

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

January 9, 2024

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

**RE: Notice of Exempt Modification // Site: HARTFORD SO III CT (ATC: 302481)
289 Mountain Street Hartford, CT 06106
N 41.726583 // W -72.708167**

Dear Ms. Bachman,

Cellco Partnership d/b/a Verizon Wireless currently maintains six (6) antenna at the 80-ft level on the existing 110ft Tower, located at 289 Mountain Street, Hartford, CT. The tower is owned by American Tower. Verizon Wireless proposed modification involves the installation of one (1) new platform mount, nine (9) antennas, nine (9) RRH, three (3) diplexers, one (1) OVP and two (2) hybridflex cables on a new Verizon Wireless antenna platform and mounting assembly. The existing platform will be removed. Additionally, Verizon will install fifteen (15) UPConverters and twenty-seven (27) kits inside the existing ground equipment shelter.

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 the 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 December 29, 2023, by A.T Engineering Services, LLC, a structural analysis dated December 15, 2023, by American Tower Corp., and a structural mount analysis by Colliers Engineering and Design dated September 19, 2023, and Non-Ionizing Electromagnetic Radiation (NIER) Study dated December 20, 2023, 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

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 2307
Dmaheux@clinellc.com

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: Arunan Arulampalam – Mayor – Chief Elected Official
Randal Davis – Director of Developmental Services - as P&Z official
American Tower Corporation - as tower owner
Springwhich Cellular Tower Holdings LLC – as ground owner

EXHIBIT 1



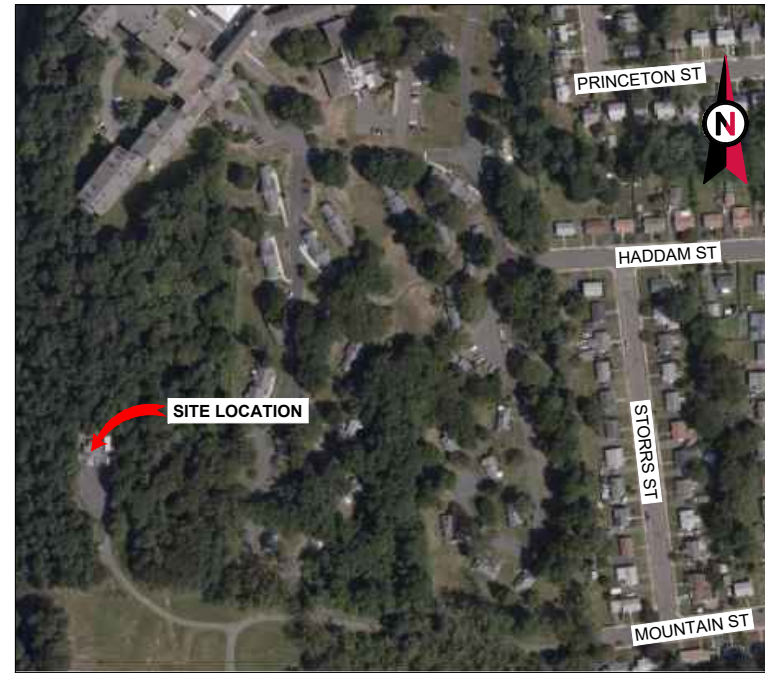


VICINITY MAP




AMERICAN TOWER®

ATC SITE NAME: HRFR - SOUTH
 ATC SITE NUMBER: 302481
 VERIZON SITE NAME: HARTFORD SO III CT
 VERIZON SITE NUMBER: 5000392472
 VERIZON FUZE PID: 16093011
 SITE ADDRESS: 289 MOUNTAIN STREET
 HARTFORD, CT 06106



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	12/29/2023

ATC SITE NUMBER:
302481
 ATC SITE NAME:
HRFR - SOUTH
 VERIZON SITE NAME:
HARTFORD SO III CT
 SITE ADDRESS:
 289 MOUNTAIN STREET
 HARTFORD, CT 06106



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> 289 MOUNTAIN STREET HARTFORD, CT 06106 COUNTY: HARTFORD <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41° 43' 35.730" N LONGITUDE: 72° 42' 29.484" W GROUND ELEVATION: 286' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (1) PLATFORM, (3) SIDE BY SIDE ANTENNA MOUNT(S), (6) ANTENNA(S), (12) RRH(S), (1) OVP, AND (12) 1-5/8" COAX CABLE(S) INSTALL (1) PLATFORM, (3) SIDE BY SIDE ANTENNA MOUNT(S), (9) ANTENNA(S), (9) RRH(S), (3) DIPLEXER(S), (1) OVP(S), AND (2) 1-5/8" HYBRIFLEX CABLE(S) <u>GROUND WORK:</u> INSTALL (15) UPCONVERTER(S), (27) KIT(S), AND (1) OTHER	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> A.T. Engineering Services LLC 1 FENTON MAIN, STE 300 CARY, NC 27511 <u>PROPERTY OWNER:</u> THE METROPOLITAN DISTRICT 289 MOUNTAIN STREET HARTFORD, CT 06106	<u>PROJECT NOTES</u> 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 G-002 GENERAL NOTES V-101 COMPOUND DETAIL & DESCRIPTIONS C-101 DETAILED SITE PLAN C-201 TOWER ELEVATION C-401 ANTENNA INFORMATION & SCHEDULE C-501 CONSTRUCTION DETAILS E-501 GROUNDING DETAILS R-601 SUPPLEMENTAL R-602 SUPPLEMENTAL	CONTRACTOR PMI REQUIREMENTS PMI ACCESSED AT: HTTPS://PMI.VZSMART.COM SMART TOOL VENDOR PROJECT NUMBER: 10209522 VZW LOCATION CODE (PSLC): 5000392472 ***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			
<u>UTILITY COMPANIES</u> POWER COMPANY: CONNECTICUT LIGHT & POWER PHONE: (800) 286-2000 TELEPHONE COMPANY: AT&T PHONE: (800) 288-2020	<u>PROJECT LOCATION DIRECTIONS</u> FROM HARTFORD TAKE MAPLE AVENUE SOUTH TO WHITE STREET. TURN RIGHT ONTO WHITE STREET AND FOLLOW TO MOUNTAIN ROAD AND TURN LEFT. FOLLOW MOUNTAIN ROAD TO THE END WHERE THE ACCESS GATE WILL BE FOR THE ACCESS ROAD (METROPOLITAN DISTRICT COMMISSION SIGN ON GATE)						



ATC JOB NO: 14568527_GO
 CUSTOMER ID: HARTFORD SO III CT
 CUSTOMER #: 5000392472

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.



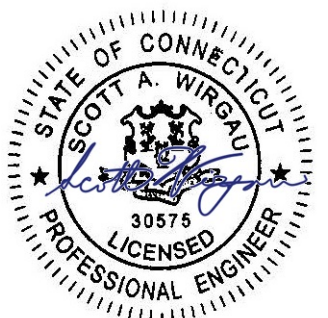
AMERICAN TOWER®
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ATC SITE NUMBER:
302481
 ATC SITE NAME:
HRFR - SOUTH
 VERIZON SITE NAME:
HARTFORD SO III CT
 SITE ADDRESS:
 289 MOUNTAIN STREET
 HARTFORD, CT 06106

SEAL:



Digitally Signed: 2024-01-02



ATC JOB NO:	14568527_GO
CUSTOMER ID:	HARTFORD SO III CT
CUSTOMER #:	5000392472

GENERAL NOTES

SHEET NUMBER: G-002	REVISION: 0
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PROJECT SUMMARY

FIELD SURVEY DATE: 05/14/2018
SITE ADDRESS: 289 MOUNTAIN STREET, HARTFORD, CT 06106

PARCEL INFORMATION
OWNER: THE METROPOLITAN DISTRICT, A CORPORATION
OWNER ADDRESS: 555 MAIN STREET, HARTFORD, CT 06106
APN: 144714128

TOTAL AREAS:
PARENT PARCEL: 22.474 ACRES
ATC LEASE AREA: 5.0752 SQ. FT. OR 0.12 ACRES

GEOGRAPHIC COORDINATES OF TOWER:
LATITUDE: 41°43'35.64" N **LONGITUDE:** 72°42'29.40" W
VERTICAL DATUM: NAVD 1988 **HORIZONTAL DATUM:** NAD83
GROUND ELEVATION: 285'

THIS IS TO CERTIFY THAT THE ABOVE INFORMATION IS PROVIDED TO THE FOLLOWING ACCURACY:
 ± TWENTY (20) FEET IN THE HORIZONTAL
 ± THREE (3) FEET IN THE VERTICAL

*MERIDIAN AND COORDINATES REFER TO CONNECTICUT STATE PLANE, NAD 83, AND ARE BASED ON GPS OBSERVATIONS.

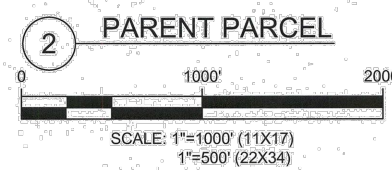
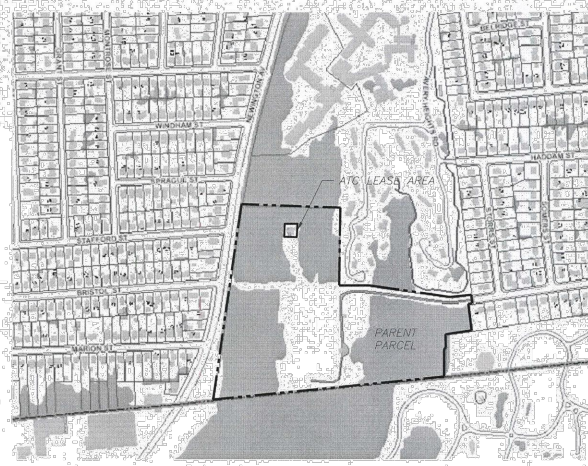
FLOODPLAIN:
 PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE X-1.
MAP NO.: 09003C0502E
EFFECTIVE DATE: SEPTEMBER 26, 2008

BOUNDARY NOTE:
 THIS SURVEY IS THE RESULT OF AN ACTUAL FIELD SURVEY BASED UPON SUFFICIENT RESEARCH AND FIELD EVIDENCE TO VERIFY THE PARENT PARCEL OF THE SUBJECT PROPERTY. HOWEVER, THIS SURVEYOR HAS RELIED UPON THE DEEDS OF RECORD, AS PROVIDED. THIS SURVEYOR MAKES NO GUARANTEE, EITHER EXPRESSED OR IMPLIED AS TO THE QUALITY OF THE DEED REPORT AND REFERENCE DOCUMENTS PROVIDED AND THE DOCUMENTS PROVIDED AFFECTING THE LEASE AND IMMEDIATE AREA HAVE BEEN PLOTTED. THE BOUNDARY SHOWN HEREON IS PLOTTED FROM THE RECORD INFORMATION PROVIDED AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

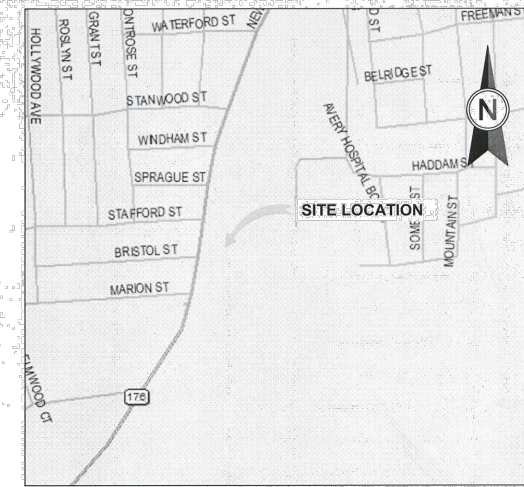
ENCROACHMENT NOTE:
 AT THE TIME OF THE SURVEY, NO VISIBLE ENCROACHMENTS WERE EVIDENT ONTO OR BEYOND THE LEASE AREA, OR THE ACCESS AND UTILITY EASEMENTS(S).
 ATC LEASE AREA IS CONTAINED ENTIRELY ON THE PARENT PARCEL.

SURVEYOR'S NOTES

- THERE IS ACCESS TO THE SUBJECT PROPERTY VIA MOUNTAIN STREET, A PUBLIC RIGHT OF WAY.
- THE LOCATIONS OF ALL UTILITIES SHOWN ON THE SURVEY ARE FROM VISIBLE SURFACE EVIDENCE ONLY.
- AT THE TIME OF THIS SURVEY THERE WAS NO OBSERVABLE SURFACE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF THE SUBJECT PROPERTY BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT CHANGES IN STREET RIGHT-OF-WAY LINES EITHER COMPLETED OR PROPOSED, AND AVAILABLE FROM THE CONTROLLING JURISDICTION.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS. ANGLES OR BEARINGS SHOWN HEREON ARE FORMATTED IN DEGREES, MINUTES, AND SECONDS. DISTANCES OR ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET, UNLESS NOTED OTHERWISE.
- UNDERGROUND IMPROVEMENTS IF ANY AND NOT VISIBLE AT THE TIME OF THE SURVEY, HAVE NOT BEEN LOCATED IN THE FIELD OR SHOWN HEREON.
- WETLANDS, IF PRESENT, HAVE NOT BEEN LOCATED OR SHOWN HEREON.
- NOT ALL IMPROVEMENTS ON THE PARENT PARCEL BEING SURVEYED ARE SHOWN HEREON.
- REFERENCES:
 A. DEED: BOOK 810, PAGE 34
 B. MAP ENTITLED "PROPOSED TAKING FOR STORAGE RESERVOIRS AND TRANSMISSION MAIN" AS FILED IN THE TOWN CLERKS OFFICE IN THE CITY OF HARTFORD ON 02/16/1993 AS MAP #355.
 C. MAP ENTITLED "COMPILED PLAN MAP SHOWING EASEMENT AREA TO BE GRANTED TO THE CONNECTICUT LIGHT AND POWER COMPANY D/B/A EVERSOURCE ENERGY" AS FILED IN THE TOWN CLERKS OFFICE IN THE CITY OF HARTFORD AS MAP #3400.
 D. CORAL REPORT PREPARED BY SOLIDIFI AS FILE NUMBER ATC-945778-PR; EFFECTIVE DATE 04/27/2018.



- SURVEY LEGEND**
- EXISTING PROPERTY
 - EXISTING ADD. PROPERTY
 - EXISTING LEASE
 - EXISTING BASEMENT
 - EXISTING CONTOUR (MAJOR)
 - EXISTING CONTOUR (MINOR)
 - EXISTING TREELINE
 - EXISTING CHAINLINK FENCE
 - EXISTING OVERHEAD WIRES
 - EXISTING BUILDING
 - EXISTING CONCRETE
 - EXISTING ROAD (STONE)
 - EXISTING ROAD (PAVED)
 - SURVEY IRON PIN FOUND
 - SURVEY BENCHMARK
 - EXISTING UTILITY POLE
 - EXISTING CUP ANCHORS
 - EXISTING ELECTRIC METER
 - EXISTING BOLLARD
 - EXISTING TELEPHONE PULLBOX
 - EXISTING WATER VALVE
 - EXISTING FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING DECIDUOUS TREE
 - MORTGAGE REFERENCE #



1 VICINITY MAP

LEGAL DESCRIPTION

PARENT PARCEL - AS PROVIDED:
 THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF HARTFORD, CITY OF HARTFORD, STATE OF CONNECTICUT, AND IS DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER MARKED BY A METROPOLITAN DISTRICT BOUND WHICH IS ALSO THE SOUTHEAST CORNER OF LOT NO. 1 ON PRINCETON STREET ON SAID MAP OF FORSTER HEIGHTS ABOVE REFERRED TO AND RUNNING SOUTH 3° 00' EAST FOR ABOUT 800 FEET TO A BROWNSTONE MONUMENT; SET IN THE SOUTHWEST CORNER OF THE FIRST PIECE HEREIN ABOVE DESCRIBED; THENCE SOUTH 4° 00' EAST FOR ABOUT 252 FEET TO A FENCE CORNER; THENCE SOUTH 81° 15' WEST FOR ABOUT 482 FEET TO AN ANGLE POINT IN THE FENCE; THENCE SOUTH 81° 45' WEST FOR ABOUT 181 FEET TO A FENCE CORNER; THENCE SOUTH 0° 45' WEST FOR ABOUT 229 FEET TO A FENCE CORNER; THENCE SOUTH 83° 45' WEST FOR ABOUT 391 FEET TO A GRANITE TOWN LINE MONUMENT (INTERSECTION OF NEWINGTON, NETHERSIELD AND HARTFORD TOWN LINES); THENCE SOUTH 83° 45' WEST FOR ABOUT 585 FEET TO A FENCE CORNER; THENCE SOUTH 84° 15' WEST FOR ABOUT 350 FEET TO A GRANITE MONUMENT AND METROPOLITAN DISTRICT BOUND IN THE NEWINGTON AVENUE EAST STREET LINE; THENCE NORTH 8° 15' EAST ALONG THE NEWINGTON AVENUE STREET LINE FOR ABOUT 1.113 FEET TO A METROPOLITAN DISTRICT BOUND; THENCE SOUTH 88° 15' EAST FOR ABOUT 1.540 FEET TO A METROPOLITAN DISTRICT BOUND; THENCE SOUTH 0° 45' WEST FOR ABOUT 458 FEET TO A METROPOLITAN DISTRICT BOUND; THENCE SOUTH 89° 15' EAST FOR ABOUT 150 FEET TO A METROPOLITAN DISTRICT BOUND; THENCE SOUTH 83° 30' EAST FOR ABOUT 484 FEET TO A METROPOLITAN DISTRICT BOUND; THENCE NORTH 81° 45' EAST FOR ABOUT 1.100 FEET TO A METROPOLITAN DISTRICT BOUND; THENCE ALONG A 50-FOOT RADIUS CURVE TO THE LEFT WITH A CENTRAL ANGLE OF 84° 32' FOR AN ARC DISTANCE OF 78.8 FEET TO A METROPOLITAN DISTRICT BOUND; THENCE NORTH 3° 00' WEST FOR ABOUT 811 FEET TO A METROPOLITAN DISTRICT BOUND; THENCE ALONG A 250 FOOT RADIUS CURVE TO THE RIGHT WITH A CENTRAL ANGLE OF 27° 28' FOR AN ARC DISTANCE OF 119.9 FEET TO A METROPOLITAN DISTRICT BOUND; MAKING A POINT OF REVERSE CURVATURE; THENCE ALONG A 200 FOOT RADIUS CURVE TO THE LEFT WITH A CENTRAL ANGLE OF 29° 38' FOR AN ARC DISTANCE OF 103.4 FEET TO A POINT OF TANGENCY; THENCE NORTH 5° 00' WEST FOR ABOUT 2 FEET TO AN 1/2 INCH PIPE MARKING THE SOUTHWEST CORNER OF LOT NO. 3 ON SAID MAP OF FORSTER HEIGHTS ABOVE REFERENCED TO, AND THENCE NORTH 88° 45' EAST FOR ABOUT 150 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT ALL THAT PART OF THE ABOVE DESCRIBED PROPERTY CONVEYED BY THE METROPOLITAN DISTRICT, A MUNICIPAL CORPORATION TO JOSEPH I. FRIEDMAN AND BERNARD I. FRIEDMAN, IN DEED DATED JUNE 8, 1953 AND RECORDED NOVEMBER 3, 1953, IN BOOK 928 PAGE 330.

LESS AND EXCEPT ALL THAT PART OF THE ABOVE DESCRIBED PROPERTY CONVEYED BY THE METROPOLITAN DISTRICT, A CORPORATION TO EDWARD J. PRACHNIAK, IN DEED DATED JULY 19, 1957 AND RECORDED MAY 1, 1990, IN BOOK 3061 PAGE 53.

PARCEL ID # 144714128

THIS BEING A PORTION OF THE SAME PROPERTY CONVEYED TO THE METROPOLITAN DISTRICT, A CORPORATION, FROM HARTFORD HOSPITAL, A CORPORATION, IN DEED DATED FEBRUARY 13, 1947 AND RECORDED FEBRUARY 19, 1947, IN BOOK 810 PAGE 34.

LEASE AREA - AS PROVIDED & SURVEYED:
 A CERTAIN PIECE OR PARCEL OF LAND SITUATED OFF THE WESTERLY SIDE OF MOUNTAIN STREET IN THE CITY OF HARTFORD AND STATE OF CONNECTICUT IS DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT BEING AN IRON PIPE, THENCE PROCEEDING S 78° 28' 50" E A DISTANCE OF 6.94 FEET TO THE POINT OF BEGINNING AT THE SOUTHWEST CORNER OF THE HEREIN DESCRIBED PARCEL:

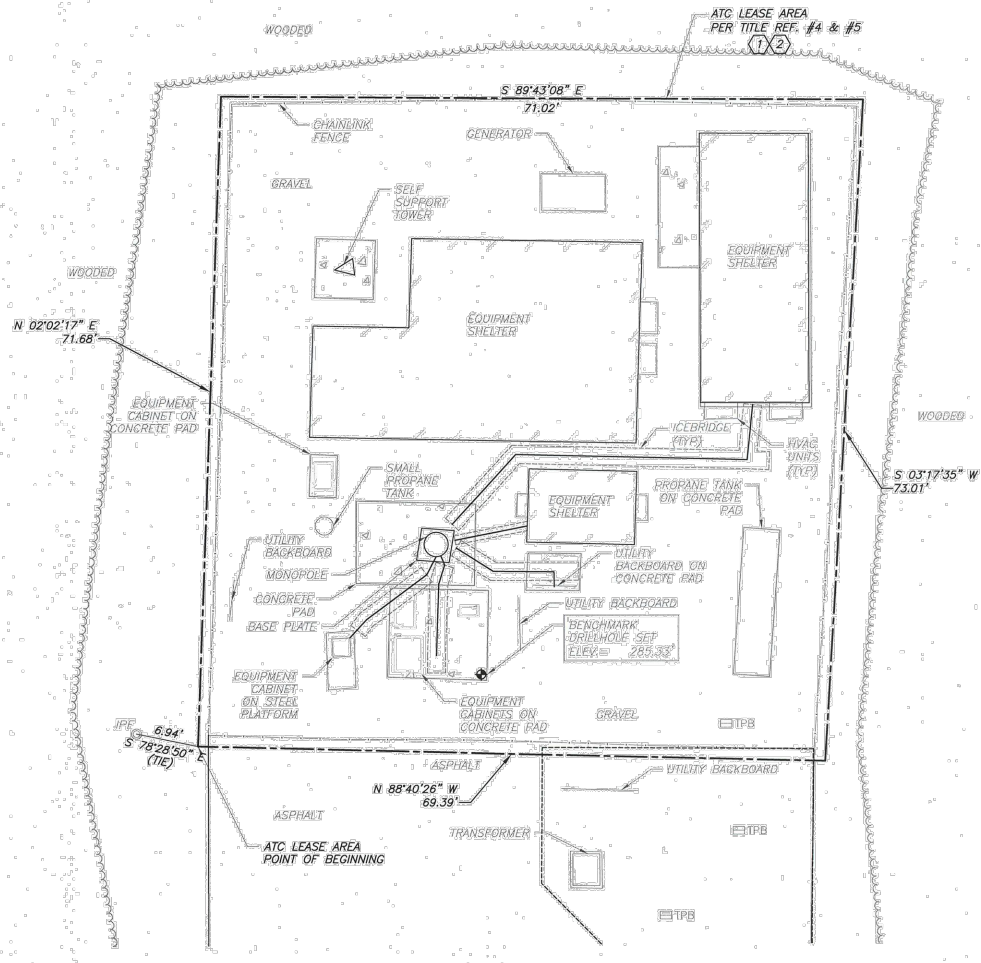
THENCE N 02° 02' 17" E, A DISTANCE OF 71.68 FEET TO A POINT,
 THENCE S 89° 43' 08" E, A DISTANCE OF 71.02 FEET TO A POINT,
 THENCE S 03° 17' 35" W, A DISTANCE OF 73.01 FEET TO A POINT,
 THENCE N 88° 40' 26" W, A DISTANCE OF 89.39 FEET TO THE POINT AND PLACE OF BEGINNING, SAID PARCEL CONTAINS 5.075 SQUARE FEET OR 0.12 ACRES OF LAND, MORE OR LESS.

ACCESS & UTILITY EASEMENT - AS PROVIDED & SURVEYED:
 A RIGHT OF WAY FOR ACCESS AND UTILITIES OVER AN EXISTING ROADWAY AND UTILITY POLE LINE SITUATED ON THAT CERTAIN PARCEL OF LAND IN THE CITY AND COUNTY OF HARTFORD, STATE OF CONNECTICUT, RECORDED IN VOLUME 2032, PAGE 221 OF THE CITY OF HARTFORD LAND RECORDS.

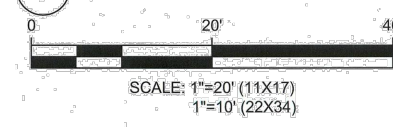
ACCESS TO THE PROPERTY IS GAINED FROM MOUNTAIN STREET, A PUBLIC RIGHT OF WAY IN THE CITY OF HARTFORD AND STATE OF CONNECTICUT, BY PROCEEDING IN A GENERALLY WESTERLY DIRECTION FROM THE INTERSECTION OF STORRS STREET AND MOUNTAIN STREET ALONG A BITUMINOUS CONCRETE ACCESS ROAD, 15' WIDE AT THE NARROWEST POINT, FOR ABOUT 800 FEET TO A BEND TO THE LEFT, PROCEED IN A SOUTHWESTERLY DIRECTION ALONG THE BEND FOR ABOUT 17 TO ANOTHER BITUMINOUS CONCRETE ROAD, 15' IN WIDTH, ON THE RIGHT TURN RIGHT ONTO SAID ROAD, AND PROCEED IN A NORTHWESTERLY DIRECTION FOR ABOUT 140 TO A BEND TO THE RIGHT, THEN PROCEED IN A NORTHERLY DIRECTION FOR APPROXIMATELY 160 FEET TO A 1/4" WIDE GATE AT THE SOUTHERLY FENCE LINE OF THE COMPOUND AREA.

NOTES CORRESPONDING TO TITLE COMMITMENT

- THE SCORE REPORT ISSUED BY SOLIDIFI, FILE NO. ATC-945778-PR WITH A 35 YEAR SEARCH FROM JANUARY 1, 1983 TO APRIL 27, 2018 CONTAINS THE FOLLOWING SURVEY RELATED ITEMS.
- MORTGAGES:**
- AN OPEN ENDED MORTGAGE, DEED OF TRUST OR OTHER LIEN INSTRUMENT FROM AMERICAN TOWER ASSET SUB II, LLC, A DELAWARE LIMITED LIABILITY COMPANY DATED MAY 4, 2007 AND RECORDED MAY 23, 2008, IN (BOOK 6093 (PAGE) 148, OF THE OFFICIAL PROPERTY RECORDS OF HARTFORD COUNTY, CONNECTICUT, IN THE AMOUNT OF \$1,750,000.00, AND IN FAVOR OF AMERICAN TOWER DEPOSITOR SUB, LLC, A DELAWARE LIMITED LIABILITY COMPANY, SHOWN HEREON.
 - AFFECTED BY ASSIGNMENT OF OPEN-END MORTGAGE, FIXTURE FILING AND ASSIGNMENT OF LEASES AND RENTS BETWEEN AMERICAN TOWER DEPOSITOR SUB II, LLC, A DELAWARE LIMITED LIABILITY COMPANY AND LASALLE BANK NATIONAL ASSOCIATION DATED MAY 4, 2007 AND RECORDED DECEMBER 20, 2010, IN BOOK 6404 PAGE 45, IN HARTFORD COUNTY, CONNECTICUT, NOT PLOTTABLE; NO METES AND BOUNDS DESCRIPTION PROVIDED.
- LEASES/EASEMENTS:**
- ALL MATTERS CONTAINED ON THE PLAT OF WATER BUREAU PROPOSED TAKING FOR STORAGE RESERVOIRS AND TRANSMISSION MAIN RECORDED AS MAP NUMBER 355, PUBLIC RECORDS OF HARTFORD COUNTY, CT, NO MATTERS PLOTTABLE.
 - ALL MATTERS CONTAINED ON THE PLAT OF MAP SHOWING EASEMENT AREA RECORDED AS MAP NUMBER 3400, PUBLIC RECORDS OF HARTFORD COUNTY, CT, SHOWN HEREON.
 - NOTICE OF LEASE OPTION BETWEEN THE METROPOLITAN DISTRICT AND DOW AND CONDON, INC. DATED AUGUST 1, 1982 AND RECORDED JANUARY 21, 1983, IN BOOK 2032 PAGE 219, IN HARTFORD COUNTY, CONNECTICUT, NOT PLOTTABLE; NO METES AND BOUNDS DESCRIPTION PROVIDED.
 - AFFECTED BY ASSIGNMENT BETWEEN DOW AND CONDON, INC., A CORPORATION AND SOUTHERN NEW ENGLAND TELEPHONE COMPANY, A CORPORATION DATED OCTOBER 27, 1982 AND RECORDED JANUARY 21, 1983, IN BOOK 2032 PAGE 221, IN HARTFORD COUNTY, CONNECTICUT, NOT PLOTTABLE; NO METES AND BOUNDS DESCRIPTION PROVIDED.
 - MEMORANDUM OF SUBLEASE AND PURCHASE OPTION BETWEEN SPRINGWICH CELLULAR TOWER HOLDINGS LLC, A DELAWARE LIMITED LIABILITY COMPANY AND SOUTHERN TOWERS, INC., A DELAWARE CORPORATION (DOING BUSINESS IN OKLAHOMA AS SOUTHERN TOWERS OF DELAWARE, INC.) DATED JULY 13, 2001 AND RECORDED JULY 7, 2003, IN BOOK 4797 PAGE 166, IN HARTFORD COUNTY, CONNECTICUT, NOT PLOTTABLE; NO METES AND BOUNDS DESCRIPTION PROVIDED.
 - AFFECTED BY AMENDED NOTICE OF LEASE OPTION BETWEEN THE METROPOLITAN DISTRICT, A CONNECTICUT CORPORATION AND SPRINGWICH CELLULAR TOWER HOLDINGS LLC, A DELAWARE LIMITED LIABILITY COMPANY DATED AUGUST 15, 2003 AND RECORDED SEPTEMBER 8, 2003, IN BOOK 4840 PAGE 101, IN HARTFORD COUNTY, CONNECTICUT, SHOWN HEREON.
 - AFFECTED BY CONNECTICUT ASSIGNMENT AND ASSUMPTION OF LEASE OR OTHER AGREEMENT BETWEEN SOUTHERN TOWERS, LLC, A DELAWARE LIMITED LIABILITY COMPANY AND AMERICAN TOWER ASSET SUB II, LLC, A DELAWARE LIMITED LIABILITY COMPANY DATED FEBRUARY 29, 2007 AND RECORDED MAY 23, 2008, IN BOOK 6093 PAGE 142, IN HARTFORD COUNTY, CONNECTICUT, SHOWN HEREON.
 - MEMORANDUM OF LEASE BETWEEN THE METROPOLITAN DISTRICT AND SBC TOWER HOLDINGS, LLC, A DELAWARE LIMITED LIABILITY COMPANY DATED SEPTEMBER 22, 2010 AND RECORDED OCTOBER 29, 2010, IN BOOK 6389 PAGE 1, IN HARTFORD COUNTY, CONNECTICUT, SHOWN HEREON.
 - EASEMENT RIGHTS CONFIRMATION AND LICENSE AGREEMENT BETWEEN THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY, A CONNECTICUT CORPORATION AND AT&T CORP., A NEW YORK CORPORATION DATED OCTOBER 10, 2014 AND RECORDED OCTOBER 16, 2014, IN BOOK 8872 PAGE 148, IN HARTFORD COUNTY, CONNECTICUT, NOT PLOTTABLE; NO METES AND BOUNDS DESCRIPTION PROVIDED.
 - AMENDED MEMORANDUM OF LEASE SUPPLEMENT BETWEEN AMERICAN TOWER ASSET SUB II, LLC AND CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS DATED MARCH 24, 2014 AND RECORDED OCTOBER 21, 2015, IN BOOK 7002 PAGE 284, IN HARTFORD COUNTY, CONNECTICUT, NOT PLOTTABLE; NO METES AND BOUNDS DESCRIPTION PROVIDED.
 - ELECTRIC DISTRIBUTION EASEMENT BETWEEN THE METROPOLITAN DISTRICT AND THE CONNECTICUT LIGHT AND POWER COMPANY DBA EVERSOURCE ENERGY, A SPECIALLY CHARTERED CONNECTICUT CORPORATION DATED SEPTEMBER 4, 2015 AND RECORDED OCTOBER 21, 2015, IN BOOK 7002 PAGE 291, IN HARTFORD COUNTY, CONNECTICUT, SHOWN HEREON.



3 COMPOUND DETAIL



AMERICAN TOWER®
ATC TOWER SERVICES, INC
 3533 REGENCY PARKWAY
 SUITE 133
 CARY, NC 27551
 PHONE: (919) 468-0145
 COA: D-0204

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	ISSUED FOR COMMENT	JR	05/21/18
1	ISSUED	SAA	11/20/18

ATC SITE NUMBER:
302481

ATC SITE NAME:
HRFR-SOUTH CONNECTICUT

SITE ADDRESS:
 289 MOUNTAIN STREET
 HARTFORD, CT 06106

SURVEY CERTIFICATE:
 I HEREBY DECLARE TO, AND ONLY TO, THE INDIVIDUALS LISTED BELOW THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT. THIS MAP AND SURVEY WERE PREPARED IN ACCORDANCE WITH THE STANDARDS OF A CLASS A-1 SURVEY AS DEFINED IN THE "RECOMMENDED STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS PREPARED AND ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC., ON SEPT. 13 1984, EXCEPT AS NOTED.

AMERICAN TOWER CORPORATION

THEODORE S. SHIVELY, No. 7030
 CT LICENSED LAND SURVEYOR

SURVEY LOGO:

Tectonic
 PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.
 Tectonic Engineering & Surveying Consultants P.C.
 Phone: (845) 567-6656
 (860) 828-9531
 www.tectonicengineering.com

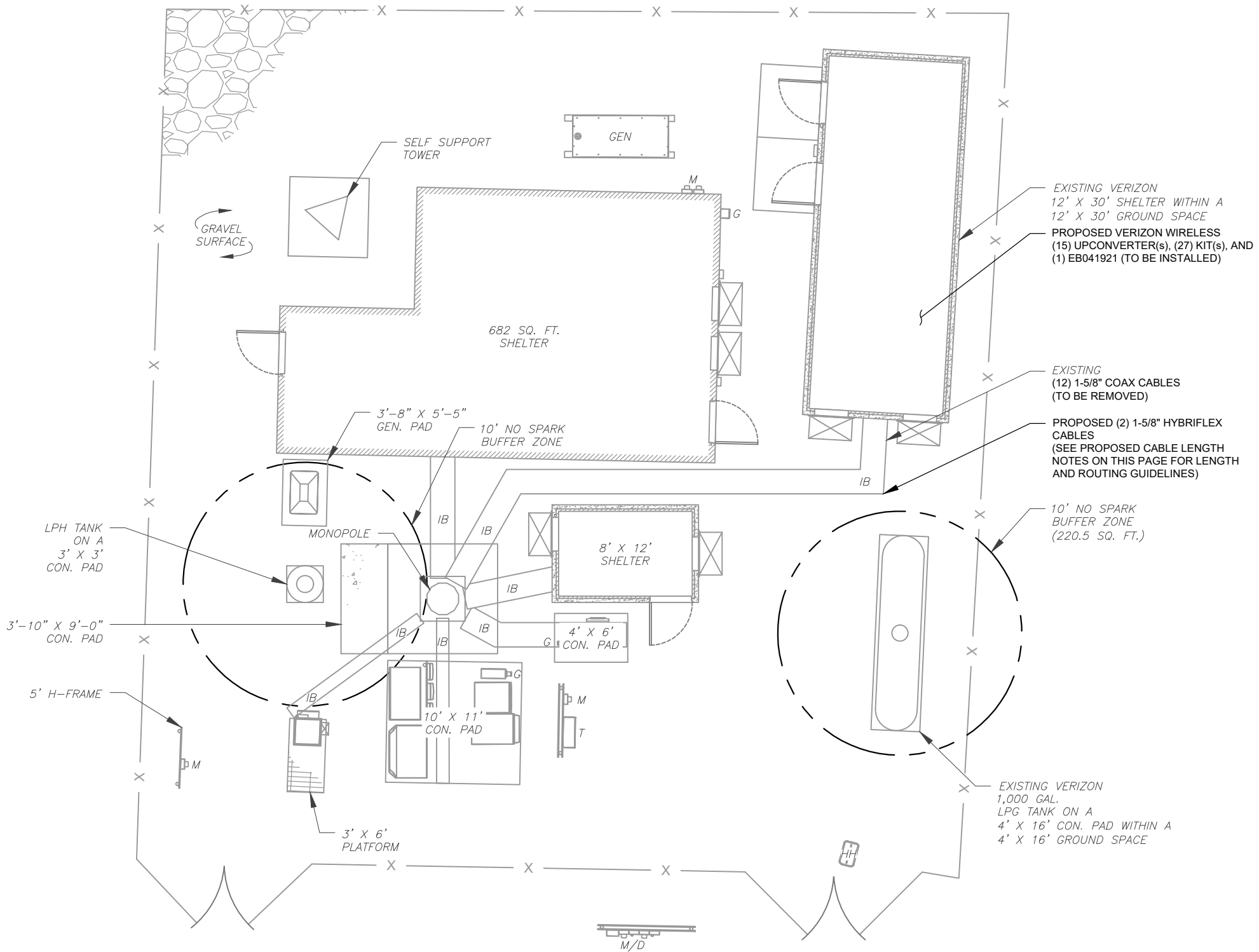
DRAWN BY:	JR
APPROVED BY:	TH
DATE DRAWN:	05/21/18
ATC JOB NO.:	302481

COMPOUND DETAIL & DESCRIPTIONS

SHEET NUMBER:	REVISION:
V-101	1

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.



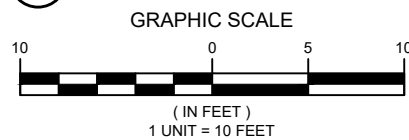
LEGEND

- ⊗ 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

PROPOSED CABLE NOTES:

- ESTIMATED LENGTH OF PROPOSED CABLE IS **178'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
- ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.

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

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	12/29/2023

ATC SITE NUMBER:
302481

ATC SITE NAME:

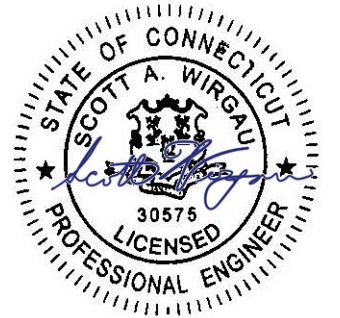
HRFR - SOUTH

VERIZON SITE NAME:

HARTFORD SO III CT

SITE ADDRESS:
289 MOUNTAIN STREET
HARTFORD, CT 06106

SEAL:



Digitally Signed: 2024-01-02

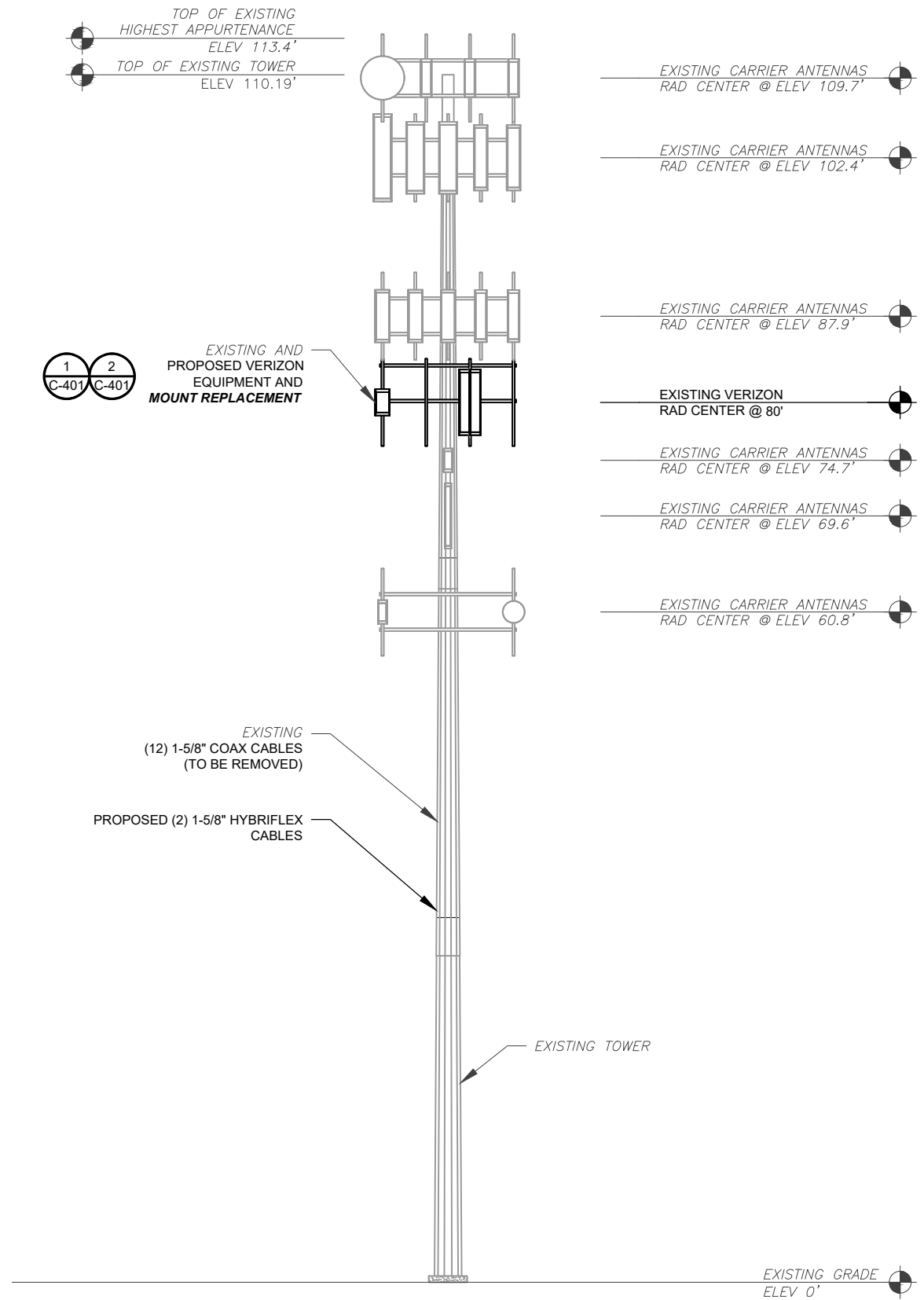


ATC JOB NO: 14568527_GO
 CUSTOMER ID: HARTFORD SO III CT
 CUSTOMER #: 5000392472

DETAILED SITE PLAN

SHEET NUMBER:
C-101

REVISION:
0



1 TOWER ELEVATION
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY COLLIERS ENGINEERING & DESIGN CT, P.C., DATED 09/19/23, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT REPLACEMENT PROPOSED IN THE MOUNT ANALYSIS, INCLUDED 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	12/29/2023

ATC SITE NUMBER:
302481
ATC SITE NAME:
HRFR - SOUTH
VERIZON SITE NAME:
HARTFORD SO III CT
SITE ADDRESS:
289 MOUNTAIN STREET
HARTFORD, CT 06106



Digitally Signed: 2024-01-02



ATC JOB NO: 14568527_GO
CUSTOMER ID: HARTFORD SO III CT
CUSTOMER #: 5000392472

TOWER ELEVATION	
SHEET NUMBER: C-201	REVISION: 0

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.
 - ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
 - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MNC	12/29/2023

ATC SITE NUMBER:
302481
 ATC SITE NAME:
HRFR - SOUTH
 VERIZON SITE NAME:
HARTFORD SO III CT
 SITE ADDRESS:
 289 MOUNTAIN STREET
 HARTFORD, CT 06106



Digitally Signed: 2024-01-02

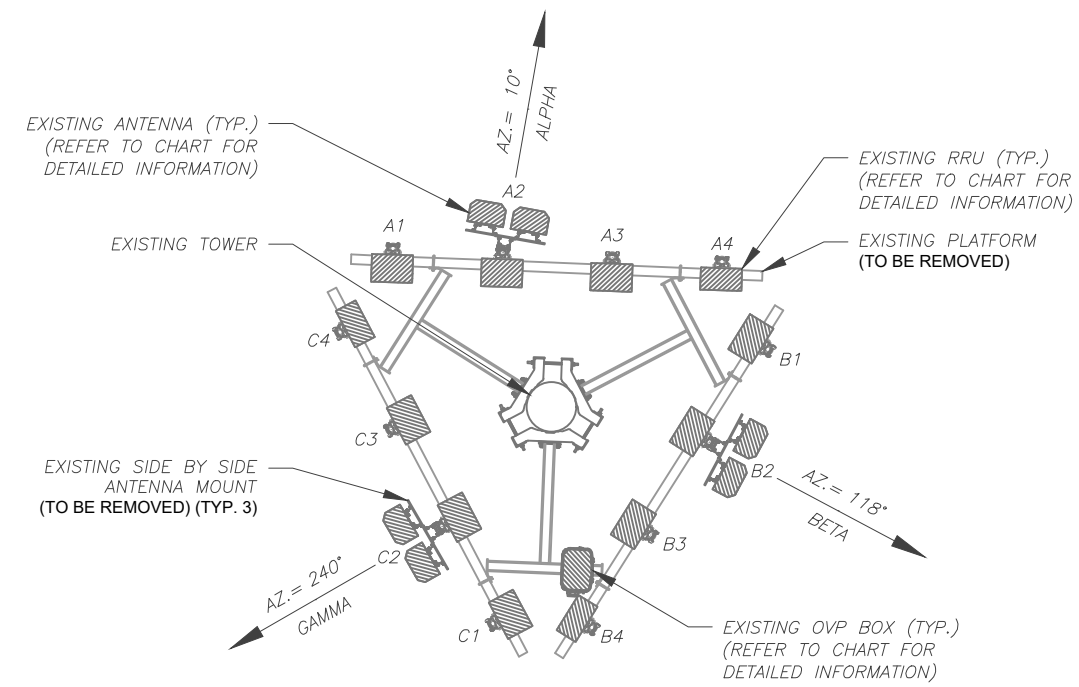


ATC JOB NO: 14568527_GO
 CUSTOMER ID: HARTFORD SO III CT
 CUSTOMER #: 5000392472

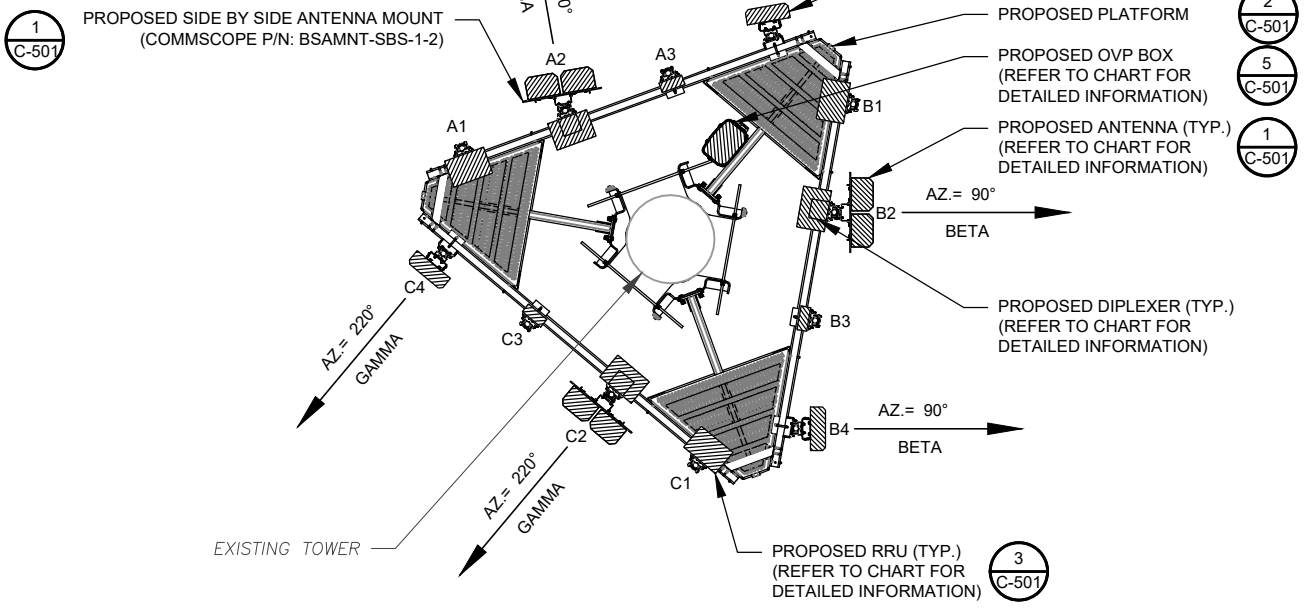
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:
C-401
 REVISION:
0

PER MOUNT ANALYSIS COMPLETED BY COLLIERS ENGINEERING & DESIGN CT, P.C., DATED 09/19/23, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT REPLACEMENT PROPOSED IN THE MOUNT ANALYSIS, INCLUDED 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	80'	10°	A1	-	-	-	UHIE B66A RRH 4X45	RMV	
			A2	(2) JAHH-65B-R3B	L700,L850,L1900, LAWS	RMV	UHBA B13 RRH 4X30	RMV	
			A3	-	-	-	UHFA B25 RRH 4X30	RMV	
			A4	-	-	-	AHCA AIRSCALE RRH 4T4R B5 160W	RMV	
BETA	80'	118°	B1	-	-	-	UHIE B66A RRH 4X45	RMV	
			B2	(2) JAHH-65B-R3B	L700,L850,L1900, LAWS	RMV	UHBA B13 RRH 4X30	RMV	
			B3	-	-	-	UHFA B25 RRH 4X30	RMV	
			B4	-	-	-	AHCA AIRSCALE RRH 4T4R B5 160W	RMV	
GAMMA	80'	240°	C1	-	-	-	UHIE B66A RRH 4X45	RMV	
			C2	(2) JAHH-65B-R3B	L700,L850,L1900, LAWS	RMV	UHBA B13 RRH 4X30	RMV	
			C3	-	-	-	UHFA B25 RRH 4X30	RMV	
			C4	-	-	-	AHCA AIRSCALE RRH 4T4R B5 160W	RMV	

NOTES

- CONFIRM WITH VERIZON REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
- 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'

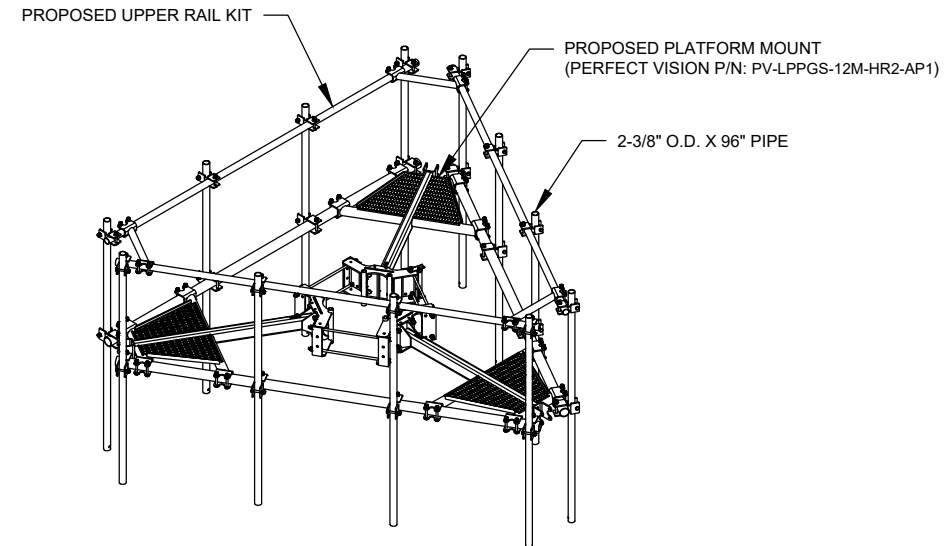
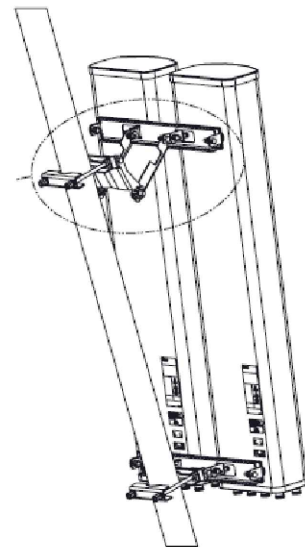
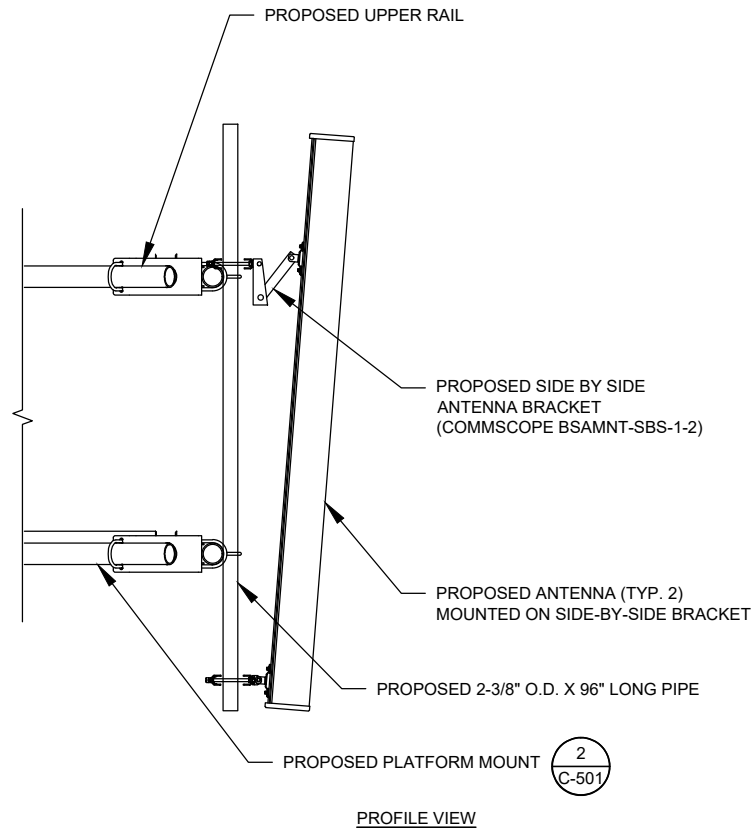
FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS	
ALPHA	80'	350°	A1	-	-	-	RF4439D-25A	ADD	
			A2	NHH-65B-R2B	L700,L850,5G 850,L1900	ADD	RF4461D-13A	ADD	
			A3	NHHSS-65B-R2BT4	LAWS,LCBRS	ADD	CBC78T-DS-43-2X	ADD	
			A4	MT6413-77A	5G L-SUB6	ADD	-	-	
BETA	80'	90°	B1	-	-	-	RF4439D-25A	ADD	
			B2	NHH-65B-R2B	L700,L850,5G 850,L1900	ADD	RF4461D-13A	ADD	
			B3	NHHSS-65B-R2BT4	LAWS,LCBRS	ADD	CBC78T-DS-43-2X	ADD	
			B4	MT6413-77A	5G L-SUB6	ADD	-	-	
GAMMA	80'	220°	C1	-	-	-	RF4439D-25A	ADD	
			C2	NHH-65B-R2B	L700,L850,5G 850,L1900	ADD	RF4461D-13A	ADD	
			C3	NHHSS-65B-R2BT4	LAWS,LCBRS	ADD	CBC78T-DS-43-2X	ADD	
			C4	MT6413-77A	5G L-SUB6	ADD	-	-	

EXISTING FIBER DISTRIBUTION / OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
(1) RVZDC-6627-PF-48	RMV	(12) 1-5/8" COAX CABLES	RMV

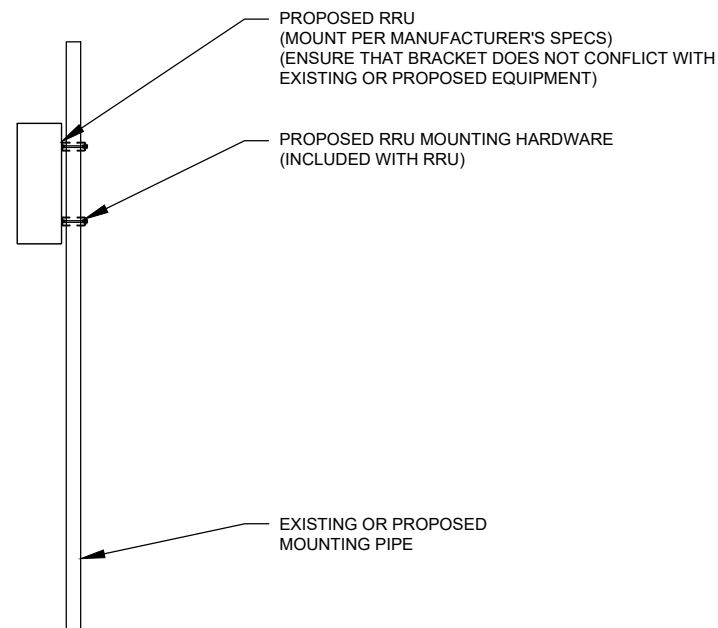
3 EQUIPMENT SCHEDULES

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

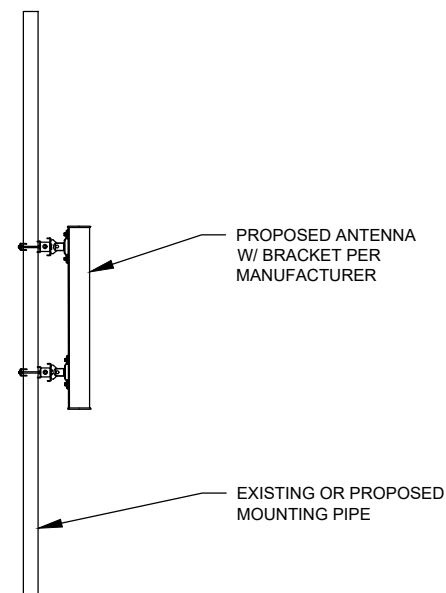
EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.



1 PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION) SCALE: N.T.S.

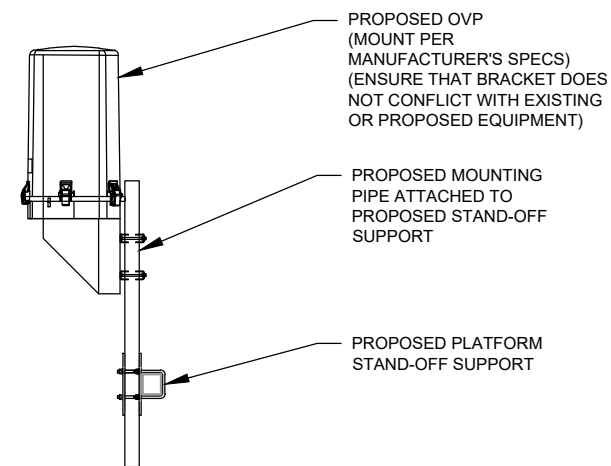


3 PROPOSED RRU MOUNTING DETAIL - TYPICAL SCALE: N.T.S.



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

2 ISOMETRIC PLATFORM DETAIL SCALE: N.T.S.



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



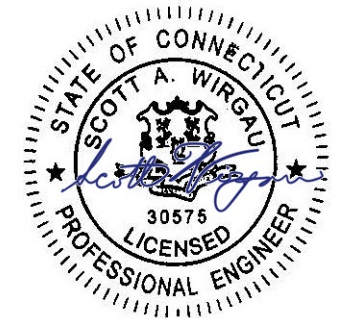
AMERICAN TOWER®
A.T. ENGINEERING SERVICES LLC
 1 FENTON MAIN
 SUITE 300
 CARY, NC 27511
 PHONE: (919) 468-0112
 PEC.0001553

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	12/29/2023

ATC SITE NUMBER:
 302481
 ATC SITE NAME:
 HRFR - SOUTH
 VERIZON SITE NAME:
 HARTFORD SO III CT
 SITE ADDRESS:
 289 MOUNTAIN STREET
 HARTFORD, CT 06106

SEAL:



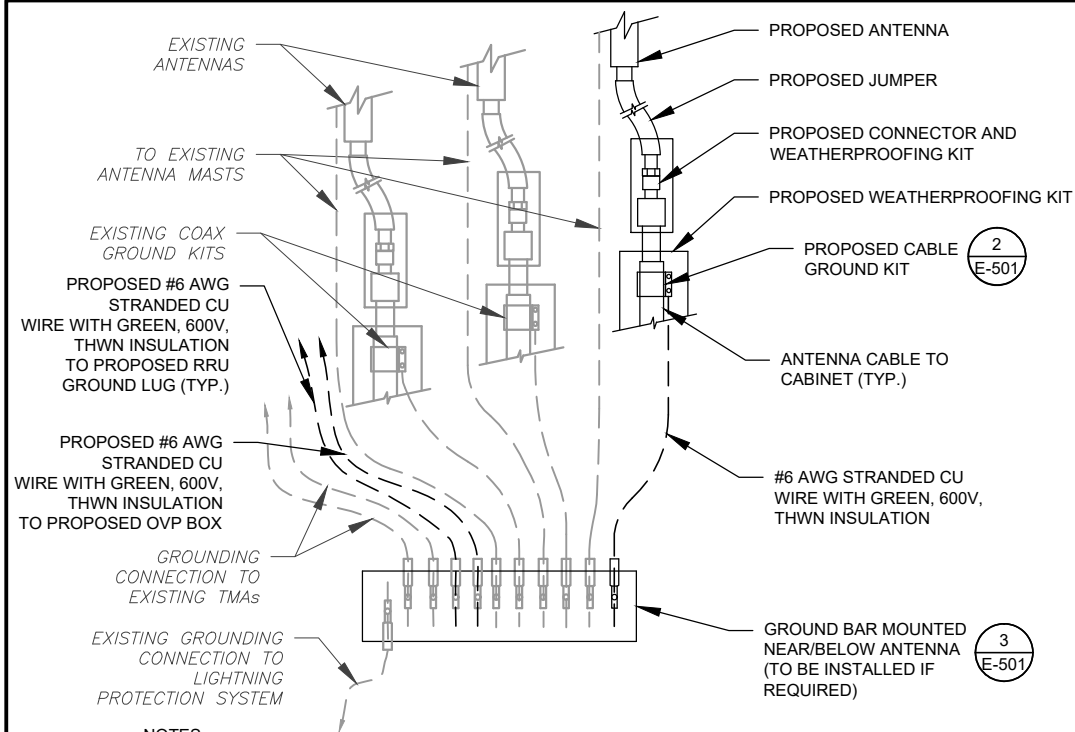
Digitally Signed: 2024-01-02



ATC JOB NO: 14568527_GO
 CUSTOMER ID: HARTFORD SO III CT
 CUSTOMER #: 5000392472

**CONSTRUCTION
 DETAILS**

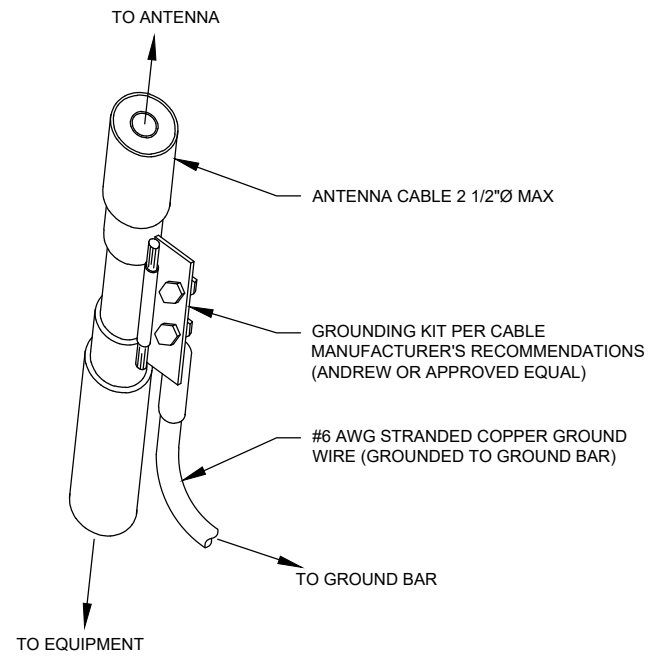
SHEET NUMBER: **C-501** REVISION: **0**



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.

