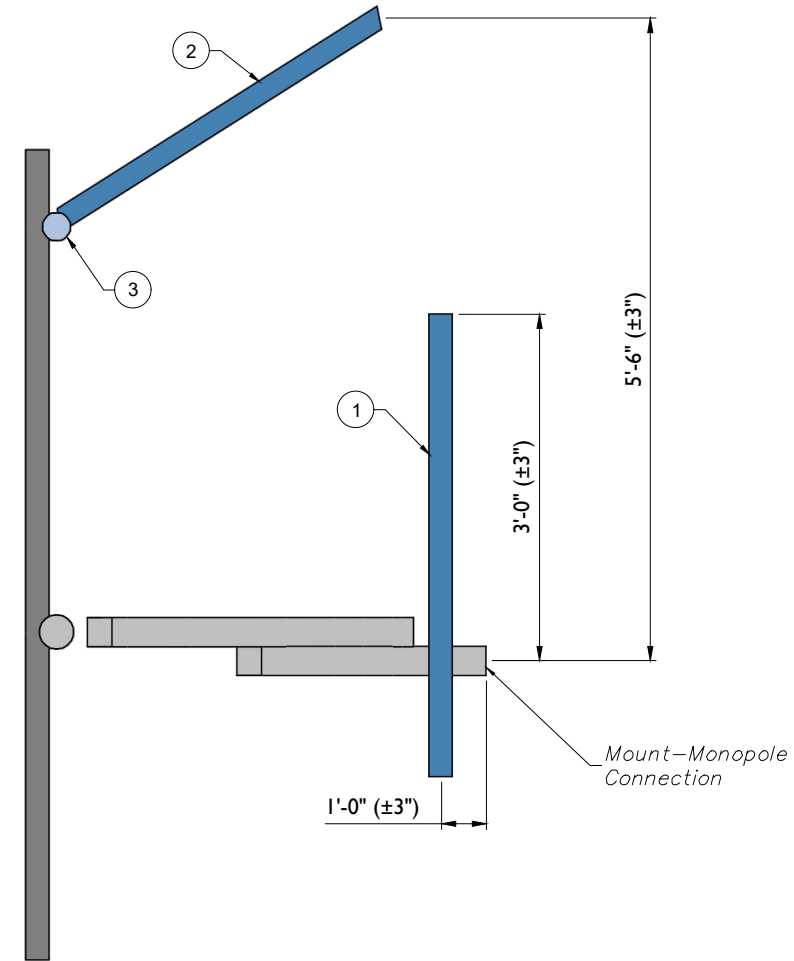
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	97'-0"	2	PROPOSED 48" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X048)	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK6).
2		3	PROPOSED V-BRACING KIT FOR MONOPOLE (PART #: VZWSMART-PLK6)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONTRACTOR SHALL INSTALL ONE PROPOSED CLIP ANGLE (PART #:VZWSMART-AL333) AT THE END OF THE SFK3 ANGLE AS REQUIRED. CONNECT OTHER END OF V-BRACING KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.
3		3	168" LONG, P2.5 SCH40 (2.875" OD X 0.203" THK)	CONNECT NEW HORIZONTAL TO ALL EXISTING VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1). RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
4		3	36" LONG L3X3X1/4 SUPPORT RAIL CONNECTOR ANGLE	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONTRACTOR SHALL CONNECT PROPOSED ANGLES TO SUPPORT RAIL CORNER BRACKET (PART #: VZWSMART-PLK3) USING THE PROVIDED (8) 5/8" DIA. BOLTS, (4) BOLTS PER CONNECTION.

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.

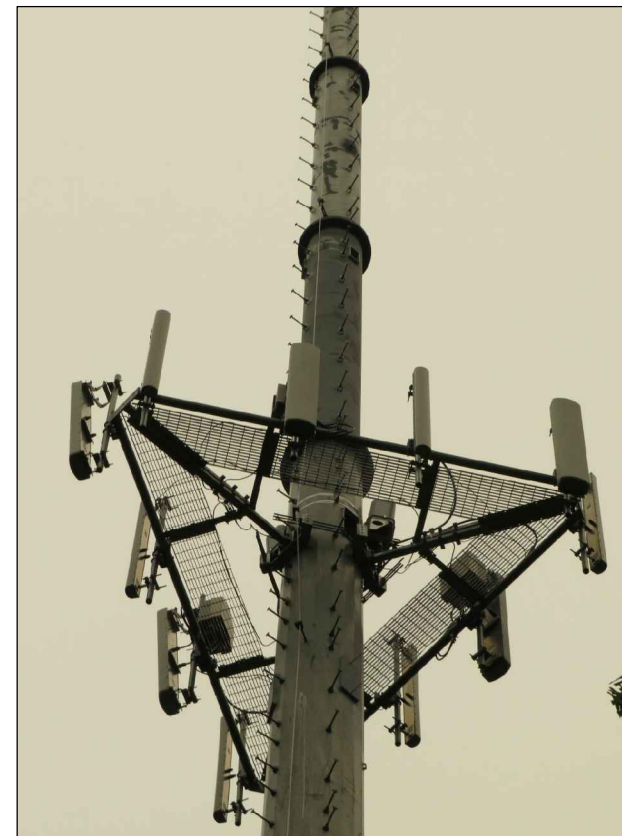
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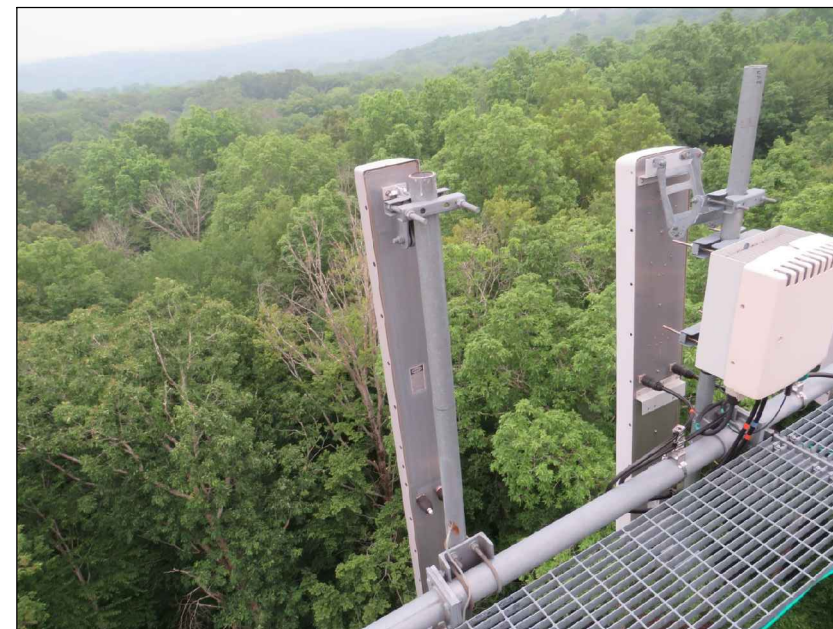
MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4



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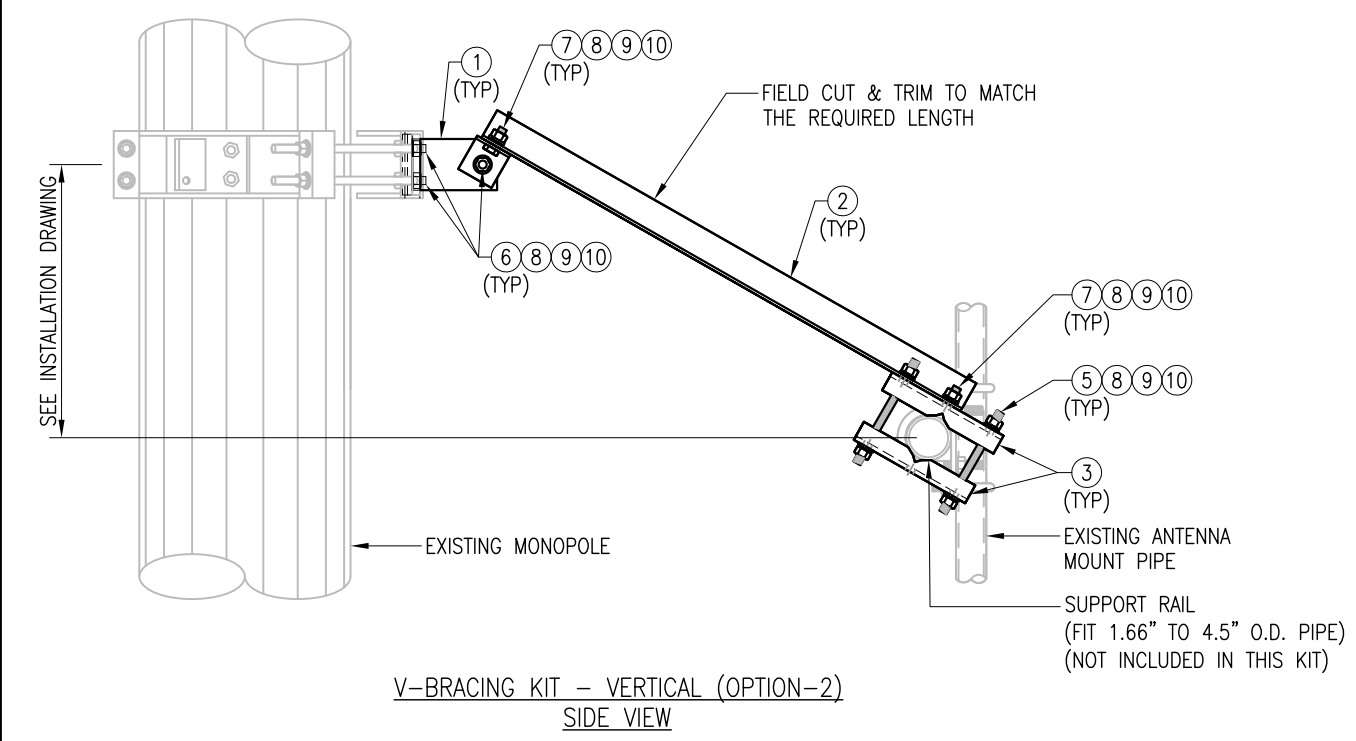
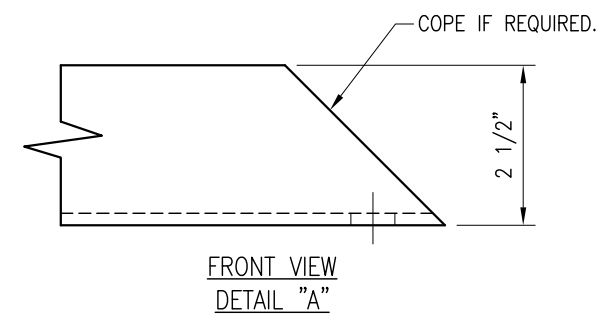
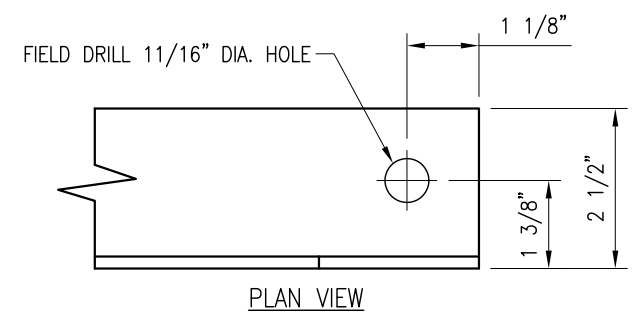
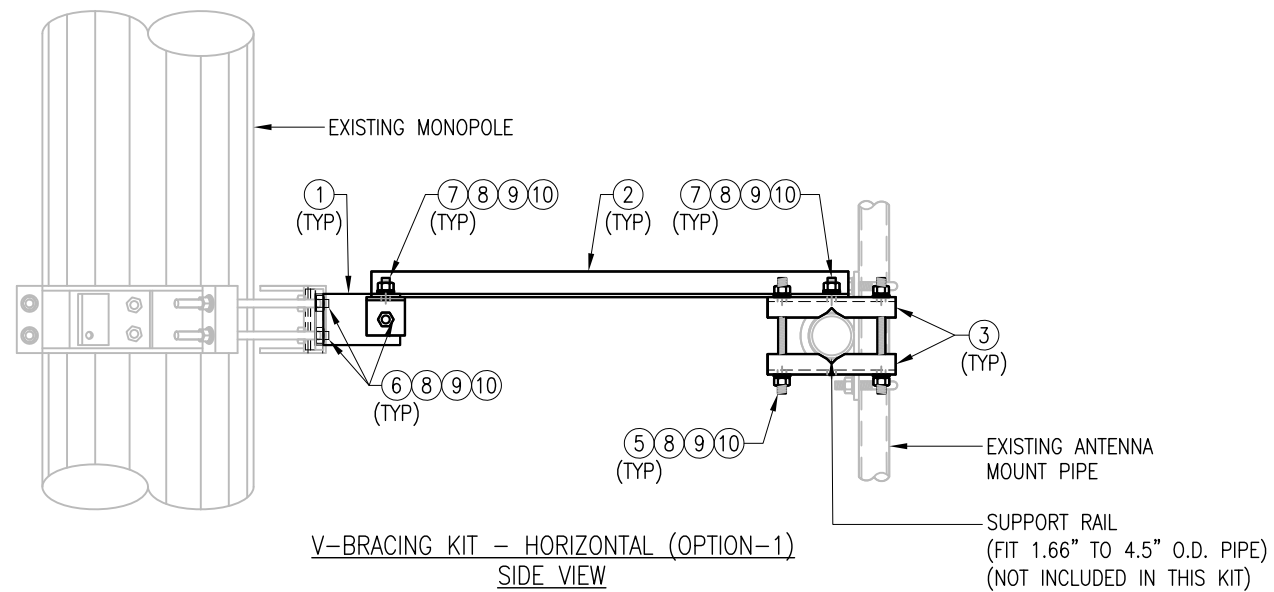
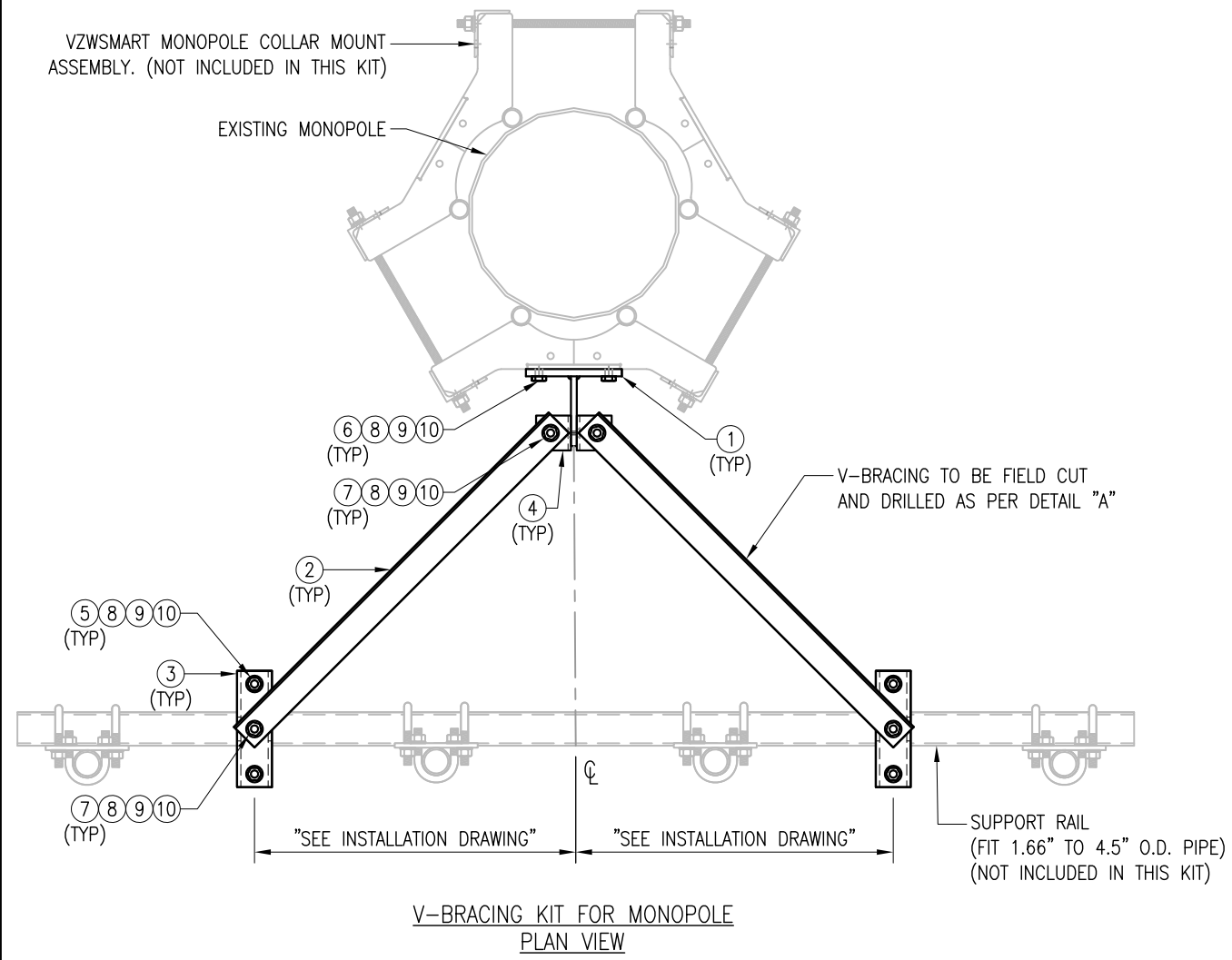
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SHEET TITLE:
MOUNT PHOTOS

SHEET NUMBER:
SS-2



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

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

FOR REFERENCE ONLY

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

SHEET NUMBER: VZSMART-PLK6	REV #: 0
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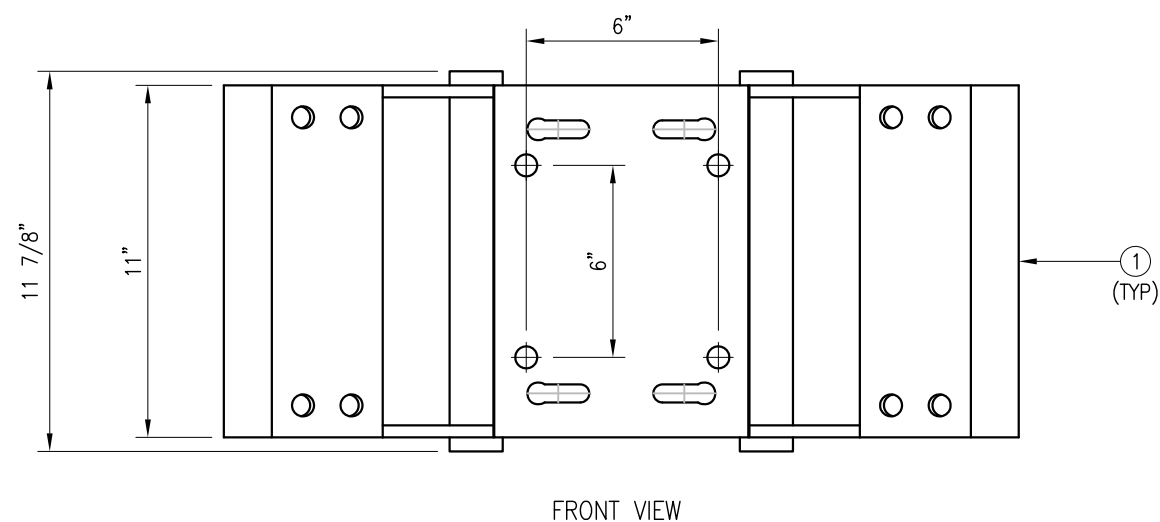
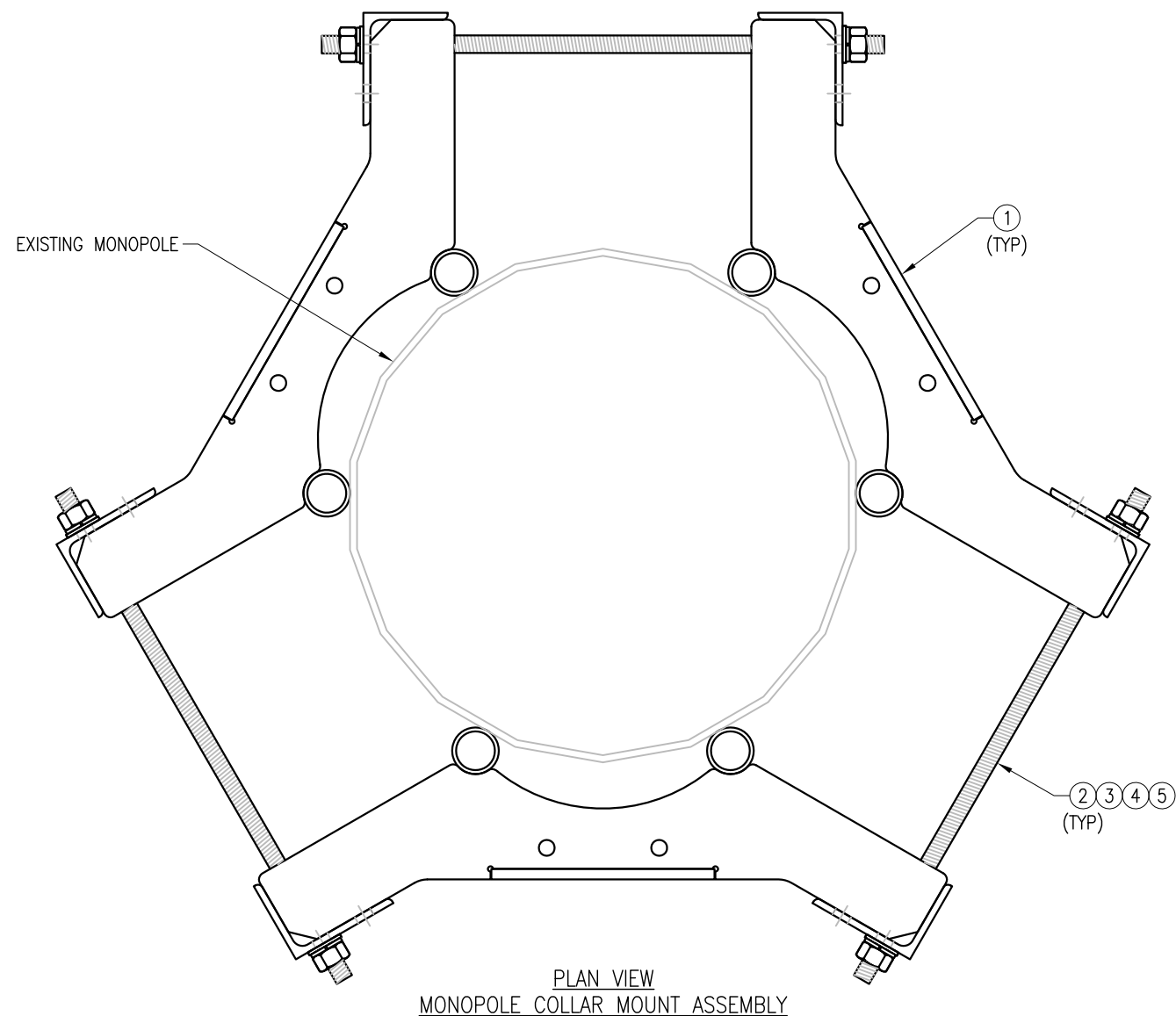
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REV.	DESCRIPTION	BY	DATE
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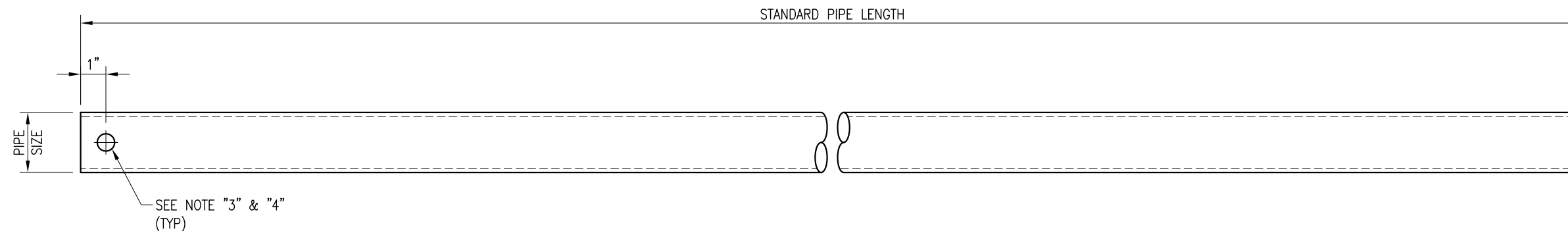
SHEET TITLE:
 VZSMART-PLK7
 MONOPOLE COLLAR
 MOUNT ASSEMBLY

SHEET NUMBER: VZSMART-PLK7 REV #: 0



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

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



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.

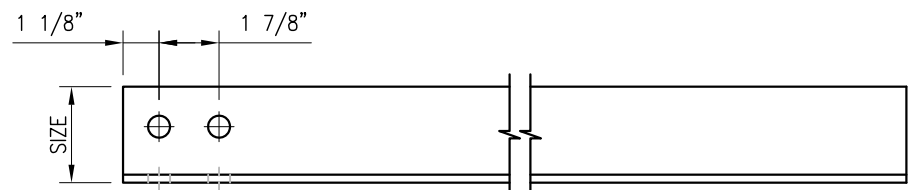
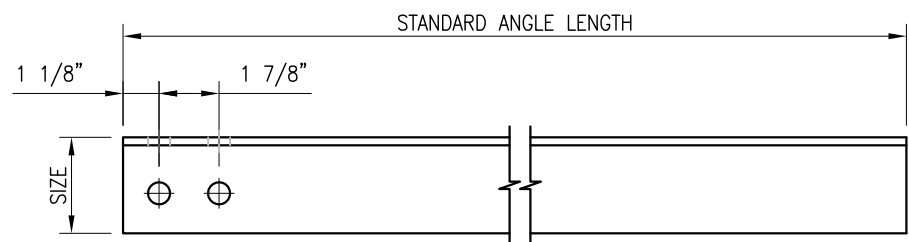
FOR REFERENCE
 ONLY

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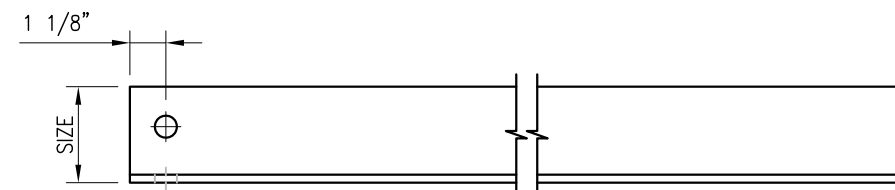
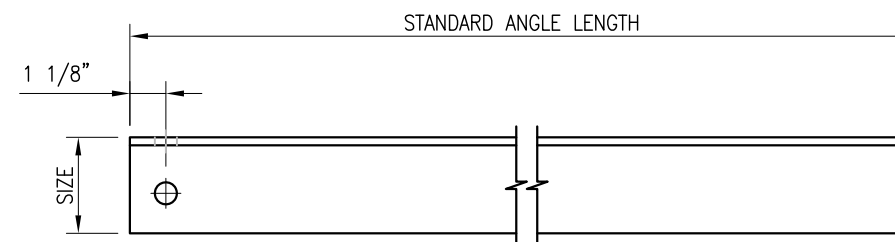
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

SHEET TITLE:
 VZWSMART
 STANDARD PIPE

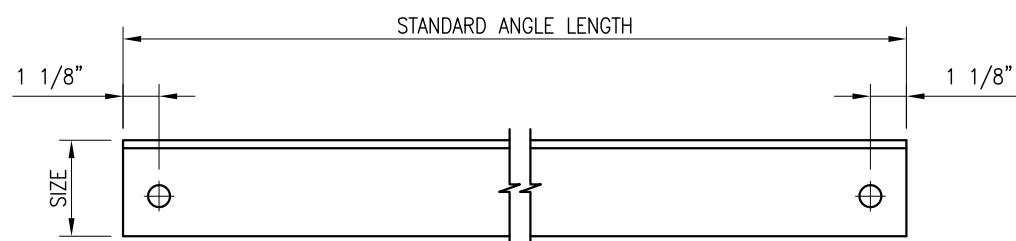
SHEET NUMBER: VZWSMART-PIPE REV #: 0



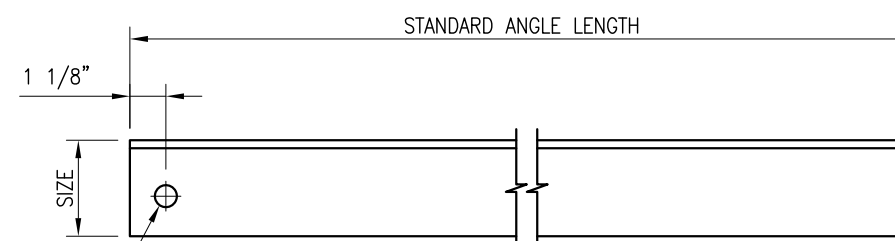
HOLE STYLE "A"



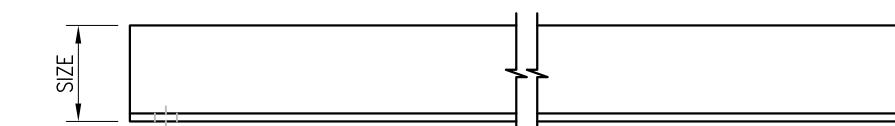
HOLE STYLE "B"



HOLE STYLE "C"



SEE NOTE "3" & "4"
 (TYP)



HOLE STYLE "D"

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

- NOTES:
1. ALL ANGLE GRADE A36 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.

VZWSMART Standard Angle

VZWSMART Number	Size	Length	Hole Style	Hole Gage	Also Used In:
A-PLK2-01	L 3" X 3" X 1/4"	96"	A	1-3/4"	VZWSMART-PLK2
A-PLK5-01	L 3" X 3" X 3/16"	96"	B	1-3/4"	VZWSMART-PLK5
A-SFK3-01	L 2-1/2" X 2-1/2" X 1/4"	96"	C	1-3/8"	VZWSMART-SFK3, -SFK3-SL, -PLK6, & -PLK8
A-L25X25X4X120	L 2-1/2" X 2-1/2" X 1/4"	120"	D	1-5/16"	
A-L25X25X4X240	L 2-1/2" X 2-1/2" X 1/4"	240"	D	1-5/16"	
A-L30X30X4X120	L 3" X 3" X 1/4"	120"	D	1-1/2"	
A-L30X30X4X240	L 3" X 3" X 1/4"	240"	D	1-1/2"	
A-L40X40X4X120	L 4" X 4" X 1/4"	120"	D	2"	
A-L40X40X4X240	L 4" X 4" X 1/4"	240"	D	2"	
A-L50X30X6X120	L 5" X 3" X 3/8"	120"	D	2-1/2"	
A-L50X50X6X120	L 5" X 5" X 3/8"	120"	D	2-1/2"	

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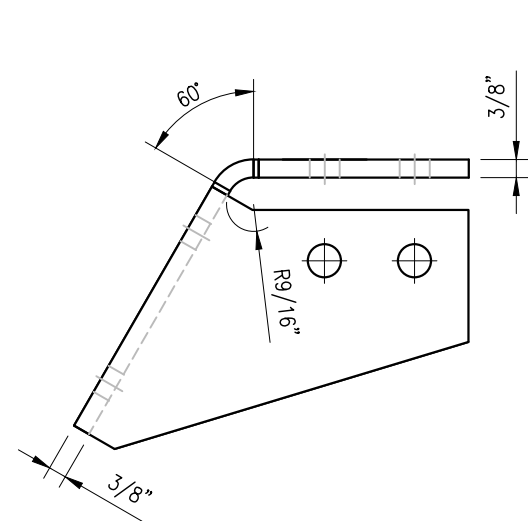
REV. DESCRIPTION BY DATE
 △ FIRST ISSUE BT 08/04/21

△
 △
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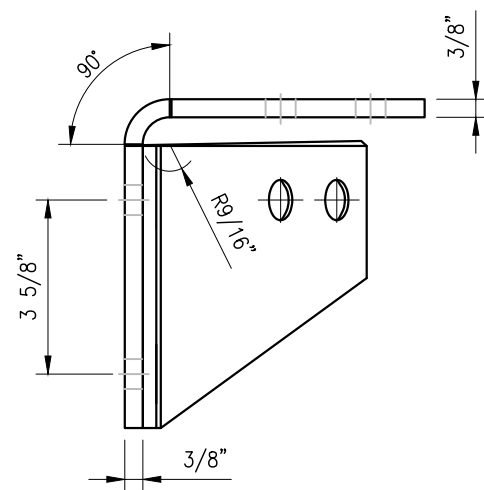
SHEET TITLE:

VZWSMART
 STANDARD ANGLE

SHEET NUMBER: VZWSMART-ANGLE REV #: 0

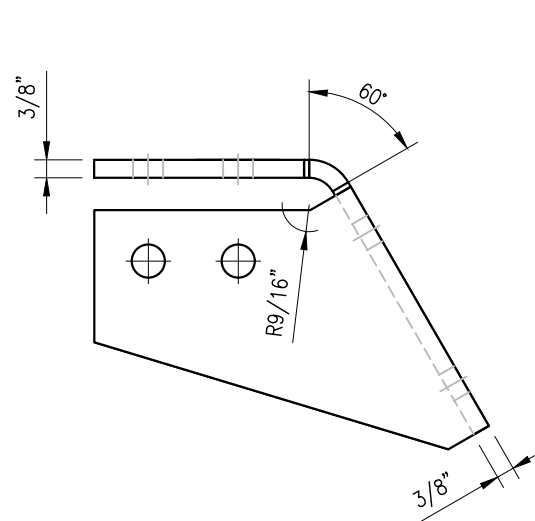


TOP VIEW

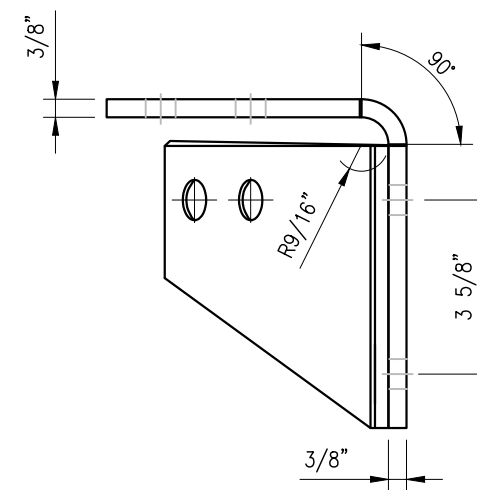


SIDE VIEW

CBP-L



TOP VIEW



SIDE VIEW

CBP-R

NOTES:

1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZSMART-PLK3 (SUPPORT RAIL CORNER BRACKET)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	CBP-L	CORNER BENT PLATE BRACKET	PLK3-F1	9
2	1	CBP-R	CORNER BENT PLATE BRACKET	PLK3-F1	9
3	4	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	5
4	8	---	BOLT 5/8" X 2" A325	---	3
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	16	NUT-625	5/8" HDG HEX NUT	---	2
GALVANIZED WT					30