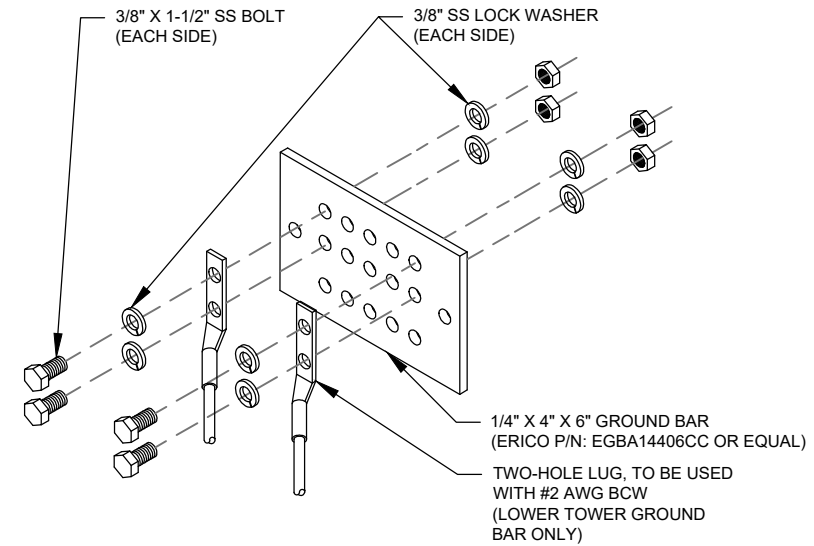
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



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	12/29/2023

ATC SITE NUMBER:

302481

ATC SITE NAME:

HRFR - SOUTH

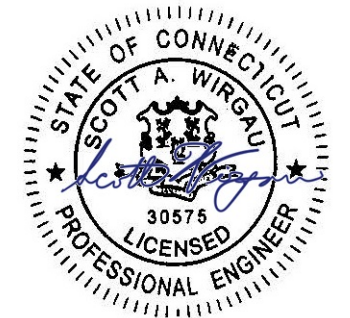
VERIZON SITE NAME:

HARTFORD SO III CT

SITE ADDRESS:

289 MOUNTAIN STREET
HARTFORD, CT 06106

SEAL:



Digitally Signed: 2024-01-02



ATC JOB NO:	14568527_GO
CUSTOMER ID:	HARTFORD SO III CT
CUSTOMER #:	5000392472

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

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

Mount Structural Analysis Report
(1) 12.50-Ft Platform

September 19, 2023
Site ID: 5000392472-VZW / HARTFORD S 3 CT
Page | 5

Requirements:

The proposed antenna mount is **SUFFICIENT** for the final loading configuration (attachment 2) upon completion of the mount replacement (attachment 3) and requirements below.

1. Refer to document at the end of this form for special instructions. Contact EOR if special instructions are not available.

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 Post Installation Inspection (PMI) Report Deliverables
2. Antenna Placement Diagrams
3. Mount Manufacturer Drawings
4. Existing Mount Photos
5. Analysis Calculations

MDG #: **5000392472**
Site Name: **HARTFORD S 3 CT**
Fuze ID #: **16093011**
Colliers Engineering & Design Project #: **21777757**

PMI INSTRUCTIONS:

1. Contractor shall remove existing mount and associated hardware. Contractor shall restore any degradation in galvanization on tower due to removed mount and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote).
2. Contractor shall install the proposed platform mount (Perfect Vision, Part #: PV-LPPGS-12M-HR2-AP1) mounts in accordance with manufacturer specifications and the Mount Replacement Sketch. Contact EOR if these documents are not available.
3. Contractor shall install proposed OVP on a 48" long PIPE 2 SCH 40 attached to standoff horizontal between beta and gamma sectors.
4. Contractor shall inspect climbing facilities and safety climb and ensure they are in good condition. Contractor shall install safety climb wire rope guides in locations where wire rope is rubbing against the mount or mount-to-tower connection steel. Wire brush clean any observed corrosion and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote). Contractor shall provide photos of wire rope guide installation as part of PMI documents. Contact EOR if additional guidance is required.

New/Replacement Antenna Mount Analysis Report and PMI Requirements

Mount Analysis-R

SMART Tool Project #: 10209522
Colliers Engineering & Design CT, P.C. Project #: 21777757

September 19, 2023

Site Information

Site ID: 5000392472-VZW / HARTFORD S 3 CT
Site Name: HARTFORD S 3 CT
Carrier Name: Verizon Wireless
Address: 289H Mountain St
Hartford, Connecticut 06106
Hartford County
Latitude: 41.726583°
Longitude: -72.708167°

Structure Information

Tower Type: 110-Ft Monopole
Mount Type: 12.50-Ft Platform

FUZE ID # 16093011

Analysis Results

Platform: **45.0% Pass w/ Mount Replacement***
((1) PV-LPPGS-12M-HR2-AP1)

*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.vzsmart.com>
For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Prasanna Dhakal



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 CONTRUCTION.

SUPPLEMENTAL

SHEET NUMBER: R-601	REVISION: 0
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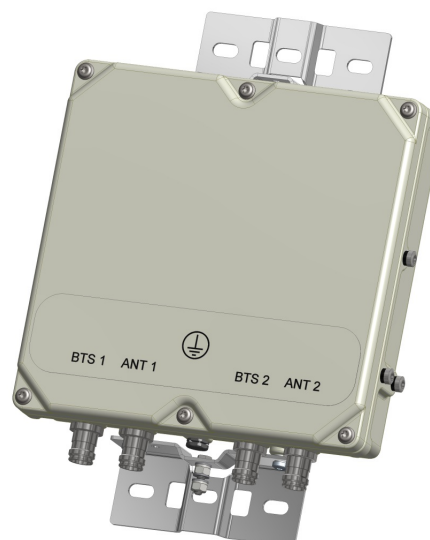
KA-6030

TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The KA-6030 is ideal for co-located 700, 850 and 900 networks. Utilising a 2.6MHz guardband the KA-6030 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the KA-6030 contains two identical bandstop filters, suitable for 2x2 MIMO configuration, offering excellent insertion loss, group delay and rejection.

FEATURES

- Passes full 700 and 850 bands
- Low insertion loss
- Rejection of 900MHz uplink
- DC/AISG pass
- Twin unit
- Dual twin mounting available



TECHNICAL SPECIFICATIONS

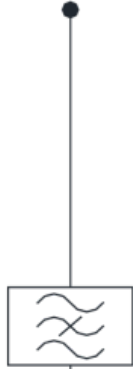
BAND NAME	700 PATH / 850 UPLINK PATH	850 DOWNLINK PATH
Passband	698 - 849MHz	869 - 891.5MHz
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum
Return loss	24dB typical, 18dB minimum	
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz
Rejection	53dB minimum @ 894.1 - 896.5MHz	
ELECTRICAL		
Impedance	50Ohms	
Intermodulation products	-160dBc maximum in UL Band (assuming 20MHz Signal), with 2 x 43dBm carriers -153dBc maximum with 2 x 43dBm	
DC / AISG		
Passband	0 - 13MHz	
Insertion loss	0.3dB maximum	
Return loss	15dB minimum	
Input voltage range	± 33V	
DC current rating	2A continuous, 4A peak	
Compliance	3GPP TS 25.461	
ENVIRONMENTAL		
For further details of environmental compliance, please contact Kaelus.		
Temperature range	-20°C to +60°C -4°F to +140°F	
Ingress protection	IP67	
Altitude	2600m 8530ft	
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 – Unit must be terminated with some lightning protection circuits.	
MTBF	>1,000,000 hours	
Compliance	ETSI EN 300 019 class 4.1H, RoHS, NEBS GR-487-CORE	
MECHANICAL		
Dimensions H x D x W	269 x 277 x 80mm 10.60 x 10.90 x 3.15in (Excluding brackets and connectors)	
Weight	8.0 kg 17.6 lbs (no bracket)	
Finish	Powder coated, light grey (RAL7035)	
Connectors	RF: 4.3-10 (F) x 4	
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.	

ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
KA-6030-2032	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)

ELECTRICAL BLOCK DIAGRAM

ANT1



BTS1

ANT2



BTS2

MECHANICAL BLOCK DIAGRAM

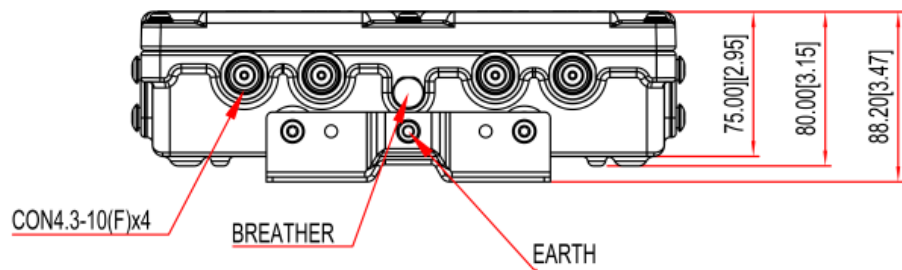
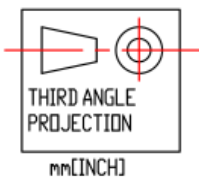
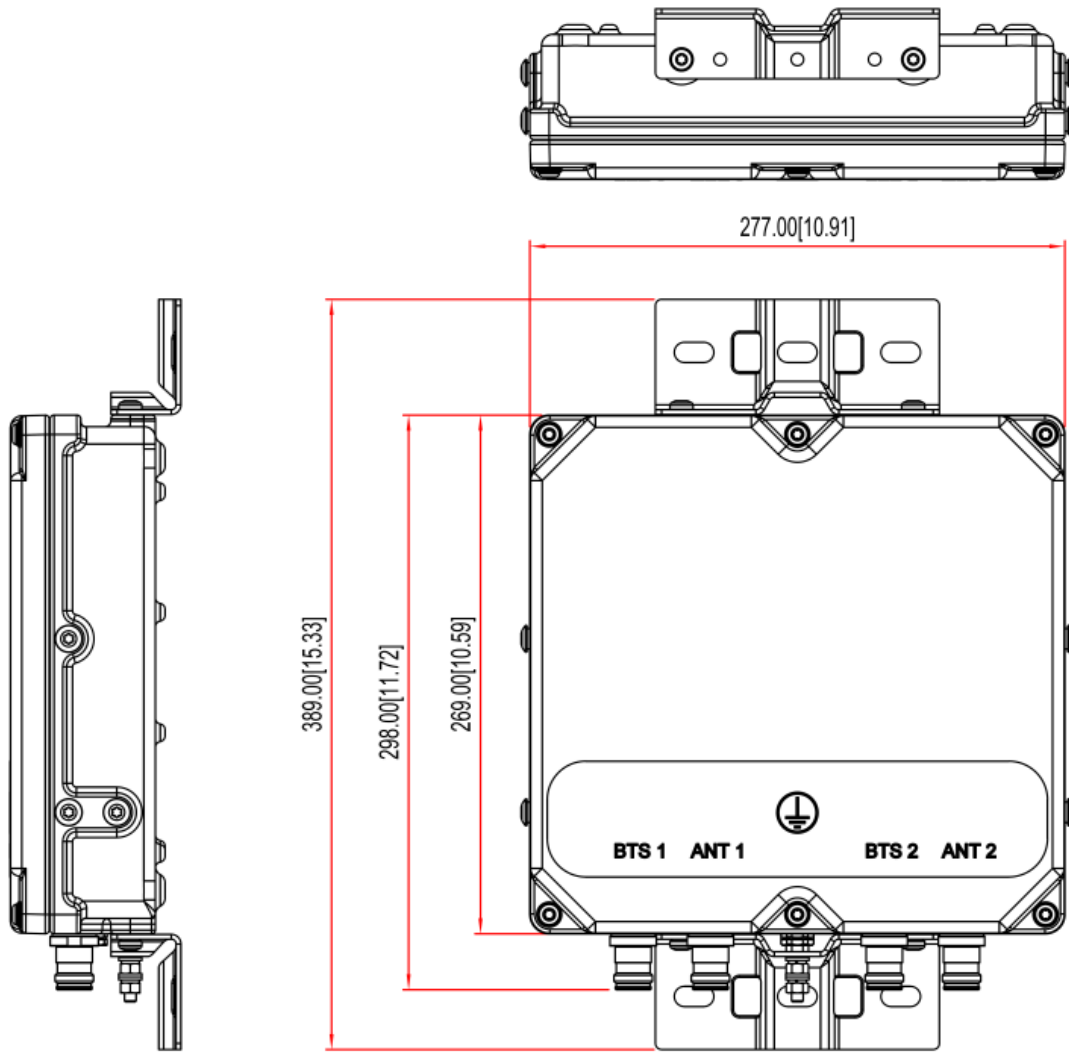


EXHIBIT 2



Unofficial Property Record Card - Hartford, CT

General Property Data

Parcel ID 144-714-129	Account Number
Prior Parcel ID	
Property Owner SPRINGWHICH CELLULAR TOWER HOLDINGS LLC	Property Location 289-H MOUNTAIN ST
Mailing Address 909 CHESTNUT, RM 36-M-1	Property Use OTHER UTILITY
AT & T MOBILITY LLC	Most Recent Sale Date 7/7/2003
City ST LOUIS	Legal Reference 04797-0166
Mailing State MO Zip 63101	Grantor METROPOLITAN DISTRICT BUREAU OF
ParcelZoning CAMP	Sale Price 0
	Land Area 0.000 acres

Current Property Assessment

Card 1 Value	Building Value 18,410	Xtra Features Value 0	Land Value 0	Total Value 18,410
--------------	------------------------------	------------------------------	---------------------	---------------------------

Building Description

Building Style MFG/PROCESS	Foundation Type Concrete	Flooring Type COMBINATION
# of Living Units 0	Frame Type Wood Frame	Basement Floor N/A
Year Built 1984	Roof Structure FLAT	Heating Type N/A
Building Grade Good	Roof Cover Membrane	Heating Fuel N/A
Building Condition N/A	Siding Brick	Air Conditioning 0%
Finished Area (SF) 682	Interior Walls DRYWALL	# of Bsmt Garages 0
Number Rooms 0	# of Bedrooms 0	# of Full Baths 0
# of 3/4 Baths 0	# of 1/2 Baths 0	# of Other Fixtures 0

Legal Description

Narrative Description of Property

This property contains 0.000 acres of land mainly classified as OTHER UTILITY with a(n) MFG/PROCESS style building, built about 1984 , having Brick exterior and Membrane roof cover, with 0 commercial unit(s) and 0 residential unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.



EXHIBIT 3





AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 110 ft Monopole
ATC Asset Name : Hrfr - South
ATC Asset Number : 302481
Engineering Number : 14568527_C3_03
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : HARTFORD SO III CT
Carrier Site Number : 5000392472
Site Location : 289 Mountain Street
Hartford, CT 06106-4121
41.7266° N, 72.7082° W
County : Hartford
Date : December 15, 2023
Max Usage : 94%
Analysis Result : Pass

Created By:

Daniel Hinshaw
Structural Engineer II



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 110 ft Monopole tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower:	Mapped by Smith Cullum Site #CT-0017(A), dated June 6, 2001
Foundation:	Girard & Co Engineering Job #39902, dated April 29, 1988
Geotechnical:	TEP Project #071162.01, dated July 23, 2007
Modification:	ATC Project #42719232, dated January 12, 2009 ATC Project #43595333, dated July 1, 2009 ATC Project #43930034, dated September 15, 2009 ATC Project #44662232, dated March 30, 2010 ATC Project #OAA739695_C6_06, dated February 25, 2019 ATC Project #13251341_C6_06, dated September 4, 2020
Site Specific Study:	ICE Wind Study for Site 302481, dated May 22, 2020

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:	115 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 3
Topographic Category:	4
Crest Height (H):	148 ft
Spectral Response:	S _s = 0.19, S _i = 0.06
Site Class:	D - Stiff Soil - Default

**Wind pressures have been determined per the site-specific climatic study in accordance with ASCE 7-16 Section 26.5.3, IBC Section 1609.3, and TIA-222-H Section 2.6.6.2.3.*

**Ice thickness and wind pressures have been determined per the site-specific climatic study in accordance with ASCE 7-16 Section 10.1.1, IBC Section 1614, and TIA-222-H Section 2.6.4.1.*

**Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222-H, ANNEX-S*

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	67.6%	1.2D + 1.0W	Pass
Reinforcement	88.8%	0 ft to 77 ft	Pass
Upper Termination	88.1%	12 ft to 77.04 ft	Pass
Intermediate Connector	75.6%	12 ft to 77.04 ft	Pass
Lower Termination	27.1%	77 ft to 85 ft	Pass
Serviceability Usage	41.5%	1.0D + 1.0W	Pass
Upper Flange Plate @ 100.0 ft	41.1%	Plate	Pass
Base Plate @ 0.0 ft	85.9%	Stiffener	Pass
Foundation	94.0%	Moment	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Shear (k)
Monopole Base	2,756.5	55.3	37.5

**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
80.0	1	Platform with Handrails	(2) 1 5/8" Hybriflex
	1	Raycap RCMD-6627-PF-48	
	3	Commscope CBC78T-DS-43-2X	
	3	Commscope NHH-65B-R2B	
	3	Commscope NHHSS-65B-R2BT4	
	3	Samsung B2/B66A RRH ORAN (RF 4439d-25A)	
	3	Samsung MT6413-77A	
	3	Samsung RF4461d-13A	
	3	Samsung RT4423-48A	

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines	Carrier
110.0	1	Clearwire Side Arm	(2) 1/2" Coax (1) 2" conduit	CLEARWIRE CORPORATION
109.9	3	Argus LLPX310R	-	CLEARWIRE CORPORATION
109.8	2	DragonWave Horizon Compact	-	CLEARWIRE CORPORATION
109.7	1	DragonWave A-ANT-11G-2.5-C	-	CLEARWIRE CORPORATION
	1	DragonWave A-ANT-23G-1-C		
109.0	1	12" x 12" Junction Box	-	CLEARWIRE CORPORATION
107.0	3	Samsung 1.9GHz RRH	-	CLEARWIRE CORPORATION
104.0	3	Ericsson AIR 6419 B77G	-	AT&T MOBILITY
102.6	2	CCI OPA-65R-LCUU-H6	-	AT&T MOBILITY
102.0	1	CCI DMP65R-BU8DA-K	(3) 0.41" (10.3mm) Fiber (7) 0.92" (23.4mm) Cable (12) 1 5/8" Coax (3) 2" conduit	AT&T MOBILITY
	1	Quintel QD8616-7		
	1	Raycap DC9-48-60-24-8C-EV		
	1	Small Platform with Handrails		
	2	Quintel QD6616-7		
	2	CCI DMP65R-BU6DA		
	2	Quintel QD6616-7		
	2	Raycap DC6-48-60-18-8F(32.8 lbs)		
	3	Ericsson RRUS 32 B30		
	3	Ericsson RRUS 4415 B25		
	3	Ericsson RRUS 4426 B66		
	3	Ericsson RRUS 4449 B5, B12		
	3	Ericsson RRUS 4478 B14		
3	Ericsson RRUS-11			
100.0	3	Ericsson AIR 6449 B77D/ C-Band	-	AT&T MOBILITY
90.0	1	Platform w/ Handrails	(4) 1 1/4" (1.25"- 31.8mm) Fiber	T-MOBILE
	3	Ericsson AIR32 B66Aa/B2a		
	3	Ericsson Air 3246 B66		
	3	Ericsson Air6449 B41		
	3	Ericsson RRUS 4415 B25		
	3	Ericsson Radio 4449 B71 B85A		
	3	RFS APXVAARR24_43-U-NA20		
74.7	1	Scala 840 10212	-	TOWN OF WEST HARTFORD
71.4	1	TX RX Systems 421-86A-10-18-12-N	-	TOWN OF WEST HARTFORD

70.0	1	Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	1	Raycap RDIDC-9181-PF-48		
	3	Fujitsu TA08025-B604		
	3	Fujitsu TA08025-B605		
	3	JMA Wireless MX08FRO665-21		
69.6	3	RFS APXV18-206517S-C	-	METRO PCS INC
63.5	1	Radio Waves SP2-4.7	-	TOWN OF WEST HARTFORD
63.0	1	Radio/ODU	-	TOWN OF WEST HARTFORD
60.8	1	Scala 840 10212	-	TOWN OF WEST HARTFORD
60.0	1	Stand Off	(2) 0.41" (10.3mm) LMR-400 (1) 7/8" Coax	TOWN OF WEST HARTFORD

(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.

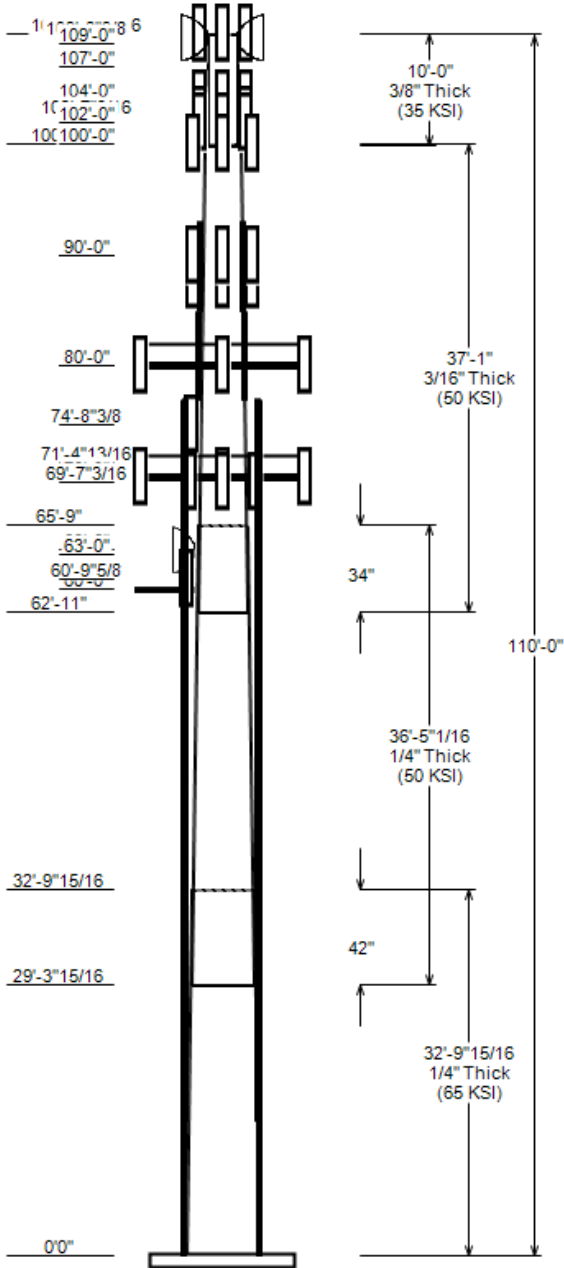
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

ANALYSIS PARAMETERS

Nominal Wind: 112 mph	Ice Wind: 49 mph w/ 1.28" ice	Service Wind: 60 mph
Risk Category: II	Exposure: B	S _w : 0.192 S _i : 0.055
Topo Category: 4	Topo Factor: Method 3	Topo Feature:
Structure Height: 110 ft	Base Elevation: 0.00 ft	Structure Type: Custom
Base Diameter: 30 in	Base Rotation: 0°	Taper: 0.1640 (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	32.830	24.62	30.00	0.250		0.000	12 Sides	65
2	36.420	19.73	25.70	0.250	Slip Joint	42.000	12 Sides	50
3	37.083	14.50	20.57	0.188	Slip Joint	34.000	12 Sides	50
4	10.000	12.75	12.75	0.375	Butt Joint	0.000	Round	35



DISCRETE APPURTENANCE

LINEAR APPURTENANCE

Elev (ft)	Description	Elev To (ft)	Description
110.0	(1) Clearwire Side Arm	110.0	(1) 2" conduit
109.9	(3) Argus LLPX310R	110.0	(2) 1/2" Coax
109.8	(2) DragonWave Horizon Compact	102.0	(3) 2" conduit
109.7	(1) DragonWave A-ANT-23G-1-C	102.0	(6) 1 5/8" Coax
109.7	(1) DragonWave A-ANT-11G-2.5-C	102.0	(6) 1 5/8" Coax
109.0	(1) Generic 12" x 12" Junction Box	102.0	(7) 0.92" (23.4mm) Cable
107.0	(3) Samsung 1.9GHz RRH	102.0	(3) 0.41" (10.3mm) Fiber
104.0	(3) Ericsson AIR 6419 B77G	95.0	(1) 1.25" Thick Flat Plate
102.6	(2) CCI OPA-65R-LCUU-H6	95.0	(1) 1.25" Thick Flat Plate
102.0	(1) Raycap DC9-48-60-24-8C-EV	95.0	(1) 1.25" Thick Flat Plate
102.0	(3) Ericsson RRUS 4426 B66	90.0	(4) 1 1/4" (1.25"- 31.8mm) Fiber
102.0	(3) Ericsson RRUS 4415 B25	87.0	(1) 1.25" Thick Flat Plate
102.0	(3) Ericsson RRUS 4478 B14	87.0	(1) 1.25" Thick Flat Plate
102.0	(3) Ericsson RRUS 4449 B5, B12	87.0	(1) 1.25" Thick Flat Plate
102.0	(3) Ericsson RRUS 32 B30	87.0	(1) 1.25" Thick Flat Plate
102.0	(3) Ericsson RRUS-11	81.0	(1) #20 DYWIDAG
102.0	(2) CCI DMP65R-BU6DA	81.0	(1) #20 DYWIDAG
102.0	(2) Quintel QD6616-7	81.0	(1) #20 DYWIDAG
102.0	(2) Quintel QD6616-7	81.0	(1) #20 DYWIDAG
102.0	(1) CCI DMP65R-BU8DA-K	80.0	(2) 1 5/8" Hybriflex
102.0	(1) Quintel QD8616-7	75.0	(1) 1.25" Thick Flat Plate
102.0	(1) Small Platform with Handrails	75.0	(1) 1.25" Thick Flat Plate
100.0	(3) Ericsson AIR 6449 B77D/ C-Band	75.0	(1) 1.25" Thick Flat Plate
90.0	(3) Ericsson Radio 4449 B71 B85A	75.0	(1) 1.25" Thick Flat Plate
90.0	(3) Ericsson RRUS 4415 B25	75.0	(1) 7/8" Coax
90.0	(3) Ericsson Air6449 B41	70.0	(1) 1.60" (40.6mm) Hybrid
90.0	(3) Ericsson AIR32 B66Aa/B2a	70.0	(6) 1 5/8" Coax
90.0	(3) Ericsson Air 3246 B66	60.0	(1) 7/8" Coax
90.0	(3) RFS APXVAARR24_43-U-NA20	60.0	(2) 0.41" (10.3mm) LMR-400
90.0	(1) Flat Platform w/ Round Handrai	32.5	(1) W5 Bracket
80.0	(3) Commscope CBC78T-DS-43-2X	32.5	(1) W5 Bracket
80.0	(3) Samsung RT4423-48A	32.5	(1) W5 Bracket
80.0	(3) Samsung RF4461d-13A	32.5	(1) W5 Bracket
80.0	(3) Samsung B2/B66A RRH ORAN (RF 4	32.5	(1) #20 Bar
80.0	(3) Samsung MT6413-77A	32.5	(1) #20 Bar
80.0	(1) Raycap RCMD-6627-PF-48	32.5	(1) #20 Bar
80.0	(3) Commscope NHHSS-65B-R2BT4	32.5	(1) #20 Bar
80.0	(3) Commscope NHH-65B-R2B	20.0	(1) 1.25" Thick Flat Plate
80.0	(1) Generic Round Platform with Ha	20.0	(1) 1.25" Thick Flat Plate
74.7	(1) Scala 840 10212	20.0	(1) 1.25" Thick Flat Plate
71.4	(1) TX RX Systems 421-86A-10-18-12	20.0	(1) 1.25" Thick Flat Plate
70.0	(1) Raycap RDIDC-9181-PF-48		
70.0	(3) Fujitsu TA08025-B604		
70.0	(3) Fujitsu TA08025-B605		
70.0	(3) JMA Wireless MX08FRO665-21		
70.0	(1) Generic Round Platform with Ha		
69.6	(3) RFS APXV18-206517S-C		
63.5	(1) Radio Waves SP2-4.7		
63.0	(1) Generic Radio/ODU		
60.8	(1) Scala 840 10212		
60.0	(1) Stand Off		

GLOBAL BASE REACTIONS

Load Case	Moment (kip-ft)	Axial (kip)	Shear (kip)
1.2D + 1.0W	2756.49	55.31	37.49
0.9D + 1.0W	2726.09	41.46	37.45
1.2D + 1.0Di + 1.0Wi	823.40	88.63	10.43
1.2D + 1.0Ev + 1.0Eh	119.82	54.79	1.41
0.9D + 1.0Ev + 1.0Eh	118.16	37.93	1.41
1.0D + 1.0W	704.77	46.16	9.69

DISH SERVICEABILITY

Load Case	Elevation (ft)	Deflection (in)	Rotation (°)
1.0D + 1.0W	63.50	5.786	0.872
1.0D + 1.0W	109.70	16.351	1.264
1.0D + 1.0W	109.70	16.351	1.264

ANALYSIS PARAMETERS

Location:	Hartford County,CT	Height:	110 ft
Type and Shape:	Custom, Round	Base Diameter:	30.00 in
Manufacturer:	ITT Meyer	Top Diameter:	12.75 in
K_d (non-service):	0.95	Taper:	0.1640 in/ft
K_e:	0.99	Rotation:	0.000°

ICE & WIND PARAMETERS

Risk Category:	II	Design Wind Speed:	112 mph
Exposure Category:	B	Design Wind Speed w/ Ice:	49 mph
Topo Factor Procedure:	Method 3	Design Ice Thickness:	1.28 in
Topographic Category:	4	Service Wind Speed:	60 mph
Crest Height:	148 ft	HMSL:	286.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	1.93
T_L (sec):	6	P:	1
S_s:	0.192	S₁:	0.055
F_a:	1.600	F_v:	2.400
S_{ds}:	0.205	S_{d1}:	0.088
		C_s:	0.030
		C_s Max:	0.030
		C_s Min:	0.030

LOAD CASES

1.2D + 1.0W	112.09 mph Wind with No Ice
0.9D + 1.0W	112.09 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	48.73 mph Wind with 1.275" 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)	Weight (lb)	Bottom						Top							
							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)	
1-12	32.83	0.2500	65		0.00	2,434	30.00	0.000	23.95	2,705.5	29.47	120.00	24.62	32.83	19.62	1,488.2	23.71	98.50	0.1637	
2-12	36.42	0.2500	50	Slip	42.00	2,241	25.70	29.330	20.49	1,693.5	24.86	102.79	19.73	65.75	15.69	760.3	18.47	78.94	0.1637	
3-12	37.08	0.1875	50	Slip	34.00	1,322	20.57	62.917	12.31	653.1	26.72	109.72	14.50	100.00	8.64	226.2	18.05	77.33	0.1637	
4-R	10.00	0.3750	35	Butt	0.00	496	12.75	100.000	14.58	279.3	0.00	34.00	12.75	110.00	14.58	279.3	0.00	34.00	0.0000	
Total Shaft Weight						6,493														

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
110.00	Clearwire Side Arm	1	1.00	0.000	560.00	8.500	1.00	928.67	14.096	1.00
109.90	Argus LLPX310R	3	0.80	0.000	28.60	4.292	0.63	113.76	5.855	0.63
109.80	DragonWave Horizon Compact	2	0.80	0.000	10.60	0.721	0.50	31.85	1.259	0.50
109.70	DragonWave A-ANT-11G-2.5-C	1	1.00	0.000	47.60	8.670	0.97	215.07	10.303	0.97
109.70	DragonWave A-ANT-23G-1-C	1	1.00	0.000	15.00	1.610	0.78	48.39	2.326	0.78
109.00	Generic 12" x 12" Junction Box	1	0.80	0.000	10.00	1.200	0.50	49.39	1.886	0.50
107.00	Samsung 1.9GHz RRH	3	0.80	0.000	59.50	2.737	0.50	135.59	3.798	0.50
104.00	Ericsson AIR 6419 B77G	3	0.75	0.000	66.10	3.797	0.65	158.00	5.045	0.65
102.60	CCI OPA-65R-LCUU-H6	2	0.75	0.000	73.00	9.658	0.75	265.83	12.284	0.75
102.00	Quintel QD6616-7	2	0.75	0.000	130.00	15.400	0.73	407.28	18.451	0.73
102.00	Quintel QD6616-7	2	0.75	0.000	130.00	13.578	0.73	407.28	16.268	0.73
102.00	CCI DMP65R-BU6DA	2	0.75	0.000	79.40	12.709	0.72	323.58	15.353	0.72
102.00	Ericsson RRUS-11	3	0.75	0.200	55.00	3.792	0.50	140.10	5.009	0.50
102.00	Ericsson RRUS 32 B30	3	0.75	0.000	60.00	2.743	0.50	129.73	3.852	0.50
102.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	132.09	2.853	0.50
102.00	Ericsson RRUS 4478 B14	3	0.75	0.400	59.90	1.842	0.50	112.31	2.692	0.50
102.00	Small Platform with Handrails	1	1.00	0.000	2000.00	34.800	1.00	3320.72	57.780	1.00
102.00	CCI DMP65R-BU8DA-K	1	0.75	0.000	119.00	17.871	1.00	441.19	21.364	1.00
102.00	Raycap DC9-48-60-24-8C-EV	1	0.75	0.000	16.00	1.010	1.00	58.74	1.542	1.00
102.00	Raycap DC6-48-60-18-8F(32.8 lb	2	0.75	2.900	32.80	1.470	1.00	91.28	2.132	1.00
102.00	Ericsson RRUS 4415 B25	3	0.75	0.000	46.00	1.842	0.50	92.48	2.692	0.50
102.00	Ericsson RRUS 4426 B66	3	0.75	0.400	48.40	1.650	0.50	90.72	2.455	0.50
102.00	Quintel QD8616-7	1	0.75	0.000	150.00	18.815	1.00	510.95	22.319	1.00
100.00	Ericsson AIR 6449 B77D/ C-Band	3	0.75	0.000	81.60	4.028	0.70	192.15	5.330	0.70
90.00	Flat Platform w/ Round Handrai	1	1.00	0.000	2500.00	34.800	1.00	4158.79	57.890	1.00
90.00	Ericsson Air 3246 B66	3	0.75	0.000	180.00	7.939	0.69	2755.45	10.099	0.69
90.00	Ericsson AIR32 B66Aa/B2a	3	0.75	-3.000	132.20	6.510	0.71	284.21	8.596	0.71
90.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	233.80	7.194	0.63
90.00	Ericsson RRUS 4415 B25	3	0.75	0.000	46.00	1.842	0.50	92.70	2.696	0.50
90.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	132.28	2.459	0.50
90.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	501.81	23.775	0.63
80.00	Commscope NHH-65B-R2B	3	0.75	0.000	43.70	8.079	0.69	210.27	10.741	0.69
80.00	Commscope NHHSS-65B-R2BT4	3	0.75	0.000	51.00	8.079	0.69	217.05	10.751	0.69
80.00	Raycap RCMDC-6627-PF-48	1	0.75	0.000	32.00	4.056	1.00	153.42	5.360	1.00
80.00	Samsung MT6413-77A	3	0.75	0.000	57.30	3.805	0.61	138.42	5.074	0.61
80.00	Samsung RF4461d-13A	3	0.75	0.000	79.10	1.875	0.50	140.70	2.737	0.50
80.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4047.44	50.553	1.00
80.00	Samsung RT4423-48A	3	0.75	0.000	18.70	0.855	0.50	40.41	1.451	0.50
80.00	Commscope CBC78T-DS-43-2X	3	0.75	0.000	20.70	0.552	0.50	41.81	1.037	0.50
80.00	Samsung B2/B66A RRH ORAN (RF 4	3	0.75	0.000	74.70	1.875	0.50	135.75	2.735	0.50
74.70	Scala 840 10212	1	1.00	0.000	6.70	2.175	1.00	54.77	3.208	1.00
71.40	TX RX Systems 421-86A-10-18-12	1	1.00	0.000	15.00	2.217	1.00	59.85	3.162	1.00
70.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	119.77	2.843	0.50
70.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	0.50	76.30	2.729	0.50
70.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	135.01	2.843	0.50
70.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	310.72	15.181	0.64
70.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4051.64	50.617	1.00
69.60	RFS APXV18-206517S-C	3	0.80	0.000	26.40	5.160	0.68	115.21	7.427	0.68
63.50	Radio Waves SP2-4.7	1	1.00	0.000	22.00	5.228	0.69	75.17	6.713	0.69

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
63.00	Generic Radio/ODU	1	1.00	0.000	30.00	1.600	0.50	79.08	2.408	0.50
60.80	Scala 840 10212	1	1.00	0.000	6.70	2.175	0.50	54.93	3.211	0.50
60.00	Stand Off	1	1.00	0.000	75.00	2.500	1.00	110.13	3.755	1.00
Totals		Row Count: 52	112		16,987.10			42,255.74		

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	110.00	2	1/2" Coax	0.63	0.15	N	1	0.82	0.82	290	0.82	Y	CLEARWIRE CORPORATI
0.00	110.00	1	2" conduit	2.38	3.65	N	1	1.69	1.69	280	1.69	Y	CLEARWIRE CORPORATI
0.00	102.00	7	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	102.00	6	1 5/8" Coax	1.98	0.82	N	3	0	0	218	0	Y	AT&T MOBILITY
0.00	102.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	102.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	102.00	3	0.41" (10.3mm) Fiber	0.41	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
81.00	95.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	210	0	Y	
81.00	95.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	300	0	Y	
81.00	95.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	30	0	Y	
81.00	95.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	120	0	Y	
0.00	90.00	4	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0	0	0	0	0	N	T-MOBILE
75.00	87.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	300	0	Y	
75.00	87.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	30	0	Y	
75.00	87.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	120	0	Y	
75.00	87.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	210	0	Y	
0.00	81.00	1	#20 DYWIDAG	4	4.68	N	1	0	0	90	0	Y	
0.00	81.00	1	#20 DYWIDAG	4	4.68	N	1	0	0	270	0	Y	
0.00	81.00	1	#20 DYWIDAG	4	4.68	N	1	0	0	0	0	Y	
0.00	81.00	1	#20 DYWIDAG	4	4.68	N	1	0	0	180	0	Y	
0.00	80.00	2	1 5/8" Hybriflex	1.98	1.3	N	2	0.25	0.25	65	1.49	Y	VERIZON WIRELESS
20.00	75.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	30	0	Y	
20.00	75.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	120	0	Y	
20.00	75.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	300	0	Y	
20.00	75.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	210	0	Y	
0.00	75.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	TOWN OF WEST HARTFO
0.00	70.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	METRO PCS INC
0.00	70.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	0	0	0	0	0	N	DISH WIRELESS L.L.C.
0.00	60.00	2	0.41" (10.3mm) LMR-40	0.41	0.07	N	2	0.25	0.25	73	0.71	Y	TOWN OF WEST HARTFO
0.00	60.00	1	7/8" Coax	1.09	0.33	N	1	1.05	1.05	69	1.05	Y	TOWN OF WEST HARTFO
0.00	32.50	1	W5 Bracket	1.55	5.7	Y	1	0	0	190	0	Y	
0.00	32.50	1	#20 Bar	4	0	N	1	0	0	100	0	Y	
0.00	32.50	1	#20 Bar	4	0	N	1	0	0	10	0	Y	
0.00	32.50	1	W5 Bracket	1.55	5.7	Y	1	0	0	100	0	Y	
0.00	32.50	1	#20 Bar	4	0	N	1	0	0	190	0	Y	
0.00	32.50	1	#20 Bar	4	0	N	1	0	0	280	0	Y	
0.00	32.50	1	W5 Bracket	1.55	5.7	Y	1	0	0	280	0	Y	
0.00	32.50	1	W5 Bracket	1.55	5.7	Y	1	0	0	10	0	Y	
0.00	20.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	300	0	Y	
0.00	20.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	120	0	Y	
0.00	20.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	30	0	Y	
0.00	20.00	1	1.25" Thick Flat Plat	1.25	0	Y	1	0	0	210	0	Y	

ADDITIONAL STEEL

Intermediate Connectors

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Bracket Type	Spacing (in)	Length (in)	Connectors	Continuation?
0.00	77.00	4	PL PL 6 x 1.25	58	0.00	AJAX M20 Class 8.8	24.00	3.00	AJAX M20 Class 8.8	Y
0.00	12.00	4	SOL #20 All Thread Bar	80	2.31	6" Angle Bracket	39.00	3.31	5/8" A36 U-Bolt	N
0.00	25.48	4	SOL #20 All Thread Bar	80	5.15	6" T Bracket	30.00	3.31	5/8" A36 U-Bolt	N

ADDITIONAL STEEL

Intermediate Connectors

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Bracket Type	Spacing (in)	Length (in)	Connectors	Continuation?
12.00	77.04	4	SOL #20 All Thread Bar	80	2.31	6" Angle Bracket	30.00	3.31	5/8" A36 U-Bolt	Y
77.00	85.00	4	PL PL 5" x 1.25"	55	0.00	AJAX M20 Class 8.8	24.00	3.00	AJAX M20 Class 8.8	N
85.00	93.00	4	PL PL 5" x 1.25"	55	0.00	AJAX M20 Class 8.8	24.00	3.00	AJAX M20 Class 8.8	Y

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)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.2500	30.000	23.949	2,705.50	29.47	120.00	72.6	174.2	0.0	0.0	69.280	11,676.60	0.0
5.00		0.2500	29.182	23.290	2,488.30	28.60	116.73	73.5	164.7	0.0	401.9	69.280	11,162.60	1,178.0
10.00		0.2500	28.363	22.631	2,283.00	27.72	113.45	74.5	155.5	0.0	390.6	69.280	10,660.40	1,178.0
12.00	Reinf. Top Reinf Bottom	0.2500	28.036	22.367	2,204.20	27.37	112.14	74.9	151.9	0.0	153.1	69.280	10,462.80	471.2
15.00		0.2500	27.545	21.972	2,089.30	26.84	110.18	75.4	146.5	0.0	226.3	69.280	10,170.10	706.8
20.00		0.2500	26.726	21.313	1,906.90	25.97	106.90	76.4	137.8	0.0	368.2	69.280	9,691.60	1,178.0
25.00		0.2500	25.908	20.654	1,735.50	25.09	103.63	77.4	129.4	0.0	357.0	69.280	9,224.90	1,178.0
25.48	Reinf. Top	0.2500	25.829	20.591	1,719.60	25.00	103.32	77.4	128.6	0.0	33.7	69.280	9,180.80	113.1
29.33	Bot - Section 2	0.2500	25.199	20.084	1,595.60	24.33	100.79	78.2	122.3	0.0	266.4	49.640	5,278.00	649.9
30.00		0.2500	25.089	19.995	1,574.70	24.21	100.36	78.3	121.2	0.0	92.3	49.640	5,420.90	113.1
32.83	Top - Section 1	0.2500	25.126	20.025	1,581.60	24.25	100.50	62.7	121.6	0.0	385.4	49.640	5,251.40	477.7
35.00		0.2500	24.771	19.739	1,514.90	23.87	99.08	63	118.1	0.0	146.8	49.640	5,123.30	366.3
40.00		0.2500	23.952	19.080	1,368.20	22.99	95.81	63	110.3	0.0	330.2	49.640	4,834.30	844.0
45.00		0.2500	23.134	18.421	1,231.30	22.11	92.53	63	102.8	0.0	319.0	49.640	4,553.90	844.0
50.00		0.2500	22.315	17.762	1,103.80	21.24	89.26	63	95.6	0.0	307.8	49.640	4,282.00	844.0
55.00		0.2500	21.497	17.103	985.50	20.36	85.99	63	88.6	0.0	296.6	49.640	4,018.60	844.0
60.00		0.2500	20.678	16.445	875.90	19.48	82.71	63	81.8	0.0	285.4	49.640	3,763.80	844.0
60.80		0.2500	20.547	16.339	859.20	19.34	82.19	63	80.8	0.0	44.6	49.640	3,723.80	135.0
62.92	Bot - Section 3	0.2500	20.201	16.060	815.90	18.97	80.80	63	78.0	0.0	116.7	49.640	3,619.10	357.3
63.00		0.2500	20.187	16.049	814.20	18.96	80.75	63	77.9	0.0	8.1	49.640	3,728.30	14.1
63.50		0.2500	20.105	15.983	804.30	18.87	80.42	63	77.3	0.0	48.1	49.640	3,703.40	84.4
65.00		0.2500	19.860	15.786	774.80	18.61	79.44	63	75.4	0.0	143.2	49.640	3,629.30	253.2
65.75	Top - Section 2	0.1875	20.112	12.029	609.50	26.06	107.26	61.4	58.5	0.0	70.9	49.640	3,592.50	126.6
69.60		0.1875	19.481	11.649	553.50	25.16	103.90	62	54.9	0.0	155.1	49.640	3,406.70	649.9
70.00		0.1875	19.416	11.609	547.90	25.07	103.55	62.1	54.5	0.0	15.8	49.640	3,387.60	67.5
71.40		0.1875	19.187	11.471	528.50	24.74	102.33	62.3	53.2	0.0	55.0	49.640	3,321.50	236.3
74.70		0.1875	18.647	11.145	484.70	23.97	99.45	62.9	50.2	0.0	127.0	49.640	3,168.30	557.0
75.00		0.1875	18.598	11.115	480.80	23.90	99.19	63	49.9	0.0	11.4	49.640	3,154.60	50.6
77.00	Reinf. Top Reinf Bottom	0.1875	18.270	10.917	455.60	23.43	97.44	63	48.2	0.0	75.0	49.640	3,063.70	337.6
77.04	Reinf. Top	0.1875	18.264	10.913	455.10	23.42	97.41	63	48.1	0.0	1.5	44.640	2,804.60	6.1
80.00		0.1875	17.779	10.621	419.50	22.73	94.82	63	45.6	0.0	108.4	25.000	1,159.20	252.2
85.00	Reinf. Top Reinf Bottom	0.1875	16.961	10.127	363.60	21.56	90.46	63	41.4	0.0	176.5	25.000	1,064.00	426.0
90.00		0.1875	16.142	9.633	313.00	20.39	86.09	63	37.5	0.0	168.1	25.000	972.90	426.0
93.00	Reinf. Top	0.1875	15.651	9.336	284.90	19.69	83.47	63	35.2	0.0	96.8	25.000	920.30	255.6
95.00		0.1875	15.324	9.138	267.20	19.22	81.73	63	33.7	0.0	62.9			
100.00	Top - Section 3	0.1875	14.505	8.644	226.20	18.05	77.36	63	30.1	0.0	151.3			
100.00	Bot - Section 4	0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4				
102.00		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	99.2			
102.60		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	29.8			
104.00		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	69.5			
105.00		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	49.6			
107.00		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	99.2			
109.00		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	99.2			
109.70		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	34.7			
109.80		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	5.0			
109.90		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	5.0			
110.00		0.3750	12.750	14.579	279.30	0.00	34.00	35	43.8	57.4	5.0			
Totals:											6,493.3	16,065.5		

CALCULATED FORCES

Load Case: 1.2D + 1.0W

112.09 mph Wind with No Ice

24 Iterations

CALCULATED FORCES

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	-55.31	-37.49	0.00	-2,756.5	0.00	2,756.49	1,564.13	420.30	1,179.53	948.21	0	0	0.564
5.00	-52.73	-36.50	0.00	-2,569.0	0.00	2,569.05	1,541.15	408.74	1,115.53	908.36	0.15	-0.26	0.532
10.00	-50.21	-35.72	0.00	-2,386.6	0.00	2,386.57	1,517.04	397.17	1,053.33	868.64	0.57	-0.52	0.501
12.00	-49.18	-35.29	0.00	-2,315.1	0.00	2,315.12	1,507.08	392.55	1,028.94	852.79	0.81	-0.62	0.488
15.00	-47.63	-34.63	0.00	-2,209.2	0.00	2,209.25	1,491.79	385.61	992.90	829.09	1.25	-0.78	0.470
20.00	-45.13	-33.75	0.00	-2,036.1	0.00	2,036.11	1,465.41	374.05	934.26	789.78	2.2	-1.02	0.439
25.00	-42.70	-33.12	0.00	-1,867.4	0.00	1,867.38	1,437.89	362.48	877.41	750.77	3.41	-1.26	0.409
25.48	-42.42	-32.87	0.00	-1,851.5	0.00	1,851.49	1,435.19	361.37	872.05	747.05	3.54	-1.29	0.406
25.48	-42.42	-32.87	0.00	-1,851.5	0.00	1,851.49	1,435.19	361.37	872.05	747.05	3.54	-1.29	0.606
29.33	-40.87	-32.39	0.00	-1,725.0	0.00	1,724.95	1,413.15	352.47	829.62	717.27	4.65	-1.47	0.575
30.00	-40.49	-32.20	0.00	-1,703.2	0.00	1,703.25	1,409.24	350.92	822.34	712.11	4.86	-1.51	0.555
32.83	-39.09	-31.79	0.00	-1,612.1	0.00	1,612.13	1,130.12	270.34	634.44	571.92	5.82	-1.7	0.676
35.00	-38.19	-31.36	0.00	-1,543.1	0.00	1,543.14	1,119.20	266.48	616.46	558.23	6.63	-1.85	0.654
40.00	-36.26	-30.66	0.00	-1,386.3	0.00	1,386.32	1,081.84	257.58	576.00	521.40	8.74	-2.16	0.610
45.00	-34.36	-29.94	0.00	-1,233.0	0.00	1,233.04	1,044.48	248.69	536.92	485.83	11.17	-2.46	0.564
50.00	-32.49	-29.22	0.00	-1,083.3	0.00	1,083.34	1,007.12	239.79	499.21	451.52	13.91	-2.75	0.515
55.00	-30.64	-28.49	0.00	-937.3	0.00	937.26	969.76	230.90	462.88	418.46	16.94	-3.01	0.464
60.00	-28.78	-27.80	0.00	-794.8	0.00	794.82	932.41	222.00	427.91	386.66	20.23	-3.26	0.411
60.80	-28.48	-27.57	0.00	-772.6	0.00	772.58	926.43	220.58	422.45	381.69	20.78	-3.3	0.403
62.92	-27.73	-27.35	0.00	-714.2	0.00	714.23	910.61	216.81	408.15	368.69	22.27	-3.4	0.380
63.00	-27.66	-27.27	0.00	-711.9	0.00	711.94	909.99	216.66	407.59	368.18	22.33	-3.4	0.370
63.50	-27.44	-26.97	0.00	-698.3	0.00	698.31	906.25	215.77	404.26	365.14	22.68	-3.42	0.364
65.00	-26.84	-26.77	0.00	-657.9	0.00	657.86	895.05	213.11	394.32	356.11	23.77	-3.49	0.348
65.75	-26.52	-26.52	0.00	-637.8	0.00	637.78	664.45	162.40	305.24	269.50	24.32	-3.52	0.378
69.60	-25.18	-25.66	0.00	-535.7	0.00	535.68	650.38	157.26	286.24	255.37	27.22	-3.67	0.327
70.00	-21.45	-22.72	0.00	-525.4	0.00	525.41	648.89	156.72	284.30	253.91	27.53	-3.68	0.315
71.40	-20.99	-22.32	0.00	-493.6	0.00	493.60	643.64	154.86	277.57	248.83	28.62	-3.73	0.299
74.70	-19.94	-21.84	0.00	-420.0	0.00	419.96	631.04	150.45	262.01	236.95	31.24	-3.84	0.262
75.00	-19.84	-21.73	0.00	-413.4	0.00	413.41	629.88	150.05	260.62	235.88	31.49	-3.85	0.259
77.00	-19.21	-21.52	0.00	-370.0	0.00	369.95	619.01	147.38	251.44	227.65	33.11	-3.92	0.237
77.00	-19.21	-21.52	0.00	-370.0	0.00	369.95	619.01	147.38	251.44	227.65	33.11	-3.92	0.254
77.04	-19.19	-21.39	0.00	-369.1	0.00	369.09	618.79	147.33	251.26	227.48	33.15	-3.92	0.254
77.04	-19.19	-21.39	0.00	-369.1	0.00	369.09	618.79	147.33	251.26	227.48	33.15	-3.92	0.472
80.00	-14.51	-17.21	0.00	-305.8	0.00	305.79	602.20	143.38	237.97	215.39	35.61	-4	0.399
85.00	-13.54	-16.54	0.00	-219.7	0.00	219.72	574.18	136.71	216.35	195.71	39.93	-4.24	0.307
90.00	-7.62	-10.72	0.00	-137.0	0.00	137.03	546.16	130.04	195.76	176.97	44.48	-4.42	0.199
93.00	-7.09	-10.44	0.00	-104.9	0.00	104.87	529.35	126.04	183.90	166.19	47.28	-4.5	0.160
93.00	-7.09	-10.44	0.00	-104.9	0.00	104.87	529.35	126.04	183.90	166.19	47.28	-4.5	0.651
95.00	-6.93	-10.14	0.00	-84.0	0.00	83.99	518.15	123.37	176.19	159.18	49.17	-4.54	0.548
100.00	-6.30	-9.51	0.00	-33.3	0.00	33.30	459.24	137.77	149.89	150.79	54.12	-4.86	0.239
100.00	-6.30	-9.51	0.00	-33.3	0.00	33.30	490.13	116.70	157.66	142.33	54.12	-4.86	0.253
102.00	-1.80	-2.72	0.00	-13.8	0.00	13.84	459.24	137.77	149.89	150.79	56.16	-4.92	0.096
102.60	-1.64	-2.12	0.00	-12.2	0.00	12.21	459.24	137.77	149.89	150.79	56.78	-4.92	0.085
104.00	-1.34	-1.77	0.00	-9.2	0.00	9.24	459.24	137.77	149.89	150.79	58.22	-4.94	0.064
105.00	-1.28	-1.71	0.00	-7.5	0.00	7.47	459.24	137.77	149.89	150.79	59.26	-4.95	0.052
107.00	-0.96	-1.44	0.00	-4.0	0.00	4.05	459.24	137.77	149.89	150.79	61.33	-4.96	0.029
109.00	-0.83	-1.35	0.00	-1.2	0.00	1.16	459.24	137.77	149.89	150.79	63.41	-4.96	0.010
109.70	-0.75	-0.85	0.00	-0.2	0.00	0.21	459.24	137.77	149.89	150.79	64.13	-4.96	0.003
109.80	-0.72	-0.82	0.00	-0.1	0.00	0.13	459.24	137.77	149.89	150.79	64.24	-4.96	0.002
109.90	-0.64	-0.48	0.00	-0.0	0.00	0.05	459.24	137.77	149.89	150.79	64.34	-4.96	0.002
110.00	0.00	-0.42	0.00	0.0	0.00	0.00	459.24	137.77	149.89	150.79	64.45	-4.96	0.000

CALCULATED FORCES

Load Case: 0.9D + 1.0W

112.09 mph Wind with No Ice (Reduced DL)

24 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	-41.46	-37.45	0.00	-2,726.1	0.00	2,726.09	1,564.13	420.30	1,179.53	948.21	0	0	0.556
5.00	-39.48	-36.40	0.00	-2,538.8	0.00	2,538.82	1,541.15	408.74	1,115.53	908.36	0.14	-0.26	0.524
10.00	-37.58	-35.59	0.00	-2,356.8	0.00	2,356.82	1,517.04	397.17	1,053.33	868.64	0.56	-0.52	0.493
12.00	-36.78	-35.13	0.00	-2,285.6	0.00	2,285.64	1,507.08	392.55	1,028.94	852.79	0.8	-0.62	0.480
15.00	-35.60	-34.43	0.00	-2,180.2	0.00	2,180.24	1,491.79	385.61	992.90	829.09	1.24	-0.77	0.462
20.00	-33.69	-33.51	0.00	-2,008.1	0.00	2,008.09	1,465.41	374.05	934.26	789.78	2.18	-1.01	0.431
25.00	-31.85	-32.87	0.00	-1,840.6	0.00	1,840.55	1,437.89	362.48	877.41	750.77	3.37	-1.25	0.401
25.48	-31.63	-32.60	0.00	-1,824.8	0.00	1,824.78	1,435.19	361.37	872.05	747.05	3.5	-1.27	0.399
25.48	-31.63	-32.60	0.00	-1,824.8	0.00	1,824.78	1,435.19	361.37	872.05	747.05	3.5	-1.27	0.596
29.33	-30.46	-32.11	0.00	-1,699.3	0.00	1,699.28	1,413.15	352.47	829.62	717.27	4.6	-1.45	0.564
30.00	-30.16	-31.90	0.00	-1,677.8	0.00	1,677.77	1,409.24	350.92	822.34	712.11	4.8	-1.49	0.545
32.83	-29.09	-31.47	0.00	-1,587.5	0.00	1,587.51	1,130.12	270.34	634.44	571.92	5.75	-1.68	0.663
35.00	-28.40	-31.01	0.00	-1,519.2	0.00	1,519.22	1,119.20	266.48	616.46	558.23	6.55	-1.82	0.642
40.00	-26.92	-30.26	0.00	-1,364.2	0.00	1,364.19	1,081.84	257.58	576.00	521.40	8.63	-2.13	0.598
45.00	-25.47	-29.52	0.00	-1,212.9	0.00	1,212.88	1,044.48	248.69	536.92	485.83	11.03	-2.43	0.552
50.00	-24.04	-28.77	0.00	-1,065.3	0.00	1,065.30	1,007.12	239.79	499.21	451.52	13.72	-2.71	0.504
55.00	-22.64	-28.03	0.00	-921.4	0.00	921.45	969.76	230.90	462.88	418.46	16.71	-2.97	0.454
60.00	-21.23	-27.35	0.00	-781.3	0.00	781.31	932.41	222.00	427.91	386.66	19.95	-3.21	0.402
60.80	-21.00	-27.11	0.00	-759.4	0.00	759.43	926.43	220.58	422.45	381.69	20.5	-3.25	0.394
62.92	-20.44	-26.90	0.00	-702.0	0.00	702.04	910.61	216.81	408.15	368.69	21.96	-3.35	0.371
63.00	-20.39	-26.82	0.00	-699.8	0.00	699.80	909.99	216.66	407.59	368.18	22.02	-3.35	0.361
63.50	-20.22	-26.51	0.00	-686.4	0.00	686.39	906.25	215.77	404.26	365.14	22.37	-3.37	0.356
65.00	-19.77	-26.32	0.00	-646.6	0.00	646.62	895.05	213.11	394.32	356.11	23.44	-3.44	0.340
65.75	-19.52	-26.06	0.00	-626.9	0.00	626.89	864.45	162.40	305.24	269.50	23.98	-3.47	0.369
69.60	-18.52	-25.21	0.00	-526.6	0.00	526.55	650.38	157.26	286.24	255.37	26.84	-3.61	0.319
70.00	-15.77	-22.34	0.00	-516.5	0.00	516.47	648.89	156.72	284.30	253.91	27.15	-3.63	0.308
71.40	-15.42	-21.93	0.00	-485.2	0.00	485.19	643.64	154.86	277.57	248.83	28.22	-3.68	0.292
74.70	-14.63	-21.47	0.00	-412.8	0.00	412.83	631.04	150.45	262.01	236.95	30.8	-3.79	0.256
75.00	-14.56	-21.35	0.00	-406.4	0.00	406.38	629.88	150.05	260.62	235.88	31.04	-3.8	0.252
77.00	-14.08	-21.15	0.00	-363.7	0.00	363.68	619.01	147.38	251.44	227.65	32.65	-3.86	0.232
77.00	-14.08	-21.15	0.00	-363.7	0.00	363.68	619.01	147.38	251.44	227.65	32.65	-3.86	0.248
77.04	-14.07	-21.01	0.00	-362.8	0.00	362.84	618.79	147.33	251.26	227.48	32.68	-3.86	0.248
77.04	-14.07	-21.01	0.00	-362.8	0.00	362.84	618.79	147.33	251.26	227.48	32.68	-3.86	0.461
80.00	-10.61	-16.92	0.00	-300.6	0.00	300.64	602.20	143.38	237.97	215.39	35.1	-3.94	0.390
85.00	-9.88	-16.25	0.00	-216.0	0.00	216.04	574.18	136.71	216.35	195.71	39.36	-4.18	0.300
90.00	-5.53	-10.55	0.00	-134.8	0.00	134.80	546.16	130.04	195.76	176.97	43.83	-4.35	0.195
93.00	-5.14	-10.28	0.00	-103.2	0.00	103.16	529.35	126.04	183.90	166.19	46.59	-4.43	0.156
93.00	-5.14	-10.28	0.00	-103.2	0.00	103.16	529.35	126.04	183.90	166.19	46.59	-4.43	0.637
95.00	-5.02	-9.97	0.00	-82.6	0.00	82.60	518.15	123.37	176.19	159.18	48.46	-4.47	0.535
100.00	-4.54	-9.35	0.00	-32.7	0.00	32.74	459.24	137.77	149.89	150.79	53.33	-4.78	0.232
100.00	-4.54	-9.35	0.00	-32.7	0.00	32.74	490.13	116.70	157.66	142.33	53.33	-4.78	0.246
102.00	-1.30	-2.67	0.00	-13.6	0.00	13.59	459.24	137.77	149.89	150.79	55.34	-4.84	0.093
102.60	-1.19	-2.08	0.00	-12.0	0.00	11.99	459.24	137.77	149.89	150.79	55.95	-4.85	0.082
104.00	-0.97	-1.74	0.00	-9.1	0.00	9.08	459.24	137.77	149.89	150.79	57.37	-4.86	0.062
105.00	-0.93	-1.68	0.00	-7.3	0.00	7.34	459.24	137.77	149.89	150.79	58.39	-4.87	0.051
107.00	-0.69	-1.42	0.00	-4.0	0.00	3.98	459.24	137.77	149.89	150.79	60.43	-4.88	0.028
109.00	-0.59	-1.33	0.00	-1.1	0.00	1.14	459.24	137.77	149.89	150.79	62.47	-4.89	0.009
109.70	-0.55	-0.83	0.00	-0.2	0.00	0.21	459.24	137.77	149.89	150.79	63.19	-4.89	0.003
109.80	-0.52	-0.80	0.00	-0.1	0.00	0.13	459.24	137.77	149.89	150.79	63.29	-4.89	0.002
109.90	-0.47	-0.47	0.00	-0.0	0.00	0.05	459.24	137.77	149.89	150.79	63.4	-4.89	0.001
110.00	0.00	-0.42	0.00	0.0	0.00	0.00	459.24	137.77	149.89	150.79	63.5	-4.89	0.000

CALCULATED FORCES

Load Case: 1.2D + 1.0Di + 1.0Wi													48.73 mph Wind with 1.275" Radial Ice		23 Iterations
Gust Response Factor:		1.10	Ice Dead Load Factor				1.00	Ice Importance Factor					1.00		
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	-88.63	-10.43	0.00	-823.4	0.00	823.40	1,564.13	420.30	1,179.53	948.21	0	0	0.179		
5.00	-85.55	-10.34	0.00	-771.3	0.00	771.26	1,541.15	408.74	1,115.53	908.36	0.04	-0.08	0.169		
10.00	-82.42	-10.27	0.00	-719.6	0.00	719.57	1,517.04	397.17	1,053.33	868.64	0.17	-0.16	0.160		
12.00	-81.16	-10.23	0.00	-699.0	0.00	699.02	1,507.08	392.55	1,028.94	852.79	0.24	-0.19	0.156		
15.00	-79.26	-10.16	0.00	-668.3	0.00	668.33	1,491.79	385.61	992.90	829.09	0.38	-0.23	0.151		
20.00	-76.12	-10.06	0.00	-617.5	0.00	617.51	1,465.41	374.05	934.26	789.78	0.66	-0.31	0.141		
25.00	-73.00	-9.91	0.00	-567.2	0.00	567.19	1,437.89	362.48	877.41	750.77	1.03	-0.38	0.132		
25.48	-72.70	-9.87	0.00	-562.4	0.00	562.44	1,435.19	361.37	872.05	747.05	1.06	-0.39	0.131		
25.48	-72.70	-9.87	0.00	-562.4	0.00	562.44	1,435.19	361.37	872.05	747.05	1.06	-0.39	0.195		
29.33	-70.61	-9.73	0.00	-524.4	0.00	524.45	1,413.15	352.47	829.62	717.27	1.4	-0.44	0.185		
30.00	-70.19	-9.70	0.00	-517.9	0.00	517.93	1,409.24	350.92	822.34	712.11	1.46	-0.46	0.179		
32.83	-68.44	-9.60	0.00	-490.5	0.00	490.47	1,130.12	270.34	634.44	571.92	1.75	-0.52	0.217		
35.00	-67.38	-9.53	0.00	-469.6	0.00	469.63	1,119.20	266.48	616.46	558.23	2	-0.56	0.210		
40.00	-64.98	-9.36	0.00	-422.0	0.00	421.99	1,081.84	257.58	576.00	521.40	2.64	-0.65	0.197		
45.00	-62.59	-9.18	0.00	-375.2	0.00	375.18	1,044.48	248.69	536.92	485.83	3.37	-0.75	0.182		
50.00	-60.23	-8.98	0.00	-329.3	0.00	329.28	1,007.12	239.79	499.21	451.52	4.2	-0.83	0.167		
55.00	-57.89	-8.76	0.00	-284.4	0.00	284.38	969.76	230.90	462.88	418.46	5.12	-0.91	0.151		
60.00	-55.47	-8.52	0.00	-240.6	0.00	240.57	932.41	222.00	427.91	386.66	6.12	-0.99	0.134		
60.80	-55.05	-8.46	0.00	-233.8	0.00	233.75	926.43	220.58	422.45	381.69	6.29	-1	0.131		
62.92	-54.10	-8.37	0.00	-215.8	0.00	215.84	910.61	216.81	408.15	368.69	6.74	-1.03	0.124		
63.00	-53.98	-8.35	0.00	-215.2	0.00	215.15	909.99	216.66	407.59	368.18	6.76	-1.03	0.121		
63.50	-53.65	-8.27	0.00	-211.0	0.00	210.97	906.25	215.77	404.26	365.14	6.86	-1.04	0.119		
65.00	-52.90	-8.20	0.00	-198.6	0.00	198.56	895.05	213.11	394.32	356.11	7.19	-1.06	0.114		
65.75	-52.53	-8.14	0.00	-192.4	0.00	192.40	664.45	162.40	305.24	269.50	7.36	-1.07	0.121		
69.60	-50.54	-7.85	0.00	-161.1	0.00	161.07	650.38	157.26	286.24	255.37	8.24	-1.11	0.105		
70.00	-44.34	-6.92	0.00	-157.9	0.00	157.93	648.89	156.72	284.30	253.91	8.33	-1.12	0.101		
71.40	-43.69	-6.80	0.00	-148.2	0.00	148.23	643.64	154.86	277.57	248.83	8.66	-1.13	0.096		
74.70	-42.26	-6.62	0.00	-125.8	0.00	125.80	631.04	150.45	262.01	236.95	9.46	-1.16	0.085		
75.00	-42.13	-6.59	0.00	-123.8	0.00	123.81	629.88	150.05	260.62	235.88	9.53	-1.17	0.084		
77.00	-41.30	-6.50	0.00	-110.6	0.00	110.64	619.01	147.38	251.44	227.65	10.03	-1.19	0.077		
77.00	-41.30	-6.50	0.00	-110.6	0.00	110.64	619.01	147.38	251.44	227.65	10.03	-1.19	0.083		
77.04	-41.28	-6.47	0.00	-110.4	0.00	110.38	618.79	147.33	251.26	227.48	10.04	-1.19	0.083		
77.04	-41.28	-6.47	0.00	-110.4	0.00	110.38	618.79	147.33	251.26	227.48	10.04	-1.19	0.154		
80.00	-33.20	-5.14	0.00	-91.2	0.00	91.24	602.20	143.38	237.97	215.39	10.78	-1.21	0.130		
85.00	-31.84	-4.97	0.00	-65.5	0.00	65.53	574.18	136.71	216.35	195.71	12.09	-1.28	0.103		
90.00	-15.29	-3.16	0.00	-40.7	0.00	40.67	546.16	130.04	195.76	176.97	13.47	-1.34	0.064		
93.00	-14.55	-3.07	0.00	-31.2	0.00	31.19	529.35	126.04	183.90	166.19	14.31	-1.36	0.052		
93.00	-14.55	-3.07	0.00	-31.2	0.00	31.19	529.35	126.04	183.90	166.19	14.31	-1.36	0.216		
95.00	-14.27	-2.99	0.00	-25.1	0.00	25.06	518.15	123.37	176.19	159.18	14.89	-1.37	0.186		
100.00	-13.04	-2.78	0.00	-10.1	0.00	10.11	459.24	137.77	149.89	150.79	16.38	-1.47	0.096		
100.00	-13.04	-2.78	0.00	-10.1	0.00	10.11	490.13	116.70	157.66	142.33	16.38	-1.47	0.098		
102.00	-3.83	-0.87	0.00	-4.4	0.00	4.43	459.24	137.77	149.89	150.79	17	-1.48	0.038		
102.60	-3.27	-0.70	0.00	-3.9	0.00	3.91	459.24	137.77	149.89	150.79	17.19	-1.49	0.033		
104.00	-2.66	-0.59	0.00	-2.9	0.00	2.93	459.24	137.77	149.89	150.79	17.62	-1.49	0.025		
105.00	-2.56	-0.55	0.00	-2.4	0.00	2.35	459.24	137.77	149.89	150.79	17.94	-1.49	0.021		
107.00	-1.95	-0.45	0.00	-1.2	0.00	1.24	459.24	137.77	149.89	150.79	18.56	-1.5	0.012		
109.00	-1.70	-0.40	0.00	-0.4	0.00	0.35	459.24	137.77	149.89	150.79	19.19	-1.5	0.006		
109.70	-1.39	-0.27	0.00	-0.1	0.00	0.07	459.24	137.77	149.89	150.79	19.41	-1.5	0.003		
109.80	-1.32	-0.25	0.00	-0.0	0.00	0.04	459.24	137.77	149.89	150.79	19.44	-1.5	0.003		
109.90	-0.99	-0.16	0.00	-0.0	0.00	0.02	459.24	137.77	149.89	150.79	19.47	-1.5	0.002		
110.00	0.00	-0.13	0.00	0.0	0.00	0.00	459.24	137.77	149.89	150.79	19.5	-1.5	0.000		

CALCULATED FORCES

Load Case: 1.0D + 1.0W

60 mph Wind with No Ice

22 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	-46.16	-9.69	0.00	-704.8	0.00	704.77	1,564.13	420.30	1,179.53	948.21	0	0	0.148
5.00	-44.13	-9.41	0.00	-656.3	0.00	656.33	1,541.15	408.74	1,115.53	908.36	0.04	-0.07	0.139
10.00	-42.12	-9.20	0.00	-609.3	0.00	609.28	1,517.04	397.17	1,053.33	868.64	0.14	-0.13	0.131
12.00	-41.32	-9.08	0.00	-590.9	0.00	590.89	1,507.08	392.55	1,028.94	852.79	0.21	-0.16	0.128
15.00	-40.11	-8.90	0.00	-563.6	0.00	563.65	1,491.79	385.61	992.90	829.09	0.32	-0.2	0.123
20.00	-38.12	-8.66	0.00	-519.2	0.00	519.17	1,465.41	374.05	934.26	789.78	0.56	-0.26	0.115
25.00	-36.14	-8.49	0.00	-475.9	0.00	475.89	1,437.89	362.48	877.41	750.77	0.87	-0.32	0.107
25.48	-35.95	-8.42	0.00	-471.8	0.00	471.81	1,435.19	361.37	872.05	747.05	0.9	-0.33	0.106
25.48	-35.95	-8.42	0.00	-471.8	0.00	471.81	1,435.19	361.37	872.05	747.05	0.9	-0.33	0.158
29.33	-34.69	-8.29	0.00	-439.4	0.00	439.40	1,413.15	352.47	829.62	717.27	1.19	-0.37	0.150
30.00	-34.43	-8.24	0.00	-433.8	0.00	433.85	1,409.24	350.92	822.34	712.11	1.24	-0.39	0.145
32.83	-33.32	-8.13	0.00	-410.5	0.00	410.54	1,130.12	270.34	634.44	571.92	1.49	-0.43	0.176
35.00	-32.66	-8.01	0.00	-392.9	0.00	392.90	1,119.20	266.48	616.46	558.23	1.69	-0.47	0.170
40.00	-31.15	-7.82	0.00	-352.8	0.00	352.85	1,081.84	257.58	576.00	521.40	2.23	-0.55	0.158
45.00	-29.65	-7.63	0.00	-313.7	0.00	313.74	1,044.48	248.69	536.92	485.83	2.85	-0.63	0.146
50.00	-28.17	-7.44	0.00	-275.6	0.00	275.58	1,007.12	239.79	499.21	451.52	3.55	-0.7	0.133
55.00	-26.70	-7.25	0.00	-238.4	0.00	238.37	969.76	230.90	462.88	418.46	4.32	-0.77	0.120
60.00	-25.17	-7.07	0.00	-202.1	0.00	202.11	932.41	222.00	427.91	386.66	5.16	-0.83	0.106
60.80	-24.93	-7.01	0.00	-196.4	0.00	196.45	926.43	220.58	422.45	381.69	5.3	-0.84	0.104
62.92	-24.32	-6.96	0.00	-181.6	0.00	181.61	910.61	216.81	408.15	368.69	5.68	-0.87	0.098
63.00	-24.26	-6.94	0.00	-181.0	0.00	181.03	909.99	216.66	407.59	368.18	5.69	-0.87	0.096
63.50	-24.08	-6.86	0.00	-177.6	0.00	177.56	906.25	215.77	404.26	365.14	5.79	-0.87	0.094
65.00	-23.58	-6.81	0.00	-167.3	0.00	167.27	895.05	213.11	394.32	356.11	6.06	-0.89	0.090
65.75	-23.34	-6.74	0.00	-162.2	0.00	162.16	664.45	162.40	305.24	269.50	6.2	-0.9	0.096
69.60	-22.21	-6.52	0.00	-136.2	0.00	136.20	650.38	157.26	286.24	255.37	6.94	-0.93	0.083
70.00	-18.98	-5.78	0.00	-133.6	0.00	133.59	648.89	156.72	284.30	253.91	7.02	-0.94	0.080
71.40	-18.59	-5.68	0.00	-125.5	0.00	125.50	643.64	154.86	277.57	248.83	7.3	-0.95	0.076
74.70	-17.71	-5.55	0.00	-106.8	0.00	106.77	631.04	150.45	262.01	236.95	7.97	-0.98	0.066
75.00	-17.63	-5.52	0.00	-105.1	0.00	105.10	629.88	150.05	260.62	235.88	8.03	-0.98	0.065
77.00	-17.10	-5.47	0.00	-94.0	0.00	94.05	619.01	147.38	251.44	227.65	8.44	-1	0.060
77.00	-17.10	-5.47	0.00	-94.0	0.00	94.05	619.01	147.38	251.44	227.65	8.44	-1	0.065
77.04	-17.09	-5.44	0.00	-93.8	0.00	93.84	618.79	147.33	251.26	227.48	8.45	-1	0.064
77.04	-17.09	-5.44	0.00	-93.8	0.00	93.84	618.79	147.33	251.26	227.48	8.45	-1	0.122
80.00	-13.01	-4.38	0.00	-77.7	0.00	77.74	602.20	143.38	237.97	215.39	9.08	-1.02	0.103
85.00	-12.21	-4.20	0.00	-55.8	0.00	55.85	574.18	136.71	216.35	195.71	10.18	-1.08	0.080
90.00	-6.97	-2.73	0.00	-34.8	0.00	34.85	546.16	130.04	195.76	176.97	11.34	-1.13	0.052
93.00	-6.53	-2.66	0.00	-26.7	0.00	26.67	529.35	126.04	183.90	166.19	12.05	-1.15	0.042
93.00	-6.53	-2.66	0.00	-26.7	0.00	26.67	529.35	126.04	183.90	166.19	12.05	-1.15	0.173
95.00	-6.40	-2.58	0.00	-21.4	0.00	21.36	518.15	123.37	176.19	159.18	12.54	-1.16	0.147
100.00	-5.85	-2.42	0.00	-8.5	0.00	8.47	459.24	137.77	149.89	150.79	13.8	-1.24	0.069
100.00	-5.85	-2.42	0.00	-8.5	0.00	8.47	490.13	116.70	157.66	142.33	13.8	-1.24	0.072
102.00	-1.68	-0.69	0.00	-3.5	0.00	3.52	459.24	137.77	149.89	150.79	14.32	-1.25	0.027
102.60	-1.50	-0.54	0.00	-3.1	0.00	3.10	459.24	137.77	149.89	150.79	14.48	-1.25	0.024
104.00	-1.23	-0.45	0.00	-2.4	0.00	2.35	459.24	137.77	149.89	150.79	14.85	-1.26	0.018
105.00	-1.18	-0.43	0.00	-1.9	0.00	1.90	459.24	137.77	149.89	150.79	15.11	-1.26	0.015
107.00	-0.89	-0.37	0.00	-1.0	0.00	1.03	459.24	137.77	149.89	150.79	15.64	-1.26	0.009
109.00	-0.78	-0.34	0.00	-0.3	0.00	0.30	459.24	137.77	149.89	150.79	16.17	-1.26	0.004
109.70	-0.68	-0.22	0.00	-0.0	0.00	0.05	459.24	137.77	149.89	150.79	16.35	-1.26	0.002
109.80	-0.65	-0.21	0.00	-0.0	0.00	0.03	459.24	137.77	149.89	150.79	16.38	-1.26	0.002
109.90	-0.56	-0.12	0.00	-0.0	0.00	0.01	459.24	137.77	149.89	150.79	16.4	-1.26	0.001
110.00	0.00	-0.11	0.00	0.0	0.00	0.00	459.24	137.77	149.89	150.79	16.43	-1.26	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

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

Spectral Response Acceleration for Short Period (S_S):	0.192
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}):	0.205
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):	1.930
Redundancy Factor (ρ):	1.000
Seismic Force Distribution Exponent (k):	1.720
Total Unfactored Dead Load:	46.170 k
Seismic Base Shear (E):	1.400 k

SEISMIC FORCES

Segment	Seismic	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
45		109.95	5	17	0.000	0	7
44		109.85	5	17	0.000	0	7
43		109.75	5	17	0.000	0	7
42		109.35	37	118	0.002	3	47
41		108	107	329	0.006	8	133
40		106	107	319	0.005	7	133
39		104.5	54	156	0.003	4	66
38		103.3	75	214	0.004	5	93
37		102.3	32	90	0.002	2	40
36		101	162	443	0.007	10	201
35		97.5	307	793	0.013	19	382
34		94	125	304	0.005	7	156
33		91.5	446	1,032	0.017	24	554
32		87.5	771	1,653	0.028	39	957
31		82.5	798	1,547	0.026	36	991
30		78.52	529	941	0.016	22	656
29		77.02	10	17	0.000	0	12
28		76	526	885	0.015	21	653
27		74.85	79	130	0.002	3	98
26		73.05	872	1,372	0.023	32	1,083
25		70.7	371	552	0.009	13	461
24		69.8	109	159	0.003	4	135
23		67.675	1,053	1,452	0.024	34	1,306
22		65.375	246	320	0.005	7	305
21		64.25	493	622	0.010	15	612
20		63.25	165	202	0.003	5	204
19		62.9583	28	34	0.001	1	34
18		61.8583	610	721	0.012	17	757
17		60.4	231	262	0.004	6	287
16		57.5	1,453	1,516	0.025	36	1,804
15		52.5	1,465	1,307	0.022	31	1,818
14		47.5	1,476	1,109	0.019	26	1,832
13		42.5	1,487	924	0.015	22	1,845
12		37.5	1,498	751	0.013	18	1,859
11		33.915	654	276	0.005	6	811
10		31.415	1,103	408	0.007	10	1,369
9		29.665	264	89	0.002	2	328
8		27.405	1,254	367	0.006	9	1,556

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vz}	Horizontal Force (lb)	Vertical Force (lb)
7	25.24	189	48	0.001	1	234
6	22.5	1,973	412	0.007	10	2,449
5	17.5	1,984	269	0.004	6	2,462
4	13.5	1,196	104	0.002	2	1,484
3	11	800	49	0.001	1	992
2	7.5	2,007	64	0.001	1	2,490
1	2.5	2,018	10	0.000	0	2,504
Clearwire Side Arm	110	560	1,777	0.030	42	695
Argus LLPX310R	109.9	86	272	0.004	6	106
DragonWave Horizon Compact	109.8	21	67	0.001	2	26
DragonWave A-ANT-23G-1-C	109.7	15	47	0.001	1	19
DragonWave A-ANT-11G-2.5-C	109.7	48	150	0.002	4	59
Generic 12" x 12" Junction Box	109	10	31	0.000	1	12
Samsung 1.9GHz RRH	107	178	540	0.009	13	222
Ericsson AIR 6419 B77G	104	198	572	0.010	13	246
CCI OPA-65R-LCUU-H6	102.6	146	411	0.007	10	181
Raycap DC9-48-60-24-8C-EV	102	16	45	0.001	1	20
Raycap DC6-48-60-18-8F(32.8 lbs)	102	66	183	0.003	4	81
Ericsson RRUS 4426 B66	102	145	405	0.007	9	180
Ericsson RRUS 4415 B25	102	138	385	0.006	9	171
Ericsson RRUS 4415 B25	90	138	310	0.005	7	171
Ericsson RRUS 4478 B14	102	180	501	0.008	12	223
Ericsson RRUS 4449 B5, B12	102	213	594	0.010	14	264
Ericsson RRUS 32 B30	102	180	502	0.008	12	223
Ericsson RRUS-11	102	165	460	0.008	11	205
CCI DMP65R-BU6DA	102	159	443	0.007	10	197
Quintel QD6616-7	102	260	725	0.012	17	323
Quintel QD6616-7	102	260	725	0.012	17	323
CCI DMP65R-BU8DA-K	102	119	332	0.006	8	148
Quintel QD8616-7	102	150	418	0.007	10	186
Small Platform with Handrails	102	2,000	5,576	0.093	131	2,482
Ericsson AIR 6449 B77D/ C-Band	100	245	660	0.011	15	304
Ericsson Radio 4449 B71 B85A	90	225	506	0.008	12	279
Ericsson Air6449 B41	90	312	702	0.012	16	387
Ericsson AIR32 B66Aa/B2a	90	397	892	0.015	21	492
Ericsson Air 3246 B66	90	540	1,215	0.020	29	670
RFS APXVAARR24_43-U-NA20	90	384	863	0.014	20	476
Flat Platform w/ Round Handrails	90	2,500	5,623	0.094	132	3,102
Commscope CBC78T-DS-43-2X	80	62	114	0.002	3	77
Samsung RT4423-48A	80	56	103	0.002	2	70
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	80	224	412	0.007	10	278
Samsung RF4461d-13A	80	237	436	0.007	10	294
Samsung MT6413-77A	80	172	316	0.005	7	213
Raycap RCMDC-6627-PF-48	80	32	59	0.001	1	40
Commscope NHHSS-65B-R2BT4	80	153	281	0.005	7	190
Commscope NHH-65B-R2B	80	131	241	0.004	6	163
Generic Round Platform with Handrails	80	2,500	4,595	0.077	108	3,102
Generic Round Platform with Handrails	70	2,500	3,654	0.061	86	3,102
Scala 840 10212	74.7	7	11	0.000	0	8
Scala 840 10212	60.8	7	8	0.000	0	8
TX RX Systems 421-86A-10-18-12-N	71.4	15	23	0.000	1	19
Raycap RDIDC-9181-PF-48	70	22	32	0.000	1	27
Fujitsu TA08025-B605	70	225	329	0.006	8	279
Fujitsu TA08025-B604	70	192	280	0.005	7	238
JMA Wireless MX08FRO665-21	70	194	283	0.005	7	240
RFS APXV18-206517S-C	69.6	79	115	0.002	3	98
Radio Waves SP2-4.7	63.5	22	27	0.000	1	27
Generic Radio/ODU	63	30	37	0.001	1	37
Stand Off	60	75	84	0.001	2	93
Totals:		46,168	59,789	1.000	1,403	57,293

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W ₂ (lb-ft)	C _v	Horizontal Force (lb)	Vertical Force (lb)
45	109.95	5	17	0.000	0	5
44	109.85	5	17	0.000	0	5
43	109.75	5	17	0.000	0	5
42	109.35	37	118	0.002	3	32
41	108	107	329	0.006	8	92
40	106	107	319	0.005	7	92
39	104.5	54	156	0.003	4	46
38	103.3	75	214	0.004	5	64
37	102.3	32	90	0.002	2	28
36	101	162	443	0.007	10	139
35	97.5	307	793	0.013	19	264
34	94	125	304	0.005	7	108
33	91.5	446	1,032	0.017	24	383
32	87.5	771	1,653	0.028	39	663
31	82.5	798	1,547	0.026	36	686
30	78.52	529	941	0.016	22	454
29	77.02	10	17	0.000	0	8
28	76	526	885	0.015	21	452
27	74.85	79	130	0.002	3	68
26	73.05	872	1,372	0.023	32	749
25	70.7	371	552	0.009	13	319
24	69.8	109	159	0.003	4	94
23	67.675	1,053	1,452	0.024	34	904
22	65.375	246	320	0.005	7	211
21	64.25	493	622	0.010	15	423
20	63.25	165	202	0.003	5	141
19	62.9583	28	34	0.001	1	24
18	61.8583	610	721	0.012	17	524
17	60.4	231	262	0.004	6	199
16	57.5	1,453	1,516	0.025	36	1,249
15	52.5	1,465	1,307	0.022	31	1,258
14	47.5	1,476	1,109	0.019	26	1,268
13	42.5	1,487	924	0.015	22	1,277
12	37.5	1,498	751	0.013	18	1,287
11	33.915	654	276	0.005	6	562
10	31.415	1,103	408	0.007	10	948
9	29.665	264	89	0.002	2	227
8	27.405	1,254	367	0.006	9	1,077
7	25.24	189	48	0.001	1	162
6	22.5	1,973	412	0.007	10	1,695
5	17.5	1,984	269	0.004	6	1,705
4	13.5	1,196	104	0.002	2	1,027
3	11	800	49	0.001	1	687
2	7.5	2,007	64	0.001	1	1,724
1	2.5	2,018	10	0.000	0	1,734
Clearwire Side Arm	110	560	1,777	0.030	42	481
Argus LLPX310R	109.9	86	272	0.004	6	74
DragonWave Horizon Compact	109.8	21	67	0.001	2	18
DragonWave A-ANT-23G-1-C	109.7	15	47	0.001	1	13
DragonWave A-ANT-11G-2.5-C	109.7	48	150	0.002	4	41
Generic 12" x 12" Junction Box	109	10	31	0.000	1	9
Samsung 1.9GHz RRH	107	178	540	0.009	13	153
Ericsson AIR 6419 B77G	104	198	572	0.010	13	170
CCI OPA-65R-LCUU-H6	102.6	146	411	0.007	10	125
Raycap DC9-48-60-24-8C-EV	102	16	45	0.001	1	14
Raycap DC6-48-60-18-8F(32.8 lbs)	102	66	183	0.003	4	56
Ericsson RRUS 4426 B66	102	145	405	0.007	9	125
Ericsson RRUS 4415 B25	102	138	385	0.006	9	119
Ericsson RRUS 4415 B25	90	138	310	0.005	7	119
Ericsson RRUS 4478 B14	102	180	501	0.008	12	154

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)
Ericsson RRUS 4449 B5, B12	102	213	594	0.010	14	183
Ericsson RRUS 32 B30	102	180	502	0.008	12	155
Ericsson RRUS-11	102	165	460	0.008	11	142
CCI DMP65R-BU6DA	102	159	443	0.007	10	136
Quintel QD6616-7	102	260	725	0.012	17	223
Quintel QD6616-7	102	260	725	0.012	17	223
CCI DMP65R-BU8DA-K	102	119	332	0.006	8	102
Quintel QD8616-7	102	150	418	0.007	10	129
Small Platform with Handrails	102	2,000	5,576	0.093	131	1,718
Ericsson AIR 6449 B77D/ C-Band	100	245	660	0.011	15	210
Ericsson Radio 4449 B71 B85A	90	225	506	0.008	12	193
Ericsson Air6449 B41	90	312	702	0.012	16	268
Ericsson AIR32 B66Aa/B2a	90	397	892	0.015	21	341
Ericsson Air 3246 B66	90	540	1,215	0.020	29	464
RFS APXVAARR24_43-U-NA20	90	384	863	0.014	20	330
Flat Platform w/ Round Handrails	90	2,500	5,623	0.094	132	2,148
Commscope CBC78T-DS-43-2X	80	62	114	0.002	3	53
Samsung RT4423-48A	80	56	103	0.002	2	48
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	80	224	412	0.007	10	193
Samsung RF4461d-13A	80	237	436	0.007	10	204
Samsung MT6413-77A	80	172	316	0.005	7	148
Raycap RCMDC-6627-PF-48	80	32	59	0.001	1	27
Commscope NHHSS-65B-R2BT4	80	153	281	0.005	7	131
Commscope NHH-65B-R2B	80	131	241	0.004	6	113
Generic Round Platform with Handrails	80	2,500	4,595	0.077	108	2,148
Generic Round Platform with Handrails	70	2,500	3,654	0.061	86	2,148
Scala 840 10212	74.7	7	11	0.000	0	6
Scala 840 10212	60.8	7	8	0.000	0	6
TX RX Systems 421-86A-10-18-12-N	71.4	15	23	0.000	1	13
Raycap RDIDC-9181-PF-48	70	22	32	0.000	1	19
Fujitsu TA08025-B605	70	225	329	0.006	8	193
Fujitsu TA08025-B604	70	192	280	0.005	7	165
JMA Wireless MX08FRO665-21	70	194	283	0.005	7	166
RFS APXV18-206517S-C	69.6	79	115	0.002	3	68
Radio Waves SP2-4.7	63.5	22	27	0.000	1	19
Generic Radio/ODU	63	30	37	0.001	1	26
Stand Off	60	75	84	0.001	2	64
Totals:		46,168	59,789	1.000	1,403	39,661

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	-54.79	-1.41	0.00	-119.82	0.00	119.82	1,564.13	420.30	1,180	948.21	0.00	0.00	0.03
5.00	-52.30	-1.42	0.00	-112.78	0.00	112.78	1,541.15	408.74	1,116	908.36	0.01	-0.01	0.03
10.00	-51.31	-1.42	0.00	-105.70	0.00	105.70	1,517.04	397.17	1,053	868.64	0.02	-0.02	0.03
12.00	-49.82	-1.42	0.00	-102.85	0.00	102.85	1,507.08	392.55	1,029	852.79	0.04	-0.03	0.03
12.00	-49.82	-1.42	0.00	-102.85	0.00	102.85	1,507.08	392.55	1,029	852.79	0.04	-0.03	0.03
15.00	-47.36	-1.42	0.00	-98.58	0.00	98.58	1,491.79	385.61	993	829.09	0.05	-0.03	0.03
20.00	-44.91	-1.42	0.00	-91.46	0.00	91.46	1,465.41	374.05	934	789.78	0.10	-0.05	0.03
25.00	-44.68	-1.42	0.00	-84.36	0.00	84.36	1,437.89	362.48	877	750.77	0.15	-0.06	0.03
25.48	-43.12	-1.42	0.00	-83.68	0.00	83.68	1,435.19	361.37	872	747.05	0.16	-0.06	0.03
25.48	-43.12	-1.42	0.00	-83.68	0.00	83.68	1,435.19	361.37	872	747.05	0.16	-0.06	0.04
29.33	-42.79	-1.42	0.00	-78.22	0.00	78.22	1,413.15	352.47	830	717.27	0.21	-0.07	0.03
30.00	-41.42	-1.41	0.00	-77.27	0.00	77.27	1,409.24	350.92	822	712.11	0.21	-0.07	0.03
32.83	-40.61	-1.41	0.00	-73.27	0.00	73.27	1,130.12	270.34	634	571.92	0.26	-0.08	0.04
35.00	-38.75	-1.40	0.00	-70.22	0.00	70.22	1,119.20	266.48	616	558.23	0.29	-0.08	0.04
40.00	-36.91	-1.38	0.00	-63.23	0.00	63.23	1,081.84	257.58	576	521.40	0.39	-0.10	0.04
45.00	-35.07	-1.36	0.00	-56.33	0.00	56.33	1,044.48	248.69	537	485.83	0.50	-0.11	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
50.00	-33.26	-1.33	0.00	-49.53	0.00	49.53	1,007.12	239.79	499	451.52	0.62	-0.12	0.03
55.00	-31.45	-1.30	0.00	-42.87	0.00	42.87	969.76	230.90	463	418.46	0.76	-0.14	0.03
60.00	-31.07	-1.29	0.00	-36.37	0.00	36.37	932.41	222.00	428	386.66	0.91	-0.15	0.03
60.80	-30.31	-1.28	0.00	-35.34	0.00	35.34	926.43	220.58	422	381.69	0.93	-0.15	0.03
62.92	-30.27	-1.28	0.00	-32.64	0.00	32.64	910.61	216.81	408	368.69	1.00	-0.15	0.02
63.00	-30.03	-1.27	0.00	-32.53	0.00	32.53	909.99	216.66	408	368.18	1.00	-0.15	0.02
63.50	-29.39	-1.25	0.00	-31.90	0.00	31.90	906.25	215.77	404	365.14	1.02	-0.15	0.02
65.00	-29.09	-1.25	0.00	-30.01	0.00	30.01	895.05	213.11	394	356.11	1.07	-0.16	0.02
65.75	-27.78	-1.21	0.00	-29.08	0.00	29.08	864.45	162.40	305	269.50	1.09	-0.16	0.02
69.60	-27.55	-1.21	0.00	-24.41	0.00	24.41	650.38	157.26	286	255.37	1.22	-0.17	0.02
70.00	-23.20	-1.07	0.00	-23.93	0.00	23.93	648.89	156.72	284	253.91	1.24	-0.17	0.02
71.40	-22.10	-1.04	0.00	-22.43	0.00	22.43	643.64	154.86	278	248.83	1.28	-0.17	0.02
74.70	-21.99	-1.04	0.00	-18.99	0.00	18.99	631.04	150.45	262	236.95	1.40	-0.17	0.02
75.00	-21.34	-1.02	0.00	-18.68	0.00	18.68	629.88	150.05	261	235.88	1.41	-0.17	0.02
77.00	-21.33	-1.02	0.00	-16.65	0.00	16.65	619.01	147.38	251	227.65	1.49	-0.18	0.02
77.00	-21.33	-1.02	0.00	-16.65	0.00	16.65	619.01	147.38	251	227.65	1.49	-0.18	0.02
77.04	-20.67	-0.99	0.00	-16.61	0.00	16.61	618.79	147.33	251	227.48	1.49	-0.18	0.02
77.04	-20.67	-0.99	0.00	-16.61	0.00	16.61	618.79	147.33	251	227.48	1.49	-0.18	0.03
80.00	-15.25	-0.79	0.00	-13.68	0.00	13.68	602.20	143.38	238	215.39	1.60	-0.18	0.02
85.00	-14.30	-0.75	0.00	-9.74	0.00	9.74	574.18	136.71	216	195.71	1.80	-0.19	0.02
85.00	-14.30	-0.75	0.00	-9.74	0.00	9.74	574.18	136.71	216	195.71	1.80	-0.19	0.02
90.00	-8.16	-0.47	0.00	-6.01	0.00	6.01	546.16	130.04	196	176.97	2.00	-0.20	0.01
93.00	-8.01	-0.46	0.00	-4.61	0.00	4.61	529.35	126.04	184	166.19	2.13	-0.20	0.01
93.00	-8.01	-0.46	0.00	-4.61	0.00	4.61	529.35	126.04	184	166.19	2.13	-0.20	0.04
95.00	-7.63	-0.44	0.00	-3.69	0.00	3.69	518.15	123.37	176	159.18	2.21	-0.20	0.04
100.00	-7.12	-0.41	0.00	-1.50	0.00	1.50	490.13	116.70	158	142.33	2.44	-0.22	0.03
100.00	-7.12	-0.41	0.00	-1.50	0.00	1.50	459.24	137.77	150	150.79	2.44	-0.22	0.03
102.00	-2.06	-0.13	0.00	-0.67	0.00	0.67	459.24	137.77	150	150.79	2.53	-0.22	0.01
102.60	-1.78	-0.11	0.00	-0.60	0.00	0.60	459.24	137.77	150	150.79	2.56	-0.22	0.01
104.00	-1.47	-0.09	0.00	-0.44	0.00	0.44	459.24	137.77	150	150.79	2.62	-0.22	0.01
105.00	-1.34	-0.08	0.00	-0.35	0.00	0.35	459.24	137.77	150	150.79	2.67	-0.22	0.01
107.00	-0.98	-0.06	0.00	-0.18	0.00	0.18	459.24	137.77	150	150.79	2.76	-0.22	0.00
109.00	-0.93	-0.06	0.00	-0.06	0.00	0.06	459.24	137.77	150	150.79	2.86	-0.22	0.00
109.70	-0.84	-0.05	0.00	-0.01	0.00	0.01	459.24	137.77	150	150.79	2.89	-0.22	0.00
109.80	-0.81	-0.05	0.00	-0.01	0.00	0.01	459.24	137.77	150	150.79	2.89	-0.22	0.00
109.90	-0.69	-0.04	0.00	0.00	0.00	0.00	459.24	137.77	150	150.79	2.90	-0.22	0.00
110.00	0.00	-0.04	0.00	0.00	0.00	0.00	459.24	137.77	150	150.79	2.90	-0.22	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	-37.93	-1.41	0.00	-118.16	0.00	118.16	1,564.13	420.30	1,180	948.21	0.00	0.00	0.03
5.00	-36.20	-1.41	0.00	-111.13	0.00	111.13	1,541.15	408.74	1,116	908.36	0.01	-0.01	0.03
10.00	-35.52	-1.41	0.00	-104.07	0.00	104.07	1,517.04	397.17	1,053	868.64	0.02	-0.02	0.03
12.00	-34.49	-1.42	0.00	-101.25	0.00	101.25	1,507.08	392.55	1,029	852.79	0.03	-0.03	0.03
12.00	-34.49	-1.42	0.00	-101.25	0.00	101.25	1,507.08	392.55	1,029	852.79	0.03	-0.03	0.03
15.00	-32.78	-1.41	0.00	-97.00	0.00	97.00	1,491.79	385.61	993	829.09	0.05	-0.03	0.03
20.00	-31.09	-1.41	0.00	-89.93	0.00	89.93	1,465.41	374.05	934	789.78	0.10	-0.04	0.02
25.00	-30.93	-1.41	0.00	-82.89	0.00	82.89	1,437.89	362.48	877	750.77	0.15	-0.06	0.02
25.48	-29.85	-1.40	0.00	-82.22	0.00	82.22	1,435.19	361.37	872	747.05	0.15	-0.06	0.02
25.48	-29.85	-1.40	0.00	-82.22	0.00	82.22	1,435.19	361.37	872	747.05	0.15	-0.06	0.03
29.33	-29.62	-1.40	0.00	-76.82	0.00	76.82	1,413.15	352.47	830	717.27	0.20	-0.06	0.03
30.00	-28.67	-1.39	0.00	-75.88	0.00	75.88	1,409.24	350.92	822	712.11	0.21	-0.07	0.03
32.83	-28.11	-1.39	0.00	-71.93	0.00	71.93	1,130.12	270.34	634	571.92	0.25	-0.07	0.04
35.00	-26.82	-1.38	0.00	-68.91	0.00	68.91	1,119.20	266.48	616	558.23	0.29	-0.08	0.04
40.00	-25.55	-1.36	0.00	-62.02	0.00	62.02	1,081.84	257.58	576	521.40	0.38	-0.10	0.03
45.00	-24.28	-1.34	0.00	-55.23	0.00	55.23	1,044.48	248.69	537	485.83	0.49	-0.11	0.03
50.00	-23.02	-1.31	0.00	-48.54	0.00	48.54	1,007.12	239.79	499	451.52	0.61	-0.12	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
55.00	-21.77	-1.27	0.00	-42.00	0.00	42.00	969.76	230.90	463	418.46	0.74	-0.13	0.03
60.00	-21.51	-1.27	0.00	-35.63	0.00	35.63	932.41	222.00	428	386.66	0.89	-0.14	0.02
60.80	-20.98	-1.25	0.00	-34.62	0.00	34.62	926.43	220.58	422	381.69	0.91	-0.15	0.02
62.92	-20.95	-1.25	0.00	-31.97	0.00	31.97	910.61	216.81	408	368.69	0.98	-0.15	0.02
63.00	-20.79	-1.24	0.00	-31.86	0.00	31.86	909.99	216.66	408	368.18	0.98	-0.15	0.02
63.50	-20.35	-1.23	0.00	-31.24	0.00	31.24	906.25	215.77	404	365.14	1.00	-0.15	0.02
65.00	-20.13	-1.22	0.00	-29.40	0.00	29.40	895.05	213.11	394	356.11	1.05	-0.15	0.02
65.75	-19.23	-1.19	0.00	-28.48	0.00	28.48	664.45	162.40	305	269.50	1.07	-0.16	0.02
69.60	-19.07	-1.18	0.00	-23.91	0.00	23.91	650.38	157.26	286	255.37	1.20	-0.16	0.02
70.00	-16.06	-1.05	0.00	-23.44	0.00	23.44	648.89	156.72	284	253.91	1.21	-0.16	0.02
71.40	-15.30	-1.02	0.00	-21.97	0.00	21.97	643.64	154.86	278	248.83	1.26	-0.17	0.02
74.70	-15.22	-1.02	0.00	-18.61	0.00	18.61	631.04	150.45	262	236.95	1.38	-0.17	0.02
75.00	-14.77	-0.99	0.00	-18.30	0.00	18.30	629.88	150.05	261	235.88	1.39	-0.17	0.02
77.00	-14.76	-0.99	0.00	-16.31	0.00	16.31	619.01	147.38	251	227.65	1.46	-0.17	0.01
77.00	-14.76	-0.99	0.00	-16.31	0.00	16.31	619.01	147.38	251	227.65	1.46	-0.17	0.02
77.04	-14.31	-0.97	0.00	-16.27	0.00	16.27	618.79	147.33	251	227.48	1.46	-0.17	0.02
77.04	-14.31	-0.97	0.00	-16.27	0.00	16.27	618.79	147.33	251	227.48	1.46	-0.17	0.03
80.00	-10.56	-0.77	0.00	-13.40	0.00	13.40	602.20	143.38	238	215.39	1.57	-0.18	0.02
85.00	-9.90	-0.73	0.00	-9.54	0.00	9.54	574.18	136.71	216	195.71	1.76	-0.19	0.02
85.00	-9.90	-0.73	0.00	-9.54	0.00	9.54	574.18	136.71	216	195.71	1.76	-0.19	0.02
90.00	-5.65	-0.46	0.00	-5.89	0.00	5.89	546.16	130.04	196	176.97	1.97	-0.20	0.01
93.00	-5.54	-0.45	0.00	-4.52	0.00	4.52	529.35	126.04	184	166.19	2.09	-0.20	0.01
93.00	-5.54	-0.45	0.00	-4.52	0.00	4.52	529.35	126.04	184	166.19	2.09	-0.20	0.04
95.00	-5.28	-0.43	0.00	-3.62	0.00	3.62	518.15	123.37	176	159.18	2.17	-0.20	0.03
100.00	-4.93	-0.40	0.00	-1.47	0.00	1.47	490.13	116.70	158	142.33	2.39	-0.21	0.02
100.00	-4.93	-0.40	0.00	-1.47	0.00	1.47	459.24	137.77	150	150.79	2.39	-0.21	0.02
102.00	-1.42	-0.12	0.00	-0.66	0.00	0.66	459.24	137.77	150	150.79	2.48	-0.22	0.01
102.60	-1.23	-0.11	0.00	-0.59	0.00	0.59	459.24	137.77	150	150.79	2.51	-0.22	0.01
104.00	-1.02	-0.09	0.00	-0.43	0.00	0.43	459.24	137.77	150	150.79	2.57	-0.22	0.01
105.00	-0.93	-0.08	0.00	-0.34	0.00	0.34	459.24	137.77	150	150.79	2.62	-0.22	0.00
107.00	-0.68	-0.06	0.00	-0.18	0.00	0.18	459.24	137.77	150	150.79	2.71	-0.22	0.00
109.00	-0.64	-0.06	0.00	-0.06	0.00	0.06	459.24	137.77	150	150.79	2.80	-0.22	0.00
109.70	-0.58	-0.05	0.00	-0.01	0.00	0.01	459.24	137.77	150	150.79	2.84	-0.22	0.00
109.80	-0.56	-0.05	0.00	-0.01	0.00	0.01	459.24	137.77	150	150.79	2.84	-0.22	0.00
109.90	-0.48	-0.04	0.00	0.00	0.00	0.00	459.24	137.77	150	150.79	2.85	-0.22	0.00
110.00	0.00	-0.04	0.00	0.00	0.00	0.00	459.24	137.77	150	150.79	2.85	-0.22	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	37.49	0.00	55.31	0.00	0.00	2756.49	32.83	0.68
0.9D + 1.0W	37.45	0.00	41.46	0.00	0.00	2726.09	32.83	0.66
1.2D + 1.0Di + 1.0Wi	10.43	0.00	88.63	0.00	0.00	823.40	32.83	0.22
1.2D + 1.0Ev + 1.0Eh	1.42	0.00	54.79	0.00	0.00	119.82	93.00	0.04
0.9D - 1.0Ev + 1.0Eh	1.42	0.00	37.93	0.00	0.00	118.16	93.00	0.04
1.0D + 1.0W	9.69	0.00	46.16	0.00	0.00	704.77	32.83	0.18

ADDITIONAL STEEL SUMMARY

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors				Max Member		
			VQ/I (k/in)	Shear Applied (kips)	phiVn (kips)	Ratio	Pu (kip)	phiPn (kip)	Ratio
0.00	12.00	SOL #20 All Thread Bar	242.7	9.5	16.8	0.5631	214.7	315.5	
0.00	25.48	SOL #20 All Thread Bar	287.1	8.6	16.8	0.5124	244.6	330.5	
0.00	77.00	PL PL 6 x 1.25	503.8	12.1	38.3	0.3159	316.6	356.5	
12.00	77.04	SOL #20 All Thread Bar	423.5	12.7	16.8	0.7559	253.4	330.5	
77.00	85.00	PL PL 5" x 1.25"	779.6	18.7	38.3	0.4889	164.8	281.2	
85.00	93.00	PL PL 5" x 1.25"	659.3	15.8	38.3	0.4134	107.5	281.2	

Elev From (ft)	Elev To (ft)	Member	Upper Termination Connectors					Lower Termination Connectors				
			MQ/I (kips)	phiVn (kips)	Number Required	Number Actual	Ratio	MQ/I (kips)	phiVn (kip)	Number Required	Number Actual	Ratio
0.00	12.00	SOL #20 All Thread Bar	0	12	0	0	0.0000	0	12	0	0	0.0000
0.00	25.48	SOL #20 All Thread Bar	193.2967	12	17	20	0.8054	0	12	0	0	0.0000
0.00	77.00	PL PL 6 x 1.25	92.3372	38.27	3	10	0.2413	0	38.27	0	0	0.0000
12.00	77.04	SOL #20 All Thread Bar	84.6049	12	8	8	0.8813	0	12	0	0	0.0000
77.00	85.00	PL PL 5" x 1.25"	105.1025	38.27	3	10	0.2746	83.0206	38.27	3	8	0.2712
85.00	93.00	PL PL 5" x 1.25"	0	38.27	0	10	0.0000	0	38.27	0	8	0.0000

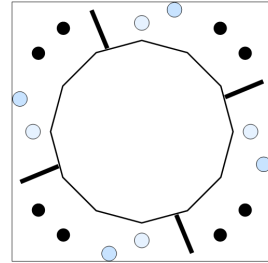
BASE PLATE ANALYSIS @ 0 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
2756.49	55.31	37.49

PLATE PARAMETERS (ID# 21813)

Width:	44	in
Shape:	Square	
Thickness:	2	in
Grade:	A572-60	
Yield Strength:	60	ksi
Tensile Strength:	75	ksi
Clip Length:	0	in
Rod Detail Type:	c	
Clear Distance:	-	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Elastic	
Neutral Axis:	321	°



ANCHOR ROD PARAMETERS

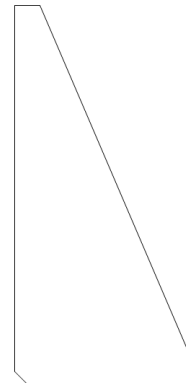
Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F _y (ksi)	F _u (ksi)	Spacing (in)	Offset (°)
Original [ID#22387]	Cluster	8	2.25	44	A615-75	75	100	6	-

DYWIDAG BAR PARAMETERS

Quantity	Bar Size	Bar Diameter (in)	F _y (ksi)	F _u (ksi)	Bracket Type	Bracket Offset (in)	Circle (in)	Offset (°)
4 [ID# 1864]	#20	2.5	80	100	Angle	2.19	36.88	-
4 [ID# 1865]	#20	2.5	80	100	W5x19	5.15	42.80	75

STIFFENER PARAMETERS

Arrangement:	Radial	
Quantity:	4	
Height:	15	in
Width:	7	in
Thickness:	0.75	in
Notch:	0.5	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.375	in
Vertical Weld Fillet Size:	0.25	in
Weld Strength:	80	ksi
Orientation Offset:	67.5	°



ASSET: 302481, Hrfr - South
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
 PROJECT: 14568527

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	30"Ø x 0.25" (12 Sides)	23.0996	-	-	2556.06	-
Bolt Group	Original (8) 2.25"Ø	3.9761	3.2477	0.8393	5566.40	4.5
Dywidag Group	(4) #20	4.9087	4.9087	1.9175	3345.94	-
Dywidag Group	(4) #20	4.9087	4.9087	1.9175	4503.68	-
Stiffeners	(4) 15"H x 7"W x 0.75"T	4.8750	4.3875	85.7500	3046.61	-

REACTION DISTRIBUTION

Component	ID	Moment M _u (k-ft)	Axial Load P _u (k)	Shear V _u (k)	Moment Factor
Pole	30"Ø x 0.25" (12 Sides)	677.1	55.31	37.49	0.246
Bolt Group	Original (8) 2.25"Ø	677.1	-	37.49	0.246
Dywidag Group	(4) #20	886.4	-	-	0.322
Dywidag Group	(4) #20	1193.0	-	-	0.433
Stiffeners	(4) 15"H x 7"W x 0.75"T	368.2	-	20.39	0.134

BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter: 30.12 in
 Point-to-Point Diameter: 31.19 in
 Orientation Offset: - °

Flat Width: 8.072 in
 Flat Radians: 0.524 rad

PLATE PROPERTIES

Neutral Axis: 321 °

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	32.100	3.14	35.242	1047.2	1903.0	55.0%
Corners	31.038	2.08	33.116	942.7	1788.3	52.7%

ELASTIC 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)	Compressive Result	Interaction Result
Original	8	2.25	99.7	0.3	243.6	0.409	41.1%

DYWIDAG BAR ANALYSIS

Group Quantity	Bar Size	Bar Circle (in)	Applied Axial Load P _u (k)	Compressive Capacity ΦP _n (k)	Compressive Result P _u / ΦP _n
4	#20	36.88	228.1	368.2	61.9%
4	#20	42.80	311.0	368.2	84.5%

BASE PLATE STIFFENER ANALYSIS

Quantity:	4	
Height:	15	in
Width:	7	in
Effective Width:	7.000	in
Thickness:	0.75	in
Notch:	0.5	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.375	in
Horizontal Weld Bevel Size:		in
Vertical Weld Fillet Size:	0.25	in
Weld Strength:	80	ksi
Electrode Coefficient:	1.030	

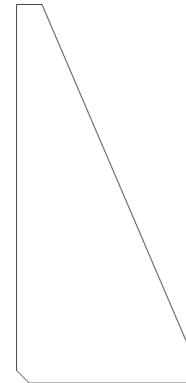


PLATE COMPRESSION

Radius of Gyration:	0.217	in ³
k/r:	41.57	
4.71 √(E/F _y):	113.43	
Buckling Stress, F _e :	165.64	ksi
Crit. Buckling Stress, F _{cr} :	145.26	ksi
Applied Compression, P _u :	105.30	k
Compressive Capacity, ΦP:	637.34	k
Compressive Result, P _u /ΦP _n :	8.3%	✓

PLATE TENSION

Gross Cross Section:	4.8750	in ²
Net Cross Section:	4.3875	in ²
Applied Tension, T _u :	101.60	k
Tensile Capacity, ΦT _n :	213.89	k
Tension Result, T _u /ΦT _n :	23.8%	✓

VERTICAL WELD TO POLE

Vertical Eccentricity Ratio, a=e _x /l:	0.156	
Spacing Ratio, k:	0.050	
Weld Coefficient, C:	3.670	
Applied Compression, P _u :	105.30	k
Compressive Capacity, ΦP _n :	170.10	k
Horizontal Eccentricity Ratio, a=e _x /l:	0.333	
Weld Coefficient, C:	2.940	
Applied Shear, V _u :	3.59	k
Shear Capacity, ΦV _n :	136.27	k
Weld Result, P _u /ΦP _n + V _u /ΦV _n :	64.5%	✓

HORIZONTAL WELD TO PLATE

Horizontal Eccentricity Ratio, a=e _x /l:	0.167	
Spacing Ratio, k:	0.107	
Weld Coefficient, C:	3.940	
Effective Fillet Size:	0.375	in
Applied Compression, P _u :	105.30	k
Compressive Capacity, ΦP _n :	127.83	k
Vertical Eccentricity Ratio, a=e _x /l:	0.357	
Weld Coefficient, C:	3.090	
Applied Shear, V _u :	3.59	k
Shear Capacity, ΦV _n :	100.26	k
Weld Result, P _u /ΦP _n + V _u /ΦV _n :	85.9%	✓

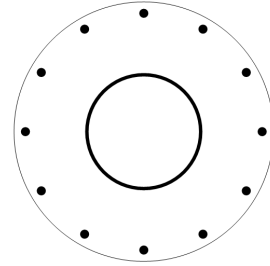
UPPER FLANGE PLATE ANALYSIS @ 100 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
33.3	6.3	9.51

PLATE PARAMETERS (ID# 21812)

Width:	28.5	in
Shape:	Round	
Thickness:	1.5	in
Grade:	A36	
Yield Strength:	36	ksi
Tensile Strength:	58	ksi
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	225	°



FLANGE BOLT PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F _y (ksi)	F _u (ksi)	Spacing (in)	Offset (°)
Original [ID#22388]	Radial	12	1	26	A325	92	120	-	-

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	12.75"ø x 0.375" (Round)	14.5788	-	-	279.77	-
Bolt Group	Original (12) 1"ø	0.7854	0.6057	0.0292	556.94	8.0

REACTION DISTRIBUTION

Component	ID	Moment M _u (k-ft)	Axial Load P _u (k)	Shear V _u (k)	Moment Factor
Pole	12.75"ø x 0.375" (Round)	33.3	6.30	9.51	1.000
Bolt Group	Original (12) 1"ø	33.3	-	9.51	1.000

UPPER FLANGE PLATE BEND LINE ANALYSIS @ 100 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	12.88	in
Point-to-Point Diameter:	12.88	in
Orientation Offset:	-	°

Flat Width:	0.112	in
Flat Radians:	0.017	rad

PLATE PROPERTIES

Neutral Axis:	225	°
Bend Line Limits:	5.889 to -1.177	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	24.385	0.00	13.716	83.1	444.4	18.7%
Corners	24.385	0.00	13.716	83.1	444.4	18.7%
Circumferential	15.925	0.00	8.958	119.3	290.2	41.1%

PLASTIC FLANGE BOLT ANALYSIS

Class	Group Quantity	Bolt Diameter (in)	Applied Axial Load P _u (k)	Applied Shear Load V _u (k)	Compressive Capacity ΦP _n (k)	Interaction Result
Original	12	1	5.2	1.2	54.5	12.7%

Site Name:	HRFR - South
Site Number:	302481
Engineering Number:	14568527_C3_03
Engineer:	DH
Date:	12/15/2023

Design Base Loads (Factored) - Design per TIA-222-G Standard

Moment (Overturning) (M_u):	2756.5 k-ft
Shear/Leg (V_u):	37.5 k
Compression/Leg (P_u):	55.3 k
Uplift/Leg (T_u):	0.0 k
Tower Type (GT / SST / MP):	MP
Length of Block:	9.0 ft
Width of Block:	13.0 ft
Thickness of Block:	6.0 ft
Block Height Above Ground:	1.0 ft
Depth Below Ground Surface to Water Table (w):	30.0 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil:	162.2 pcf
Unit Weight of Water:	62.4 pcf
Ultimate Compressive Bearing Pressure:	15000 psf
Capacity Increase (Due to Transient Loads):	1.00
Pullout Angle:	45.0 degrees
Rod Diameter:	1.00 in
Rod Ultimate Strength:	71 ksi
Rod Net Area:	0.85 in ²
Number of Rods:	18
Diameter of Cored Hole:	2.50 in
Ultimate Grout / Rock Interface Bond Strength:	100 psi
Ultimate Grout / Rock Anchor Interface Bond Strength:	400 psi
Overall Rod Embedment Length:	192 in
Rod Exposure Above Lock Off Nut in Foundation:	72 in
Rod Embedment Square:	78 in
Free Stress Length:	0 in
Soil / Concrete Friction Coefficient:	0.45
Lock Off Load:	60 k
Rock Anchor Design Plastic or Elastic:	Elastic
Ignore Pullout Weight Resistance (Y/N):	N
Weight of Concrete (Buoyancy Effect Considered):	105.3 k
Compressive Bearing Resistance:	954.3 k
Total Rock / Grout Bond Strength:	2714.3 k
Total Grout / Rod Bond Strength:	4342.9 k
Total Rod Mechanical Strength:	1080.0 k
Pullout Weight / Rod:	84.3 k
Rock / Grout Bond Strength / Rod:	150.8 k
Grout / Rod Bond Strength / Rod:	241.3 k
Rod Mechanical Strength / Rod:	60.0 k
Soil Strength Reduction Factor (ϕ_s):	0.75
Factored Nominal Moment Capacity per Leg ($\phi_s M_n$):	3168.0 k
Factored Nominal Uplift Capacity per Leg ($\phi_s T_n$):	930.5 k
Factored Nominal Compressive Capacity per Leg ($\phi_s P_n$):	715.7 k
Factored Nominal Shear Capacity per Leg ($\phi_s V_n$):	486.0 k
M_u :	2981.4 k-ft
T_u :	0.0 k
P_u :	46.2 k
V_u :	37.5 k
$T_u/\phi_s T_n + M_u/\phi_s M_n$:	0.94 Result: OK

$P_u/\phi_s P_n$: 0.06 Result: OK

$V_u/\phi_s V_n$: 0.08 Result: OK

Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	3000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	52 Minimum # of vertical rebar met
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	4
Horizontal Tie / Stirrup Area:	0.20 in ²
Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60 ksi
Anchor Rod Nut Diameter:	2.02 in
Rebar Cage Diameter:	108.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression/Bearing Reduction Factor ($\phi_{B/B}$):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	2981.4 k-ft
Factored Nominal Moment Capacity ($\phi_B M_n$):	19276.7 k-ft - ACI318-05 - 10.2
$M_u/\phi_B M_n$:	0.15 Result: OK
Design Shear (V_u):	343.5 k
Factored Nominal Shear Capacity ($\phi_V V_n$):	603.4 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u/\phi_V V_n$:	0.57 Result: OK
Design Tension (T_u):	0.0 k
Factored Nominal Tension Capacity ($\phi_T T_n$):	4380.5 k - ACI318-05 - 10.2
$T_u/\phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	55.3 k
Factored Nominal Compression Capacity ($\phi_P P_n$):	14164.4 k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$:	0.00 Result: OK

EXHIBIT 4





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

New/Replacement Antenna Mount Analysis Report and PMI Requirements

Mount Analysis-R

SMART Tool Project #: 10209522
Colliers Engineering & Design CT, P.C. Project #: 21777757

September 19, 2023

Site Information

Site ID: 5000392472-VZW / HARTFORD S 3 CT
Site Name: HARTFORD S 3 CT
Carrier Name: Verizon Wireless
Address: 289H Mountain St
Hartford, Connecticut 06106
Hartford County
Latitude: 41.726583°
Longitude: -72.708167°

Structure Information

Tower Type: 110-Ft Monopole
Mount Type: 12.50-Ft Platform

FUZE ID # 16093011

Analysis Results

Platform: 45.0% **Pass w/ Mount Replacement***
((1) PV-LPPGS-12M-HR2-AP1)

***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: Prasanna Dhakal

Executive Summary:

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

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

Sources of Information:

Document Type	Remarks
<i>Radio Frequency Data Sheet (RFDS)</i>	<i>Verizon RFDS, Site ID: 1875555, dated July 28, 2023</i>
<i>Desktop Mount Mapping</i>	<i>Colliers Engineering & Design, Project #: 21777757, dated June 17, 2021</i>
<i>Site Photos</i>	<i>Photos dated May 6, 2021</i>
<i>Previous Mount Analysis</i>	<i>Colliers Engineering & Design CT, P.C., Project #: 21777757 (Rev. 1), dated August 23, 2023</i>
<i>Mount Specification</i>	<i>Perfect Vision, Part #: PV-LPPGS-12M-HR2-AP1</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 Feature Considered: Ridge Topographic Method: Method 2 Ground Elevation Factor, K_e : 0.990
Seismic Parameters:	S_s : 0.189 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
80.00	80.00	3	Commscope	NHHSS-65B-R2BT4	Added
		3	Samsung	MT6413-77A	
		3	Commscope	NHH-65B-R2B	
		3	Samsung	RT4423-48A/B	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	
		3	Commscope	CBC78T-DS-43-2X	
		1	Raycap	RVZDC-6627-PF-48	

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.

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

Model Number	Ports	AKA
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 CT, P.C. 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 CT, P.C. to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.
3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped 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 CT, P.C. is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

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

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

Analysis Results:

Component	Utilization %	Pass/Fail
<i>Standoff Horizontal</i>	36.1%	Pass
<i>Platform Crossmember</i>	27.4%	Pass
<i>Face Horizontal</i>	13.0%	Pass
<i>Mount Pipe</i>	45.0%	Pass
<i>Grating Angle</i>	15.2%	Pass
<i>Support Rail</i>	12.4%	Pass
<i>Support Rail Corner Pipe</i>	7.4%	Pass
<i>Mount Connection</i>	25.0%	Pass

Structure Rating – (Controlling Utilization of all Components)	45.0%
---	--------------

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	18.5	18.5	35.6	35.6
0.5	26.0	26.0	50.3	50.3
1	32.3	32.3	63.8	63.8

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 sectors.
- Ka factors included in (EPA)a calculations

Requirements:

The proposed antenna mount is **SUFFICIENT** for the final loading configuration (attachment 2) upon completion of the mount replacement (attachment 3) and requirements below.

1. Refer to document at the end of this form for special instructions. Contact EOR if special instructions are not available.