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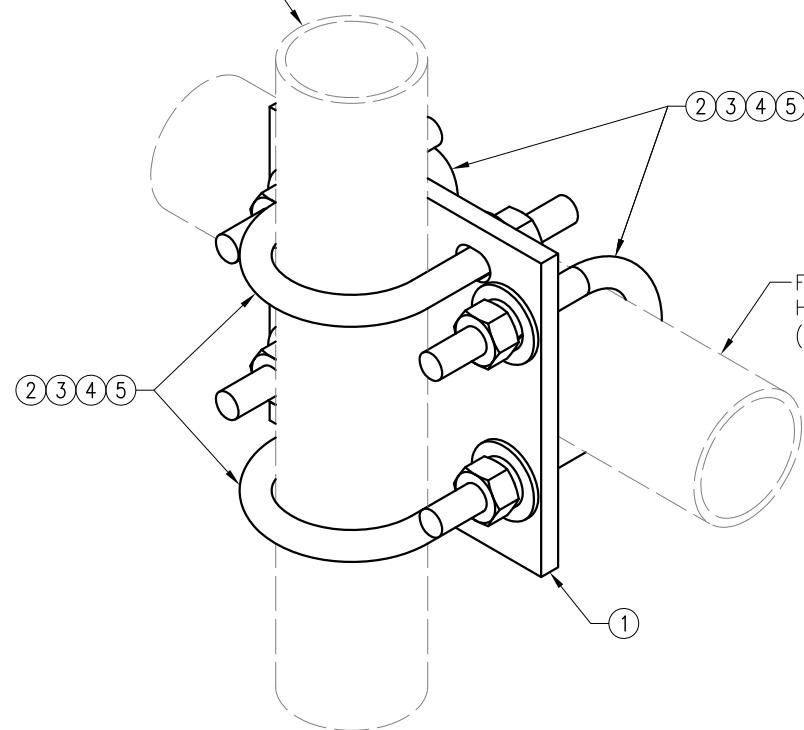
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
 VZSMART-PLK3
 SUPPORT RAIL CORNER
 BRACKET

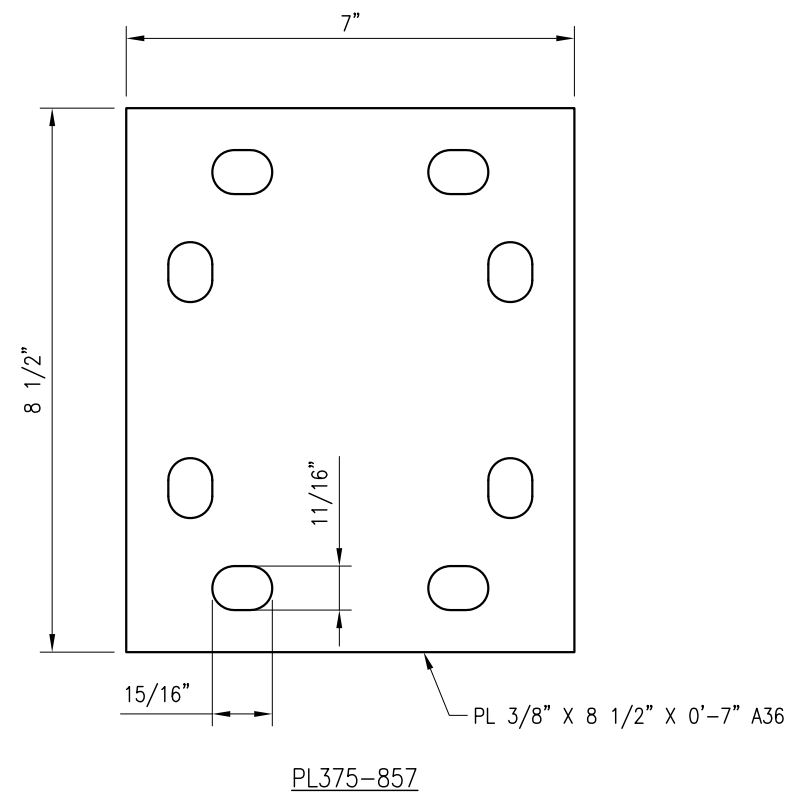
SHEET NUMBER: VZSMART-PLK3 REV #: 0



FITS 2.375" O.D. AND 2.875" O.D.
 VERTICAL PIPE.
 (NOT INCLUDED IN THIS KIT)



FITS 2.375" O.D. AND 2.875" O.D.
 HORIZONTAL PIPE.
 (NOT INCLUDED IN THIS KIT)



FOR REFERENCE
 ONLY

DRAWN BY: H.R. CHECKED BY: HMA

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

SHEET TITLE:

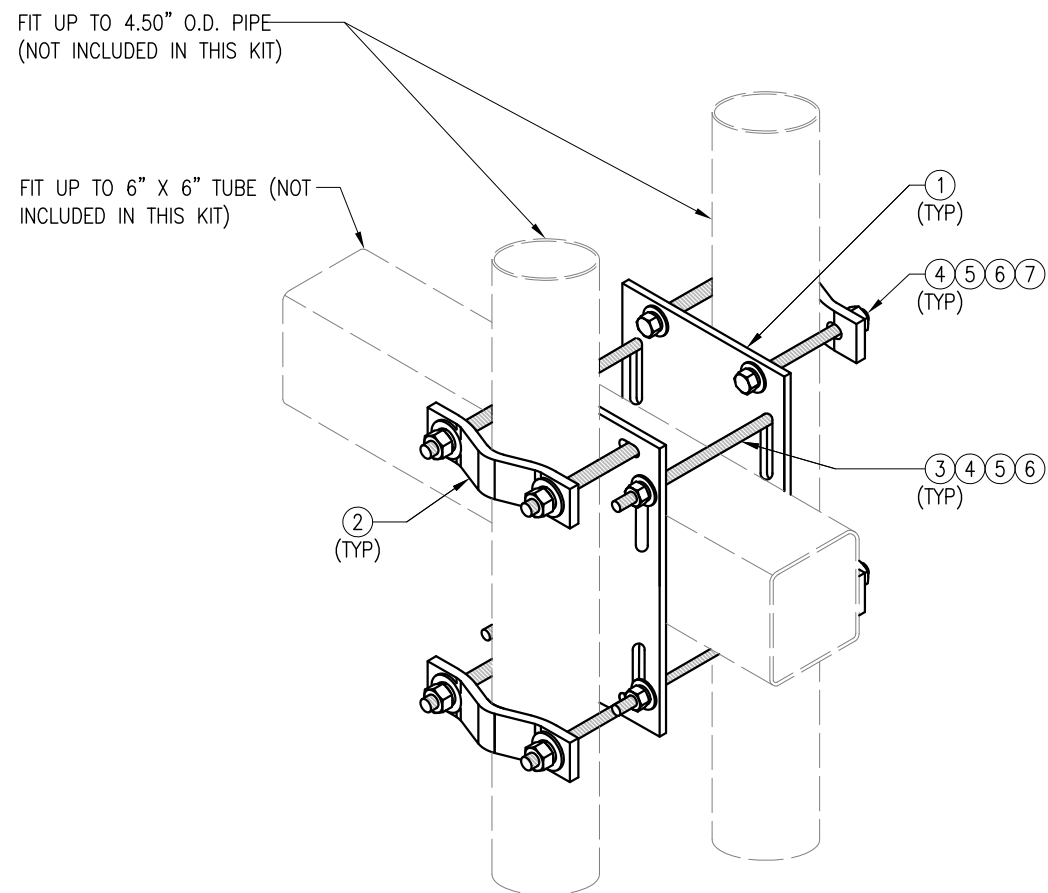
VZSMART-MSK1
 CROSSOVER PLATE

SHEET NUMBER: REV #:

VZSMART-MSK1 0

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

VZSMART-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



ISOMETRIC VIEW
 BACK TO BACK CROSSOVER

FOR REFERENCE
 ONLY

DRAWN BY: SK CHECKED BY: BT/KW

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

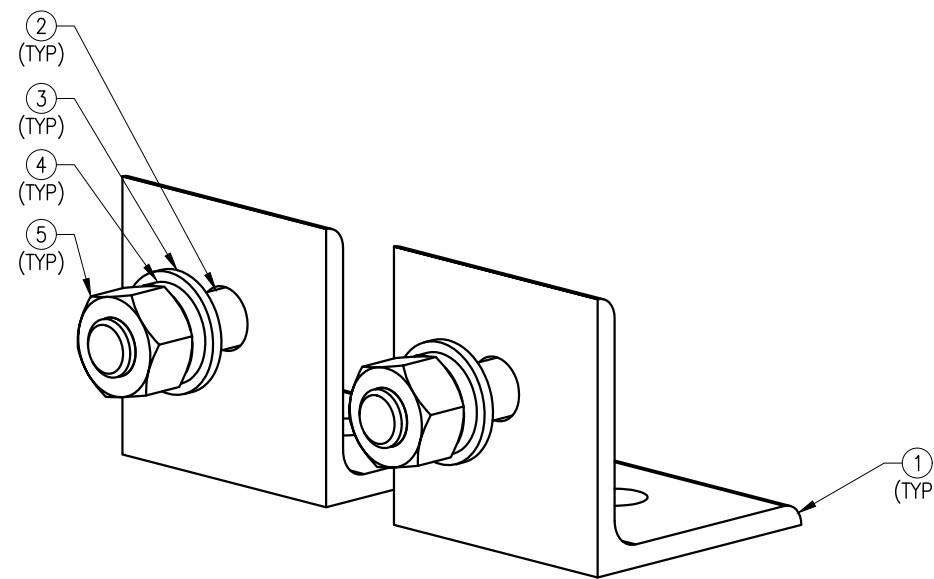
SHEET TITLE:
 VZSMART-MSK6
 BACK TO BACK
 CROSSOVER

SHEET NUMBER:
 VZSMART-MSK6

REV #:
 0

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

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



CLIP ANGLE
 ISOMETRIC VIEW

FOR REFERENCE
 ONLY

DRAWN BY: JBM CHECKED BY: ----

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

VZSMART-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.

SHEET TITLE:
 VZSMART-AL333
 CLIP ANGLE

SHEET NUMBER: VZSMART-AL333 REV #: 0



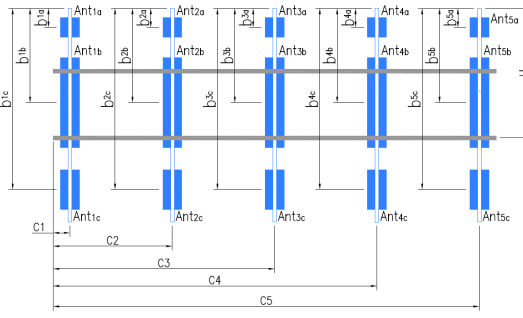
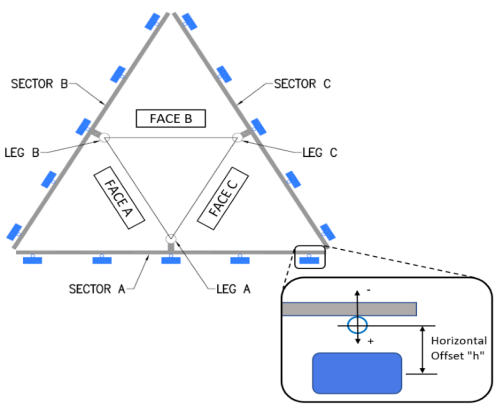
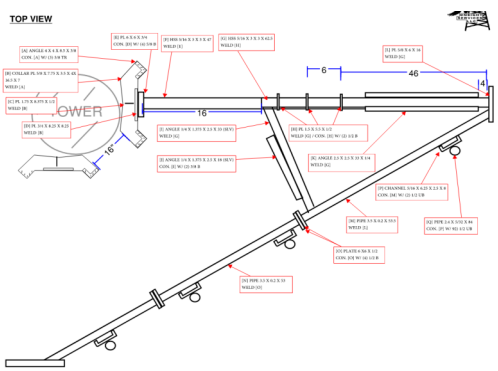
Antenna Mount Mapping Form (PATENT PENDING)

FCC #



Tower Owner:	AMERICAN TOWER	Mapping Date:	6/7/2023
Site Name:	MANSFIELD FOUR CORNERS	Tower Type:	MONOPOLE
Site Number or ID:	16092590	Tower Height (Ft.):	159
Mapping Contractor:	ONSIGHT SERVICES	Mount Elevation (Ft.):	97

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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 X 5/32 X 84	50.00	4.00	C1	2.4 X 5/32 X 84	50.00	4.00
A2	2.4 X 5/32 X 84	50.00	59.00	C2	2.4 X 5/32 X 84	50.00	59.00
A3	2.4 X 5/32 X 84	50.00	104.50	C3	2.4 X 5/32 X 84	50.00	104.50
A4	2.4 X 5/32 X 84	50.00	159.25	C4	2.4 X 5/32 X 84	50.00	159.25
A5				C5			
A6				C6			
B1	2.4 X 5/32 X 84	50.00	4.00	D1			
B2	2.4 X 5/32 X 84	50.00	59.00	D2			
B3	2.4 X 5/32 X 84	50.00	104.50	D3			
B4	2.4 X 5/32 X 84	50.00	159.25	D4			
B5				D5			
B6				D6			

Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.):
 Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.):
 Please enter additional information or comments below.

Tower Face Width at Mount Elev. (ft.):	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	27.23
--	---	-------

Ants. Items	Enter antenna model. If not labeled, enter "Unknown".					Mounting Locations [Units are inches and degrees]			Photos of antennas	
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b _{1a} , b _{2a} , b _{3a} , b _{1b} ,..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant _{1a}	BXA-70063-6CF-EDIN	11.25	5.00	71.00			45.00	10.00	90.00	43
Ant _{1b}										
Ant _{1c}										
Ant _{2a}	BXA-171063-12CF-ED	6.00	4.10	72.25			41.25	8.00	90.00	44
Ant _{2b}										
Ant _{2c}										
Ant _{3a}	BXA-70063-6CF-EDIN	11.25	5.00	71.00			45.00	10.00	90.00	44
Ant _{3b}	RADIO	15.25	10.00	16.50			29.50	7.00		44
Ant _{3c}										
Ant _{4a}	BXA-171063-12CF-ED	6.00	4.10	72.25			41.25	8.00	90.00	46
Ant _{4b}										
Ant _{4c}										
Ant _{5a}										
Ant _{5b}										
Ant _{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	RRFDC-3315-PF-48	14.00	10.00	19.00		101				47
Ant on Tower										

Antenna Layout (Looking Out From Tower)

Observed Safety and Structural Issues During the Mount Mapping

Issue #	Description of Issue	Photo #
1	SEEMS THAT ONLY ANTENNA 3A IS ACTIVE SEE OVERALL PHOTOS	42 TO 60
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.

SMART Tool[®]
Vendor

Antenna Mount Mapping Form (PATENT PENDING)

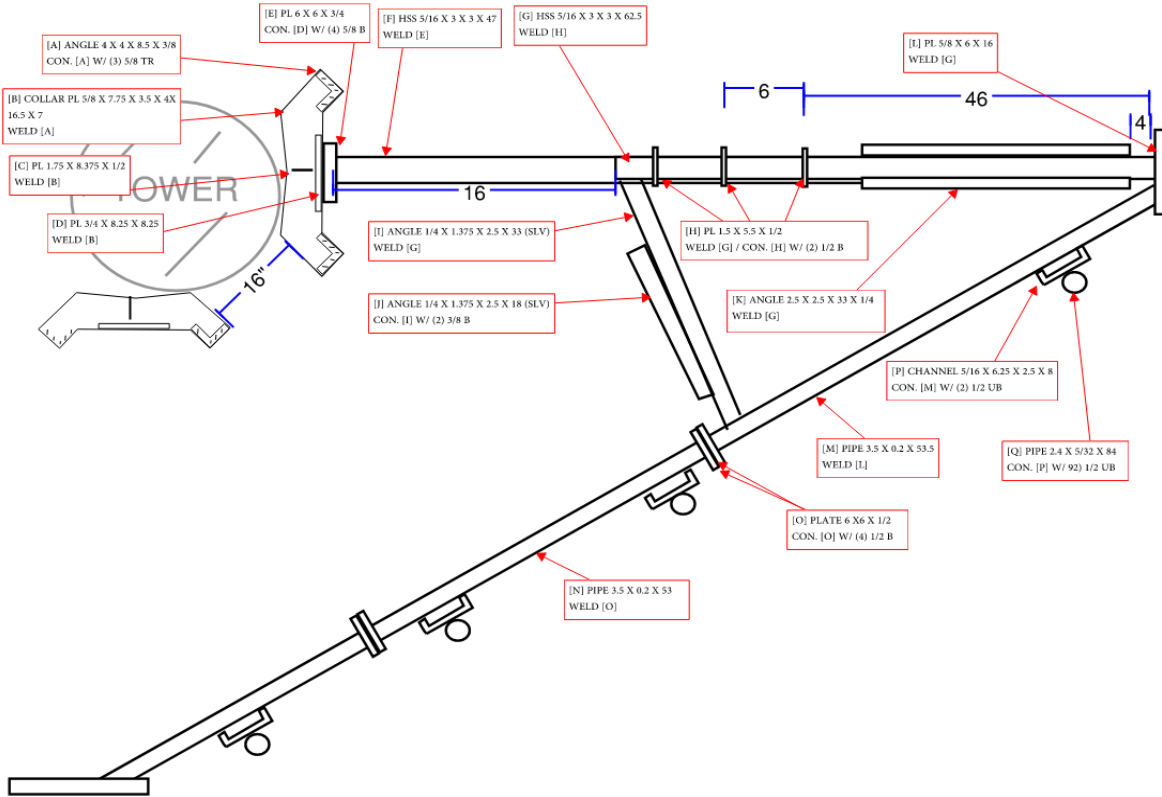
FCC #

Tower Owner:	AMERICAN TOWER	Mapping Date:	6/7/2023
Site Name:	MANSFIELD FOUR CORNERS	Tower Type:	MONOPOLE
Site Number or ID:	16092590	Tower Height (Ft.):	159
Mapping Contractor:	ONSIGHT SERVICES	Mount Elevation (Ft.):	97

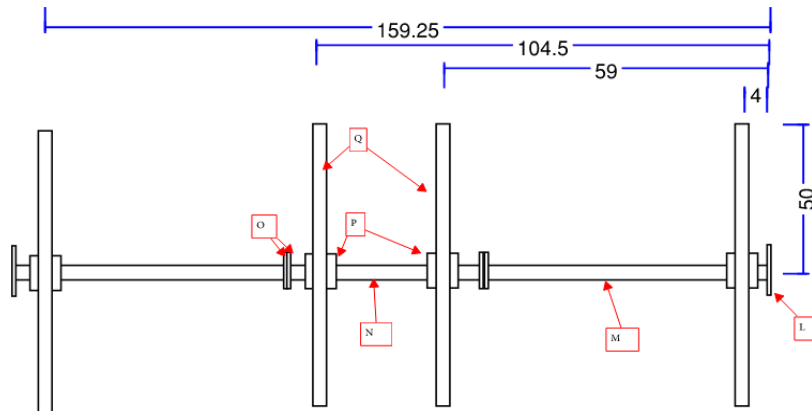
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Please Insert Sketches of the Antenna Mount

TOP VIEW



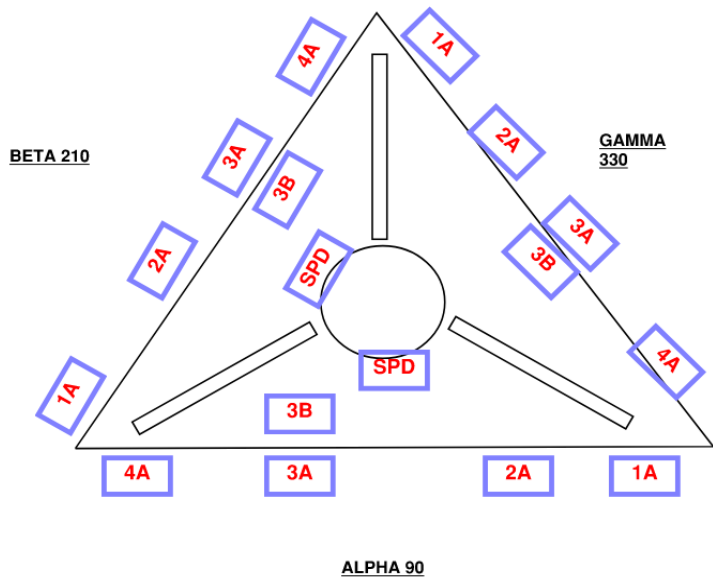
FRONT VIEW

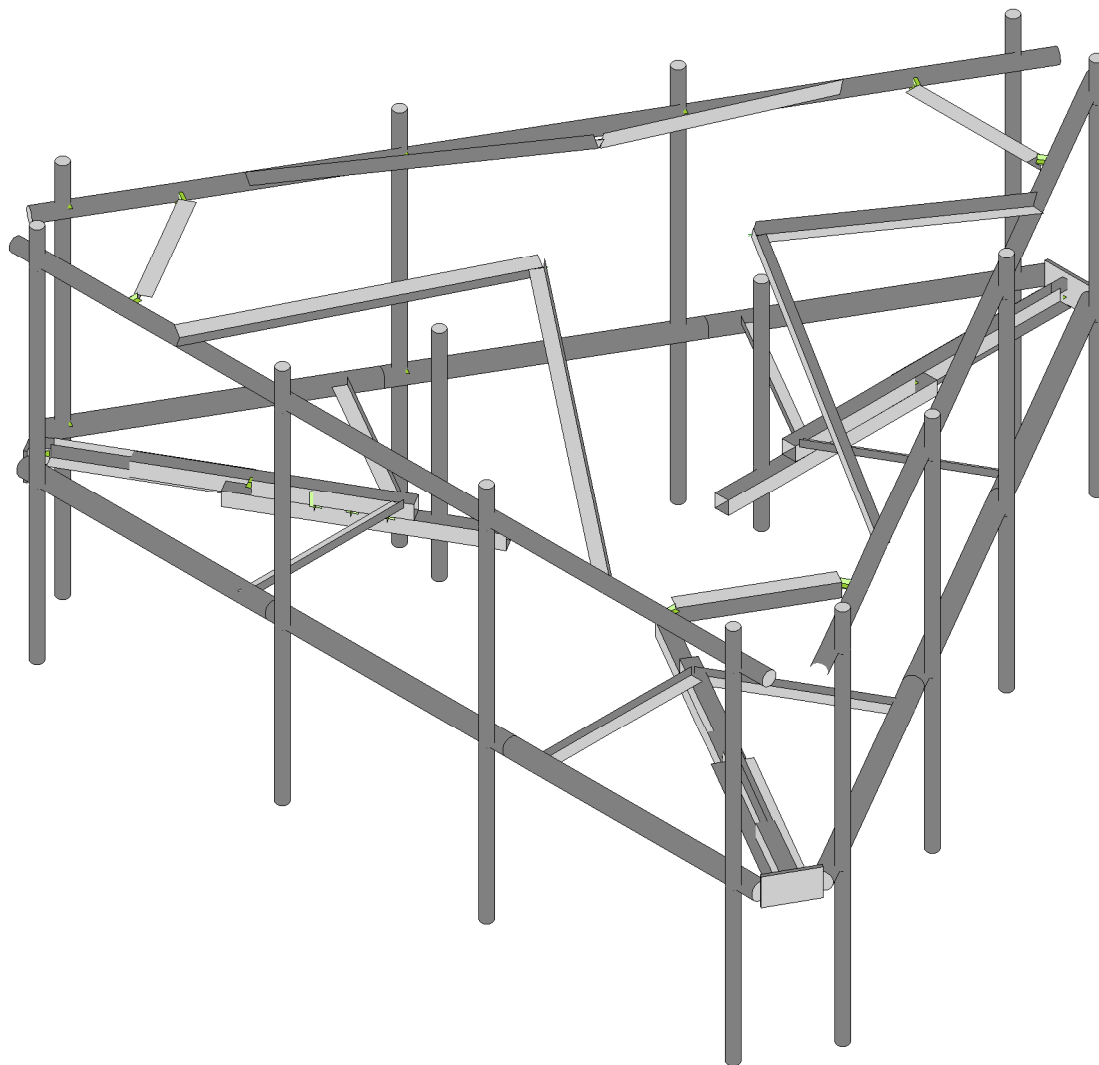


AZIMUTH

(2) 1.5" OD HYBRID
4.75" FLATWIDTH

MCL: 97FT
TOT: 159FT



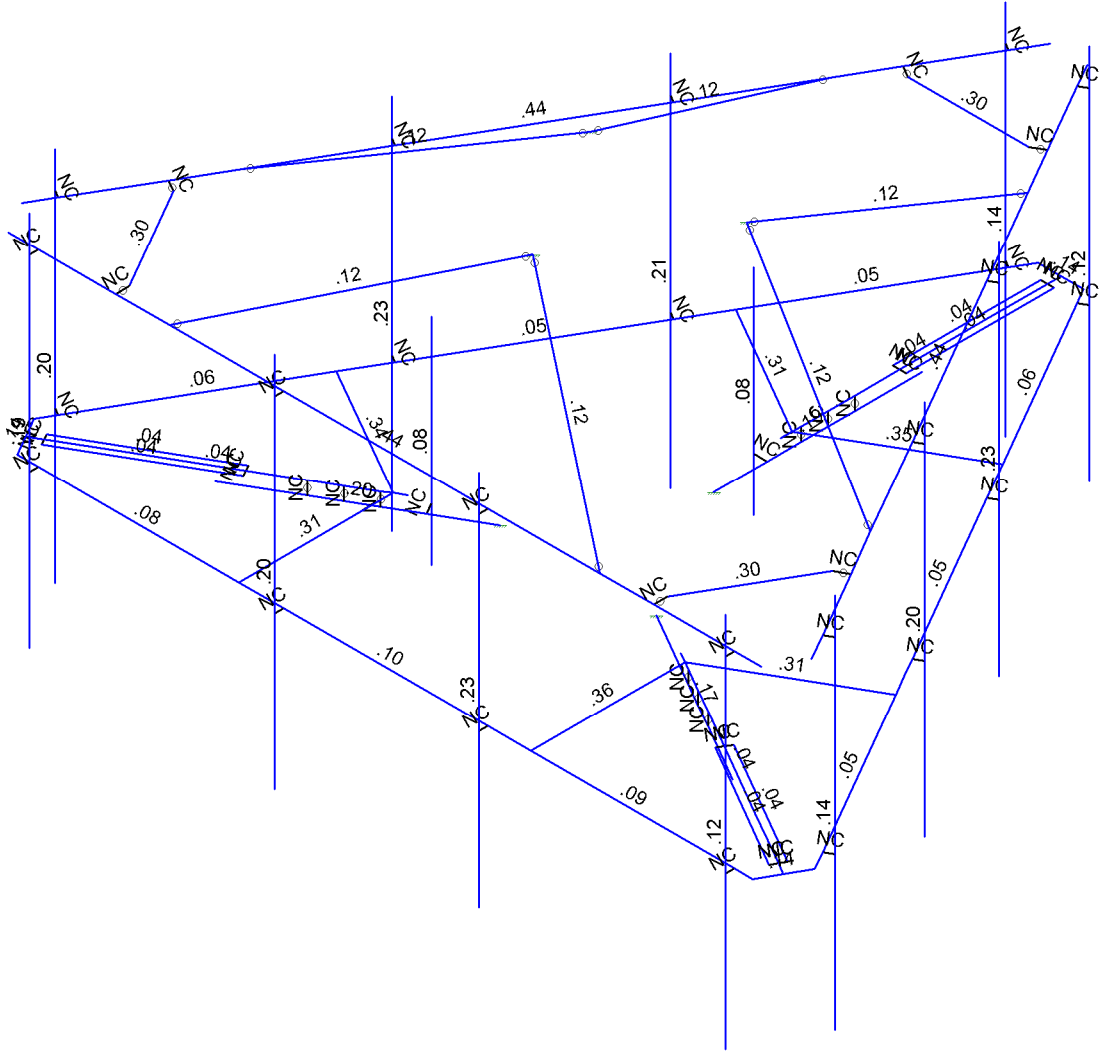


Envelope Only Solution

Colliers Engineering & Des...		SK - 1
	5000243474-VZW_MT_LO_H	Jan 25, 2024 at 3:02 PM
		5000243474-VZW_MT_LO_H.r3d



Code Check (ENR)	
■	No Calc
■	> 1.0
■	80-1.0
■	75-90
■	50-75
■	0-50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des...

5000243474-VZW_MT_LO_H

SK - 2

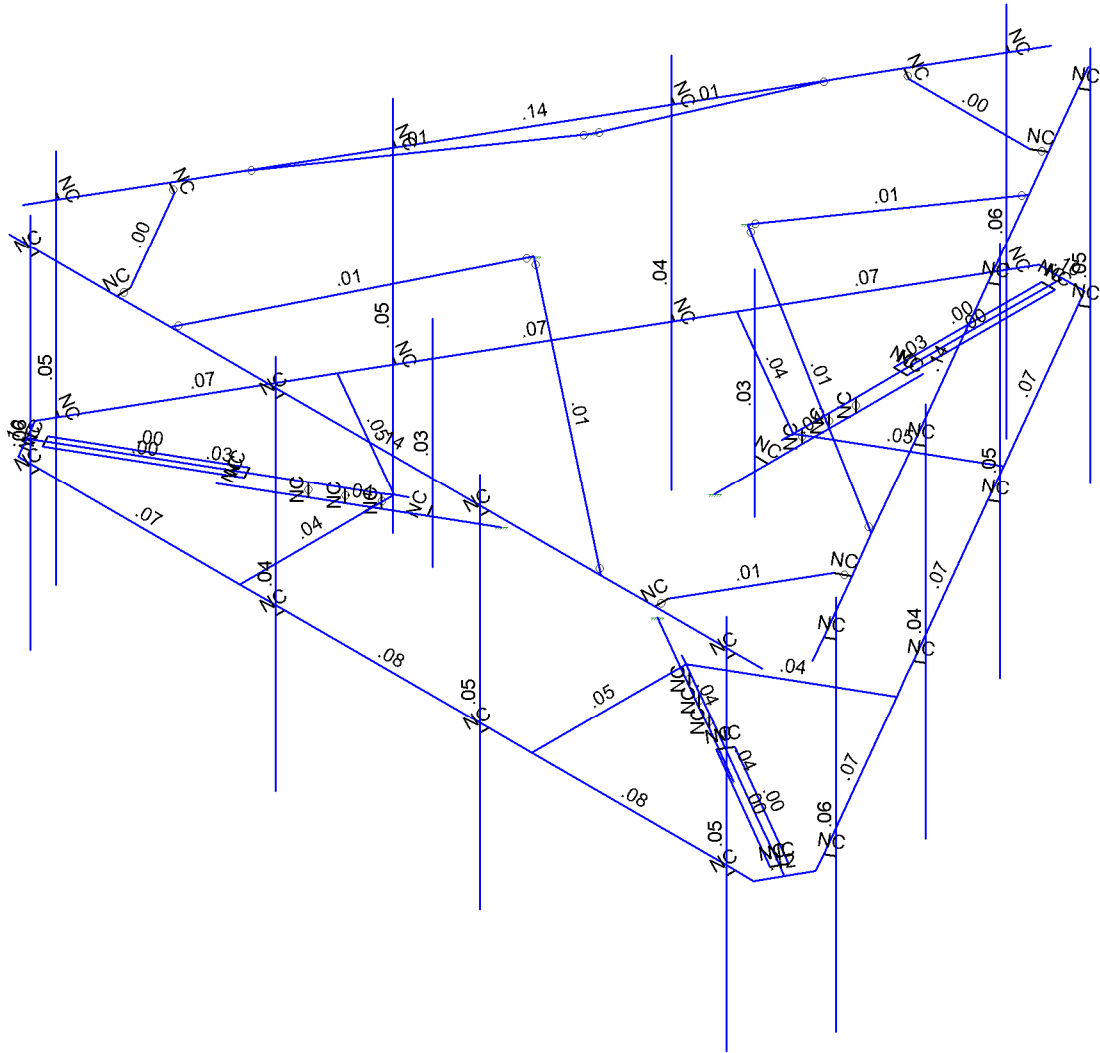
Jan 25, 2024 at 3:02 PM

5000243474-VZW_MT_LO_H.r3d



Shear Check
(ENR)

No Calc
> 1.0
80-1.0
75-90
50-75
0-50



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des...	5000243474-VZW_MT_LO_H	SK - 3
		Jan 25, 2024 at 3:03 PM
		5000243474-VZW_MT_LO_H.r3d



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000243474-VZW_MT_LO_H

Jan 25, 2024
 3:16 PM
 Checked By: _____

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me... Surface(...	
1	Antenna D	None					78		
2	Antenna Di	None					78		
3	Antenna Wo (0 Deg)	None					78		
4	Antenna Wo (30 Deg)	None					78		
5	Antenna Wo (60 Deg)	None					78		
6	Antenna Wo (90 Deg)	None					78		
7	Antenna Wo (120 Deg)	None					78		
8	Antenna Wo (150 Deg)	None					78		
9	Antenna Wo (180 Deg)	None					78		
10	Antenna Wo (210 Deg)	None					78		
11	Antenna Wo (240 Deg)	None					78		
12	Antenna Wo (270 Deg)	None					78		
13	Antenna Wo (300 Deg)	None					78		
14	Antenna Wo (330 Deg)	None					78		
15	Antenna Wi (0 Deg)	None					78		
16	Antenna Wi (30 Deg)	None					78		
17	Antenna Wi (60 Deg)	None					78		
18	Antenna Wi (90 Deg)	None					78		
19	Antenna Wi (120 Deg)	None					78		
20	Antenna Wi (150 Deg)	None					78		
21	Antenna Wi (180 Deg)	None					78		
22	Antenna Wi (210 Deg)	None					78		
23	Antenna Wi (240 Deg)	None					78		
24	Antenna Wi (270 Deg)	None					78		
25	Antenna Wi (300 Deg)	None					78		
26	Antenna Wi (330 Deg)	None					78		
27	Antenna Wm (0 Deg)	None					78		
28	Antenna Wm (30 Deg)	None					78		
29	Antenna Wm (60 Deg)	None					78		
30	Antenna Wm (90 Deg)	None					78		
31	Antenna Wm (120 Deg)	None					78		
32	Antenna Wm (150 Deg)	None					78		
33	Antenna Wm (180 Deg)	None					78		
34	Antenna Wm (210 Deg)	None					78		
35	Antenna Wm (240 Deg)	None					78		
36	Antenna Wm (270 Deg)	None					78		
37	Antenna Wm (300 Deg)	None					78		
38	Antenna Wm (330 Deg)	None					78		
39	Structure D	None		-1					3
40	Structure Di	None						56	3
41	Structure Wo (0 Deg)	None						112	
42	Structure Wo (30 Deg)	None						112	
43	Structure Wo (60 Deg)	None						112	
44	Structure Wo (90 Deg)	None						112	
45	Structure Wo (120 Deg)	None						112	
46	Structure Wo (150 Deg)	None						112	
47	Structure Wo (180 Deg)	None						112	
48	Structure Wo (210 Deg)	None						112	
49	Structure Wo (240 Deg)	None						112	
50	Structure Wo (270 Deg)	None						112	
51	Structure Wo (300 Deg)	None						112	
52	Structure Wo (330 Deg)	None						112	
53	Structure Wi (0 Deg)	None						112	



Basic Load Cases (Continued)

BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me... Surface(...
54 Structure Wi (30 Deg)	None						112
55 Structure Wi (60 Deg)	None						112
56 Structure Wi (90 Deg)	None						112
57 Structure Wi (120 Deg)	None						112
58 Structure Wi (150 Deg)	None						112
59 Structure Wi (180 Deg)	None						112
60 Structure Wi (210 Deg)	None						112
61 Structure Wi (240 Deg)	None						112
62 Structure Wi (270 Deg)	None						112
63 Structure Wi (300 Deg)	None						112
64 Structure Wi (330 Deg)	None						112
65 Structure Wm (0 Deg)	None						112
66 Structure Wm (30 Deg)	None						112
67 Structure Wm (60 Deg)	None						112
68 Structure Wm (90 Deg)	None						112
69 Structure Wm (120 Deg)	None						112
70 Structure Wm (150 Deg)	None						112
71 Structure Wm (180 Deg)	None						112
72 Structure Wm (210 Deg)	None						112
73 Structure Wm (240 Deg)	None						112
74 Structure Wm (270 Deg)	None						112
75 Structure Wm (300 Deg)	None						112
76 Structure Wm (330 Deg)	None						112
77 Lm1	None					1	
78 Lm2	None					1	
79 Lv1	None					1	
80 Lv2	None					1	
81 Antenna Ev	None					78	
82 Antenna Eh (0 Deg)	None					52	
83 Antenna Eh (90 Deg)	None					52	
84 Structure Ev	ELY		-0.039				3
85 Structure Eh (0 Deg)	ELZ			-0.097			3
86 Structure Eh (90 Deg)	ELX	.097					3
87 BLC 39 Transient Area Loads	None						54
88 BLC 40 Transient Area Loads	None						54
89 BLC 84 Transient Area Loads	None						54
90 BLC 85 Transient Area Loads	None						54
91 BLC 86 Transient Area Loads	None						54

Load Combinations

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



Load Combinations (Continued)

Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
15	1.2D + 1.0Di + 1.0Wi (6...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1							
16	1.2D + 1.0Di + 1.0Wi (9...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1							
17	1.2D + 1.0Di + 1.0Wi (1...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1							
18	1.2D + 1.0Di + 1.0Wi (1...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1							
19	1.2D + 1.0Di + 1.0Wi (1...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1							
20	1.2D + 1.0Di + 1.0Wi (2...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1							
21	1.2D + 1.0Di + 1.0Wi (2...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1							
22	1.2D + 1.0Di + 1.0Wi (2...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1							
23	1.2D + 1.0Di + 1.0Wi (3...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1							
24	1.2D + 1.0Di + 1.0Wi (3...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1							
25	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1									
26	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1									
27	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1									
28	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1									
29	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1									
30	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1									
31	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1									
32	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1									
33	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1									
34	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1									
35	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1									
36	1.2D + 1.5Lm1 + 1.0W...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1									
37	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1									
38	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1									
39	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1									
40	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1									
41	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1									
42	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1									
43	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1									
44	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1									
45	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1									
46	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1									
47	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1									
48	1.2D + 1.5Lm2 + 1.0W...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1									
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5													
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5													
51	1.4D	Yes	Y		1	1.4	39	1.4															
52	1.2D + 1.0Ev + 1.0Eh (0...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		ELZ	1	E...				
53	1.2D + 1.0Ev + 1.0Eh (3...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	.5	ELZ	.866	E...	.5			
54	1.2D + 1.0Ev + 1.0Eh (6...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	.866	ELZ	.5	E...	.866			
55	1.2D + 1.0Ev + 1.0Eh (9...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	ELZ		E...	1			
56	1.2D + 1.0Ev + 1.0Eh (1...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	.866	ELZ	-.5	E...	.866			
57	1.2D + 1.0Ev + 1.0Eh (1...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.866	83	.5	ELZ	-.866	E...	.5			
58	1.2D + 1.0Ev + 1.0Eh (1...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		ELZ	-1	E...				
59	1.2D + 1.0Ev + 1.0Eh (2...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.866	83	-.5	ELZ	-.866	E...	-.5			
60	1.2D + 1.0Ev + 1.0Eh (2...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.866	ELZ	-.5	E...	-.866			
61	1.2D + 1.0Ev + 1.0Eh (2...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	ELZ		E...	-1			
62	1.2D + 1.0Ev + 1.0Eh (3...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.866	ELZ	.5	E...	-.866			
63	1.2D + 1.0Ev + 1.0Eh (3...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	-.5	ELZ	.866	E...	-.5			
64	0.9D - 1.0Ev + 1.0Eh (0...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		ELZ	1	E...				
65	0.9D - 1.0Ev + 1.0Eh (3...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	.5	ELZ	.866	E...	.5			
66	0.9D - 1.0Ev + 1.0Eh (6...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	.866	ELZ	.5	E...	.866			
67	0.9D - 1.0Ev + 1.0Eh (9...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	ELZ		E...	1			
68	0.9D - 1.0Ev + 1.0Eh (1...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	.866	ELZ	-.5	E...	.866			
69	0.9D - 1.0Ev + 1.0Eh (1...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.866	83	.5	ELZ	-.866	E...	.5			
70	0.9D - 1.0Ev + 1.0Eh (1...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		ELZ	-1	E...				
71	0.9D - 1.0Ev + 1.0Eh (2...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.866	83	-.5	ELZ	-.866	E...	-.5			



Load Combinations (Continued)

Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	
72	0.9D - 1.0Ev + 1.0Eh (2...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.866	ELZ	-.5	E...	-.866								
73	0.9D - 1.0Ev + 1.0Eh (2...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	ELZ		E...	-1								
74	0.9D - 1.0Ev + 1.0Eh (3...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.866	ELZ	.5	E...	-.866								
75	0.9D - 1.0Ev + 1.0Eh (3...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	-.5	ELZ	.866	E...	-.5								

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]	
1	Antenna Pipe	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	Face Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
3	Support Rail	PIPE 3.0	Beam	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
4	Connector Pipe	PIPE 2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
5	Standoff Horizontal	HSS3X3X5	Beam	Tube	A500 Gr. B 46	Typical	2.94	3.45	3.45	5.94
6	Cross Brace	L2.5X1.5X.25	Beam	Single Angle	A36 Gr.36	Typical	.938	.161	.591	.018
7	Corner Plate	PL1/2x3	Beam	RECT	A36 Gr.36	Typical	1.5	.031	1.125	.112
8	End Plate	PL5/8X6	Beam	RECT	A36 Gr.36	Typical	3.75	1.22	11.25	.456
9	Grating Support	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
10	Face Brace	SR 1	Column	BAR	A36 Gr.36	Typical	.785	.049	.049	.098
11	Tie back	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
12	TES Cross Brace	L2x2x4	Column	Single Angle	A36 Gr.36	Typical	.944	.346	.346	.021
13	MOD Support Rail	PIPE 2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
14	MOD Support Rail Cor...	L3X3X4	Column	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
15	MOD V-bracing	L2.5x2.5x4	Column	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026

Hot Rolled Steel Properties

Label	E [ksi]	G [ksi]	Nu	Therm (/1...	Density[k/ft^3]	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	FACE END	N3	N6		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
2	FACE2	N2	N8		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
3	FACE1	N8	N6		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
4	M13	N15	N18		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
5	M15	N14	N20		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
6	M17	N20	N18		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
7	M25	N27	N30		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
8	M27	N26	N32		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
9	M29	N32	N30		Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
10	M37	N3	N26		End Plate	Beam	RECT	A36 Gr.36	Typical
11	M38	N2	N15		End Plate	Beam	RECT	A36 Gr.36	Typical
12	M39	N27	N14		End Plate	Beam	RECT	A36 Gr.36	Typical
13	M40	N38	N39		Standoff Horiz...	Beam	Tube	A500 Gr. ...	Typical
14	M41	N40	N41		Standoff Horiz...	Beam	Tube	A500 Gr. ...	Typical
15	M42	N42	N43		Standoff Horiz...	Beam	Tube	A500 Gr. ...	Typical
16	M43	N44	N45		Standoff Horiz...	Beam	Tube	A500 Gr. ...	Typical
17	M44	N48	N51		RIGID	None	None	RIGID	Typical
18	M45	N47	N50		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
19	M46	N46	N49			RIGID	None	None	RIGID	Typical
20	M47	N52	N53			Standoff Horiz...	Beam	Tube	A500 Gr. ...	Typical
21	M48	N56	N59	N53		RIGID	None	None	RIGID	Typical
22	M49	N55	N58	N53		RIGID	None	None	RIGID	Typical
23	M50	N54	N57	N53		RIGID	None	None	RIGID	Typical
24	M51	N60	N61			Standoff Horiz...	Beam	Tube	A500 Gr. ...	Typical
25	M52	N64	N67	N61		RIGID	None	None	RIGID	Typical
26	M53	N63	N66	N61		RIGID	None	None	RIGID	Typical
27	M54	N62	N65	N61		RIGID	None	None	RIGID	Typical
28	M55	N71	N70		270	Cross Brace	Beam	Single Angle	A36 Gr.36	Typical
29	M56	N71A	N72		270	Cross Brace	Beam	Single Angle	A36 Gr.36	Typical
30	M107	N116	N115			RIGID	None	None	RIGID	Typical
31	MP1A	N117	N118			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
32	M62A	N114	N112A			RIGID	None	None	RIGID	Typical
33	M63A	N112A	N113			RIGID	None	None	RIGID	Typical
34	M64	N117A	N115A			RIGID	None	None	RIGID	Typical
35	M65	N115A	N116A			RIGID	None	None	RIGID	Typical
36	M66	N116A	N113			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
37	M67	N117A	N114		270	Grating Support	Beam	Single Angle	A36 Gr.36	Typical
38	M68	N121A	N119			RIGID	None	None	RIGID	Typical
39	M69	N119	N120			RIGID	None	None	RIGID	Typical
40	M70	N124A	N122A			RIGID	None	None	RIGID	Typical
41	M71	N122A	N123A			RIGID	None	None	RIGID	Typical
42	M72	N123A	N120			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
43	M73	N124A	N121A		270	Grating Support	Beam	Single Angle	A36 Gr.36	Typical
44	M74A	N128A	N126			RIGID	None	None	RIGID	Typical
45	M75	N126	N127A			RIGID	None	None	RIGID	Typical
46	M76	N131A	N129A			RIGID	None	None	RIGID	Typical
47	M77A	N129A	N130A			RIGID	None	None	RIGID	Typical
48	M78	N130A	N127A			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
49	M79	N131A	N128A		270	Grating Support	Beam	Single Angle	A36 Gr.36	Typical
50	M77C	N129C	N71A		270	Cross Brace	Beam	Single Angle	A36 Gr.36	Typical
51	M78B	N69	N132		270	Cross Brace	Beam	Single Angle	A36 Gr.36	Typical
52	M79A	N134	N69		270	Cross Brace	Beam	Single Angle	A36 Gr.36	Typical
53	M80B	N70	N137		270	Cross Brace	Beam	Single Angle	A36 Gr.36	Typical
54	LIVE1	N89A	N88			RIGID	None	None	RIGID	Typical
55	MP2A	N90	N91A			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
56	LIVE2	N93A	N92			RIGID	None	None	RIGID	Typical
57	MP3A	N94	N95			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
58	LIVE3	N97	N96			RIGID	None	None	RIGID	Typical
59	MP4A	N98	N99			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
60	M62	N102	N101			RIGID	None	None	RIGID	Typical
61	MP1C	N103	N104			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
62	M64A	N106	N105			RIGID	None	None	RIGID	Typical
63	MP2C	N107	N108			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
64	M66A	N110	N109			RIGID	None	None	RIGID	Typical
65	MP3C	N111	N112			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
66	M68A	N114A	N113A			RIGID	None	None	RIGID	Typical
67	MP4C	N115B	N116B			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
68	M70A	N119A	N118A			RIGID	None	None	RIGID	Typical
69	MP1B	N120A	N121			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
70	M72A	N123	N122			RIGID	None	None	RIGID	Typical
71	MP2B	N124	N125			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
72	M74	N127	N126A			RIGID	None	None	RIGID	Typical
73	MP3B	N128	N129			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
74	M76A	N131B	N130B			RIGID	None	None	RIGID	Typical
75	MP4B	N132B	N133A			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical



Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
76	OVP1	N134A	N133B			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
77	M79B	N128B	N132C			RIGID	None	None	RIGID	Typical
78	OVP	N139A	N138A			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
79	M81	N136A	N137A			RIGID	None	None	RIGID	Typical
80	M80	N136B	N135A			RIGID	None	None	RIGID	Typical
81	M81A	N138B	N137B			RIGID	None	None	RIGID	Typical
82	M82	N140	N139B			RIGID	None	None	RIGID	Typical
83	M83	N142	N141			RIGID	None	None	RIGID	Typical
84	M84	N144	N143			MOD Support ...	Beam	Pipe	A53 Gr. B	Typical
85	M85	N145	N147			RIGID	None	None	RIGID	Typical
86	M86	N146	N148			RIGID	None	None	RIGID	Typical
87	M87	N150	N149			RIGID	None	None	RIGID	Typical
88	M88	N152	N151			RIGID	None	None	RIGID	Typical
89	M89	N154	N153			RIGID	None	None	RIGID	Typical
90	M90	N156	N155			RIGID	None	None	RIGID	Typical
91	M91	N158	N157			MOD Support ...	Beam	Pipe	A53 Gr. B	Typical
92	M92	N159	N161			RIGID	None	None	RIGID	Typical
93	M93	N160	N162			RIGID	None	None	RIGID	Typical
94	M94	N164	N163			RIGID	None	None	RIGID	Typical
95	M95	N166	N165			RIGID	None	None	RIGID	Typical
96	M96	N168	N167			RIGID	None	None	RIGID	Typical
97	M97	N170	N169			RIGID	None	None	RIGID	Typical
98	M98	N172	N171			MOD Support ...	Beam	Pipe	A53 Gr. B	Typical
99	M99	N173	N175			RIGID	None	None	RIGID	Typical
100	M100	N174	N176			RIGID	None	None	RIGID	Typical
101	M101	N147	N176		90	MOD Support ...	Column	Single Angle	A36 Gr.36	Typical
102	M102	N161	N148		90	MOD Support ...	Column	Single Angle	A36 Gr.36	Typical
103	M103	N175	N162		90	MOD Support ...	Column	Single Angle	A36 Gr.36	Typical
104	M104	N177	N180			MOD V-bracing	Column	Single Angle	A36 Gr.36	Typical
105	M105	N178	N180		270	MOD V-bracing	Column	Single Angle	A36 Gr.36	Typical
106	M106	N181	N183			MOD V-bracing	Column	Single Angle	A36 Gr.36	Typical
107	M107A	N182	N183		270	MOD V-bracing	Column	Single Angle	A36 Gr.36	Typical
108	M108	N184	N186			MOD V-bracing	Column	Single Angle	A36 Gr.36	Typical
109	M109	N185	N186		270	MOD V-bracing	Column	Single Angle	A36 Gr.36	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	FACE END						Yes				None
2	FACE2						Yes				None
3	FACE1						Yes				None
4	M13						Yes				None
5	M15						Yes				None
6	M17						Yes				None
7	M25						Yes				None
8	M27						Yes				None
9	M29						Yes				None
10	M37						Yes				None
11	M38						Yes				None
12	M39						Yes				None
13	M40						Yes				None
14	M41						Yes				None
15	M42						Yes				None
16	M43						Yes				None
17	M44	O O O O X O					Yes	** NA **			None
18	M45	O O O O X O					Yes	** NA **			None



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000243474-VZW_MT_LO_H

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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat..	Analysis ...	Inactive	Seismic..
19	M46	OOOOXO					Yes	** NA **			None
20	M47						Yes				None
21	M48	OOOOOX					Yes	** NA **			None
22	M49	OOOOOX					Yes	** NA **			None
23	M50	OOOOOX					Yes	** NA **			None
24	M51						Yes				None
25	M52	OOOOOX					Yes	** NA **			None
26	M53	OOOOOX					Yes	** NA **			None
27	M54	OOOOOX					Yes	** NA **			None
28	M55						Yes				None
29	M56						Yes				None
30	M107						Yes	** NA **			None
31	MP1A						Yes	** NA **			None
32	M62A						Yes	** NA **			None
33	M63A						Yes	** NA **			None
34	M64						Yes	** NA **			None
35	M65						Yes	** NA **			None
36	M66						Yes				None
37	M67						Yes				None
38	M68						Yes	** NA **			None
39	M69						Yes	** NA **			None
40	M70						Yes	** NA **			None
41	M71						Yes	** NA **			None
42	M72						Yes				None
43	M73						Yes				None
44	M74A						Yes	** NA **			None
45	M75						Yes	** NA **			None
46	M76						Yes	** NA **			None
47	M77A						Yes	** NA **			None
48	M78						Yes				None
49	M79						Yes				None
50	M77C						Yes				None
51	M78B						Yes				None
52	M79A						Yes				None
53	M80B						Yes				None
54	LIVE1						Yes	** NA **			None
55	MP2A						Yes	** NA **			None
56	LIVE2						Yes	** NA **			None
57	MP3A						Yes	** NA **			None
58	LIVE3						Yes	** NA **			None
59	MP4A						Yes	** NA **			None
60	M62						Yes	** NA **			None
61	MP1C						Yes	** NA **			None
62	M64A						Yes	** NA **			None
63	MP2C						Yes	** NA **			None
64	M66A						Yes	** NA **			None
65	MP3C						Yes	** NA **			None
66	M68A						Yes	** NA **			None
67	MP4C						Yes	** NA **			None
68	M70A						Yes	** NA **			None
69	MP1B						Yes	** NA **			None
70	M72A						Yes	** NA **			None
71	MP2B						Yes	** NA **			None
72	M74						Yes	** NA **			None
73	MP3B						Yes	** NA **			None
74	M76A						Yes	** NA **			None
75	MP4B						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...
76	OVP1						Yes	** NA **			None
77	M79B						Yes	** NA **			None
78	OVP						Yes	** NA **			None
79	M81						Yes	** NA **			None
80	M80						Yes	** NA **			None
81	M81A						Yes	** NA **			None
82	M82						Yes	** NA **			None
83	M83						Yes	** NA **			None
84	M84						Yes	** NA **			None
85	M85	OOOOOX					Yes	** NA **			None
86	M86	OOOOOX					Yes	** NA **			None
87	M87						Yes	** NA **			None
88	M88						Yes	** NA **			None
89	M89						Yes	** NA **			None
90	M90						Yes	** NA **			None
91	M91						Yes	** NA **			None
92	M92	OOOOOX					Yes	** NA **			None
93	M93	OOOOOX					Yes	** NA **			None
94	M94						Yes	** NA **			None
95	M95						Yes	** NA **			None
96	M96						Yes	** NA **			None
97	M97						Yes	** NA **			None
98	M98						Yes	** NA **			None
99	M99	OOOOOX					Yes	** NA **			None
100	M100	OOOOOX					Yes	** NA **			None
101	M101						Yes	** NA **			None
102	M102						Yes	** NA **			None
103	M103						Yes	** NA **			None
104	M104	BenPIN	BenPIN				Yes	** NA **			None
105	M105	BenPIN	BenPIN				Yes	** NA **			None
106	M106	BenPIN	BenPIN				Yes	** NA **			None
107	M107A	BenPIN	BenPIN				Yes	** NA **			None
108	M108	BenPIN	BenPIN				Yes	** NA **			None
109	M109	BenPIN	BenPIN				Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	Y	-28.65	3
2	MP4A	My	-.014	3
3	MP4A	Mz	0	3
4	MP4A	Y	-28.65	5
5	MP4A	My	-.014	5
6	MP4A	Mz	0	5
7	MP4B	Y	-28.65	3
8	MP4B	My	.007	3
9	MP4B	Mz	-.012	3
10	MP4B	Y	-28.65	5
11	MP4B	My	.007	5
12	MP4B	Mz	-.012	5
13	MP4C	Y	-28.65	3
14	MP4C	My	.007	3
15	MP4C	Mz	.012	3
16	MP4C	Y	-28.65	5
17	MP4C	My	.007	5
18	MP4C	Mz	.012	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
19	MP3A	Y	-79.1	1.5
20	MP3A	My	.04	1.5
21	MP3A	Mz	0	1.5
22	MP3B	Y	-79.1	1.5
23	MP3B	My	-.02	1.5
24	MP3B	Mz	.034	1.5
25	MP3C	Y	-79.1	1.5
26	MP3C	My	-.02	1.5
27	MP3C	Mz	-.034	1.5
28	MP2A	Y	-21.85	2.5
29	MP2A	My	-.011	2.5
30	MP2A	Mz	-.015	2.5
31	MP2A	Y	-21.85	5.5
32	MP2A	My	-.011	5.5
33	MP2A	Mz	-.015	5.5
34	MP2B	Y	-21.85	2.5
35	MP2B	My	.018	2.5
36	MP2B	Mz	-.002	2.5
37	MP2B	Y	-21.85	5.5
38	MP2B	My	.018	5.5
39	MP2B	Mz	-.002	5.5
40	MP2C	Y	-21.85	2.5
41	MP2C	My	-.007	2.5
42	MP2C	Mz	.017	2.5
43	MP2C	Y	-21.85	5.5
44	MP2C	My	-.007	5.5
45	MP2C	Mz	.017	5.5
46	MP2A	Y	-21.85	2.5
47	MP2A	My	-.011	2.5
48	MP2A	Mz	.015	2.5
49	MP2A	Y	-21.85	5.5
50	MP2A	My	-.011	5.5
51	MP2A	Mz	.015	5.5
52	MP2B	Y	-21.85	2.5
53	MP2B	My	-.007	2.5
54	MP2B	Mz	-.017	2.5
55	MP2B	Y	-21.85	5.5
56	MP2B	My	-.007	5.5
57	MP2B	Mz	-.017	5.5
58	MP2C	Y	-21.85	2.5
59	MP2C	My	.018	2.5
60	MP2C	Mz	.002	2.5
61	MP2C	Y	-21.85	5.5
62	MP2C	My	.018	5.5
63	MP2C	Mz	.002	5.5
64	OVP	Y	-32	2
65	OVP	My	-.014	2
66	OVP	Mz	-.008	2
67	OVP1	Y	-32	2
68	OVP1	My	-.014	2
69	OVP1	Mz	-.008	2
70	MP2A	Y	-74.7	1.5
71	MP2A	My	.037	1.5
72	MP2A	Mz	0	1.5
73	MP2B	Y	-74.7	1.5
74	MP2B	My	-.019	1.5
75	MP2B	Mz	.032	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
76	MP2C	Y	-74.7	1.5
77	MP2C	My	-.019	1.5
78	MP2C	Mz	-.032	1.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	Y	-45.486	3
2	MP4A	My	-.023	3
3	MP4A	Mz	0	3
4	MP4A	Y	-45.486	5
5	MP4A	My	-.023	5
6	MP4A	Mz	0	5
7	MP4B	Y	-45.486	3
8	MP4B	My	.011	3
9	MP4B	Mz	-.02	3
10	MP4B	Y	-45.486	5
11	MP4B	My	.011	5
12	MP4B	Mz	-.02	5
13	MP4C	Y	-45.486	3
14	MP4C	My	.011	3
15	MP4C	Mz	.02	3
16	MP4C	Y	-45.486	5
17	MP4C	My	.011	5
18	MP4C	Mz	.02	5
19	MP3A	Y	-69.56	1.5
20	MP3A	My	.035	1.5
21	MP3A	Mz	0	1.5
22	MP3B	Y	-69.56	1.5
23	MP3B	My	-.017	1.5
24	MP3B	Mz	.03	1.5
25	MP3C	Y	-69.56	1.5
26	MP3C	My	-.017	1.5
27	MP3C	Mz	-.03	1.5
28	MP2A	Y	-91.893	2.5
29	MP2A	My	-.046	2.5
30	MP2A	Mz	-.061	2.5
31	MP2A	Y	-91.893	5.5
32	MP2A	My	-.046	5.5
33	MP2A	Mz	-.061	5.5
34	MP2B	Y	-91.893	2.5
35	MP2B	My	.076	2.5
36	MP2B	Mz	-.009	2.5
37	MP2B	Y	-91.893	5.5
38	MP2B	My	.076	5.5
39	MP2B	Mz	-.009	5.5
40	MP2C	Y	-91.893	2.5
41	MP2C	My	-.03	2.5
42	MP2C	Mz	.07	2.5
43	MP2C	Y	-91.893	5.5
44	MP2C	My	-.03	5.5
45	MP2C	Mz	.07	5.5
46	MP2A	Y	-91.893	2.5
47	MP2A	My	-.046	2.5
48	MP2A	Mz	.061	2.5
49	MP2A	Y	-91.893	5.5
50	MP2A	My	-.046	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
51	MP2A	Mz	.061	5.5
52	MP2B	Y	-91.893	2.5
53	MP2B	My	-.03	2.5
54	MP2B	Mz	-.07	2.5
55	MP2B	Y	-91.893	5.5
56	MP2B	My	-.03	5.5
57	MP2B	Mz	-.07	5.5
58	MP2C	Y	-91.893	2.5
59	MP2C	My	.076	2.5
60	MP2C	Mz	.009	2.5
61	MP2C	Y	-91.893	5.5
62	MP2C	My	.076	5.5
63	MP2C	Mz	.009	5.5
64	OVP	Y	-132.763	2
65	OVP	My	-.057	2
66	OVP	Mz	-.033	2
67	OVP1	Y	-132.763	2
68	OVP1	My	-.057	2
69	OVP1	Mz	-.033	2
70	MP2A	Y	-68.854	1.5
71	MP2A	My	.034	1.5
72	MP2A	Mz	0	1.5
73	MP2B	Y	-68.854	1.5
74	MP2B	My	-.017	1.5
75	MP2B	Mz	.03	1.5
76	MP2C	Y	-68.854	1.5
77	MP2C	My	-.017	1.5
78	MP2C	Mz	-.03	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	0	3
2	MP4A	Z	-47.924	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	-47.924	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	-24.607	3
9	MP4B	Mx	.011	3
10	MP4B	X	0	5
11	MP4B	Z	-24.607	5
12	MP4B	Mx	.011	5
13	MP4C	X	0	3
14	MP4C	Z	-24.607	3
15	MP4C	Mx	-.011	3
16	MP4C	X	0	5
17	MP4C	Z	-24.607	5
18	MP4C	Mx	-.011	5
19	MP3A	X	0	1.5
20	MP3A	Z	-56.72	1.5
21	MP3A	Mx	0	1.5
22	MP3B	X	0	1.5
23	MP3B	Z	-43.185	1.5
24	MP3B	Mx	-.019	1.5
25	MP3C	X	0	1.5



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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
26	MP3C	Z	-43.185	1.5
27	MP3C	Mx	.019	1.5
28	MP2A	X	0	2.5
29	MP2A	Z	-82.35	2.5
30	MP2A	Mx	.055	2.5
31	MP2A	X	0	5.5
32	MP2A	Z	-82.35	5.5
33	MP2A	Mx	.055	5.5
34	MP2B	X	0	2.5
35	MP2B	Z	-47.09	2.5
36	MP2B	Mx	.005	2.5
37	MP2B	X	0	5.5
38	MP2B	Z	-47.09	5.5
39	MP2B	Mx	.005	5.5
40	MP2C	X	0	2.5
41	MP2C	Z	-47.09	2.5
42	MP2C	Mx	-.036	2.5
43	MP2C	X	0	5.5
44	MP2C	Z	-47.09	5.5
45	MP2C	Mx	-.036	5.5
46	MP2A	X	0	2.5
47	MP2A	Z	-82.35	2.5
48	MP2A	Mx	-.055	2.5
49	MP2A	X	0	5.5
50	MP2A	Z	-82.35	5.5
51	MP2A	Mx	-.055	5.5
52	MP2B	X	0	2.5
53	MP2B	Z	-47.09	2.5
54	MP2B	Mx	.036	2.5
55	MP2B	X	0	5.5
56	MP2B	Z	-47.09	5.5
57	MP2B	Mx	.036	5.5
58	MP2C	X	0	2.5
59	MP2C	Z	-47.09	2.5
60	MP2C	Mx	-.005	2.5
61	MP2C	X	0	5.5
62	MP2C	Z	-47.09	5.5
63	MP2C	Mx	-.005	5.5
64	OVP	X	0	2
65	OVP	Z	-90.388	2
66	OVP	Mx	.023	2
67	OVP1	X	0	2
68	OVP1	Z	-90.388	2
69	OVP1	Mx	.023	2
70	MP2A	X	0	1.5
71	MP2A	Z	-47.014	1.5
72	MP2A	Mx	0	1.5
73	MP2B	X	0	1.5
74	MP2B	Z	-35.412	1.5
75	MP2B	Mx	-.015	1.5
76	MP2C	X	0	1.5
77	MP2C	Z	-35.412	1.5
78	MP2C	Mx	.015	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
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Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	20.076	3
2	MP4A	Z	-34.772	3
3	MP4A	Mx	-.01	3
4	MP4A	X	20.076	5
5	MP4A	Z	-34.772	5
6	MP4A	Mx	-.01	5
7	MP4B	X	8.417	3
8	MP4B	Z	-14.579	3
9	MP4B	Mx	.008	3
10	MP4B	X	8.417	5
11	MP4B	Z	-14.579	5
12	MP4B	Mx	.008	5
13	MP4C	X	20.076	3
14	MP4C	Z	-34.772	3
15	MP4C	Mx	-.01	3
16	MP4C	X	20.076	5
17	MP4C	Z	-34.772	5
18	MP4C	Mx	-.01	5
19	MP3A	X	26.104	1.5
20	MP3A	Z	-45.214	1.5
21	MP3A	Mx	.013	1.5
22	MP3B	X	19.336	1.5
23	MP3B	Z	-33.492	1.5
24	MP3B	Mx	-.019	1.5
25	MP3C	X	26.104	1.5
26	MP3C	Z	-45.214	1.5
27	MP3C	Mx	.013	1.5
28	MP2A	X	35.298	2.5
29	MP2A	Z	-61.139	2.5
30	MP2A	Mx	.023	2.5
31	MP2A	X	35.298	5.5
32	MP2A	Z	-61.139	5.5
33	MP2A	Mx	.023	5.5
34	MP2B	X	17.668	2.5
35	MP2B	Z	-30.602	2.5
36	MP2B	Mx	.018	2.5
37	MP2B	X	17.668	5.5
38	MP2B	Z	-30.602	5.5
39	MP2B	Mx	.018	5.5
40	MP2C	X	35.298	2.5
41	MP2C	Z	-61.139	2.5
42	MP2C	Mx	-.058	2.5
43	MP2C	X	35.298	5.5
44	MP2C	Z	-61.139	5.5
45	MP2C	Mx	-.058	5.5
46	MP2A	X	35.298	2.5
47	MP2A	Z	-61.139	2.5
48	MP2A	Mx	-.058	2.5
49	MP2A	X	35.298	5.5
50	MP2A	Z	-61.139	5.5
51	MP2A	Mx	-.058	5.5
52	MP2B	X	17.668	2.5
53	MP2B	Z	-30.602	2.5
54	MP2B	Mx	.018	2.5
55	MP2B	X	17.668	5.5
56	MP2B	Z	-30.602	5.5
57	MP2B	Mx	.018	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
58	MP2C	X	35.298	2.5
59	MP2C	Z	-61.139	2.5
60	MP2C	Mx	.023	2.5
61	MP2C	X	35.298	5.5
62	MP2C	Z	-61.139	5.5
63	MP2C	Mx	.023	5.5
64	OVP	X	48.076	2
65	OVP	Z	-83.269	2
66	OVP	Mx	0	2
67	OVP1	X	48.076	2
68	OVP1	Z	-83.269	2
69	OVP1	Mx	0	2
70	MP2A	X	21.573	1.5
71	MP2A	Z	-37.366	1.5
72	MP2A	Mx	.011	1.5
73	MP2B	X	15.772	1.5
74	MP2B	Z	-27.319	1.5
75	MP2B	Mx	-.016	1.5
76	MP2C	X	21.573	1.5
77	MP2C	Z	-37.366	1.5
78	MP2C	Mx	.011	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	21.31	3
2	MP4A	Z	-12.303	3
3	MP4A	Mx	-.011	3
4	MP4A	X	21.31	5
5	MP4A	Z	-12.303	5
6	MP4A	Mx	-.011	5
7	MP4B	X	21.31	3
8	MP4B	Z	-12.303	3
9	MP4B	Mx	.011	3
10	MP4B	X	21.31	5
11	MP4B	Z	-12.303	5
12	MP4B	Mx	.011	5
13	MP4C	X	41.503	3
14	MP4C	Z	-23.962	3
15	MP4C	Mx	0	3
16	MP4C	X	41.503	5
17	MP4C	Z	-23.962	5
18	MP4C	Mx	0	5
19	MP3A	X	37.399	1.5
20	MP3A	Z	-21.592	1.5
21	MP3A	Mx	.019	1.5
22	MP3B	X	37.399	1.5
23	MP3B	Z	-21.592	1.5
24	MP3B	Mx	-.019	1.5
25	MP3C	X	49.121	1.5
26	MP3C	Z	-28.36	1.5
27	MP3C	Mx	0	1.5
28	MP2A	X	40.781	2.5
29	MP2A	Z	-23.545	2.5
30	MP2A	Mx	-.005	2.5
31	MP2A	X	40.781	5.5
32	MP2A	Z	-23.545	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP2A	Mx	-.005	5.5
34	MP2B	X	40.781	2.5
35	MP2B	Z	-23.545	2.5
36	MP2B	Mx	.036	2.5
37	MP2B	X	40.781	5.5
38	MP2B	Z	-23.545	5.5
39	MP2B	Mx	.036	5.5
40	MP2C	X	71.317	2.5
41	MP2C	Z	-41.175	2.5
42	MP2C	Mx	-.055	2.5
43	MP2C	X	71.317	5.5
44	MP2C	Z	-41.175	5.5
45	MP2C	Mx	-.055	5.5
46	MP2A	X	40.781	2.5
47	MP2A	Z	-23.545	2.5
48	MP2A	Mx	-.036	2.5
49	MP2A	X	40.781	5.5
50	MP2A	Z	-23.545	5.5
51	MP2A	Mx	-.036	5.5
52	MP2B	X	40.781	2.5
53	MP2B	Z	-23.545	2.5
54	MP2B	Mx	.005	2.5
55	MP2B	X	40.781	5.5
56	MP2B	Z	-23.545	5.5
57	MP2B	Mx	.005	5.5
58	MP2C	X	71.317	2.5
59	MP2C	Z	-41.175	2.5
60	MP2C	Mx	.055	2.5
61	MP2C	X	71.317	5.5
62	MP2C	Z	-41.175	5.5
63	MP2C	Mx	.055	5.5
64	OVP	X	78.278	2
65	OVP	Z	-45.194	2
66	OVP	Mx	-.023	2
67	OVP1	X	78.278	2
68	OVP1	Z	-45.194	2
69	OVP1	Mx	-.023	2
70	MP2A	X	30.668	1.5
71	MP2A	Z	-17.706	1.5
72	MP2A	Mx	.015	1.5
73	MP2B	X	30.668	1.5
74	MP2B	Z	-17.706	1.5
75	MP2B	Mx	-.015	1.5
76	MP2C	X	40.715	1.5
77	MP2C	Z	-23.507	1.5
78	MP2C	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	16.834	3
2	MP4A	Z	0	3
3	MP4A	Mx	-.008	3
4	MP4A	X	16.834	5
5	MP4A	Z	0	5
6	MP4A	Mx	-.008	5
7	MP4B	X	40.151	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP4B	Z	0	3
9	MP4B	Mx	.01	3
10	MP4B	X	40.151	5
11	MP4B	Z	0	5
12	MP4B	Mx	.01	5
13	MP4C	X	40.151	3
14	MP4C	Z	0	3
15	MP4C	Mx	.01	3
16	MP4C	X	40.151	5
17	MP4C	Z	0	5
18	MP4C	Mx	.01	5
19	MP3A	X	38.673	1.5
20	MP3A	Z	0	1.5
21	MP3A	Mx	.019	1.5
22	MP3B	X	52.208	1.5
23	MP3B	Z	0	1.5
24	MP3B	Mx	-.013	1.5
25	MP3C	X	52.208	1.5
26	MP3C	Z	0	1.5
27	MP3C	Mx	-.013	1.5
28	MP2A	X	35.336	2.5
29	MP2A	Z	0	2.5
30	MP2A	Mx	-.018	2.5
31	MP2A	X	35.336	5.5
32	MP2A	Z	0	5.5
33	MP2A	Mx	-.018	5.5
34	MP2B	X	70.597	2.5
35	MP2B	Z	0	2.5
36	MP2B	Mx	.058	2.5
37	MP2B	X	70.597	5.5
38	MP2B	Z	0	5.5
39	MP2B	Mx	.058	5.5
40	MP2C	X	70.597	2.5
41	MP2C	Z	0	2.5
42	MP2C	Mx	-.023	2.5
43	MP2C	X	70.597	5.5
44	MP2C	Z	0	5.5
45	MP2C	Mx	-.023	5.5
46	MP2A	X	35.336	2.5
47	MP2A	Z	0	2.5
48	MP2A	Mx	-.018	2.5
49	MP2A	X	35.336	5.5
50	MP2A	Z	0	5.5
51	MP2A	Mx	-.018	5.5
52	MP2B	X	70.597	2.5
53	MP2B	Z	0	2.5
54	MP2B	Mx	-.023	2.5
55	MP2B	X	70.597	5.5
56	MP2B	Z	0	5.5
57	MP2B	Mx	-.023	5.5
58	MP2C	X	70.597	2.5
59	MP2C	Z	0	2.5
60	MP2C	Mx	.058	2.5
61	MP2C	X	70.597	5.5
62	MP2C	Z	0	5.5
63	MP2C	Mx	.058	5.5
64	OVP	X	78.862	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
65	OVP	Z	0	2
66	OVP	Mx	-.034	2
67	OVP1	X	78.862	2
68	OVP1	Z	0	2
69	OVP1	Mx	-.034	2
70	MP2A	X	31.545	1.5
71	MP2A	Z	0	1.5
72	MP2A	Mx	.016	1.5
73	MP2B	X	43.147	1.5
74	MP2B	Z	0	1.5
75	MP2B	Mx	-.011	1.5
76	MP2C	X	43.147	1.5
77	MP2C	Z	0	1.5
78	MP2C	Mx	-.011	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	21.31	3
2	MP4A	Z	12.303	3
3	MP4A	Mx	-.011	3
4	MP4A	X	21.31	5
5	MP4A	Z	12.303	5
6	MP4A	Mx	-.011	5
7	MP4B	X	41.503	3
8	MP4B	Z	23.962	3
9	MP4B	Mx	0	3
10	MP4B	X	41.503	5
11	MP4B	Z	23.962	5
12	MP4B	Mx	0	5
13	MP4C	X	21.31	3
14	MP4C	Z	12.303	3
15	MP4C	Mx	.011	3
16	MP4C	X	21.31	5
17	MP4C	Z	12.303	5
18	MP4C	Mx	.011	5
19	MP3A	X	37.399	1.5
20	MP3A	Z	21.592	1.5
21	MP3A	Mx	.019	1.5
22	MP3B	X	49.121	1.5
23	MP3B	Z	28.36	1.5
24	MP3B	Mx	0	1.5
25	MP3C	X	37.399	1.5
26	MP3C	Z	21.592	1.5
27	MP3C	Mx	-.019	1.5
28	MP2A	X	40.781	2.5
29	MP2A	Z	23.545	2.5
30	MP2A	Mx	-.036	2.5
31	MP2A	X	40.781	5.5
32	MP2A	Z	23.545	5.5
33	MP2A	Mx	-.036	5.5
34	MP2B	X	71.317	2.5
35	MP2B	Z	41.175	2.5
36	MP2B	Mx	.055	2.5
37	MP2B	X	71.317	5.5
38	MP2B	Z	41.175	5.5
39	MP2B	Mx	.055	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP2C	X	40.781	2.5
41	MP2C	Z	23.545	2.5
42	MP2C	Mx	.005	2.5
43	MP2C	X	40.781	5.5
44	MP2C	Z	23.545	5.5
45	MP2C	Mx	.005	5.5
46	MP2A	X	40.781	2.5
47	MP2A	Z	23.545	2.5
48	MP2A	Mx	-.005	2.5
49	MP2A	X	40.781	5.5
50	MP2A	Z	23.545	5.5
51	MP2A	Mx	-.005	5.5
52	MP2B	X	71.317	2.5
53	MP2B	Z	41.175	2.5
54	MP2B	Mx	-.055	2.5
55	MP2B	X	71.317	5.5
56	MP2B	Z	41.175	5.5
57	MP2B	Mx	-.055	5.5
58	MP2C	X	40.781	2.5
59	MP2C	Z	23.545	2.5
60	MP2C	Mx	.036	2.5
61	MP2C	X	40.781	5.5
62	MP2C	Z	23.545	5.5
63	MP2C	Mx	.036	5.5
64	OVP	X	63.306	2
65	OVP	Z	36.55	2
66	OVP	Mx	-.037	2
67	OVP1	X	63.306	2
68	OVP1	Z	36.55	2
69	OVP1	Mx	-.037	2
70	MP2A	X	30.668	1.5
71	MP2A	Z	17.706	1.5
72	MP2A	Mx	.015	1.5
73	MP2B	X	40.715	1.5
74	MP2B	Z	23.507	1.5
75	MP2B	Mx	0	1.5
76	MP2C	X	30.668	1.5
77	MP2C	Z	17.706	1.5
78	MP2C	Mx	-.015	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	20.076	3
2	MP4A	Z	34.772	3
3	MP4A	Mx	-.01	3
4	MP4A	X	20.076	5
5	MP4A	Z	34.772	5
6	MP4A	Mx	-.01	5
7	MP4B	X	20.076	3
8	MP4B	Z	34.772	3
9	MP4B	Mx	-.01	3
10	MP4B	X	20.076	5
11	MP4B	Z	34.772	5
12	MP4B	Mx	-.01	5
13	MP4C	X	8.417	3
14	MP4C	Z	14.579	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP4C	Mx	.008	3
16	MP4C	X	8.417	5
17	MP4C	Z	14.579	5
18	MP4C	Mx	.008	5
19	MP3A	X	26.104	1.5
20	MP3A	Z	45.214	1.5
21	MP3A	Mx	.013	1.5
22	MP3B	X	26.104	1.5
23	MP3B	Z	45.214	1.5
24	MP3B	Mx	.013	1.5
25	MP3C	X	19.336	1.5
26	MP3C	Z	33.492	1.5
27	MP3C	Mx	-.019	1.5
28	MP2A	X	35.298	2.5
29	MP2A	Z	61.139	2.5
30	MP2A	Mx	-.058	2.5
31	MP2A	X	35.298	5.5
32	MP2A	Z	61.139	5.5
33	MP2A	Mx	-.058	5.5
34	MP2B	X	35.298	2.5
35	MP2B	Z	61.139	2.5
36	MP2B	Mx	.023	2.5
37	MP2B	X	35.298	5.5
38	MP2B	Z	61.139	5.5
39	MP2B	Mx	.023	5.5
40	MP2C	X	17.668	2.5
41	MP2C	Z	30.602	2.5
42	MP2C	Mx	.018	2.5
43	MP2C	X	17.668	5.5
44	MP2C	Z	30.602	5.5
45	MP2C	Mx	.018	5.5
46	MP2A	X	35.298	2.5
47	MP2A	Z	61.139	2.5
48	MP2A	Mx	.023	2.5
49	MP2A	X	35.298	5.5
50	MP2A	Z	61.139	5.5
51	MP2A	Mx	.023	5.5
52	MP2B	X	35.298	2.5
53	MP2B	Z	61.139	2.5
54	MP2B	Mx	-.058	2.5
55	MP2B	X	35.298	5.5
56	MP2B	Z	61.139	5.5
57	MP2B	Mx	-.058	5.5
58	MP2C	X	17.668	2.5
59	MP2C	Z	30.602	2.5
60	MP2C	Mx	.018	2.5
61	MP2C	X	17.668	5.5
62	MP2C	Z	30.602	5.5
63	MP2C	Mx	.018	5.5
64	OVP	X	39.431	2
65	OVP	Z	68.297	2
66	OVP	Mx	-.034	2
67	OVP1	X	39.431	2
68	OVP1	Z	68.297	2
69	OVP1	Mx	-.034	2
70	MP2A	X	21.573	1.5
71	MP2A	Z	37.366	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
72	MP2A	Mx	.011	1.5
73	MP2B	X	21.573	1.5
74	MP2B	Z	37.366	1.5
75	MP2B	Mx	.011	1.5
76	MP2C	X	15.772	1.5
77	MP2C	Z	27.319	1.5
78	MP2C	Mx	-.016	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	0	3
2	MP4A	Z	47.924	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	47.924	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	24.607	3
9	MP4B	Mx	-.011	3
10	MP4B	X	0	5
11	MP4B	Z	24.607	5
12	MP4B	Mx	-.011	5
13	MP4C	X	0	3
14	MP4C	Z	24.607	3
15	MP4C	Mx	.011	3
16	MP4C	X	0	5
17	MP4C	Z	24.607	5
18	MP4C	Mx	.011	5
19	MP3A	X	0	1.5
20	MP3A	Z	56.72	1.5
21	MP3A	Mx	0	1.5
22	MP3B	X	0	1.5
23	MP3B	Z	43.185	1.5
24	MP3B	Mx	.019	1.5
25	MP3C	X	0	1.5
26	MP3C	Z	43.185	1.5
27	MP3C	Mx	-.019	1.5
28	MP2A	X	0	2.5
29	MP2A	Z	82.35	2.5
30	MP2A	Mx	-.055	2.5
31	MP2A	X	0	5.5
32	MP2A	Z	82.35	5.5
33	MP2A	Mx	-.055	5.5
34	MP2B	X	0	2.5
35	MP2B	Z	47.09	2.5
36	MP2B	Mx	-.005	2.5
37	MP2B	X	0	5.5
38	MP2B	Z	47.09	5.5
39	MP2B	Mx	-.005	5.5
40	MP2C	X	0	2.5
41	MP2C	Z	47.09	2.5
42	MP2C	Mx	.036	2.5
43	MP2C	X	0	5.5
44	MP2C	Z	47.09	5.5
45	MP2C	Mx	.036	5.5
46	MP2A	X	0	2.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP2A	Z	82.35	2.5
48	MP2A	Mx	.055	2.5
49	MP2A	X	0	5.5
50	MP2A	Z	82.35	5.5
51	MP2A	Mx	.055	5.5
52	MP2B	X	0	2.5
53	MP2B	Z	47.09	2.5
54	MP2B	Mx	-.036	2.5
55	MP2B	X	0	5.5
56	MP2B	Z	47.09	5.5
57	MP2B	Mx	-.036	5.5
58	MP2C	X	0	2.5
59	MP2C	Z	47.09	2.5
60	MP2C	Mx	.005	2.5
61	MP2C	X	0	5.5
62	MP2C	Z	47.09	5.5
63	MP2C	Mx	.005	5.5
64	OVP	X	0	2
65	OVP	Z	90.388	2
66	OVP	Mx	-.023	2
67	OVP1	X	0	2
68	OVP1	Z	90.388	2
69	OVP1	Mx	-.023	2
70	MP2A	X	0	1.5
71	MP2A	Z	47.014	1.5
72	MP2A	Mx	0	1.5
73	MP2B	X	0	1.5
74	MP2B	Z	35.412	1.5
75	MP2B	Mx	.015	1.5
76	MP2C	X	0	1.5
77	MP2C	Z	35.412	1.5
78	MP2C	Mx	-.015	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-20.076	3
2	MP4A	Z	34.772	3
3	MP4A	Mx	.01	3
4	MP4A	X	-20.076	5
5	MP4A	Z	34.772	5
6	MP4A	Mx	.01	5
7	MP4B	X	-8.417	3
8	MP4B	Z	14.579	3
9	MP4B	Mx	-.008	3
10	MP4B	X	-8.417	5
11	MP4B	Z	14.579	5
12	MP4B	Mx	-.008	5
13	MP4C	X	-20.076	3
14	MP4C	Z	34.772	3
15	MP4C	Mx	.01	3
16	MP4C	X	-20.076	5
17	MP4C	Z	34.772	5
18	MP4C	Mx	.01	5
19	MP3A	X	-26.104	1.5
20	MP3A	Z	45.214	1.5
21	MP3A	Mx	-.013	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
22	MP3B	X	-19.336	1.5
23	MP3B	Z	33.492	1.5
24	MP3B	Mx	.019	1.5
25	MP3C	X	-26.104	1.5
26	MP3C	Z	45.214	1.5
27	MP3C	Mx	-.013	1.5
28	MP2A	X	-35.298	2.5
29	MP2A	Z	61.139	2.5
30	MP2A	Mx	-.023	2.5
31	MP2A	X	-35.298	5.5
32	MP2A	Z	61.139	5.5
33	MP2A	Mx	-.023	5.5
34	MP2B	X	-17.668	2.5
35	MP2B	Z	30.602	2.5
36	MP2B	Mx	-.018	2.5
37	MP2B	X	-17.668	5.5
38	MP2B	Z	30.602	5.5
39	MP2B	Mx	-.018	5.5
40	MP2C	X	-35.298	2.5
41	MP2C	Z	61.139	2.5
42	MP2C	Mx	.058	2.5
43	MP2C	X	-35.298	5.5
44	MP2C	Z	61.139	5.5
45	MP2C	Mx	.058	5.5
46	MP2A	X	-35.298	2.5
47	MP2A	Z	61.139	2.5
48	MP2A	Mx	.058	2.5
49	MP2A	X	-35.298	5.5
50	MP2A	Z	61.139	5.5
51	MP2A	Mx	.058	5.5
52	MP2B	X	-17.668	2.5
53	MP2B	Z	30.602	2.5
54	MP2B	Mx	-.018	2.5
55	MP2B	X	-17.668	5.5
56	MP2B	Z	30.602	5.5
57	MP2B	Mx	-.018	5.5
58	MP2C	X	-35.298	2.5
59	MP2C	Z	61.139	2.5
60	MP2C	Mx	-.023	2.5
61	MP2C	X	-35.298	5.5
62	MP2C	Z	61.139	5.5
63	MP2C	Mx	-.023	5.5
64	OVP	X	-48.076	2
65	OVP	Z	83.269	2
66	OVP	Mx	0	2
67	OVP1	X	-48.076	2
68	OVP1	Z	83.269	2
69	OVP1	Mx	0	2
70	MP2A	X	-21.573	1.5
71	MP2A	Z	37.366	1.5
72	MP2A	Mx	-.011	1.5
73	MP2B	X	-15.772	1.5
74	MP2B	Z	27.319	1.5
75	MP2B	Mx	.016	1.5
76	MP2C	X	-21.573	1.5
77	MP2C	Z	37.366	1.5
78	MP2C	Mx	-.011	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-21.31	3
2	MP4A	Z	12.303	3
3	MP4A	Mx	.011	3
4	MP4A	X	-21.31	5
5	MP4A	Z	12.303	5
6	MP4A	Mx	.011	5
7	MP4B	X	-21.31	3
8	MP4B	Z	12.303	3
9	MP4B	Mx	-.011	3
10	MP4B	X	-21.31	5
11	MP4B	Z	12.303	5
12	MP4B	Mx	-.011	5
13	MP4C	X	-41.503	3
14	MP4C	Z	23.962	3
15	MP4C	Mx	0	3
16	MP4C	X	-41.503	5
17	MP4C	Z	23.962	5
18	MP4C	Mx	0	5
19	MP3A	X	-37.399	1.5
20	MP3A	Z	21.592	1.5
21	MP3A	Mx	-.019	1.5
22	MP3B	X	-37.399	1.5
23	MP3B	Z	21.592	1.5
24	MP3B	Mx	.019	1.5
25	MP3C	X	-49.121	1.5
26	MP3C	Z	28.36	1.5
27	MP3C	Mx	0	1.5
28	MP2A	X	-40.781	2.5
29	MP2A	Z	23.545	2.5
30	MP2A	Mx	.005	2.5
31	MP2A	X	-40.781	5.5
32	MP2A	Z	23.545	5.5
33	MP2A	Mx	.005	5.5
34	MP2B	X	-40.781	2.5
35	MP2B	Z	23.545	2.5
36	MP2B	Mx	-.036	2.5
37	MP2B	X	-40.781	5.5
38	MP2B	Z	23.545	5.5
39	MP2B	Mx	-.036	5.5
40	MP2C	X	-71.317	2.5
41	MP2C	Z	41.175	2.5
42	MP2C	Mx	.055	2.5
43	MP2C	X	-71.317	5.5
44	MP2C	Z	41.175	5.5
45	MP2C	Mx	.055	5.5
46	MP2A	X	-40.781	2.5
47	MP2A	Z	23.545	2.5
48	MP2A	Mx	.036	2.5
49	MP2A	X	-40.781	5.5
50	MP2A	Z	23.545	5.5
51	MP2A	Mx	.036	5.5
52	MP2B	X	-40.781	2.5
53	MP2B	Z	23.545	2.5
54	MP2B	Mx	-.005	2.5
55	MP2B	X	-40.781	5.5
56	MP2B	Z	23.545	5.5
57	MP2B	Mx	-.005	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
58	MP2C	X	-71.317	2.5
59	MP2C	Z	41.175	2.5
60	MP2C	Mx	-.055	2.5
61	MP2C	X	-71.317	5.5
62	MP2C	Z	41.175	5.5
63	MP2C	Mx	-.055	5.5
64	OVP	X	-78.278	2
65	OVP	Z	45.194	2
66	OVP	Mx	.023	2
67	OVP1	X	-78.278	2
68	OVP1	Z	45.194	2
69	OVP1	Mx	.023	2
70	MP2A	X	-30.668	1.5
71	MP2A	Z	17.706	1.5
72	MP2A	Mx	-.015	1.5
73	MP2B	X	-30.668	1.5
74	MP2B	Z	17.706	1.5
75	MP2B	Mx	.015	1.5
76	MP2C	X	-40.715	1.5
77	MP2C	Z	23.507	1.5
78	MP2C	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-16.834	3
2	MP4A	Z	0	3
3	MP4A	Mx	.008	3
4	MP4A	X	-16.834	5
5	MP4A	Z	0	5
6	MP4A	Mx	.008	5
7	MP4B	X	-40.151	3
8	MP4B	Z	0	3
9	MP4B	Mx	-.01	3
10	MP4B	X	-40.151	5
11	MP4B	Z	0	5
12	MP4B	Mx	-.01	5
13	MP4C	X	-40.151	3
14	MP4C	Z	0	3
15	MP4C	Mx	-.01	3
16	MP4C	X	-40.151	5
17	MP4C	Z	0	5
18	MP4C	Mx	-.01	5
19	MP3A	X	-38.673	1.5
20	MP3A	Z	0	1.5
21	MP3A	Mx	-.019	1.5
22	MP3B	X	-52.208	1.5
23	MP3B	Z	0	1.5
24	MP3B	Mx	.013	1.5
25	MP3C	X	-52.208	1.5
26	MP3C	Z	0	1.5
27	MP3C	Mx	.013	1.5
28	MP2A	X	-35.336	2.5
29	MP2A	Z	0	2.5
30	MP2A	Mx	.018	2.5
31	MP2A	X	-35.336	5.5
32	MP2A	Z	0	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP2A	Mx	.018	5.5
34	MP2B	X	-70.597	2.5
35	MP2B	Z	0	2.5
36	MP2B	Mx	-.058	2.5
37	MP2B	X	-70.597	5.5
38	MP2B	Z	0	5.5
39	MP2B	Mx	-.058	5.5
40	MP2C	X	-70.597	2.5
41	MP2C	Z	0	2.5
42	MP2C	Mx	.023	2.5
43	MP2C	X	-70.597	5.5
44	MP2C	Z	0	5.5
45	MP2C	Mx	.023	5.5
46	MP2A	X	-35.336	2.5
47	MP2A	Z	0	2.5
48	MP2A	Mx	.018	2.5
49	MP2A	X	-35.336	5.5
50	MP2A	Z	0	5.5
51	MP2A	Mx	.018	5.5
52	MP2B	X	-70.597	2.5
53	MP2B	Z	0	2.5
54	MP2B	Mx	.023	2.5
55	MP2B	X	-70.597	5.5
56	MP2B	Z	0	5.5
57	MP2B	Mx	.023	5.5
58	MP2C	X	-70.597	2.5
59	MP2C	Z	0	2.5
60	MP2C	Mx	-.058	2.5
61	MP2C	X	-70.597	5.5
62	MP2C	Z	0	5.5
63	MP2C	Mx	-.058	5.5
64	OVP	X	-78.862	2
65	OVP	Z	0	2
66	OVP	Mx	.034	2
67	OVP1	X	-78.862	2
68	OVP1	Z	0	2
69	OVP1	Mx	.034	2
70	MP2A	X	-31.545	1.5
71	MP2A	Z	0	1.5
72	MP2A	Mx	-.016	1.5
73	MP2B	X	-43.147	1.5
74	MP2B	Z	0	1.5
75	MP2B	Mx	.011	1.5
76	MP2C	X	-43.147	1.5
77	MP2C	Z	0	1.5
78	MP2C	Mx	.011	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-21.31	3
2	MP4A	Z	-12.303	3
3	MP4A	Mx	.011	3
4	MP4A	X	-21.31	5
5	MP4A	Z	-12.303	5
6	MP4A	Mx	.011	5
7	MP4B	X	-41.503	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
8	MP4B	Z	-23.962	3
9	MP4B	Mx	0	3
10	MP4B	X	-41.503	5
11	MP4B	Z	-23.962	5
12	MP4B	Mx	0	5
13	MP4C	X	-21.31	3
14	MP4C	Z	-12.303	3
15	MP4C	Mx	-.011	3
16	MP4C	X	-21.31	5
17	MP4C	Z	-12.303	5
18	MP4C	Mx	-.011	5
19	MP3A	X	-37.399	1.5
20	MP3A	Z	-21.592	1.5
21	MP3A	Mx	-.019	1.5
22	MP3B	X	-49.121	1.5
23	MP3B	Z	-28.36	1.5
24	MP3B	Mx	0	1.5
25	MP3C	X	-37.399	1.5
26	MP3C	Z	-21.592	1.5
27	MP3C	Mx	.019	1.5
28	MP2A	X	-40.781	2.5
29	MP2A	Z	-23.545	2.5
30	MP2A	Mx	.036	2.5
31	MP2A	X	-40.781	5.5
32	MP2A	Z	-23.545	5.5
33	MP2A	Mx	.036	5.5
34	MP2B	X	-71.317	2.5
35	MP2B	Z	-41.175	2.5
36	MP2B	Mx	-.055	2.5
37	MP2B	X	-71.317	5.5
38	MP2B	Z	-41.175	5.5
39	MP2B	Mx	-.055	5.5
40	MP2C	X	-40.781	2.5
41	MP2C	Z	-23.545	2.5
42	MP2C	Mx	-.005	2.5
43	MP2C	X	-40.781	5.5
44	MP2C	Z	-23.545	5.5
45	MP2C	Mx	-.005	5.5
46	MP2A	X	-40.781	2.5
47	MP2A	Z	-23.545	2.5
48	MP2A	Mx	.005	2.5
49	MP2A	X	-40.781	5.5
50	MP2A	Z	-23.545	5.5
51	MP2A	Mx	.005	5.5
52	MP2B	X	-71.317	2.5
53	MP2B	Z	-41.175	2.5
54	MP2B	Mx	.055	2.5
55	MP2B	X	-71.317	5.5
56	MP2B	Z	-41.175	5.5
57	MP2B	Mx	.055	5.5
58	MP2C	X	-40.781	2.5
59	MP2C	Z	-23.545	2.5
60	MP2C	Mx	-.036	2.5
61	MP2C	X	-40.781	5.5
62	MP2C	Z	-23.545	5.5
63	MP2C	Mx	-.036	5.5
64	OVP	X	-63.306	2