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 Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Manufacturer Drawings
4. Existing Mount Photos
5. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

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

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 #: 5000392472

SMART Project #: 10209522

Fuze Project ID: 16093011

Purpose – to provide SMART Tool structural vendor the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

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

Base Requirements:

- If installation 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 mount drawings” showing contractor’s name, contact information, 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 passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo should be time and date stamped.
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. 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.
 - Photos of the mount after installation; if the mounts are at different rad elevations, pictures must be provided for all elevations that equipment was installed.
- Photos taken at Mount Elevation
 - Photos showing the safety climb wire rope above and below the mount prior to installation.
 - Photos showing the climbing facility and safety climb if present.
 - Photos showing each individual sector after installation of mounts. Each entire sector shall 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 mount; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the installed mount elevation.

Antenna & Equipment Placement and Geometry Confirmation:

- The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.
 - 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.

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

Issue:

- | |
|---|
| 1. Refer to document at the end of this form for special instructions. Contact EOR if special instructions are not available. |
|---|

Response:

--

Special Instruction Confirmation:

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

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:

--

New Mount Certification:

- The contractor certifies that the New Mount installed is as specified in the Passing Mount Analysis.
- The contractor notes that the New Mount installed is not as specified and engineering approval was received for the New Mount installed.

Certifying Individual:

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

MDG #: **5000392472**

Site Name: **HARTFORD S 3 CT**

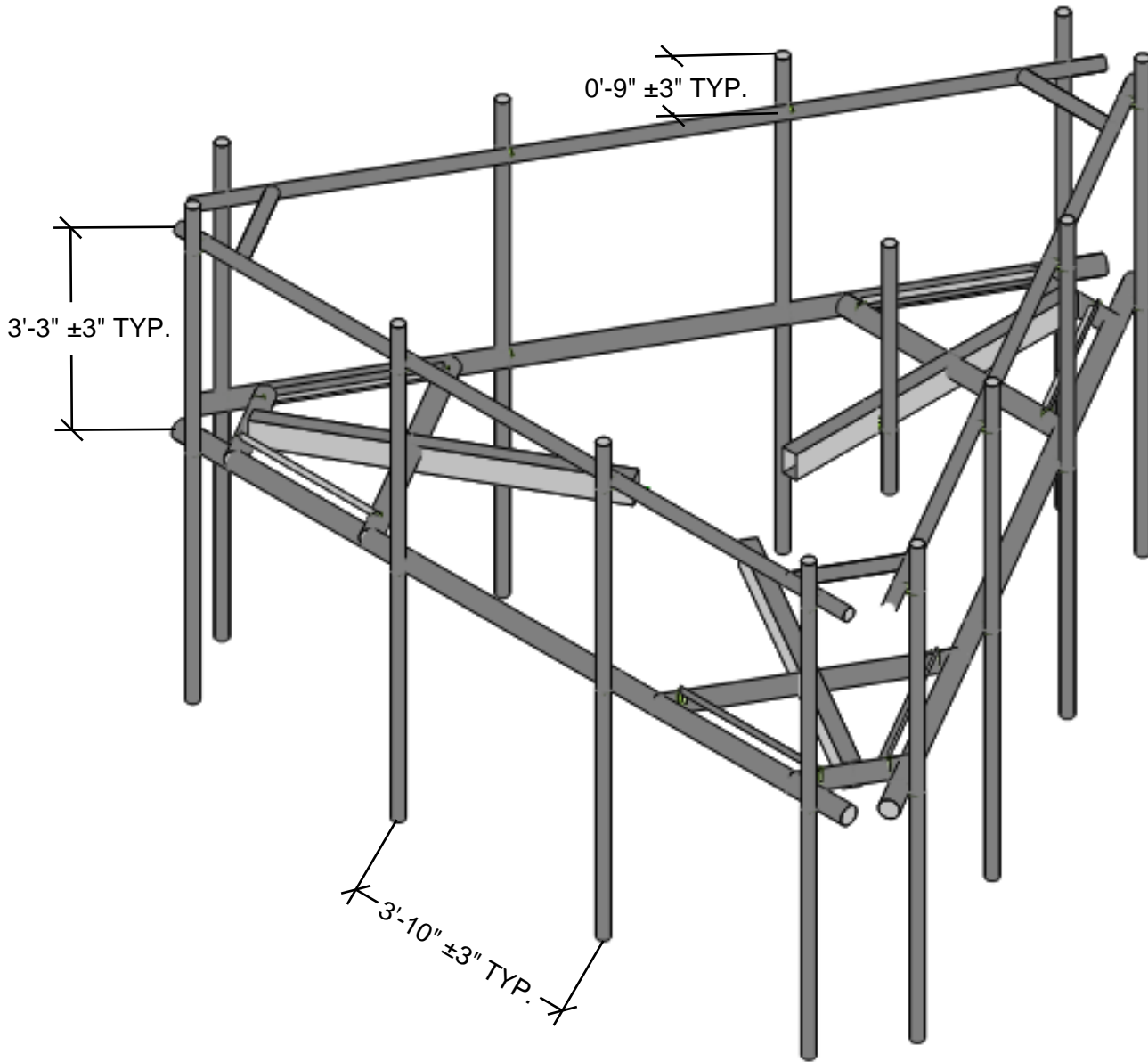
Fuze ID #: **16093011**

Colliers Engineering & Design Project #: **21777757**

PMI INSTRUCTIONS:

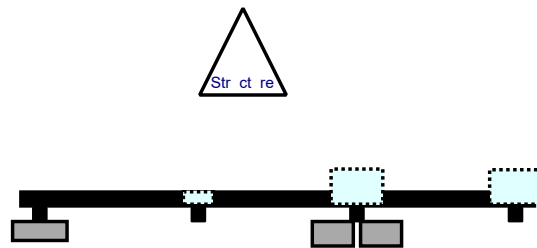
1. Contractor shall remove existing mount and associated hardware. Contractor shall restore any degradation in galvanization on tower due to removed mount and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote).
2. Contractor shall install the proposed platform mount (Perfect Vision, Part #: PV-LPPGS-12M-HR2-AP1) mounts in accordance with manufacturer specifications and the Mount Replacement Sketch. Contact EOR if these documents are not available.
3. Contractor shall install proposed OVP on a 48" long PIPE 2 SCH 40 attached to standoff horizontal between beta and gamma sectors.
4. Contractor shall inspect climbing facilities and safety climb and ensure they are in good condition. Contractor shall install safety climb wire rope guides in locations where wire rope is rubbing against the mount or mount-to-tower connection steel. Wire brush clean any observed corrosion and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote). Contractor shall provide photos of wire rope guide installation as part of PMI documents. Contact EOR if additional guidance is required.

MOUNT REPLACEMENT SKETCH
(Typ. All Sectors)

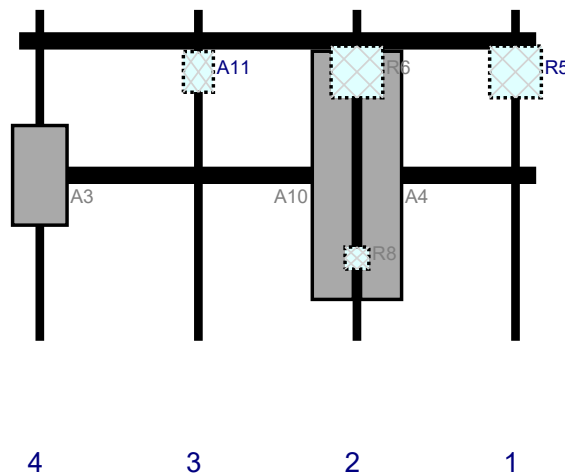


MOUNT ISOMETRIC VIEW
N.T.S

Plan View

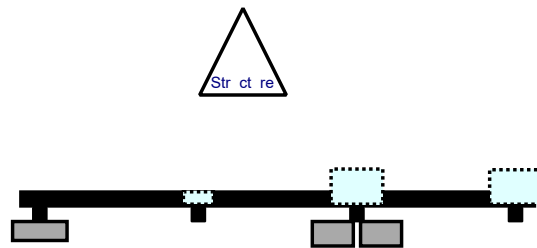


Front View - Looking at Structure

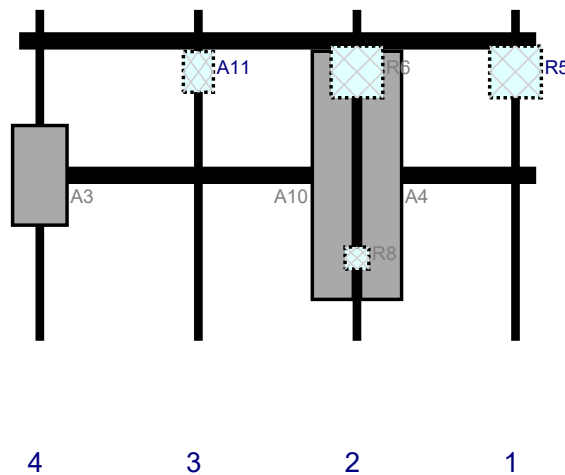


Re #	Model	Height (in)	Width (in)	H Dist Fr L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Fr T.	Ant H O	St t s	V lid tion
R5	RF4439d-25A	15	15	144	1		Behind	18	0	Added	
A4	NHH-65B-R2B	72	11.9	98	2		Front	48	7	Added	
A10	NHHSS-65B-R2BT4	72	11.9	98	2		Front	48	-7	Added	
R6	RF4461d-13A	15	15	98	2		Behind	18	0	Added	
R8	CBC78T-DS-43-2X	6.4	6.9	98	2	c	Behind	72	0	Added	
A11	RT4423-48A	11.8	8.7	52	3		Behind	18	0	Added	
A3	MT6413-77A	28.9	15.8	6	4		Front	48	0	Added	
M40A	RVZDC-6627-PF-48	29.5	16.5			Me er				Added	

Plan View

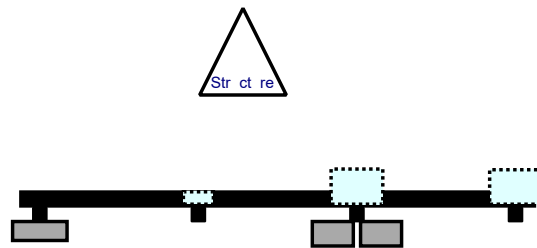


Front View - Looking at Structure

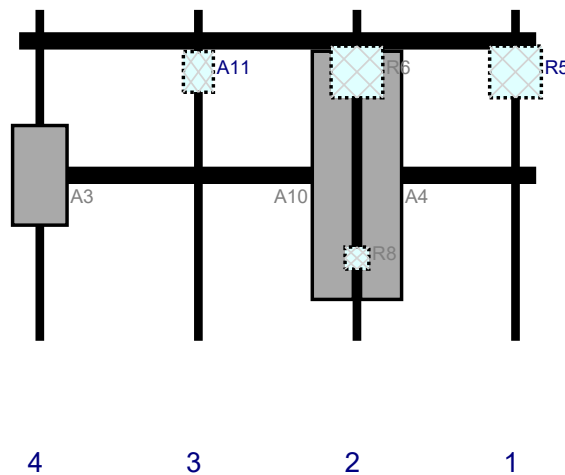


Re #	Model	Height (in)	Width (in)	H Dist Fr L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Fr T.	Ant H O	St t s	V lid tion
R5	RF4439d-25A	15	15	144	1		Behind	18	0	Added	
A4	NHH-65B-R2B	72	11.9	98	2		Front	48	7	Added	
A10	NHHSS-65B-R2BT4	72	11.9	98	2		Front	48	-7	Added	
R6	RF4461d-13A	15	15	98	2		Behind	18	0	Added	
R8	CBC78T-DS-43-2X	6.4	6.9	98	2	c	Behind	72	0	Added	
A11	RT4423-48A	11.8	8.7	52	3		Behind	18	0	Added	
A3	MT6413-77A	28.9	15.8	6	4		Front	48	0	Added	

Plan View



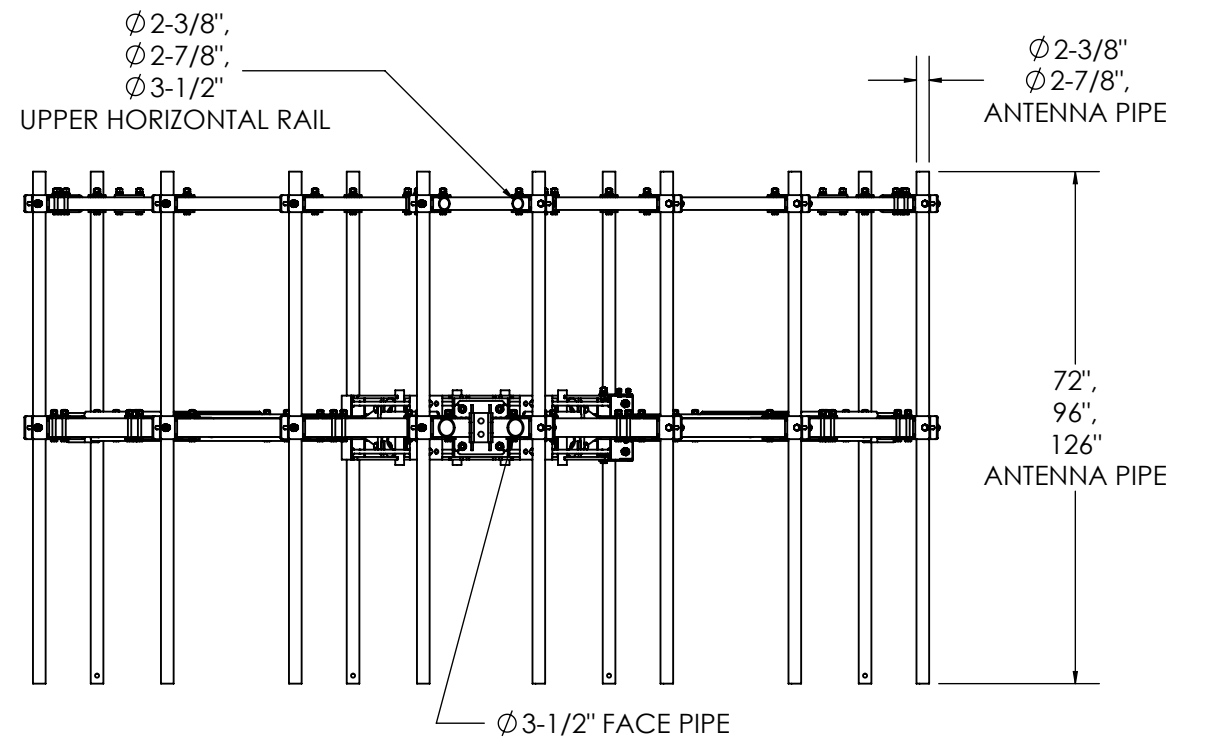
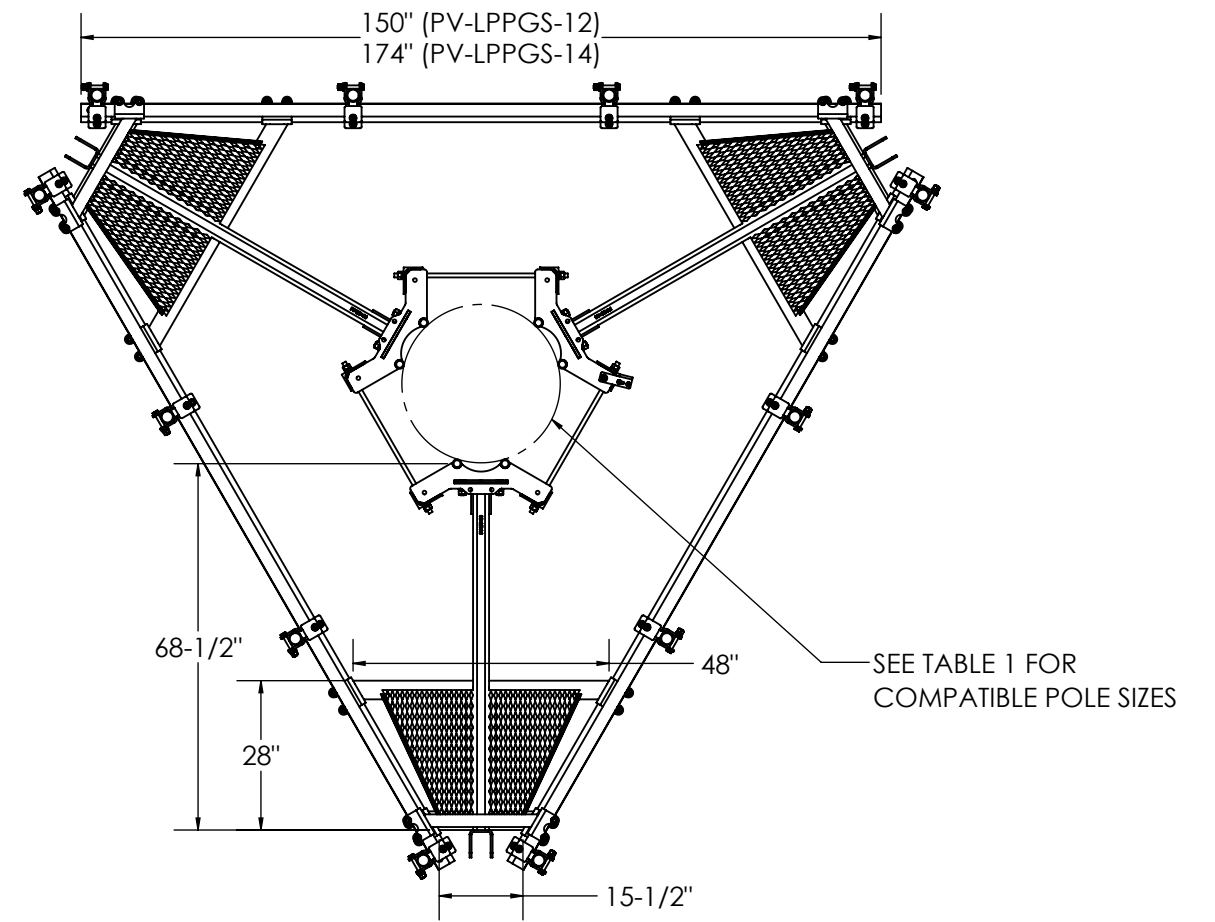
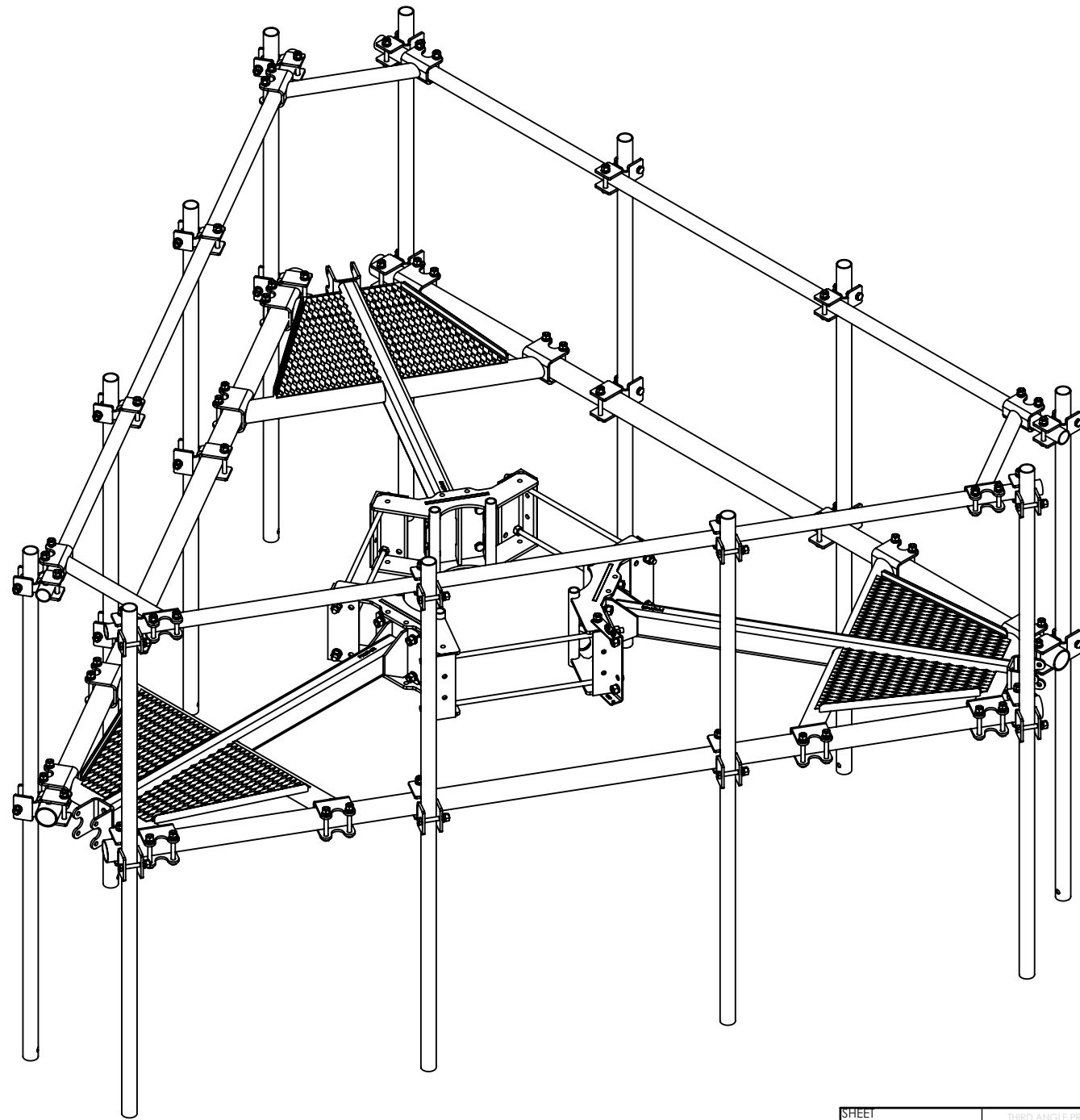
Front View - Looking at Structure



Re #	Model	Height (in)	Width (in)	H Dist Fr L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Fr T.	Ant H O	St t s	V lid tion
R5	RF4439d-25A	15	15	144	1		Behind	18	0	Added	
A4	NHH-65B-R2B	72	11.9	98	2		Front	48	7	Added	
A10	NHHSS-65B-R2BT4	72	11.9	98	2		Front	48	-7	Added	
R6	RF4461d-13A	15	15	98	2		Behind	18	0	Added	
R8	CBC78T-DS-43-2X	6.4	6.9	98	2	c	Behind	72	0	Added	
A11	RT4423-48A	11.8	8.7	52	3		Behind	18	0	Added	
A3	MT6413-77A	28.9	15.8	6	4		Front	48	0	Added	

PV-LPPGS MONOPOLE GUARDIAN MOUNT

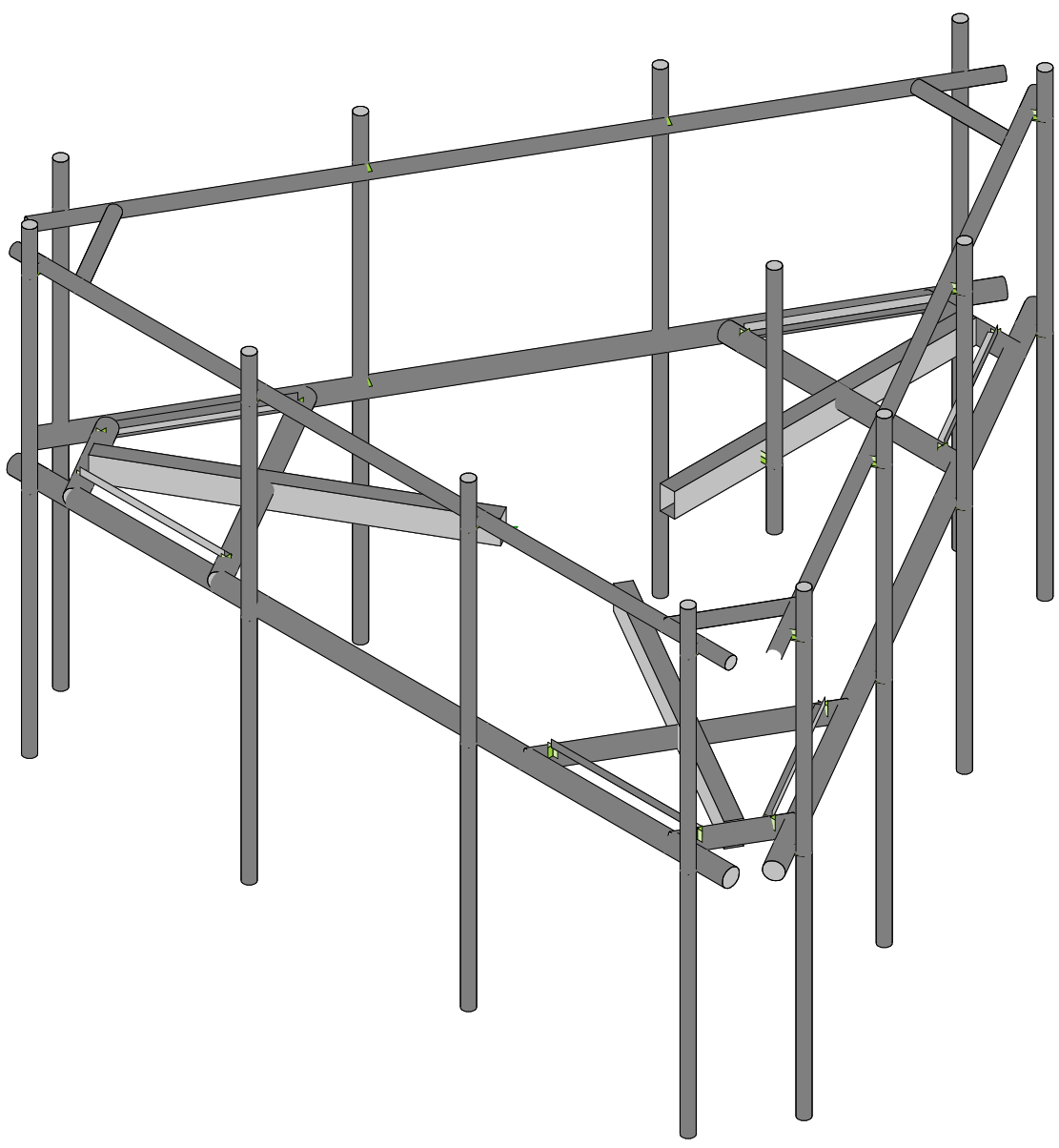
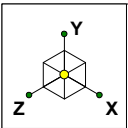
SEE SHEET 2 - TABLE 1 FOR FULL CONFIGURATION DETAILS



SHEET 1 OF 16	THIRD ANGLE PROJECTION 	CATEGORY	02_Monopole	9	ACC1 REPLACE ACC2, PV-CMX-CG-80 REPLACE 115-242	3/16/21
		SERIES	01_Triangular	8	KKGS UPDATE	2/2/21
4/27/2021	SCALE 1:36	TYPE	PV-LPPGS_GUARDIAN	7	REPLACED PKBK WITH PV-KKRS	11/11/20
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE ±1/4°, BEND ±2° ALL OTHERS: ±1/16"		BY	DJN	6	ADDED ALL THREAD NOTE TO COLLARS	7/27/20
		CHECKED	SJS	5	ADDED HR2-AP3 CONFGS	1/20/20
		STATUS	APPROVED	REV	DESCRIPTION	DATE
PERFECT VISION						
MONOPOLE GUARDIAN MOUNT						REV
DOCUMENT NUMBER						
LPPGS-ENG-01-R9						9

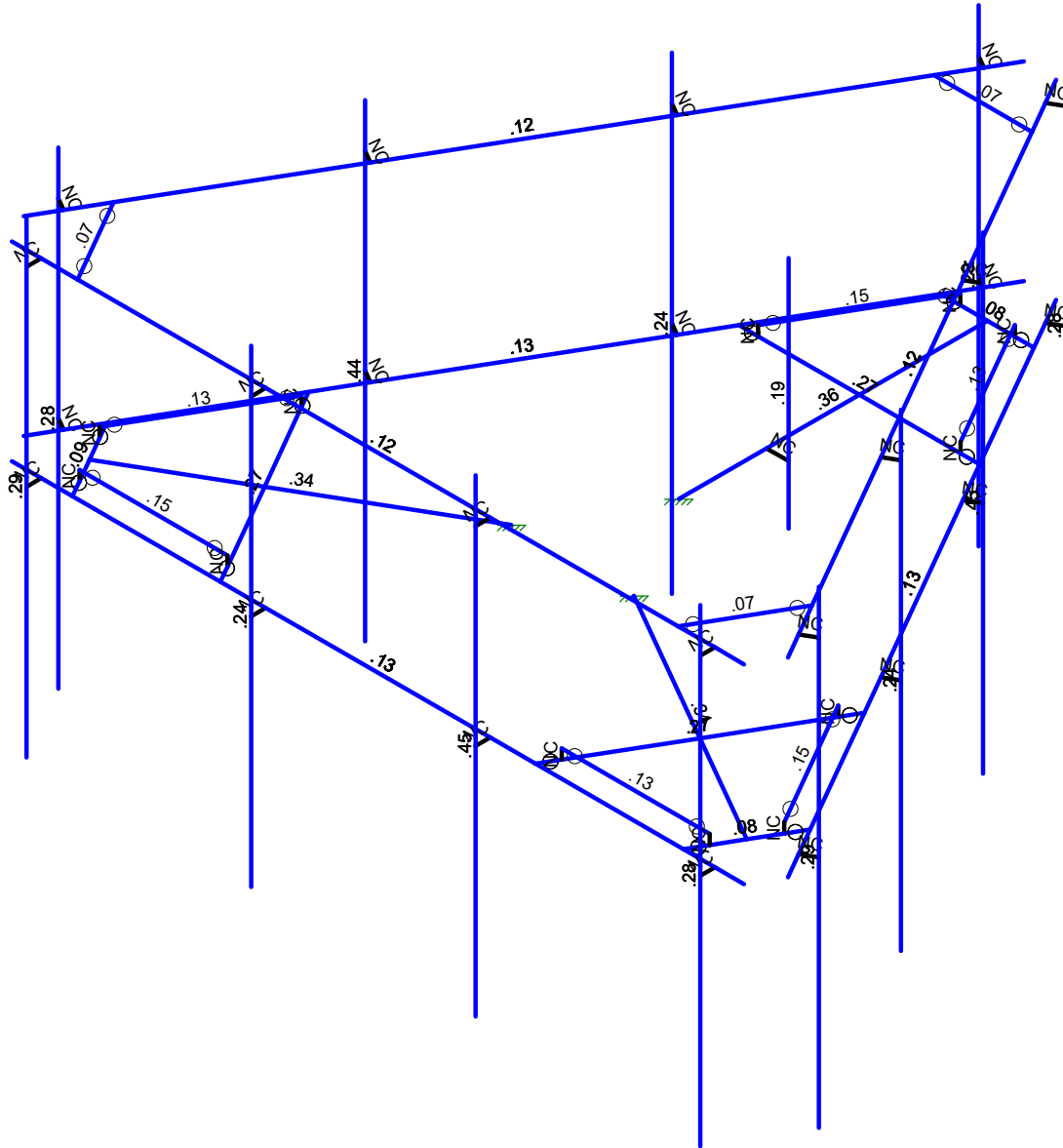
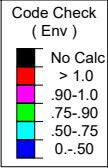
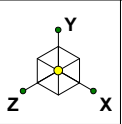
C:\PVM\Steel\Catalog\SW Working Files\Engineering Details\





Envelope Only Solution

Colliers Engineering & De...	Antenna Mount Analysis	SK - 1
		Sept 18, 2023 at 5:22 PM
Project # 21777757		5000392472-VZW_MT_LO_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & De...

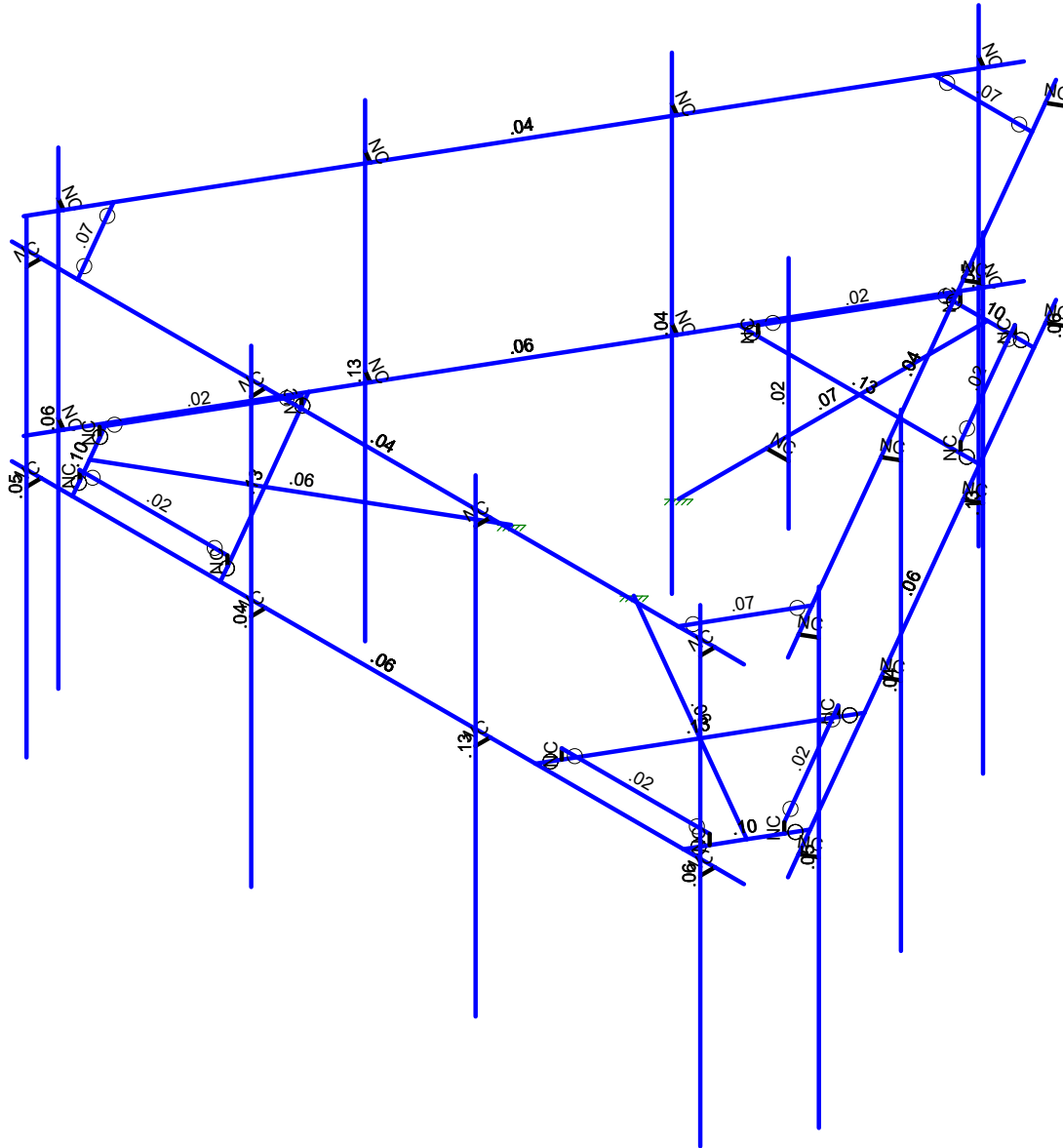
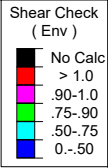
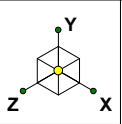
Antenna Mount Analysis

SK - 2

Sept 18, 2023 at 5:22 PM

Project # 21777757

5000392472-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & De...

Antenna Mount Analysis

SK - 3

Sept 18, 2023 at 5:23 PM

Project # 21777757

5000392472-VZW_MT_LO_H.r3d



Basic Load Cases

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Member)	Surfa...
1	Antenna D	None					93			
2	Antenna Di	None					93			
3	Antenna Wo (0 Deg)	None					93			
4	Antenna Wo (30 Deg)	None					93			
5	Antenna Wo (60 Deg)	None					93			
6	Antenna Wo (90 Deg)	None					93			
7	Antenna Wo (120 Deg)	None					93			
8	Antenna Wo (150 Deg)	None					93			
9	Antenna Wo (180 Deg)	None					93			
10	Antenna Wo (210 Deg)	None					93			
11	Antenna Wo (240 Deg)	None					93			
12	Antenna Wo (270 Deg)	None					93			
13	Antenna Wo (300 Deg)	None					93			
14	Antenna Wo (330 Deg)	None					93			
15	Antenna Wi (0 Deg)	None					93			
16	Antenna Wi (30 Deg)	None					93			
17	Antenna Wi (60 Deg)	None					93			
18	Antenna Wi (90 Deg)	None					93			
19	Antenna Wi (120 Deg)	None					93			
20	Antenna Wi (150 Deg)	None					93			
21	Antenna Wi (180 Deg)	None					93			
22	Antenna Wi (210 Deg)	None					93			
23	Antenna Wi (240 Deg)	None					93			
24	Antenna Wi (270 Deg)	None					93			
25	Antenna Wi (300 Deg)	None					93			
26	Antenna Wi (330 Deg)	None					93			
27	Antenna Wm (0 Deg)	None					93			
28	Antenna Wm (30 Deg)	None					93			
29	Antenna Wm (60 Deg)	None					93			
30	Antenna Wm (90 Deg)	None					93			
31	Antenna Wm (120 Deg)	None					93			
32	Antenna Wm (150 Deg)	None					93			
33	Antenna Wm (180 Deg)	None					93			
34	Antenna Wm (210 Deg)	None					93			
35	Antenna Wm (240 Deg)	None					93			
36	Antenna Wm (270 Deg)	None					93			
37	Antenna Wm (300 Deg)	None					93			
38	Antenna Wm (330 Deg)	None					93			
39	Structure D	None		-1					3	
40	Structure Di	None						37	3	
41	Structure Wo (0 Deg)	None						74		
42	Structure Wo (30 Deg)	None						74		
43	Structure Wo (60 Deg)	None						74		
44	Structure Wo (90 Deg)	None						74		
45	Structure Wo (120 Deg)	None						74		
46	Structure Wo (150 Deg)	None						74		
47	Structure Wo (180 Deg)	None						74		
48	Structure Wo (210 Deg)	None						74		
49	Structure Wo (240 Deg)	None						74		
50	Structure Wo (270 Deg)	None						74		
51	Structure Wo (300 Deg)	None						74		
52	Structure Wo (330 Deg)	None						74		
53	Structure Wi (0 Deg)	None						74		
54	Structure Wi (30 Deg)	None						74		
55	Structure Wi (60 Deg)	None						74		
56	Structure Wi (90 Deg)	None						74		



Basic Load Cases (Continued)

BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Member)	Surfa...
57 Structure Wi (120 Deg)	None						74		
58 Structure Wi (150 Deg)	None						74		
59 Structure Wi (180 Deg)	None						74		
60 Structure Wi (210 Deg)	None						74		
61 Structure Wi (240 Deg)	None						74		
62 Structure Wi (270 Deg)	None						74		
63 Structure Wi (300 Deg)	None						74		
64 Structure Wi (330 Deg)	None						74		
65 Structure Wm (0 Deg)	None						74		
66 Structure Wm (30 Deg)	None						74		
67 Structure Wm (60 Deg)	None						74		
68 Structure Wm (90 Deg)	None						74		
69 Structure Wm (120 Deg)	None						74		
70 Structure Wm (150 Deg)	None						74		
71 Structure Wm (180 Deg)	None						74		
72 Structure Wm (210 Deg)	None						74		
73 Structure Wm (240 Deg)	None						74		
74 Structure Wm (270 Deg)	None						74		
75 Structure Wm (300 Deg)	None						74		
76 Structure Wm (330 Deg)	None						74		
77 Lm1	None					1			
78 Lm2	None					1			
79 Lv1	None					1			
80 Lv2	None					1			
81 Antenna Ev	None					93			
82 Antenna Eh (0 Deg)	None					62			
83 Antenna Eh (90 Deg)	None					62			
84 Structure Ev	ELY		-0403					3	
85 Structure Eh (0 Deg)	ELZ			-1008				3	
86 Structure Eh (90 Deg)	ELX	.1008						3	
87 BLC 39 Transient Area Loads	None						21		
88 BLC 40 Transient Area Loads	None						21		
89 BLC 84 Transient Area Loads	None						21		
90 BLC 85 Transient Area Loads	None						21		
91 BLC 86 Transient Area Loads	None						21		

Load Combinations

Description	S...	PDel...	SR...	BLC Fa...	BLC Fa...	BLC Fa...	B...Fa...	B...Fa...	B...Fa...	BLC 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 De...	Yes	Y		1	1.2	39	1.2	7	1	45	1		
6 1.2D+1.0Wo (150 De...	Yes	Y		1	1.2	39	1.2	8	1	46	1		
7 1.2D+1.0Wo (180 De...	Yes	Y		1	1.2	39	1.2	9	1	47	1		
8 1.2D+1.0Wo (210 De...	Yes	Y		1	1.2	39	1.2	10	1	48	1		
9 1.2D+1.0Wo (240 De...	Yes	Y		1	1.2	39	1.2	11	1	49	1		
10 1.2D+1.0Wo (270 De...	Yes	Y		1	1.2	39	1.2	12	1	50	1		
11 1.2D+1.0Wo (300 De...	Yes	Y		1	1.2	39	1.2	13	1	51	1		
12 1.2D+1.0Wo (330 De...	Yes	Y		1	1.2	39	1.2	14	1	52	1		
13 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1
14 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1
15 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1
16 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1
17 1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1



Load Combinations (Continued)

	Description	S...	PDel...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
18	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0...	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 + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		ELZ	1	E...					
53	1.2D + 1.0Ev + 1.0E...	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 + 1.0E...	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 + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	ELZ		E...	1				
56	1.2D + 1.0Ev + 1.0E...	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 + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	.5	ELZ	-.8...	E...	.5				
58	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		ELZ	-1	E...					
59	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	-.5	ELZ	-.8...	E...	-.5				
60	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.8...	ELZ	-.5	E...	-.8...				
61	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	ELZ		E...	-1				
62	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.8...	ELZ	.5	E...	-.8...				
63	1.2D + 1.0Ev + 1.0E...	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...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		ELZ	1	E...					
65	0.9D - 1.0Ev + 1.0Eh...	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...	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...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	ELZ		E...	1				
68	0.9D - 1.0Ev + 1.0Eh...	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...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	.5	ELZ	-.8...	E...	.5				
70	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		ELZ	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	-.5	ELZ	-.8...	E...	-.5				
72	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.8...	ELZ	-.5	E...	-.8...				
73	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	ELZ		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.8...	ELZ	.5	E...	-.8...				



Load Combinations (Continued)

Description	S...	PDel...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	
75	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	-5	ELZ	.866	E...	-5				

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	CP	0	0	0	0	
2	N13	-0.	0	-1.208333	0	
3	N14	-0.	0	-4.291667	0	
4	N15	-0.	0	-6.479167	0	
5	N16	-2.054622	0	-4.291667	0	
6	N17	2.054622	0	-4.291667	0	
7	N22	-0.791668	0	-6.479167	0	
8	N23	0.791668	0	-6.479167	0	
9	N35A	6.250012	0	3.925188	0	
10	N36	-6.249988	0	3.925188	0	
11	N37	5.750012	0	3.925188	0	
12	N38	5.750012	0	4.175189	0	
13	N40	5.750012	-4	4.175189	0	
14	N125A	5.750012	4	4.175189	0	
15	N217A	-0.	0	-2.708333	0	
16	N218A	0.375	0	-2.708333	0	
17	N219	0.375	3	-2.708333	0	
18	N220	0.375	-1	-2.708333	0	
19	N51B	1.729167	0	-4.291667	0	
20	N52A	1.729167	0.166667	-4.291667	0	
21	N53	0.466213	0	-6.479167	0	
22	N54A	0.466213	0.166667	-6.479167	0	
23	N63A	-1.729167	0	-4.291667	0	
24	N64A	-1.729167	0.166667	-4.291667	0	
25	N65A	-0.466213	0	-6.479167	0	
26	N66A	-0.466213	0.166667	-6.479167	0	
27	N31	-1.046447	0	0.604167	0	
28	N32	-3.716692	0	2.145833	0	
29	N33	-5.611123	0	3.239583	0	
30	N34	-2.689381	0	3.925188	0	
31	N35	-4.744003	0	0.366478	0	
32	N36A	-5.215289	0	3.925188	0	
33	N37A	-6.006957	0	2.553978	0	
34	N38A	-4.581276	0	0.648331	0	
35	N39A	-4.581276	0.166667	0.648331	0	
36	N40A	-5.844229	0	2.835831	0	
37	N41	-5.844229	0.166667	2.835831	0	
38	N42	-2.852109	0	3.643336	0	
39	N43	-2.852109	0.166667	3.643336	0	
40	N44	-5.378016	0	3.643336	0	
41	N45	-5.378016	0.166667	3.643336	0	
42	N46	1.046447	0	0.604167	0	
43	N47	3.716692	0	2.145833	0	
44	N48	5.611123	0	3.239583	0	
45	N49	4.744003	0	0.366478	0	
46	N50	2.689381	0	3.925188	0	
47	N51	6.006957	0	2.553978	0	
48	N52	5.215289	0	3.925188	0	
49	N53A	2.852109	0	3.643336	0	
50	N54	2.852109	0.166667	3.643336	0	
51	N55	5.378016	0	3.643336	0	



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

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 Checked By: _____

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
52	N56	5.378016	0.166667	3.643336	0	
53	N57	4.581276	0	0.648331	0	
54	N58	4.581276	0.166667	0.648331	0	
55	N59	5.844229	0	2.835831	0	
56	N60	5.844229	0.166667	2.835831	0	
57	N61	0.274307	0	-7.375263	0	
58	N62	6.524307	0	3.450054	0	
59	N63	-6.524319	0	3.450075	0	
60	N64	-0.274319	0	-7.375243	0	
61	N61A	6.250012	3.25	3.925188	0	
62	N62A	-6.249988	3.25	3.925188	0	
63	N63B	5.750012	3.25	3.925188	0	
64	N64B	5.750012	3.25	4.175189	0	
65	N65	0.274307	3.25	-7.375263	0	
66	N66	6.524307	3.25	3.450054	0	
67	N67	-6.524319	3.25	3.450075	0	
68	N68	-0.274319	3.25	-7.375243	0	
69	N69	5.125012	3.25	3.925188	0	
70	N70	-5.125012	3.25	3.925188	0	
71	N71	0.836807	3.25	-6.400984	0	
72	N72	5.961819	3.25	2.475796	0	
73	N73	-5.961819	3.25	2.475796	0	
74	N74	-0.836807	3.25	-6.400984	0	
75	N75	1.916678	0	3.925188	0	
76	N76	1.916678	0	4.175189	0	
77	N77	1.916678	-4	4.175189	0	
78	N78	1.916678	4	4.175189	0	
79	N79	1.916678	3.25	3.925188	0	
80	N80	1.916678	3.25	4.175189	0	
81	N81	-1.916655	0	3.925188	0	
82	N82	-1.916655	0	4.175189	0	
83	N83	-1.916655	-4	4.175189	0	
84	N84	-1.916655	4	4.175189	0	
85	N85	-1.916655	3.25	3.925188	0	
86	N86	-1.916655	3.25	4.175189	0	
87	N87	-5.749988	0	3.925188	0	
88	N88	-5.749988	0	4.175189	0	
89	N89	-5.749988	-4	4.175189	0	
90	N90	-5.749988	4	4.175189	0	
91	N91	-5.749988	3.25	3.925188	0	
92	N92	-5.749988	3.25	4.175189	0	
93	N93	0.524307	0	-6.94225	0	
94	N94	0.740814	0	-7.067251	0	
95	N95	0.740814	-4	-7.067251	0	
96	N96	0.740814	4	-7.067251	0	
97	N97	0.524307	3.25	-6.94225	0	
98	N98	0.740814	3.25	-7.067251	0	
99	N99	2.440974	0	-3.622486	0	
100	N100	2.657481	0	-3.747487	0	
101	N101	2.657481	-4	-3.747487	0	
102	N102	2.657481	4	-3.747487	0	
103	N103	2.440974	3.25	-3.622486	0	
104	N104	2.657481	3.25	-3.747487	0	
105	N105	4.35764	0	-0.302722	0	
106	N106	4.574148	0	-0.427723	0	
107	N107	4.574148	-4	-0.427723	0	
108	N108	4.574148	4	-0.427723	0	



Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
109	N109	4.35764	3.25	-0.302722	0	
110	N110	4.574148	3.25	-0.427723	0	
111	N111	6.274307	0	3.017042	0	
112	N112	6.490814	0	2.892041	0	
113	N113	6.490814	-4	2.892041	0	
114	N114	6.490814	4	2.892041	0	
115	N115	6.274307	3.25	3.017042	0	
116	N116	6.490814	3.25	2.892041	0	
117	N117	-6.274319	0	3.017062	0	
118	N118	-6.490826	0	2.892061	0	
119	N119	-6.490826	-4	2.892061	0	
120	N120	-6.490826	4	2.892061	0	
121	N121	-6.274319	3.25	3.017062	0	
122	N122	-6.490826	3.25	2.892061	0	
123	N123	-4.357652	0	-0.302702	0	
124	N124	-4.574159	0	-0.427703	0	
125	N125	-4.574159	-4	-0.427703	0	
126	N126	-4.574159	4	-0.427703	0	
127	N127	-4.357652	3.25	-0.302702	0	
128	N128	-4.574159	3.25	-0.427703	0	
129	N129	-2.440985	0	-3.622466	0	
130	N130	-2.657493	0	-3.747467	0	
131	N131	-2.657493	-4	-3.747467	0	
132	N132	-2.657493	4	-3.747467	0	
133	N133	-2.440985	3.25	-3.622466	0	
134	N134	-2.657493	3.25	-3.747467	0	
135	N135	-0.524319	0	-6.94223	0	
136	N136	-0.740826	0	-7.067231	0	
137	N137	-0.740826	-4	-7.067231	0	
138	N138	-0.740826	4	-7.067231	0	
139	N139	-0.524319	3.25	-6.94223	0	
140	N140	-0.740826	3.25	-7.067231	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Desig... A [in2]	Iyy [i... lzz [i... J [in4]
1	Support Rail	HSS2.375X0.154	Beam	Pipe	A500 Gr. C R...	Typical 1	.627 .627 1.25
2	Mount Pipe	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical 1.02	.627 .627 1.25
3	Face Horizontal	HSS3.500X0.216	Beam	Pipe	A500 Gr. C R...	Typical 2.08	2.84 2.84 5.69
4	Grating Angle	L1.5x1.5x4	Beam	Single Angle	A36 Gr.36	Typical .6875	.1385 .1385 .0127
5	Platform Crossmember	HSS3.500X0.216	Beam	None	A500 Gr. C R...	Typical 2.08	2.84 2.84 5.69
6	Standoff Horizontal	HSS5X3X6	Beam	None	A500 Gr.B Rect	Typical 4.78	6.25 14.1 14.9
7	Support Rail Corner Pipe	HSS2.375X0.154	Beam	Pipe	A500 Gr. C R...	Typical 1	.627 .627 1.25
8	TES P3	PIPE_2.0	Beam	Pipe	A500 Gr. C R...	Typical 1.02	.627 .627 1.25
9	TES P2	PIPE_3.0	Beam	Pipe	A500 Gr. C R...	Typical 2.07	2.85 2.85 5.69

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/... Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt	
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15



Hot Rolled Steel Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[k/ft^3]	Yield[ksi]	Rv	Fu[ksi]	Rt
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1
9	A500 Gr. C RND	29000	11154	.3	.65	.49	46	1.4	62	1.3

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
1	M6	N13	N15			Standoff Horizontal	Beam	None	A500 Gr...	Typical
2	M7	N23	N22			Platform Crossme...	Beam	None	A500 Gr...	Typical
3	M8	N17	N16			Platform Crossme...	Beam	None	A500 Gr...	Typical
4	M16	N36	N35A			Face Horizontal	Beam	Pipe	A500 Gr...	Typical
5	M17	N37	N38			RIGID	None	None	RIGID	Typical
6	MP1A	N125A	N40			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
7	OVP	N219	N220			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
8	M148	N217A	N218A			RIGID	None	None	RIGID	Typical
9	M26	N52A	N54A		270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
10	M27A	N51B	N52A			RIGID	None	None	RIGID	Typical
11	M28A	N53	N54A			RIGID	None	None	RIGID	Typical
12	M35	N64A	N66A			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
13	M36A	N63A	N64A			RIGID	None	None	RIGID	Typical
14	M37A	N65A	N66A			RIGID	None	None	RIGID	Typical
15	M17A	N31	N33			Standoff Horizontal	Beam	None	A500 Gr...	Typical
16	M18	N37A	N36A			Platform Crossme...	Beam	None	A500 Gr...	Typical
17	M19	N35	N34			Platform Crossme...	Beam	None	A500 Gr...	Typical
18	M20	N39A	N41		270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
19	M21	N38A	N39A			RIGID	None	None	RIGID	Typical
20	M22	N40A	N41			RIGID	None	None	RIGID	Typical
21	M23	N43	N45			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
22	M24	N42	N43			RIGID	None	None	RIGID	Typical
23	M25	N44	N45			RIGID	None	None	RIGID	Typical
24	M26A	N46	N48			Standoff Horizontal	Beam	None	A500 Gr...	Typical
25	M27	N52	N51			Platform Crossme...	Beam	None	A500 Gr...	Typical
26	M28	N50	N49			Platform Crossme...	Beam	None	A500 Gr...	Typical
27	M29	N54	N56		270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
28	M30	N53A	N54			RIGID	None	None	RIGID	Typical
29	M31	N55	N56			RIGID	None	None	RIGID	Typical
30	M32	N58	N60			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
31	M33	N57	N58			RIGID	None	None	RIGID	Typical
32	M34	N59	N60			RIGID	None	None	RIGID	Typical
33	M35A	N62	N61			Face Horizontal	Beam	Pipe	A500 Gr...	Typical
34	M36	N64	N63			Face Horizontal	Beam	Pipe	A500 Gr...	Typical
35	M35B	N62A	N61A			Support Rail	Beam	Pipe	A500 Gr...	Typical
36	M36B	N63B	N64B			RIGID	None	None	RIGID	Typical
37	M37	N66	N65			Support Rail	Beam	Pipe	A500 Gr...	Typical
38	M38	N68	N67			Support Rail	Beam	Pipe	A500 Gr...	Typical
39	M39	N69	N72			Support Rail Corn...	Beam	Pipe	A500 Gr...	Typical
40	M40	N71	N74			Support Rail Corn...	Beam	Pipe	A500 Gr...	Typical
41	M41	N73	N70			Support Rail Corn...	Beam	Pipe	A500 Gr...	Typical
42	M42	N75	N76			RIGID	None	None	RIGID	Typical
43	MP2A	N78	N77			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
44	M44	N79	N80			RIGID	None	None	RIGID	Typical
45	M45	N81	N82			RIGID	None	None	RIGID	Typical
46	MP3A	N84	N83			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
47	M47	N85	N86			RIGID	None	None	RIGID	Typical
48	M48	N87	N88			RIGID	None	None	RIGID	Typical
49	MP4A	N90	N89			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
50	M50	N91	N92			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
51	M51	N93	N94			RIGID	None	None	RIGID	Typical
52	MP1C	N96	N95			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
53	M53	N97	N98			RIGID	None	None	RIGID	Typical
54	M54	N99	N100			RIGID	None	None	RIGID	Typical
55	MP2C	N102	N101			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
56	M56	N103	N104			RIGID	None	None	RIGID	Typical
57	M57	N105	N106			RIGID	None	None	RIGID	Typical
58	MP3C	N108	N107			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
59	M59	N109	N110			RIGID	None	None	RIGID	Typical
60	M60	N111	N112			RIGID	None	None	RIGID	Typical
61	MP4C	N114	N113			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
62	M62	N115	N116			RIGID	None	None	RIGID	Typical
63	M63	N117	N118			RIGID	None	None	RIGID	Typical
64	MP1B	N120	N119			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
65	M65	N121	N122			RIGID	None	None	RIGID	Typical
66	M66	N123	N124			RIGID	None	None	RIGID	Typical
67	MP2B	N126	N125			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
68	M68	N127	N128			RIGID	None	None	RIGID	Typical
69	M69	N129	N130			RIGID	None	None	RIGID	Typical
70	MP3B	N132	N131			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
71	M71	N133	N134			RIGID	None	None	RIGID	Typical
72	M72	N135	N136			RIGID	None	None	RIGID	Typical
73	MP4B	N138	N137			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
74	M74	N139	N140			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical Defl Ratio Opti...	Analysis ...	Inactive	Seismi...
1	M6						Yes			None
2	M7	00000X	00000X				Yes	Default		None
3	M8	00000X	00000X				Yes	Default		None
4	M16						Yes			None
5	M17						Yes	** NA **		None
6	MP1A						Yes	** NA **		None
7	OVP						Yes	** NA **		None
8	M148						Yes	** NA **		None
9	M26	0000X0	0000X0				Yes	Default		None
10	M27A						Yes	** NA **		None
11	M28A						Yes	** NA **		None
12	M35	00000X	00000X				Yes	Default		None
13	M36A						Yes	** NA **		None
14	M37A						Yes	** NA **		None
15	M17A						Yes			None
16	M18	00000X	00000X				Yes	Default		None
17	M19	00000X	00000X				Yes	Default		None
18	M20	0000X0	0000X0				Yes	Default		None
19	M21						Yes	** NA **		None
20	M22						Yes	** NA **		None
21	M23	00000X	00000X				Yes	Default		None
22	M24						Yes	** NA **		None
23	M25						Yes	** NA **		None
24	M26A						Yes			None
25	M27	00000X	00000X				Yes	Default		None
26	M28	00000X	00000X				Yes	Default		None
27	M29	0000X0	0000X0				Yes	Default		None
28	M30						Yes	** NA **		None



Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio	Opti...	Analysis ...	Inactive	Seismi...
29	M31						Yes	** NA **				None
30	M32	00000X	00000X				Yes	Default				None
31	M33						Yes	** NA **				None
32	M34						Yes	** NA **				None
33	M35A						Yes					None
34	M36						Yes					None
35	M35B						Yes					None
36	M36B						Yes	** NA **				None
37	M37						Yes					None
38	M38						Yes					None
39	M39	00000X	00000X				Yes	Default				None
40	M40	00000X	00000X				Yes	Default				None
41	M41	00000X	00000X				Yes	Default				None
42	M42						Yes	** NA **				None
43	MP2A						Yes	** NA **				None
44	M44						Yes	** NA **				None
45	M45						Yes	** NA **				None
46	MP3A						Yes	** NA **				None
47	M47						Yes	** NA **				None
48	M48						Yes	** NA **				None
49	MP4A						Yes	** NA **				None
50	M50						Yes	** NA **				None
51	M51						Yes	** NA **				None
52	MP1C						Yes	** NA **				None
53	M53						Yes	** NA **				None
54	M54						Yes	** NA **				None
55	MP2C						Yes	** NA **				None
56	M56						Yes	** NA **				None
57	M57						Yes	** NA **				None
58	MP3C						Yes	** NA **				None
59	M59						Yes	** NA **				None
60	M60						Yes	** NA **				None
61	MP4C						Yes	** NA **				None
62	M62						Yes	** NA **				None
63	M63						Yes	** NA **				None
64	MP1B						Yes	** NA **				None
65	M65						Yes	** NA **				None
66	M66						Yes	** NA **				None
67	MP2B						Yes	** NA **				None
68	M68						Yes	** NA **				None
69	M69						Yes	** NA **				None
70	MP3B						Yes	** NA **				None
71	M71						Yes	** NA **				None
72	M72						Yes	** NA **				None
73	MP4B						Yes	** NA **				None
74	M74						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	-0.143	3
3	MP4A	Mz	0	3
4	MP4A	Y	-28.65	5
5	MP4A	My	-0.143	5
6	MP4A	Mz	0	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
7	MP4B	Y	-28.65	3
8	MP4B	My	.0025	3
9	MP4B	Mz	-.0141	3
10	MP4B	Y	-28.65	5
11	MP4B	My	.0025	5
12	MP4B	Mz	-.0141	5
13	MP4C	Y	-28.65	3
14	MP4C	My	.0092	3
15	MP4C	Mz	.011	3
16	MP4C	Y	-28.65	5
17	MP4C	My	.0092	5
18	MP4C	Mz	.011	5
19	MP2A	Y	-21.85	2
20	MP2A	My	-.0164	2
21	MP2A	Mz	.0127	2
22	MP2A	Y	-21.85	6
23	MP2A	My	-.0164	6
24	MP2A	Mz	.0127	6
25	MP2B	Y	-21.85	2
26	MP2B	My	-.0097	2
27	MP2B	Mz	-.0184	2
28	MP2B	Y	-21.85	6
29	MP2B	My	-.0097	6
30	MP2B	Mz	-.0184	6
31	MP2C	Y	-21.85	2
32	MP2C	My	.0203	2
33	MP2C	Mz	.0044	2
34	MP2C	Y	-21.85	6
35	MP2C	My	.0203	6
36	MP2C	Mz	.0044	6
37	MP1A	Y	-74.7	1.5
38	MP1A	My	.0747	1.5
39	MP1A	Mz	0	1.5
40	MP1B	Y	-74.7	1.5
41	MP1B	My	-.013	1.5
42	MP1B	Mz	.0736	1.5
43	MP1C	Y	-74.7	1.5
44	MP1C	My	-.048	1.5
45	MP1C	Mz	-.0572	1.5
46	MP2A	Y	-79.1	1.5
47	MP2A	My	.0791	1.5
48	MP2A	Mz	0	1.5
49	MP2B	Y	-79.1	1.5
50	MP2B	My	-.0137	1.5
51	MP2B	Mz	.0779	1.5
52	MP2C	Y	-79.1	1.5
53	MP2C	My	-.0508	1.5
54	MP2C	Mz	-.0606	1.5
55	MP2A	Y	-20.8	6
56	MP2A	My	.0104	6
57	MP2A	Mz	0	6
58	MP2B	Y	-20.8	6
59	MP2B	My	-.0018	6
60	MP2B	Mz	.0102	6
61	MP2C	Y	-20.8	6
62	MP2C	My	-.0067	6
63	MP2C	Mz	-.008	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
64	OVP	Y	-32	1
65	OVP	My	0	1
66	OVP	Mz	0	1
67	MP2A	Y	-32.3	2
68	MP2A	My	-.0242	2
69	MP2A	Mz	-.0188	2
70	MP2A	Y	-32.3	6
71	MP2A	My	-.0242	6
72	MP2A	Mz	-.0188	6
73	MP2B	Y	-32.3	2
74	MP2B	My	.0228	2
75	MP2B	Mz	-.0206	2
76	MP2B	Y	-32.3	6
77	MP2B	My	.0228	6
78	MP2B	Mz	-.0206	6
79	MP2C	Y	-32.3	2
80	MP2C	My	.0011	2
81	MP2C	Mz	.0307	2
82	MP2C	Y	-32.3	6
83	MP2C	My	.0011	6
84	MP2C	Mz	.0307	6
85	MP3A	Y	-15.4	1.5
86	MP3A	My	.0077	1.5
87	MP3A	Mz	0	1.5
88	MP3B	Y	-15.4	1.5
89	MP3B	My	-.0013	1.5
90	MP3B	Mz	.0076	1.5
91	MP3C	Y	-15.4	1.5
92	MP3C	My	-.0049	1.5
93	MP3C	Mz	-.0059	1.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	Y	-55.3068	3
2	MP4A	My	-.0277	3
3	MP4A	Mz	0	3
4	MP4A	Y	-55.3068	5
5	MP4A	My	-.0277	5
6	MP4A	Mz	0	5
7	MP4B	Y	-55.3068	3
8	MP4B	My	.0048	3
9	MP4B	Mz	-.0272	3
10	MP4B	Y	-55.3068	5
11	MP4B	My	.0048	5
12	MP4B	Mz	-.0272	5
13	MP4C	Y	-55.3068	3
14	MP4C	My	.0178	3
15	MP4C	Mz	.0212	3
16	MP4C	Y	-55.3068	5
17	MP4C	My	.0178	5
18	MP4C	Mz	.0212	5
19	MP2A	Y	-111.2726	2
20	MP2A	My	-.0835	2
21	MP2A	Mz	.0649	2
22	MP2A	Y	-111.2726	6
23	MP2A	My	-.0835	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
24	MP2A	Mz	.0649	6
25	MP2B	Y	-111.2726	2
26	MP2B	My	-.0494	2
27	MP2B	Mz	-.0935	2
28	MP2B	Y	-111.2726	6
29	MP2B	My	-.0494	6
30	MP2B	Mz	-.0935	6
31	MP2C	Y	-111.2726	2
32	MP2C	My	.1034	2
33	MP2C	Mz	.0222	2
34	MP2C	Y	-111.2726	6
35	MP2C	My	.1034	6
36	MP2C	Mz	.0222	6
37	MP1A	Y	-83.9125	1.5
38	MP1A	My	.0839	1.5
39	MP1A	Mz	0	1.5
40	MP1B	Y	-83.9125	1.5
41	MP1B	My	-.0146	1.5
42	MP1B	Mz	.0826	1.5
43	MP1C	Y	-83.9125	1.5
44	MP1C	My	-.0539	1.5
45	MP1C	Mz	-.0643	1.5
46	MP2A	Y	-84.7579	1.5
47	MP2A	My	.0848	1.5
48	MP2A	Mz	0	1.5
49	MP2B	Y	-84.7579	1.5
50	MP2B	My	-.0147	1.5
51	MP2B	Mz	.0835	1.5
52	MP2C	Y	-84.7579	1.5
53	MP2C	My	-.0545	1.5
54	MP2C	Mz	-.0649	1.5
55	MP2A	Y	-32.0424	6
56	MP2A	My	.016	6
57	MP2A	Mz	0	6
58	MP2B	Y	-32.0424	6
59	MP2B	My	-.0028	6
60	MP2B	Mz	.0158	6
61	MP2C	Y	-32.0424	6
62	MP2C	My	-.0103	6
63	MP2C	Mz	-.0123	6
64	OVP	Y	-160.413	1
65	OVP	My	0	1
66	OVP	Mz	0	1
67	MP2A	Y	-111.2726	2
68	MP2A	My	-.0835	2
69	MP2A	Mz	-.0649	2
70	MP2A	Y	-111.2726	6
71	MP2A	My	-.0835	6
72	MP2A	Mz	-.0649	6
73	MP2B	Y	-111.2726	2
74	MP2B	My	.0784	2
75	MP2B	Mz	-.0709	2
76	MP2B	Y	-111.2726	6
77	MP2B	My	.0784	6
78	MP2B	Mz	-.0709	6
79	MP2C	Y	-111.2726	2
80	MP2C	My	.0039	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
81	MP2C	Mz	.1057	2
82	MP2C	Y	-111.2726	6
83	MP2C	My	.0039	6
84	MP2C	Mz	.1057	6
85	MP3A	Y	-33.107	1.5
86	MP3A	My	.0166	1.5
87	MP3A	Mz	0	1.5
88	MP3B	Y	-33.107	1.5
89	MP3B	My	-.0029	1.5
90	MP3B	Mz	.0163	1.5
91	MP3C	Y	-33.107	1.5
92	MP3C	My	-.0106	1.5
93	MP3C	Mz	-.0127	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	-92.814	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	-92.814	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	-37.468	3
9	MP4B	Mx	.0184	3
10	MP4B	X	0	5
11	MP4B	Z	-37.468	5
12	MP4B	Mx	.0184	5
13	MP4C	X	0	3
14	MP4C	Z	-59.326	3
15	MP4C	Mx	-.0227	3
16	MP4C	X	0	5
17	MP4C	Z	-59.326	5
18	MP4C	Mx	-.0227	5
19	MP2A	X	0	2
20	MP2A	Z	-132.976	2
21	MP2A	Mx	-.0776	2
22	MP2A	X	0	6
23	MP2A	Z	-132.976	6
24	MP2A	Mx	-.0776	6
25	MP2B	X	0	2
26	MP2B	Z	-59.349	2
27	MP2B	Mx	.0498	2
28	MP2B	X	0	6
29	MP2B	Z	-59.349	6
30	MP2B	Mx	.0498	6
31	MP2C	X	0	2
32	MP2C	Z	-88.427	2
33	MP2C	Mx	-.0176	2
34	MP2C	X	0	6
35	MP2C	Z	-88.427	6
36	MP2C	Mx	-.0176	6
37	MP1A	X	0	1.5
38	MP1A	Z	-75.916	1.5
39	MP1A	Mx	0	1.5
40	MP1B	X	0	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
41	MP1B	Z	-51.691	1.5
42	MP1B	Mx	-.0509	1.5
43	MP1C	X	0	1.5
44	MP1C	Z	-61.258	1.5
45	MP1C	Mx	.0469	1.5
46	MP2A	X	0	1.5
47	MP2A	Z	-91.59	1.5
48	MP2A	Mx	0	1.5
49	MP2B	X	0	1.5
50	MP2B	Z	-63.326	1.5
51	MP2B	Mx	-.0624	1.5
52	MP2C	X	0	1.5
53	MP2C	Z	-74.488	1.5
54	MP2C	Mx	.0571	1.5
55	MP2A	X	0	6
56	MP2A	Z	-18.122	6
57	MP2A	Mx	0	6
58	MP2B	X	0	6
59	MP2B	Z	-24.867	6
60	MP2B	Mx	-.0122	6
61	MP2C	X	0	6
62	MP2C	Z	-22.203	6
63	MP2C	Mx	.0085	6
64	OVP	X	0	1
65	OVP	Z	-154.139	1
66	OVP	Mx	0	1
67	MP2A	X	0	2
68	MP2A	Z	-197.138	2
69	MP2A	Mx	.115	2
70	MP2A	X	0	6
71	MP2A	Z	-197.138	6
72	MP2A	Mx	.115	6
73	MP2B	X	0	2
74	MP2B	Z	-132.813	2
75	MP2B	Mx	.0846	2
76	MP2B	X	0	6
77	MP2B	Z	-132.813	6
78	MP2B	Mx	.0846	6
79	MP2C	X	0	2
80	MP2C	Z	-158.217	2
81	MP2C	Mx	-.1502	2
82	MP2C	X	0	6
83	MP2C	Z	-158.217	6
84	MP2C	Mx	-.1502	6
85	MP3A	X	0	1.5
86	MP3A	Z	-42.121	1.5
87	MP3A	Mx	0	1.5
88	MP3B	X	0	1.5
89	MP3B	Z	-18.57	1.5
90	MP3B	Mx	-.0091	1.5
91	MP3C	X	0	1.5
92	MP3C	Z	-27.871	1.5
93	MP3C	Mx	.0107	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	39.274	3
2	MP4A	Z	-68.024	3
3	MP4A	Mx	-.0196	3
4	MP4A	X	39.274	5
5	MP4A	Z	-68.024	5
6	MP4A	Mx	-.0196	5
7	MP4B	X	21.211	3
8	MP4B	Z	-36.739	3
9	MP4B	Mx	.0199	3
10	MP4B	X	21.211	5
11	MP4B	Z	-36.739	5
12	MP4B	Mx	.0199	5
13	MP4C	X	43.069	3
14	MP4C	Z	-74.598	3
15	MP4C	Mx	-.0147	3
16	MP4C	X	43.069	5
17	MP4C	Z	-74.598	5
18	MP4C	Mx	-.0147	5
19	MP2A	X	56.999	2
20	MP2A	Z	-98.724	2
21	MP2A	Mx	-.1003	2
22	MP2A	X	56.999	6
23	MP2A	Z	-98.724	6
24	MP2A	Mx	-.1003	6
25	MP2B	X	32.97	2
26	MP2B	Z	-57.106	2
27	MP2B	Mx	.0333	2
28	MP2B	X	32.97	6
29	MP2B	Z	-57.106	6
30	MP2B	Mx	.0333	6
31	MP2C	X	62.048	2
32	MP2C	Z	-107.47	2
33	MP2C	Mx	.0362	2
34	MP2C	X	62.048	6
35	MP2C	Z	-107.47	6
36	MP2C	Mx	.0362	6
37	MP1A	X	34.836	1.5
38	MP1A	Z	-60.337	1.5
39	MP1A	Mx	.0348	1.5
40	MP1B	X	26.93	1.5
41	MP1B	Z	-46.644	1.5
42	MP1B	Mx	-.0506	1.5
43	MP1C	X	36.497	1.5
44	MP1C	Z	-63.215	1.5
45	MP1C	Mx	.025	1.5
46	MP2A	X	42.152	1.5
47	MP2A	Z	-73.009	1.5
48	MP2A	Mx	.0422	1.5
49	MP2B	X	32.928	1.5
50	MP2B	Z	-57.033	1.5
51	MP2B	Mx	-.0619	1.5
52	MP2C	X	44.09	1.5
53	MP2C	Z	-76.367	1.5
54	MP2C	Mx	.0302	1.5
55	MP2A	X	9.93	6
56	MP2A	Z	-17.2	6
57	MP2A	Mx	.005	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
58	MP2B	X	12.132	6
59	MP2B	Z	-21.013	6
60	MP2B	Mx	-.0114	6
61	MP2C	X	9.468	6
62	MP2C	Z	-16.399	6
63	MP2C	Mx	.0032	6
64	OVP	X	75.454	1
65	OVP	Z	-130.689	1
66	OVP	Mx	0	1
67	MP2A	X	90.278	2
68	MP2A	Z	-156.367	2
69	MP2A	Mx	.0235	2
70	MP2A	X	90.278	6
71	MP2A	Z	-156.367	6
72	MP2A	Mx	.0235	6
73	MP2B	X	69.286	2
74	MP2B	Z	-120.006	2
75	MP2B	Mx	.1253	2
76	MP2B	X	69.286	6
77	MP2B	Z	-120.006	6
78	MP2B	Mx	.1253	6
79	MP2C	X	94.69	2
80	MP2C	Z	-164.007	2
81	MP2C	Mx	-.1524	2
82	MP2C	X	94.69	6
83	MP2C	Z	-164.007	6
84	MP2C	Mx	-.1524	6
85	MP3A	X	18.025	1.5
86	MP3A	Z	-31.221	1.5
87	MP3A	Mx	.009	1.5
88	MP3B	X	10.339	1.5
89	MP3B	Z	-17.908	1.5
90	MP3B	Mx	-.0097	1.5
91	MP3C	X	19.64	1.5
92	MP3C	Z	-34.018	1.5
93	MP3C	Mx	.0067	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	43.313	3
2	MP4A	Z	-25.007	3
3	MP4A	Mx	-.0217	3
4	MP4A	X	43.313	5
5	MP4A	Z	-25.007	5
6	MP4A	Mx	-.0217	5
7	MP4B	X	59.96	3
8	MP4B	Z	-34.618	3
9	MP4B	Mx	.0223	3
10	MP4B	X	59.96	5
11	MP4B	Z	-34.618	5
12	MP4B	Mx	.0223	5
13	MP4C	X	78.889	3
14	MP4C	Z	-45.547	3
15	MP4C	Mx	.0079	3
16	MP4C	X	78.889	5
17	MP4C	Z	-45.547	5



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

Sept 18, 2023
 5:23 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
18	MP4C	Mx	.0079	5
19	MP2A	X	65.852	2
20	MP2A	Z	-38.019	2
21	MP2A	Mx	-.0716	2
22	MP2A	X	65.852	6
23	MP2A	Z	-38.019	6
24	MP2A	Mx	-.0716	6
25	MP2B	X	87.996	2
26	MP2B	Z	-50.805	2
27	MP2B	Mx	.0036	2
28	MP2B	X	87.996	6
29	MP2B	Z	-50.805	6
30	MP2B	Mx	.0036	6
31	MP2C	X	113.178	2
32	MP2C	Z	-65.344	2
33	MP2C	Mx	.0921	2
34	MP2C	X	113.178	6
35	MP2C	Z	-65.344	6
36	MP2C	Mx	.0921	6
37	MP1A	X	49.521	1.5
38	MP1A	Z	-28.591	1.5
39	MP1A	Mx	.0495	1.5
40	MP1B	X	56.808	1.5
41	MP1B	Z	-32.798	1.5
42	MP1B	Mx	-.0422	1.5
43	MP1C	X	65.093	1.5
44	MP1C	Z	-37.582	1.5
45	MP1C	Mx	-.0131	1.5
46	MP2A	X	60.39	1.5
47	MP2A	Z	-34.866	1.5
48	MP2A	Mx	.0604	1.5
49	MP2B	X	68.891	1.5
50	MP2B	Z	-39.774	1.5
51	MP2B	Mx	-.0511	1.5
52	MP2C	X	78.558	1.5
53	MP2C	Z	-45.355	1.5
54	MP2C	Mx	-.0158	1.5
55	MP2A	X	20.211	6
56	MP2A	Z	-11.669	6
57	MP2A	Mx	.0101	6
58	MP2B	X	18.183	6
59	MP2B	Z	-10.498	6
60	MP2B	Mx	-.0067	6
61	MP2C	X	15.876	6
62	MP2C	Z	-9.166	6
63	MP2C	Mx	-.0016	6
64	OVP	X	115.543	1
65	OVP	Z	-66.709	1
66	OVP	Mx	0	1
67	MP2A	X	127.647	2
68	MP2A	Z	-73.697	2
69	MP2A	Mx	-.0527	2
70	MP2A	X	127.647	6
71	MP2A	Z	-73.697	6
72	MP2A	Mx	-.0527	6
73	MP2B	X	146.994	2
74	MP2B	Z	-84.867	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
75	MP2B	Mx	.1577	2
76	MP2B	X	146.994	6
77	MP2B	Z	-84.867	6
78	MP2B	Mx	.1577	6
79	MP2C	X	168.994	2
80	MP2C	Z	-97.569	2
81	MP2C	Mx	-.0867	2
82	MP2C	X	168.994	6
83	MP2C	Z	-97.569	6
84	MP2C	Mx	-.0867	6
85	MP3A	X	20.706	1.5
86	MP3A	Z	-11.954	1.5
87	MP3A	Mx	.0104	1.5
88	MP3B	X	27.789	1.5
89	MP3B	Z	-16.044	1.5
90	MP3B	Mx	-.0103	1.5
91	MP3C	X	35.844	1.5
92	MP3C	Z	-20.695	1.5
93	MP3C	Mx	-.0036	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	35.747	3
2	MP4A	Z	0	3
3	MP4A	Mx	-.0179	3
4	MP4A	X	35.747	5
5	MP4A	Z	0	5
6	MP4A	Mx	-.0179	5
7	MP4B	X	91.093	3
8	MP4B	Z	0	3
9	MP4B	Mx	.0079	3
10	MP4B	X	91.093	5
11	MP4B	Z	0	5
12	MP4B	Mx	.0079	5
13	MP4C	X	69.235	3
14	MP4C	Z	0	3
15	MP4C	Mx	.0223	3
16	MP4C	X	69.235	5
17	MP4C	Z	0	5
18	MP4C	Mx	.0223	5
19	MP2A	X	57.06	2
20	MP2A	Z	0	2
21	MP2A	Mx	-.0428	2
22	MP2A	X	57.06	6
23	MP2A	Z	0	6
24	MP2A	Mx	-.0428	6
25	MP2B	X	130.687	2
26	MP2B	Z	0	2
27	MP2B	Mx	-.0581	2
28	MP2B	X	130.687	6
29	MP2B	Z	0	6
30	MP2B	Mx	-.0581	6
31	MP2C	X	101.609	2
32	MP2C	Z	0	2
33	MP2C	Mx	.0944	2
34	MP2C	X	101.609	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
35	MP2C	Z	0	6
36	MP2C	Mx	.0944	6
37	MP1A	X	50.937	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	.0509	1.5
40	MP1B	X	75.163	1.5
41	MP1B	Z	0	1.5
42	MP1B	Mx	-.0131	1.5
43	MP1C	X	65.596	1.5
44	MP1C	Z	0	1.5
45	MP1C	Mx	-.0422	1.5
46	MP2A	X	62.447	1.5
47	MP2A	Z	0	1.5
48	MP2A	Mx	.0624	1.5
49	MP2B	X	90.711	1.5
50	MP2B	Z	0	1.5
51	MP2B	Mx	-.0158	1.5
52	MP2C	X	79.549	1.5
53	MP2C	Z	0	1.5
54	MP2C	Mx	-.0511	1.5
55	MP2A	X	25.077	6
56	MP2A	Z	0	6
57	MP2A	Mx	.0125	6
58	MP2B	X	18.332	6
59	MP2B	Z	0	6
60	MP2B	Mx	-.0016	6
61	MP2C	X	20.996	6
62	MP2C	Z	0	6
63	MP2C	Mx	-.0067	6
64	OVP	X	119.16	1
65	OVP	Z	0	1
66	OVP	Mx	0	1
67	MP2A	X	130.813	2
68	MP2A	Z	0	2
69	MP2A	Mx	-.0981	2
70	MP2A	X	130.813	6
71	MP2A	Z	0	6
72	MP2A	Mx	-.0981	6
73	MP2B	X	195.138	2
74	MP2B	Z	0	2
75	MP2B	Mx	.1375	2
76	MP2B	X	195.138	6
77	MP2B	Z	0	6
78	MP2B	Mx	.1375	6
79	MP2C	X	169.734	2
80	MP2C	Z	0	2
81	MP2C	Mx	.006	2
82	MP2C	X	169.734	6
83	MP2C	Z	0	6
84	MP2C	Mx	.006	6
85	MP3A	X	17.838	1.5
86	MP3A	Z	0	1.5
87	MP3A	Mx	.0089	1.5
88	MP3B	X	41.389	1.5
89	MP3B	Z	0	1.5
90	MP3B	Mx	-.0036	1.5
91	MP3C	X	32.088	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
92	MP3C	Z	0	1.5
93	MP3C	Mx	-.0103	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	43.313	3
2	MP4A	Z	25.007	3
3	MP4A	Mx	-.0217	3
4	MP4A	X	43.313	5
5	MP4A	Z	25.007	5
6	MP4A	Mx	-.0217	5
7	MP4B	X	74.598	3
8	MP4B	Z	43.069	3
9	MP4B	Mx	-.0147	3
10	MP4B	X	74.598	5
11	MP4B	Z	43.069	5
12	MP4B	Mx	-.0147	5
13	MP4C	X	36.739	3
14	MP4C	Z	21.211	3
15	MP4C	Mx	.0199	3
16	MP4C	X	36.739	5
17	MP4C	Z	21.211	5
18	MP4C	Mx	.0199	5
19	MP2A	X	65.852	2
20	MP2A	Z	38.019	2
21	MP2A	Mx	-.0272	2
22	MP2A	X	65.852	6
23	MP2A	Z	38.019	6
24	MP2A	Mx	-.0272	6
25	MP2B	X	107.47	2
26	MP2B	Z	62.048	2
27	MP2B	Mx	-.0999	2
28	MP2B	X	107.47	6
29	MP2B	Z	62.048	6
30	MP2B	Mx	-.0999	6
31	MP2C	X	57.106	2
32	MP2C	Z	32.97	2
33	MP2C	Mx	.0596	2
34	MP2C	X	57.106	6
35	MP2C	Z	32.97	6
36	MP2C	Mx	.0596	6
37	MP1A	X	49.521	1.5
38	MP1A	Z	28.591	1.5
39	MP1A	Mx	.0495	1.5
40	MP1B	X	63.215	1.5
41	MP1B	Z	36.497	1.5
42	MP1B	Mx	.025	1.5
43	MP1C	X	46.644	1.5
44	MP1C	Z	26.93	1.5
45	MP1C	Mx	-.0506	1.5
46	MP2A	X	60.39	1.5
47	MP2A	Z	34.866	1.5
48	MP2A	Mx	.0604	1.5
49	MP2B	X	76.367	1.5
50	MP2B	Z	44.09	1.5
51	MP2B	Mx	.0302	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
52	MP2C	X	57.033	1.5
53	MP2C	Z	32.928	1.5
54	MP2C	Mx	-.0619	1.5
55	MP2A	X	20.211	6
56	MP2A	Z	11.669	6
57	MP2A	Mx	.0101	6
58	MP2B	X	16.399	6
59	MP2B	Z	9.468	6
60	MP2B	Mx	.0032	6
61	MP2C	X	21.013	6
62	MP2C	Z	12.132	6
63	MP2C	Mx	-.0114	6
64	OVP	X	105.995	1
65	OVP	Z	61.196	1
66	OVP	Mx	0	1
67	MP2A	X	127.647	2
68	MP2A	Z	73.697	2
69	MP2A	Mx	-.1387	2
70	MP2A	X	127.647	6
71	MP2A	Z	73.697	6
72	MP2A	Mx	-.1387	6
73	MP2B	X	164.007	2
74	MP2B	Z	94.69	2
75	MP2B	Mx	.0552	2
76	MP2B	X	164.007	6
77	MP2B	Z	94.69	6
78	MP2B	Mx	.0552	6
79	MP2C	X	120.006	2
80	MP2C	Z	69.286	2
81	MP2C	Mx	.07	2
82	MP2C	X	120.006	6
83	MP2C	Z	69.286	6
84	MP2C	Mx	.07	6
85	MP3A	X	20.706	1.5
86	MP3A	Z	11.954	1.5
87	MP3A	Mx	.0104	1.5
88	MP3B	X	34.018	1.5
89	MP3B	Z	19.64	1.5
90	MP3B	Mx	.0067	1.5
91	MP3C	X	17.908	1.5
92	MP3C	Z	10.339	1.5
93	MP3C	Mx	-.0097	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	39.274	3
2	MP4A	Z	68.024	3
3	MP4A	Mx	-.0196	3
4	MP4A	X	39.274	5
5	MP4A	Z	68.024	5
6	MP4A	Mx	-.0196	5
7	MP4B	X	29.663	3
8	MP4B	Z	51.378	3
9	MP4B	Mx	-.0227	3
10	MP4B	X	29.663	5
11	MP4B	Z	51.378	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
12	MP4B	Mx	-.0227	5
13	MP4C	X	18.734	3
14	MP4C	Z	32.448	3
15	MP4C	Mx	.0184	3
16	MP4C	X	18.734	5
17	MP4C	Z	32.448	5
18	MP4C	Mx	.0184	5
19	MP2A	X	56.999	2
20	MP2A	Z	98.724	2
21	MP2A	Mx	.0148	2
22	MP2A	X	56.999	6
23	MP2A	Z	98.724	6
24	MP2A	Mx	.0148	6
25	MP2B	X	44.213	2
26	MP2B	Z	76.58	2
27	MP2B	Mx	-.084	2
28	MP2B	X	44.213	6
29	MP2B	Z	76.58	6
30	MP2B	Mx	-.084	6
31	MP2C	X	29.674	2
32	MP2C	Z	51.398	2
33	MP2C	Mx	.0378	2
34	MP2C	X	29.674	6
35	MP2C	Z	51.398	6
36	MP2C	Mx	.0378	6
37	MP1A	X	34.836	1.5
38	MP1A	Z	60.337	1.5
39	MP1A	Mx	.0348	1.5
40	MP1B	X	30.629	1.5
41	MP1B	Z	53.051	1.5
42	MP1B	Mx	.0469	1.5
43	MP1C	X	25.845	1.5
44	MP1C	Z	44.765	1.5
45	MP1C	Mx	-.0509	1.5
46	MP2A	X	42.152	1.5
47	MP2A	Z	73.009	1.5
48	MP2A	Mx	.0422	1.5
49	MP2B	X	37.244	1.5
50	MP2B	Z	64.509	1.5
51	MP2B	Mx	.0571	1.5
52	MP2C	X	31.663	1.5
53	MP2C	Z	54.842	1.5
54	MP2C	Mx	-.0624	1.5
55	MP2A	X	9.93	6
56	MP2A	Z	17.2	6
57	MP2A	Mx	.005	6
58	MP2B	X	11.102	6
59	MP2B	Z	19.229	6
60	MP2B	Mx	.0085	6
61	MP2C	X	12.434	6
62	MP2C	Z	21.536	6
63	MP2C	Mx	-.0122	6
64	OVP	X	69.941	1
65	OVP	Z	121.141	1
66	OVP	Mx	0	1
67	MP2A	X	90.278	2
68	MP2A	Z	156.367	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
69	MP2A	Mx	-.1589	2
70	MP2A	X	90.278	6
71	MP2A	Z	156.367	6
72	MP2A	Mx	-.1589	6
73	MP2B	X	79.108	2
74	MP2B	Z	137.02	2
75	MP2B	Mx	-.0316	2
76	MP2B	X	79.108	6
77	MP2B	Z	137.02	6
78	MP2B	Mx	-.0316	6
79	MP2C	X	66.406	2
80	MP2C	Z	115.019	2
81	MP2C	Mx	.1115	2
82	MP2C	X	66.406	6
83	MP2C	Z	115.019	6
84	MP2C	Mx	.1115	6
85	MP3A	X	18.025	1.5
86	MP3A	Z	31.221	1.5
87	MP3A	Mx	.009	1.5
88	MP3B	X	13.936	1.5
89	MP3B	Z	24.137	1.5
90	MP3B	Mx	.0107	1.5
91	MP3C	X	9.285	1.5
92	MP3C	Z	16.082	1.5
93	MP3C	Mx	-.0091	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	92.814	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	92.814	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	37.468	3
9	MP4B	Mx	-.0184	3
10	MP4B	X	0	5
11	MP4B	Z	37.468	5
12	MP4B	Mx	-.0184	5
13	MP4C	X	0	3
14	MP4C	Z	59.326	3
15	MP4C	Mx	.0227	3
16	MP4C	X	0	5
17	MP4C	Z	59.326	5
18	MP4C	Mx	.0227	5
19	MP2A	X	0	2
20	MP2A	Z	132.976	2
21	MP2A	Mx	.0776	2
22	MP2A	X	0	6
23	MP2A	Z	132.976	6
24	MP2A	Mx	.0776	6
25	MP2B	X	0	2
26	MP2B	Z	59.349	2
27	MP2B	Mx	-.0498	2
28	MP2B	X	0	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
29	MP2B	Z	59.349	6
30	MP2B	Mx	-.0498	6
31	MP2C	X	0	2
32	MP2C	Z	88.427	2
33	MP2C	Mx	.0176	2
34	MP2C	X	0	6
35	MP2C	Z	88.427	6
36	MP2C	Mx	.0176	6
37	MP1A	X	0	1.5
38	MP1A	Z	75.916	1.5
39	MP1A	Mx	0	1.5
40	MP1B	X	0	1.5
41	MP1B	Z	51.691	1.5
42	MP1B	Mx	.0509	1.5
43	MP1C	X	0	1.5
44	MP1C	Z	61.258	1.5
45	MP1C	Mx	-.0469	1.5
46	MP2A	X	0	1.5
47	MP2A	Z	91.59	1.5
48	MP2A	Mx	0	1.5
49	MP2B	X	0	1.5
50	MP2B	Z	63.326	1.5
51	MP2B	Mx	.0624	1.5
52	MP2C	X	0	1.5
53	MP2C	Z	74.488	1.5
54	MP2C	Mx	-.0571	1.5
55	MP2A	X	0	6
56	MP2A	Z	18.122	6
57	MP2A	Mx	0	6
58	MP2B	X	0	6
59	MP2B	Z	24.867	6
60	MP2B	Mx	.0122	6
61	MP2C	X	0	6
62	MP2C	Z	22.203	6
63	MP2C	Mx	-.0085	6
64	OVP	X	0	1
65	OVP	Z	154.139	1
66	OVP	Mx	0	1
67	MP2A	X	0	2
68	MP2A	Z	197.138	2
69	MP2A	Mx	-.115	2
70	MP2A	X	0	6
71	MP2A	Z	197.138	6
72	MP2A	Mx	-.115	6
73	MP2B	X	0	2
74	MP2B	Z	132.813	2
75	MP2B	Mx	-.0846	2
76	MP2B	X	0	6
77	MP2B	Z	132.813	6
78	MP2B	Mx	-.0846	6
79	MP2C	X	0	2
80	MP2C	Z	158.217	2
81	MP2C	Mx	.1502	2
82	MP2C	X	0	6
83	MP2C	Z	158.217	6
84	MP2C	Mx	.1502	6
85	MP3A	X	0	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
86	MP3A	Z	42.121	1.5
87	MP3A	Mx	0	1.5
88	MP3B	X	0	1.5
89	MP3B	Z	18.57	1.5
90	MP3B	Mx	.0091	1.5
91	MP3C	X	0	1.5
92	MP3C	Z	27.871	1.5
93	MP3C	Mx	-.0107	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-39.274	3
2	MP4A	Z	68.024	3
3	MP4A	Mx	.0196	3
4	MP4A	X	-39.274	5
5	MP4A	Z	68.024	5
6	MP4A	Mx	.0196	5
7	MP4B	X	-21.211	3
8	MP4B	Z	36.739	3
9	MP4B	Mx	-.0199	3
10	MP4B	X	-21.211	5
11	MP4B	Z	36.739	5
12	MP4B	Mx	-.0199	5
13	MP4C	X	-43.069	3
14	MP4C	Z	74.598	3
15	MP4C	Mx	.0147	3
16	MP4C	X	-43.069	5
17	MP4C	Z	74.598	5
18	MP4C	Mx	.0147	5
19	MP2A	X	-56.999	2
20	MP2A	Z	98.724	2
21	MP2A	Mx	.1003	2
22	MP2A	X	-56.999	6
23	MP2A	Z	98.724	6
24	MP2A	Mx	.1003	6
25	MP2B	X	-32.97	2
26	MP2B	Z	57.106	2
27	MP2B	Mx	-.0333	2
28	MP2B	X	-32.97	6
29	MP2B	Z	57.106	6
30	MP2B	Mx	-.0333	6
31	MP2C	X	-62.048	2
32	MP2C	Z	107.47	2
33	MP2C	Mx	-.0362	2
34	MP2C	X	-62.048	6
35	MP2C	Z	107.47	6
36	MP2C	Mx	-.0362	6
37	MP1A	X	-34.836	1.5
38	MP1A	Z	60.337	1.5
39	MP1A	Mx	-.0348	1.5
40	MP1B	X	-26.93	1.5
41	MP1B	Z	46.644	1.5
42	MP1B	Mx	.0506	1.5
43	MP1C	X	-36.497	1.5
44	MP1C	Z	63.215	1.5
45	MP1C	Mx	-.025	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
46	MP2A	X	-42.152	1.5
47	MP2A	Z	73.009	1.5
48	MP2A	Mx	-.0422	1.5
49	MP2B	X	-32.928	1.5
50	MP2B	Z	57.033	1.5
51	MP2B	Mx	.0619	1.5
52	MP2C	X	-44.09	1.5
53	MP2C	Z	76.367	1.5
54	MP2C	Mx	-.0302	1.5
55	MP2A	X	-9.93	6
56	MP2A	Z	17.2	6
57	MP2A	Mx	-.005	6
58	MP2B	X	-12.132	6
59	MP2B	Z	21.013	6
60	MP2B	Mx	.0114	6
61	MP2C	X	-9.468	6
62	MP2C	Z	16.399	6
63	MP2C	Mx	-.0032	6
64	OVP	X	-75.454	1
65	OVP	Z	130.689	1
66	OVP	Mx	0	1
67	MP2A	X	-90.278	2
68	MP2A	Z	156.367	2
69	MP2A	Mx	-.0235	2
70	MP2A	X	-90.278	6
71	MP2A	Z	156.367	6
72	MP2A	Mx	-.0235	6
73	MP2B	X	-69.286	2
74	MP2B	Z	120.006	2
75	MP2B	Mx	-.1253	2
76	MP2B	X	-69.286	6
77	MP2B	Z	120.006	6
78	MP2B	Mx	-.1253	6
79	MP2C	X	-94.69	2
80	MP2C	Z	164.007	2
81	MP2C	Mx	.1524	2
82	MP2C	X	-94.69	6
83	MP2C	Z	164.007	6
84	MP2C	Mx	.1524	6
85	MP3A	X	-18.025	1.5
86	MP3A	Z	31.221	1.5
87	MP3A	Mx	-.009	1.5
88	MP3B	X	-10.339	1.5
89	MP3B	Z	17.908	1.5
90	MP3B	Mx	.0097	1.5
91	MP3C	X	-19.64	1.5
92	MP3C	Z	34.018	1.5
93	MP3C	Mx	-.0067	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-43.313	3
2	MP4A	Z	25.007	3
3	MP4A	Mx	.0217	3
4	MP4A	X	-43.313	5
5	MP4A	Z	25.007	5



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

Sept 18, 2023
 5:23 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
6	MP4A	Mx	.0217	5
7	MP4B	X	-59.96	3
8	MP4B	Z	34.618	3
9	MP4B	Mx	-.0223	3
10	MP4B	X	-59.96	5
11	MP4B	Z	34.618	5
12	MP4B	Mx	-.0223	5
13	MP4C	X	-78.889	3
14	MP4C	Z	45.547	3
15	MP4C	Mx	-.0079	3
16	MP4C	X	-78.889	5
17	MP4C	Z	45.547	5
18	MP4C	Mx	-.0079	5
19	MP2A	X	-65.852	2
20	MP2A	Z	38.019	2
21	MP2A	Mx	.0716	2
22	MP2A	X	-65.852	6
23	MP2A	Z	38.019	6
24	MP2A	Mx	.0716	6
25	MP2B	X	-87.996	2
26	MP2B	Z	50.805	2
27	MP2B	Mx	-.0036	2
28	MP2B	X	-87.996	6
29	MP2B	Z	50.805	6
30	MP2B	Mx	-.0036	6
31	MP2C	X	-113.178	2
32	MP2C	Z	65.344	2
33	MP2C	Mx	-.0921	2
34	MP2C	X	-113.178	6
35	MP2C	Z	65.344	6
36	MP2C	Mx	-.0921	6
37	MP1A	X	-49.521	1.5
38	MP1A	Z	28.591	1.5
39	MP1A	Mx	-.0495	1.5
40	MP1B	X	-56.808	1.5
41	MP1B	Z	32.798	1.5
42	MP1B	Mx	.0422	1.5
43	MP1C	X	-65.093	1.5
44	MP1C	Z	37.582	1.5
45	MP1C	Mx	.0131	1.5
46	MP2A	X	-60.39	1.5
47	MP2A	Z	34.866	1.5
48	MP2A	Mx	-.0604	1.5
49	MP2B	X	-68.891	1.5
50	MP2B	Z	39.774	1.5
51	MP2B	Mx	.0511	1.5
52	MP2C	X	-78.558	1.5
53	MP2C	Z	45.355	1.5
54	MP2C	Mx	.0158	1.5
55	MP2A	X	-20.211	6
56	MP2A	Z	11.669	6
57	MP2A	Mx	-.0101	6
58	MP2B	X	-18.183	6
59	MP2B	Z	10.498	6
60	MP2B	Mx	.0067	6
61	MP2C	X	-15.876	6
62	MP2C	Z	9.166	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
63	MP2C	Mx	.0016	6
64	OVP	X	-115.543	1
65	OVP	Z	66.709	1
66	OVP	Mx	0	1
67	MP2A	X	-127.647	2
68	MP2A	Z	73.697	2
69	MP2A	Mx	.0527	2
70	MP2A	X	-127.647	6
71	MP2A	Z	73.697	6
72	MP2A	Mx	.0527	6
73	MP2B	X	-146.994	2
74	MP2B	Z	84.867	2
75	MP2B	Mx	-.1577	2
76	MP2B	X	-146.994	6
77	MP2B	Z	84.867	6
78	MP2B	Mx	-.1577	6
79	MP2C	X	-168.994	2
80	MP2C	Z	97.569	2
81	MP2C	Mx	.0867	2
82	MP2C	X	-168.994	6
83	MP2C	Z	97.569	6
84	MP2C	Mx	.0867	6
85	MP3A	X	-20.706	1.5
86	MP3A	Z	11.954	1.5
87	MP3A	Mx	-.0104	1.5
88	MP3B	X	-27.789	1.5
89	MP3B	Z	16.044	1.5
90	MP3B	Mx	.0103	1.5
91	MP3C	X	-35.844	1.5
92	MP3C	Z	20.695	1.5
93	MP3C	Mx	.0036	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-35.747	3
2	MP4A	Z	0	3
3	MP4A	Mx	.0179	3
4	MP4A	X	-35.747	5
5	MP4A	Z	0	5
6	MP4A	Mx	.0179	5
7	MP4B	X	-91.093	3
8	MP4B	Z	0	3
9	MP4B	Mx	-.0079	3
10	MP4B	X	-91.093	5
11	MP4B	Z	0	5
12	MP4B	Mx	-.0079	5
13	MP4C	X	-69.235	3
14	MP4C	Z	0	3
15	MP4C	Mx	-.0223	3
16	MP4C	X	-69.235	5
17	MP4C	Z	0	5
18	MP4C	Mx	-.0223	5
19	MP2A	X	-57.06	2
20	MP2A	Z	0	2
21	MP2A	Mx	.0428	2
22	MP2A	X	-57.06	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
23	MP2A	Z	0	6
24	MP2A	Mx	.0428	6
25	MP2B	X	-130.687	2
26	MP2B	Z	0	2
27	MP2B	Mx	.0581	2
28	MP2B	X	-130.687	6
29	MP2B	Z	0	6
30	MP2B	Mx	.0581	6
31	MP2C	X	-101.609	2
32	MP2C	Z	0	2
33	MP2C	Mx	-.0944	2
34	MP2C	X	-101.609	6
35	MP2C	Z	0	6
36	MP2C	Mx	-.0944	6
37	MP1A	X	-50.937	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	-.0509	1.5
40	MP1B	X	-75.163	1.5
41	MP1B	Z	0	1.5
42	MP1B	Mx	.0131	1.5
43	MP1C	X	-65.596	1.5
44	MP1C	Z	0	1.5
45	MP1C	Mx	.0422	1.5
46	MP2A	X	-62.447	1.5
47	MP2A	Z	0	1.5
48	MP2A	Mx	-.0624	1.5
49	MP2B	X	-90.711	1.5
50	MP2B	Z	0	1.5
51	MP2B	Mx	.0158	1.5
52	MP2C	X	-79.549	1.5
53	MP2C	Z	0	1.5
54	MP2C	Mx	.0511	1.5
55	MP2A	X	-25.077	6
56	MP2A	Z	0	6
57	MP2A	Mx	-.0125	6
58	MP2B	X	-18.332	6
59	MP2B	Z	0	6
60	MP2B	Mx	.0016	6
61	MP2C	X	-20.996	6
62	MP2C	Z	0	6
63	MP2C	Mx	.0067	6
64	OVP	X	-119.16	1
65	OVP	Z	0	1
66	OVP	Mx	0	1
67	MP2A	X	-130.813	2
68	MP2A	Z	0	2
69	MP2A	Mx	.0981	2
70	MP2A	X	-130.813	6
71	MP2A	Z	0	6
72	MP2A	Mx	.0981	6
73	MP2B	X	-195.138	2
74	MP2B	Z	0	2
75	MP2B	Mx	-.1375	2
76	MP2B	X	-195.138	6
77	MP2B	Z	0	6
78	MP2B	Mx	-.1375	6
79	MP2C	X	-169.734	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
80	MP2C	Z	0	2
81	MP2C	Mx	-.006	2
82	MP2C	X	-169.734	6
83	MP2C	Z	0	6
84	MP2C	Mx	-.006	6
85	MP3A	X	-17.838	1.5
86	MP3A	Z	0	1.5
87	MP3A	Mx	-.0089	1.5
88	MP3B	X	-41.389	1.5
89	MP3B	Z	0	1.5
90	MP3B	Mx	.0036	1.5
91	MP3C	X	-32.088	1.5
92	MP3C	Z	0	1.5
93	MP3C	Mx	.0103	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-43.313	3
2	MP4A	Z	-25.007	3
3	MP4A	Mx	.0217	3
4	MP4A	X	-43.313	5
5	MP4A	Z	-25.007	5
6	MP4A	Mx	.0217	5
7	MP4B	X	-74.598	3
8	MP4B	Z	-43.069	3
9	MP4B	Mx	.0147	3
10	MP4B	X	-74.598	5
11	MP4B	Z	-43.069	5
12	MP4B	Mx	.0147	5
13	MP4C	X	-36.739	3
14	MP4C	Z	-21.211	3
15	MP4C	Mx	-.0199	3
16	MP4C	X	-36.739	5
17	MP4C	Z	-21.211	5
18	MP4C	Mx	-.0199	5
19	MP2A	X	-65.852	2
20	MP2A	Z	-38.019	2
21	MP2A	Mx	.0272	2
22	MP2A	X	-65.852	6
23	MP2A	Z	-38.019	6
24	MP2A	Mx	.0272	6
25	MP2B	X	-107.47	2
26	MP2B	Z	-62.048	2
27	MP2B	Mx	.0999	2
28	MP2B	X	-107.47	6
29	MP2B	Z	-62.048	6
30	MP2B	Mx	.0999	6
31	MP2C	X	-57.106	2
32	MP2C	Z	-32.97	2
33	MP2C	Mx	-.0596	2
34	MP2C	X	-57.106	6
35	MP2C	Z	-32.97	6
36	MP2C	Mx	-.0596	6
37	MP1A	X	-49.521	1.5
38	MP1A	Z	-28.591	1.5
39	MP1A	Mx	-.0495	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP1B	X	-63.215	1.5
41	MP1B	Z	-36.497	1.5
42	MP1B	Mx	-.025	1.5
43	MP1C	X	-46.644	1.5
44	MP1C	Z	-26.93	1.5
45	MP1C	Mx	.0506	1.5
46	MP2A	X	-60.39	1.5
47	MP2A	Z	-34.866	1.5
48	MP2A	Mx	-.0604	1.5
49	MP2B	X	-76.367	1.5
50	MP2B	Z	-44.09	1.5
51	MP2B	Mx	-.0302	1.5
52	MP2C	X	-57.033	1.5
53	MP2C	Z	-32.928	1.5
54	MP2C	Mx	.0619	1.5
55	MP2A	X	-20.211	6
56	MP2A	Z	-11.669	6
57	MP2A	Mx	-.0101	6
58	MP2B	X	-16.399	6
59	MP2B	Z	-9.468	6
60	MP2B	Mx	-.0032	6
61	MP2C	X	-21.013	6
62	MP2C	Z	-12.132	6
63	MP2C	Mx	.0114	6
64	OVP	X	-105.995	1
65	OVP	Z	-61.196	1
66	OVP	Mx	0	1
67	MP2A	X	-127.647	2
68	MP2A	Z	-73.697	2
69	MP2A	Mx	.1387	2
70	MP2A	X	-127.647	6
71	MP2A	Z	-73.697	6
72	MP2A	Mx	.1387	6
73	MP2B	X	-164.007	2
74	MP2B	Z	-94.69	2
75	MP2B	Mx	-.0552	2
76	MP2B	X	-164.007	6
77	MP2B	Z	-94.69	6
78	MP2B	Mx	-.0552	6
79	MP2C	X	-120.006	2
80	MP2C	Z	-69.286	2
81	MP2C	Mx	-.07	2
82	MP2C	X	-120.006	6
83	MP2C	Z	-69.286	6
84	MP2C	Mx	-.07	6
85	MP3A	X	-20.706	1.5
86	MP3A	Z	-11.954	1.5
87	MP3A	Mx	-.0104	1.5
88	MP3B	X	-34.018	1.5
89	MP3B	Z	-19.64	1.5
90	MP3B	Mx	-.0067	1.5
91	MP3C	X	-17.908	1.5
92	MP3C	Z	-10.339	1.5
93	MP3C	Mx	.0097	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-39.274	3
2	MP4A	Z	-68.024	3
3	MP4A	Mx	.0196	3
4	MP4A	X	-39.274	5
5	MP4A	Z	-68.024	5
6	MP4A	Mx	.0196	5
7	MP4B	X	-29.663	3
8	MP4B	Z	-51.378	3
9	MP4B	Mx	.0227	3
10	MP4B	X	-29.663	5
11	MP4B	Z	-51.378	5
12	MP4B	Mx	.0227	5
13	MP4C	X	-18.734	3
14	MP4C	Z	-32.448	3
15	MP4C	Mx	-.0184	3
16	MP4C	X	-18.734	5
17	MP4C	Z	-32.448	5
18	MP4C	Mx	-.0184	5
19	MP2A	X	-56.999	2
20	MP2A	Z	-98.724	2
21	MP2A	Mx	-.0148	2
22	MP2A	X	-56.999	6
23	MP2A	Z	-98.724	6
24	MP2A	Mx	-.0148	6
25	MP2B	X	-44.213	2
26	MP2B	Z	-76.58	2
27	MP2B	Mx	.084	2
28	MP2B	X	-44.213	6
29	MP2B	Z	-76.58	6
30	MP2B	Mx	.084	6
31	MP2C	X	-29.674	2
32	MP2C	Z	-51.398	2
33	MP2C	Mx	-.0378	2
34	MP2C	X	-29.674	6
35	MP2C	Z	-51.398	6
36	MP2C	Mx	-.0378	6
37	MP1A	X	-34.836	1.5
38	MP1A	Z	-60.337	1.5
39	MP1A	Mx	-.0348	1.5
40	MP1B	X	-30.629	1.5
41	MP1B	Z	-53.051	1.5
42	MP1B	Mx	-.0469	1.5
43	MP1C	X	-25.845	1.5
44	MP1C	Z	-44.765	1.5
45	MP1C	Mx	.0509	1.5
46	MP2A	X	-42.152	1.5
47	MP2A	Z	-73.009	1.5
48	MP2A	Mx	-.0422	1.5
49	MP2B	X	-37.244	1.5
50	MP2B	Z	-64.509	1.5
51	MP2B	Mx	-.0571	1.5
52	MP2C	X	-31.663	1.5
53	MP2C	Z	-54.842	1.5
54	MP2C	Mx	.0624	1.5
55	MP2A	X	-9.93	6
56	MP2A	Z	-17.2	6
57	MP2A	Mx	-.005	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
58	MP2B	X	-11.102	6
59	MP2B	Z	-19.229	6
60	MP2B	Mx	-.0085	6
61	MP2C	X	-12.434	6
62	MP2C	Z	-21.536	6
63	MP2C	Mx	.0122	6
64	OVP	X	-69.941	1
65	OVP	Z	-121.141	1
66	OVP	Mx	0	1
67	MP2A	X	-90.278	2
68	MP2A	Z	-156.367	2
69	MP2A	Mx	.1589	2
70	MP2A	X	-90.278	6
71	MP2A	Z	-156.367	6
72	MP2A	Mx	.1589	6
73	MP2B	X	-79.108	2
74	MP2B	Z	-137.02	2
75	MP2B	Mx	.0316	2
76	MP2B	X	-79.108	6
77	MP2B	Z	-137.02	6
78	MP2B	Mx	.0316	6
79	MP2C	X	-66.406	2
80	MP2C	Z	-115.019	2
81	MP2C	Mx	-.1115	2
82	MP2C	X	-66.406	6
83	MP2C	Z	-115.019	6
84	MP2C	Mx	-.1115	6
85	MP3A	X	-18.025	1.5
86	MP3A	Z	-31.221	1.5
87	MP3A	Mx	-.009	1.5
88	MP3B	X	-13.936	1.5
89	MP3B	Z	-24.137	1.5
90	MP3B	Mx	-.0107	1.5
91	MP3C	X	-9.285	1.5
92	MP3C	Z	-16.082	1.5
93	MP3C	Mx	.0091	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	-20.14	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	-20.14	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	-9.39	3
9	MP4B	Mx	.0046	3
10	MP4B	X	0	5
11	MP4B	Z	-9.39	5
12	MP4B	Mx	.0046	5
13	MP4C	X	0	3
14	MP4C	Z	-13.636	3
15	MP4C	Mx	-.0052	3
16	MP4C	X	0	5
17	MP4C	Z	-13.636	5



Company : Colliers Engineering & Design
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 Model Name : Antenna Mount Analysis

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
18	MP4C	Mx	-.0052	5
19	MP2A	X	0	2
20	MP2A	Z	-40.612	2
21	MP2A	Mx	-.0237	2
22	MP2A	X	0	6
23	MP2A	Z	-40.612	6
24	MP2A	Mx	-.0237	6
25	MP2B	X	0	2
26	MP2B	Z	-29.111	2
27	MP2B	Mx	.0244	2
28	MP2B	X	0	6
29	MP2B	Z	-29.111	6
30	MP2B	Mx	.0244	6
31	MP2C	X	0	2
32	MP2C	Z	-33.653	2
33	MP2C	Mx	-.0067	2
34	MP2C	X	0	6
35	MP2C	Z	-33.653	6
36	MP2C	Mx	-.0067	6
37	MP1A	X	0	1.5
38	MP1A	Z	-21.473	1.5
39	MP1A	Mx	0	1.5
40	MP1B	X	0	1.5
41	MP1B	Z	-15.529	1.5
42	MP1B	Mx	-.0153	1.5
43	MP1C	X	0	1.5
44	MP1C	Z	-17.876	1.5
45	MP1C	Mx	.0137	1.5
46	MP2A	X	0	1.5
47	MP2A	Z	-21.473	1.5
48	MP2A	Mx	0	1.5
49	MP2B	X	0	1.5
50	MP2B	Z	-15.767	1.5
51	MP2B	Mx	-.0155	1.5
52	MP2C	X	0	1.5
53	MP2C	Z	-18.02	1.5
54	MP2C	Mx	.0138	1.5
55	MP2A	X	0	6
56	MP2A	Z	-5.938	6
57	MP2A	Mx	0	6
58	MP2B	X	0	6
59	MP2B	Z	-7.552	6
60	MP2B	Mx	-.0037	6
61	MP2C	X	0	6
62	MP2C	Z	-6.915	6
63	MP2C	Mx	.0026	6
64	OVP	X	0	1
65	OVP	Z	-42.362	1
66	OVP	Mx	0	1
67	MP2A	X	0	2
68	MP2A	Z	-40.612	2
69	MP2A	Mx	.0237	2
70	MP2A	X	0	6
71	MP2A	Z	-40.612	6
72	MP2A	Mx	.0237	6
73	MP2B	X	0	2
74	MP2B	Z	-29.111	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
75	MP2B	Mx	.0186	2
76	MP2B	X	0	6
77	MP2B	Z	-29.111	6
78	MP2B	Mx	.0186	6
79	MP2C	X	0	2
80	MP2C	Z	-33.653	2
81	MP2C	Mx	-.032	2
82	MP2C	X	0	6
83	MP2C	Z	-33.653	6
84	MP2C	Mx	-.032	6
85	MP3A	X	0	1.5
86	MP3A	Z	-11.256	1.5
87	MP3A	Mx	0	1.5
88	MP3B	X	0	1.5
89	MP3B	Z	-6.315	1.5
90	MP3B	Mx	-.0031	1.5
91	MP3C	X	0	1.5
92	MP3C	Z	-8.266	1.5
93	MP3C	Mx	.0032	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	8.685	3
2	MP4A	Z	-15.042	3
3	MP4A	Mx	-.0043	3
4	MP4A	X	8.685	5
5	MP4A	Z	-15.042	5
6	MP4A	Mx	-.0043	5
7	MP4B	X	5.176	3
8	MP4B	Z	-8.966	3
9	MP4B	Mx	.0049	3
10	MP4B	X	5.176	5
11	MP4B	Z	-8.966	5
12	MP4B	Mx	.0049	5
13	MP4C	X	9.422	3
14	MP4C	Z	-16.319	3
15	MP4C	Mx	-.0032	3
16	MP4C	X	9.422	5
17	MP4C	Z	-16.319	5
18	MP4C	Mx	-.0032	5
19	MP2A	X	18.824	2
20	MP2A	Z	-32.603	2
21	MP2A	Mx	-.0331	2
22	MP2A	X	18.824	6
23	MP2A	Z	-32.603	6
24	MP2A	Mx	-.0331	6
25	MP2B	X	15.07	2
26	MP2B	Z	-26.102	2
27	MP2B	Mx	.0152	2
28	MP2B	X	15.07	6
29	MP2B	Z	-26.102	6
30	MP2B	Mx	.0152	6
31	MP2C	X	19.612	2
32	MP2C	Z	-33.97	2
33	MP2C	Mx	.0114	2
34	MP2C	X	19.612	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
35	MP2C	Z	-33.97	6
36	MP2C	Mx	.0114	6
37	MP1A	X	9.97	1.5
38	MP1A	Z	-17.269	1.5
39	MP1A	Mx	.01	1.5
40	MP1B	X	8.03	1.5
41	MP1B	Z	-13.909	1.5
42	MP1B	Mx	-.0151	1.5
43	MP1C	X	10.378	1.5
44	MP1C	Z	-17.975	1.5
45	MP1C	Mx	.0071	1.5
46	MP2A	X	10.001	1.5
47	MP2A	Z	-17.322	1.5
48	MP2A	Mx	.01	1.5
49	MP2B	X	8.139	1.5
50	MP2B	Z	-14.097	1.5
51	MP2B	Mx	-.0153	1.5
52	MP2C	X	10.392	1.5
53	MP2C	Z	-18	1.5
54	MP2C	Mx	.0071	1.5
55	MP2A	X	3.177	6
56	MP2A	Z	-5.503	6
57	MP2A	Mx	.0016	6
58	MP2B	X	3.704	6
59	MP2B	Z	-6.415	6
60	MP2B	Mx	-.0035	6
61	MP2C	X	3.066	6
62	MP2C	Z	-5.311	6
63	MP2C	Mx	.001	6
64	OVP	X	20.8	1
65	OVP	Z	-36.026	1
66	OVP	Mx	0	1
67	MP2A	X	18.824	2
68	MP2A	Z	-32.603	2
69	MP2A	Mx	.0049	2
70	MP2A	X	18.824	6
71	MP2A	Z	-32.603	6
72	MP2A	Mx	.0049	6
73	MP2B	X	15.07	2
74	MP2B	Z	-26.102	2
75	MP2B	Mx	.0273	2
76	MP2B	X	15.07	6
77	MP2B	Z	-26.102	6
78	MP2B	Mx	.0273	6
79	MP2C	X	19.612	2
80	MP2C	Z	-33.97	2
81	MP2C	Mx	-.0316	2
82	MP2C	X	19.612	6
83	MP2C	Z	-33.97	6
84	MP2C	Mx	-.0316	6
85	MP3A	X	4.991	1.5
86	MP3A	Z	-8.645	1.5
87	MP3A	Mx	.0025	1.5
88	MP3B	X	3.379	1.5
89	MP3B	Z	-5.852	1.5
90	MP3B	Mx	-.0032	1.5
91	MP3C	X	5.33	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
92	MP3C	Z	-9.232	1.5
93	MP3C	Mx	.0018	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	10.242	3
2	MP4A	Z	-5.913	3
3	MP4A	Mx	-.0051	3
4	MP4A	X	10.242	5
5	MP4A	Z	-5.913	5
6	MP4A	Mx	-.0051	5
7	MP4B	X	13.476	3
8	MP4B	Z	-7.78	3
9	MP4B	Mx	.005	3
10	MP4B	X	13.476	5
11	MP4B	Z	-7.78	5
12	MP4B	Mx	.005	5
13	MP4C	X	17.153	3
14	MP4C	Z	-9.903	3
15	MP4C	Mx	.0017	3
16	MP4C	X	17.153	5
17	MP4C	Z	-9.903	5
18	MP4C	Mx	.0017	5
19	MP2A	X	27.468	2
20	MP2A	Z	-15.859	2
21	MP2A	Mx	-.0299	2
22	MP2A	X	27.468	6
23	MP2A	Z	-15.859	6
24	MP2A	Mx	-.0299	6
25	MP2B	X	30.928	2
26	MP2B	Z	-17.856	2
27	MP2B	Mx	.0013	2
28	MP2B	X	30.928	6
29	MP2B	Z	-17.856	6
30	MP2B	Mx	.0013	6
31	MP2C	X	34.861	2
32	MP2C	Z	-20.127	2
33	MP2C	Mx	.0284	2
34	MP2C	X	34.861	6
35	MP2C	Z	-20.127	6
36	MP2C	Mx	.0284	6
37	MP1A	X	14.615	1.5
38	MP1A	Z	-8.438	1.5
39	MP1A	Mx	.0146	1.5
40	MP1B	X	16.403	1.5
41	MP1B	Z	-9.47	1.5
42	MP1B	Mx	-.0122	1.5
43	MP1C	X	18.436	1.5
44	MP1C	Z	-10.644	1.5
45	MP1C	Mx	-.0037	1.5
46	MP2A	X	14.775	1.5
47	MP2A	Z	-8.53	1.5
48	MP2A	Mx	.0148	1.5
49	MP2B	X	16.491	1.5
50	MP2B	Z	-9.521	1.5
51	MP2B	Mx	-.0122	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
52	MP2C	X	18.443	1.5
53	MP2C	Z	-10.648	1.5
54	MP2C	Mx	-.0037	1.5
55	MP2A	X	6.224	6
56	MP2A	Z	-3.593	6
57	MP2A	Mx	.0031	6
58	MP2B	X	5.738	6
59	MP2B	Z	-3.313	6
60	MP2B	Mx	-.0021	6
61	MP2C	X	5.186	6
62	MP2C	Z	-2.994	6
63	MP2C	Mx	-.00052	6
64	OVP	X	32.45	1
65	OVP	Z	-18.735	1
66	OVP	Mx	0	1
67	MP2A	X	27.468	2
68	MP2A	Z	-15.859	2
69	MP2A	Mx	-.0114	2
70	MP2A	X	27.468	6
71	MP2A	Z	-15.859	6
72	MP2A	Mx	-.0114	6
73	MP2B	X	30.928	2
74	MP2B	Z	-17.856	2
75	MP2B	Mx	.0332	2
76	MP2B	X	30.928	6
77	MP2B	Z	-17.856	6
78	MP2B	Mx	.0332	6
79	MP2C	X	34.861	2
80	MP2C	Z	-20.127	2
81	MP2C	Mx	-.0179	2
82	MP2C	X	34.861	6
83	MP2C	Z	-20.127	6
84	MP2C	Mx	-.0179	6
85	MP3A	X	6.439	1.5
86	MP3A	Z	-3.717	1.5
87	MP3A	Mx	.0032	1.5
88	MP3B	X	7.925	1.5
89	MP3B	Z	-4.576	1.5
90	MP3B	Mx	-.0029	1.5
91	MP3C	X	9.615	1.5
92	MP3C	Z	-5.551	1.5
93	MP3C	Mx	-.000964	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	9.056	3
2	MP4A	Z	0	3
3	MP4A	Mx	-.0045	3
4	MP4A	X	9.056	5
5	MP4A	Z	0	5
6	MP4A	Mx	-.0045	5
7	MP4B	X	19.806	3
8	MP4B	Z	0	3
9	MP4B	Mx	.0017	3
10	MP4B	X	19.806	5
11	MP4B	Z	0	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
12	MP4B	Mx	.0017	5
13	MP4C	X	15.56	3
14	MP4C	Z	0	3
15	MP4C	Mx	.005	3
16	MP4C	X	15.56	5
17	MP4C	Z	0	5
18	MP4C	Mx	.005	5
19	MP2A	X	28.753	2
20	MP2A	Z	0	2
21	MP2A	Mx	-.0216	2
22	MP2A	X	28.753	6
23	MP2A	Z	0	6
24	MP2A	Mx	-.0216	6
25	MP2B	X	40.254	2
26	MP2B	Z	0	2
27	MP2B	Mx	-.0179	2
28	MP2B	X	40.254	6
29	MP2B	Z	0	6
30	MP2B	Mx	-.0179	6
31	MP2C	X	35.712	2
32	MP2C	Z	0	2
33	MP2C	Mx	.0332	2
34	MP2C	X	35.712	6
35	MP2C	Z	0	6
36	MP2C	Mx	.0332	6
37	MP1A	X	15.344	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	.0153	1.5
40	MP1B	X	21.288	1.5
41	MP1B	Z	0	1.5
42	MP1B	Mx	-.0037	1.5
43	MP1C	X	18.941	1.5
44	MP1C	Z	0	1.5
45	MP1C	Mx	-.0122	1.5
46	MP2A	X	15.589	1.5
47	MP2A	Z	0	1.5
48	MP2A	Mx	.0156	1.5
49	MP2B	X	21.296	1.5
50	MP2B	Z	0	1.5
51	MP2B	Mx	-.0037	1.5
52	MP2C	X	19.042	1.5
53	MP2C	Z	0	1.5
54	MP2C	Mx	-.0122	1.5
55	MP2A	X	7.602	6
56	MP2A	Z	0	6
57	MP2A	Mx	.0038	6
58	MP2B	X	5.988	6
59	MP2B	Z	0	6
60	MP2B	Mx	-.00052	6
61	MP2C	X	6.626	6
62	MP2C	Z	0	6
63	MP2C	Mx	-.0021	6
64	OVP	X	34.104	1
65	OVP	Z	0	1
66	OVP	Mx	0	1
67	MP2A	X	28.753	2
68	MP2A	Z	0	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
69	MP2A	Mx	-.0216	2
70	MP2A	X	28.753	6
71	MP2A	Z	0	6
72	MP2A	Mx	-.0216	6
73	MP2B	X	40.254	2
74	MP2B	Z	0	2
75	MP2B	Mx	.0284	2
76	MP2B	X	40.254	6
77	MP2B	Z	0	6
78	MP2B	Mx	.0284	6
79	MP2C	X	35.712	2
80	MP2C	Z	0	2
81	MP2C	Mx	.0013	2
82	MP2C	X	35.712	6
83	MP2C	Z	0	6
84	MP2C	Mx	.0013	6
85	MP3A	X	6.161	1.5
86	MP3A	Z	0	1.5
87	MP3A	Mx	.0031	1.5
88	MP3B	X	11.103	1.5
89	MP3B	Z	0	1.5
90	MP3B	Mx	-.000964	1.5
91	MP3C	X	9.151	1.5
92	MP3C	Z	0	1.5
93	MP3C	Mx	-.0029	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	10.242	3
2	MP4A	Z	5.913	3
3	MP4A	Mx	-.0051	3
4	MP4A	X	10.242	5
5	MP4A	Z	5.913	5
6	MP4A	Mx	-.0051	5
7	MP4B	X	16.319	3
8	MP4B	Z	9.422	3
9	MP4B	Mx	-.0032	3
10	MP4B	X	16.319	5
11	MP4B	Z	9.422	5
12	MP4B	Mx	-.0032	5
13	MP4C	X	8.966	3
14	MP4C	Z	5.176	3
15	MP4C	Mx	.0049	3
16	MP4C	X	8.966	5
17	MP4C	Z	5.176	5
18	MP4C	Mx	.0049	5
19	MP2A	X	27.468	2
20	MP2A	Z	15.859	2
21	MP2A	Mx	-.0114	2
22	MP2A	X	27.468	6
23	MP2A	Z	15.859	6
24	MP2A	Mx	-.0114	6
25	MP2B	X	33.97	2
26	MP2B	Z	19.612	2
27	MP2B	Mx	-.0316	2
28	MP2B	X	33.97	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
29	MP2B	Z	19.612	6
30	MP2B	Mx	-.0316	6
31	MP2C	X	26.102	2
32	MP2C	Z	15.07	2
33	MP2C	Mx	.0273	2
34	MP2C	X	26.102	6
35	MP2C	Z	15.07	6
36	MP2C	Mx	.0273	6
37	MP1A	X	14.615	1.5
38	MP1A	Z	8.438	1.5
39	MP1A	Mx	.0146	1.5
40	MP1B	X	17.975	1.5
41	MP1B	Z	10.378	1.5
42	MP1B	Mx	.0071	1.5
43	MP1C	X	13.909	1.5
44	MP1C	Z	8.03	1.5
45	MP1C	Mx	-.0151	1.5
46	MP2A	X	14.775	1.5
47	MP2A	Z	8.53	1.5
48	MP2A	Mx	.0148	1.5
49	MP2B	X	18	1.5
50	MP2B	Z	10.392	1.5
51	MP2B	Mx	.0071	1.5
52	MP2C	X	14.097	1.5
53	MP2C	Z	8.139	1.5
54	MP2C	Mx	-.0153	1.5
55	MP2A	X	6.224	6
56	MP2A	Z	3.593	6
57	MP2A	Mx	.0031	6
58	MP2B	X	5.311	6
59	MP2B	Z	3.066	6
60	MP2B	Mx	.001	6
61	MP2C	X	6.415	6
62	MP2C	Z	3.704	6
63	MP2C	Mx	-.0035	6
64	OVP	X	30.196	1
65	OVP	Z	17.434	1
66	OVP	Mx	0	1
67	MP2A	X	27.468	2
68	MP2A	Z	15.859	2
69	MP2A	Mx	-.0299	2
70	MP2A	X	27.468	6
71	MP2A	Z	15.859	6
72	MP2A	Mx	-.0299	6
73	MP2B	X	33.97	2
74	MP2B	Z	19.612	2
75	MP2B	Mx	.0114	2
76	MP2B	X	33.97	6
77	MP2B	Z	19.612	6
78	MP2B	Mx	.0114	6
79	MP2C	X	26.102	2
80	MP2C	Z	15.07	2
81	MP2C	Mx	.0152	2
82	MP2C	X	26.102	6
83	MP2C	Z	15.07	6
84	MP2C	Mx	.0152	6
85	MP3A	X	6.439	1.5