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
65	OVP	Z	-36.55	2
66	OVP	Mx	.037	2
67	OVP1	X	-63.306	2
68	OVP1	Z	-36.55	2
69	OVP1	Mx	.037	2
70	MP2A	X	-30.668	1.5
71	MP2A	Z	-17.706	1.5
72	MP2A	Mx	-.015	1.5
73	MP2B	X	-40.715	1.5
74	MP2B	Z	-23.507	1.5
75	MP2B	Mx	0	1.5
76	MP2C	X	-30.668	1.5
77	MP2C	Z	-17.706	1.5
78	MP2C	Mx	.015	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-20.076	3
2	MP4A	Z	-34.772	3
3	MP4A	Mx	.01	3
4	MP4A	X	-20.076	5
5	MP4A	Z	-34.772	5
6	MP4A	Mx	.01	5
7	MP4B	X	-20.076	3
8	MP4B	Z	-34.772	3
9	MP4B	Mx	.01	3
10	MP4B	X	-20.076	5
11	MP4B	Z	-34.772	5
12	MP4B	Mx	.01	5
13	MP4C	X	-8.417	3
14	MP4C	Z	-14.579	3
15	MP4C	Mx	-.008	3
16	MP4C	X	-8.417	5
17	MP4C	Z	-14.579	5
18	MP4C	Mx	-.008	5
19	MP3A	X	-26.104	1.5
20	MP3A	Z	-45.214	1.5
21	MP3A	Mx	-.013	1.5
22	MP3B	X	-26.104	1.5
23	MP3B	Z	-45.214	1.5
24	MP3B	Mx	-.013	1.5
25	MP3C	X	-19.336	1.5
26	MP3C	Z	-33.492	1.5
27	MP3C	Mx	.019	1.5
28	MP2A	X	-35.298	2.5
29	MP2A	Z	-61.139	2.5
30	MP2A	Mx	.058	2.5
31	MP2A	X	-35.298	5.5
32	MP2A	Z	-61.139	5.5
33	MP2A	Mx	.058	5.5
34	MP2B	X	-35.298	2.5
35	MP2B	Z	-61.139	2.5
36	MP2B	Mx	-.023	2.5
37	MP2B	X	-35.298	5.5
38	MP2B	Z	-61.139	5.5
39	MP2B	Mx	-.023	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP2C	X	-17.668	2.5
41	MP2C	Z	-30.602	2.5
42	MP2C	Mx	-.018	2.5
43	MP2C	X	-17.668	5.5
44	MP2C	Z	-30.602	5.5
45	MP2C	Mx	-.018	5.5
46	MP2A	X	-35.298	2.5
47	MP2A	Z	-61.139	2.5
48	MP2A	Mx	-.023	2.5
49	MP2A	X	-35.298	5.5
50	MP2A	Z	-61.139	5.5
51	MP2A	Mx	-.023	5.5
52	MP2B	X	-35.298	2.5
53	MP2B	Z	-61.139	2.5
54	MP2B	Mx	.058	2.5
55	MP2B	X	-35.298	5.5
56	MP2B	Z	-61.139	5.5
57	MP2B	Mx	.058	5.5
58	MP2C	X	-17.668	2.5
59	MP2C	Z	-30.602	2.5
60	MP2C	Mx	-.018	2.5
61	MP2C	X	-17.668	5.5
62	MP2C	Z	-30.602	5.5
63	MP2C	Mx	-.018	5.5
64	OVP	X	-39.431	2
65	OVP	Z	-68.297	2
66	OVP	Mx	.034	2
67	OVP1	X	-39.431	2
68	OVP1	Z	-68.297	2
69	OVP1	Mx	.034	2
70	MP2A	X	-21.573	1.5
71	MP2A	Z	-37.366	1.5
72	MP2A	Mx	-.011	1.5
73	MP2B	X	-21.573	1.5
74	MP2B	Z	-37.366	1.5
75	MP2B	Mx	-.011	1.5
76	MP2C	X	-15.772	1.5
77	MP2C	Z	-27.319	1.5
78	MP2C	Mx	.016	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	0	3
2	MP4A	Z	-12.073	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	-12.073	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	-7	3
9	MP4B	Mx	.003	3
10	MP4B	X	0	5
11	MP4B	Z	-7	5
12	MP4B	Mx	.003	5
13	MP4C	X	0	3
14	MP4C	Z	-7	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP4C	Mx	-.003	3
16	MP4C	X	0	5
17	MP4C	Z	-7	5
18	MP4C	Mx	-.003	5
19	MP3A	X	0	1.5
20	MP3A	Z	-12.726	1.5
21	MP3A	Mx	0	1.5
22	MP3B	X	0	1.5
23	MP3B	Z	-10.048	1.5
24	MP3B	Mx	-.004	1.5
25	MP3C	X	0	1.5
26	MP3C	Z	-10.048	1.5
27	MP3C	Mx	.004	1.5
28	MP2A	X	0	2.5
29	MP2A	Z	-24.521	2.5
30	MP2A	Mx	.016	2.5
31	MP2A	X	0	5.5
32	MP2A	Z	-24.521	5.5
33	MP2A	Mx	.016	5.5
34	MP2B	X	0	2.5
35	MP2B	Z	-19.035	2.5
36	MP2B	Mx	.002	2.5
37	MP2B	X	0	5.5
38	MP2B	Z	-19.035	5.5
39	MP2B	Mx	.002	5.5
40	MP2C	X	0	2.5
41	MP2C	Z	-19.035	2.5
42	MP2C	Mx	-.015	2.5
43	MP2C	X	0	5.5
44	MP2C	Z	-19.035	5.5
45	MP2C	Mx	-.015	5.5
46	MP2A	X	0	2.5
47	MP2A	Z	-24.521	2.5
48	MP2A	Mx	-.016	2.5
49	MP2A	X	0	5.5
50	MP2A	Z	-24.521	5.5
51	MP2A	Mx	-.016	5.5
52	MP2B	X	0	2.5
53	MP2B	Z	-19.035	2.5
54	MP2B	Mx	.015	2.5
55	MP2B	X	0	5.5
56	MP2B	Z	-19.035	5.5
57	MP2B	Mx	.015	5.5
58	MP2C	X	0	2.5
59	MP2C	Z	-19.035	2.5
60	MP2C	Mx	-.002	2.5
61	MP2C	X	0	5.5
62	MP2C	Z	-19.035	5.5
63	MP2C	Mx	-.002	5.5
64	OVP	X	0	2
65	OVP	Z	-24.235	2
66	OVP	Mx	.006	2
67	OVP1	X	0	2
68	OVP1	Z	-24.235	2
69	OVP1	Mx	.006	2
70	MP2A	X	0	1.5
71	MP2A	Z	-12.726	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
72	MP2A	Mx	0	1.5
73	MP2B	X	0	1.5
74	MP2B	Z	-9.936	1.5
75	MP2B	Mx	-.004	1.5
76	MP2C	X	0	1.5
77	MP2C	Z	-9.936	1.5
78	MP2C	Mx	.004	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	5.191	3
2	MP4A	Z	-8.991	3
3	MP4A	Mx	-.003	3
4	MP4A	X	5.191	5
5	MP4A	Z	-8.991	5
6	MP4A	Mx	-.003	5
7	MP4B	X	2.654	3
8	MP4B	Z	-4.597	3
9	MP4B	Mx	.003	3
10	MP4B	X	2.654	5
11	MP4B	Z	-4.597	5
12	MP4B	Mx	.003	5
13	MP4C	X	5.191	3
14	MP4C	Z	-8.991	3
15	MP4C	Mx	-.003	3
16	MP4C	X	5.191	5
17	MP4C	Z	-8.991	5
18	MP4C	Mx	-.003	5
19	MP3A	X	5.916	1.5
20	MP3A	Z	-10.248	1.5
21	MP3A	Mx	.003	1.5
22	MP3B	X	4.578	1.5
23	MP3B	Z	-7.929	1.5
24	MP3B	Mx	-.005	1.5
25	MP3C	X	5.916	1.5
26	MP3C	Z	-10.248	1.5
27	MP3C	Mx	.003	1.5
28	MP2A	X	11.346	2.5
29	MP2A	Z	-19.652	2.5
30	MP2A	Mx	.007	2.5
31	MP2A	X	11.346	5.5
32	MP2A	Z	-19.652	5.5
33	MP2A	Mx	.007	5.5
34	MP2B	X	8.603	2.5
35	MP2B	Z	-14.901	2.5
36	MP2B	Mx	.009	2.5
37	MP2B	X	8.603	5.5
38	MP2B	Z	-14.901	5.5
39	MP2B	Mx	.009	5.5
40	MP2C	X	11.346	2.5
41	MP2C	Z	-19.652	2.5
42	MP2C	Mx	-.019	2.5
43	MP2C	X	11.346	5.5
44	MP2C	Z	-19.652	5.5
45	MP2C	Mx	-.019	5.5
46	MP2A	X	11.346	2.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP2A	Z	-19.652	2.5
48	MP2A	Mx	-.019	2.5
49	MP2A	X	11.346	5.5
50	MP2A	Z	-19.652	5.5
51	MP2A	Mx	-.019	5.5
52	MP2B	X	8.603	2.5
53	MP2B	Z	-14.901	2.5
54	MP2B	Mx	.009	2.5
55	MP2B	X	8.603	5.5
56	MP2B	Z	-14.901	5.5
57	MP2B	Mx	.009	5.5
58	MP2C	X	11.346	2.5
59	MP2C	Z	-19.652	2.5
60	MP2C	Mx	.007	2.5
61	MP2C	X	11.346	5.5
62	MP2C	Z	-19.652	5.5
63	MP2C	Mx	.007	5.5
64	OVP	X	12.79	2
65	OVP	Z	-22.153	2
66	OVP	Mx	0	2
67	OVP1	X	12.79	2
68	OVP1	Z	-22.153	2
69	OVP1	Mx	0	2
70	MP2A	X	5.898	1.5
71	MP2A	Z	-10.215	1.5
72	MP2A	Mx	.003	1.5
73	MP2B	X	4.503	1.5
74	MP2B	Z	-7.8	1.5
75	MP2B	Mx	-.005	1.5
76	MP2C	X	5.898	1.5
77	MP2C	Z	-10.215	1.5
78	MP2C	Mx	.003	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	6.062	3
2	MP4A	Z	-3.5	3
3	MP4A	Mx	-.003	3
4	MP4A	X	6.062	5
5	MP4A	Z	-3.5	5
6	MP4A	Mx	-.003	5
7	MP4B	X	6.062	3
8	MP4B	Z	-3.5	3
9	MP4B	Mx	.003	3
10	MP4B	X	6.062	5
11	MP4B	Z	-3.5	5
12	MP4B	Mx	.003	5
13	MP4C	X	10.456	3
14	MP4C	Z	-6.037	3
15	MP4C	Mx	0	3
16	MP4C	X	10.456	5
17	MP4C	Z	-6.037	5
18	MP4C	Mx	0	5
19	MP3A	X	8.702	1.5
20	MP3A	Z	-5.024	1.5
21	MP3A	Mx	.004	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
22	MP3B	X	8.702	1.5
23	MP3B	Z	-5.024	1.5
24	MP3B	Mx	-.004	1.5
25	MP3C	X	11.021	1.5
26	MP3C	Z	-6.363	1.5
27	MP3C	Mx	0	1.5
28	MP2A	X	16.485	2.5
29	MP2A	Z	-9.518	2.5
30	MP2A	Mx	-.002	2.5
31	MP2A	X	16.485	5.5
32	MP2A	Z	-9.518	5.5
33	MP2A	Mx	-.002	5.5
34	MP2B	X	16.485	2.5
35	MP2B	Z	-9.518	2.5
36	MP2B	Mx	.015	2.5
37	MP2B	X	16.485	5.5
38	MP2B	Z	-9.518	5.5
39	MP2B	Mx	.015	5.5
40	MP2C	X	21.236	2.5
41	MP2C	Z	-12.26	2.5
42	MP2C	Mx	-.016	2.5
43	MP2C	X	21.236	5.5
44	MP2C	Z	-12.26	5.5
45	MP2C	Mx	-.016	5.5
46	MP2A	X	16.485	2.5
47	MP2A	Z	-9.518	2.5
48	MP2A	Mx	-.015	2.5
49	MP2A	X	16.485	5.5
50	MP2A	Z	-9.518	5.5
51	MP2A	Mx	-.015	5.5
52	MP2B	X	16.485	2.5
53	MP2B	Z	-9.518	2.5
54	MP2B	Mx	.002	2.5
55	MP2B	X	16.485	5.5
56	MP2B	Z	-9.518	5.5
57	MP2B	Mx	.002	5.5
58	MP2C	X	21.236	2.5
59	MP2C	Z	-12.26	2.5
60	MP2C	Mx	.016	2.5
61	MP2C	X	21.236	5.5
62	MP2C	Z	-12.26	5.5
63	MP2C	Mx	.016	5.5
64	OVP	X	20.988	2
65	OVP	Z	-12.117	2
66	OVP	Mx	-.006	2
67	OVP1	X	20.988	2
68	OVP1	Z	-12.117	2
69	OVP1	Mx	-.006	2
70	MP2A	X	8.605	1.5
71	MP2A	Z	-4.968	1.5
72	MP2A	Mx	.004	1.5
73	MP2B	X	8.605	1.5
74	MP2B	Z	-4.968	1.5
75	MP2B	Mx	-.004	1.5
76	MP2C	X	11.021	1.5
77	MP2C	Z	-6.363	1.5
78	MP2C	Mx	0	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	5.309	3
2	MP4A	Z	0	3
3	MP4A	Mx	-.003	3
4	MP4A	X	5.309	5
5	MP4A	Z	0	5
6	MP4A	Mx	-.003	5
7	MP4B	X	10.382	3
8	MP4B	Z	0	3
9	MP4B	Mx	.003	3
10	MP4B	X	10.382	5
11	MP4B	Z	0	5
12	MP4B	Mx	.003	5
13	MP4C	X	10.382	3
14	MP4C	Z	0	3
15	MP4C	Mx	.003	3
16	MP4C	X	10.382	5
17	MP4C	Z	0	5
18	MP4C	Mx	.003	5
19	MP3A	X	9.155	1.5
20	MP3A	Z	0	1.5
21	MP3A	Mx	.005	1.5
22	MP3B	X	11.833	1.5
23	MP3B	Z	0	1.5
24	MP3B	Mx	-.003	1.5
25	MP3C	X	11.833	1.5
26	MP3C	Z	0	1.5
27	MP3C	Mx	-.003	1.5
28	MP2A	X	17.207	2.5
29	MP2A	Z	0	2.5
30	MP2A	Mx	-.009	2.5
31	MP2A	X	17.207	5.5
32	MP2A	Z	0	5.5
33	MP2A	Mx	-.009	5.5
34	MP2B	X	22.692	2.5
35	MP2B	Z	0	2.5
36	MP2B	Mx	.019	2.5
37	MP2B	X	22.692	5.5
38	MP2B	Z	0	5.5
39	MP2B	Mx	.019	5.5
40	MP2C	X	22.692	2.5
41	MP2C	Z	0	2.5
42	MP2C	Mx	-.007	2.5
43	MP2C	X	22.692	5.5
44	MP2C	Z	0	5.5
45	MP2C	Mx	-.007	5.5
46	MP2A	X	17.207	2.5
47	MP2A	Z	0	2.5
48	MP2A	Mx	-.009	2.5
49	MP2A	X	17.207	5.5
50	MP2A	Z	0	5.5
51	MP2A	Mx	-.009	5.5
52	MP2B	X	22.692	2.5
53	MP2B	Z	0	2.5
54	MP2B	Mx	-.007	2.5
55	MP2B	X	22.692	5.5
56	MP2B	Z	0	5.5
57	MP2B	Mx	-.007	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
58	MP2C	X	22.692	2.5
59	MP2C	Z	0	2.5
60	MP2C	Mx	.019	2.5
61	MP2C	X	22.692	5.5
62	MP2C	Z	0	5.5
63	MP2C	Mx	.019	5.5
64	OVP	X	21.544	2
65	OVP	Z	0	2
66	OVP	Mx	-.009	2
67	OVP1	X	21.544	2
68	OVP1	Z	0	2
69	OVP1	Mx	-.009	2
70	MP2A	X	9.007	1.5
71	MP2A	Z	0	1.5
72	MP2A	Mx	.005	1.5
73	MP2B	X	11.796	1.5
74	MP2B	Z	0	1.5
75	MP2B	Mx	-.003	1.5
76	MP2C	X	11.796	1.5
77	MP2C	Z	0	1.5
78	MP2C	Mx	-.003	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	6.062	3
2	MP4A	Z	3.5	3
3	MP4A	Mx	-.003	3
4	MP4A	X	6.062	5
5	MP4A	Z	3.5	5
6	MP4A	Mx	-.003	5
7	MP4B	X	10.456	3
8	MP4B	Z	6.037	3
9	MP4B	Mx	0	3
10	MP4B	X	10.456	5
11	MP4B	Z	6.037	5
12	MP4B	Mx	0	5
13	MP4C	X	6.062	3
14	MP4C	Z	3.5	3
15	MP4C	Mx	.003	3
16	MP4C	X	6.062	5
17	MP4C	Z	3.5	5
18	MP4C	Mx	.003	5
19	MP3A	X	8.702	1.5
20	MP3A	Z	5.024	1.5
21	MP3A	Mx	.004	1.5
22	MP3B	X	11.021	1.5
23	MP3B	Z	6.363	1.5
24	MP3B	Mx	0	1.5
25	MP3C	X	8.702	1.5
26	MP3C	Z	5.024	1.5
27	MP3C	Mx	-.004	1.5
28	MP2A	X	16.485	2.5
29	MP2A	Z	9.518	2.5
30	MP2A	Mx	-.015	2.5
31	MP2A	X	16.485	5.5
32	MP2A	Z	9.518	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP2A	Mx	-.015	5.5
34	MP2B	X	21.236	2.5
35	MP2B	Z	12.26	2.5
36	MP2B	Mx	.016	2.5
37	MP2B	X	21.236	5.5
38	MP2B	Z	12.26	5.5
39	MP2B	Mx	.016	5.5
40	MP2C	X	16.485	2.5
41	MP2C	Z	9.518	2.5
42	MP2C	Mx	.002	2.5
43	MP2C	X	16.485	5.5
44	MP2C	Z	9.518	5.5
45	MP2C	Mx	.002	5.5
46	MP2A	X	16.485	2.5
47	MP2A	Z	9.518	2.5
48	MP2A	Mx	-.002	2.5
49	MP2A	X	16.485	5.5
50	MP2A	Z	9.518	5.5
51	MP2A	Mx	-.002	5.5
52	MP2B	X	21.236	2.5
53	MP2B	Z	12.26	2.5
54	MP2B	Mx	-.016	2.5
55	MP2B	X	21.236	5.5
56	MP2B	Z	12.26	5.5
57	MP2B	Mx	-.016	5.5
58	MP2C	X	16.485	2.5
59	MP2C	Z	9.518	2.5
60	MP2C	Mx	.015	2.5
61	MP2C	X	16.485	5.5
62	MP2C	Z	9.518	5.5
63	MP2C	Mx	.015	5.5
64	OVP	X	17.492	2
65	OVP	Z	10.099	2
66	OVP	Mx	-.01	2
67	OVP1	X	17.492	2
68	OVP1	Z	10.099	2
69	OVP1	Mx	-.01	2
70	MP2A	X	8.605	1.5
71	MP2A	Z	4.968	1.5
72	MP2A	Mx	.004	1.5
73	MP2B	X	11.021	1.5
74	MP2B	Z	6.363	1.5
75	MP2B	Mx	0	1.5
76	MP2C	X	8.605	1.5
77	MP2C	Z	4.968	1.5
78	MP2C	Mx	-.004	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	5.191	3
2	MP4A	Z	8.991	3
3	MP4A	Mx	-.003	3
4	MP4A	X	5.191	5
5	MP4A	Z	8.991	5
6	MP4A	Mx	-.003	5
7	MP4B	X	5.191	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP4B	Z	8.991	3
9	MP4B	Mx	-.003	3
10	MP4B	X	5.191	5
11	MP4B	Z	8.991	5
12	MP4B	Mx	-.003	5
13	MP4C	X	2.654	3
14	MP4C	Z	4.597	3
15	MP4C	Mx	.003	3
16	MP4C	X	2.654	5
17	MP4C	Z	4.597	5
18	MP4C	Mx	.003	5
19	MP3A	X	5.916	1.5
20	MP3A	Z	10.248	1.5
21	MP3A	Mx	.003	1.5
22	MP3B	X	5.916	1.5
23	MP3B	Z	10.248	1.5
24	MP3B	Mx	.003	1.5
25	MP3C	X	4.578	1.5
26	MP3C	Z	7.929	1.5
27	MP3C	Mx	-.005	1.5
28	MP2A	X	11.346	2.5
29	MP2A	Z	19.652	2.5
30	MP2A	Mx	-.019	2.5
31	MP2A	X	11.346	5.5
32	MP2A	Z	19.652	5.5
33	MP2A	Mx	-.019	5.5
34	MP2B	X	11.346	2.5
35	MP2B	Z	19.652	2.5
36	MP2B	Mx	.007	2.5
37	MP2B	X	11.346	5.5
38	MP2B	Z	19.652	5.5
39	MP2B	Mx	.007	5.5
40	MP2C	X	8.603	2.5
41	MP2C	Z	14.901	2.5
42	MP2C	Mx	.009	2.5
43	MP2C	X	8.603	5.5
44	MP2C	Z	14.901	5.5
45	MP2C	Mx	.009	5.5
46	MP2A	X	11.346	2.5
47	MP2A	Z	19.652	2.5
48	MP2A	Mx	.007	2.5
49	MP2A	X	11.346	5.5
50	MP2A	Z	19.652	5.5
51	MP2A	Mx	.007	5.5
52	MP2B	X	11.346	2.5
53	MP2B	Z	19.652	2.5
54	MP2B	Mx	-.019	2.5
55	MP2B	X	11.346	5.5
56	MP2B	Z	19.652	5.5
57	MP2B	Mx	-.019	5.5
58	MP2C	X	8.603	2.5
59	MP2C	Z	14.901	2.5
60	MP2C	Mx	.009	2.5
61	MP2C	X	8.603	5.5
62	MP2C	Z	14.901	5.5
63	MP2C	Mx	.009	5.5
64	OVP	X	10.772	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
65	OVP	Z	18.657	2
66	OVP	Mx	-.009	2
67	OVP1	X	10.772	2
68	OVP1	Z	18.657	2
69	OVP1	Mx	-.009	2
70	MP2A	X	5.898	1.5
71	MP2A	Z	10.215	1.5
72	MP2A	Mx	.003	1.5
73	MP2B	X	5.898	1.5
74	MP2B	Z	10.215	1.5
75	MP2B	Mx	.003	1.5
76	MP2C	X	4.503	1.5
77	MP2C	Z	7.8	1.5
78	MP2C	Mx	-.005	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	0	3
2	MP4A	Z	12.073	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	12.073	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	7	3
9	MP4B	Mx	-.003	3
10	MP4B	X	0	5
11	MP4B	Z	7	5
12	MP4B	Mx	-.003	5
13	MP4C	X	0	3
14	MP4C	Z	7	3
15	MP4C	Mx	.003	3
16	MP4C	X	0	5
17	MP4C	Z	7	5
18	MP4C	Mx	.003	5
19	MP3A	X	0	1.5
20	MP3A	Z	12.726	1.5
21	MP3A	Mx	0	1.5
22	MP3B	X	0	1.5
23	MP3B	Z	10.048	1.5
24	MP3B	Mx	.004	1.5
25	MP3C	X	0	1.5
26	MP3C	Z	10.048	1.5
27	MP3C	Mx	-.004	1.5
28	MP2A	X	0	2.5
29	MP2A	Z	24.521	2.5
30	MP2A	Mx	-.016	2.5
31	MP2A	X	0	5.5
32	MP2A	Z	24.521	5.5
33	MP2A	Mx	-.016	5.5
34	MP2B	X	0	2.5
35	MP2B	Z	19.035	2.5
36	MP2B	Mx	-.002	2.5
37	MP2B	X	0	5.5
38	MP2B	Z	19.035	5.5
39	MP2B	Mx	-.002	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP2C	X	0	2.5
41	MP2C	Z	19.035	2.5
42	MP2C	Mx	.015	2.5
43	MP2C	X	0	5.5
44	MP2C	Z	19.035	5.5
45	MP2C	Mx	.015	5.5
46	MP2A	X	0	2.5
47	MP2A	Z	24.521	2.5
48	MP2A	Mx	.016	2.5
49	MP2A	X	0	5.5
50	MP2A	Z	24.521	5.5
51	MP2A	Mx	.016	5.5
52	MP2B	X	0	2.5
53	MP2B	Z	19.035	2.5
54	MP2B	Mx	-.015	2.5
55	MP2B	X	0	5.5
56	MP2B	Z	19.035	5.5
57	MP2B	Mx	-.015	5.5
58	MP2C	X	0	2.5
59	MP2C	Z	19.035	2.5
60	MP2C	Mx	.002	2.5
61	MP2C	X	0	5.5
62	MP2C	Z	19.035	5.5
63	MP2C	Mx	.002	5.5
64	OVP	X	0	2
65	OVP	Z	24.235	2
66	OVP	Mx	-.006	2
67	OVP1	X	0	2
68	OVP1	Z	24.235	2
69	OVP1	Mx	-.006	2
70	MP2A	X	0	1.5
71	MP2A	Z	12.726	1.5
72	MP2A	Mx	0	1.5
73	MP2B	X	0	1.5
74	MP2B	Z	9.936	1.5
75	MP2B	Mx	.004	1.5
76	MP2C	X	0	1.5
77	MP2C	Z	9.936	1.5
78	MP2C	Mx	-.004	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-5.191	3
2	MP4A	Z	8.991	3
3	MP4A	Mx	.003	3
4	MP4A	X	-5.191	5
5	MP4A	Z	8.991	5
6	MP4A	Mx	.003	5
7	MP4B	X	-2.654	3
8	MP4B	Z	4.597	3
9	MP4B	Mx	-.003	3
10	MP4B	X	-2.654	5
11	MP4B	Z	4.597	5
12	MP4B	Mx	-.003	5
13	MP4C	X	-5.191	3
14	MP4C	Z	8.991	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP4C	Mx	.003	3
16	MP4C	X	-5.191	5
17	MP4C	Z	8.991	5
18	MP4C	Mx	.003	5
19	MP3A	X	-5.916	1.5
20	MP3A	Z	10.248	1.5
21	MP3A	Mx	-.003	1.5
22	MP3B	X	-4.578	1.5
23	MP3B	Z	7.929	1.5
24	MP3B	Mx	.005	1.5
25	MP3C	X	-5.916	1.5
26	MP3C	Z	10.248	1.5
27	MP3C	Mx	-.003	1.5
28	MP2A	X	-11.346	2.5
29	MP2A	Z	19.652	2.5
30	MP2A	Mx	-.007	2.5
31	MP2A	X	-11.346	5.5
32	MP2A	Z	19.652	5.5
33	MP2A	Mx	-.007	5.5
34	MP2B	X	-8.603	2.5
35	MP2B	Z	14.901	2.5
36	MP2B	Mx	-.009	2.5
37	MP2B	X	-8.603	5.5
38	MP2B	Z	14.901	5.5
39	MP2B	Mx	-.009	5.5
40	MP2C	X	-11.346	2.5
41	MP2C	Z	19.652	2.5
42	MP2C	Mx	.019	2.5
43	MP2C	X	-11.346	5.5
44	MP2C	Z	19.652	5.5
45	MP2C	Mx	.019	5.5
46	MP2A	X	-11.346	2.5
47	MP2A	Z	19.652	2.5
48	MP2A	Mx	.019	2.5
49	MP2A	X	-11.346	5.5
50	MP2A	Z	19.652	5.5
51	MP2A	Mx	.019	5.5
52	MP2B	X	-8.603	2.5
53	MP2B	Z	14.901	2.5
54	MP2B	Mx	-.009	2.5
55	MP2B	X	-8.603	5.5
56	MP2B	Z	14.901	5.5
57	MP2B	Mx	-.009	5.5
58	MP2C	X	-11.346	2.5
59	MP2C	Z	19.652	2.5
60	MP2C	Mx	-.007	2.5
61	MP2C	X	-11.346	5.5
62	MP2C	Z	19.652	5.5
63	MP2C	Mx	-.007	5.5
64	OVP	X	-12.79	2
65	OVP	Z	22.153	2
66	OVP	Mx	0	2
67	OVP1	X	-12.79	2
68	OVP1	Z	22.153	2
69	OVP1	Mx	0	2
70	MP2A	X	-5.898	1.5
71	MP2A	Z	10.215	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
72	MP2A	Mx	-0.003	1.5
73	MP2B	X	-4.503	1.5
74	MP2B	Z	7.8	1.5
75	MP2B	Mx	.005	1.5
76	MP2C	X	-5.898	1.5
77	MP2C	Z	10.215	1.5
78	MP2C	Mx	-.003	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-6.062	3
2	MP4A	Z	3.5	3
3	MP4A	Mx	.003	3
4	MP4A	X	-6.062	5
5	MP4A	Z	3.5	5
6	MP4A	Mx	.003	5
7	MP4B	X	-6.062	3
8	MP4B	Z	3.5	3
9	MP4B	Mx	-.003	3
10	MP4B	X	-6.062	5
11	MP4B	Z	3.5	5
12	MP4B	Mx	-.003	5
13	MP4C	X	-10.456	3
14	MP4C	Z	6.037	3
15	MP4C	Mx	0	3
16	MP4C	X	-10.456	5
17	MP4C	Z	6.037	5
18	MP4C	Mx	0	5
19	MP3A	X	-8.702	1.5
20	MP3A	Z	5.024	1.5
21	MP3A	Mx	-.004	1.5
22	MP3B	X	-8.702	1.5
23	MP3B	Z	5.024	1.5
24	MP3B	Mx	.004	1.5
25	MP3C	X	-11.021	1.5
26	MP3C	Z	6.363	1.5
27	MP3C	Mx	0	1.5
28	MP2A	X	-16.485	2.5
29	MP2A	Z	9.518	2.5
30	MP2A	Mx	.002	2.5
31	MP2A	X	-16.485	5.5
32	MP2A	Z	9.518	5.5
33	MP2A	Mx	.002	5.5
34	MP2B	X	-16.485	2.5
35	MP2B	Z	9.518	2.5
36	MP2B	Mx	-.015	2.5
37	MP2B	X	-16.485	5.5
38	MP2B	Z	9.518	5.5
39	MP2B	Mx	-.015	5.5
40	MP2C	X	-21.236	2.5
41	MP2C	Z	12.26	2.5
42	MP2C	Mx	.016	2.5
43	MP2C	X	-21.236	5.5
44	MP2C	Z	12.26	5.5
45	MP2C	Mx	.016	5.5
46	MP2A	X	-16.485	2.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
47	MP2A	Z	9.518	2.5
48	MP2A	Mx	.015	2.5
49	MP2A	X	-16.485	5.5
50	MP2A	Z	9.518	5.5
51	MP2A	Mx	.015	5.5
52	MP2B	X	-16.485	2.5
53	MP2B	Z	9.518	2.5
54	MP2B	Mx	-.002	2.5
55	MP2B	X	-16.485	5.5
56	MP2B	Z	9.518	5.5
57	MP2B	Mx	-.002	5.5
58	MP2C	X	-21.236	2.5
59	MP2C	Z	12.26	2.5
60	MP2C	Mx	-.016	2.5
61	MP2C	X	-21.236	5.5
62	MP2C	Z	12.26	5.5
63	MP2C	Mx	-.016	5.5
64	OVP	X	-20.988	2
65	OVP	Z	12.117	2
66	OVP	Mx	.006	2
67	OVP1	X	-20.988	2
68	OVP1	Z	12.117	2
69	OVP1	Mx	.006	2
70	MP2A	X	-8.605	1.5
71	MP2A	Z	4.968	1.5
72	MP2A	Mx	-.004	1.5
73	MP2B	X	-8.605	1.5
74	MP2B	Z	4.968	1.5
75	MP2B	Mx	.004	1.5
76	MP2C	X	-11.021	1.5
77	MP2C	Z	6.363	1.5
78	MP2C	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-5.309	3
2	MP4A	Z	0	3
3	MP4A	Mx	.003	3
4	MP4A	X	-5.309	5
5	MP4A	Z	0	5
6	MP4A	Mx	.003	5
7	MP4B	X	-10.382	3
8	MP4B	Z	0	3
9	MP4B	Mx	-.003	3
10	MP4B	X	-10.382	5
11	MP4B	Z	0	5
12	MP4B	Mx	-.003	5
13	MP4C	X	-10.382	3
14	MP4C	Z	0	3
15	MP4C	Mx	-.003	3
16	MP4C	X	-10.382	5
17	MP4C	Z	0	5
18	MP4C	Mx	-.003	5
19	MP3A	X	-9.155	1.5
20	MP3A	Z	0	1.5
21	MP3A	Mx	-.005	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
22	MP3B	X	-11.833	1.5
23	MP3B	Z	0	1.5
24	MP3B	Mx	.003	1.5
25	MP3C	X	-11.833	1.5
26	MP3C	Z	0	1.5
27	MP3C	Mx	.003	1.5
28	MP2A	X	-17.207	2.5
29	MP2A	Z	0	2.5
30	MP2A	Mx	.009	2.5
31	MP2A	X	-17.207	5.5
32	MP2A	Z	0	5.5
33	MP2A	Mx	.009	5.5
34	MP2B	X	-22.692	2.5
35	MP2B	Z	0	2.5
36	MP2B	Mx	-.019	2.5
37	MP2B	X	-22.692	5.5
38	MP2B	Z	0	5.5
39	MP2B	Mx	-.019	5.5
40	MP2C	X	-22.692	2.5
41	MP2C	Z	0	2.5
42	MP2C	Mx	.007	2.5
43	MP2C	X	-22.692	5.5
44	MP2C	Z	0	5.5
45	MP2C	Mx	.007	5.5
46	MP2A	X	-17.207	2.5
47	MP2A	Z	0	2.5
48	MP2A	Mx	.009	2.5
49	MP2A	X	-17.207	5.5
50	MP2A	Z	0	5.5
51	MP2A	Mx	.009	5.5
52	MP2B	X	-22.692	2.5
53	MP2B	Z	0	2.5
54	MP2B	Mx	.007	2.5
55	MP2B	X	-22.692	5.5
56	MP2B	Z	0	5.5
57	MP2B	Mx	.007	5.5
58	MP2C	X	-22.692	2.5
59	MP2C	Z	0	2.5
60	MP2C	Mx	-.019	2.5
61	MP2C	X	-22.692	5.5
62	MP2C	Z	0	5.5
63	MP2C	Mx	-.019	5.5
64	OVP	X	-21.544	2
65	OVP	Z	0	2
66	OVP	Mx	.009	2
67	OVP1	X	-21.544	2
68	OVP1	Z	0	2
69	OVP1	Mx	.009	2
70	MP2A	X	-9.007	1.5
71	MP2A	Z	0	1.5
72	MP2A	Mx	-.005	1.5
73	MP2B	X	-11.796	1.5
74	MP2B	Z	0	1.5
75	MP2B	Mx	.003	1.5
76	MP2C	X	-11.796	1.5
77	MP2C	Z	0	1.5
78	MP2C	Mx	.003	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-6.062	3
2	MP4A	Z	-3.5	3
3	MP4A	Mx	.003	3
4	MP4A	X	-6.062	5
5	MP4A	Z	-3.5	5
6	MP4A	Mx	.003	5
7	MP4B	X	-10.456	3
8	MP4B	Z	-6.037	3
9	MP4B	Mx	0	3
10	MP4B	X	-10.456	5
11	MP4B	Z	-6.037	5
12	MP4B	Mx	0	5
13	MP4C	X	-6.062	3
14	MP4C	Z	-3.5	3
15	MP4C	Mx	-.003	3
16	MP4C	X	-6.062	5
17	MP4C	Z	-3.5	5
18	MP4C	Mx	-.003	5
19	MP3A	X	-8.702	1.5
20	MP3A	Z	-5.024	1.5
21	MP3A	Mx	-.004	1.5
22	MP3B	X	-11.021	1.5
23	MP3B	Z	-6.363	1.5
24	MP3B	Mx	0	1.5
25	MP3C	X	-8.702	1.5
26	MP3C	Z	-5.024	1.5
27	MP3C	Mx	.004	1.5
28	MP2A	X	-16.485	2.5
29	MP2A	Z	-9.518	2.5
30	MP2A	Mx	.015	2.5
31	MP2A	X	-16.485	5.5
32	MP2A	Z	-9.518	5.5
33	MP2A	Mx	.015	5.5
34	MP2B	X	-21.236	2.5
35	MP2B	Z	-12.26	2.5
36	MP2B	Mx	-.016	2.5
37	MP2B	X	-21.236	5.5
38	MP2B	Z	-12.26	5.5
39	MP2B	Mx	-.016	5.5
40	MP2C	X	-16.485	2.5
41	MP2C	Z	-9.518	2.5
42	MP2C	Mx	-.002	2.5
43	MP2C	X	-16.485	5.5
44	MP2C	Z	-9.518	5.5
45	MP2C	Mx	-.002	5.5
46	MP2A	X	-16.485	2.5
47	MP2A	Z	-9.518	2.5
48	MP2A	Mx	.002	2.5
49	MP2A	X	-16.485	5.5
50	MP2A	Z	-9.518	5.5
51	MP2A	Mx	.002	5.5
52	MP2B	X	-21.236	2.5
53	MP2B	Z	-12.26	2.5
54	MP2B	Mx	.016	2.5
55	MP2B	X	-21.236	5.5
56	MP2B	Z	-12.26	5.5
57	MP2B	Mx	.016	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
58	MP2C	X	-16.485	2.5
59	MP2C	Z	-9.518	2.5
60	MP2C	Mx	-.015	2.5
61	MP2C	X	-16.485	5.5
62	MP2C	Z	-9.518	5.5
63	MP2C	Mx	-.015	5.5
64	OVP	X	-17.492	2
65	OVP	Z	-10.099	2
66	OVP	Mx	.01	2
67	OVP1	X	-17.492	2
68	OVP1	Z	-10.099	2
69	OVP1	Mx	.01	2
70	MP2A	X	-8.605	1.5
71	MP2A	Z	-4.968	1.5
72	MP2A	Mx	-.004	1.5
73	MP2B	X	-11.021	1.5
74	MP2B	Z	-6.363	1.5
75	MP2B	Mx	0	1.5
76	MP2C	X	-8.605	1.5
77	MP2C	Z	-4.968	1.5
78	MP2C	Mx	.004	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-5.191	3
2	MP4A	Z	-8.991	3
3	MP4A	Mx	.003	3
4	MP4A	X	-5.191	5
5	MP4A	Z	-8.991	5
6	MP4A	Mx	.003	5
7	MP4B	X	-5.191	3
8	MP4B	Z	-8.991	3
9	MP4B	Mx	.003	3
10	MP4B	X	-5.191	5
11	MP4B	Z	-8.991	5
12	MP4B	Mx	.003	5
13	MP4C	X	-2.654	3
14	MP4C	Z	-4.597	3
15	MP4C	Mx	-.003	3
16	MP4C	X	-2.654	5
17	MP4C	Z	-4.597	5
18	MP4C	Mx	-.003	5
19	MP3A	X	-5.916	1.5
20	MP3A	Z	-10.248	1.5
21	MP3A	Mx	-.003	1.5
22	MP3B	X	-5.916	1.5
23	MP3B	Z	-10.248	1.5
24	MP3B	Mx	-.003	1.5
25	MP3C	X	-4.578	1.5
26	MP3C	Z	-7.929	1.5
27	MP3C	Mx	.005	1.5
28	MP2A	X	-11.346	2.5
29	MP2A	Z	-19.652	2.5
30	MP2A	Mx	.019	2.5
31	MP2A	X	-11.346	5.5
32	MP2A	Z	-19.652	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP2A	Mx	.019	5.5
34	MP2B	X	-11.346	2.5
35	MP2B	Z	-19.652	2.5
36	MP2B	Mx	-.007	2.5
37	MP2B	X	-11.346	5.5
38	MP2B	Z	-19.652	5.5
39	MP2B	Mx	-.007	5.5
40	MP2C	X	-8.603	2.5
41	MP2C	Z	-14.901	2.5
42	MP2C	Mx	-.009	2.5
43	MP2C	X	-8.603	5.5
44	MP2C	Z	-14.901	5.5
45	MP2C	Mx	-.009	5.5
46	MP2A	X	-11.346	2.5
47	MP2A	Z	-19.652	2.5
48	MP2A	Mx	-.007	2.5
49	MP2A	X	-11.346	5.5
50	MP2A	Z	-19.652	5.5
51	MP2A	Mx	-.007	5.5
52	MP2B	X	-11.346	2.5
53	MP2B	Z	-19.652	2.5
54	MP2B	Mx	.019	2.5
55	MP2B	X	-11.346	5.5
56	MP2B	Z	-19.652	5.5
57	MP2B	Mx	.019	5.5
58	MP2C	X	-8.603	2.5
59	MP2C	Z	-14.901	2.5
60	MP2C	Mx	-.009	2.5
61	MP2C	X	-8.603	5.5
62	MP2C	Z	-14.901	5.5
63	MP2C	Mx	-.009	5.5
64	OVP	X	-10.772	2
65	OVP	Z	-18.657	2
66	OVP	Mx	.009	2
67	OVP1	X	-10.772	2
68	OVP1	Z	-18.657	2
69	OVP1	Mx	.009	2
70	MP2A	X	-5.898	1.5
71	MP2A	Z	-10.215	1.5
72	MP2A	Mx	-.003	1.5
73	MP2B	X	-5.898	1.5
74	MP2B	Z	-10.215	1.5
75	MP2B	Mx	-.003	1.5
76	MP2C	X	-4.503	1.5
77	MP2C	Z	-7.8	1.5
78	MP2C	Mx	.005	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	0	3
2	MP4A	Z	-2.995	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	-2.995	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP4B	Z	-1.538	3
9	MP4B	Mx	.000666	3
10	MP4B	X	0	5
11	MP4B	Z	-1.538	5
12	MP4B	Mx	.000666	5
13	MP4C	X	0	3
14	MP4C	Z	-1.538	3
15	MP4C	Mx	-.000666	3
16	MP4C	X	0	5
17	MP4C	Z	-1.538	5
18	MP4C	Mx	-.000666	5
19	MP3A	X	0	1.5
20	MP3A	Z	-3.545	1.5
21	MP3A	Mx	0	1.5
22	MP3B	X	0	1.5
23	MP3B	Z	-2.699	1.5
24	MP3B	Mx	-.001	1.5
25	MP3C	X	0	1.5
26	MP3C	Z	-2.699	1.5
27	MP3C	Mx	.001	1.5
28	MP2A	X	0	2.5
29	MP2A	Z	-5.147	2.5
30	MP2A	Mx	.003	2.5
31	MP2A	X	0	5.5
32	MP2A	Z	-5.147	5.5
33	MP2A	Mx	.003	5.5
34	MP2B	X	0	2.5
35	MP2B	Z	-2.943	2.5
36	MP2B	Mx	.000293	2.5
37	MP2B	X	0	5.5
38	MP2B	Z	-2.943	5.5
39	MP2B	Mx	.000293	5.5
40	MP2C	X	0	2.5
41	MP2C	Z	-2.943	2.5
42	MP2C	Mx	-.002	2.5
43	MP2C	X	0	5.5
44	MP2C	Z	-2.943	5.5
45	MP2C	Mx	-.002	5.5
46	MP2A	X	0	2.5
47	MP2A	Z	-5.147	2.5
48	MP2A	Mx	-.003	2.5
49	MP2A	X	0	5.5
50	MP2A	Z	-5.147	5.5
51	MP2A	Mx	-.003	5.5
52	MP2B	X	0	2.5
53	MP2B	Z	-2.943	2.5
54	MP2B	Mx	.002	2.5
55	MP2B	X	0	5.5
56	MP2B	Z	-2.943	5.5
57	MP2B	Mx	.002	5.5
58	MP2C	X	0	2.5
59	MP2C	Z	-2.943	2.5
60	MP2C	Mx	-.000293	2.5
61	MP2C	X	0	5.5
62	MP2C	Z	-2.943	5.5
63	MP2C	Mx	-.000293	5.5
64	OVP	X	0	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
65	OVP	Z	-5.649	2
66	OVP	Mx	.001	2
67	OVP1	X	0	2
68	OVP1	Z	-5.649	2
69	OVP1	Mx	.001	2
70	MP2A	X	0	1.5
71	MP2A	Z	-2.938	1.5
72	MP2A	Mx	0	1.5
73	MP2B	X	0	1.5
74	MP2B	Z	-2.213	1.5
75	MP2B	Mx	-.000958	1.5
76	MP2C	X	0	1.5
77	MP2C	Z	-2.213	1.5
78	MP2C	Mx	.000958	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	1.255	3
2	MP4A	Z	-2.173	3
3	MP4A	Mx	-.000627	3
4	MP4A	X	1.255	5
5	MP4A	Z	-2.173	5
6	MP4A	Mx	-.000627	5
7	MP4B	X	.526	3
8	MP4B	Z	-.911	3
9	MP4B	Mx	.000526	3
10	MP4B	X	.526	5
11	MP4B	Z	-.911	5
12	MP4B	Mx	.000526	5
13	MP4C	X	1.255	3
14	MP4C	Z	-2.173	3
15	MP4C	Mx	-.000627	3
16	MP4C	X	1.255	5
17	MP4C	Z	-2.173	5
18	MP4C	Mx	-.000627	5
19	MP3A	X	1.632	1.5
20	MP3A	Z	-2.826	1.5
21	MP3A	Mx	.000816	1.5
22	MP3B	X	1.209	1.5
23	MP3B	Z	-2.093	1.5
24	MP3B	Mx	-.001	1.5
25	MP3C	X	1.632	1.5
26	MP3C	Z	-2.826	1.5
27	MP3C	Mx	.000816	1.5
28	MP2A	X	2.206	2.5
29	MP2A	Z	-3.821	2.5
30	MP2A	Mx	.001	2.5
31	MP2A	X	2.206	5.5
32	MP2A	Z	-3.821	5.5
33	MP2A	Mx	.001	5.5
34	MP2B	X	1.104	2.5
35	MP2B	Z	-1.913	2.5
36	MP2B	Mx	.001	2.5
37	MP2B	X	1.104	5.5
38	MP2B	Z	-1.913	5.5
39	MP2B	Mx	.001	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP2C	X	2.206	2.5
41	MP2C	Z	-3.821	2.5
42	MP2C	Mx	-.004	2.5
43	MP2C	X	2.206	5.5
44	MP2C	Z	-3.821	5.5
45	MP2C	Mx	-.004	5.5
46	MP2A	X	2.206	2.5
47	MP2A	Z	-3.821	2.5
48	MP2A	Mx	-.004	2.5
49	MP2A	X	2.206	5.5
50	MP2A	Z	-3.821	5.5
51	MP2A	Mx	-.004	5.5
52	MP2B	X	1.104	2.5
53	MP2B	Z	-1.913	2.5
54	MP2B	Mx	.001	2.5
55	MP2B	X	1.104	5.5
56	MP2B	Z	-1.913	5.5
57	MP2B	Mx	.001	5.5
58	MP2C	X	2.206	2.5
59	MP2C	Z	-3.821	2.5
60	MP2C	Mx	.001	2.5
61	MP2C	X	2.206	5.5
62	MP2C	Z	-3.821	5.5
63	MP2C	Mx	.001	5.5
64	OVP	X	3.005	2
65	OVP	Z	-5.204	2
66	OVP	Mx	0	2
67	OVP1	X	3.005	2
68	OVP1	Z	-5.204	2
69	OVP1	Mx	0	2
70	MP2A	X	1.348	1.5
71	MP2A	Z	-2.335	1.5
72	MP2A	Mx	.000674	1.5
73	MP2B	X	.986	1.5
74	MP2B	Z	-1.707	1.5
75	MP2B	Mx	-.000986	1.5
76	MP2C	X	1.348	1.5
77	MP2C	Z	-2.335	1.5
78	MP2C	Mx	.000674	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	1.332	3
2	MP4A	Z	-.769	3
3	MP4A	Mx	-.000666	3
4	MP4A	X	1.332	5
5	MP4A	Z	-.769	5
6	MP4A	Mx	-.000666	5
7	MP4B	X	1.332	3
8	MP4B	Z	-.769	3
9	MP4B	Mx	.000666	3
10	MP4B	X	1.332	5
11	MP4B	Z	-.769	5
12	MP4B	Mx	.000666	5
13	MP4C	X	2.594	3
14	MP4C	Z	-1.498	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP4C	Mx	0	3
16	MP4C	X	2.594	5
17	MP4C	Z	-1.498	5
18	MP4C	Mx	0	5
19	MP3A	X	2.337	1.5
20	MP3A	Z	-1.35	1.5
21	MP3A	Mx	.001	1.5
22	MP3B	X	2.337	1.5
23	MP3B	Z	-1.35	1.5
24	MP3B	Mx	-.001	1.5
25	MP3C	X	3.07	1.5
26	MP3C	Z	-1.773	1.5
27	MP3C	Mx	0	1.5
28	MP2A	X	2.549	2.5
29	MP2A	Z	-1.472	2.5
30	MP2A	Mx	-.000293	2.5
31	MP2A	X	2.549	5.5
32	MP2A	Z	-1.472	5.5
33	MP2A	Mx	-.000293	5.5
34	MP2B	X	2.549	2.5
35	MP2B	Z	-1.472	2.5
36	MP2B	Mx	.002	2.5
37	MP2B	X	2.549	5.5
38	MP2B	Z	-1.472	5.5
39	MP2B	Mx	.002	5.5
40	MP2C	X	4.457	2.5
41	MP2C	Z	-2.573	2.5
42	MP2C	Mx	-.003	2.5
43	MP2C	X	4.457	5.5
44	MP2C	Z	-2.573	5.5
45	MP2C	Mx	-.003	5.5
46	MP2A	X	2.549	2.5
47	MP2A	Z	-1.472	2.5
48	MP2A	Mx	-.002	2.5
49	MP2A	X	2.549	5.5
50	MP2A	Z	-1.472	5.5
51	MP2A	Mx	-.002	5.5
52	MP2B	X	2.549	2.5
53	MP2B	Z	-1.472	2.5
54	MP2B	Mx	.000294	2.5
55	MP2B	X	2.549	5.5
56	MP2B	Z	-1.472	5.5
57	MP2B	Mx	.000294	5.5
58	MP2C	X	4.457	2.5
59	MP2C	Z	-2.573	2.5
60	MP2C	Mx	.003	2.5
61	MP2C	X	4.457	5.5
62	MP2C	Z	-2.573	5.5
63	MP2C	Mx	.003	5.5
64	OVP	X	4.892	2
65	OVP	Z	-2.825	2
66	OVP	Mx	-.001	2
67	OVP1	X	4.892	2
68	OVP1	Z	-2.825	2
69	OVP1	Mx	-.001	2
70	MP2A	X	1.917	1.5
71	MP2A	Z	-1.107	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
72	MP2A	Mx	.000958	1.5
73	MP2B	X	1.917	1.5
74	MP2B	Z	-1.107	1.5
75	MP2B	Mx	-.000959	1.5
76	MP2C	X	2.545	1.5
77	MP2C	Z	-1.469	1.5
78	MP2C	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	1.052	3
2	MP4A	Z	0	3
3	MP4A	Mx	-.000526	3
4	MP4A	X	1.052	5
5	MP4A	Z	0	5
6	MP4A	Mx	-.000526	5
7	MP4B	X	2.509	3
8	MP4B	Z	0	3
9	MP4B	Mx	.000627	3
10	MP4B	X	2.509	5
11	MP4B	Z	0	5
12	MP4B	Mx	.000627	5
13	MP4C	X	2.509	3
14	MP4C	Z	0	3
15	MP4C	Mx	.000627	3
16	MP4C	X	2.509	5
17	MP4C	Z	0	5
18	MP4C	Mx	.000627	5
19	MP3A	X	2.417	1.5
20	MP3A	Z	0	1.5
21	MP3A	Mx	.001	1.5
22	MP3B	X	3.263	1.5
23	MP3B	Z	0	1.5
24	MP3B	Mx	-.000816	1.5
25	MP3C	X	3.263	1.5
26	MP3C	Z	0	1.5
27	MP3C	Mx	-.000816	1.5
28	MP2A	X	2.209	2.5
29	MP2A	Z	0	2.5
30	MP2A	Mx	-.001	2.5
31	MP2A	X	2.209	5.5
32	MP2A	Z	0	5.5
33	MP2A	Mx	-.001	5.5
34	MP2B	X	4.412	2.5
35	MP2B	Z	0	2.5
36	MP2B	Mx	.004	2.5
37	MP2B	X	4.412	5.5
38	MP2B	Z	0	5.5
39	MP2B	Mx	.004	5.5
40	MP2C	X	4.412	2.5
41	MP2C	Z	0	2.5
42	MP2C	Mx	-.001	2.5
43	MP2C	X	4.412	5.5
44	MP2C	Z	0	5.5
45	MP2C	Mx	-.001	5.5
46	MP2A	X	2.209	2.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP2A	Z	0	2.5
48	MP2A	Mx	-.001	2.5
49	MP2A	X	2.209	5.5
50	MP2A	Z	0	5.5
51	MP2A	Mx	-.001	5.5
52	MP2B	X	4.412	2.5
53	MP2B	Z	0	2.5
54	MP2B	Mx	-.001	2.5
55	MP2B	X	4.412	5.5
56	MP2B	Z	0	5.5
57	MP2B	Mx	-.001	5.5
58	MP2C	X	4.412	2.5
59	MP2C	Z	0	2.5
60	MP2C	Mx	.004	2.5
61	MP2C	X	4.412	5.5
62	MP2C	Z	0	5.5
63	MP2C	Mx	.004	5.5
64	OVP	X	4.929	2
65	OVP	Z	0	2
66	OVP	Mx	-.002	2
67	OVP1	X	4.929	2
68	OVP1	Z	0	2
69	OVP1	Mx	-.002	2
70	MP2A	X	1.972	1.5
71	MP2A	Z	0	1.5
72	MP2A	Mx	.000986	1.5
73	MP2B	X	2.697	1.5
74	MP2B	Z	0	1.5
75	MP2B	Mx	-.000674	1.5
76	MP2C	X	2.697	1.5
77	MP2C	Z	0	1.5
78	MP2C	Mx	-.000674	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	1.332	3
2	MP4A	Z	.769	3
3	MP4A	Mx	-.000666	3
4	MP4A	X	1.332	5
5	MP4A	Z	.769	5
6	MP4A	Mx	-.000666	5
7	MP4B	X	2.594	3
8	MP4B	Z	1.498	3
9	MP4B	Mx	0	3
10	MP4B	X	2.594	5
11	MP4B	Z	1.498	5
12	MP4B	Mx	0	5
13	MP4C	X	1.332	3
14	MP4C	Z	.769	3
15	MP4C	Mx	.000666	3
16	MP4C	X	1.332	5
17	MP4C	Z	.769	5
18	MP4C	Mx	.000666	5
19	MP3A	X	2.337	1.5
20	MP3A	Z	1.35	1.5
21	MP3A	Mx	.001	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
22	MP3B	X	3.07	1.5
23	MP3B	Z	1.773	1.5
24	MP3B	Mx	0	1.5
25	MP3C	X	2.337	1.5
26	MP3C	Z	1.35	1.5
27	MP3C	Mx	-.001	1.5
28	MP2A	X	2.549	2.5
29	MP2A	Z	1.472	2.5
30	MP2A	Mx	-.002	2.5
31	MP2A	X	2.549	5.5
32	MP2A	Z	1.472	5.5
33	MP2A	Mx	-.002	5.5
34	MP2B	X	4.457	2.5
35	MP2B	Z	2.573	2.5
36	MP2B	Mx	.003	2.5
37	MP2B	X	4.457	5.5
38	MP2B	Z	2.573	5.5
39	MP2B	Mx	.003	5.5
40	MP2C	X	2.549	2.5
41	MP2C	Z	1.472	2.5
42	MP2C	Mx	.000294	2.5
43	MP2C	X	2.549	5.5
44	MP2C	Z	1.472	5.5
45	MP2C	Mx	.000294	5.5
46	MP2A	X	2.549	2.5
47	MP2A	Z	1.472	2.5
48	MP2A	Mx	-.000293	2.5
49	MP2A	X	2.549	5.5
50	MP2A	Z	1.472	5.5
51	MP2A	Mx	-.000293	5.5
52	MP2B	X	4.457	2.5
53	MP2B	Z	2.573	2.5
54	MP2B	Mx	-.003	2.5
55	MP2B	X	4.457	5.5
56	MP2B	Z	2.573	5.5
57	MP2B	Mx	-.003	5.5
58	MP2C	X	2.549	2.5
59	MP2C	Z	1.472	2.5
60	MP2C	Mx	.002	2.5
61	MP2C	X	2.549	5.5
62	MP2C	Z	1.472	5.5
63	MP2C	Mx	.002	5.5
64	OVP	X	3.957	2
65	OVP	Z	2.284	2
66	OVP	Mx	-.002	2
67	OVP1	X	3.957	2
68	OVP1	Z	2.284	2
69	OVP1	Mx	-.002	2
70	MP2A	X	1.917	1.5
71	MP2A	Z	1.107	1.5
72	MP2A	Mx	.000958	1.5
73	MP2B	X	2.545	1.5
74	MP2B	Z	1.469	1.5
75	MP2B	Mx	0	1.5
76	MP2C	X	1.917	1.5
77	MP2C	Z	1.107	1.5
78	MP2C	Mx	-.000959	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	1.255	3
2	MP4A	Z	2.173	3
3	MP4A	Mx	-.000627	3
4	MP4A	X	1.255	5
5	MP4A	Z	2.173	5
6	MP4A	Mx	-.000627	5
7	MP4B	X	1.255	3
8	MP4B	Z	2.173	3
9	MP4B	Mx	-.000627	3
10	MP4B	X	1.255	5
11	MP4B	Z	2.173	5
12	MP4B	Mx	-.000627	5
13	MP4C	X	.526	3
14	MP4C	Z	.911	3
15	MP4C	Mx	.000526	3
16	MP4C	X	.526	5
17	MP4C	Z	.911	5
18	MP4C	Mx	.000526	5
19	MP3A	X	1.632	1.5
20	MP3A	Z	2.826	1.5
21	MP3A	Mx	.000816	1.5
22	MP3B	X	1.632	1.5
23	MP3B	Z	2.826	1.5
24	MP3B	Mx	.000816	1.5
25	MP3C	X	1.209	1.5
26	MP3C	Z	2.093	1.5
27	MP3C	Mx	-.001	1.5
28	MP2A	X	2.206	2.5
29	MP2A	Z	3.821	2.5
30	MP2A	Mx	-.004	2.5
31	MP2A	X	2.206	5.5
32	MP2A	Z	3.821	5.5
33	MP2A	Mx	-.004	5.5
34	MP2B	X	2.206	2.5
35	MP2B	Z	3.821	2.5
36	MP2B	Mx	.001	2.5
37	MP2B	X	2.206	5.5
38	MP2B	Z	3.821	5.5
39	MP2B	Mx	.001	5.5
40	MP2C	X	1.104	2.5
41	MP2C	Z	1.913	2.5
42	MP2C	Mx	.001	2.5
43	MP2C	X	1.104	5.5
44	MP2C	Z	1.913	5.5
45	MP2C	Mx	.001	5.5
46	MP2A	X	2.206	2.5
47	MP2A	Z	3.821	2.5
48	MP2A	Mx	.001	2.5
49	MP2A	X	2.206	5.5
50	MP2A	Z	3.821	5.5
51	MP2A	Mx	.001	5.5
52	MP2B	X	2.206	2.5
53	MP2B	Z	3.821	2.5
54	MP2B	Mx	-.004	2.5
55	MP2B	X	2.206	5.5
56	MP2B	Z	3.821	5.5
57	MP2B	Mx	-.004	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.-%]
58	MP2C	X	1.104	2.5
59	MP2C	Z	1.913	2.5
60	MP2C	Mx	.001	2.5
61	MP2C	X	1.104	5.5
62	MP2C	Z	1.913	5.5
63	MP2C	Mx	.001	5.5
64	OVP	X	2.464	2
65	OVP	Z	4.269	2
66	OVP	Mx	-.002	2
67	OVP1	X	2.464	2
68	OVP1	Z	4.269	2
69	OVP1	Mx	-.002	2
70	MP2A	X	1.348	1.5
71	MP2A	Z	2.335	1.5
72	MP2A	Mx	.000674	1.5
73	MP2B	X	1.348	1.5
74	MP2B	Z	2.335	1.5
75	MP2B	Mx	.000674	1.5
76	MP2C	X	.986	1.5
77	MP2C	Z	1.707	1.5
78	MP2C	Mx	-.000986	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.-%]
1	MP4A	X	0	3
2	MP4A	Z	2.995	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	2.995	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	1.538	3
9	MP4B	Mx	-.000666	3
10	MP4B	X	0	5
11	MP4B	Z	1.538	5
12	MP4B	Mx	-.000666	5
13	MP4C	X	0	3
14	MP4C	Z	1.538	3
15	MP4C	Mx	.000666	3
16	MP4C	X	0	5
17	MP4C	Z	1.538	5
18	MP4C	Mx	.000666	5
19	MP3A	X	0	1.5
20	MP3A	Z	3.545	1.5
21	MP3A	Mx	0	1.5
22	MP3B	X	0	1.5
23	MP3B	Z	2.699	1.5
24	MP3B	Mx	.001	1.5
25	MP3C	X	0	1.5
26	MP3C	Z	2.699	1.5
27	MP3C	Mx	-.001	1.5
28	MP2A	X	0	2.5
29	MP2A	Z	5.147	2.5
30	MP2A	Mx	-.003	2.5
31	MP2A	X	0	5.5
32	MP2A	Z	5.147	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP2A	Mx	-.003	5.5
34	MP2B	X	0	2.5
35	MP2B	Z	2.943	2.5
36	MP2B	Mx	-.000293	2.5
37	MP2B	X	0	5.5
38	MP2B	Z	2.943	5.5
39	MP2B	Mx	-.000293	5.5
40	MP2C	X	0	2.5
41	MP2C	Z	2.943	2.5
42	MP2C	Mx	.002	2.5
43	MP2C	X	0	5.5
44	MP2C	Z	2.943	5.5
45	MP2C	Mx	.002	5.5
46	MP2A	X	0	2.5
47	MP2A	Z	5.147	2.5
48	MP2A	Mx	.003	2.5
49	MP2A	X	0	5.5
50	MP2A	Z	5.147	5.5
51	MP2A	Mx	.003	5.5
52	MP2B	X	0	2.5
53	MP2B	Z	2.943	2.5
54	MP2B	Mx	-.002	2.5
55	MP2B	X	0	5.5
56	MP2B	Z	2.943	5.5
57	MP2B	Mx	-.002	5.5
58	MP2C	X	0	2.5
59	MP2C	Z	2.943	2.5
60	MP2C	Mx	.000293	2.5
61	MP2C	X	0	5.5
62	MP2C	Z	2.943	5.5
63	MP2C	Mx	.000293	5.5
64	OVP	X	0	2
65	OVP	Z	5.649	2
66	OVP	Mx	-.001	2
67	OVP1	X	0	2
68	OVP1	Z	5.649	2
69	OVP1	Mx	-.001	2
70	MP2A	X	0	1.5
71	MP2A	Z	2.938	1.5
72	MP2A	Mx	0	1.5
73	MP2B	X	0	1.5
74	MP2B	Z	2.213	1.5
75	MP2B	Mx	.000958	1.5
76	MP2C	X	0	1.5
77	MP2C	Z	2.213	1.5
78	MP2C	Mx	-.000958	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-1.255	3
2	MP4A	Z	2.173	3
3	MP4A	Mx	.000627	3
4	MP4A	X	-1.255	5
5	MP4A	Z	2.173	5
6	MP4A	Mx	.000627	5
7	MP4B	X	-.526	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP4B	Z	.911	3
9	MP4B	Mx	-.000526	3
10	MP4B	X	-.526	5
11	MP4B	Z	.911	5
12	MP4B	Mx	-.000526	5
13	MP4C	X	-1.255	3
14	MP4C	Z	2.173	3
15	MP4C	Mx	.000627	3
16	MP4C	X	-1.255	5
17	MP4C	Z	2.173	5
18	MP4C	Mx	.000627	5
19	MP3A	X	-1.632	1.5
20	MP3A	Z	2.826	1.5
21	MP3A	Mx	-.000816	1.5
22	MP3B	X	-1.209	1.5
23	MP3B	Z	2.093	1.5
24	MP3B	Mx	.001	1.5
25	MP3C	X	-1.632	1.5
26	MP3C	Z	2.826	1.5
27	MP3C	Mx	-.000816	1.5
28	MP2A	X	-2.206	2.5
29	MP2A	Z	3.821	2.5
30	MP2A	Mx	-.001	2.5
31	MP2A	X	-2.206	5.5
32	MP2A	Z	3.821	5.5
33	MP2A	Mx	-.001	5.5
34	MP2B	X	-1.104	2.5
35	MP2B	Z	1.913	2.5
36	MP2B	Mx	-.001	2.5
37	MP2B	X	-1.104	5.5
38	MP2B	Z	1.913	5.5
39	MP2B	Mx	-.001	5.5
40	MP2C	X	-2.206	2.5
41	MP2C	Z	3.821	2.5
42	MP2C	Mx	.004	2.5
43	MP2C	X	-2.206	5.5
44	MP2C	Z	3.821	5.5
45	MP2C	Mx	.004	5.5
46	MP2A	X	-2.206	2.5
47	MP2A	Z	3.821	2.5
48	MP2A	Mx	.004	2.5
49	MP2A	X	-2.206	5.5
50	MP2A	Z	3.821	5.5
51	MP2A	Mx	.004	5.5
52	MP2B	X	-1.104	2.5
53	MP2B	Z	1.913	2.5
54	MP2B	Mx	-.001	2.5
55	MP2B	X	-1.104	5.5
56	MP2B	Z	1.913	5.5
57	MP2B	Mx	-.001	5.5
58	MP2C	X	-2.206	2.5
59	MP2C	Z	3.821	2.5
60	MP2C	Mx	-.001	2.5
61	MP2C	X	-2.206	5.5
62	MP2C	Z	3.821	5.5
63	MP2C	Mx	-.001	5.5
64	OVP	X	-3.005	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
65	OVP	Z	5.204	2
66	OVP	Mx	0	2
67	OVP1	X	-3.005	2
68	OVP1	Z	5.204	2
69	OVP1	Mx	0	2
70	MP2A	X	-1.348	1.5
71	MP2A	Z	2.335	1.5
72	MP2A	Mx	-.000674	1.5
73	MP2B	X	-.986	1.5
74	MP2B	Z	1.707	1.5
75	MP2B	Mx	.000986	1.5
76	MP2C	X	-1.348	1.5
77	MP2C	Z	2.335	1.5
78	MP2C	Mx	-.000674	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-1.332	3
2	MP4A	Z	.769	3
3	MP4A	Mx	.000666	3
4	MP4A	X	-1.332	5
5	MP4A	Z	.769	5
6	MP4A	Mx	.000666	5
7	MP4B	X	-1.332	3
8	MP4B	Z	.769	3
9	MP4B	Mx	-.000666	3
10	MP4B	X	-1.332	5
11	MP4B	Z	.769	5
12	MP4B	Mx	-.000666	5
13	MP4C	X	-2.594	3
14	MP4C	Z	1.498	3
15	MP4C	Mx	0	3
16	MP4C	X	-2.594	5
17	MP4C	Z	1.498	5
18	MP4C	Mx	0	5
19	MP3A	X	-2.337	1.5
20	MP3A	Z	1.35	1.5
21	MP3A	Mx	-.001	1.5
22	MP3B	X	-2.337	1.5
23	MP3B	Z	1.35	1.5
24	MP3B	Mx	.001	1.5
25	MP3C	X	-3.07	1.5
26	MP3C	Z	1.773	1.5
27	MP3C	Mx	0	1.5
28	MP2A	X	-2.549	2.5
29	MP2A	Z	1.472	2.5
30	MP2A	Mx	.000293	2.5
31	MP2A	X	-2.549	5.5
32	MP2A	Z	1.472	5.5
33	MP2A	Mx	.000293	5.5
34	MP2B	X	-2.549	2.5
35	MP2B	Z	1.472	2.5
36	MP2B	Mx	-.002	2.5
37	MP2B	X	-2.549	5.5
38	MP2B	Z	1.472	5.5
39	MP2B	Mx	-.002	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP2C	X	-4.457	2.5
41	MP2C	Z	2.573	2.5
42	MP2C	Mx	.003	2.5
43	MP2C	X	-4.457	5.5
44	MP2C	Z	2.573	5.5
45	MP2C	Mx	.003	5.5
46	MP2A	X	-2.549	2.5
47	MP2A	Z	1.472	2.5
48	MP2A	Mx	.002	2.5
49	MP2A	X	-2.549	5.5
50	MP2A	Z	1.472	5.5
51	MP2A	Mx	.002	5.5
52	MP2B	X	-2.549	2.5
53	MP2B	Z	1.472	2.5
54	MP2B	Mx	-.000294	2.5
55	MP2B	X	-2.549	5.5
56	MP2B	Z	1.472	5.5
57	MP2B	Mx	-.000294	5.5
58	MP2C	X	-4.457	2.5
59	MP2C	Z	2.573	2.5
60	MP2C	Mx	-.003	2.5
61	MP2C	X	-4.457	5.5
62	MP2C	Z	2.573	5.5
63	MP2C	Mx	-.003	5.5
64	OVP	X	-4.892	2
65	OVP	Z	2.825	2
66	OVP	Mx	.001	2
67	OVP1	X	-4.892	2
68	OVP1	Z	2.825	2
69	OVP1	Mx	.001	2
70	MP2A	X	-1.917	1.5
71	MP2A	Z	1.107	1.5
72	MP2A	Mx	-.000958	1.5
73	MP2B	X	-1.917	1.5
74	MP2B	Z	1.107	1.5
75	MP2B	Mx	.000959	1.5
76	MP2C	X	-2.545	1.5
77	MP2C	Z	1.469	1.5
78	MP2C	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-1.052	3
2	MP4A	Z	0	3
3	MP4A	Mx	.000526	3
4	MP4A	X	-1.052	5
5	MP4A	Z	0	5
6	MP4A	Mx	.000526	5
7	MP4B	X	-2.509	3
8	MP4B	Z	0	3
9	MP4B	Mx	-.000627	3
10	MP4B	X	-2.509	5
11	MP4B	Z	0	5
12	MP4B	Mx	-.000627	5
13	MP4C	X	-2.509	3
14	MP4C	Z	0	3