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

Sept 18, 2023
 5:23 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
86	MP3A	Z	3.717	1.5
87	MP3A	Mx	.0032	1.5
88	MP3B	X	9.232	1.5
89	MP3B	Z	5.33	1.5
90	MP3B	Mx	.0018	1.5
91	MP3C	X	5.852	1.5
92	MP3C	Z	3.379	1.5
93	MP3C	Mx	-.0032	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	8.685	3
2	MP4A	Z	15.042	3
3	MP4A	Mx	-.0043	3
4	MP4A	X	8.685	5
5	MP4A	Z	15.042	5
6	MP4A	Mx	-.0043	5
7	MP4B	X	6.818	3
8	MP4B	Z	11.809	3
9	MP4B	Mx	-.0052	3
10	MP4B	X	6.818	5
11	MP4B	Z	11.809	5
12	MP4B	Mx	-.0052	5
13	MP4C	X	4.695	3
14	MP4C	Z	8.132	3
15	MP4C	Mx	.0046	3
16	MP4C	X	4.695	5
17	MP4C	Z	8.132	5
18	MP4C	Mx	.0046	5
19	MP2A	X	18.824	2
20	MP2A	Z	32.603	2
21	MP2A	Mx	.0049	2
22	MP2A	X	18.824	6
23	MP2A	Z	32.603	6
24	MP2A	Mx	.0049	6
25	MP2B	X	16.826	2
26	MP2B	Z	29.144	2
27	MP2B	Mx	-.032	2
28	MP2B	X	16.826	6
29	MP2B	Z	29.144	6
30	MP2B	Mx	-.032	6
31	MP2C	X	14.555	2
32	MP2C	Z	25.211	2
33	MP2C	Mx	.0186	2
34	MP2C	X	14.555	6
35	MP2C	Z	25.211	6
36	MP2C	Mx	.0186	6
37	MP1A	X	9.97	1.5
38	MP1A	Z	17.269	1.5
39	MP1A	Mx	.01	1.5
40	MP1B	X	8.938	1.5
41	MP1B	Z	15.481	1.5
42	MP1B	Mx	.0137	1.5
43	MP1C	X	7.764	1.5
44	MP1C	Z	13.448	1.5
45	MP1C	Mx	-.0153	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
46	MP2A	X	10.001	1.5
47	MP2A	Z	17.322	1.5
48	MP2A	Mx	.01	1.5
49	MP2B	X	9.01	1.5
50	MP2B	Z	15.606	1.5
51	MP2B	Mx	.0138	1.5
52	MP2C	X	7.883	1.5
53	MP2C	Z	13.654	1.5
54	MP2C	Mx	-.0155	1.5
55	MP2A	X	3.177	6
56	MP2A	Z	5.503	6
57	MP2A	Mx	.0016	6
58	MP2B	X	3.457	6
59	MP2B	Z	5.988	6
60	MP2B	Mx	.0026	6
61	MP2C	X	3.776	6
62	MP2C	Z	6.54	6
63	MP2C	Mx	-.0037	6
64	OVP	X	19.498	1
65	OVP	Z	33.772	1
66	OVP	Mx	0	1
67	MP2A	X	18.824	2
68	MP2A	Z	32.603	2
69	MP2A	Mx	-.0331	2
70	MP2A	X	18.824	6
71	MP2A	Z	32.603	6
72	MP2A	Mx	-.0331	6
73	MP2B	X	16.826	2
74	MP2B	Z	29.144	2
75	MP2B	Mx	-.0067	2
76	MP2B	X	16.826	6
77	MP2B	Z	29.144	6
78	MP2B	Mx	-.0067	6
79	MP2C	X	14.555	2
80	MP2C	Z	25.211	2
81	MP2C	Mx	.0244	2
82	MP2C	X	14.555	6
83	MP2C	Z	25.211	6
84	MP2C	Mx	.0244	6
85	MP3A	X	4.991	1.5
86	MP3A	Z	8.645	1.5
87	MP3A	Mx	.0025	1.5
88	MP3B	X	4.133	1.5
89	MP3B	Z	7.159	1.5
90	MP3B	Mx	.0032	1.5
91	MP3C	X	3.157	1.5
92	MP3C	Z	5.469	1.5
93	MP3C	Mx	-.0031	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	20.14	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	20.14	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	9.39	3
9	MP4B	Mx	-.0046	3
10	MP4B	X	0	5
11	MP4B	Z	9.39	5
12	MP4B	Mx	-.0046	5
13	MP4C	X	0	3
14	MP4C	Z	13.636	3
15	MP4C	Mx	.0052	3
16	MP4C	X	0	5
17	MP4C	Z	13.636	5
18	MP4C	Mx	.0052	5
19	MP2A	X	0	2
20	MP2A	Z	40.612	2
21	MP2A	Mx	.0237	2
22	MP2A	X	0	6
23	MP2A	Z	40.612	6
24	MP2A	Mx	.0237	6
25	MP2B	X	0	2
26	MP2B	Z	29.111	2
27	MP2B	Mx	-.0244	2
28	MP2B	X	0	6
29	MP2B	Z	29.111	6
30	MP2B	Mx	-.0244	6
31	MP2C	X	0	2
32	MP2C	Z	33.653	2
33	MP2C	Mx	.0067	2
34	MP2C	X	0	6
35	MP2C	Z	33.653	6
36	MP2C	Mx	.0067	6
37	MP1A	X	0	1.5
38	MP1A	Z	21.473	1.5
39	MP1A	Mx	0	1.5
40	MP1B	X	0	1.5
41	MP1B	Z	15.529	1.5
42	MP1B	Mx	.0153	1.5
43	MP1C	X	0	1.5
44	MP1C	Z	17.876	1.5
45	MP1C	Mx	-.0137	1.5
46	MP2A	X	0	1.5
47	MP2A	Z	21.473	1.5
48	MP2A	Mx	0	1.5
49	MP2B	X	0	1.5
50	MP2B	Z	15.767	1.5
51	MP2B	Mx	.0155	1.5
52	MP2C	X	0	1.5
53	MP2C	Z	18.02	1.5
54	MP2C	Mx	-.0138	1.5
55	MP2A	X	0	6
56	MP2A	Z	5.938	6
57	MP2A	Mx	0	6
58	MP2B	X	0	6
59	MP2B	Z	7.552	6
60	MP2B	Mx	.0037	6
61	MP2C	X	0	6
62	MP2C	Z	6.915	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
63	MP2C	Mx	-.0026	6
64	OVP	X	0	1
65	OVP	Z	42.362	1
66	OVP	Mx	0	1
67	MP2A	X	0	2
68	MP2A	Z	40.612	2
69	MP2A	Mx	-.0237	2
70	MP2A	X	0	6
71	MP2A	Z	40.612	6
72	MP2A	Mx	-.0237	6
73	MP2B	X	0	2
74	MP2B	Z	29.111	2
75	MP2B	Mx	-.0186	2
76	MP2B	X	0	6
77	MP2B	Z	29.111	6
78	MP2B	Mx	-.0186	6
79	MP2C	X	0	2
80	MP2C	Z	33.653	2
81	MP2C	Mx	.032	2
82	MP2C	X	0	6
83	MP2C	Z	33.653	6
84	MP2C	Mx	.032	6
85	MP3A	X	0	1.5
86	MP3A	Z	11.256	1.5
87	MP3A	Mx	0	1.5
88	MP3B	X	0	1.5
89	MP3B	Z	6.315	1.5
90	MP3B	Mx	.0031	1.5
91	MP3C	X	0	1.5
92	MP3C	Z	8.266	1.5
93	MP3C	Mx	-.0032	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-8.685	3
2	MP4A	Z	15.042	3
3	MP4A	Mx	.0043	3
4	MP4A	X	-8.685	5
5	MP4A	Z	15.042	5
6	MP4A	Mx	.0043	5
7	MP4B	X	-5.176	3
8	MP4B	Z	8.966	3
9	MP4B	Mx	-.0049	3
10	MP4B	X	-5.176	5
11	MP4B	Z	8.966	5
12	MP4B	Mx	-.0049	5
13	MP4C	X	-9.422	3
14	MP4C	Z	16.319	3
15	MP4C	Mx	.0032	3
16	MP4C	X	-9.422	5
17	MP4C	Z	16.319	5
18	MP4C	Mx	.0032	5
19	MP2A	X	-18.824	2
20	MP2A	Z	32.603	2
21	MP2A	Mx	.0331	2
22	MP2A	X	-18.824	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
23	MP2A	Z	32.603	6
24	MP2A	Mx	.0331	6
25	MP2B	X	-15.07	2
26	MP2B	Z	26.102	2
27	MP2B	Mx	-.0152	2
28	MP2B	X	-15.07	6
29	MP2B	Z	26.102	6
30	MP2B	Mx	-.0152	6
31	MP2C	X	-19.612	2
32	MP2C	Z	33.97	2
33	MP2C	Mx	-.0114	2
34	MP2C	X	-19.612	6
35	MP2C	Z	33.97	6
36	MP2C	Mx	-.0114	6
37	MP1A	X	-9.97	1.5
38	MP1A	Z	17.269	1.5
39	MP1A	Mx	-.01	1.5
40	MP1B	X	-8.03	1.5
41	MP1B	Z	13.909	1.5
42	MP1B	Mx	.0151	1.5
43	MP1C	X	-10.378	1.5
44	MP1C	Z	17.975	1.5
45	MP1C	Mx	-.0071	1.5
46	MP2A	X	-10.001	1.5
47	MP2A	Z	17.322	1.5
48	MP2A	Mx	-.01	1.5
49	MP2B	X	-8.139	1.5
50	MP2B	Z	14.097	1.5
51	MP2B	Mx	.0153	1.5
52	MP2C	X	-10.392	1.5
53	MP2C	Z	18	1.5
54	MP2C	Mx	-.0071	1.5
55	MP2A	X	-3.177	6
56	MP2A	Z	5.503	6
57	MP2A	Mx	-.0016	6
58	MP2B	X	-3.704	6
59	MP2B	Z	6.415	6
60	MP2B	Mx	.0035	6
61	MP2C	X	-3.066	6
62	MP2C	Z	5.311	6
63	MP2C	Mx	-.001	6
64	OVP	X	-20.8	1
65	OVP	Z	36.026	1
66	OVP	Mx	0	1
67	MP2A	X	-18.824	2
68	MP2A	Z	32.603	2
69	MP2A	Mx	-.0049	2
70	MP2A	X	-18.824	6
71	MP2A	Z	32.603	6
72	MP2A	Mx	-.0049	6
73	MP2B	X	-15.07	2
74	MP2B	Z	26.102	2
75	MP2B	Mx	-.0273	2
76	MP2B	X	-15.07	6
77	MP2B	Z	26.102	6
78	MP2B	Mx	-.0273	6
79	MP2C	X	-19.612	2



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
80	MP2C	Z	33.97	2
81	MP2C	Mx	.0316	2
82	MP2C	X	-19.612	6
83	MP2C	Z	33.97	6
84	MP2C	Mx	.0316	6
85	MP3A	X	-4.991	1.5
86	MP3A	Z	8.645	1.5
87	MP3A	Mx	-.0025	1.5
88	MP3B	X	-3.379	1.5
89	MP3B	Z	5.852	1.5
90	MP3B	Mx	.0032	1.5
91	MP3C	X	-5.33	1.5
92	MP3C	Z	9.232	1.5
93	MP3C	Mx	-.0018	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-10.242	3
2	MP4A	Z	5.913	3
3	MP4A	Mx	.0051	3
4	MP4A	X	-10.242	5
5	MP4A	Z	5.913	5
6	MP4A	Mx	.0051	5
7	MP4B	X	-13.476	3
8	MP4B	Z	7.78	3
9	MP4B	Mx	-.005	3
10	MP4B	X	-13.476	5
11	MP4B	Z	7.78	5
12	MP4B	Mx	-.005	5
13	MP4C	X	-17.153	3
14	MP4C	Z	9.903	3
15	MP4C	Mx	-.0017	3
16	MP4C	X	-17.153	5
17	MP4C	Z	9.903	5
18	MP4C	Mx	-.0017	5
19	MP2A	X	-27.468	2
20	MP2A	Z	15.859	2
21	MP2A	Mx	.0299	2
22	MP2A	X	-27.468	6
23	MP2A	Z	15.859	6
24	MP2A	Mx	.0299	6
25	MP2B	X	-30.928	2
26	MP2B	Z	17.856	2
27	MP2B	Mx	-.0013	2
28	MP2B	X	-30.928	6
29	MP2B	Z	17.856	6
30	MP2B	Mx	-.0013	6
31	MP2C	X	-34.861	2
32	MP2C	Z	20.127	2
33	MP2C	Mx	-.0284	2
34	MP2C	X	-34.861	6
35	MP2C	Z	20.127	6
36	MP2C	Mx	-.0284	6
37	MP1A	X	-14.615	1.5
38	MP1A	Z	8.438	1.5
39	MP1A	Mx	-.0146	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP1B	X	-16.403	1.5
41	MP1B	Z	9.47	1.5
42	MP1B	Mx	.0122	1.5
43	MP1C	X	-18.436	1.5
44	MP1C	Z	10.644	1.5
45	MP1C	Mx	.0037	1.5
46	MP2A	X	-14.775	1.5
47	MP2A	Z	8.53	1.5
48	MP2A	Mx	-.0148	1.5
49	MP2B	X	-16.491	1.5
50	MP2B	Z	9.521	1.5
51	MP2B	Mx	.0122	1.5
52	MP2C	X	-18.443	1.5
53	MP2C	Z	10.648	1.5
54	MP2C	Mx	.0037	1.5
55	MP2A	X	-6.224	6
56	MP2A	Z	3.593	6
57	MP2A	Mx	-.0031	6
58	MP2B	X	-5.738	6
59	MP2B	Z	3.313	6
60	MP2B	Mx	.0021	6
61	MP2C	X	-5.186	6
62	MP2C	Z	2.994	6
63	MP2C	Mx	.00052	6
64	OVP	X	-32.45	1
65	OVP	Z	18.735	1
66	OVP	Mx	0	1
67	MP2A	X	-27.468	2
68	MP2A	Z	15.859	2
69	MP2A	Mx	.0114	2
70	MP2A	X	-27.468	6
71	MP2A	Z	15.859	6
72	MP2A	Mx	.0114	6
73	MP2B	X	-30.928	2
74	MP2B	Z	17.856	2
75	MP2B	Mx	-.0332	2
76	MP2B	X	-30.928	6
77	MP2B	Z	17.856	6
78	MP2B	Mx	-.0332	6
79	MP2C	X	-34.861	2
80	MP2C	Z	20.127	2
81	MP2C	Mx	.0179	2
82	MP2C	X	-34.861	6
83	MP2C	Z	20.127	6
84	MP2C	Mx	.0179	6
85	MP3A	X	-6.439	1.5
86	MP3A	Z	3.717	1.5
87	MP3A	Mx	-.0032	1.5
88	MP3B	X	-7.925	1.5
89	MP3B	Z	4.576	1.5
90	MP3B	Mx	.0029	1.5
91	MP3C	X	-9.615	1.5
92	MP3C	Z	5.551	1.5
93	MP3C	Mx	.000964	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-9.056	3
2	MP4A	Z	0	3
3	MP4A	Mx	.0045	3
4	MP4A	X	-9.056	5
5	MP4A	Z	0	5
6	MP4A	Mx	.0045	5
7	MP4B	X	-19.806	3
8	MP4B	Z	0	3
9	MP4B	Mx	-.0017	3
10	MP4B	X	-19.806	5
11	MP4B	Z	0	5
12	MP4B	Mx	-.0017	5
13	MP4C	X	-15.56	3
14	MP4C	Z	0	3
15	MP4C	Mx	-.005	3
16	MP4C	X	-15.56	5
17	MP4C	Z	0	5
18	MP4C	Mx	-.005	5
19	MP2A	X	-28.753	2
20	MP2A	Z	0	2
21	MP2A	Mx	.0216	2
22	MP2A	X	-28.753	6
23	MP2A	Z	0	6
24	MP2A	Mx	.0216	6
25	MP2B	X	-40.254	2
26	MP2B	Z	0	2
27	MP2B	Mx	.0179	2
28	MP2B	X	-40.254	6
29	MP2B	Z	0	6
30	MP2B	Mx	.0179	6
31	MP2C	X	-35.712	2
32	MP2C	Z	0	2
33	MP2C	Mx	-.0332	2
34	MP2C	X	-35.712	6
35	MP2C	Z	0	6
36	MP2C	Mx	-.0332	6
37	MP1A	X	-15.344	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	-.0153	1.5
40	MP1B	X	-21.288	1.5
41	MP1B	Z	0	1.5
42	MP1B	Mx	.0037	1.5
43	MP1C	X	-18.941	1.5
44	MP1C	Z	0	1.5
45	MP1C	Mx	.0122	1.5
46	MP2A	X	-15.589	1.5
47	MP2A	Z	0	1.5
48	MP2A	Mx	-.0156	1.5
49	MP2B	X	-21.296	1.5
50	MP2B	Z	0	1.5
51	MP2B	Mx	.0037	1.5
52	MP2C	X	-19.042	1.5
53	MP2C	Z	0	1.5
54	MP2C	Mx	.0122	1.5
55	MP2A	X	-7.602	6
56	MP2A	Z	0	6
57	MP2A	Mx	-.0038	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
58	MP2B	X	-5.988	6
59	MP2B	Z	0	6
60	MP2B	Mx	.00052	6
61	MP2C	X	-6.626	6
62	MP2C	Z	0	6
63	MP2C	Mx	.0021	6
64	OVP	X	-34.104	1
65	OVP	Z	0	1
66	OVP	Mx	0	1
67	MP2A	X	-28.753	2
68	MP2A	Z	0	2
69	MP2A	Mx	.0216	2
70	MP2A	X	-28.753	6
71	MP2A	Z	0	6
72	MP2A	Mx	.0216	6
73	MP2B	X	-40.254	2
74	MP2B	Z	0	2
75	MP2B	Mx	-.0284	2
76	MP2B	X	-40.254	6
77	MP2B	Z	0	6
78	MP2B	Mx	-.0284	6
79	MP2C	X	-35.712	2
80	MP2C	Z	0	2
81	MP2C	Mx	-.0013	2
82	MP2C	X	-35.712	6
83	MP2C	Z	0	6
84	MP2C	Mx	-.0013	6
85	MP3A	X	-6.161	1.5
86	MP3A	Z	0	1.5
87	MP3A	Mx	-.0031	1.5
88	MP3B	X	-11.103	1.5
89	MP3B	Z	0	1.5
90	MP3B	Mx	.000964	1.5
91	MP3C	X	-9.151	1.5
92	MP3C	Z	0	1.5
93	MP3C	Mx	.0029	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-10.242	3
2	MP4A	Z	-5.913	3
3	MP4A	Mx	.0051	3
4	MP4A	X	-10.242	5
5	MP4A	Z	-5.913	5
6	MP4A	Mx	.0051	5
7	MP4B	X	-16.319	3
8	MP4B	Z	-9.422	3
9	MP4B	Mx	.0032	3
10	MP4B	X	-16.319	5
11	MP4B	Z	-9.422	5
12	MP4B	Mx	.0032	5
13	MP4C	X	-8.966	3
14	MP4C	Z	-5.176	3
15	MP4C	Mx	-.0049	3
16	MP4C	X	-8.966	5
17	MP4C	Z	-5.176	5



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
18	MP4C	Mx	-0.049	5
19	MP2A	X	-27.468	2
20	MP2A	Z	-15.859	2
21	MP2A	Mx	.0114	2
22	MP2A	X	-27.468	6
23	MP2A	Z	-15.859	6
24	MP2A	Mx	.0114	6
25	MP2B	X	-33.97	2
26	MP2B	Z	-19.612	2
27	MP2B	Mx	.0316	2
28	MP2B	X	-33.97	6
29	MP2B	Z	-19.612	6
30	MP2B	Mx	.0316	6
31	MP2C	X	-26.102	2
32	MP2C	Z	-15.07	2
33	MP2C	Mx	-.0273	2
34	MP2C	X	-26.102	6
35	MP2C	Z	-15.07	6
36	MP2C	Mx	-.0273	6
37	MP1A	X	-14.615	1.5
38	MP1A	Z	-8.438	1.5
39	MP1A	Mx	-.0146	1.5
40	MP1B	X	-17.975	1.5
41	MP1B	Z	-10.378	1.5
42	MP1B	Mx	-.0071	1.5
43	MP1C	X	-13.909	1.5
44	MP1C	Z	-8.03	1.5
45	MP1C	Mx	.0151	1.5
46	MP2A	X	-14.775	1.5
47	MP2A	Z	-8.53	1.5
48	MP2A	Mx	-.0148	1.5
49	MP2B	X	-18	1.5
50	MP2B	Z	-10.392	1.5
51	MP2B	Mx	-.0071	1.5
52	MP2C	X	-14.097	1.5
53	MP2C	Z	-8.139	1.5
54	MP2C	Mx	.0153	1.5
55	MP2A	X	-6.224	6
56	MP2A	Z	-3.593	6
57	MP2A	Mx	-.0031	6
58	MP2B	X	-5.311	6
59	MP2B	Z	-3.066	6
60	MP2B	Mx	-.001	6
61	MP2C	X	-6.415	6
62	MP2C	Z	-3.704	6
63	MP2C	Mx	.0035	6
64	OVP	X	-30.196	1
65	OVP	Z	-17.434	1
66	OVP	Mx	0	1
67	MP2A	X	-27.468	2
68	MP2A	Z	-15.859	2
69	MP2A	Mx	.0299	2
70	MP2A	X	-27.468	6
71	MP2A	Z	-15.859	6
72	MP2A	Mx	.0299	6
73	MP2B	X	-33.97	2
74	MP2B	Z	-19.612	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
75	MP2B	Mx	-.0114	2
76	MP2B	X	-33.97	6
77	MP2B	Z	-19.612	6
78	MP2B	Mx	-.0114	6
79	MP2C	X	-26.102	2
80	MP2C	Z	-15.07	2
81	MP2C	Mx	-.0152	2
82	MP2C	X	-26.102	6
83	MP2C	Z	-15.07	6
84	MP2C	Mx	-.0152	6
85	MP3A	X	-6.439	1.5
86	MP3A	Z	-3.717	1.5
87	MP3A	Mx	-.0032	1.5
88	MP3B	X	-9.232	1.5
89	MP3B	Z	-5.33	1.5
90	MP3B	Mx	-.0018	1.5
91	MP3C	X	-5.852	1.5
92	MP3C	Z	-3.379	1.5
93	MP3C	Mx	.0032	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	-8.685	3
2	MP4A	Z	-15.042	3
3	MP4A	Mx	.0043	3
4	MP4A	X	-8.685	5
5	MP4A	Z	-15.042	5
6	MP4A	Mx	.0043	5
7	MP4B	X	-6.818	3
8	MP4B	Z	-11.809	3
9	MP4B	Mx	.0052	3
10	MP4B	X	-6.818	5
11	MP4B	Z	-11.809	5
12	MP4B	Mx	.0052	5
13	MP4C	X	-4.695	3
14	MP4C	Z	-8.132	3
15	MP4C	Mx	-.0046	3
16	MP4C	X	-4.695	5
17	MP4C	Z	-8.132	5
18	MP4C	Mx	-.0046	5
19	MP2A	X	-18.824	2
20	MP2A	Z	-32.603	2
21	MP2A	Mx	-.0049	2
22	MP2A	X	-18.824	6
23	MP2A	Z	-32.603	6
24	MP2A	Mx	-.0049	6
25	MP2B	X	-16.826	2
26	MP2B	Z	-29.144	2
27	MP2B	Mx	.032	2
28	MP2B	X	-16.826	6
29	MP2B	Z	-29.144	6
30	MP2B	Mx	.032	6
31	MP2C	X	-14.555	2
32	MP2C	Z	-25.211	2
33	MP2C	Mx	-.0186	2
34	MP2C	X	-14.555	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
35	MP2C	Z	-25.211	6
36	MP2C	Mx	-0.186	6
37	MP1A	X	-9.97	1.5
38	MP1A	Z	-17.269	1.5
39	MP1A	Mx	-.01	1.5
40	MP1B	X	-8.938	1.5
41	MP1B	Z	-15.481	1.5
42	MP1B	Mx	-.0137	1.5
43	MP1C	X	-7.764	1.5
44	MP1C	Z	-13.448	1.5
45	MP1C	Mx	.0153	1.5
46	MP2A	X	-10.001	1.5
47	MP2A	Z	-17.322	1.5
48	MP2A	Mx	-.01	1.5
49	MP2B	X	-9.01	1.5
50	MP2B	Z	-15.606	1.5
51	MP2B	Mx	-.0138	1.5
52	MP2C	X	-7.883	1.5
53	MP2C	Z	-13.654	1.5
54	MP2C	Mx	.0155	1.5
55	MP2A	X	-3.177	6
56	MP2A	Z	-5.503	6
57	MP2A	Mx	-.0016	6
58	MP2B	X	-3.457	6
59	MP2B	Z	-5.988	6
60	MP2B	Mx	-.0026	6
61	MP2C	X	-3.776	6
62	MP2C	Z	-6.54	6
63	MP2C	Mx	.0037	6
64	OVP	X	-19.498	1
65	OVP	Z	-33.772	1
66	OVP	Mx	0	1
67	MP2A	X	-18.824	2
68	MP2A	Z	-32.603	2
69	MP2A	Mx	.0331	2
70	MP2A	X	-18.824	6
71	MP2A	Z	-32.603	6
72	MP2A	Mx	.0331	6
73	MP2B	X	-16.826	2
74	MP2B	Z	-29.144	2
75	MP2B	Mx	.0067	2
76	MP2B	X	-16.826	6
77	MP2B	Z	-29.144	6
78	MP2B	Mx	.0067	6
79	MP2C	X	-14.555	2
80	MP2C	Z	-25.211	2
81	MP2C	Mx	-.0244	2
82	MP2C	X	-14.555	6
83	MP2C	Z	-25.211	6
84	MP2C	Mx	-.0244	6
85	MP3A	X	-4.991	1.5
86	MP3A	Z	-8.645	1.5
87	MP3A	Mx	-.0025	1.5
88	MP3B	X	-4.133	1.5
89	MP3B	Z	-7.159	1.5
90	MP3B	Mx	-.0032	1.5
91	MP3C	X	-3.157	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
92	MP3C	Z	-5.469	1.5
93	MP3C	Mx	.0031	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	-5.801	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	-5.801	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	-2.342	3
9	MP4B	Mx	.0012	3
10	MP4B	X	0	5
11	MP4B	Z	-2.342	5
12	MP4B	Mx	.0012	5
13	MP4C	X	0	3
14	MP4C	Z	-3.708	3
15	MP4C	Mx	-.0014	3
16	MP4C	X	0	5
17	MP4C	Z	-3.708	5
18	MP4C	Mx	-.0014	5
19	MP2A	X	0	2
20	MP2A	Z	-8.311	2
21	MP2A	Mx	-.0048	2
22	MP2A	X	0	6
23	MP2A	Z	-8.311	6
24	MP2A	Mx	-.0048	6
25	MP2B	X	0	2
26	MP2B	Z	-3.709	2
27	MP2B	Mx	.0031	2
28	MP2B	X	0	6
29	MP2B	Z	-3.709	6
30	MP2B	Mx	.0031	6
31	MP2C	X	0	2
32	MP2C	Z	-5.527	2
33	MP2C	Mx	-.0011	2
34	MP2C	X	0	6
35	MP2C	Z	-5.527	6
36	MP2C	Mx	-.0011	6
37	MP1A	X	0	1.5
38	MP1A	Z	-4.745	1.5
39	MP1A	Mx	0	1.5
40	MP1B	X	0	1.5
41	MP1B	Z	-3.231	1.5
42	MP1B	Mx	-.0032	1.5
43	MP1C	X	0	1.5
44	MP1C	Z	-3.829	1.5
45	MP1C	Mx	.0029	1.5
46	MP2A	X	0	1.5
47	MP2A	Z	-5.724	1.5
48	MP2A	Mx	0	1.5
49	MP2B	X	0	1.5
50	MP2B	Z	-3.958	1.5
51	MP2B	Mx	-.0039	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
52	MP2C	X	0	1.5
53	MP2C	Z	-4.656	1.5
54	MP2C	Mx	.0036	1.5
55	MP2A	X	0	6
56	MP2A	Z	-1.133	6
57	MP2A	Mx	0	6
58	MP2B	X	0	6
59	MP2B	Z	-1.554	6
60	MP2B	Mx	-.000765	6
61	MP2C	X	0	6
62	MP2C	Z	-1.388	6
63	MP2C	Mx	.000532	6
64	OVP	X	0	1
65	OVP	Z	-9.634	1
66	OVP	Mx	0	1
67	MP2A	X	0	2
68	MP2A	Z	-12.321	2
69	MP2A	Mx	.0072	2
70	MP2A	X	0	6
71	MP2A	Z	-12.321	6
72	MP2A	Mx	.0072	6
73	MP2B	X	0	2
74	MP2B	Z	-8.301	2
75	MP2B	Mx	.0053	2
76	MP2B	X	0	6
77	MP2B	Z	-8.301	6
78	MP2B	Mx	.0053	6
79	MP2C	X	0	2
80	MP2C	Z	-9.889	2
81	MP2C	Mx	-.0094	2
82	MP2C	X	0	6
83	MP2C	Z	-9.889	6
84	MP2C	Mx	-.0094	6
85	MP3A	X	0	1.5
86	MP3A	Z	-2.633	1.5
87	MP3A	Mx	0	1.5
88	MP3B	X	0	1.5
89	MP3B	Z	-1.161	1.5
90	MP3B	Mx	-.000572	1.5
91	MP3C	X	0	1.5
92	MP3C	Z	-1.742	1.5
93	MP3C	Mx	.000667	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	2.455	3
2	MP4A	Z	-4.251	3
3	MP4A	Mx	-.0012	3
4	MP4A	X	2.455	5
5	MP4A	Z	-4.251	5
6	MP4A	Mx	-.0012	5
7	MP4B	X	1.326	3
8	MP4B	Z	-2.296	3
9	MP4B	Mx	.0012	3
10	MP4B	X	1.326	5
11	MP4B	Z	-2.296	5



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
12	MP4B	Mx	.0012	5
13	MP4C	X	2.692	3
14	MP4C	Z	-4.662	3
15	MP4C	Mx	-.00092	3
16	MP4C	X	2.692	5
17	MP4C	Z	-4.662	5
18	MP4C	Mx	-.00092	5
19	MP2A	X	3.562	2
20	MP2A	Z	-6.17	2
21	MP2A	Mx	-.0063	2
22	MP2A	X	3.562	6
23	MP2A	Z	-6.17	6
24	MP2A	Mx	-.0063	6
25	MP2B	X	2.061	2
26	MP2B	Z	-3.569	2
27	MP2B	Mx	.0021	2
28	MP2B	X	2.061	6
29	MP2B	Z	-3.569	6
30	MP2B	Mx	.0021	6
31	MP2C	X	3.878	2
32	MP2C	Z	-6.717	2
33	MP2C	Mx	.0023	2
34	MP2C	X	3.878	6
35	MP2C	Z	-6.717	6
36	MP2C	Mx	.0023	6
37	MP1A	X	2.177	1.5
38	MP1A	Z	-3.771	1.5
39	MP1A	Mx	.0022	1.5
40	MP1B	X	1.683	1.5
41	MP1B	Z	-2.915	1.5
42	MP1B	Mx	-.0032	1.5
43	MP1C	X	2.281	1.5
44	MP1C	Z	-3.951	1.5
45	MP1C	Mx	.0016	1.5
46	MP2A	X	2.634	1.5
47	MP2A	Z	-4.563	1.5
48	MP2A	Mx	.0026	1.5
49	MP2B	X	2.058	1.5
50	MP2B	Z	-3.565	1.5
51	MP2B	Mx	-.0039	1.5
52	MP2C	X	2.756	1.5
53	MP2C	Z	-4.773	1.5
54	MP2C	Mx	.0019	1.5
55	MP2A	X	.621	6
56	MP2A	Z	-1.075	6
57	MP2A	Mx	.00031	6
58	MP2B	X	.758	6
59	MP2B	Z	-1.313	6
60	MP2B	Mx	-.000712	6
61	MP2C	X	.592	6
62	MP2C	Z	-1.025	6
63	MP2C	Mx	.000202	6
64	OVP	X	4.716	1
65	OVP	Z	-8.168	1
66	OVP	Mx	0	1
67	MP2A	X	5.642	2
68	MP2A	Z	-9.773	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
69	MP2A	Mx	.0015	2
70	MP2A	X	5.642	6
71	MP2A	Z	-9.773	6
72	MP2A	Mx	.0015	6
73	MP2B	X	4.33	2
74	MP2B	Z	-7.5	2
75	MP2B	Mx	.0078	2
76	MP2B	X	4.33	6
77	MP2B	Z	-7.5	6
78	MP2B	Mx	.0078	6
79	MP2C	X	5.918	2
80	MP2C	Z	-10.25	2
81	MP2C	Mx	-.0095	2
82	MP2C	X	5.918	6
83	MP2C	Z	-10.25	6
84	MP2C	Mx	-.0095	6
85	MP3A	X	1.127	1.5
86	MP3A	Z	-1.951	1.5
87	MP3A	Mx	.000564	1.5
88	MP3B	X	.646	1.5
89	MP3B	Z	-1.119	1.5
90	MP3B	Mx	-.000607	1.5
91	MP3C	X	1.228	1.5
92	MP3C	Z	-2.126	1.5
93	MP3C	Mx	.00042	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	2.707	3
2	MP4A	Z	-1.563	3
3	MP4A	Mx	-.0014	3
4	MP4A	X	2.707	5
5	MP4A	Z	-1.563	5
6	MP4A	Mx	-.0014	5
7	MP4B	X	3.747	3
8	MP4B	Z	-2.164	3
9	MP4B	Mx	.0014	3
10	MP4B	X	3.747	5
11	MP4B	Z	-2.164	5
12	MP4B	Mx	.0014	5
13	MP4C	X	4.931	3
14	MP4C	Z	-2.847	3
15	MP4C	Mx	.000494	3
16	MP4C	X	4.931	5
17	MP4C	Z	-2.847	5
18	MP4C	Mx	.000494	5
19	MP2A	X	4.116	2
20	MP2A	Z	-2.376	2
21	MP2A	Mx	-.0045	2
22	MP2A	X	4.116	6
23	MP2A	Z	-2.376	6
24	MP2A	Mx	-.0045	6
25	MP2B	X	5.5	2
26	MP2B	Z	-3.175	2
27	MP2B	Mx	.000223	2
28	MP2B	X	5.5	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
29	MP2B	Z	-3.175	6
30	MP2B	Mx	.000223	6
31	MP2C	X	7.074	2
32	MP2C	Z	-4.084	2
33	MP2C	Mx	.0058	2
34	MP2C	X	7.074	6
35	MP2C	Z	-4.084	6
36	MP2C	Mx	.0058	6
37	MP1A	X	3.095	1.5
38	MP1A	Z	-1.787	1.5
39	MP1A	Mx	.0031	1.5
40	MP1B	X	3.55	1.5
41	MP1B	Z	-2.05	1.5
42	MP1B	Mx	-.0026	1.5
43	MP1C	X	4.068	1.5
44	MP1C	Z	-2.349	1.5
45	MP1C	Mx	-.000815	1.5
46	MP2A	X	3.774	1.5
47	MP2A	Z	-2.179	1.5
48	MP2A	Mx	.0038	1.5
49	MP2B	X	4.306	1.5
50	MP2B	Z	-2.486	1.5
51	MP2B	Mx	-.0032	1.5
52	MP2C	X	4.91	1.5
53	MP2C	Z	-2.835	1.5
54	MP2C	Mx	-.000984	1.5
55	MP2A	X	1.263	6
56	MP2A	Z	-.729	6
57	MP2A	Mx	.000631	6
58	MP2B	X	1.136	6
59	MP2B	Z	-.656	6
60	MP2B	Mx	-.000422	6
61	MP2C	X	.992	6
62	MP2C	Z	-.573	6
63	MP2C	Mx	-9.9e-5	6
64	OVP	X	7.221	1
65	OVP	Z	-4.169	1
66	OVP	Mx	0	1
67	MP2A	X	7.978	2
68	MP2A	Z	-4.606	2
69	MP2A	Mx	-.0033	2
70	MP2A	X	7.978	6
71	MP2A	Z	-4.606	6
72	MP2A	Mx	-.0033	6
73	MP2B	X	9.187	2
74	MP2B	Z	-5.304	2
75	MP2B	Mx	.0099	2
76	MP2B	X	9.187	6
77	MP2B	Z	-5.304	6
78	MP2B	Mx	.0099	6
79	MP2C	X	10.562	2
80	MP2C	Z	-6.098	2
81	MP2C	Mx	-.0054	2
82	MP2C	X	10.562	6
83	MP2C	Z	-6.098	6
84	MP2C	Mx	-.0054	6
85	MP3A	X	1.294	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
86	MP3A	Z	- .747	1.5
87	MP3A	Mx	.000647	1.5
88	MP3B	X	1.737	1.5
89	MP3B	Z	-1.003	1.5
90	MP3B	Mx	-.000645	1.5
91	MP3C	X	2.24	1.5
92	MP3C	Z	-1.293	1.5
93	MP3C	Mx	-.000225	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	2.234	3
2	MP4A	Z	0	3
3	MP4A	Mx	-.0011	3
4	MP4A	X	2.234	5
5	MP4A	Z	0	5
6	MP4A	Mx	-.0011	5
7	MP4B	X	5.693	3
8	MP4B	Z	0	3
9	MP4B	Mx	.000494	3
10	MP4B	X	5.693	5
11	MP4B	Z	0	5
12	MP4B	Mx	.000494	5
13	MP4C	X	4.327	3
14	MP4C	Z	0	3
15	MP4C	Mx	.0014	3
16	MP4C	X	4.327	5
17	MP4C	Z	0	5
18	MP4C	Mx	.0014	5
19	MP2A	X	3.566	2
20	MP2A	Z	0	2
21	MP2A	Mx	-.0027	2
22	MP2A	X	3.566	6
23	MP2A	Z	0	6
24	MP2A	Mx	-.0027	6
25	MP2B	X	8.168	2
26	MP2B	Z	0	2
27	MP2B	Mx	-.0036	2
28	MP2B	X	8.168	6
29	MP2B	Z	0	6
30	MP2B	Mx	-.0036	6
31	MP2C	X	6.351	2
32	MP2C	Z	0	2
33	MP2C	Mx	.0059	2
34	MP2C	X	6.351	6
35	MP2C	Z	0	6
36	MP2C	Mx	.0059	6
37	MP1A	X	3.184	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	.0032	1.5
40	MP1B	X	4.698	1.5
41	MP1B	Z	0	1.5
42	MP1B	Mx	-.000816	1.5
43	MP1C	X	4.1	1.5
44	MP1C	Z	0	1.5
45	MP1C	Mx	-.0026	1.5



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
46	MP2A	X	3.903	1.5
47	MP2A	Z	0	1.5
48	MP2A	Mx	.0039	1.5
49	MP2B	X	5.669	1.5
50	MP2B	Z	0	1.5
51	MP2B	Mx	-.000984	1.5
52	MP2C	X	4.972	1.5
53	MP2C	Z	0	1.5
54	MP2C	Mx	-.0032	1.5
55	MP2A	X	1.567	6
56	MP2A	Z	0	6
57	MP2A	Mx	.000783	6
58	MP2B	X	1.146	6
59	MP2B	Z	0	6
60	MP2B	Mx	-.0001	6
61	MP2C	X	1.312	6
62	MP2C	Z	0	6
63	MP2C	Mx	-.000422	6
64	OVP	X	7.448	1
65	OVP	Z	0	1
66	OVP	Mx	0	1
67	MP2A	X	8.176	2
68	MP2A	Z	0	2
69	MP2A	Mx	-.0061	2
70	MP2A	X	8.176	6
71	MP2A	Z	0	6
72	MP2A	Mx	-.0061	6
73	MP2B	X	12.196	2
74	MP2B	Z	0	2
75	MP2B	Mx	.0086	2
76	MP2B	X	12.196	6
77	MP2B	Z	0	6
78	MP2B	Mx	.0086	6
79	MP2C	X	10.608	2
80	MP2C	Z	0	2
81	MP2C	Mx	.000374	2
82	MP2C	X	10.608	6
83	MP2C	Z	0	6
84	MP2C	Mx	.000374	6
85	MP3A	X	1.115	1.5
86	MP3A	Z	0	1.5
87	MP3A	Mx	.000558	1.5
88	MP3B	X	2.587	1.5
89	MP3B	Z	0	1.5
90	MP3B	Mx	-.000225	1.5
91	MP3C	X	2.005	1.5
92	MP3C	Z	0	1.5
93	MP3C	Mx	-.000644	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP4A	X	2.707	3
2	MP4A	Z	1.563	3
3	MP4A	Mx	-.0014	3
4	MP4A	X	2.707	5
5	MP4A	Z	1.563	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
6	MP4A	Mx	-.0014	5
7	MP4B	X	4.662	3
8	MP4B	Z	2.692	3
9	MP4B	Mx	-.000921	3
10	MP4B	X	4.662	5
11	MP4B	Z	2.692	5
12	MP4B	Mx	-.000921	5
13	MP4C	X	2.296	3
14	MP4C	Z	1.326	3
15	MP4C	Mx	.0012	3
16	MP4C	X	2.296	5
17	MP4C	Z	1.326	5
18	MP4C	Mx	.0012	5
19	MP2A	X	4.116	2
20	MP2A	Z	2.376	2
21	MP2A	Mx	-.0017	2
22	MP2A	X	4.116	6
23	MP2A	Z	2.376	6
24	MP2A	Mx	-.0017	6
25	MP2B	X	6.717	2
26	MP2B	Z	3.878	2
27	MP2B	Mx	-.0062	2
28	MP2B	X	6.717	6
29	MP2B	Z	3.878	6
30	MP2B	Mx	-.0062	6
31	MP2C	X	3.569	2
32	MP2C	Z	2.061	2
33	MP2C	Mx	.0037	2
34	MP2C	X	3.569	6
35	MP2C	Z	2.061	6
36	MP2C	Mx	.0037	6
37	MP1A	X	3.095	1.5
38	MP1A	Z	1.787	1.5
39	MP1A	Mx	.0031	1.5
40	MP1B	X	3.951	1.5
41	MP1B	Z	2.281	1.5
42	MP1B	Mx	.0016	1.5
43	MP1C	X	2.915	1.5
44	MP1C	Z	1.683	1.5
45	MP1C	Mx	-.0032	1.5
46	MP2A	X	3.774	1.5
47	MP2A	Z	2.179	1.5
48	MP2A	Mx	.0038	1.5
49	MP2B	X	4.773	1.5
50	MP2B	Z	2.756	1.5
51	MP2B	Mx	.0019	1.5
52	MP2C	X	3.565	1.5
53	MP2C	Z	2.058	1.5
54	MP2C	Mx	-.0039	1.5
55	MP2A	X	1.263	6
56	MP2A	Z	.729	6
57	MP2A	Mx	.000631	6
58	MP2B	X	1.025	6
59	MP2B	Z	.592	6
60	MP2B	Mx	.000203	6
61	MP2C	X	1.313	6
62	MP2C	Z	.758	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
63	MP2C	Mx	-0.00712	6
64	OVP	X	6.625	1
65	OVP	Z	3.825	1
66	OVP	Mx	0	1
67	MP2A	X	7.978	2
68	MP2A	Z	4.606	2
69	MP2A	Mx	-0.0087	2
70	MP2A	X	7.978	6
71	MP2A	Z	4.606	6
72	MP2A	Mx	-0.0087	6
73	MP2B	X	10.25	2
74	MP2B	Z	5.918	2
75	MP2B	Mx	.0035	2
76	MP2B	X	10.25	6
77	MP2B	Z	5.918	6
78	MP2B	Mx	.0035	6
79	MP2C	X	7.5	2
80	MP2C	Z	4.33	2
81	MP2C	Mx	.0044	2
82	MP2C	X	7.5	6
83	MP2C	Z	4.33	6
84	MP2C	Mx	.0044	6
85	MP3A	X	1.294	1.5
86	MP3A	Z	.747	1.5
87	MP3A	Mx	.000647	1.5
88	MP3B	X	2.126	1.5
89	MP3B	Z	1.228	1.5
90	MP3B	Mx	.00042	1.5
91	MP3C	X	1.119	1.5
92	MP3C	Z	.646	1.5
93	MP3C	Mx	-0.00607	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	2.455	3
2	MP4A	Z	4.251	3
3	MP4A	Mx	-0.012	3
4	MP4A	X	2.455	5
5	MP4A	Z	4.251	5
6	MP4A	Mx	-0.012	5
7	MP4B	X	1.854	3
8	MP4B	Z	3.211	3
9	MP4B	Mx	-0.014	3
10	MP4B	X	1.854	5
11	MP4B	Z	3.211	5
12	MP4B	Mx	-0.014	5
13	MP4C	X	1.171	3
14	MP4C	Z	2.028	3
15	MP4C	Mx	.0012	3
16	MP4C	X	1.171	5
17	MP4C	Z	2.028	5
18	MP4C	Mx	.0012	5
19	MP2A	X	3.562	2
20	MP2A	Z	6.17	2
21	MP2A	Mx	.000928	2
22	MP2A	X	3.562	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
23	MP2A	Z	6.17	6
24	MP2A	Mx	.000928	6
25	MP2B	X	2.763	2
26	MP2B	Z	4.786	2
27	MP2B	Mx	-.0052	2
28	MP2B	X	2.763	6
29	MP2B	Z	4.786	6
30	MP2B	Mx	-.0052	6
31	MP2C	X	1.855	2
32	MP2C	Z	3.212	2
33	MP2C	Mx	.0024	2
34	MP2C	X	1.855	6
35	MP2C	Z	3.212	6
36	MP2C	Mx	.0024	6
37	MP1A	X	2.177	1.5
38	MP1A	Z	3.771	1.5
39	MP1A	Mx	.0022	1.5
40	MP1B	X	1.914	1.5
41	MP1B	Z	3.316	1.5
42	MP1B	Mx	.0029	1.5
43	MP1C	X	1.615	1.5
44	MP1C	Z	2.798	1.5
45	MP1C	Mx	-.0032	1.5
46	MP2A	X	2.634	1.5
47	MP2A	Z	4.563	1.5
48	MP2A	Mx	.0026	1.5
49	MP2B	X	2.328	1.5
50	MP2B	Z	4.032	1.5
51	MP2B	Mx	.0036	1.5
52	MP2C	X	1.979	1.5
53	MP2C	Z	3.428	1.5
54	MP2C	Mx	-.0039	1.5
55	MP2A	X	.621	6
56	MP2A	Z	1.075	6
57	MP2A	Mx	.00031	6
58	MP2B	X	.694	6
59	MP2B	Z	1.202	6
60	MP2B	Mx	.000532	6
61	MP2C	X	.777	6
62	MP2C	Z	1.346	6
63	MP2C	Mx	-.000765	6
64	OVP	X	4.371	1
65	OVP	Z	7.571	1
66	OVP	Mx	0	1
67	MP2A	X	5.642	2
68	MP2A	Z	9.773	2
69	MP2A	Mx	-.0099	2
70	MP2A	X	5.642	6
71	MP2A	Z	9.773	6
72	MP2A	Mx	-.0099	6
73	MP2B	X	4.944	2
74	MP2B	Z	8.564	2
75	MP2B	Mx	-.002	2
76	MP2B	X	4.944	6
77	MP2B	Z	8.564	6
78	MP2B	Mx	-.002	6
79	MP2C	X	4.15	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
80	MP2C	Z	7.189	2
81	MP2C	Mx	.007	2
82	MP2C	X	4.15	6
83	MP2C	Z	7.189	6
84	MP2C	Mx	.007	6
85	MP3A	X	1.127	1.5
86	MP3A	Z	1.951	1.5
87	MP3A	Mx	.000564	1.5
88	MP3B	X	.871	1.5
89	MP3B	Z	1.509	1.5
90	MP3B	Mx	.000667	1.5
91	MP3C	X	.58	1.5
92	MP3C	Z	1.005	1.5
93	MP3C	Mx	-.000571	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	5.801	3
3	MP4A	Mx	0	3
4	MP4A	X	0	5
5	MP4A	Z	5.801	5
6	MP4A	Mx	0	5
7	MP4B	X	0	3
8	MP4B	Z	2.342	3
9	MP4B	Mx	-.0012	3
10	MP4B	X	0	5
11	MP4B	Z	2.342	5
12	MP4B	Mx	-.0012	5
13	MP4C	X	0	3
14	MP4C	Z	3.708	3
15	MP4C	Mx	.0014	3
16	MP4C	X	0	5
17	MP4C	Z	3.708	5
18	MP4C	Mx	.0014	5
19	MP2A	X	0	2
20	MP2A	Z	8.311	2
21	MP2A	Mx	.0048	2
22	MP2A	X	0	6
23	MP2A	Z	8.311	6
24	MP2A	Mx	.0048	6
25	MP2B	X	0	2
26	MP2B	Z	3.709	2
27	MP2B	Mx	-.0031	2
28	MP2B	X	0	6
29	MP2B	Z	3.709	6
30	MP2B	Mx	-.0031	6
31	MP2C	X	0	2
32	MP2C	Z	5.527	2
33	MP2C	Mx	.0011	2
34	MP2C	X	0	6
35	MP2C	Z	5.527	6
36	MP2C	Mx	.0011	6
37	MP1A	X	0	1.5
38	MP1A	Z	4.745	1.5
39	MP1A	Mx	0	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP1B	X	0	1.5
41	MP1B	Z	3.231	1.5
42	MP1B	Mx	.0032	1.5
43	MP1C	X	0	1.5
44	MP1C	Z	3.829	1.5
45	MP1C	Mx	-.0029	1.5
46	MP2A	X	0	1.5
47	MP2A	Z	5.724	1.5
48	MP2A	Mx	0	1.5
49	MP2B	X	0	1.5
50	MP2B	Z	3.958	1.5
51	MP2B	Mx	.0039	1.5
52	MP2C	X	0	1.5
53	MP2C	Z	4.656	1.5
54	MP2C	Mx	-.0036	1.5
55	MP2A	X	0	6
56	MP2A	Z	1.133	6
57	MP2A	Mx	0	6
58	MP2B	X	0	6
59	MP2B	Z	1.554	6
60	MP2B	Mx	.000765	6
61	MP2C	X	0	6
62	MP2C	Z	1.388	6
63	MP2C	Mx	-.000532	6
64	OVP	X	0	1
65	OVP	Z	9.634	1
66	OVP	Mx	0	1
67	MP2A	X	0	2
68	MP2A	Z	12.321	2
69	MP2A	Mx	-.0072	2
70	MP2A	X	0	6
71	MP2A	Z	12.321	6
72	MP2A	Mx	-.0072	6
73	MP2B	X	0	2
74	MP2B	Z	8.301	2
75	MP2B	Mx	-.0053	2
76	MP2B	X	0	6
77	MP2B	Z	8.301	6
78	MP2B	Mx	-.0053	6
79	MP2C	X	0	2
80	MP2C	Z	9.889	2
81	MP2C	Mx	.0094	2
82	MP2C	X	0	6
83	MP2C	Z	9.889	6
84	MP2C	Mx	.0094	6
85	MP3A	X	0	1.5
86	MP3A	Z	2.633	1.5
87	MP3A	Mx	0	1.5
88	MP3B	X	0	1.5
89	MP3B	Z	1.161	1.5
90	MP3B	Mx	.000572	1.5
91	MP3C	X	0	1.5
92	MP3C	Z	1.742	1.5
93	MP3C	Mx	-.000667	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-2.455	3
2	MP4A	Z	4.251	3
3	MP4A	Mx	.0012	3
4	MP4A	X	-2.455	5
5	MP4A	Z	4.251	5
6	MP4A	Mx	.0012	5
7	MP4B	X	-1.326	3
8	MP4B	Z	2.296	3
9	MP4B	Mx	-.0012	3
10	MP4B	X	-1.326	5
11	MP4B	Z	2.296	5
12	MP4B	Mx	-.0012	5
13	MP4C	X	-2.692	3
14	MP4C	Z	4.662	3
15	MP4C	Mx	.00092	3
16	MP4C	X	-2.692	5
17	MP4C	Z	4.662	5
18	MP4C	Mx	.00092	5
19	MP2A	X	-3.562	2
20	MP2A	Z	6.17	2
21	MP2A	Mx	.0063	2
22	MP2A	X	-3.562	6
23	MP2A	Z	6.17	6
24	MP2A	Mx	.0063	6
25	MP2B	X	-2.061	2
26	MP2B	Z	3.569	2
27	MP2B	Mx	-.0021	2
28	MP2B	X	-2.061	6
29	MP2B	Z	3.569	6
30	MP2B	Mx	-.0021	6
31	MP2C	X	-3.878	2
32	MP2C	Z	6.717	2
33	MP2C	Mx	-.0023	2
34	MP2C	X	-3.878	6
35	MP2C	Z	6.717	6
36	MP2C	Mx	-.0023	6
37	MP1A	X	-2.177	1.5
38	MP1A	Z	3.771	1.5
39	MP1A	Mx	-.0022	1.5
40	MP1B	X	-1.683	1.5
41	MP1B	Z	2.915	1.5
42	MP1B	Mx	.0032	1.5
43	MP1C	X	-2.281	1.5
44	MP1C	Z	3.951	1.5
45	MP1C	Mx	-.0016	1.5
46	MP2A	X	-2.634	1.5
47	MP2A	Z	4.563	1.5
48	MP2A	Mx	-.0026	1.5
49	MP2B	X	-2.058	1.5
50	MP2B	Z	3.565	1.5
51	MP2B	Mx	.0039	1.5
52	MP2C	X	-2.756	1.5
53	MP2C	Z	4.773	1.5
54	MP2C	Mx	-.0019	1.5
55	MP2A	X	-.621	6
56	MP2A	Z	1.075	6
57	MP2A	Mx	-.00031	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
58	MP2B	X	- .758	6
59	MP2B	Z	1.313	6
60	MP2B	Mx	.000712	6
61	MP2C	X	-.592	6
62	MP2C	Z	1.025	6
63	MP2C	Mx	-.000202	6
64	OVP	X	-4.716	1
65	OVP	Z	8.168	1
66	OVP	Mx	0	1
67	MP2A	X	-5.642	2
68	MP2A	Z	9.773	2
69	MP2A	Mx	-.0015	2
70	MP2A	X	-5.642	6
71	MP2A	Z	9.773	6
72	MP2A	Mx	-.0015	6
73	MP2B	X	-4.33	2
74	MP2B	Z	7.5	2
75	MP2B	Mx	-.0078	2
76	MP2B	X	-4.33	6
77	MP2B	Z	7.5	6
78	MP2B	Mx	-.0078	6
79	MP2C	X	-5.918	2
80	MP2C	Z	10.25	2
81	MP2C	Mx	.0095	2
82	MP2C	X	-5.918	6
83	MP2C	Z	10.25	6
84	MP2C	Mx	.0095	6
85	MP3A	X	-1.127	1.5
86	MP3A	Z	1.951	1.5
87	MP3A	Mx	-.000564	1.5
88	MP3B	X	-.646	1.5
89	MP3B	Z	1.119	1.5
90	MP3B	Mx	.000607	1.5
91	MP3C	X	-1.228	1.5
92	MP3C	Z	2.126	1.5
93	MP3C	Mx	-.00042	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-2.707	3
2	MP4A	Z	1.563	3
3	MP4A	Mx	.0014	3
4	MP4A	X	-2.707	5
5	MP4A	Z	1.563	5
6	MP4A	Mx	.0014	5
7	MP4B	X	-3.747	3
8	MP4B	Z	2.164	3
9	MP4B	Mx	-.0014	3
10	MP4B	X	-3.747	5
11	MP4B	Z	2.164	5
12	MP4B	Mx	-.0014	5
13	MP4C	X	-4.931	3
14	MP4C	Z	2.847	3
15	MP4C	Mx	-.000494	3
16	MP4C	X	-4.931	5
17	MP4C	Z	2.847	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
18	MP4C	Mx	-0.00494	5
19	MP2A	X	-4.116	2
20	MP2A	Z	2.376	2
21	MP2A	Mx	.0045	2
22	MP2A	X	-4.116	6
23	MP2A	Z	2.376	6
24	MP2A	Mx	.0045	6
25	MP2B	X	-5.5	2
26	MP2B	Z	3.175	2
27	MP2B	Mx	-0.00223	2
28	MP2B	X	-5.5	6
29	MP2B	Z	3.175	6
30	MP2B	Mx	-0.00223	6
31	MP2C	X	-7.074	2
32	MP2C	Z	4.084	2
33	MP2C	Mx	-0.0058	2
34	MP2C	X	-7.074	6
35	MP2C	Z	4.084	6
36	MP2C	Mx	-0.0058	6
37	MP1A	X	-3.095	1.5
38	MP1A	Z	1.787	1.5
39	MP1A	Mx	-0.0031	1.5
40	MP1B	X	-3.55	1.5
41	MP1B	Z	2.05	1.5
42	MP1B	Mx	.0026	1.5
43	MP1C	X	-4.068	1.5
44	MP1C	Z	2.349	1.5
45	MP1C	Mx	.000815	1.5
46	MP2A	X	-3.774	1.5
47	MP2A	Z	2.179	1.5
48	MP2A	Mx	-0.0038	1.5
49	MP2B	X	-4.306	1.5
50	MP2B	Z	2.486	1.5
51	MP2B	Mx	.0032	1.5
52	MP2C	X	-4.91	1.5
53	MP2C	Z	2.835	1.5
54	MP2C	Mx	.000984	1.5
55	MP2A	X	-1.263	6
56	MP2A	Z	.729	6
57	MP2A	Mx	-0.00631	6
58	MP2B	X	-1.136	6
59	MP2B	Z	.656	6
60	MP2B	Mx	.000422	6
61	MP2C	X	-.992	6
62	MP2C	Z	.573	6
63	MP2C	Mx	9.9e-5	6
64	OVP	X	-7.221	1
65	OVP	Z	4.169	1
66	OVP	Mx	0	1
67	MP2A	X	-7.978	2
68	MP2A	Z	4.606	2
69	MP2A	Mx	.0033	2
70	MP2A	X	-7.978	6
71	MP2A	Z	4.606	6
72	MP2A	Mx	.0033	6
73	MP2B	X	-9.187	2
74	MP2B	Z	5.304	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
75	MP2B	Mx	-0.0099	2
76	MP2B	X	-9.187	6
77	MP2B	Z	5.304	6
78	MP2B	Mx	-0.0099	6
79	MP2C	X	-10.562	2
80	MP2C	Z	6.098	2
81	MP2C	Mx	.0054	2
82	MP2C	X	-10.562	6
83	MP2C	Z	6.098	6
84	MP2C	Mx	.0054	6
85	MP3A	X	-1.294	1.5
86	MP3A	Z	.747	1.5
87	MP3A	Mx	-0.000647	1.5
88	MP3B	X	-1.737	1.5
89	MP3B	Z	1.003	1.5
90	MP3B	Mx	.000645	1.5
91	MP3C	X	-2.24	1.5
92	MP3C	Z	1.293	1.5
93	MP3C	Mx	.000225	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	-2.234	3
2	MP4A	Z	0	3
3	MP4A	Mx	.0011	3
4	MP4A	X	-2.234	5
5	MP4A	Z	0	5
6	MP4A	Mx	.0011	5
7	MP4B	X	-5.693	3
8	MP4B	Z	0	3
9	MP4B	Mx	-0.000494	3
10	MP4B	X	-5.693	5
11	MP4B	Z	0	5
12	MP4B	Mx	-0.000494	5
13	MP4C	X	-4.327	3
14	MP4C	Z	0	3
15	MP4C	Mx	-0.0014	3
16	MP4C	X	-4.327	5
17	MP4C	Z	0	5
18	MP4C	Mx	-0.0014	5
19	MP2A	X	-3.566	2
20	MP2A	Z	0	2
21	MP2A	Mx	.0027	2
22	MP2A	X	-3.566	6
23	MP2A	Z	0	6
24	MP2A	Mx	.0027	6
25	MP2B	X	-8.168	2
26	MP2B	Z	0	2
27	MP2B	Mx	.0036	2
28	MP2B	X	-8.168	6
29	MP2B	Z	0	6
30	MP2B	Mx	.0036	6
31	MP2C	X	-6.351	2
32	MP2C	Z	0	2
33	MP2C	Mx	-0.0059	2
34	MP2C	X	-6.351	6



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
35	MP2C	Z	0	6
36	MP2C	Mx	-.0059	6
37	MP1A	X	-3.184	1.5
38	MP1A	Z	0	1.5
39	MP1A	Mx	-.0032	1.5
40	MP1B	X	-4.698	1.5
41	MP1B	Z	0	1.5
42	MP1B	Mx	.000816	1.5
43	MP1C	X	-4.1	1.5
44	MP1C	Z	0	1.5
45	MP1C	Mx	.0026	1.5
46	MP2A	X	-3.903	1.5
47	MP2A	Z	0	1.5
48	MP2A	Mx	-.0039	1.5
49	MP2B	X	-5.669	1.5
50	MP2B	Z	0	1.5
51	MP2B	Mx	.000984	1.5
52	MP2C	X	-4.972	1.5
53	MP2C	Z	0	1.5
54	MP2C	Mx	.0032	1.5
55	MP2A	X	-1.567	6
56	MP2A	Z	0	6
57	MP2A	Mx	-.000783	6
58	MP2B	X	-1.146	6
59	MP2B	Z	0	6
60	MP2B	Mx	.0001	6
61	MP2C	X	-1.312	6
62	MP2C	Z	0	6
63	MP2C	Mx	.000422	6
64	OVP	X	-7.448	1
65	OVP	Z	0	1
66	OVP	Mx	0	1
67	MP2A	X	-8.176	2
68	MP2A	Z	0	2
69	MP2A	Mx	.0061	2
70	MP2A	X	-8.176	6
71	MP2A	Z	0	6
72	MP2A	Mx	.0061	6
73	MP2B	X	-12.196	2
74	MP2B	Z	0	2
75	MP2B	Mx	-.0086	2
76	MP2B	X	-12.196	6
77	MP2B	Z	0	6
78	MP2B	Mx	-.0086	6
79	MP2C	X	-10.608	2
80	MP2C	Z	0	2
81	MP2C	Mx	-.000374	2
82	MP2C	X	-10.608	6
83	MP2C	Z	0	6
84	MP2C	Mx	-.000374	6
85	MP3A	X	-1.115	1.5
86	MP3A	Z	0	1.5
87	MP3A	Mx	-.000558	1.5
88	MP3B	X	-2.587	1.5
89	MP3B	Z	0	1.5
90	MP3B	Mx	.000225	1.5
91	MP3C	X	-2.005	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
92	MP3C	Z	0	1.5
93	MP3C	Mx	.000644	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-2.707	3
2	MP4A	Z	-1.563	3
3	MP4A	Mx	.0014	3
4	MP4A	X	-2.707	5
5	MP4A	Z	-1.563	5
6	MP4A	Mx	.0014	5
7	MP4B	X	-4.662	3
8	MP4B	Z	-2.692	3
9	MP4B	Mx	.000921	3
10	MP4B	X	-4.662	5
11	MP4B	Z	-2.692	5
12	MP4B	Mx	.000921	5
13	MP4C	X	-2.296	3
14	MP4C	Z	-1.326	3
15	MP4C	Mx	-.0012	3
16	MP4C	X	-2.296	5
17	MP4C	Z	-1.326	5
18	MP4C	Mx	-.0012	5
19	MP2A	X	-4.116	2
20	MP2A	Z	-2.376	2
21	MP2A	Mx	.0017	2
22	MP2A	X	-4.116	6
23	MP2A	Z	-2.376	6
24	MP2A	Mx	.0017	6
25	MP2B	X	-6.717	2
26	MP2B	Z	-3.878	2
27	MP2B	Mx	.0062	2
28	MP2B	X	-6.717	6
29	MP2B	Z	-3.878	6
30	MP2B	Mx	.0062	6
31	MP2C	X	-3.569	2
32	MP2C	Z	-2.061	2
33	MP2C	Mx	-.0037	2
34	MP2C	X	-3.569	6
35	MP2C	Z	-2.061	6
36	MP2C	Mx	-.0037	6
37	MP1A	X	-3.095	1.5
38	MP1A	Z	-1.787	1.5
39	MP1A	Mx	-.0031	1.5
40	MP1B	X	-3.951	1.5
41	MP1B	Z	-2.281	1.5
42	MP1B	Mx	-.0016	1.5
43	MP1C	X	-2.915	1.5
44	MP1C	Z	-1.683	1.5
45	MP1C	Mx	.0032	1.5
46	MP2A	X	-3.774	1.5
47	MP2A	Z	-2.179	1.5
48	MP2A	Mx	-.0038	1.5
49	MP2B	X	-4.773	1.5
50	MP2B	Z	-2.756	1.5
51	MP2B	Mx	-.0019	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
52	MP2C	X	-3.565	1.5
53	MP2C	Z	-2.058	1.5
54	MP2C	Mx	.0039	1.5
55	MP2A	X	-1.263	6
56	MP2A	Z	-.729	6
57	MP2A	Mx	-.000631	6
58	MP2B	X	-1.025	6
59	MP2B	Z	-.592	6
60	MP2B	Mx	-.000203	6
61	MP2C	X	-1.313	6
62	MP2C	Z	-.758	6
63	MP2C	Mx	.000712	6
64	OVP	X	-6.625	1
65	OVP	Z	-3.825	1
66	OVP	Mx	0	1
67	MP2A	X	-7.978	2
68	MP2A	Z	-4.606	2
69	MP2A	Mx	.0087	2
70	MP2A	X	-7.978	6
71	MP2A	Z	-4.606	6
72	MP2A	Mx	.0087	6
73	MP2B	X	-10.25	2
74	MP2B	Z	-5.918	2
75	MP2B	Mx	-.0035	2
76	MP2B	X	-10.25	6
77	MP2B	Z	-5.918	6
78	MP2B	Mx	-.0035	6
79	MP2C	X	-7.5	2
80	MP2C	Z	-4.33	2
81	MP2C	Mx	-.0044	2
82	MP2C	X	-7.5	6
83	MP2C	Z	-4.33	6
84	MP2C	Mx	-.0044	6
85	MP3A	X	-1.294	1.5
86	MP3A	Z	-.747	1.5
87	MP3A	Mx	-.000647	1.5
88	MP3B	X	-2.126	1.5
89	MP3B	Z	-1.228	1.5
90	MP3B	Mx	-.00042	1.5
91	MP3C	X	-1.119	1.5
92	MP3C	Z	-.646	1.5
93	MP3C	Mx	.000607	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	X	-2.455	3
2	MP4A	Z	-4.251	3
3	MP4A	Mx	.0012	3
4	MP4A	X	-2.455	5
5	MP4A	Z	-4.251	5
6	MP4A	Mx	.0012	5
7	MP4B	X	-1.854	3
8	MP4B	Z	-3.211	3
9	MP4B	Mx	.0014	3
10	MP4B	X	-1.854	5
11	MP4B	Z	-3.211	5



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 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
12	MP4B	Mx	.0014	5
13	MP4C	X	-1.171	3
14	MP4C	Z	-2.028	3
15	MP4C	Mx	-.0012	3
16	MP4C	X	-1.171	5
17	MP4C	Z	-2.028	5
18	MP4C	Mx	-.0012	5
19	MP2A	X	-3.562	2
20	MP2A	Z	-6.17	2
21	MP2A	Mx	-.000928	2
22	MP2A	X	-3.562	6
23	MP2A	Z	-6.17	6
24	MP2A	Mx	-.000928	6
25	MP2B	X	-2.763	2
26	MP2B	Z	-4.786	2
27	MP2B	Mx	.0052	2
28	MP2B	X	-2.763	6
29	MP2B	Z	-4.786	6
30	MP2B	Mx	.0052	6
31	MP2C	X	-1.855	2
32	MP2C	Z	-3.212	2
33	MP2C	Mx	-.0024	2
34	MP2C	X	-1.855	6
35	MP2C	Z	-3.212	6
36	MP2C	Mx	-.0024	6
37	MP1A	X	-2.177	1.5
38	MP1A	Z	-3.771	1.5
39	MP1A	Mx	-.0022	1.5
40	MP1B	X	-1.914	1.5
41	MP1B	Z	-3.316	1.5
42	MP1B	Mx	-.0029	1.5
43	MP1C	X	-1.615	1.5
44	MP1C	Z	-2.798	1.5
45	MP1C	Mx	.0032	1.5
46	MP2A	X	-2.634	1.5
47	MP2A	Z	-4.563	1.5
48	MP2A	Mx	-.0026	1.5
49	MP2B	X	-2.328	1.5
50	MP2B	Z	-4.032	1.5
51	MP2B	Mx	-.0036	1.5
52	MP2C	X	-1.979	1.5
53	MP2C	Z	-3.428	1.5
54	MP2C	Mx	.0039	1.5
55	MP2A	X	-.621	6
56	MP2A	Z	-1.075	6
57	MP2A	Mx	-.00031	6
58	MP2B	X	-.694	6
59	MP2B	Z	-1.202	6
60	MP2B	Mx	-.000532	6
61	MP2C	X	-.777	6
62	MP2C	Z	-1.346	6
63	MP2C	Mx	.000765	6
64	OVP	X	-4.371	1
65	OVP	Z	-7.571	1
66	OVP	Mx	0	1
67	MP2A	X	-5.642	2
68	MP2A	Z	-9.773	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
69	MP2A	Mx	.0099	2
70	MP2A	X	-5.642	6
71	MP2A	Z	-9.773	6
72	MP2A	Mx	.0099	6
73	MP2B	X	-4.944	2
74	MP2B	Z	-8.564	2
75	MP2B	Mx	.002	2
76	MP2B	X	-4.944	6
77	MP2B	Z	-8.564	6
78	MP2B	Mx	.002	6
79	MP2C	X	-4.15	2
80	MP2C	Z	-7.189	2
81	MP2C	Mx	-.007	2
82	MP2C	X	-4.15	6
83	MP2C	Z	-7.189	6
84	MP2C	Mx	-.007	6
85	MP3A	X	-1.127	1.5
86	MP3A	Z	-1.951	1.5
87	MP3A	Mx	-.000564	1.5
88	MP3B	X	-.871	1.5
89	MP3B	Z	-1.509	1.5
90	MP3B	Mx	-.000667	1.5
91	MP3C	X	-.58	1.5
92	MP3C	Z	-1.005	1.5
93	MP3C	Mx	.000571	1.5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	M42	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	M48	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	M16	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	M16	Y	-250	%50

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	Y	-1.1552	3
2	MP4A	My	-.000578	3
3	MP4A	Mz	0	3
4	MP4A	Y	-1.1552	5
5	MP4A	My	-.000578	5
6	MP4A	Mz	0	5
7	MP4B	Y	-1.1552	3
8	MP4B	My	.0001	3
9	MP4B	Mz	-.000569	3
10	MP4B	Y	-1.1552	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
11	MP4B	My	.0001	5
12	MP4B	Mz	-.000569	5
13	MP4C	Y	-1.1552	3
14	MP4C	My	.000371	3
15	MP4C	Mz	.000442	3
16	MP4C	Y	-1.1552	5
17	MP4C	My	.000371	5
18	MP4C	Mz	.000442	5
19	MP2A	Y	-.881	2
20	MP2A	My	-.000661	2
21	MP2A	Mz	.000514	2
22	MP2A	Y	-.881	6
23	MP2A	My	-.000661	6
24	MP2A	Mz	.000514	6
25	MP2B	Y	-.881	2
26	MP2B	My	-.000391	2
27	MP2B	Mz	-.00074	2
28	MP2B	Y	-.881	6
29	MP2B	My	-.000391	6
30	MP2B	Mz	-.00074	6
31	MP2C	Y	-.881	2
32	MP2C	My	.000818	2
33	MP2C	Mz	.000176	2
34	MP2C	Y	-.881	6
35	MP2C	My	.000818	6
36	MP2C	Mz	.000176	6
37	MP1A	Y	-3.0119	1.5
38	MP1A	My	.003	1.5
39	MP1A	Mz	0	1.5
40	MP1B	Y	-3.0119	1.5
41	MP1B	My	-.000523	1.5
42	MP1B	Mz	.003	1.5
43	MP1C	Y	-3.0119	1.5
44	MP1C	My	-.0019	1.5
45	MP1C	Mz	-.0023	1.5
46	MP2A	Y	-3.1893	1.5
47	MP2A	My	.0032	1.5
48	MP2A	Mz	0	1.5
49	MP2B	Y	-3.1893	1.5
50	MP2B	My	-.000554	1.5
51	MP2B	Mz	.0031	1.5
52	MP2C	Y	-3.1893	1.5
53	MP2C	My	-.0021	1.5
54	MP2C	Mz	-.0024	1.5
55	MP2A	Y	-.8387	6
56	MP2A	My	.000419	6
57	MP2A	Mz	0	6
58	MP2B	Y	-.8387	6
59	MP2B	My	-7.3e-5	6
60	MP2B	Mz	.000413	6
61	MP2C	Y	-.8387	6
62	MP2C	My	-.00027	6
63	MP2C	Mz	-.000321	6
64	OVP	Y	-1.2902	1
65	OVP	My	0	1
66	OVP	Mz	0	1
67	MP2A	Y	-1.3023	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
68	MP2A	My	-0.00977	2
69	MP2A	Mz	-0.0076	2
70	MP2A	Y	-1.3023	6
71	MP2A	My	-0.00977	6
72	MP2A	Mz	-0.0076	6
73	MP2B	Y	-1.3023	2
74	MP2B	My	.00918	2
75	MP2B	Mz	-0.0083	2
76	MP2B	Y	-1.3023	6
77	MP2B	My	.00918	6
78	MP2B	Mz	-0.0083	6
79	MP2C	Y	-1.3023	2
80	MP2C	My	4.6e-5	2
81	MP2C	Mz	.0012	2
82	MP2C	Y	-1.3023	6
83	MP2C	My	4.6e-5	6
84	MP2C	Mz	.0012	6
85	MP3A	Y	-6.209	1.5
86	MP3A	My	.00031	1.5
87	MP3A	Mz	0	1.5
88	MP3B	Y	-6.209	1.5
89	MP3B	My	-5.4e-5	1.5
90	MP3B	Mz	.000306	1.5
91	MP3C	Y	-6.209	1.5
92	MP3C	My	-0.002	1.5
93	MP3C	Mz	-0.00238	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	Z	-2.8879	3
2	MP4A	Mx	0	3
3	MP4A	Z	-2.8879	5
4	MP4A	Mx	0	5
5	MP4B	Z	-2.8879	3
6	MP4B	Mx	.0014	3
7	MP4B	Z	-2.8879	5
8	MP4B	Mx	.0014	5
9	MP4C	Z	-2.8879	3
10	MP4C	Mx	-.0011	3
11	MP4C	Z	-2.8879	5
12	MP4C	Mx	-.0011	5
13	MP2A	Z	-2.2025	2
14	MP2A	Mx	-.0013	2
15	MP2A	Z	-2.2025	6
16	MP2A	Mx	-.0013	6
17	MP2B	Z	-2.2025	2
18	MP2B	Mx	.0019	2
19	MP2B	Z	-2.2025	6
20	MP2B	Mx	.0019	6
21	MP2C	Z	-2.2025	2
22	MP2C	Mx	-.00044	2
23	MP2C	Z	-2.2025	6
24	MP2C	Mx	-.00044	6
25	MP1A	Z	-7.5298	1.5
26	MP1A	Mx	0	1.5
27	MP1B	Z	-7.5298	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
28	MP1B	Mx	-0.074	1.5
29	MP1C	Z	-7.5298	1.5
30	MP1C	Mx	.0058	1.5
31	MP2A	Z	-7.9733	1.5
32	MP2A	Mx	0	1.5
33	MP2B	Z	-7.9733	1.5
34	MP2B	Mx	-0.079	1.5
35	MP2C	Z	-7.9733	1.5
36	MP2C	Mx	.0061	1.5
37	MP2A	Z	-2.0966	6
38	MP2A	Mx	0	6
39	MP2B	Z	-2.0966	6
40	MP2B	Mx	-.001	6
41	MP2C	Z	-2.0966	6
42	MP2C	Mx	.000803	6
43	OVP	Z	-3.2256	1
44	OVP	Mx	0	1
45	MP2A	Z	-3.2558	2
46	MP2A	Mx	.0019	2
47	MP2A	Z	-3.2558	6
48	MP2A	Mx	.0019	6
49	MP2B	Z	-3.2558	2
50	MP2B	Mx	.0021	2
51	MP2B	Z	-3.2558	6
52	MP2B	Mx	.0021	6
53	MP2C	Z	-3.2558	2
54	MP2C	Mx	-.0031	2
55	MP2C	Z	-3.2558	6
56	MP2C	Mx	-.0031	6
57	MP3A	Z	-1.5523	1.5
58	MP3A	Mx	0	1.5
59	MP3B	Z	-1.5523	1.5
60	MP3B	Mx	-.000764	1.5
61	MP3C	Z	-1.5523	1.5
62	MP3C	Mx	.000595	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	X	2.8879	3
2	MP4A	Mx	-.0014	3
3	MP4A	X	2.8879	5
4	MP4A	Mx	-.0014	5
5	MP4B	X	2.8879	3
6	MP4B	Mx	.000251	3
7	MP4B	X	2.8879	5
8	MP4B	Mx	.000251	5
9	MP4C	X	2.8879	3
10	MP4C	Mx	.000928	3
11	MP4C	X	2.8879	5
12	MP4C	Mx	.000928	5
13	MP2A	X	2.2025	2
14	MP2A	Mx	-.0017	2
15	MP2A	X	2.2025	6
16	MP2A	Mx	-.0017	6
17	MP2B	X	2.2025	2
18	MP2B	Mx	-.000978	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
19	MP2B	X	2.2025	6
20	MP2B	Mx	-.000978	6
21	MP2C	X	2.2025	2
22	MP2C	Mx	.002	2
23	MP2C	X	2.2025	6
24	MP2C	Mx	.002	6
25	MP1A	X	7.5298	1.5
26	MP1A	Mx	.0075	1.5
27	MP1B	X	7.5298	1.5
28	MP1B	Mx	-.0013	1.5
29	MP1C	X	7.5298	1.5
30	MP1C	Mx	-.0048	1.5
31	MP2A	X	7.9733	1.5
32	MP2A	Mx	.008	1.5
33	MP2B	X	7.9733	1.5
34	MP2B	Mx	-.0014	1.5
35	MP2C	X	7.9733	1.5
36	MP2C	Mx	-.0051	1.5
37	MP2A	X	2.0966	6
38	MP2A	Mx	.001	6
39	MP2B	X	2.0966	6
40	MP2B	Mx	-.000182	6
41	MP2C	X	2.0966	6
42	MP2C	Mx	-.000674	6
43	OVP	X	3.2256	1
44	OVP	Mx	0	1
45	MP2A	X	3.2558	2
46	MP2A	Mx	-.0024	2
47	MP2A	X	3.2558	6
48	MP2A	Mx	-.0024	6
49	MP2B	X	3.2558	2
50	MP2B	Mx	.0023	2
51	MP2B	X	3.2558	6
52	MP2B	Mx	.0023	6
53	MP2C	X	3.2558	2
54	MP2C	Mx	.000115	2
55	MP2C	X	3.2558	6
56	MP2C	Mx	.000115	6
57	MP3A	X	1.5523	1.5
58	MP3A	Mx	.000776	1.5
59	MP3B	X	1.5523	1.5
60	MP3B	Mx	-.000135	1.5
61	MP3C	X	1.5523	1.5
62	MP3C	Mx	-.000499	1.5

Member Distributed Loads (BLC 40 : Structure Di)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	Y	-18.7835	-18.7835	0	%100
2	M7	Y	-10.4628	-10.4628	0	%100
3	M8	Y	-10.4628	-10.4628	0	%100
4	M16	Y	-10.4628	-10.4628	0	%100
5	MP1A	Y	-10.4628	-10.4628	0	%100
6	OVP	Y	-10.4628	-10.4628	0	%100
7	M26	Y	-9.8521	-9.8521	0	%100
8	M35	Y	-9.8521	-9.8521	0	%100



Member Distributed Loads (BLC 40 : Structure Di) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
9	M17A	Y	-18.7835	-18.7835	0	%100
10	M18	Y	-10.4628	-10.4628	0	%100
11	M19	Y	-10.4628	-10.4628	0	%100
12	M20	Y	-9.8521	-9.8521	0	%100
13	M23	Y	-9.8521	-9.8521	0	%100
14	M26A	Y	-18.7835	-18.7835	0	%100
15	M27	Y	-10.4628	-10.4628	0	%100
16	M28	Y	-10.4628	-10.4628	0	%100
17	M29	Y	-9.8521	-9.8521	0	%100
18	M32	Y	-9.8521	-9.8521	0	%100
19	M35A	Y	-10.4628	-10.4628	0	%100
20	M36	Y	-10.4628	-10.4628	0	%100
21	M35B	Y	-13.1714	-13.1714	0	%100
22	M37	Y	-13.1714	-13.1714	0	%100
23	M38	Y	-13.1714	-13.1714	0	%100
24	M39	Y	-13.1714	-13.1714	0	%100
25	M40	Y	-13.1714	-13.1714	0	%100
26	M41	Y	-13.1714	-13.1714	0	%100
27	MP2A	Y	-10.4628	-10.4628	0	%100
28	MP3A	Y	-10.4628	-10.4628	0	%100
29	MP4A	Y	-10.4628	-10.4628	0	%100
30	MP1C	Y	-10.4628	-10.4628	0	%100
31	MP2C	Y	-10.4628	-10.4628	0	%100
32	MP3C	Y	-10.4628	-10.4628	0	%100
33	MP4C	Y	-10.4628	-10.4628	0	%100
34	MP1B	Y	-10.4628	-10.4628	0	%100
35	MP2B	Y	-10.4628	-10.4628	0	%100
36	MP3B	Y	-10.4628	-10.4628	0	%100
37	MP4B	Y	-10.4628	-10.4628	0	%100

Member Distributed Loads (BLC 41 : Structure Wo (0 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	0	0	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	-7.9703	-7.9703	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	-10.7195	-10.7195	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	-11.6324	-11.6324	0	%100
9	MP1A	X	0	0	0	%100
10	MP1A	Z	-11.6324	-11.6324	0	%100
11	OVP	X	0	0	0	%100
12	OVP	Z	-10.6006	-10.6006	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	-2.8166	-2.8166	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	-2.8166	-2.8166	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	-15.4567	-15.4567	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	-1.9926	-1.9926	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	-2.6799	-2.6799	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	-2.8166	-2.8166	0	%100



Member Distributed Loads (BLC 41 : Structure Wo (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
25	M23	X	0	0	0	%100
26	M23	Z	-11.2665	-11.2665	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	-15.4567	-15.4567	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	-1.9926	-1.9926	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	-2.6799	-2.6799	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	-11.2665	-11.2665	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	-2.8166	-2.8166	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	-2.9081	-2.9081	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	-2.9081	-2.9081	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	-15.3233	-15.3233	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	-3.8308	-3.8308	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	-3.8308	-3.8308	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	-2.6271	-2.6271	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	-10.5083	-10.5083	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	-2.6271	-2.6271	0	%100
53	MP2A	X	0	0	0	%100
54	MP2A	Z	-11.6324	-11.6324	0	%100
55	MP3A	X	0	0	0	%100
56	MP3A	Z	-11.6324	-11.6324	0	%100
57	MP4A	X	0	0	0	%100
58	MP4A	Z	-11.6324	-11.6324	0	%100
59	MP1C	X	0	0	0	%100
60	MP1C	Z	-11.6324	-11.6324	0	%100
61	MP2C	X	0	0	0	%100
62	MP2C	Z	-11.6324	-11.6324	0	%100
63	MP3C	X	0	0	0	%100
64	MP3C	Z	-11.6324	-11.6324	0	%100
65	MP4C	X	0	0	0	%100
66	MP4C	Z	-11.6324	-11.6324	0	%100
67	MP1B	X	0	0	0	%100
68	MP1B	Z	-11.6324	-11.6324	0	%100
69	MP2B	X	0	0	0	%100
70	MP2B	Z	-11.6324	-11.6324	0	%100
71	MP3B	X	0	0	0	%100
72	MP3B	Z	-11.6324	-11.6324	0	%100
73	MP4B	X	0	0	0	%100
74	MP4B	Z	-11.6324	-11.6324	0	%100

Member Distributed Loads (BLC 42 : Structure Wo (30 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	2.5761	2.5761	0	%100
2	M6	Z	-4.462	-4.462	0	%100
3	M7	X	2.9889	2.9889	0	%100



Member Distributed Loads (BLC 42 : Structure Wo (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
4	M7	Z	-5.1769	-5.1769	0	%100
5	M8	X	4.0198	4.0198	0	%100
6	M8	Z	-6.9625	-6.9625	0	%100
7	M16	X	4.3621	4.3621	0	%100
8	M16	Z	-7.5554	-7.5554	0	%100
9	MP1A	X	5.8162	5.8162	0	%100
10	MP1A	Z	-10.0739	-10.0739	0	%100
11	OVP	X	5.3003	5.3003	0	%100
12	OVP	Z	-9.1804	-9.1804	0	%100
13	M26	X	4.2249	4.2249	0	%100
14	M26	Z	-7.3178	-7.3178	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	2.5761	2.5761	0	%100
18	M17A	Z	-4.462	-4.462	0	%100
19	M18	X	2.9889	2.9889	0	%100
20	M18	Z	-5.1769	-5.1769	0	%100
21	M19	X	4.0198	4.0198	0	%100
22	M19	Z	-6.9625	-6.9625	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	4.2249	4.2249	0	%100
26	M23	Z	-7.3178	-7.3178	0	%100
27	M26A	X	10.3044	10.3044	0	%100
28	M26A	Z	-17.8478	-17.8478	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	4.2249	4.2249	0	%100
34	M29	Z	-7.3178	-7.3178	0	%100
35	M32	X	4.2249	4.2249	0	%100
36	M32	Z	-7.3178	-7.3178	0	%100
37	M35A	X	4.3621	4.3621	0	%100
38	M35A	Z	-7.5554	-7.5554	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	5.7462	5.7462	0	%100
42	M35B	Z	-9.9527	-9.9527	0	%100
43	M37	X	5.7462	5.7462	0	%100
44	M37	Z	-9.9527	-9.9527	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	3.9406	3.9406	0	%100
50	M40	Z	-6.8254	-6.8254	0	%100
51	M41	X	3.9406	3.9406	0	%100
52	M41	Z	-6.8254	-6.8254	0	%100
53	MP2A	X	5.8162	5.8162	0	%100
54	MP2A	Z	-10.0739	-10.0739	0	%100
55	MP3A	X	5.8162	5.8162	0	%100
56	MP3A	Z	-10.0739	-10.0739	0	%100
57	MP4A	X	5.8162	5.8162	0	%100
58	MP4A	Z	-10.0739	-10.0739	0	%100
59	MP1C	X	5.8162	5.8162	0	%100
60	MP1C	Z	-10.0739	-10.0739	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

Sept 18, 2023
 5:23 PM
 Checked By: _____

Member Distributed Loads (BLC 42 : Structure Wo (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
61	MP2C	X	5.8162	5.8162	0	%100
62	MP2C	Z	-10.0739	-10.0739	0	%100
63	MP3C	X	5.8162	5.8162	0	%100
64	MP3C	Z	-10.0739	-10.0739	0	%100
65	MP4C	X	5.8162	5.8162	0	%100
66	MP4C	Z	-10.0739	-10.0739	0	%100
67	MP1B	X	5.8162	5.8162	0	%100
68	MP1B	Z	-10.0739	-10.0739	0	%100
69	MP2B	X	5.8162	5.8162	0	%100
70	MP2B	Z	-10.0739	-10.0739	0	%100
71	MP3B	X	5.8162	5.8162	0	%100
72	MP3B	Z	-10.0739	-10.0739	0	%100
73	MP4B	X	5.8162	5.8162	0	%100
74	MP4B	Z	-10.0739	-10.0739	0	%100

Member Distributed Loads (BLC 43 : Structure Wo (60 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	13.3859	13.3859	0	%100
2	M6	Z	-7.7283	-7.7283	0	%100
3	M7	X	1.7256	1.7256	0	%100
4	M7	Z	-.9963	-.9963	0	%100
5	M8	X	2.3208	2.3208	0	%100
6	M8	Z	-1.3399	-1.3399	0	%100
7	M16	X	2.5185	2.5185	0	%100
8	M16	Z	-1.454	-1.454	0	%100
9	MP1A	X	10.0739	10.0739	0	%100
10	MP1A	Z	-5.8162	-5.8162	0	%100
11	OVP	X	9.1804	9.1804	0	%100
12	OVP	Z	-5.3003	-5.3003	0	%100
13	M26	X	9.7571	9.7571	0	%100
14	M26	Z	-5.6333	-5.6333	0	%100
15	M35	X	2.4393	2.4393	0	%100
16	M35	Z	-1.4083	-1.4083	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	6.9025	6.9025	0	%100
20	M18	Z	-3.9852	-3.9852	0	%100
21	M19	X	9.2834	9.2834	0	%100
22	M19	Z	-5.3598	-5.3598	0	%100
23	M20	X	2.4393	2.4393	0	%100
24	M20	Z	-1.4083	-1.4083	0	%100
25	M23	X	2.4393	2.4393	0	%100
26	M23	Z	-1.4083	-1.4083	0	%100
27	M26A	X	13.3859	13.3859	0	%100
28	M26A	Z	-7.7283	-7.7283	0	%100
29	M27	X	1.7256	1.7256	0	%100
30	M27	Z	-.9963	-.9963	0	%100
31	M28	X	2.3208	2.3208	0	%100
32	M28	Z	-1.3399	-1.3399	0	%100
33	M29	X	2.4393	2.4393	0	%100
34	M29	Z	-1.4083	-1.4083	0	%100
35	M32	X	9.7571	9.7571	0	%100
36	M32	Z	-5.6333	-5.6333	0	%100
37	M35A	X	10.0739	10.0739	0	%100
38	M35A	Z	-5.8162	-5.8162	0	%100
39	M36	X	2.5185	2.5185	0	%100



Member Distributed Loads (BLC 43 : Structure Wo (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location	End Location
40	M36	Z	-1.454	-1.454	0	%100
41	M35B	X	3.3176	3.3176	0	%100
42	M35B	Z	-1.9154	-1.9154	0	%100
43	M37	X	13.2703	13.2703	0	%100
44	M37	Z	-7.6616	-7.6616	0	%100
45	M38	X	3.3176	3.3176	0	%100
46	M38	Z	-1.9154	-1.9154	0	%100
47	M39	X	2.2751	2.2751	0	%100
48	M39	Z	-1.3135	-1.3135	0	%100
49	M40	X	2.2751	2.2751	0	%100
50	M40	Z	-1.3135	-1.3135	0	%100
51	M41	X	9.1005	9.1005	0	%100
52	M41	Z	-5.2542	-5.2542	0	%100
53	MP2A	X	10.0739	10.0739	0	%100
54	MP2A	Z	-5.8162	-5.8162	0	%100
55	MP3A	X	10.0739	10.0739	0	%100
56	MP3A	Z	-5.8162	-5.8162	0	%100
57	MP4A	X	10.0739	10.0739	0	%100
58	MP4A	Z	-5.8162	-5.8162	0	%100
59	MP1C	X	10.0739	10.0739	0	%100
60	MP1C	Z	-5.8162	-5.8162	0	%100
61	MP2C	X	10.0739	10.0739	0	%100
62	MP2C	Z	-5.8162	-5.8162	0	%100
63	MP3C	X	10.0739	10.0739	0	%100
64	MP3C	Z	-5.8162	-5.8162	0	%100
65	MP4C	X	10.0739	10.0739	0	%100
66	MP4C	Z	-5.8162	-5.8162	0	%100
67	MP1B	X	10.0739	10.0739	0	%100
68	MP1B	Z	-5.8162	-5.8162	0	%100
69	MP2B	X	10.0739	10.0739	0	%100
70	MP2B	Z	-5.8162	-5.8162	0	%100
71	MP3B	X	10.0739	10.0739	0	%100
72	MP3B	Z	-5.8162	-5.8162	0	%100
73	MP4B	X	10.0739	10.0739	0	%100
74	MP4B	Z	-5.8162	-5.8162	0	%100

Member Distributed Loads (BLC 44 : Structure Wo (90 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location	End Location
1	M6	X	20.6089	20.6089	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	0	0	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	0	0	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	0	0	0	%100
9	MP1A	X	11.6324	11.6324	0	%100
10	MP1A	Z	0	0	0	%100
11	OVP	X	10.6006	10.6006	0	%100
12	OVP	Z	0	0	0	%100
13	M26	X	8.4499	8.4499	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	8.4499	8.4499	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	5.1522	5.1522	0	%100
18	M17A	Z	0	0	0	%100



Member Distributed Loads (BLC 44 : Structure Wo (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
19	M18	X	5.9777	5.9777	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	8.0397	8.0397	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	8.4499	8.4499	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	0	0	0	%100
27	M26A	X	5.1522	5.1522	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	5.9777	5.9777	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	8.0397	8.0397	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	0	0	0	%100
35	M32	X	8.4499	8.4499	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	8.7243	8.7243	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	8.7243	8.7243	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	0	0	0	%100
43	M37	X	11.4924	11.4924	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	11.4924	11.4924	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	7.8813	7.8813	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	0	0	0	%100
51	M41	X	7.8813	7.8813	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	11.6324	11.6324	0	%100
54	MP2A	Z	0	0	0	%100
55	MP3A	X	11.6324	11.6324	0	%100
56	MP3A	Z	0	0	0	%100
57	MP4A	X	11.6324	11.6324	0	%100
58	MP4A	Z	0	0	0	%100
59	MP1C	X	11.6324	11.6324	0	%100
60	MP1C	Z	0	0	0	%100
61	MP2C	X	11.6324	11.6324	0	%100
62	MP2C	Z	0	0	0	%100
63	MP3C	X	11.6324	11.6324	0	%100
64	MP3C	Z	0	0	0	%100
65	MP4C	X	11.6324	11.6324	0	%100
66	MP4C	Z	0	0	0	%100
67	MP1B	X	11.6324	11.6324	0	%100
68	MP1B	Z	0	0	0	%100
69	MP2B	X	11.6324	11.6324	0	%100
70	MP2B	Z	0	0	0	%100
71	MP3B	X	11.6324	11.6324	0	%100
72	MP3B	Z	0	0	0	%100
73	MP4B	X	11.6324	11.6324	0	%100
74	MP4B	Z	0	0	0	%100



Member Distributed Loads (BLC 45 : Structure Wo (120 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	13.3859	13.3859	0	%100
2	M6	Z	7.7283	7.7283	0	%100
3	M7	X	1.7256	1.7256	0	%100
4	M7	Z	.9963	.9963	0	%100
5	M8	X	2.3208	2.3208	0	%100
6	M8	Z	1.3399	1.3399	0	%100
7	M16	X	2.5185	2.5185	0	%100
8	M16	Z	1.454	1.454	0	%100
9	MP1A	X	10.0739	10.0739	0	%100
10	MP1A	Z	5.8162	5.8162	0	%100
11	OVP	X	9.1804	9.1804	0	%100
12	OVP	Z	5.3003	5.3003	0	%100
13	M26	X	2.4393	2.4393	0	%100
14	M26	Z	1.4083	1.4083	0	%100
15	M35	X	9.7571	9.7571	0	%100
16	M35	Z	5.6333	5.6333	0	%100
17	M17A	X	13.3859	13.3859	0	%100
18	M17A	Z	7.7283	7.7283	0	%100
19	M18	X	1.7256	1.7256	0	%100
20	M18	Z	.9963	.9963	0	%100
21	M19	X	2.3208	2.3208	0	%100
22	M19	Z	1.3399	1.3399	0	%100
23	M20	X	9.7571	9.7571	0	%100
24	M20	Z	5.6333	5.6333	0	%100
25	M23	X	2.4393	2.4393	0	%100
26	M23	Z	1.4083	1.4083	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	6.9025	6.9025	0	%100
30	M27	Z	3.9852	3.9852	0	%100
31	M28	X	9.2834	9.2834	0	%100
32	M28	Z	5.3598	5.3598	0	%100
33	M29	X	2.4393	2.4393	0	%100
34	M29	Z	1.4083	1.4083	0	%100
35	M32	X	2.4393	2.4393	0	%100
36	M32	Z	1.4083	1.4083	0	%100
37	M35A	X	2.5185	2.5185	0	%100
38	M35A	Z	1.454	1.454	0	%100
39	M36	X	10.0739	10.0739	0	%100
40	M36	Z	5.8162	5.8162	0	%100
41	M35B	X	3.3176	3.3176	0	%100
42	M35B	Z	1.9154	1.9154	0	%100
43	M37	X	3.3176	3.3176	0	%100
44	M37	Z	1.9154	1.9154	0	%100
45	M38	X	13.2703	13.2703	0	%100
46	M38	Z	7.6616	7.6616	0	%100
47	M39	X	9.1005	9.1005	0	%100
48	M39	Z	5.2542	5.2542	0	%100
49	M40	X	2.2751	2.2751	0	%100
50	M40	Z	1.3135	1.3135	0	%100
51	M41	X	2.2751	2.2751	0	%100
52	M41	Z	1.3135	1.3135	0	%100
53	MP2A	X	10.0739	10.0739	0	%100
54	MP2A	Z	5.8162	5.8162	0	%100
55	MP3A	X	10.0739	10.0739	0	%100
56	MP3A	Z	5.8162	5.8162	0	%100
57	MP4A	X	10.0739	10.0739	0	%100



Member Distributed Loads (BLC 45 : Structure Wo (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
58	MP4A	Z	5.8162	5.8162	0	%100
59	MP1C	X	10.0739	10.0739	0	%100
60	MP1C	Z	5.8162	5.8162	0	%100
61	MP2C	X	10.0739	10.0739	0	%100
62	MP2C	Z	5.8162	5.8162	0	%100
63	MP3C	X	10.0739	10.0739	0	%100
64	MP3C	Z	5.8162	5.8162	0	%100
65	MP4C	X	10.0739	10.0739	0	%100
66	MP4C	Z	5.8162	5.8162	0	%100
67	MP1B	X	10.0739	10.0739	0	%100
68	MP1B	Z	5.8162	5.8162	0	%100
69	MP2B	X	10.0739	10.0739	0	%100
70	MP2B	Z	5.8162	5.8162	0	%100
71	MP3B	X	10.0739	10.0739	0	%100
72	MP3B	Z	5.8162	5.8162	0	%100
73	MP4B	X	10.0739	10.0739	0	%100
74	MP4B	Z	5.8162	5.8162	0	%100

Member Distributed Loads (BLC 46 : Structure Wo (150 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	2.5761	2.5761	0	%100
2	M6	Z	4.462	4.462	0	%100
3	M7	X	2.9889	2.9889	0	%100
4	M7	Z	5.1769	5.1769	0	%100
5	M8	X	4.0198	4.0198	0	%100
6	M8	Z	6.9625	6.9625	0	%100
7	M16	X	4.3621	4.3621	0	%100
8	M16	Z	7.5554	7.5554	0	%100
9	MP1A	X	5.8162	5.8162	0	%100
10	MP1A	Z	10.0739	10.0739	0	%100
11	OVP	X	5.3003	5.3003	0	%100
12	OVP	Z	9.1804	9.1804	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	4.2249	4.2249	0	%100
16	M35	Z	7.3178	7.3178	0	%100
17	M17A	X	10.3044	10.3044	0	%100
18	M17A	Z	17.8478	17.8478	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	4.2249	4.2249	0	%100
24	M20	Z	7.3178	7.3178	0	%100
25	M23	X	4.2249	4.2249	0	%100
26	M23	Z	7.3178	7.3178	0	%100
27	M26A	X	2.5761	2.5761	0	%100
28	M26A	Z	4.462	4.462	0	%100
29	M27	X	2.9889	2.9889	0	%100
30	M27	Z	5.1769	5.1769	0	%100
31	M28	X	4.0198	4.0198	0	%100
32	M28	Z	6.9625	6.9625	0	%100
33	M29	X	4.2249	4.2249	0	%100
34	M29	Z	7.3178	7.3178	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	0	0	0	%100



Member Distributed Loads (BLC 46 : Structure Wo (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
37	M35A	X	0	0	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	4.3621	4.3621	0	%100
40	M36	Z	7.5554	7.5554	0	%100
41	M35B	X	5.7462	5.7462	0	%100
42	M35B	Z	9.9527	9.9527	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	5.7462	5.7462	0	%100
46	M38	Z	9.9527	9.9527	0	%100
47	M39	X	3.9406	3.9406	0	%100
48	M39	Z	6.8254	6.8254	0	%100
49	M40	X	3.9406	3.9406	0	%100
50	M40	Z	6.8254	6.8254	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	5.8162	5.8162	0	%100
54	MP2A	Z	10.0739	10.0739	0	%100
55	MP3A	X	5.8162	5.8162	0	%100
56	MP3A	Z	10.0739	10.0739	0	%100
57	MP4A	X	5.8162	5.8162	0	%100
58	MP4A	Z	10.0739	10.0739	0	%100
59	MP1C	X	5.8162	5.8162	0	%100
60	MP1C	Z	10.0739	10.0739	0	%100
61	MP2C	X	5.8162	5.8162	0	%100
62	MP2C	Z	10.0739	10.0739	0	%100
63	MP3C	X	5.8162	5.8162	0	%100
64	MP3C	Z	10.0739	10.0739	0	%100
65	MP4C	X	5.8162	5.8162	0	%100
66	MP4C	Z	10.0739	10.0739	0	%100
67	MP1B	X	5.8162	5.8162	0	%100
68	MP1B	Z	10.0739	10.0739	0	%100
69	MP2B	X	5.8162	5.8162	0	%100
70	MP2B	Z	10.0739	10.0739	0	%100
71	MP3B	X	5.8162	5.8162	0	%100
72	MP3B	Z	10.0739	10.0739	0	%100
73	MP4B	X	5.8162	5.8162	0	%100
74	MP4B	Z	10.0739	10.0739	0	%100

Member Distributed Loads (BLC 47 : Structure Wo (180 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	0	0	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	7.9703	7.9703	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	10.7195	10.7195	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	11.6324	11.6324	0	%100
9	MP1A	X	0	0	0	%100
10	MP1A	Z	11.6324	11.6324	0	%100
11	OVP	X	0	0	0	%100
12	OVP	Z	10.6006	10.6006	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	2.8166	2.8166	0	%100
15	M35	X	0	0	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

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Member Distributed Loads (BLC 47 : Structure Wo (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
16	M35	Z	2.8166	2.8166	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	15.4567	15.4567	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	1.9926	1.9926	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	2.6799	2.6799	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	2.8166	2.8166	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	11.2665	11.2665	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	15.4567	15.4567	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	1.9926	1.9926	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	2.6799	2.6799	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	11.2665	11.2665	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	2.8166	2.8166	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	2.9081	2.9081	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	2.9081	2.9081	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	15.3233	15.3233	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	3.8308	3.8308	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	3.8308	3.8308	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	2.6271	2.6271	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	10.5083	10.5083	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	2.6271	2.6271	0	%100
53	MP2A	X	0	0	0	%100
54	MP2A	Z	11.6324	11.6324	0	%100
55	MP3A	X	0	0	0	%100
56	MP3A	Z	11.6324	11.6324	0	%100
57	MP4A	X	0	0	0	%100
58	MP4A	Z	11.6324	11.6324	0	%100
59	MP1C	X	0	0	0	%100
60	MP1C	Z	11.6324	11.6324	0	%100
61	MP2C	X	0	0	0	%100
62	MP2C	Z	11.6324	11.6324	0	%100
63	MP3C	X	0	0	0	%100
64	MP3C	Z	11.6324	11.6324	0	%100
65	MP4C	X	0	0	0	%100
66	MP4C	Z	11.6324	11.6324	0	%100
67	MP1B	X	0	0	0	%100
68	MP1B	Z	11.6324	11.6324	0	%100
69	MP2B	X	0	0	0	%100
70	MP2B	Z	11.6324	11.6324	0	%100
71	MP3B	X	0	0	0	%100
72	MP3B	Z	11.6324	11.6324	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

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Member Distributed Loads (BLC 47 : Structure Wo (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
73	MP4B	X	0	0	0	%100
74	MP4B	Z	11.6324	11.6324	0	%100

Member Distributed Loads (BLC 48 : Structure Wo (210 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-2.5761	-2.5761	0	%100
2	M6	Z	4.462	4.462	0	%100
3	M7	X	-2.9889	-2.9889	0	%100
4	M7	Z	5.1769	5.1769	0	%100
5	M8	X	-4.0198	-4.0198	0	%100
6	M8	Z	6.9625	6.9625	0	%100
7	M16	X	-4.3621	-4.3621	0	%100
8	M16	Z	7.5554	7.5554	0	%100
9	MP1A	X	-5.8162	-5.8162	0	%100
10	MP1A	Z	10.0739	10.0739	0	%100
11	OVP	X	-5.3003	-5.3003	0	%100
12	OVP	Z	9.1804	9.1804	0	%100
13	M26	X	-4.2249	-4.2249	0	%100
14	M26	Z	7.3178	7.3178	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	-2.5761	-2.5761	0	%100
18	M17A	Z	4.462	4.462	0	%100
19	M18	X	-2.9889	-2.9889	0	%100
20	M18	Z	5.1769	5.1769	0	%100
21	M19	X	-4.0198	-4.0198	0	%100
22	M19	Z	6.9625	6.9625	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	-4.2249	-4.2249	0	%100
26	M23	Z	7.3178	7.3178	0	%100
27	M26A	X	-10.3044	-10.3044	0	%100
28	M26A	Z	17.8478	17.8478	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	-4.2249	-4.2249	0	%100
34	M29	Z	7.3178	7.3178	0	%100
35	M32	X	-4.2249	-4.2249	0	%100
36	M32	Z	7.3178	7.3178	0	%100
37	M35A	X	-4.3621	-4.3621	0	%100
38	M35A	Z	7.5554	7.5554	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	-5.7462	-5.7462	0	%100
42	M35B	Z	9.9527	9.9527	0	%100
43	M37	X	-5.7462	-5.7462	0	%100
44	M37	Z	9.9527	9.9527	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	-3.9406	-3.9406	0	%100
50	M40	Z	6.8254	6.8254	0	%100
51	M41	X	-3.9406	-3.9406	0	%100



Member Distributed Loads (BLC 48 : Structure Wo (210 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
52	M41	Z	6.8254	6.8254	0	%100
53	MP2A	X	-5.8162	-5.8162	0	%100
54	MP2A	Z	10.0739	10.0739	0	%100
55	MP3A	X	-5.8162	-5.8162	0	%100
56	MP3A	Z	10.0739	10.0739	0	%100
57	MP4A	X	-5.8162	-5.8162	0	%100
58	MP4A	Z	10.0739	10.0739	0	%100
59	MP1C	X	-5.8162	-5.8162	0	%100
60	MP1C	Z	10.0739	10.0739	0	%100
61	MP2C	X	-5.8162	-5.8162	0	%100
62	MP2C	Z	10.0739	10.0739	0	%100
63	MP3C	X	-5.8162	-5.8162	0	%100
64	MP3C	Z	10.0739	10.0739	0	%100
65	MP4C	X	-5.8162	-5.8162	0	%100
66	MP4C	Z	10.0739	10.0739	0	%100
67	MP1B	X	-5.8162	-5.8162	0	%100
68	MP1B	Z	10.0739	10.0739	0	%100
69	MP2B	X	-5.8162	-5.8162	0	%100
70	MP2B	Z	10.0739	10.0739	0	%100
71	MP3B	X	-5.8162	-5.8162	0	%100
72	MP3B	Z	10.0739	10.0739	0	%100
73	MP4B	X	-5.8162	-5.8162	0	%100
74	MP4B	Z	10.0739	10.0739	0	%100

Member Distributed Loads (BLC 49 : Structure Wo (240 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-13.3859	-13.3859	0	%100
2	M6	Z	7.7283	7.7283	0	%100
3	M7	X	-1.7256	-1.7256	0	%100
4	M7	Z	.9963	.9963	0	%100
5	M8	X	-2.3208	-2.3208	0	%100
6	M8	Z	1.3399	1.3399	0	%100
7	M16	X	-2.5185	-2.5185	0	%100
8	M16	Z	1.454	1.454	0	%100
9	MP1A	X	-10.0739	-10.0739	0	%100
10	MP1A	Z	5.8162	5.8162	0	%100
11	OVP	X	-9.1804	-9.1804	0	%100
12	OVP	Z	5.3003	5.3003	0	%100
13	M26	X	-9.7571	-9.7571	0	%100
14	M26	Z	5.6333	5.6333	0	%100
15	M35	X	-2.4393	-2.4393	0	%100
16	M35	Z	1.4083	1.4083	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	-6.9025	-6.9025	0	%100
20	M18	Z	3.9852	3.9852	0	%100
21	M19	X	-9.2834	-9.2834	0	%100
22	M19	Z	5.3598	5.3598	0	%100
23	M20	X	-2.4393	-2.4393	0	%100
24	M20	Z	1.4083	1.4083	0	%100
25	M23	X	-2.4393	-2.4393	0	%100
26	M23	Z	1.4083	1.4083	0	%100
27	M26A	X	-13.3859	-13.3859	0	%100
28	M26A	Z	7.7283	7.7283	0	%100
29	M27	X	-1.7256	-1.7256	0	%100
30	M27	Z	.9963	.9963	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

Sept 18, 2023
 5:23 PM
 Checked By: _____

Member Distributed Loads (BLC 49 : Structure Wo (240 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
31	M28	X	-2.3208	-2.3208	0	%100
32	M28	Z	1.3399	1.3399	0	%100
33	M29	X	-2.4393	-2.4393	0	%100
34	M29	Z	1.4083	1.4083	0	%100
35	M32	X	-9.7571	-9.7571	0	%100
36	M32	Z	5.6333	5.6333	0	%100
37	M35A	X	-10.0739	-10.0739	0	%100
38	M35A	Z	5.8162	5.8162	0	%100
39	M36	X	-2.5185	-2.5185	0	%100
40	M36	Z	1.454	1.454	0	%100
41	M35B	X	-3.3176	-3.3176	0	%100
42	M35B	Z	1.9154	1.9154	0	%100
43	M37	X	-13.2703	-13.2703	0	%100
44	M37	Z	7.6616	7.6616	0	%100
45	M38	X	-3.3176	-3.3176	0	%100
46	M38	Z	1.9154	1.9154	0	%100
47	M39	X	-2.2751	-2.2751	0	%100
48	M39	Z	1.3135	1.3135	0	%100
49	M40	X	-2.2751	-2.2751	0	%100
50	M40	Z	1.3135	1.3135	0	%100
51	M41	X	-9.1005	-9.1005	0	%100
52	M41	Z	5.2542	5.2542	0	%100
53	MP2A	X	-10.0739	-10.0739	0	%100
54	MP2A	Z	5.8162	5.8162	0	%100
55	MP3A	X	-10.0739	-10.0739	0	%100
56	MP3A	Z	5.8162	5.8162	0	%100
57	MP4A	X	-10.0739	-10.0739	0	%100
58	MP4A	Z	5.8162	5.8162	0	%100
59	MP1C	X	-10.0739	-10.0739	0	%100
60	MP1C	Z	5.8162	5.8162	0	%100
61	MP2C	X	-10.0739	-10.0739	0	%100
62	MP2C	Z	5.8162	5.8162	0	%100
63	MP3C	X	-10.0739	-10.0739	0	%100
64	MP3C	Z	5.8162	5.8162	0	%100
65	MP4C	X	-10.0739	-10.0739	0	%100
66	MP4C	Z	5.8162	5.8162	0	%100
67	MP1B	X	-10.0739	-10.0739	0	%100
68	MP1B	Z	5.8162	5.8162	0	%100
69	MP2B	X	-10.0739	-10.0739	0	%100
70	MP2B	Z	5.8162	5.8162	0	%100
71	MP3B	X	-10.0739	-10.0739	0	%100
72	MP3B	Z	5.8162	5.8162	0	%100
73	MP4B	X	-10.0739	-10.0739	0	%100
74	MP4B	Z	5.8162	5.8162	0	%100

Member Distributed Loads (BLC 50 : Structure Wo (270 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-20.6089	-20.6089	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	0	0	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	0	0	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	0	0	0	%100
9	MP1A	X	-11.6324	-11.6324	0	%100



Member Distributed Loads (BLC 50 : Structure Wo (270 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location	End Location
10	MP1A	Z	0	0	0	%100
11	OVP	X	-10.6006	-10.6006	0	%100
12	OVP	Z	0	0	0	%100
13	M26	X	-8.4499	-8.4499	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	-8.4499	-8.4499	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	-5.1522	-5.1522	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	-5.9777	-5.9777	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	-8.0397	-8.0397	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	-8.4499	-8.4499	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	0	0	0	%100
27	M26A	X	-5.1522	-5.1522	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	-5.9777	-5.9777	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	-8.0397	-8.0397	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	0	0	0	%100
35	M32	X	-8.4499	-8.4499	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	-8.7243	-8.7243	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	-8.7243	-8.7243	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	0	0	0	%100
43	M37	X	-11.4924	-11.4924	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	-11.4924	-11.4924	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	-7.8813	-7.8813	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	0	0	0	%100
51	M41	X	-7.8813	-7.8813	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	-11.6324	-11.6324	0	%100
54	MP2A	Z	0	0	0	%100
55	MP3A	X	-11.6324	-11.6324	0	%100
56	MP3A	Z	0	0	0	%100
57	MP4A	X	-11.6324	-11.6324	0	%100
58	MP4A	Z	0	0	0	%100
59	MP1C	X	-11.6324	-11.6324	0	%100
60	MP1C	Z	0	0	0	%100
61	MP2C	X	-11.6324	-11.6324	0	%100
62	MP2C	Z	0	0	0	%100
63	MP3C	X	-11.6324	-11.6324	0	%100
64	MP3C	Z	0	0	0	%100
65	MP4C	X	-11.6324	-11.6324	0	%100
66	MP4C	Z	0	0	0	%100



Member Distributed Loads (BLC 50 : Structure Wo (270 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
67	MP1B	X	-11.6324	-11.6324	0	%100
68	MP1B	Z	0	0	0	%100
69	MP2B	X	-11.6324	-11.6324	0	%100
70	MP2B	Z	0	0	0	%100
71	MP3B	X	-11.6324	-11.6324	0	%100
72	MP3B	Z	0	0	0	%100
73	MP4B	X	-11.6324	-11.6324	0	%100
74	MP4B	Z	0	0	0	%100

Member Distributed Loads (BLC 51 : Structure Wo (300 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-13.3859	-13.3859	0	%100
2	M6	Z	-7.7283	-7.7283	0	%100
3	M7	X	-1.7256	-1.7256	0	%100
4	M7	Z	-0.9963	-0.9963	0	%100
5	M8	X	-2.3208	-2.3208	0	%100
6	M8	Z	-1.3399	-1.3399	0	%100
7	M16	X	-2.5185	-2.5185	0	%100
8	M16	Z	-1.454	-1.454	0	%100
9	MP1A	X	-10.0739	-10.0739	0	%100
10	MP1A	Z	-5.8162	-5.8162	0	%100
11	OVP	X	-9.1804	-9.1804	0	%100
12	OVP	Z	-5.3003	-5.3003	0	%100
13	M26	X	-2.4393	-2.4393	0	%100
14	M26	Z	-1.4083	-1.4083	0	%100
15	M35	X	-9.7571	-9.7571	0	%100
16	M35	Z	-5.6333	-5.6333	0	%100
17	M17A	X	-13.3859	-13.3859	0	%100
18	M17A	Z	-7.7283	-7.7283	0	%100
19	M18	X	-1.7256	-1.7256	0	%100
20	M18	Z	-0.9963	-0.9963	0	%100
21	M19	X	-2.3208	-2.3208	0	%100
22	M19	Z	-1.3399	-1.3399	0	%100
23	M20	X	-9.7571	-9.7571	0	%100
24	M20	Z	-5.6333	-5.6333	0	%100
25	M23	X	-2.4393	-2.4393	0	%100
26	M23	Z	-1.4083	-1.4083	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	-6.9025	-6.9025	0	%100
30	M27	Z	-3.9852	-3.9852	0	%100
31	M28	X	-9.2834	-9.2834	0	%100
32	M28	Z	-5.3598	-5.3598	0	%100
33	M29	X	-2.4393	-2.4393	0	%100
34	M29	Z	-1.4083	-1.4083	0	%100
35	M32	X	-2.4393	-2.4393	0	%100
36	M32	Z	-1.4083	-1.4083	0	%100
37	M35A	X	-2.5185	-2.5185	0	%100
38	M35A	Z	-1.454	-1.454	0	%100
39	M36	X	-10.0739	-10.0739	0	%100
40	M36	Z	-5.8162	-5.8162	0	%100
41	M35B	X	-3.3176	-3.3176	0	%100
42	M35B	Z	-1.9154	-1.9154	0	%100
43	M37	X	-3.3176	-3.3176	0	%100
44	M37	Z	-1.9154	-1.9154	0	%100
45	M38	X	-13.2703	-13.2703	0	%100



Member Distributed Loads (BLC 51 : Structure Wo (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
46	M38	Z	-7.6616	-7.6616	0	%100
47	M39	X	-9.1005	-9.1005	0	%100
48	M39	Z	-5.2542	-5.2542	0	%100
49	M40	X	-2.2751	-2.2751	0	%100
50	M40	Z	-1.3135	-1.3135	0	%100
51	M41	X	-2.2751	-2.2751	0	%100
52	M41	Z	-1.3135	-1.3135	0	%100
53	MP2A	X	-10.0739	-10.0739	0	%100
54	MP2A	Z	-5.8162	-5.8162	0	%100
55	MP3A	X	-10.0739	-10.0739	0	%100
56	MP3A	Z	-5.8162	-5.8162	0	%100
57	MP4A	X	-10.0739	-10.0739	0	%100
58	MP4A	Z	-5.8162	-5.8162	0	%100
59	MP1C	X	-10.0739	-10.0739	0	%100
60	MP1C	Z	-5.8162	-5.8162	0	%100
61	MP2C	X	-10.0739	-10.0739	0	%100
62	MP2C	Z	-5.8162	-5.8162	0	%100
63	MP3C	X	-10.0739	-10.0739	0	%100
64	MP3C	Z	-5.8162	-5.8162	0	%100
65	MP4C	X	-10.0739	-10.0739	0	%100
66	MP4C	Z	-5.8162	-5.8162	0	%100
67	MP1B	X	-10.0739	-10.0739	0	%100
68	MP1B	Z	-5.8162	-5.8162	0	%100
69	MP2B	X	-10.0739	-10.0739	0	%100
70	MP2B	Z	-5.8162	-5.8162	0	%100
71	MP3B	X	-10.0739	-10.0739	0	%100
72	MP3B	Z	-5.8162	-5.8162	0	%100
73	MP4B	X	-10.0739	-10.0739	0	%100
74	MP4B	Z	-5.8162	-5.8162	0	%100

Member Distributed Loads (BLC 52 : Structure Wo (330 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-2.5761	-2.5761	0	%100
2	M6	Z	-4.462	-4.462	0	%100
3	M7	X	-2.9889	-2.9889	0	%100
4	M7	Z	-5.1769	-5.1769	0	%100
5	M8	X	-4.0198	-4.0198	0	%100
6	M8	Z	-6.9625	-6.9625	0	%100
7	M16	X	-4.3621	-4.3621	0	%100
8	M16	Z	-7.5554	-7.5554	0	%100
9	MP1A	X	-5.8162	-5.8162	0	%100
10	MP1A	Z	-10.0739	-10.0739	0	%100
11	OVP	X	-5.3003	-5.3003	0	%100
12	OVP	Z	-9.1804	-9.1804	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	-4.2249	-4.2249	0	%100
16	M35	Z	-7.3178	-7.3178	0	%100
17	M17A	X	-10.3044	-10.3044	0	%100
18	M17A	Z	-17.8478	-17.8478	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	-4.2249	-4.2249	0	%100
24	M20	Z	-7.3178	-7.3178	0	%100