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP4C	Mx	-.000627	3
16	MP4C	X	-2.509	5
17	MP4C	Z	0	5
18	MP4C	Mx	-.000627	5
19	MP3A	X	-2.417	1.5
20	MP3A	Z	0	1.5
21	MP3A	Mx	-.001	1.5
22	MP3B	X	-3.263	1.5
23	MP3B	Z	0	1.5
24	MP3B	Mx	.000816	1.5
25	MP3C	X	-3.263	1.5
26	MP3C	Z	0	1.5
27	MP3C	Mx	.000816	1.5
28	MP2A	X	-2.209	2.5
29	MP2A	Z	0	2.5
30	MP2A	Mx	.001	2.5
31	MP2A	X	-2.209	5.5
32	MP2A	Z	0	5.5
33	MP2A	Mx	.001	5.5
34	MP2B	X	-4.412	2.5
35	MP2B	Z	0	2.5
36	MP2B	Mx	-.004	2.5
37	MP2B	X	-4.412	5.5
38	MP2B	Z	0	5.5
39	MP2B	Mx	-.004	5.5
40	MP2C	X	-4.412	2.5
41	MP2C	Z	0	2.5
42	MP2C	Mx	.001	2.5
43	MP2C	X	-4.412	5.5
44	MP2C	Z	0	5.5
45	MP2C	Mx	.001	5.5
46	MP2A	X	-2.209	2.5
47	MP2A	Z	0	2.5
48	MP2A	Mx	.001	2.5
49	MP2A	X	-2.209	5.5
50	MP2A	Z	0	5.5
51	MP2A	Mx	.001	5.5
52	MP2B	X	-4.412	2.5
53	MP2B	Z	0	2.5
54	MP2B	Mx	.001	2.5
55	MP2B	X	-4.412	5.5
56	MP2B	Z	0	5.5
57	MP2B	Mx	.001	5.5
58	MP2C	X	-4.412	2.5
59	MP2C	Z	0	2.5
60	MP2C	Mx	-.004	2.5
61	MP2C	X	-4.412	5.5
62	MP2C	Z	0	5.5
63	MP2C	Mx	-.004	5.5
64	OVP	X	-4.929	2
65	OVP	Z	0	2
66	OVP	Mx	.002	2
67	OVP1	X	-4.929	2
68	OVP1	Z	0	2
69	OVP1	Mx	.002	2
70	MP2A	X	-1.972	1.5
71	MP2A	Z	0	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
72	MP2A	Mx	-0.00986	1.5
73	MP2B	X	-2.697	1.5
74	MP2B	Z	0	1.5
75	MP2B	Mx	.000674	1.5
76	MP2C	X	-2.697	1.5
77	MP2C	Z	0	1.5
78	MP2C	Mx	.000674	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-1.332	3
2	MP4A	Z	-.769	3
3	MP4A	Mx	.000666	3
4	MP4A	X	-1.332	5
5	MP4A	Z	-.769	5
6	MP4A	Mx	.000666	5
7	MP4B	X	-2.594	3
8	MP4B	Z	-1.498	3
9	MP4B	Mx	0	3
10	MP4B	X	-2.594	5
11	MP4B	Z	-1.498	5
12	MP4B	Mx	0	5
13	MP4C	X	-1.332	3
14	MP4C	Z	-.769	3
15	MP4C	Mx	-.000666	3
16	MP4C	X	-1.332	5
17	MP4C	Z	-.769	5
18	MP4C	Mx	-.000666	5
19	MP3A	X	-2.337	1.5
20	MP3A	Z	-1.35	1.5
21	MP3A	Mx	-.001	1.5
22	MP3B	X	-3.07	1.5
23	MP3B	Z	-1.773	1.5
24	MP3B	Mx	0	1.5
25	MP3C	X	-2.337	1.5
26	MP3C	Z	-1.35	1.5
27	MP3C	Mx	.001	1.5
28	MP2A	X	-2.549	2.5
29	MP2A	Z	-1.472	2.5
30	MP2A	Mx	.002	2.5
31	MP2A	X	-2.549	5.5
32	MP2A	Z	-1.472	5.5
33	MP2A	Mx	.002	5.5
34	MP2B	X	-4.457	2.5
35	MP2B	Z	-2.573	2.5
36	MP2B	Mx	-.003	2.5
37	MP2B	X	-4.457	5.5
38	MP2B	Z	-2.573	5.5
39	MP2B	Mx	-.003	5.5
40	MP2C	X	-2.549	2.5
41	MP2C	Z	-1.472	2.5
42	MP2C	Mx	-.000294	2.5
43	MP2C	X	-2.549	5.5
44	MP2C	Z	-1.472	5.5
45	MP2C	Mx	-.000294	5.5
46	MP2A	X	-2.549	2.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP2A	Z	-1.472	2.5
48	MP2A	Mx	.000293	2.5
49	MP2A	X	-2.549	5.5
50	MP2A	Z	-1.472	5.5
51	MP2A	Mx	.000293	5.5
52	MP2B	X	-4.457	2.5
53	MP2B	Z	-2.573	2.5
54	MP2B	Mx	.003	2.5
55	MP2B	X	-4.457	5.5
56	MP2B	Z	-2.573	5.5
57	MP2B	Mx	.003	5.5
58	MP2C	X	-2.549	2.5
59	MP2C	Z	-1.472	2.5
60	MP2C	Mx	-.002	2.5
61	MP2C	X	-2.549	5.5
62	MP2C	Z	-1.472	5.5
63	MP2C	Mx	-.002	5.5
64	OVP	X	-3.957	2
65	OVP	Z	-2.284	2
66	OVP	Mx	.002	2
67	OVP1	X	-3.957	2
68	OVP1	Z	-2.284	2
69	OVP1	Mx	.002	2
70	MP2A	X	-1.917	1.5
71	MP2A	Z	-1.107	1.5
72	MP2A	Mx	-.000958	1.5
73	MP2B	X	-2.545	1.5
74	MP2B	Z	-1.469	1.5
75	MP2B	Mx	0	1.5
76	MP2C	X	-1.917	1.5
77	MP2C	Z	-1.107	1.5
78	MP2C	Mx	.000959	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-1.255	3
2	MP4A	Z	-2.173	3
3	MP4A	Mx	.000627	3
4	MP4A	X	-1.255	5
5	MP4A	Z	-2.173	5
6	MP4A	Mx	.000627	5
7	MP4B	X	-1.255	3
8	MP4B	Z	-2.173	3
9	MP4B	Mx	.000627	3
10	MP4B	X	-1.255	5
11	MP4B	Z	-2.173	5
12	MP4B	Mx	.000627	5
13	MP4C	X	-.526	3
14	MP4C	Z	-.911	3
15	MP4C	Mx	-.000526	3
16	MP4C	X	-.526	5
17	MP4C	Z	-.911	5
18	MP4C	Mx	-.000526	5
19	MP3A	X	-1.632	1.5
20	MP3A	Z	-2.826	1.5
21	MP3A	Mx	-.000816	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
22	MP3B	X	-1.632	1.5
23	MP3B	Z	-2.826	1.5
24	MP3B	Mx	-.000816	1.5
25	MP3C	X	-1.209	1.5
26	MP3C	Z	-2.093	1.5
27	MP3C	Mx	.001	1.5
28	MP2A	X	-2.206	2.5
29	MP2A	Z	-3.821	2.5
30	MP2A	Mx	.004	2.5
31	MP2A	X	-2.206	5.5
32	MP2A	Z	-3.821	5.5
33	MP2A	Mx	.004	5.5
34	MP2B	X	-2.206	2.5
35	MP2B	Z	-3.821	2.5
36	MP2B	Mx	-.001	2.5
37	MP2B	X	-2.206	5.5
38	MP2B	Z	-3.821	5.5
39	MP2B	Mx	-.001	5.5
40	MP2C	X	-1.104	2.5
41	MP2C	Z	-1.913	2.5
42	MP2C	Mx	-.001	2.5
43	MP2C	X	-1.104	5.5
44	MP2C	Z	-1.913	5.5
45	MP2C	Mx	-.001	5.5
46	MP2A	X	-2.206	2.5
47	MP2A	Z	-3.821	2.5
48	MP2A	Mx	-.001	2.5
49	MP2A	X	-2.206	5.5
50	MP2A	Z	-3.821	5.5
51	MP2A	Mx	-.001	5.5
52	MP2B	X	-2.206	2.5
53	MP2B	Z	-3.821	2.5
54	MP2B	Mx	.004	2.5
55	MP2B	X	-2.206	5.5
56	MP2B	Z	-3.821	5.5
57	MP2B	Mx	.004	5.5
58	MP2C	X	-1.104	2.5
59	MP2C	Z	-1.913	2.5
60	MP2C	Mx	-.001	2.5
61	MP2C	X	-1.104	5.5
62	MP2C	Z	-1.913	5.5
63	MP2C	Mx	-.001	5.5
64	OVP	X	-2.464	2
65	OVP	Z	-4.269	2
66	OVP	Mx	.002	2
67	OVP1	X	-2.464	2
68	OVP1	Z	-4.269	2
69	OVP1	Mx	.002	2
70	MP2A	X	-1.348	1.5
71	MP2A	Z	-2.335	1.5
72	MP2A	Mx	-.000674	1.5
73	MP2B	X	-1.348	1.5
74	MP2B	Z	-2.335	1.5
75	MP2B	Mx	-.000674	1.5
76	MP2C	X	-.986	1.5
77	MP2C	Z	-1.707	1.5
78	MP2C	Mx	.000986	1.5



Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	LIVE1	Y	-500	%100

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	LIVE3	Y	-500	%100

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	FACE1	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	FACE END	Y	-250	0

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	Y	-1.106	3
2	MP4A	My	-.000553	3
3	MP4A	Mz	0	3
4	MP4A	Y	-1.106	5
5	MP4A	Mv	-.000553	5
6	MP4A	Mz	0	5
7	MP4B	Y	-1.106	3
8	MP4B	My	.000277	3
9	MP4B	Mz	-.000479	3
10	MP4B	Y	-1.106	5
11	MP4B	Mv	.000277	5
12	MP4B	Mz	-.000479	5
13	MP4C	Y	-1.106	3
14	MP4C	My	.000277	3
15	MP4C	Mz	.000479	3
16	MP4C	Y	-1.106	5
17	MP4C	Mv	.000277	5
18	MP4C	Mz	.000479	5
19	MP3A	Y	-3.054	1.5
20	MP3A	My	.002	1.5
21	MP3A	Mz	0	1.5
22	MP3B	Y	-3.054	1.5
23	MP3B	Mv	-.000764	1.5
24	MP3B	Mz	.001	1.5
25	MP3C	Y	-3.054	1.5
26	MP3C	My	-.000764	1.5
27	MP3C	Mz	-.001	1.5
28	MP2A	Y	-.844	2.5
29	MP2A	Mv	-.000422	2.5
30	MP2A	Mz	-.000562	2.5
31	MP2A	Y	-.844	5.5
32	MP2A	My	-.000422	5.5
33	MP2A	Mz	-.000562	5.5
34	MP2B	Y	-.844	2.5
35	MP2B	Mv	.000698	2.5
36	MP2B	Mz	-8.4e-5	2.5
37	MP2B	Y	-.844	5.5
38	MP2B	My	.000698	5.5
39	MP2B	Mz	-8.4e-5	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP2C	Y	-.844	2.5
41	MP2C	My	-.000276	2.5
42	MP2C	Mz	.000647	2.5
43	MP2C	Y	-.844	5.5
44	MP2C	My	-.000276	5.5
45	MP2C	Mz	.000647	5.5
46	MP2A	Y	-.844	2.5
47	MP2A	My	-.000422	2.5
48	MP2A	Mz	.000562	2.5
49	MP2A	Y	-.844	5.5
50	MP2A	My	-.000422	5.5
51	MP2A	Mz	.000562	5.5
52	MP2B	Y	-.844	2.5
53	MP2B	My	-.000276	2.5
54	MP2B	Mz	-.000647	2.5
55	MP2B	Y	-.844	5.5
56	MP2B	My	-.000276	5.5
57	MP2B	Mz	-.000647	5.5
58	MP2C	Y	-.844	2.5
59	MP2C	My	.000698	2.5
60	MP2C	Mz	8.4e-5	2.5
61	MP2C	Y	-.844	5.5
62	MP2C	My	.000698	5.5
63	MP2C	Mz	8.4e-5	5.5
64	OVP	Y	-1.236	2
65	OVP	My	-.000535	2
66	OVP	Mz	-.000309	2
67	OVP1	Y	-1.236	2
68	OVP1	My	-.000535	2
69	OVP1	Mz	-.000309	2
70	MP2A	Y	-2.884	1.5
71	MP2A	My	.001	1.5
72	MP2A	Mz	0	1.5
73	MP2B	Y	-2.884	1.5
74	MP2B	My	-.000721	1.5
75	MP2B	Mz	.001	1.5
76	MP2C	Y	-2.884	1.5
77	MP2C	My	-.000721	1.5
78	MP2C	Mz	-.001	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	Z	-2.766	3
2	MP4A	Mx	0	3
3	MP4A	Z	-2.766	5
4	MP4A	Mx	0	5
5	MP4B	Z	-2.766	3
6	MP4B	Mx	.001	3
7	MP4B	Z	-2.766	5
8	MP4B	Mx	.001	5
9	MP4C	Z	-2.766	3
10	MP4C	Mx	-.001	3
11	MP4C	Z	-2.766	5
12	MP4C	Mx	-.001	5
13	MP3A	Z	-7.636	1.5
14	MP3A	Mx	0	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
15	MP3B	Z	-7.636	1.5
16	MP3B	Mx	-.003	1.5
17	MP3C	Z	-7.636	1.5
18	MP3C	Mx	.003	1.5
19	MP2A	Z	-2.109	2.5
20	MP2A	Mx	.001	2.5
21	MP2A	Z	-2.109	5.5
22	MP2A	Mx	.001	5.5
23	MP2B	Z	-2.109	2.5
24	MP2B	Mx	.00021	2.5
25	MP2B	Z	-2.109	5.5
26	MP2B	Mx	.00021	5.5
27	MP2C	Z	-2.109	2.5
28	MP2C	Mx	-.002	2.5
29	MP2C	Z	-2.109	5.5
30	MP2C	Mx	-.002	5.5
31	MP2A	Z	-2.109	2.5
32	MP2A	Mx	-.001	2.5
33	MP2A	Z	-2.109	5.5
34	MP2A	Mx	-.001	5.5
35	MP2B	Z	-2.109	2.5
36	MP2B	Mx	.002	2.5
37	MP2B	Z	-2.109	5.5
38	MP2B	Mx	.002	5.5
39	MP2C	Z	-2.109	2.5
40	MP2C	Mx	-.00021	2.5
41	MP2C	Z	-2.109	5.5
42	MP2C	Mx	-.00021	5.5
43	OVP	Z	-3.089	2
44	OVP	Mx	.000772	2
45	OVP1	Z	-3.089	2
46	OVP1	Mx	.000772	2
47	MP2A	Z	-7.211	1.5
48	MP2A	Mx	0	1.5
49	MP2B	Z	-7.211	1.5
50	MP2B	Mx	-.003	1.5
51	MP2C	Z	-7.211	1.5
52	MP2C	Mx	.003	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	2.766	3
2	MP4A	Mx	-.001	3
3	MP4A	X	2.766	5
4	MP4A	Mx	-.001	5
5	MP4B	X	2.766	3
6	MP4B	Mx	.000691	3
7	MP4B	X	2.766	5
8	MP4B	Mx	.000691	5
9	MP4C	X	2.766	3
10	MP4C	Mx	.000691	3
11	MP4C	X	2.766	5
12	MP4C	Mx	.000691	5
13	MP3A	X	7.636	1.5
14	MP3A	Mx	.004	1.5
15	MP3B	X	7.636	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
16	MP3B	Mx	-.002	1.5
17	MP3C	X	7.636	1.5
18	MP3C	Mx	-.002	1.5
19	MP2A	X	2.109	2.5
20	MP2A	Mx	-.001	2.5
21	MP2A	X	2.109	5.5
22	MP2A	Mx	-.001	5.5
23	MP2B	X	2.109	2.5
24	MP2B	Mx	.002	2.5
25	MP2B	X	2.109	5.5
26	MP2B	Mx	.002	5.5
27	MP2C	X	2.109	2.5
28	MP2C	Mx	-.00069	2.5
29	MP2C	X	2.109	5.5
30	MP2C	Mx	-.00069	5.5
31	MP2A	X	2.109	2.5
32	MP2A	Mx	-.001	2.5
33	MP2A	X	2.109	5.5
34	MP2A	Mx	-.001	5.5
35	MP2B	X	2.109	2.5
36	MP2B	Mx	-.00069	2.5
37	MP2B	X	2.109	5.5
38	MP2B	Mx	-.00069	5.5
39	MP2C	X	2.109	2.5
40	MP2C	Mx	.002	2.5
41	MP2C	X	2.109	5.5
42	MP2C	Mx	.002	5.5
43	OVP	X	3.089	2
44	OVP	Mx	-.001	2
45	OVP1	X	3.089	2
46	OVP1	Mx	-.001	2
47	MP2A	X	7.211	1.5
48	MP2A	Mx	.004	1.5
49	MP2B	X	7.211	1.5
50	MP2B	Mx	-.002	1.5
51	MP2C	X	7.211	1.5
52	MP2C	Mx	-.002	1.5

Joint Loads and Enforced Displacements

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

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N121A	N127A	N130A	N124A	Y	Two Way	-.005
2	N128A	N113	N116A	N131A	Y	Two Way	-.005
3	N120	N114	N117A	N123A	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N121A	N127A	N130A	N124A	Y	Two Way	-.012
2	N128A	N113	N116A	N131A	Y	Two Way	-.012
3	N120	N114	N117A	N123A	Y	Two Way	-.012



Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N121A	N127A	N130A	N124A	Y	Two Way	-.000201
2	N128A	N113	N116A	N131A	Y	Two Way	-.000201
3	N120	N114	N117A	N123A	Y	Two Way	-.000201

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N121A	N127A	N130A	N124A	Z	Two Way	-.000502
2	N128A	N113	N116A	N131A	Z	Two Way	-.000502
3	N120	N114	N117A	N123A	Z	Two Way	-.000502

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N121A	N127A	N130A	N124A	X	Two Way	.000502
2	N128A	N113	N116A	N131A	X	Two Way	.000502
3	N120	N114	N117A	N123A	X	Two Way	.000502

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 N45	706.565	10	1042.551	19	333.438	1	1.514	18	.852	4	.101	4
2	-710.799	4	253.106	64	-1923.481	19	.397	64	-.831	10	-.133	10
3 N53	326.396	10	1030.037	15	1024.338	13	-.189	12	.895	12	-.357	72
4	-1688.947	16	251.119	72	-331.769	7	-.773	18	-.876	6	-1.406	13
5 N61	1631.214	23	822.191	23	1005.49	13	-.187	68	.782	8	1.2	22
6	-181.274	5	214.728	68	-349.301	7	-.734	24	-.762	2	.32	68
7 N180	329.342	48	1951.897	19	-724.949	1	0	48	0	40	0	10
8	-189.255	6	487.807	64	-2947.997	19	0	19	0	10	0	40
9 N183	-599.449	10	1947.68	15	1545.397	14	0	18	0	12	0	16
10	-2531.722	16	487.16	72	239.909	8	0	12	0	6	0	6
11 N186	2593.356	22	1955.486	23	1469.252	24	0	20	0	8	0	4
12	584.324	4	488.073	68	237.237	6	0	38	0	38	0	22
13 Totals:	2893.779	10	8472.644	18	2916.848	1						
14	-2893.791	4	2259.01	75	-2916.834	7						

Joint Reactions

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	N45	-62.304	266.95	333.438	.502	.119	-.005
2	N53	-765.974	422.986	950.512	-.25	.494	-.589
3	N61	824.287	364.191	958.422	-.296	-.409	.523
4	N180	18.959	516.571	-724.949	0	0	0
5	N183	-1008.403	791.899	698.522	0	0	0
6	N186	993.428	784.443	700.904	0	0	0
7	Totals:	-.006	3147.041	2916.848			
8	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
9	N45	-175.704	274.093	309.13	.509	.055	.007
10	N53	-1235.241	454.225	782.226	-.316	-.055	-.565
11	N61	278.578	310.079	856.208	-.234	-.762	.472
12	N180	-167.039	548.621	-786.169	0	0	0
13	N183	-1078.386	861.464	838.742	0	0	0
14	N186	913.604	698.562	535.891	0	0	0
15	Totals:	-1464.188	3147.044	2536.028			
16	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
17	N45	-524.273	306.953	18.551	.528	.518	.07
18	N53	-1378.515	460.645	732.239	-.328	-.048	-.559



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000243474-VZW_MT_LO_H

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Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
19	3	N61	-46.494	256.797	364.775	-.233	-.366	.389
20	3	N180	-114.917	621.732	-922.046	0	0	0
21	3	N183	-1202.046	887.518	729.062	0	0	0
22	3	N186	740.183	613.401	535.841	0	0	0
23	3	Totals:	-2526.062	3147.047	1458.421			
24	3	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
25	4	N45	-710.799	366.468	-549.539	.575	.852	.101
26	4	N53	-1393.156	451.957	618.559	-.334	-.008	-.557
27	4	N61	-125.069	229.393	-74.419	-.248	.141	.338
28	4	N180	-12.745	705.176	-1069.575	0	0	0
29	4	N183	-1236.347	852.645	537.422	0	0	0
30	4	N186	584.324	541.409	537.577	0	0	0
31	4	Totals:	-2893.791	3147.049	.024			
32	4	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
33	5	N45	-426.009	424.434	-1115.6	.623	.422	.044
34	5	N53	-1314.617	419.567	176.793	-.373	-.502	-.509
35	5	N61	-181.274	223.405	-170.359	-.216	.07	.35
36	5	N180	-103.728	788.163	-1216.688	0	0	0
37	5	N183	-1088.825	778.138	515.965	0	0	0
38	5	N186	618.335	513.346	368.769	0	0	0
39	5	Totals:	-2496.118	3147.051	-1441.12			
40	5	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
41	6	N45	-49.802	455.473	-1438.358	.638	-.126	-.02
42	6	N53	-929.141	360.844	-279.112	-.385	-.876	-.444
43	6	N61	-138.306	229.756	-207.335	-.192	-.027	.378
44	6	N180	-189.255	859.463	-1350.127	0	0	0
45	6	N183	-908.511	694.367	531.591	0	0	0
46	6	N186	768.116	547.149	237.237	0	0	0
47	6	Totals:	-1446.898	3147.052	-2506.106			
48	6	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
49	7	N45	58.087	463.578	-1559.029	.63	-.098	-.028
50	7	N53	-300.321	302.348	-331.769	-.325	-.474	-.428
51	7	N61	236.559	258.488	-349.301	-.241	.429	.399
52	7	N180	-30.318	888.539	-1407.115	0	0	0
53	7	N183	-827.351	611.781	379.847	0	0	0
54	7	N186	863.338	622.315	350.534	0	0	0
55	7	Totals:	-.006	3147.05	-2916.834			
56	7	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
57	8	N45	171.923	456.503	-1535.192	.623	-.034	-.04
58	8	N53	168.824	270.966	-163.1	-.259	.074	-.452
59	8	N61	781.799	312.71	-247.48	-.304	.782	.449
60	8	N180	155.874	856.634	-1345.644	0	0	0
61	8	N183	-757.246	541.971	239.909	0	0	0
62	8	N186	943.001	708.264	515.494	0	0	0
63	8	Totals:	1464.176	3147.048	-2536.014			
64	8	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
65	9	N45	520.13	423.783	-1244.492	.604	-.497	-.102
66	9	N53	312.399	264.327	-113.608	-.246	.067	-.458
67	9	N61	1107.242	366.043	244.226	-.304	.386	.533
68	9	N180	103.571	783.762	-1209.728	0	0	0
69	9	N183	-633.872	515.77	349.524	0	0	0
70	9	N186	1116.578	793.361	515.671	0	0	0
71	9	Totals:	2526.049	3147.045	-1458.407			
72	9	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
73	10	N45	706.565	364.379	-675.85	.558	-.831	-.133
74	10	N53	326.396	273.084	-.006	-.24	.027	-.46
75	10	N61	1186.209	393.288	683.308	-.289	-.121	.583



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
76	10	N180	1.45	700.399	-1062.035	0	0	0
77	10	N183	-599.449	550.79	540.871	0	0	0
78	10	N186	1272.609	865.103	513.702	0	0	0
79	10	Totals:	2893.779	3147.043	-.01			
80	10	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
81	11	N45	421.84	306.47	-110.279	.51	-.4	-.077
82	11	N53	248.169	305.61	442.026	-.201	.521	-.508
83	11	N61	1241.795	399.047	779.247	-.321	-.05	.572
84	11	N180	92.462	617.352	-915.137	0	0	0
85	11	N183	-746.857	625.546	562.479	0	0	0
86	11	N186	1238.697	893.016	682.8	0	0	0
87	11	Totals:	2496.106	3147.041	1441.134			
88	11	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
89	12	N45	45.33	275.279	212.192	.494	.147	-.012
90	12	N53	-136.741	364.438	897.695	-.189	.895	-.573
91	12	N61	1199.062	392.776	816.866	-.345	.047	.544
92	12	N180	177.684	545.796	-781.709	0	0	0
93	12	N183	-927.033	709.387	546.714	0	0	0
94	12	N186	1088.585	859.364	814.362	0	0	0
95	12	Totals:	1446.886	3147.04	2506.12			
96	12	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
97	13	N45	-33.99	976.251	-1253.859	1.462	.091	-.039
98	13	N53	-1465.162	1016.874	1024.338	-.735	.211	-1.406
99	13	N61	1478.671	809.931	1005.49	-.72	-.09	1.18
100	13	N180	-24.205	1832.017	-2728.855	0	0	0
101	13	N183	-2460.413	1917.372	1506.213	0	0	0
102	13	N186	2505.082	1920.195	1436.792	0	0	0
103	13	Totals:	-.016	8472.64	990.117			
104	13	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
105	14	N45	-78.017	978.909	-1269.706	1.465	.088	-.035
106	14	N53	-1627.15	1027.607	980.411	-.755	.047	-1.401
107	14	N61	1297.391	791.854	962.886	-.701	-.189	1.162
108	14	N180	-78.526	1842.472	-2748.705	0	0	0
109	14	N183	-2485.694	1939.53	1545.397	0	0	0
110	14	N186	2475.589	1892.269	1389.507	0	0	0
111	14	Totals:	-496.406	8472.641	859.79			
112	14	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
113	15	N45	-180.412	990.004	-1374.576	1.473	.222	-.018
114	15	N53	-1686.059	1030.037	956.558	-.76	.029	-1.398
115	15	N61	1177.36	773.943	806.463	-.698	-.077	1.135
116	15	N180	-66.476	1866.17	-2792.569	0	0	0
117	15	N183	-2523.353	1947.68	1512.768	0	0	0
118	15	N186	2421.471	1864.808	1386.426	0	0	0
119	15	Totals:	-857.469	8472.642	495.07			
120	15	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
121	16	N45	-235.489	1009.66	-1566.038	1.49	.316	-.009
122	16	N53	-1688.947	1026.983	909.505	-.762	.025	-1.396
123	16	N61	1137.015	764.347	659.351	-.701	.075	1.118
124	16	N180	-40.522	1893.347	-2840.557	0	0	0
125	16	N183	-2531.722	1936.369	1455.834	0	0	0
126	16	N186	2374.933	1841.937	1381.93	0	0	0
127	16	Totals:	-984.731	8472.643	.025			
128	16	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
129	17	N45	-153.909	1028.987	-1760.027	1.507	.195	-.024
130	17	N53	-1648.835	1015.971	769.402	-.772	-.118	-1.381
131	17	N61	1120.423	762.116	612.097	-.693	.074	1.121
132	17	N180	-66.13	1920.173	-2888.016	0	0	0



Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
133	17	N183	-2486.606	1912.19	1444.648	0	0	0
134	17	N186	2384.579	1833.206	1330.904	0	0	0
135	17	Totals:	-850.477	8472.643	-490.993			
136	17	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
137	18	N45	-35.74	1039.698	-1878.853	1.514	.03	-.043
138	18	N53	-1513.701	996.489	623.454	-.773	-.223	-1.36
139	18	N61	1145.795	764.512	596.135	-.687	.062	1.129
140	18	N180	-87.192	1942.863	-2930.332	0	0	0
141	18	N183	-2431.633	1884.885	1443.421	0	0	0
142	18	N186	2430.101	1844.197	1293.41	0	0	0
143	18	Totals:	-492.37	8472.644	-852.766			
144	18	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
145	19	N45	12.783	1042.551	-1923.481	1.512	.018	-.047
146	19	N53	-1305.941	977.041	593.276	-.754	-.109	-1.352
147	19	N61	1272.995	774.409	564.547	-.701	.193	1.138
148	19	N180	-39.526	1951.897	-2947.997	0	0	0
149	19	N183	-2403.516	1858.203	1397.724	0	0	0
150	19	N186	2463.188	1868.542	1325.854	0	0	0
151	19	Totals:	-.016	8472.643	-990.076			
152	19	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
153	20	N45	56.85	1039.901	-1907.676	1.509	.021	-.052
154	20	N53	-1143.964	966.287	637.238	-.733	.055	-1.357
155	20	N61	1454.232	792.501	607.114	-.72	.292	1.156
156	20	N180	14.814	1941.458	-2928.125	0	0	0
157	20	N183	-2378.225	1836.018	1358.565	0	0	0
158	20	N186	2492.668	1896.477	1373.135	0	0	0
159	20	Totals:	496.374	8472.642	-859.749			
160	20	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
161	21	N45	159.212	1028.828	-1802.794	1.501	-.113	-.069
162	21	N53	-1085.03	963.832	661.047	-.728	.072	-1.359
163	21	N61	1574.297	810.413	763.563	-.723	.18	1.184
164	21	N180	2.749	1917.787	-2884.255	0	0	0
165	21	N183	-2340.592	1827.852	1391.187	0	0	0
166	21	N186	2546.801	1923.929	1376.225	0	0	0
167	21	Totals:	857.437	8472.641	-495.028			
168	21	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
169	22	N45	214.28	1009.187	-1611.28	1.484	-.207	-.078
170	22	N53	-1082.198	966.895	708.092	-.726	.077	-1.361
171	22	N61	1614.677	819.987	910.664	-.72	.028	1.2
172	22	N180	-23.201	1890.621	-2836.256	0	0	0
173	22	N183	-2332.214	1839.179	1448.094	0	0	0
174	22	N186	2593.356	1946.772	1380.702	0	0	0
175	22	Totals:	984.699	8472.64	.016			
176	22	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
177	23	N45	132.707	989.862	-1417.337	1.467	-.085	-.062
178	23	N53	-1122.282	977.928	848.221	-.717	.219	-1.376
179	23	N61	1631.214	822.191	957.919	-.728	.029	1.198
180	23	N180	2.406	1863.786	-2788.815	0	0	0
181	23	N183	-2377.317	1863.386	1459.293	0	0	0
182	23	N186	2583.717	1955.486	1431.754	0	0	0
183	23	Totals:	850.445	8472.64	491.034			
184	23	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
185	24	N45	14.511	979.13	-1298.538	1.461	.079	-.043
186	24	N53	-1257.363	997.424	994.146	-.716	.325	-1.398
187	24	N61	1605.863	819.805	973.94	-.734	.042	1.189
188	24	N180	23.442	1841.068	-2746.5	0	0	0
189	24	N183	-2432.279	1890.701	1460.508	0	0	0



Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
190	24	N186	2538.165	1944.512	1469.252	0	0	0
191	24	Totals:	492.338	8472.639	852.808			
192	24	COG (ft):	X: -.07	Y: 1.028	Z: -.041			
193	25	N45	-18.651	302.431	-469.96	.43	.044	-.011
194	25	N53	-572.981	440.111	439.666	-.434	.126	-.53
195	25	N61	773.596	511.171	547.407	-.63	-.079	.669
196	25	N180	-119.692	986.85	-1503.401	0	0	0
197	25	N183	-1154.991	841.318	570.729	0	0	0
198	25	N186	1092.715	815.156	597.869	0	0	0
199	25	Totals:	-.005	3897.037	182.31			
200	25	COG (ft):	X: .331	Y: .926	Z: .832			
201	26	N45	-25.755	302.875	-471.464	.43	.04	-.01
202	26	N53	-602.296	442.077	429.135	-.438	.092	-.529
203	26	N61	739.485	507.799	541.011	-.627	-.101	.666
204	26	N180	-131.321	988.847	-1507.219	0	0	0
205	26	N183	-1159.346	845.649	579.49	0	0	0
206	26	N186	1087.716	809.79	587.555	0	0	0
207	26	Totals:	-91.516	3897.037	158.508			
208	26	COG (ft):	X: .331	Y: .926	Z: .832			
209	27	N45	-47.528	304.929	-489.624	.431	.069	-.006
210	27	N53	-611.252	442.485	426.016	-.439	.093	-.529
211	27	N61	719.13	504.515	510.268	-.626	-.076	.66
212	27	N180	-128.041	993.378	-1515.666	0	0	0
213	27	N183	-1167.04	847.264	572.632	0	0	0
214	27	N186	1076.848	804.466	587.54	0	0	0
215	27	Totals:	-157.883	3897.037	91.166			
216	27	COG (ft):	X: .331	Y: .926	Z: .832			
217	28	N45	-59.18	308.655	-525.14	.434	.09	-.004
218	28	N53	-612.138	441.94	418.9	-.439	.095	-.528
219	28	N61	714.184	502.85	482.808	-.627	-.045	.657
220	28	N180	-121.645	998.562	-1524.847	0	0	0
221	28	N183	-1169.157	845.067	560.65	0	0	0
222	28	N186	1067.071	799.963	587.639	0	0	0
223	28	Totals:	-180.865	3897.037	.011			
224	28	COG (ft):	X: .331	Y: .926	Z: .832			
225	29	N45	-41.383	312.288	-560.496	.437	.063	-.008
226	29	N53	-607.222	439.924	391.275	-.442	.064	-.525
227	29	N61	710.671	502.495	476.797	-.625	-.049	.658
228	29	N180	-127.337	1003.744	-1534.006	0	0	0
229	29	N183	-1159.907	840.388	559.295	0	0	0
230	29	N186	1069.165	798.199	577.071	0	0	0
231	29	Totals:	-156.013	3897.038	-90.065			
232	29	COG (ft):	X: .331	Y: .926	Z: .832			
233	30	N45	-17.854	314.24	-580.657	.438	.029	-.012
234	30	N53	-583.133	436.261	362.773	-.443	.041	-.521
235	30	N61	713.334	502.897	474.459	-.624	-.055	.66
236	30	N180	-132.681	1008.201	-1542.322	0	0	0
237	30	N183	-1148.619	835.146	560.279	0	0	0
238	30	N186	1078.519	800.292	568.847	0	0	0
239	30	Totals:	-90.434	3897.038	-156.62			
240	30	COG (ft):	X: .331	Y: .926	Z: .832			
241	31	N45	-11.113	314.757	-588.218	.438	.031	-.012
242	31	N53	-543.82	432.598	359.466	-.439	.066	-.52
243	31	N61	736.755	504.702	465.597	-.627	-.027	.661
244	31	N180	-122.752	1010.009	-1545.863	0	0	0
245	31	N183	-1143.543	830.001	550.793	0	0	0
246	31	N186	1084.468	804.97	575.934	0	0	0



Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
247	31	Totals:	-0.04	3897.037	-182.29			
248	31	COG (ft):	X: .331	Y: .926	Z: .832			
249	32	N45	-4.007	314.314	-586.716	.437	.035	-.013
250	32	N53	-514.506	430.631	369.998	-.435	.1	-.522
251	32	N61	770.864	508.075	471.992	-.631	-.005	.664
252	32	N180	-111.122	1008.013	-1542.045	0	0	0
253	32	N183	-1139.187	825.67	542.033	0	0	0
254	32	N186	1089.465	810.336	586.249	0	0	0
255	32	Totals:	91.507	3897.037	-158.488			
256	32	COG (ft):	X: .331	Y: .926	Z: .832			
257	33	N45	17.764	312.26	-568.556	.436	.006	-.017
258	33	N53	-505.548	430.222	373.116	-.434	.1	-.522
259	33	N61	791.221	511.358	502.736	-.631	-.029	.669
260	33	N180	-114.403	1003.482	-1533.597	0	0	0
261	33	N183	-1131.494	824.054	548.891	0	0	0
262	33	N186	1100.334	815.66	586.264	0	0	0
263	33	Totals:	157.874	3897.037	-91.146			
264	33	COG (ft):	X: .331	Y: .926	Z: .832			
265	34	N45	29.416	308.534	-533.038	.433	-.015	-.019
266	34	N53	-504.665	430.767	380.231	-.433	.097	-.522
267	34	N61	796.168	513.023	530.195	-.63	-.061	.673
268	34	N180	-120.799	998.299	-1524.416	0	0	0
269	34	N183	-1129.377	826.252	560.872	0	0	0
270	34	N186	1110.112	820.162	586.164	0	0	0
271	34	Totals:	180.856	3897.037	.009			
272	34	COG (ft):	X: .331	Y: .926	Z: .832			
273	35	N45	11.619	304.902	-497.683	.43	.012	-.015
274	35	N53	-509.58	432.784	407.858	-.431	.128	-.525
275	35	N61	799.679	513.377	536.206	-.632	-.057	.672
276	35	N180	-115.107	993.117	-1515.257	0	0	0
277	35	N183	-1138.626	830.931	562.227	0	0	0
278	35	N186	1108.019	821.926	596.733	0	0	0
279	35	Totals:	156.004	3897.037	90.084			
280	35	COG (ft):	X: .331	Y: .926	Z: .832			
281	36	N45	-11.911	302.949	-477.524	.429	.046	-.011
282	36	N53	-533.666	436.447	436.358	-.43	.151	-.529
283	36	N61	797.017	512.975	538.547	-.634	-.05	.67
284	36	N180	-109.763	988.658	-1506.942	0	0	0
285	36	N183	-1149.914	836.174	561.243	0	0	0
286	36	N186	1098.663	819.833	604.957	0	0	0
287	36	Totals:	90.425	3897.037	156.64			
288	36	COG (ft):	X: .331	Y: .926	Z: .832			
289	37	N45	-3.947	320.974	-533.937	.454	.007	-.034
290	37	N53	-1203.434	581.035	751.168	-.679	.057	-1.038
291	37	N61	541.61	285.859	367.527	-.244	-.045	.369
292	37	N180	319.418	967.622	-1475.431	0	0	0
293	37	N183	-1053.662	801.177	621.984	0	0	0
294	37	N186	1400.001	940.379	450.998	0	0	0
295	37	Totals:	-.015	3897.046	182.309			
296	37	COG (ft):	X: -1.277	Y: .926	Z: .832			
297	38	N45	-11.06	321.419	-535.449	.454	.003	-.033
298	38	N53	-1232.756	582.964	740.66	-.684	.023	-1.036
299	38	N61	507.522	282.468	361.139	-.24	-.067	.366
300	38	N180	307.778	969.615	-1479.282	0	0	0
301	38	N183	-1058.059	805.534	630.748	0	0	0
302	38	N186	1395.049	935.045	440.689	0	0	0
303	38	Totals:	-91.526	3897.046	158.507			



Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
304	38	COG (ft):	X: -1.277	Y: .926	Z: .832			
305	39	N45	-32.839	323.475	-553.611	.456	.032	-.029
306	39	N53	-1241.721	583.361	737.543	-.684	.024	-1.036
307	39	N61	487.195	279.129	330.414	-.24	-.043	.361
308	39	N180	311.049	974.191	-1487.781	0	0	0
309	39	N183	-1065.785	807.167	623.901	0	0	0
310	39	N186	1384.208	929.724	440.699	0	0	0
311	39	Totals:	-157.893	3897.047	91.165			
312	39	COG (ft):	X: -1.277	Y: .926	Z: .832			
313	40	N45	-44.497	327.203	-589.131	.458	.052	-.027
314	40	N53	-1242.621	582.822	730.428	-.685	.026	-1.036
315	40	N61	482.27	277.414	302.964	-.241	-.011	.357
316	40	N180	317.444	979.409	-1496.997	0	0	0
317	40	N183	-1067.921	804.98	611.929	0	0	0
318	40	N186	1374.449	925.218	440.817	0	0	0
319	40	Totals:	-180.875	3897.047	.009			
320	40	COG (ft):	X: -1.277	Y: .926	Z: .832			
321	41	N45	-26.711	330.833	-624.497	.461	.026	-.03
322	41	N53	-1237.703	580.828	702.821	-.687	-.005	-1.033
323	41	N61	478.776	277.044	296.952	-.239	-.015	.358
324	41	N180	311.745	984.562	-1506.153	0	0	0
325	41	N183	-1058.683	800.312	610.567	0	0	0
326	41	N186	1376.554	923.468	430.243	0	0	0
327	41	Totals:	-156.023	3897.047	-90.066			
328	41	COG (ft):	X: -1.277	Y: .926	Z: .832			
329	42	N45	-3.192	332.78	-644.66	.462	-.009	-.034
330	42	N53	-1213.593	577.212	674.332	-.688	-.028	-1.029
331	42	N61	481.455	277.438	294.616	-.238	-.021	.36
332	42	N180	306.383	988.98	-1514.45	0	0	0
333	42	N183	-1047.395	795.07	611.533	0	0	0
334	42	N186	1385.897	925.567	422.007	0	0	0
335	42	Totals:	-90.444	3897.047	-156.622			
336	42	COG (ft):	X: -1.277	Y: .926	Z: .832			
337	43	N45	3.55	333.293	-652.212	.462	-.007	-.035
338	43	N53	-1174.261	573.604	671.008	-.684	-.003	-1.028
339	43	N61	504.877	279.232	285.758	-.241	.007	.361
340	43	N180	316.308	990.793	-1517.975	0	0	0
341	43	N183	-1042.292	789.906	602.036	0	0	0
342	43	N186	1391.803	930.219	429.093	0	0	0
343	43	Totals:	-.015	3897.047	-182.292			
344	43	COG (ft):	X: -1.277	Y: .926	Z: .832			
345	44	N45	10.664	332.848	-650.702	.461	-.003	-.036
346	44	N53	-1144.939	571.674	681.517	-.68	.031	-1.029
347	44	N61	538.964	282.623	292.144	-.245	.029	.364
348	44	N180	327.949	988.801	-1514.123	0	0	0
349	44	N183	-1037.895	785.548	593.273	0	0	0
350	44	N186	1396.755	935.553	439.401	0	0	0
351	44	Totals:	91.497	3897.047	-158.49			
352	44	COG (ft):	X: -1.277	Y: .926	Z: .832			
353	45	N45	32.442	330.793	-632.539	.46	-.032	-.04
354	45	N53	-1135.973	571.276	684.632	-.679	.031	-1.03
355	45	N61	559.292	285.963	322.87	-.245	.004	.37
356	45	N180	324.677	984.226	-1505.623	0	0	0
357	45	N183	-1030.17	783.915	600.121	0	0	0
358	45	N186	1407.596	940.874	439.391	0	0	0
359	45	Totals:	157.864	3897.046	-91.148			
360	45	COG (ft):	X: -1.277	Y: .926	Z: .832			



Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
361	46	N45	44.1	327.065	-597.017	.457	-.053	-.042
362	46	N53	-1135.076	571.815	691.747	-.679	.028	-1.03
363	46	N61	564.218	287.677	350.32	-.244	-.027	.373
364	46	N180	318.282	979.008	-1496.407	0	0	0
365	46	N183	-1028.034	786.102	612.091	0	0	0
366	46	N186	1417.356	945.38	439.272	0	0	0
367	46	Totals:	180.846	3897.046	.007			
368	46	COG (ft):	X: -1.277	Y: .926	Z: .832			
369	47	N45	26.314	323.436	-561.653	.454	-.026	-.038
370	47	N53	-1139.992	573.81	719.355	-.676	.059	-1.033
371	47	N61	567.71	288.046	356.332	-.246	-.023	.372
372	47	N180	323.982	973.855	-1487.252	0	0	0
373	47	N183	-1037.271	790.771	613.453	0	0	0
374	47	N186	1415.251	947.128	449.848	0	0	0
375	47	Totals:	155.994	3897.046	90.083			
376	47	COG (ft):	X: -1.277	Y: .926	Z: .832			
377	48	N45	2.794	321.488	-541.491	.453	.008	-.034
378	48	N53	-1164.1	577.427	747.843	-.676	.083	-1.037
379	48	N61	565.032	287.652	358.67	-.247	-.017	.37
380	48	N180	329.342	969.436	-1478.955	0	0	0
381	48	N183	-1048.559	796.013	612.487	0	0	0
382	48	N186	1405.907	945.03	458.084	0	0	0
383	48	Totals:	90.415	3897.046	156.639			
384	48	COG (ft):	X: -1.277	Y: .926	Z: .832			
385	49	N45	-2.129	335.401	-563.259	.497	.011	-.016
386	49	N53	-583.297	430.192	377.577	-.414	.049	-.557
387	49	N61	580.667	378.826	372.911	-.395	-.03	.509
388	49	N180	-5.852	853.296	-1299.779	0	0	0
389	49	N183	-1012.835	761.37	563.011	0	0	0
390	49	N186	1023.439	762.957	549.547	0	0	0
391	49	Totals:	-.006	3522.043	.008			
392	49	COG (ft):	X: -.042	Y: 1.025	Z: .448			
393	50	N45	-2.31	346.755	-601.827	.513	.007	-.026
394	50	N53	-879.412	465.245	518.252	-.474	.016	-.778
395	50	N61	522.503	294.166	311.243	-.251	-.002	.41
396	50	N180	165.887	841.564	-1282.587	0	0	0
397	50	N183	-982.555	748.782	576.29	0	0	0
398	50	N186	1175.876	825.536	478.638	0	0	0
399	50	Totals:	-.011	3522.046	.008			
400	50	COG (ft):	X: -.77	Y: 1.025	Z: .448			
401	51	N45	-2.397	426.453	-715.065	.661	.012	-.019
402	51	N53	-622.035	423.209	360.919	-.335	.011	-.593
403	51	N61	618.735	363.431	355.271	-.314	.011	.538
404	51	N180	-6.59	819.597	-1242.43	0	0	0
405	51	N183	-1069.863	818.531	628.515	0	0	0
406	51	N186	1082.144	820.333	612.8	0	0	0
407	51	Totals:	-.007	3671.554	.008			
408	51	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
409	52	N45	-3.547	367.996	-541.222	.575	.014	-.017
410	52	N53	-572.886	379.183	369.556	-.297	.045	-.53
411	52	N61	571.503	325.982	362.549	-.281	-.022	.48
412	52	N180	-5.57	708.716	-1071.603	0	0	0
413	52	N183	-953.101	732.502	573.814	0	0	0
414	52	N186	963.594	733.94	560.076	0	0	0
415	52	Totals:	-.006	3248.32	253.171			
416	52	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
417	53	N45	-22.357	369.268	-552.674	.576	.033	-.015



Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
418	53	N53	-609.286	382.567	373.984	-.3	.03	-.533
419	53	N61	531.667	321.512	344.039	-.278	-.026	.475
420	53	N180	-12.635	710.902	-1075.333	0	0	0
421	53	N183	-964.359	738.419	574.532	0	0	0
422	53	N186	950.382	725.652	554.699	0	0	0
423	53	Totals:	-126.588	3248.32	219.247			
424	53	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
425	54	N45	-35.743	372.699	-585.518	.58	.046	-.014
426	54	N53	-629.861	383.778	363.749	-.302	.009	-.533
427	54	N61	496.025	317.057	317.552	-.275	-.021	.47
428	54	N180	-17.878	716.888	-1085.547	0	0	0
429	54	N183	-970.918	740.512	570.346	0	0	0
430	54	N186	939.129	717.386	546.007	0	0	0
431	54	Totals:	-219.246	3248.32	126.589			
432	54	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
433	55	N45	-40.122	377.369	-630.958	.585	.05	-.014
434	55	N53	-629.103	382.492	341.593	-.302	-.011	-.531
435	55	N61	474.122	313.808	290.181	-.273	-.007	.466
436	55	N180	-19.894	725.072	-1099.511	0	0	0
437	55	N183	-971.019	738.222	562.377	0	0	0
438	55	N186	932.846	711.357	536.326	0	0	0
439	55	Totals:	-253.17	3248.32	.007			
440	55	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
441	56	N45	-34.317	382.027	-676.817	.59	.043	-.015
442	56	N53	-607.206	379.053	313.45	-.301	-.026	-.528
443	56	N61	471.834	312.639	269.262	-.272	.011	.465
444	56	N180	-18.143	733.259	-1113.482	0	0	0
445	56	N183	-964.635	732.159	552.761	0	0	0
446	56	N186	933.22	709.182	528.252	0	0	0
447	56	Totals:	-219.246	3248.321	-126.574			
448	56	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
449	57	N45	-19.887	385.425	-710.805	.593	.028	-.016
450	57	N53	-570.047	374.383	286.866	-.299	-.031	-.523
451	57	N61	489.767	313.863	260.4	-.272	.029	.467
452	57	N180	-13.093	739.255	-1123.716	0	0	0
453	57	N183	-953.478	723.951	544.075	0	0	0
454	57	N186	940.149	711.444	523.948	0	0	0
455	57	Totals:	-126.588	3248.321	-219.232			
456	57	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
457	58	N45	-.695	386.653	-723.821	.594	.008	-.017
458	58	N53	-527.575	369.731	268.958	-.296	-.025	-.519
459	58	N61	523.12	317.151	265.969	-.274	.042	.471
460	58	N180	-6.099	741.457	-1127.473	0	0	0
461	58	N183	-940.535	715.793	538.645	0	0	0
462	58	N186	951.778	717.536	524.566	0	0	0
463	58	Totals:	-.006	3248.321	-253.156			
464	58	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
465	59	N45	18.114	385.382	-712.368	.593	-.011	-.019
466	59	N53	-491.174	366.345	264.53	-.293	-.01	-.517
467	59	N61	562.956	321.622	284.479	-.277	.046	.476
468	59	N180	.967	739.273	-1123.743	0	0	0
469	59	N183	-929.277	709.874	537.927	0	0	0
470	59	N186	964.99	725.825	529.942	0	0	0
471	59	Totals:	126.576	3248.32	-219.232			
472	59	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
473	60	N45	31.5	381.953	-679.524	.589	-.024	-.02
474	60	N53	-470.599	365.133	274.765	-.291	.011	-.517



Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
475	60	N61	598.598	326.077	310.966	-.28	.041	.481
476	60	N180	6.21	733.289	-1113.528	0	0	0
477	60	N183	-922.719	707.779	542.113	0	0	0
478	60	N186	976.244	734.089	538.635	0	0	0
479	60	Totals:	219.234	3248.32	-126.574			
480	60	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
481	61	N45	35.88	377.284	-634.084	.584	-.028	-.02
482	61	N53	-471.358	366.42	296.921	-.291	.031	-.519
483	61	N61	620.501	329.323	338.338	-.282	.028	.485
484	61	N180	8.226	725.106	-1099.564	0	0	0
485	61	N183	-922.617	710.071	550.082	0	0	0
486	61	N186	982.527	740.116	548.315	0	0	0
487	61	Totals:	253.158	3248.32	.007			
488	61	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
489	62	N45	30.075	372.625	-588.225	.58	-.022	-.019
490	62	N53	-493.254	369.86	325.064	-.292	.046	-.522
491	62	N61	622.789	330.491	359.256	-.283	.009	.486
492	62	N180	6.473	716.918	-1085.593	0	0	0
493	62	N183	-929.001	716.136	559.698	0	0	0
494	62	N186	982.152	742.29	556.389	0	0	0
495	62	Totals:	219.234	3248.32	126.589			
496	62	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
497	63	N45	15.645	369.225	-554.237	.576	-.006	-.018
498	63	N53	-530.413	374.532	351.648	-.294	.051	-.526
499	63	N61	604.856	329.268	368.118	-.283	-.009	.484
500	63	N180	1.424	710.919	-1075.359	0	0	0
501	63	N183	-940.158	724.345	568.384	0	0	0
502	63	N186	975.223	740.03	560.694	0	0	0
503	63	Totals:	126.576	3248.32	219.247			
504	63	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
505	64	N45	-2.902	253.106	-348.414	.397	.01	-.011
506	64	N53	-405.133	265.203	272.221	-.207	.042	-.37
507	64	N61	404.641	228.108	266.734	-.196	-.025	.335
508	64	N180	-3.799	487.807	-737.247	0	0	0
509	64	N183	-665.185	511.919	404.693	0	0	0
510	64	N186	672.374	512.867	395.182	0	0	0
511	64	Totals:	-.004	2259.01	253.169			
512	64	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
513	65	N45	-21.71	254.38	-359.864	.398	.029	-.01
514	65	N53	-441.525	268.597	276.645	-.209	.027	-.373
515	65	N61	364.815	223.626	248.229	-.193	-.029	.33
516	65	N180	-10.875	489.996	-740.978	0	0	0
517	65	N183	-676.449	517.845	405.405	0	0	0
518	65	N186	659.158	504.566	389.807	0	0	0
519	65	Totals:	-126.586	2259.01	219.245			
520	65	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
521	66	N45	-35.095	257.819	-392.699	.402	.043	-.009
522	66	N53	-462.096	269.812	266.41	-.211	.006	-.373
523	66	N61	329.184	219.158	221.749	-.19	-.024	.325
524	66	N180	-16.125	495.991	-751.194	0	0	0
525	66	N183	-683.014	519.942	401.211	0	0	0
526	66	N186	647.902	496.289	381.11	0	0	0
527	66	Totals:	-219.244	2259.01	126.587			
528	66	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
529	67	N45	-39.473	262.501	-438.127	.407	.047	-.009
530	67	N53	-461.339	268.524	244.256	-.212	-.014	-.371
531	67	N61	307.288	215.901	194.383	-.188	-.01	.322



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000243474-VZW_MT_LO_H

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Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
532	67	N180	-18.144	504.186	-765.161	0	0	0
533	67	N183	-683.12	517.648	393.232	0	0	0
534	67	N186	641.621	490.251	371.422	0	0	0
535	67	Totals:	-253.168	2259.011	.005			
536	67	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
537	68	N45	-33.669	267.171	-483.974	.411	.04	-.009
538	68	N53	-439.45	265.077	216.119	-.211	-.029	-.368
539	68	N61	305.002	214.728	173.468	-.187	.008	.32
540	68	N180	-16.39	512.386	-779.136	0	0	0
541	68	N183	-676.738	511.577	383.608	0	0	0
542	68	N186	642	488.073	363.339	0	0	0
543	68	Totals:	-219.244	2259.011	-126.577			
544	68	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
545	69	N45	-19.24	270.578	-517.952	.415	.025	-.011
546	69	N53	-402.301	260.394	189.541	-.209	-.034	-.363
547	69	N61	322.932	215.953	164.607	-.188	.026	.322
548	69	N180	-11.333	518.391	-789.373	0	0	0
549	69	N183	-665.579	503.356	374.917	0	0	0
550	69	N186	648.935	490.337	359.026	0	0	0
551	69	Totals:	-126.586	2259.011	-219.234			
552	69	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
553	70	N45	-.05	271.81	-530.964	.416	.005	-.012
554	70	N53	-359.84	255.73	171.638	-.206	-.028	-.359
555	70	N61	356.277	219.25	170.172	-.19	.039	.326
556	70	N180	-4.328	520.597	-793.131	0	0	0
557	70	N183	-652.633	495.186	369.488	0	0	0
558	70	N186	660.569	496.438	359.638	0	0	0
559	70	Totals:	-.004	2259.011	-253.158			
560	70	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
561	71	N45	18.757	270.537	-519.515	.415	-.014	-.013
562	71	N53	-323.448	252.335	167.214	-.203	-.013	-.357
563	71	N61	396.103	223.732	188.677	-.192	.043	.331
564	71	N180	2.748	518.409	-789.4	0	0	0
565	71	N183	-641.368	489.258	368.776	0	0	0
566	71	N186	673.785	504.739	365.014	0	0	0
567	71	Totals:	126.578	2259.011	-219.234			
568	71	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
569	72	N45	32.143	267.1	-486.68	.411	-.028	-.014
570	72	N53	-302.877	251.119	177.449	-.201	.008	-.357
571	72	N61	431.734	228.2	215.157	-.195	.038	.336
572	72	N180	7.999	512.416	-779.183	0	0	0
573	72	N183	-634.804	487.16	372.971	0	0	0
574	72	N186	685.041	513.016	373.71	0	0	0
575	72	Totals:	219.236	2259.01	-126.577			
576	72	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
577	73	N45	36.522	262.419	-441.252	.406	-.032	-.015
578	73	N53	-303.634	252.407	199.603	-.201	.028	-.359
579	73	N61	453.63	231.455	242.523	-.198	.024	.34
580	73	N180	10.017	504.222	-765.216	0	0	0
581	73	N183	-634.698	489.455	380.949	0	0	0
582	73	N186	691.323	519.052	383.398	0	0	0
583	73	Totals:	253.16	2259.01	.005			
584	73	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
585	74	N45	30.717	257.748	-395.405	.401	-.025	-.014
586	74	N53	-325.523	255.856	227.741	-.202	.043	-.362
587	74	N61	455.916	232.627	263.438	-.199	.006	.341
588	74	N180	8.263	496.021	-751.242	0	0	0



Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
589	74	N183	-641.08	495.529	390.573	0	0	0
590	74	N186	690.944	521.229	391.482	0	0	0
591	74	Totals:	219.236	2259.01	126.587			
592	74	COG (ft):	X: -.047	Y: 1.147	Z: -.027			
593	75	N45	16.288	254.339	-361.426	.398	-.01	-.013
594	75	N53	-362.672	260.54	254.319	-.204	.048	-.366
595	75	N61	437.986	231.402	272.299	-.198	-.012	.339
596	75	N180	3.206	490.013	-741.005	0	0	0
597	75	N183	-652.239	503.751	399.264	0	0	0
598	75	N186	684.008	518.965	395.795	0	0	0
599	75	Totals:	126.578	2259.01	219.245			
600	75	COG (ft):	X: -.047	Y: 1.147	Z: -.027			

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

	Member Shape	Code Check	Loc[ft]	LC	Shear Check	L... Dir	LC	phi*Pn...	phi*P...	phi*Mn y...	phi*Mn	Eqn
1	FACE ... PIPE ...	.081	.434	38	.066	4...	13	58150...	65205	5.749	5.749	H1-...
2	FACE2 PIPE ...	.087	4.625	36	.082	4...	25	58150...	65205	5.749	5.749	H1-...
3	FACE1 PIPE ...	.104	.276	36	.082	0	25	58739...	65205	5.749	5.749	H1-...
4	M13 PIPE ...	.053	0	22	.066	4...	21	58150...	65205	5.749	5.749	H1-...
5	M15 PIPE ...	.058	0	20	.067	4...	21	58150...	65205	5.749	5.749	H1-...
6	M17 PIPE ...	.054	.276	20	.067	0	21	58739...	65205	5.749	5.749	H1-...
7	M25 PIPE ...	.052	0	18	.067	4...	17	58150...	65205	5.749	5.749	H1-...
8	M27 PIPE ...	.057	0	16	.068	4...	17	58150...	65205	5.749	5.749	H1-...
9	M29 PIPE ...	.054	.276	16	.067	0	17	58739...	65205	5.749	5.749	H1-...
10	M37 PL5/8...	.144	.426	14	.101	.... y	39	10257...	121500	1.582	15.188	H1-...
11	M38 PL5/8...	.143	.426	22	.115	.... y	35	10257...	121500	1.582	15.188	H1-...
12	M39 PL5/8...	.143	.426	18	.097	.... y	18	10257...	121500	1.582	15.188	H1-...
13	M40 HSS3...	.036	4.991	20	.028	4... z	10	97297...	121716	10.005	10.005	H1-...
14	M41 HSS3...	.040	3.798	38	.028	4... z	6	97297...	121716	10.005	10.005	H1-...
15	M42 HSS3...	.036	4.991	24	.035	4... y	26	97297...	121716	10.005	10.005	H1-...
16	M43 HSS3...	.188	3.875	16	.042	3... y	22	10752...	121716	10.005	10.005	H1-...
17	M47 HSS3...	.197	3.875	24	.041	3... y	24	10752...	121716	10.005	10.005	H1-...
18	M51 HSS3...	.173	3.875	20	.041	3... y	36	10752...	121716	10.005	10.005	H1-...
19	M55 L2.5X...	.310	2.869	13	.043	2... z	13	25314...	30375	1.531	1.054	H2-1
20	M56 L2.5X...	.364	2.869	34	.045	0 z	13	25314...	30375	1.531	1.054	H2-1
21	MP1A PIPE ...	.117	.729	21	.053	4...	18	17854...	32130	1.872	1.872	H1-...
22	M66 L2.5x2...	.043	1.576	21	.004	0 y	21	30124...	38556	1.114	2.505	H2-1
23	M67 L2.5x2...	.042	1.49	16	.004	0 z	20	30124...	38556	1.114	2.485	H2-1
24	M72 L2.5x2...	.044	1.518	17	.004	0 y	38	30124...	38556	1.114	2.494	H2-1
25	M73 L2.5x2...	.043	1.461	24	.005	0 z	37	30124...	38556	1.114	2.482	H2-1
26	M78 L2.5x2...	.042	1.547	13	.004	0 y	13	30124...	38556	1.114	2.503	H2-1
27	M79 L2.5x2...	.041	1.547	21	.004	0 z	21	30124...	38556	1.114	2.491	H2-1
28	M77C L2.5X...	.311	2.869	21	.042	2... z	21	25314...	30375	1.531	1.054	H2-1
29	M78B L2.5X...	.348	0	21	.046	0 z	21	25314...	30375	1.531	1.054	H2-1
30	M79A L2.5X...	.308	2.869	17	.042	2... z	17	25314...	30375	1.531	1.054	H2-1
31	M80B L2.5X...	.340	0	17	.045	0 z	17	25314...	30375	1.531	1.054	H2-1
32	MP2A PIPE ...	.230	4.156	14	.050	4...	24	17854...	32130	1.872	1.872	H1-...
33	MP3A PIPE ...	.204	4.156	36	.039	1...	14	17854...	32130	1.872	1.872	H1-...
34	MP4A PIPE ...	.195	.729	41	.059	4...	16	17854...	32130	1.872	1.872	H1-...
35	MP1C PIPE ...	.119	.729	17	.053	4...	14	17854...	32130	1.872	1.872	H1-...
36	MP2C PIPE ...	.228	4.156	22	.050	4...	20	17854...	32130	1.872	1.872	H1-...
37	MP3C PIPE ...	.203	4.156	20	.039	1...	22	17854...	32130	1.872	1.872	H1-...
38	MP4C PIPE ...	.141	.729	13	.059	4...	24	17854...	32130	1.872	1.872	H1-...
39	MP1B PIPE ...	.204	4.156	38	.053	4...	22	17854...	32130	1.872	1.872	H1-...
40	MP2B PIPE ...	.230	4.156	18	.050	4...	16	17854...	32130	1.872	1.872	H1-...



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000243474-VZW_MT_LO_H

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 Checked By: _____

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

Member	Shape	Code Check	Loc[ft]	LC	Shear Check	L...	Dir	LC	phi*Pn...	phi*P...	phi*Mn y...	phi*Mn	Eqn	
41	MP3B	PIPE_...	.206	4.156	16	.039	1..	18	17854...	32130	1.872	1.872	...H1-...	
42	MP4B	PIPE_...	.139	.729	21	.059	4..	20	17854...	32130	1.872	1.872	...H1-...	
43	OVP1	PIPE_...	.078	3	8	.032	3	11	26521...	32130	1.872	1.872	...H1-...	
44	OVP	PIPE_...	.078	3	8	.032	3	11	26521...	32130	1.872	1.872	...H1-...	
45	M84	PIPE_...	.442	3.063	20	.139	1..	18	11606...	50715	3.596	3.596	...H1-...	
46	M91	PIPE_...	.442	10.937	14	.139	1..	14	11606...	50715	3.596	3.596	...H1-...	
47	M98	PIPE_...	.444	10.937	22	.140	1..	22	11606...	50715	3.596	3.596	...H1-...	
48	M101	L3X3X4	.304	0	18	.004	0	y	42	41694...	46656	1.688	3.756	...H2-1
49	M102	L3X3X4	.302	0	14	.006	2..	y	30	41694...	46656	1.688	3.756	...H2-1
50	M103	L3X3X4	.303	0	22	.004	....	y	10	41694...	46656	1.688	3.756	...H2-1
51	M104	L2.5x2...	.118	2.582	24	.005	5..	y	18	16145...	38556	1.114	2.233	...H2-1
52	M105	L2.5x2...	.119	2.582	14	.006	0	z	16	16145...	38556	1.114	2.233	...H2-1
53	M106	L2.5x2...	.117	2.582	20	.005	0	y	14	16145...	38556	1.114	2.233	...H2-1
54	M107A	L2.5x2...	.119	2.582	22	.006	0	z	24	16145...	38556	1.114	2.233	...H2-1
55	M108	L2.5x2...	.118	2.582	16	.005	0	y	22	16145...	38556	1.114	2.233	...H2-1
56	M109	L2.5x2...	.119	2.582	18	.006	5..	z	20	16145...	38556	1.114	2.233	...H2-1

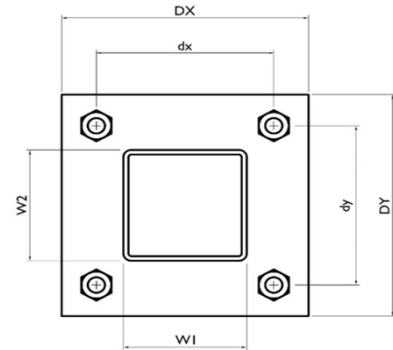
I. Mount-to-Tower Connection Check

Custom Orientation Required

Tower Connection Bolt Checks

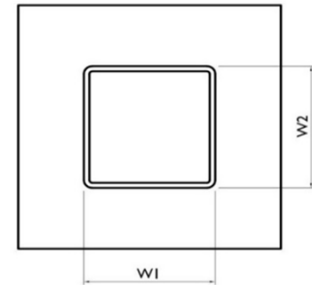
Bolt Orientation

Bolt Quantity per Reaction:	4
d_x (in) (Delta X of typ. bolt config. sketch) :	4
d_y (in) (Delta Y of typ. bolt config. sketch) :	4
Bolt Type:	A325N
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	2.4
Required Shear Strength / bolt (kips):	0.3
Tensile Capacity / bolt (kips):	20.7
Shear Capacity / bolt (kips):	12.4
Bolt Overall Utilization:	11.8%



Tower Connection Baseplate Checks

Connecting Standoff Member Shape:	Rect Tube
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	6
Plate Height, D_y (in):	6
W_1 (in):	3
W_2 (in):	3
Member Thickness (in):	0.3125
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	36
Plate Thickness (in):	0.75
Length of Yield Line, L_y (in):	4.14
Bolt Eccentricity, e (in):	1.00
M_u (kip-in):	2.44
$\Phi * M_n$ (kip-in):	18.87
Plate Bending Utilization:	12.9%



Tower Connection Weld Checks

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

Yes
Rectangle
None
None
4
3
3
12.00
12.00
12.00
36.00
1.8125
1.8125
1.18
5.57
21.3%

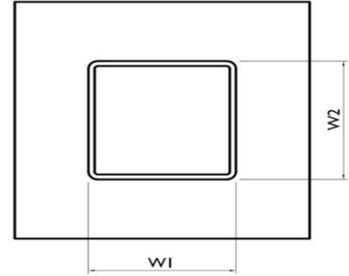


EXHIBIT 5





RF Design and Services
326 Tyron Road
Raleigh, North Carolina 27603
(612)965-8225
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Non-Ionizing Electromagnetic Radiation (NIER) Study

Site Number:
283563

Site Name:
Mansfield CT

Location:
Willington, Connecticut

Tenants:
AT&T Mobility, Dish Wireless, & Verizon Wireless

Prepared For:
American Tower, Inc.
Woburn, Massachusetts

February 29th, 2024
68469 P-420602

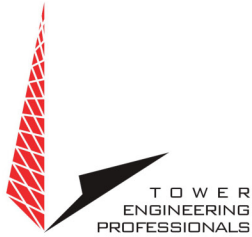
Prepared By:

Adam Carlson MS, CBRE, CPI
Program Manager RF Design & Service
Tower Engineering Professionals

Approved By:



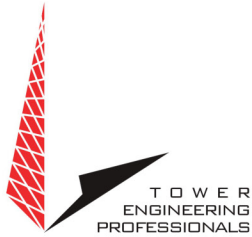
03/09/24



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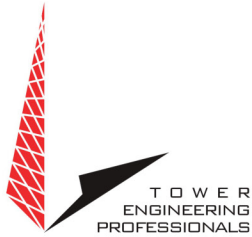
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Non-Ionizing Electromagnetic Radiation (NIER) Study

283563 Mansfield CT
Willington, Connecticut

INTRODUCTION

Tower Engineering Professionals RF Design & Services Division (TEP-RF) of Raleigh, North Carolina, has been retained by American Tower, Inc. (ATC), of Woburn, Massachusetts to evaluate the RF emissions compared to the Maximum Permissible Exposure (MPE) limit for facilities at this location. This evaluation uses compliance standards as outlined in Federal Communications Commission (FCC) document OET-65.

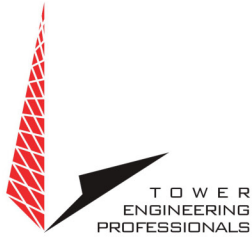
SITE AND FACILITY CONSIDERATIONS

Site 283563 Mansfield CT is located at 343 Daleville Rd., in Willington, Connecticut at coordinates 41.836606, -72.254976. The support structure is a 151' monopole. An aerial view of the tower can be found in Appendix 1, Site Photos. The tenants are AT&T Mobility (AT&T), Dish Wireless (Dish), & Verizon Wireless (VZW). A table listing all antennae and effective radiated power (ERP) levels that were used in this study may be found in Appendix 2, Antenna Inventory.

POWER DENSITY CALCULATIONS

Power densities were calculated based on FCC MPE limits for both General Population/Uncontrolled and Occupational/Controlled environments.

For the purpose of this study, a radius of 100' from the base of the tower with a height of 6' above ground level was used, beyond 100' the MPE levels become *di minimus*. This study utilized FCC recognized and accepted software programs using the maximum ERP levels for the antenna models provided by ATC. Diagrams depicting the predicted spatial average power density level at any specific location may be found in Appendix 3, MPE Limit Study. A discussion regarding the FCC limits may be found in Appendix 4, Information Pertaining to MPE Studies. Study methodology describing Non-ionizing Radiation Prediction Models used in this study may be found in Appendix 5, MPE Standards Methodology.



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All data used in this study was collected from one or more of the following sources:

- ATC furnished data and does not include other unidentified communication facilities.
- Load List at 283563 Mansfield CT.RF NIER Study 02/16/24.
- FCC databases.
- Carrier standard configurations.
- Empirical data collected by TEP.

SITE MITIGATION & CONTROL

In order to comply with FCC, tenant, & ATC requirements, TEP recommends the placement of signage at the base of the tower and all compound access points to alert workers of potential exposure to RF fields while working on or near the antennae.

TEP recommends that all personnel working on this tower be trained in RF safety procedures and carry a personal RF monitor at all times.

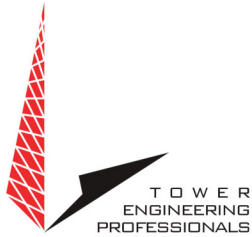
COMPLIANCE DETERMINATION

This installation IS in compliance with current FCC MPE limits as described in FCC OET-65.

APPENDIX 1 Site Photos

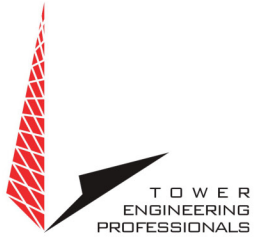


Aerial View of Site

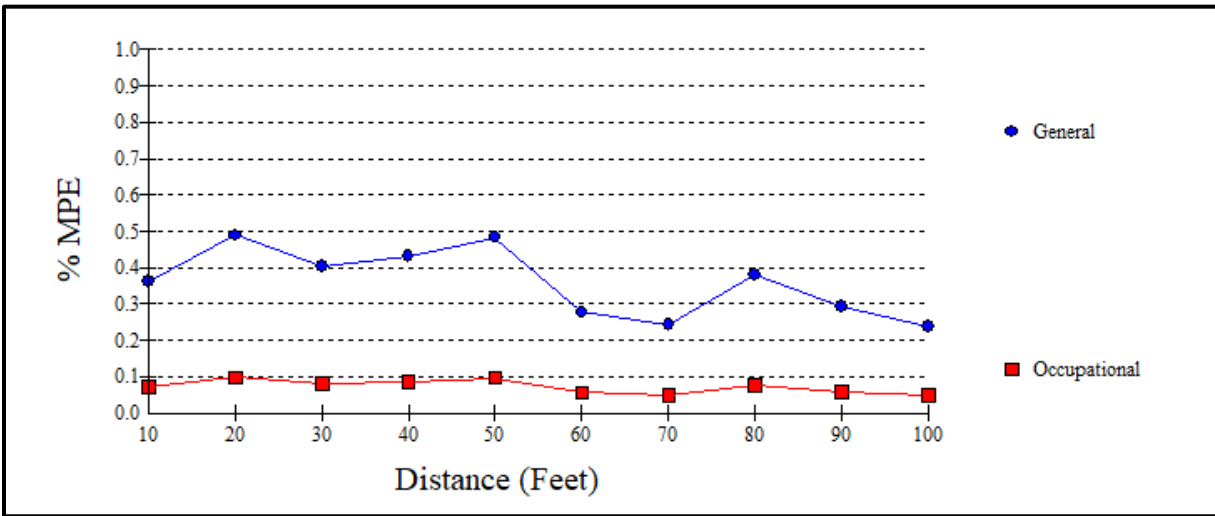


Appendix 2 Antenna Inventory

283563 Mansfield CT							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azimuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
1	AT&T	CCI	DMP65R-BU6D	700/800/1900	090	36002	155.0
2	AT&T	CCI	DMP65R-BU6D	700/800/1900	210	36002	155.0
3	AT&T	CCI	DMP65R-BU6D	700/800/1900	330	36002	155.0
4	AT&T	CCI	TPA65R-BU8D	700/2100/2300	090	26508	155.0
5	AT&T	CCI	TPA65R-BU8D	700/2100/2300	210	26508	155.0
6	AT&T	CCI	TPA65R-BU8D	700/2100/2300	330	26508	155.0
7	Verizon	Antel	BXA-70063	700/800/1900	090	23119	102.0
8	Verizon	Antel	BXA-70063	700/800/1900	210	23119	102.0
9	Verizon	Antel	BXA-70063	700/800/1900	330	23119	102.0
10	Verizon	Antel	BXA-70063	700/800/1900	090	23119	103.0
11	Verizon	Antel	BXA-70063	700/800/1900	210	23119	102.0
12	Verizon	Antel	BXA-70063	700/800/1900	330	23119	102.0
13	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	090	32518	97.0
14	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	210	32518	97.0
15	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	330	32518	97.0
16	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	090	32518	97.0
17	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	210	32518	97.0
18	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	330	32518	97.0
19	Verizon	Samsung	MT6413-77A	3700-3900	090	18286	97.0
20	Verizon	Samsung	MT6413-77A	3700-3900	210	18286	97.0
21	Verizon	Samsung	MT6413-77A	3700-3900	330	18286	97.0
22	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	000	40000	86.0
23	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	120	40000	86.0
24	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	240	40000	86.0

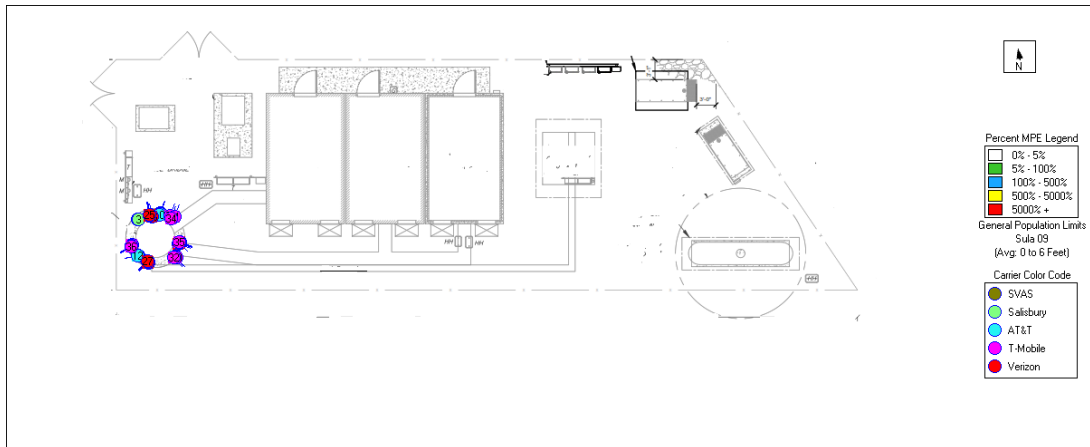


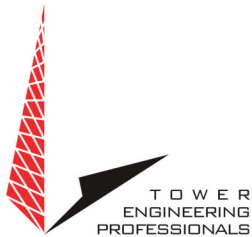
Appendix 3.1 MPE Limit Study



Maximum Power Density (@20'):	0.00030 mW/cm ²
General Population MPE (@20'):	0.4890%
Occupational MPE (@20'):	0.0978%

Appendix 3.2 MPE Limit Study





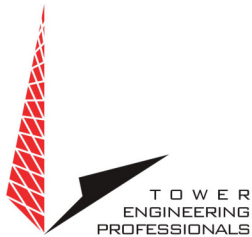
Appendix 4 Information Pertaining to MPE Studies

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.



MPE limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm^2), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). The far-field of a transmitting antenna is where the electric field vector (E), the magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

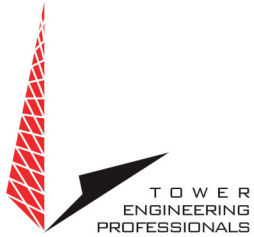
General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area. Additional details can be found in FCC OET 65.



Appendix 5 MPE Standards Methodology

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure, and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.

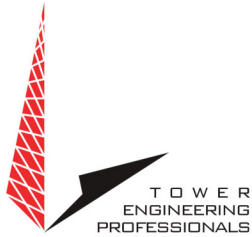


The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (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

f = frequency

* = Plane-wave equivalent power density



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.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (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

* = Plane-wave equivalent power density

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.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.



The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex, and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still has a curvature, but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65.

Cylindrical Model (Near Field Predictions)

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\pi RL$$

Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length



For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \pi RL$$

Where:

S = Power Density

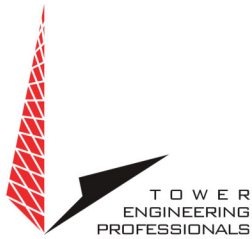
θ_{BW} = Beam width of antenna in degrees (3 dB half-power point)

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.



Spherical Model (Far Field Predictions)

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered, and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

EXHIBIT 6



DOCKET NO. 400 - Cellco Partnership d/b/a Verizon Wireless } Connecticut
application for a Certificate of Environmental Compatibility and }
Public need for the construction, maintenance and operation of a } Siting
telecommunications facility located at 343 Daleville Road, }
Willington, Connecticut. } Council

July 29, 2010

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, management, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Verizon Wireless, hereinafter referred to as the Certificate Holder, for a telecommunications facility located at 343 Daleville Road, Willington, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Verizon Wireless and other entities, both public and private, but such tower shall not exceed a height of 105 feet above ground level.
2. The facility compound shall be relocated towards the south, on the flatter portion of the knoll, as depicted on the site plan dated June 10, 2010.
3. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Willington (Town) for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
 - c) development of a identification/relocation program for the wood turtle, a state species of special concern, that may be encountered during site construction.

4. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
5. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
8. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
9. At least one wireless telecommunications carrier shall install their equipment and shall become operational not later than 120 days after the tower is erected. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
10. Any request for extension of the time period referred to in Condition 8 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town. Any proposed modifications to this Decision and Order shall likewise be so served.
11. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
12. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

13. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.
14. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Willimantic Chronicle.

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

The parties and intervenors to this proceeding are:

Applicant
Cellco Partnership
d/b/a Verizon Wireless

Its Representative
Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

EXHIBIT 7





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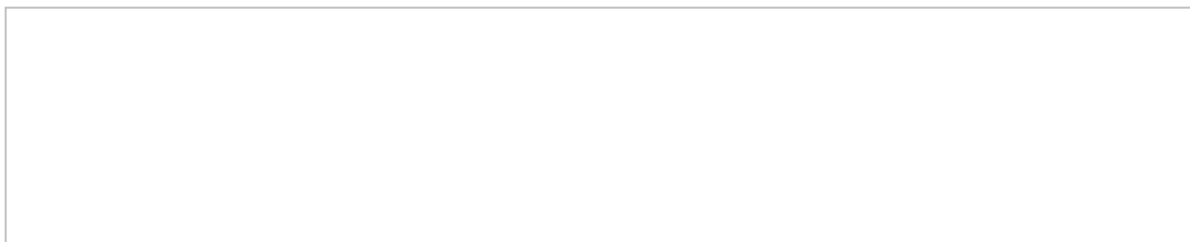


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