Member Distributed Loads (BLC 52 : Structure Wo (330 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
25	M23	X	-4.2249	-4.2249	0	%100
26	M23	Z	-7.3178	-7.3178	0	%100
27	M26A	X	-2.5761	-2.5761	0	%100
28	M26A	Z	-4.462	-4.462	0	%100
29	M27	X	-2.9889	-2.9889	0	%100
30	M27	Z	-5.1769	-5.1769	0	%100
31	M28	X	-4.0198	-4.0198	0	%100
32	M28	Z	-6.9625	-6.9625	0	%100
33	M29	X	-4.2249	-4.2249	0	%100
34	M29	Z	-7.3178	-7.3178	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	-4.3621	-4.3621	0	%100
40	M36	Z	-7.5554	-7.5554	0	%100
41	M35B	X	-5.7462	-5.7462	0	%100
42	M35B	Z	-9.9527	-9.9527	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	-5.7462	-5.7462	0	%100
46	M38	Z	-9.9527	-9.9527	0	%100
47	M39	X	-3.9406	-3.9406	0	%100
48	M39	Z	-6.8254	-6.8254	0	%100
49	M40	X	-3.9406	-3.9406	0	%100
50	M40	Z	-6.8254	-6.8254	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	-5.8162	-5.8162	0	%100
54	MP2A	Z	-10.0739	-10.0739	0	%100
55	MP3A	X	-5.8162	-5.8162	0	%100
56	MP3A	Z	-10.0739	-10.0739	0	%100
57	MP4A	X	-5.8162	-5.8162	0	%100
58	MP4A	Z	-10.0739	-10.0739	0	%100
59	MP1C	X	-5.8162	-5.8162	0	%100
60	MP1C	Z	-10.0739	-10.0739	0	%100
61	MP2C	X	-5.8162	-5.8162	0	%100
62	MP2C	Z	-10.0739	-10.0739	0	%100
63	MP3C	X	-5.8162	-5.8162	0	%100
64	MP3C	Z	-10.0739	-10.0739	0	%100
65	MP4C	X	-5.8162	-5.8162	0	%100
66	MP4C	Z	-10.0739	-10.0739	0	%100
67	MP1B	X	-5.8162	-5.8162	0	%100
68	MP1B	Z	-10.0739	-10.0739	0	%100
69	MP2B	X	-5.8162	-5.8162	0	%100
70	MP2B	Z	-10.0739	-10.0739	0	%100
71	MP3B	X	-5.8162	-5.8162	0	%100
72	MP3B	Z	-10.0739	-10.0739	0	%100
73	MP4B	X	-5.8162	-5.8162	0	%100
74	MP4B	Z	-10.0739	-10.0739	0	%100

Member Distributed Loads (BLC 53 : Structure Wi (0 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	0	0	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100



Member Distributed Loads (BLC 53 : Structure Wi (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
4	M7	Z	-3.4828	-3.4828	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	-4.4373	-4.4373	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	-5.3709	-5.3709	0	%100
9	MP1A	X	0	0	0	%100
10	MP1A	Z	-5.331	-5.331	0	%100
11	OVP	X	0	0	0	%100
12	OVP	Z	-4.3961	-4.3961	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	-1.0583	-1.0583	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	-1.0583	-1.0583	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	-4.7803	-4.7803	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	-0.8707	-0.8707	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	-1.1093	-1.1093	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	-1.0583	-1.0583	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	-4.2331	-4.2331	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	-4.7803	-4.7803	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	-0.8707	-0.8707	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	-1.1093	-1.1093	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	-4.2331	-4.2331	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	-1.0583	-1.0583	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	-1.3427	-1.3427	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	-1.3427	-1.3427	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	-6.3275	-6.3275	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	-1.5819	-1.5819	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	-1.5819	-1.5819	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	-1.0077	-1.0077	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	-4.0306	-4.0306	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	-1.0077	-1.0077	0	%100
53	MP2A	X	0	0	0	%100
54	MP2A	Z	-5.331	-5.331	0	%100
55	MP3A	X	0	0	0	%100
56	MP3A	Z	-5.331	-5.331	0	%100
57	MP4A	X	0	0	0	%100
58	MP4A	Z	-5.331	-5.331	0	%100
59	MP1C	X	0	0	0	%100
60	MP1C	Z	-5.331	-5.331	0	%100



Member Distributed Loads (BLC 53 : Structure Wi (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
61	MP2C	X	0	0	0	%100
62	MP2C	Z	-5.331	-5.331	0	%100
63	MP3C	X	0	0	0	%100
64	MP3C	Z	-5.331	-5.331	0	%100
65	MP4C	X	0	0	0	%100
66	MP4C	Z	-5.331	-5.331	0	%100
67	MP1B	X	0	0	0	%100
68	MP1B	Z	-5.331	-5.331	0	%100
69	MP2B	X	0	0	0	%100
70	MP2B	Z	-5.331	-5.331	0	%100
71	MP3B	X	0	0	0	%100
72	MP3B	Z	-5.331	-5.331	0	%100
73	MP4B	X	0	0	0	%100
74	MP4B	Z	-5.331	-5.331	0	%100

Member Distributed Loads (BLC 54 : Structure Wi (30 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	.7967	.7967	0	%100
2	M6	Z	-1.38	-1.38	0	%100
3	M7	X	1.306	1.306	0	%100
4	M7	Z	-2.2621	-2.2621	0	%100
5	M8	X	1.664	1.664	0	%100
6	M8	Z	-2.8821	-2.8821	0	%100
7	M16	X	2.0141	2.0141	0	%100
8	M16	Z	-3.4885	-3.4885	0	%100
9	MP1A	X	2.6655	2.6655	0	%100
10	MP1A	Z	-4.6168	-4.6168	0	%100
11	OVP	X	2.198	2.198	0	%100
12	OVP	Z	-3.8071	-3.8071	0	%100
13	M26	X	1.5874	1.5874	0	%100
14	M26	Z	-2.7495	-2.7495	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	.7967	.7967	0	%100
18	M17A	Z	-1.38	-1.38	0	%100
19	M18	X	1.306	1.306	0	%100
20	M18	Z	-2.2621	-2.2621	0	%100
21	M19	X	1.664	1.664	0	%100
22	M19	Z	-2.8821	-2.8821	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	1.5874	1.5874	0	%100
26	M23	Z	-2.7495	-2.7495	0	%100
27	M26A	X	3.1869	3.1869	0	%100
28	M26A	Z	-5.5198	-5.5198	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	1.5874	1.5874	0	%100
34	M29	Z	-2.7495	-2.7495	0	%100
35	M32	X	1.5874	1.5874	0	%100
36	M32	Z	-2.7495	-2.7495	0	%100
37	M35A	X	2.0141	2.0141	0	%100
38	M35A	Z	-3.4885	-3.4885	0	%100
39	M36	X	0	0	0	%100



Member Distributed Loads (BLC 54 : Structure Wi (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
40	M36	Z	0	0	0	%100
41	M35B	X	2.3728	2.3728	0	%100
42	M35B	Z	-4.1099	-4.1099	0	%100
43	M37	X	2.3728	2.3728	0	%100
44	M37	Z	-4.1099	-4.1099	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	1.5115	1.5115	0	%100
50	M40	Z	-2.618	-2.618	0	%100
51	M41	X	1.5115	1.5115	0	%100
52	M41	Z	-2.618	-2.618	0	%100
53	MP2A	X	2.6655	2.6655	0	%100
54	MP2A	Z	-4.6168	-4.6168	0	%100
55	MP3A	X	2.6655	2.6655	0	%100
56	MP3A	Z	-4.6168	-4.6168	0	%100
57	MP4A	X	2.6655	2.6655	0	%100
58	MP4A	Z	-4.6168	-4.6168	0	%100
59	MP1C	X	2.6655	2.6655	0	%100
60	MP1C	Z	-4.6168	-4.6168	0	%100
61	MP2C	X	2.6655	2.6655	0	%100
62	MP2C	Z	-4.6168	-4.6168	0	%100
63	MP3C	X	2.6655	2.6655	0	%100
64	MP3C	Z	-4.6168	-4.6168	0	%100
65	MP4C	X	2.6655	2.6655	0	%100
66	MP4C	Z	-4.6168	-4.6168	0	%100
67	MP1B	X	2.6655	2.6655	0	%100
68	MP1B	Z	-4.6168	-4.6168	0	%100
69	MP2B	X	2.6655	2.6655	0	%100
70	MP2B	Z	-4.6168	-4.6168	0	%100
71	MP3B	X	2.6655	2.6655	0	%100
72	MP3B	Z	-4.6168	-4.6168	0	%100
73	MP4B	X	2.6655	2.6655	0	%100
74	MP4B	Z	-4.6168	-4.6168	0	%100

Member Distributed Loads (BLC 55 : Structure Wi (60 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
1	M6	X	4.1399	4.1399	0	%100
2	M6	Z	-2.3902	-2.3902	0	%100
3	M7	X	.754	.754	0	%100
4	M7	Z	-.4353	-.4353	0	%100
5	M8	X	.9607	.9607	0	%100
6	M8	Z	-.5547	-.5547	0	%100
7	M16	X	1.1628	1.1628	0	%100
8	M16	Z	-.6714	-.6714	0	%100
9	MP1A	X	4.6168	4.6168	0	%100
10	MP1A	Z	-2.6655	-2.6655	0	%100
11	OVP	X	3.8071	3.8071	0	%100
12	OVP	Z	-2.198	-2.198	0	%100
13	M26	X	3.666	3.666	0	%100
14	M26	Z	-2.1166	-2.1166	0	%100
15	M35	X	.9165	.9165	0	%100
16	M35	Z	-.5291	-.5291	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	0	0	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

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Member Distributed Loads (BLC 55 : Structure Wi (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
19	M18	X	3.0162	3.0162	0	%100
20	M18	Z	-1.7414	-1.7414	0	%100
21	M19	X	3.8429	3.8429	0	%100
22	M19	Z	-2.2187	-2.2187	0	%100
23	M20	X	.9165	.9165	0	%100
24	M20	Z	-.5291	-.5291	0	%100
25	M23	X	.9165	.9165	0	%100
26	M23	Z	-.5291	-.5291	0	%100
27	M26A	X	4.1399	4.1399	0	%100
28	M26A	Z	-2.3902	-2.3902	0	%100
29	M27	X	.754	.754	0	%100
30	M27	Z	-.4353	-.4353	0	%100
31	M28	X	.9607	.9607	0	%100
32	M28	Z	-.5547	-.5547	0	%100
33	M29	X	.9165	.9165	0	%100
34	M29	Z	-.5291	-.5291	0	%100
35	M32	X	3.666	3.666	0	%100
36	M32	Z	-2.1166	-2.1166	0	%100
37	M35A	X	4.6514	4.6514	0	%100
38	M35A	Z	-2.6855	-2.6855	0	%100
39	M36	X	1.1628	1.1628	0	%100
40	M36	Z	-.6714	-.6714	0	%100
41	M35B	X	1.37	1.37	0	%100
42	M35B	Z	-.7909	-.7909	0	%100
43	M37	X	5.4798	5.4798	0	%100
44	M37	Z	-3.1638	-3.1638	0	%100
45	M38	X	1.37	1.37	0	%100
46	M38	Z	-.7909	-.7909	0	%100
47	M39	X	.8727	.8727	0	%100
48	M39	Z	-.5038	-.5038	0	%100
49	M40	X	.8727	.8727	0	%100
50	M40	Z	-.5038	-.5038	0	%100
51	M41	X	3.4906	3.4906	0	%100
52	M41	Z	-2.0153	-2.0153	0	%100
53	MP2A	X	4.6168	4.6168	0	%100
54	MP2A	Z	-2.6655	-2.6655	0	%100
55	MP3A	X	4.6168	4.6168	0	%100
56	MP3A	Z	-2.6655	-2.6655	0	%100
57	MP4A	X	4.6168	4.6168	0	%100
58	MP4A	Z	-2.6655	-2.6655	0	%100
59	MP1C	X	4.6168	4.6168	0	%100
60	MP1C	Z	-2.6655	-2.6655	0	%100
61	MP2C	X	4.6168	4.6168	0	%100
62	MP2C	Z	-2.6655	-2.6655	0	%100
63	MP3C	X	4.6168	4.6168	0	%100
64	MP3C	Z	-2.6655	-2.6655	0	%100
65	MP4C	X	4.6168	4.6168	0	%100
66	MP4C	Z	-2.6655	-2.6655	0	%100
67	MP1B	X	4.6168	4.6168	0	%100
68	MP1B	Z	-2.6655	-2.6655	0	%100
69	MP2B	X	4.6168	4.6168	0	%100
70	MP2B	Z	-2.6655	-2.6655	0	%100
71	MP3B	X	4.6168	4.6168	0	%100
72	MP3B	Z	-2.6655	-2.6655	0	%100
73	MP4B	X	4.6168	4.6168	0	%100
74	MP4B	Z	-2.6655	-2.6655	0	%100



Member Distributed Loads (BLC 56 : Structure Wi (90 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	6.3737	6.3737	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	0	0	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	0	0	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	0	0	0	%100
9	MP1A	X	5.331	5.331	0	%100
10	MP1A	Z	0	0	0	%100
11	OVP	X	4.3961	4.3961	0	%100
12	OVP	Z	0	0	0	%100
13	M26	X	3.1748	3.1748	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	3.1748	3.1748	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	1.5934	1.5934	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	2.6121	2.6121	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	3.328	3.328	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	3.1748	3.1748	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	0	0	0	%100
27	M26A	X	1.5934	1.5934	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	2.6121	2.6121	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	3.328	3.328	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	0	0	0	%100
35	M32	X	3.1748	3.1748	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	4.0282	4.0282	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	4.0282	4.0282	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	0	0	0	%100
43	M37	X	4.7456	4.7456	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	4.7456	4.7456	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	3.023	3.023	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	0	0	0	%100
51	M41	X	3.023	3.023	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	5.331	5.331	0	%100
54	MP2A	Z	0	0	0	%100
55	MP3A	X	5.331	5.331	0	%100
56	MP3A	Z	0	0	0	%100
57	MP4A	X	5.331	5.331	0	%100



Member Distributed Loads (BLC 56 : Structure Wi (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
58	MP4A	Z	0	0	0	%100
59	MP1C	X	5.331	5.331	0	%100
60	MP1C	Z	0	0	0	%100
61	MP2C	X	5.331	5.331	0	%100
62	MP2C	Z	0	0	0	%100
63	MP3C	X	5.331	5.331	0	%100
64	MP3C	Z	0	0	0	%100
65	MP4C	X	5.331	5.331	0	%100
66	MP4C	Z	0	0	0	%100
67	MP1B	X	5.331	5.331	0	%100
68	MP1B	Z	0	0	0	%100
69	MP2B	X	5.331	5.331	0	%100
70	MP2B	Z	0	0	0	%100
71	MP3B	X	5.331	5.331	0	%100
72	MP3B	Z	0	0	0	%100
73	MP4B	X	5.331	5.331	0	%100
74	MP4B	Z	0	0	0	%100

Member Distributed Loads (BLC 57 : Structure Wi (120 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	4.1399	4.1399	0	%100
2	M6	Z	2.3902	2.3902	0	%100
3	M7	X	.754	.754	0	%100
4	M7	Z	.4353	.4353	0	%100
5	M8	X	.9607	.9607	0	%100
6	M8	Z	.5547	.5547	0	%100
7	M16	X	1.1628	1.1628	0	%100
8	M16	Z	.6714	.6714	0	%100
9	MP1A	X	4.6168	4.6168	0	%100
10	MP1A	Z	2.6655	2.6655	0	%100
11	OVP	X	3.8071	3.8071	0	%100
12	OVP	Z	2.198	2.198	0	%100
13	M26	X	.9165	.9165	0	%100
14	M26	Z	.5291	.5291	0	%100
15	M35	X	3.666	3.666	0	%100
16	M35	Z	2.1166	2.1166	0	%100
17	M17A	X	4.1399	4.1399	0	%100
18	M17A	Z	2.3902	2.3902	0	%100
19	M18	X	.754	.754	0	%100
20	M18	Z	.4353	.4353	0	%100
21	M19	X	.9607	.9607	0	%100
22	M19	Z	.5547	.5547	0	%100
23	M20	X	3.666	3.666	0	%100
24	M20	Z	2.1166	2.1166	0	%100
25	M23	X	.9165	.9165	0	%100
26	M23	Z	.5291	.5291	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	3.0162	3.0162	0	%100
30	M27	Z	1.7414	1.7414	0	%100
31	M28	X	3.8429	3.8429	0	%100
32	M28	Z	2.2187	2.2187	0	%100
33	M29	X	.9165	.9165	0	%100
34	M29	Z	.5291	.5291	0	%100
35	M32	X	.9165	.9165	0	%100
36	M32	Z	.5291	.5291	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

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Member Distributed Loads (BLC 57 : Structure Wi (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
37	M35A	X	1.1628	1.1628	0	%100
38	M35A	Z	.6714	.6714	0	%100
39	M36	X	4.6514	4.6514	0	%100
40	M36	Z	2.6855	2.6855	0	%100
41	M35B	X	1.37	1.37	0	%100
42	M35B	Z	.7909	.7909	0	%100
43	M37	X	1.37	1.37	0	%100
44	M37	Z	.7909	.7909	0	%100
45	M38	X	5.4798	5.4798	0	%100
46	M38	Z	3.1638	3.1638	0	%100
47	M39	X	3.4906	3.4906	0	%100
48	M39	Z	2.0153	2.0153	0	%100
49	M40	X	.8727	.8727	0	%100
50	M40	Z	.5038	.5038	0	%100
51	M41	X	.8727	.8727	0	%100
52	M41	Z	.5038	.5038	0	%100
53	MP2A	X	4.6168	4.6168	0	%100
54	MP2A	Z	2.6655	2.6655	0	%100
55	MP3A	X	4.6168	4.6168	0	%100
56	MP3A	Z	2.6655	2.6655	0	%100
57	MP4A	X	4.6168	4.6168	0	%100
58	MP4A	Z	2.6655	2.6655	0	%100
59	MP1C	X	4.6168	4.6168	0	%100
60	MP1C	Z	2.6655	2.6655	0	%100
61	MP2C	X	4.6168	4.6168	0	%100
62	MP2C	Z	2.6655	2.6655	0	%100
63	MP3C	X	4.6168	4.6168	0	%100
64	MP3C	Z	2.6655	2.6655	0	%100
65	MP4C	X	4.6168	4.6168	0	%100
66	MP4C	Z	2.6655	2.6655	0	%100
67	MP1B	X	4.6168	4.6168	0	%100
68	MP1B	Z	2.6655	2.6655	0	%100
69	MP2B	X	4.6168	4.6168	0	%100
70	MP2B	Z	2.6655	2.6655	0	%100
71	MP3B	X	4.6168	4.6168	0	%100
72	MP3B	Z	2.6655	2.6655	0	%100
73	MP4B	X	4.6168	4.6168	0	%100
74	MP4B	Z	2.6655	2.6655	0	%100

Member Distributed Loads (BLC 58 : Structure Wi (150 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	.7967	.7967	0	%100
2	M6	Z	1.38	1.38	0	%100
3	M7	X	1.306	1.306	0	%100
4	M7	Z	2.2621	2.2621	0	%100
5	M8	X	1.664	1.664	0	%100
6	M8	Z	2.8821	2.8821	0	%100
7	M16	X	2.0141	2.0141	0	%100
8	M16	Z	3.4885	3.4885	0	%100
9	MP1A	X	2.6655	2.6655	0	%100
10	MP1A	Z	4.6168	4.6168	0	%100
11	OVP	X	2.198	2.198	0	%100
12	OVP	Z	3.8071	3.8071	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	1.5874	1.5874	0	%100



Member Distributed Loads (BLC 58 : Structure Wi (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
16	M35	Z	2.7495	2.7495	0	%100
17	M17A	X	3.1869	3.1869	0	%100
18	M17A	Z	5.5198	5.5198	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	1.5874	1.5874	0	%100
24	M20	Z	2.7495	2.7495	0	%100
25	M23	X	1.5874	1.5874	0	%100
26	M23	Z	2.7495	2.7495	0	%100
27	M26A	X	.7967	.7967	0	%100
28	M26A	Z	1.38	1.38	0	%100
29	M27	X	1.306	1.306	0	%100
30	M27	Z	2.2621	2.2621	0	%100
31	M28	X	1.664	1.664	0	%100
32	M28	Z	2.8821	2.8821	0	%100
33	M29	X	1.5874	1.5874	0	%100
34	M29	Z	2.7495	2.7495	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	2.0141	2.0141	0	%100
40	M36	Z	3.4885	3.4885	0	%100
41	M35B	X	2.3728	2.3728	0	%100
42	M35B	Z	4.1099	4.1099	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	2.3728	2.3728	0	%100
46	M38	Z	4.1099	4.1099	0	%100
47	M39	X	1.5115	1.5115	0	%100
48	M39	Z	2.618	2.618	0	%100
49	M40	X	1.5115	1.5115	0	%100
50	M40	Z	2.618	2.618	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	2.6655	2.6655	0	%100
54	MP2A	Z	4.6168	4.6168	0	%100
55	MP3A	X	2.6655	2.6655	0	%100
56	MP3A	Z	4.6168	4.6168	0	%100
57	MP4A	X	2.6655	2.6655	0	%100
58	MP4A	Z	4.6168	4.6168	0	%100
59	MP1C	X	2.6655	2.6655	0	%100
60	MP1C	Z	4.6168	4.6168	0	%100
61	MP2C	X	2.6655	2.6655	0	%100
62	MP2C	Z	4.6168	4.6168	0	%100
63	MP3C	X	2.6655	2.6655	0	%100
64	MP3C	Z	4.6168	4.6168	0	%100
65	MP4C	X	2.6655	2.6655	0	%100
66	MP4C	Z	4.6168	4.6168	0	%100
67	MP1B	X	2.6655	2.6655	0	%100
68	MP1B	Z	4.6168	4.6168	0	%100
69	MP2B	X	2.6655	2.6655	0	%100
70	MP2B	Z	4.6168	4.6168	0	%100
71	MP3B	X	2.6655	2.6655	0	%100
72	MP3B	Z	4.6168	4.6168	0	%100



Member Distributed Loads (BLC 58 : Structure Wi (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
73	MP4B	X	2.6655	2.6655	0	%100
74	MP4B	Z	4.6168	4.6168	0	%100

Member Distributed Loads (BLC 59 : Structure Wi (180 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	0	0	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	3.4828	3.4828	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	4.4373	4.4373	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	5.3709	5.3709	0	%100
9	MP1A	X	0	0	0	%100
10	MP1A	Z	5.331	5.331	0	%100
11	OVP	X	0	0	0	%100
12	OVP	Z	4.3961	4.3961	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	1.0583	1.0583	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	1.0583	1.0583	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	4.7803	4.7803	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	.8707	.8707	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	1.1093	1.1093	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	1.0583	1.0583	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	4.2331	4.2331	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	4.7803	4.7803	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	.8707	.8707	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	1.1093	1.1093	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	4.2331	4.2331	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	1.0583	1.0583	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	1.3427	1.3427	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	1.3427	1.3427	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	6.3275	6.3275	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	1.5819	1.5819	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	1.5819	1.5819	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	1.0077	1.0077	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	4.0306	4.0306	0	%100
51	M41	X	0	0	0	%100



Member Distributed Loads (BLC 59 : Structure Wi (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
52	M41	Z	1.0077	1.0077	0	%100
53	MP2A	X	0	0	0	%100
54	MP2A	Z	5.331	5.331	0	%100
55	MP3A	X	0	0	0	%100
56	MP3A	Z	5.331	5.331	0	%100
57	MP4A	X	0	0	0	%100
58	MP4A	Z	5.331	5.331	0	%100
59	MP1C	X	0	0	0	%100
60	MP1C	Z	5.331	5.331	0	%100
61	MP2C	X	0	0	0	%100
62	MP2C	Z	5.331	5.331	0	%100
63	MP3C	X	0	0	0	%100
64	MP3C	Z	5.331	5.331	0	%100
65	MP4C	X	0	0	0	%100
66	MP4C	Z	5.331	5.331	0	%100
67	MP1B	X	0	0	0	%100
68	MP1B	Z	5.331	5.331	0	%100
69	MP2B	X	0	0	0	%100
70	MP2B	Z	5.331	5.331	0	%100
71	MP3B	X	0	0	0	%100
72	MP3B	Z	5.331	5.331	0	%100
73	MP4B	X	0	0	0	%100
74	MP4B	Z	5.331	5.331	0	%100

Member Distributed Loads (BLC 60 : Structure Wi (210 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-7.967	-7.967	0	%100
2	M6	Z	1.38	1.38	0	%100
3	M7	X	-1.306	-1.306	0	%100
4	M7	Z	2.2621	2.2621	0	%100
5	M8	X	-1.664	-1.664	0	%100
6	M8	Z	2.8821	2.8821	0	%100
7	M16	X	-2.0141	-2.0141	0	%100
8	M16	Z	3.4885	3.4885	0	%100
9	MP1A	X	-2.6655	-2.6655	0	%100
10	MP1A	Z	4.6168	4.6168	0	%100
11	OVP	X	-2.198	-2.198	0	%100
12	OVP	Z	3.8071	3.8071	0	%100
13	M26	X	-1.5874	-1.5874	0	%100
14	M26	Z	2.7495	2.7495	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	-7.967	-7.967	0	%100
18	M17A	Z	1.38	1.38	0	%100
19	M18	X	-1.306	-1.306	0	%100
20	M18	Z	2.2621	2.2621	0	%100
21	M19	X	-1.664	-1.664	0	%100
22	M19	Z	2.8821	2.8821	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	-1.5874	-1.5874	0	%100
26	M23	Z	2.7495	2.7495	0	%100
27	M26A	X	-3.1869	-3.1869	0	%100
28	M26A	Z	5.5198	5.5198	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	0	0	0	%100



Member Distributed Loads (BLC 60 : Structure Wi (210 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
31	M28	X	0	0	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	-1.5874	-1.5874	0	%100
34	M29	Z	2.7495	2.7495	0	%100
35	M32	X	-1.5874	-1.5874	0	%100
36	M32	Z	2.7495	2.7495	0	%100
37	M35A	X	-2.0141	-2.0141	0	%100
38	M35A	Z	3.4885	3.4885	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	-2.3728	-2.3728	0	%100
42	M35B	Z	4.1099	4.1099	0	%100
43	M37	X	-2.3728	-2.3728	0	%100
44	M37	Z	4.1099	4.1099	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	-1.5115	-1.5115	0	%100
50	M40	Z	2.618	2.618	0	%100
51	M41	X	-1.5115	-1.5115	0	%100
52	M41	Z	2.618	2.618	0	%100
53	MP2A	X	-2.6655	-2.6655	0	%100
54	MP2A	Z	4.6168	4.6168	0	%100
55	MP3A	X	-2.6655	-2.6655	0	%100
56	MP3A	Z	4.6168	4.6168	0	%100
57	MP4A	X	-2.6655	-2.6655	0	%100
58	MP4A	Z	4.6168	4.6168	0	%100
59	MP1C	X	-2.6655	-2.6655	0	%100
60	MP1C	Z	4.6168	4.6168	0	%100
61	MP2C	X	-2.6655	-2.6655	0	%100
62	MP2C	Z	4.6168	4.6168	0	%100
63	MP3C	X	-2.6655	-2.6655	0	%100
64	MP3C	Z	4.6168	4.6168	0	%100
65	MP4C	X	-2.6655	-2.6655	0	%100
66	MP4C	Z	4.6168	4.6168	0	%100
67	MP1B	X	-2.6655	-2.6655	0	%100
68	MP1B	Z	4.6168	4.6168	0	%100
69	MP2B	X	-2.6655	-2.6655	0	%100
70	MP2B	Z	4.6168	4.6168	0	%100
71	MP3B	X	-2.6655	-2.6655	0	%100
72	MP3B	Z	4.6168	4.6168	0	%100
73	MP4B	X	-2.6655	-2.6655	0	%100
74	MP4B	Z	4.6168	4.6168	0	%100

Member Distributed Loads (BLC 61 : Structure Wi (240 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-4.1399	-4.1399	0	%100
2	M6	Z	2.3902	2.3902	0	%100
3	M7	X	-.754	-.754	0	%100
4	M7	Z	.4353	.4353	0	%100
5	M8	X	-.9607	-.9607	0	%100
6	M8	Z	.5547	.5547	0	%100
7	M16	X	-1.1628	-1.1628	0	%100
8	M16	Z	.6714	.6714	0	%100
9	MP1A	X	-4.6168	-4.6168	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

Sept 18, 2023
 5:23 PM
 Checked By: _____

Member Distributed Loads (BLC 61 : Structure Wi (240 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
10	MP1A	Z	2.6655	2.6655	0	%100
11	OVP	X	-3.8071	-3.8071	0	%100
12	OVP	Z	2.198	2.198	0	%100
13	M26	X	-3.666	-3.666	0	%100
14	M26	Z	2.1166	2.1166	0	%100
15	M35	X	-.9165	-.9165	0	%100
16	M35	Z	.5291	.5291	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	-3.0162	-3.0162	0	%100
20	M18	Z	1.7414	1.7414	0	%100
21	M19	X	-3.8429	-3.8429	0	%100
22	M19	Z	2.2187	2.2187	0	%100
23	M20	X	-.9165	-.9165	0	%100
24	M20	Z	.5291	.5291	0	%100
25	M23	X	-.9165	-.9165	0	%100
26	M23	Z	.5291	.5291	0	%100
27	M26A	X	-4.1399	-4.1399	0	%100
28	M26A	Z	2.3902	2.3902	0	%100
29	M27	X	-.754	-.754	0	%100
30	M27	Z	.4353	.4353	0	%100
31	M28	X	-.9607	-.9607	0	%100
32	M28	Z	.5547	.5547	0	%100
33	M29	X	-.9165	-.9165	0	%100
34	M29	Z	.5291	.5291	0	%100
35	M32	X	-3.666	-3.666	0	%100
36	M32	Z	2.1166	2.1166	0	%100
37	M35A	X	-4.6514	-4.6514	0	%100
38	M35A	Z	2.6855	2.6855	0	%100
39	M36	X	-1.1628	-1.1628	0	%100
40	M36	Z	.6714	.6714	0	%100
41	M35B	X	-1.37	-1.37	0	%100
42	M35B	Z	.7909	.7909	0	%100
43	M37	X	-5.4798	-5.4798	0	%100
44	M37	Z	3.1638	3.1638	0	%100
45	M38	X	-1.37	-1.37	0	%100
46	M38	Z	.7909	.7909	0	%100
47	M39	X	-.8727	-.8727	0	%100
48	M39	Z	.5038	.5038	0	%100
49	M40	X	-.8727	-.8727	0	%100
50	M40	Z	.5038	.5038	0	%100
51	M41	X	-3.4906	-3.4906	0	%100
52	M41	Z	2.0153	2.0153	0	%100
53	MP2A	X	-4.6168	-4.6168	0	%100
54	MP2A	Z	2.6655	2.6655	0	%100
55	MP3A	X	-4.6168	-4.6168	0	%100
56	MP3A	Z	2.6655	2.6655	0	%100
57	MP4A	X	-4.6168	-4.6168	0	%100
58	MP4A	Z	2.6655	2.6655	0	%100
59	MP1C	X	-4.6168	-4.6168	0	%100
60	MP1C	Z	2.6655	2.6655	0	%100
61	MP2C	X	-4.6168	-4.6168	0	%100
62	MP2C	Z	2.6655	2.6655	0	%100
63	MP3C	X	-4.6168	-4.6168	0	%100
64	MP3C	Z	2.6655	2.6655	0	%100
65	MP4C	X	-4.6168	-4.6168	0	%100
66	MP4C	Z	2.6655	2.6655	0	%100



Member Distributed Loads (BLC 61 : Structure Wi (240 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
67	MP1B	X	-4.6168	-4.6168	0	%100
68	MP1B	Z	2.6655	2.6655	0	%100
69	MP2B	X	-4.6168	-4.6168	0	%100
70	MP2B	Z	2.6655	2.6655	0	%100
71	MP3B	X	-4.6168	-4.6168	0	%100
72	MP3B	Z	2.6655	2.6655	0	%100
73	MP4B	X	-4.6168	-4.6168	0	%100
74	MP4B	Z	2.6655	2.6655	0	%100

Member Distributed Loads (BLC 62 : Structure Wi (270 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-6.3737	-6.3737	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	0	0	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	0	0	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	0	0	0	%100
9	MP1A	X	-5.331	-5.331	0	%100
10	MP1A	Z	0	0	0	%100
11	OVP	X	-4.3961	-4.3961	0	%100
12	OVP	Z	0	0	0	%100
13	M26	X	-3.1748	-3.1748	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	-3.1748	-3.1748	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	-1.5934	-1.5934	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	-2.6121	-2.6121	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	-3.328	-3.328	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	-3.1748	-3.1748	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	0	0	0	%100
27	M26A	X	-1.5934	-1.5934	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	-2.6121	-2.6121	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	-3.328	-3.328	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	0	0	0	%100
35	M32	X	-3.1748	-3.1748	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	-4.0282	-4.0282	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	-4.0282	-4.0282	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	0	0	0	%100
43	M37	X	-4.7456	-4.7456	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	-4.7456	-4.7456	0	%100



Member Distributed Loads (BLC 62 : Structure Wi (270 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
46	M38	Z	0	0	0	%100
47	M39	X	-3.023	-3.023	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	0	0	0	%100
51	M41	X	-3.023	-3.023	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	-5.331	-5.331	0	%100
54	MP2A	Z	0	0	0	%100
55	MP3A	X	-5.331	-5.331	0	%100
56	MP3A	Z	0	0	0	%100
57	MP4A	X	-5.331	-5.331	0	%100
58	MP4A	Z	0	0	0	%100
59	MP1C	X	-5.331	-5.331	0	%100
60	MP1C	Z	0	0	0	%100
61	MP2C	X	-5.331	-5.331	0	%100
62	MP2C	Z	0	0	0	%100
63	MP3C	X	-5.331	-5.331	0	%100
64	MP3C	Z	0	0	0	%100
65	MP4C	X	-5.331	-5.331	0	%100
66	MP4C	Z	0	0	0	%100
67	MP1B	X	-5.331	-5.331	0	%100
68	MP1B	Z	0	0	0	%100
69	MP2B	X	-5.331	-5.331	0	%100
70	MP2B	Z	0	0	0	%100
71	MP3B	X	-5.331	-5.331	0	%100
72	MP3B	Z	0	0	0	%100
73	MP4B	X	-5.331	-5.331	0	%100
74	MP4B	Z	0	0	0	%100

Member Distributed Loads (BLC 63 : Structure Wi (300 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-4.1399	-4.1399	0	%100
2	M6	Z	-2.3902	-2.3902	0	%100
3	M7	X	-.754	-.754	0	%100
4	M7	Z	-.4353	-.4353	0	%100
5	M8	X	-.9607	-.9607	0	%100
6	M8	Z	-.5547	-.5547	0	%100
7	M16	X	-1.1628	-1.1628	0	%100
8	M16	Z	-.6714	-.6714	0	%100
9	MP1A	X	-4.6168	-4.6168	0	%100
10	MP1A	Z	-2.6655	-2.6655	0	%100
11	OVP	X	-3.8071	-3.8071	0	%100
12	OVP	Z	-2.198	-2.198	0	%100
13	M26	X	-.9165	-.9165	0	%100
14	M26	Z	-.5291	-.5291	0	%100
15	M35	X	-3.666	-3.666	0	%100
16	M35	Z	-2.1166	-2.1166	0	%100
17	M17A	X	-4.1399	-4.1399	0	%100
18	M17A	Z	-2.3902	-2.3902	0	%100
19	M18	X	-.754	-.754	0	%100
20	M18	Z	-.4353	-.4353	0	%100
21	M19	X	-.9607	-.9607	0	%100
22	M19	Z	-.5547	-.5547	0	%100
23	M20	X	-3.666	-3.666	0	%100
24	M20	Z	-2.1166	-2.1166	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

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Member Distributed Loads (BLC 63 : Structure Wi (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
25	M23	X	-9165	-9165	0	%100
26	M23	Z	-5291	-5291	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	-3.0162	-3.0162	0	%100
30	M27	Z	-1.7414	-1.7414	0	%100
31	M28	X	-3.8429	-3.8429	0	%100
32	M28	Z	-2.2187	-2.2187	0	%100
33	M29	X	-9165	-9165	0	%100
34	M29	Z	-5291	-5291	0	%100
35	M32	X	-9165	-9165	0	%100
36	M32	Z	-5291	-5291	0	%100
37	M35A	X	-1.1628	-1.1628	0	%100
38	M35A	Z	-6714	-6714	0	%100
39	M36	X	-4.6514	-4.6514	0	%100
40	M36	Z	-2.6855	-2.6855	0	%100
41	M35B	X	-1.37	-1.37	0	%100
42	M35B	Z	-7909	-7909	0	%100
43	M37	X	-1.37	-1.37	0	%100
44	M37	Z	-7909	-7909	0	%100
45	M38	X	-5.4798	-5.4798	0	%100
46	M38	Z	-3.1638	-3.1638	0	%100
47	M39	X	-3.4906	-3.4906	0	%100
48	M39	Z	-2.0153	-2.0153	0	%100
49	M40	X	-8727	-8727	0	%100
50	M40	Z	-5038	-5038	0	%100
51	M41	X	-8727	-8727	0	%100
52	M41	Z	-5038	-5038	0	%100
53	MP2A	X	-4.6168	-4.6168	0	%100
54	MP2A	Z	-2.6655	-2.6655	0	%100
55	MP3A	X	-4.6168	-4.6168	0	%100
56	MP3A	Z	-2.6655	-2.6655	0	%100
57	MP4A	X	-4.6168	-4.6168	0	%100
58	MP4A	Z	-2.6655	-2.6655	0	%100
59	MP1C	X	-4.6168	-4.6168	0	%100
60	MP1C	Z	-2.6655	-2.6655	0	%100
61	MP2C	X	-4.6168	-4.6168	0	%100
62	MP2C	Z	-2.6655	-2.6655	0	%100
63	MP3C	X	-4.6168	-4.6168	0	%100
64	MP3C	Z	-2.6655	-2.6655	0	%100
65	MP4C	X	-4.6168	-4.6168	0	%100
66	MP4C	Z	-2.6655	-2.6655	0	%100
67	MP1B	X	-4.6168	-4.6168	0	%100
68	MP1B	Z	-2.6655	-2.6655	0	%100
69	MP2B	X	-4.6168	-4.6168	0	%100
70	MP2B	Z	-2.6655	-2.6655	0	%100
71	MP3B	X	-4.6168	-4.6168	0	%100
72	MP3B	Z	-2.6655	-2.6655	0	%100
73	MP4B	X	-4.6168	-4.6168	0	%100
74	MP4B	Z	-2.6655	-2.6655	0	%100

Member Distributed Loads (BLC 64 : Structure Wi (330 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-7967	-7967	0	%100
2	M6	Z	-1.38	-1.38	0	%100
3	M7	X	-1.306	-1.306	0	%100



Member Distributed Loads (BLC 64 : Structure Wi (330 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
4	M7	Z	-2.2621	-2.2621	0	%100
5	M8	X	-1.664	-1.664	0	%100
6	M8	Z	-2.8821	-2.8821	0	%100
7	M16	X	-2.0141	-2.0141	0	%100
8	M16	Z	-3.4885	-3.4885	0	%100
9	MP1A	X	-2.6655	-2.6655	0	%100
10	MP1A	Z	-4.6168	-4.6168	0	%100
11	OVP	X	-2.198	-2.198	0	%100
12	OVP	Z	-3.8071	-3.8071	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	-1.5874	-1.5874	0	%100
16	M35	Z	-2.7495	-2.7495	0	%100
17	M17A	X	-3.1869	-3.1869	0	%100
18	M17A	Z	-5.5198	-5.5198	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	-1.5874	-1.5874	0	%100
24	M20	Z	-2.7495	-2.7495	0	%100
25	M23	X	-1.5874	-1.5874	0	%100
26	M23	Z	-2.7495	-2.7495	0	%100
27	M26A	X	-.7967	-.7967	0	%100
28	M26A	Z	-1.38	-1.38	0	%100
29	M27	X	-1.306	-1.306	0	%100
30	M27	Z	-2.2621	-2.2621	0	%100
31	M28	X	-1.664	-1.664	0	%100
32	M28	Z	-2.8821	-2.8821	0	%100
33	M29	X	-1.5874	-1.5874	0	%100
34	M29	Z	-2.7495	-2.7495	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	-2.0141	-2.0141	0	%100
40	M36	Z	-3.4885	-3.4885	0	%100
41	M35B	X	-2.3728	-2.3728	0	%100
42	M35B	Z	-4.1099	-4.1099	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	-2.3728	-2.3728	0	%100
46	M38	Z	-4.1099	-4.1099	0	%100
47	M39	X	-1.5115	-1.5115	0	%100
48	M39	Z	-2.618	-2.618	0	%100
49	M40	X	-1.5115	-1.5115	0	%100
50	M40	Z	-2.618	-2.618	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	-2.6655	-2.6655	0	%100
54	MP2A	Z	-4.6168	-4.6168	0	%100
55	MP3A	X	-2.6655	-2.6655	0	%100
56	MP3A	Z	-4.6168	-4.6168	0	%100
57	MP4A	X	-2.6655	-2.6655	0	%100
58	MP4A	Z	-4.6168	-4.6168	0	%100
59	MP1C	X	-2.6655	-2.6655	0	%100
60	MP1C	Z	-4.6168	-4.6168	0	%100



Member Distributed Loads (BLC 64 : Structure Wi (330 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
61	MP2C	X	-2.6655	-2.6655	0	%100
62	MP2C	Z	-4.6168	-4.6168	0	%100
63	MP3C	X	-2.6655	-2.6655	0	%100
64	MP3C	Z	-4.6168	-4.6168	0	%100
65	MP4C	X	-2.6655	-2.6655	0	%100
66	MP4C	Z	-4.6168	-4.6168	0	%100
67	MP1B	X	-2.6655	-2.6655	0	%100
68	MP1B	Z	-4.6168	-4.6168	0	%100
69	MP2B	X	-2.6655	-2.6655	0	%100
70	MP2B	Z	-4.6168	-4.6168	0	%100
71	MP3B	X	-2.6655	-2.6655	0	%100
72	MP3B	Z	-4.6168	-4.6168	0	%100
73	MP4B	X	-2.6655	-2.6655	0	%100
74	MP4B	Z	-4.6168	-4.6168	0	%100

Member Distributed Loads (BLC 65 : Structure Wm (0 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	0	0	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	-4981	-4981	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	-.67	-.67	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	-.727	-.727	0	%100
9	MP1A	X	0	0	0	%100
10	MP1A	Z	-.727	-.727	0	%100
11	OVP	X	0	0	0	%100
12	OVP	Z	-.6625	-.6625	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	-.176	-.176	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	-.176	-.176	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	-.966	-.966	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	-.1245	-.1245	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	-.1675	-.1675	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	-.176	-.176	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	-.7042	-.7042	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	-.966	-.966	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	-.1245	-.1245	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	-.1675	-.1675	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	-.7042	-.7042	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	-.176	-.176	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	-.1818	-.1818	0	%100
39	M36	X	0	0	0	%100



Member Distributed Loads (BLC 65 : Structure Wm (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
40	M36	Z	-.1818	-.1818	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	-.9577	-.9577	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	-.2394	-.2394	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	-.2394	-.2394	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	-.1642	-.1642	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	-.6568	-.6568	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	-.1642	-.1642	0	%100
53	MP2A	X	0	0	0	%100
54	MP2A	Z	-.727	-.727	0	%100
55	MP3A	X	0	0	0	%100
56	MP3A	Z	-.727	-.727	0	%100
57	MP4A	X	0	0	0	%100
58	MP4A	Z	-.727	-.727	0	%100
59	MP1C	X	0	0	0	%100
60	MP1C	Z	-.727	-.727	0	%100
61	MP2C	X	0	0	0	%100
62	MP2C	Z	-.727	-.727	0	%100
63	MP3C	X	0	0	0	%100
64	MP3C	Z	-.727	-.727	0	%100
65	MP4C	X	0	0	0	%100
66	MP4C	Z	-.727	-.727	0	%100
67	MP1B	X	0	0	0	%100
68	MP1B	Z	-.727	-.727	0	%100
69	MP2B	X	0	0	0	%100
70	MP2B	Z	-.727	-.727	0	%100
71	MP3B	X	0	0	0	%100
72	MP3B	Z	-.727	-.727	0	%100
73	MP4B	X	0	0	0	%100
74	MP4B	Z	-.727	-.727	0	%100

Member Distributed Loads (BLC 66 : Structure Wm (30 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
1	M6	X	.161	.161	0	%100
2	M6	Z	-.2789	-.2789	0	%100
3	M7	X	.1868	.1868	0	%100
4	M7	Z	-.3236	-.3236	0	%100
5	M8	X	.2512	.2512	0	%100
6	M8	Z	-.4352	-.4352	0	%100
7	M16	X	.2726	.2726	0	%100
8	M16	Z	-.4722	-.4722	0	%100
9	MP1A	X	.3635	.3635	0	%100
10	MP1A	Z	-.6296	-.6296	0	%100
11	OVP	X	.3313	.3313	0	%100
12	OVP	Z	-.5738	-.5738	0	%100
13	M26	X	.2641	.2641	0	%100
14	M26	Z	-.4574	-.4574	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	.161	.161	0	%100
18	M17A	Z	-.2789	-.2789	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

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Member Distributed Loads (BLC 66 : Structure Wm (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
19	M18	X	.1868	.1868	0	%100
20	M18	Z	-.3236	-.3236	0	%100
21	M19	X	.2512	.2512	0	%100
22	M19	Z	-.4352	-.4352	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	.2641	.2641	0	%100
26	M23	Z	-.4574	-.4574	0	%100
27	M26A	X	.644	.644	0	%100
28	M26A	Z	-1.1155	-1.1155	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	.2641	.2641	0	%100
34	M29	Z	-.4574	-.4574	0	%100
35	M32	X	.2641	.2641	0	%100
36	M32	Z	-.4574	-.4574	0	%100
37	M35A	X	.2726	.2726	0	%100
38	M35A	Z	-.4722	-.4722	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	.3591	.3591	0	%100
42	M35B	Z	-.622	-.622	0	%100
43	M37	X	.3591	.3591	0	%100
44	M37	Z	-.622	-.622	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	.2463	.2463	0	%100
50	M40	Z	-.4266	-.4266	0	%100
51	M41	X	.2463	.2463	0	%100
52	M41	Z	-.4266	-.4266	0	%100
53	MP2A	X	.3635	.3635	0	%100
54	MP2A	Z	-.6296	-.6296	0	%100
55	MP3A	X	.3635	.3635	0	%100
56	MP3A	Z	-.6296	-.6296	0	%100
57	MP4A	X	.3635	.3635	0	%100
58	MP4A	Z	-.6296	-.6296	0	%100
59	MP1C	X	.3635	.3635	0	%100
60	MP1C	Z	-.6296	-.6296	0	%100
61	MP2C	X	.3635	.3635	0	%100
62	MP2C	Z	-.6296	-.6296	0	%100
63	MP3C	X	.3635	.3635	0	%100
64	MP3C	Z	-.6296	-.6296	0	%100
65	MP4C	X	.3635	.3635	0	%100
66	MP4C	Z	-.6296	-.6296	0	%100
67	MP1B	X	.3635	.3635	0	%100
68	MP1B	Z	-.6296	-.6296	0	%100
69	MP2B	X	.3635	.3635	0	%100
70	MP2B	Z	-.6296	-.6296	0	%100
71	MP3B	X	.3635	.3635	0	%100
72	MP3B	Z	-.6296	-.6296	0	%100
73	MP4B	X	.3635	.3635	0	%100
74	MP4B	Z	-.6296	-.6296	0	%100



Member Distributed Loads (BLC 67 : Structure Wm (60 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	.8366	.8366	0	%100
2	M6	Z	-.483	-.483	0	%100
3	M7	X	.1079	.1079	0	%100
4	M7	Z	-.0623	-.0623	0	%100
5	M8	X	.1451	.1451	0	%100
6	M8	Z	-.0837	-.0837	0	%100
7	M16	X	.1574	.1574	0	%100
8	M16	Z	-.0909	-.0909	0	%100
9	MP1A	X	.6296	.6296	0	%100
10	MP1A	Z	-.3635	-.3635	0	%100
11	OVP	X	.5738	.5738	0	%100
12	OVP	Z	-.3313	-.3313	0	%100
13	M26	X	.6098	.6098	0	%100
14	M26	Z	-.3521	-.3521	0	%100
15	M35	X	.1525	.1525	0	%100
16	M35	Z	-.088	-.088	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	.4314	.4314	0	%100
20	M18	Z	-.2491	-.2491	0	%100
21	M19	X	.5802	.5802	0	%100
22	M19	Z	-.335	-.335	0	%100
23	M20	X	.1525	.1525	0	%100
24	M20	Z	-.088	-.088	0	%100
25	M23	X	.1525	.1525	0	%100
26	M23	Z	-.088	-.088	0	%100
27	M26A	X	.8366	.8366	0	%100
28	M26A	Z	-.483	-.483	0	%100
29	M27	X	.1079	.1079	0	%100
30	M27	Z	-.0623	-.0623	0	%100
31	M28	X	.1451	.1451	0	%100
32	M28	Z	-.0837	-.0837	0	%100
33	M29	X	.1525	.1525	0	%100
34	M29	Z	-.088	-.088	0	%100
35	M32	X	.6098	.6098	0	%100
36	M32	Z	-.3521	-.3521	0	%100
37	M35A	X	.6296	.6296	0	%100
38	M35A	Z	-.3635	-.3635	0	%100
39	M36	X	.1574	.1574	0	%100
40	M36	Z	-.0909	-.0909	0	%100
41	M35B	X	.2073	.2073	0	%100
42	M35B	Z	-.1197	-.1197	0	%100
43	M37	X	.8294	.8294	0	%100
44	M37	Z	-.4789	-.4789	0	%100
45	M38	X	.2073	.2073	0	%100
46	M38	Z	-.1197	-.1197	0	%100
47	M39	X	.1422	.1422	0	%100
48	M39	Z	-.0821	-.0821	0	%100
49	M40	X	.1422	.1422	0	%100
50	M40	Z	-.0821	-.0821	0	%100
51	M41	X	.5688	.5688	0	%100
52	M41	Z	-.3284	-.3284	0	%100
53	MP2A	X	.6296	.6296	0	%100
54	MP2A	Z	-.3635	-.3635	0	%100
55	MP3A	X	.6296	.6296	0	%100
56	MP3A	Z	-.3635	-.3635	0	%100
57	MP4A	X	.6296	.6296	0	%100



Member Distributed Loads (BLC 67 : Structure Wm (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
58	MP4A	Z	-.3635	-.3635	0	%100
59	MP1C	X	.6296	.6296	0	%100
60	MP1C	Z	-.3635	-.3635	0	%100
61	MP2C	X	.6296	.6296	0	%100
62	MP2C	Z	-.3635	-.3635	0	%100
63	MP3C	X	.6296	.6296	0	%100
64	MP3C	Z	-.3635	-.3635	0	%100
65	MP4C	X	.6296	.6296	0	%100
66	MP4C	Z	-.3635	-.3635	0	%100
67	MP1B	X	.6296	.6296	0	%100
68	MP1B	Z	-.3635	-.3635	0	%100
69	MP2B	X	.6296	.6296	0	%100
70	MP2B	Z	-.3635	-.3635	0	%100
71	MP3B	X	.6296	.6296	0	%100
72	MP3B	Z	-.3635	-.3635	0	%100
73	MP4B	X	.6296	.6296	0	%100
74	MP4B	Z	-.3635	-.3635	0	%100

Member Distributed Loads (BLC 68 : Structure Wm (90 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	1.2881	1.2881	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	0	0	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	0	0	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	0	0	0	%100
9	MP1A	X	.727	.727	0	%100
10	MP1A	Z	0	0	0	%100
11	OVP	X	.6625	.6625	0	%100
12	OVP	Z	0	0	0	%100
13	M26	X	.5281	.5281	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	.5281	.5281	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	.322	.322	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	.3736	.3736	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	.5025	.5025	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	.5281	.5281	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	0	0	0	%100
27	M26A	X	.322	.322	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	.3736	.3736	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	.5025	.5025	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	0	0	0	%100
35	M32	X	.5281	.5281	0	%100
36	M32	Z	0	0	0	%100



Member Distributed Loads (BLC 68 : Structure Wm (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
37	M35A	X	.5453	.5453	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	.5453	.5453	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	0	0	0	%100
43	M37	X	.7183	.7183	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	.7183	.7183	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	.4926	.4926	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	0	0	0	%100
51	M41	X	.4926	.4926	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	.727	.727	0	%100
54	MP2A	Z	0	0	0	%100
55	MP3A	X	.727	.727	0	%100
56	MP3A	Z	0	0	0	%100
57	MP4A	X	.727	.727	0	%100
58	MP4A	Z	0	0	0	%100
59	MP1C	X	.727	.727	0	%100
60	MP1C	Z	0	0	0	%100
61	MP2C	X	.727	.727	0	%100
62	MP2C	Z	0	0	0	%100
63	MP3C	X	.727	.727	0	%100
64	MP3C	Z	0	0	0	%100
65	MP4C	X	.727	.727	0	%100
66	MP4C	Z	0	0	0	%100
67	MP1B	X	.727	.727	0	%100
68	MP1B	Z	0	0	0	%100
69	MP2B	X	.727	.727	0	%100
70	MP2B	Z	0	0	0	%100
71	MP3B	X	.727	.727	0	%100
72	MP3B	Z	0	0	0	%100
73	MP4B	X	.727	.727	0	%100
74	MP4B	Z	0	0	0	%100

Member Distributed Loads (BLC 69 : Structure Wm (120 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	.8366	.8366	0	%100
2	M6	Z	.483	.483	0	%100
3	M7	X	.1079	.1079	0	%100
4	M7	Z	.0623	.0623	0	%100
5	M8	X	.1451	.1451	0	%100
6	M8	Z	.0837	.0837	0	%100
7	M16	X	.1574	.1574	0	%100
8	M16	Z	.0909	.0909	0	%100
9	MP1A	X	.6296	.6296	0	%100
10	MP1A	Z	.3635	.3635	0	%100
11	OVP	X	.5738	.5738	0	%100
12	OVP	Z	.3313	.3313	0	%100
13	M26	X	.1525	.1525	0	%100
14	M26	Z	.088	.088	0	%100
15	M35	X	.6098	.6098	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

Sept 18, 2023
 5:23 PM
 Checked By: _____

Member Distributed Loads (BLC 69 : Structure Wm (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
16	M35	Z	.3521	.3521	0	%100
17	M17A	X	.8366	.8366	0	%100
18	M17A	Z	.483	.483	0	%100
19	M18	X	.1079	.1079	0	%100
20	M18	Z	.0623	.0623	0	%100
21	M19	X	.1451	.1451	0	%100
22	M19	Z	.0837	.0837	0	%100
23	M20	X	.6098	.6098	0	%100
24	M20	Z	.3521	.3521	0	%100
25	M23	X	.1525	.1525	0	%100
26	M23	Z	.088	.088	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	.4314	.4314	0	%100
30	M27	Z	.2491	.2491	0	%100
31	M28	X	.5802	.5802	0	%100
32	M28	Z	.335	.335	0	%100
33	M29	X	.1525	.1525	0	%100
34	M29	Z	.088	.088	0	%100
35	M32	X	.1525	.1525	0	%100
36	M32	Z	.088	.088	0	%100
37	M35A	X	.1574	.1574	0	%100
38	M35A	Z	.0909	.0909	0	%100
39	M36	X	.6296	.6296	0	%100
40	M36	Z	.3635	.3635	0	%100
41	M35B	X	.2073	.2073	0	%100
42	M35B	Z	.1197	.1197	0	%100
43	M37	X	.2073	.2073	0	%100
44	M37	Z	.1197	.1197	0	%100
45	M38	X	.8294	.8294	0	%100
46	M38	Z	.4789	.4789	0	%100
47	M39	X	.5688	.5688	0	%100
48	M39	Z	.3284	.3284	0	%100
49	M40	X	.1422	.1422	0	%100
50	M40	Z	.0821	.0821	0	%100
51	M41	X	.1422	.1422	0	%100
52	M41	Z	.0821	.0821	0	%100
53	MP2A	X	.6296	.6296	0	%100
54	MP2A	Z	.3635	.3635	0	%100
55	MP3A	X	.6296	.6296	0	%100
56	MP3A	Z	.3635	.3635	0	%100
57	MP4A	X	.6296	.6296	0	%100
58	MP4A	Z	.3635	.3635	0	%100
59	MP1C	X	.6296	.6296	0	%100
60	MP1C	Z	.3635	.3635	0	%100
61	MP2C	X	.6296	.6296	0	%100
62	MP2C	Z	.3635	.3635	0	%100
63	MP3C	X	.6296	.6296	0	%100
64	MP3C	Z	.3635	.3635	0	%100
65	MP4C	X	.6296	.6296	0	%100
66	MP4C	Z	.3635	.3635	0	%100
67	MP1B	X	.6296	.6296	0	%100
68	MP1B	Z	.3635	.3635	0	%100
69	MP2B	X	.6296	.6296	0	%100
70	MP2B	Z	.3635	.3635	0	%100
71	MP3B	X	.6296	.6296	0	%100
72	MP3B	Z	.3635	.3635	0	%100



Member Distributed Loads (BLC 69 : Structure Wm (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
73	MP4B	X	.6296	.6296	0	%100
74	MP4B	Z	.3635	.3635	0	%100

Member Distributed Loads (BLC 70 : Structure Wm (150 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	.161	.161	0	%100
2	M6	Z	.2789	.2789	0	%100
3	M7	X	.1868	.1868	0	%100
4	M7	Z	.3236	.3236	0	%100
5	M8	X	.2512	.2512	0	%100
6	M8	Z	.4352	.4352	0	%100
7	M16	X	.2726	.2726	0	%100
8	M16	Z	.4722	.4722	0	%100
9	MP1A	X	.3635	.3635	0	%100
10	MP1A	Z	.6296	.6296	0	%100
11	OVP	X	.3313	.3313	0	%100
12	OVP	Z	.5738	.5738	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	.2641	.2641	0	%100
16	M35	Z	.4574	.4574	0	%100
17	M17A	X	.644	.644	0	%100
18	M17A	Z	1.1155	1.1155	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	.2641	.2641	0	%100
24	M20	Z	.4574	.4574	0	%100
25	M23	X	.2641	.2641	0	%100
26	M23	Z	.4574	.4574	0	%100
27	M26A	X	.161	.161	0	%100
28	M26A	Z	.2789	.2789	0	%100
29	M27	X	.1868	.1868	0	%100
30	M27	Z	.3236	.3236	0	%100
31	M28	X	.2512	.2512	0	%100
32	M28	Z	.4352	.4352	0	%100
33	M29	X	.2641	.2641	0	%100
34	M29	Z	.4574	.4574	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	.2726	.2726	0	%100
40	M36	Z	.4722	.4722	0	%100
41	M35B	X	.3591	.3591	0	%100
42	M35B	Z	.622	.622	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	.3591	.3591	0	%100
46	M38	Z	.622	.622	0	%100
47	M39	X	.2463	.2463	0	%100
48	M39	Z	.4266	.4266	0	%100
49	M40	X	.2463	.2463	0	%100
50	M40	Z	.4266	.4266	0	%100
51	M41	X	0	0	0	%100



Member Distributed Loads (BLC 70 : Structure Wm (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
52	M41	Z	0	0	0	%100
53	MP2A	X	.3635	.3635	0	%100
54	MP2A	Z	.6296	.6296	0	%100
55	MP3A	X	.3635	.3635	0	%100
56	MP3A	Z	.6296	.6296	0	%100
57	MP4A	X	.3635	.3635	0	%100
58	MP4A	Z	.6296	.6296	0	%100
59	MP1C	X	.3635	.3635	0	%100
60	MP1C	Z	.6296	.6296	0	%100
61	MP2C	X	.3635	.3635	0	%100
62	MP2C	Z	.6296	.6296	0	%100
63	MP3C	X	.3635	.3635	0	%100
64	MP3C	Z	.6296	.6296	0	%100
65	MP4C	X	.3635	.3635	0	%100
66	MP4C	Z	.6296	.6296	0	%100
67	MP1B	X	.3635	.3635	0	%100
68	MP1B	Z	.6296	.6296	0	%100
69	MP2B	X	.3635	.3635	0	%100
70	MP2B	Z	.6296	.6296	0	%100
71	MP3B	X	.3635	.3635	0	%100
72	MP3B	Z	.6296	.6296	0	%100
73	MP4B	X	.3635	.3635	0	%100
74	MP4B	Z	.6296	.6296	0	%100

Member Distributed Loads (BLC 71 : Structure Wm (180 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	0	0	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	.4981	.4981	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	.67	.67	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	.727	.727	0	%100
9	MP1A	X	0	0	0	%100
10	MP1A	Z	.727	.727	0	%100
11	OVP	X	0	0	0	%100
12	OVP	Z	.6625	.6625	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	.176	.176	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	.176	.176	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	.966	.966	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	.1245	.1245	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	.1675	.1675	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	.176	.176	0	%100
25	M23	X	0	0	0	%100
26	M23	Z	.7042	.7042	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	.966	.966	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	.1245	.1245	0	%100



Member Distributed Loads (BLC 71 : Structure Wm (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
31	M28	X	0	0	0	%100
32	M28	Z	.1675	.1675	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	.7042	.7042	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	.176	.176	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	.1818	.1818	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	.1818	.1818	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	.9577	.9577	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	.2394	.2394	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	.2394	.2394	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	.1642	.1642	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	.6568	.6568	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	.1642	.1642	0	%100
53	MP2A	X	0	0	0	%100
54	MP2A	Z	.727	.727	0	%100
55	MP3A	X	0	0	0	%100
56	MP3A	Z	.727	.727	0	%100
57	MP4A	X	0	0	0	%100
58	MP4A	Z	.727	.727	0	%100
59	MP1C	X	0	0	0	%100
60	MP1C	Z	.727	.727	0	%100
61	MP2C	X	0	0	0	%100
62	MP2C	Z	.727	.727	0	%100
63	MP3C	X	0	0	0	%100
64	MP3C	Z	.727	.727	0	%100
65	MP4C	X	0	0	0	%100
66	MP4C	Z	.727	.727	0	%100
67	MP1B	X	0	0	0	%100
68	MP1B	Z	.727	.727	0	%100
69	MP2B	X	0	0	0	%100
70	MP2B	Z	.727	.727	0	%100
71	MP3B	X	0	0	0	%100
72	MP3B	Z	.727	.727	0	%100
73	MP4B	X	0	0	0	%100
74	MP4B	Z	.727	.727	0	%100

Member Distributed Loads (BLC 72 : Structure Wm (210 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-.161	-.161	0	%100
2	M6	Z	.2789	.2789	0	%100
3	M7	X	-.1868	-.1868	0	%100
4	M7	Z	.3236	.3236	0	%100
5	M8	X	-.2512	-.2512	0	%100
6	M8	Z	.4352	.4352	0	%100
7	M16	X	-.2726	-.2726	0	%100
8	M16	Z	.4722	.4722	0	%100
9	MP1A	X	-.3635	-.3635	0	%100



Member Distributed Loads (BLC 72 : Structure Wm (210 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
10	MP1A	Z	.6296	.6296	0	%100
11	OVP	X	-.3313	-.3313	0	%100
12	OVP	Z	.5738	.5738	0	%100
13	M26	X	-.2641	-.2641	0	%100
14	M26	Z	.4574	.4574	0	%100
15	M35	X	0	0	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	-.161	-.161	0	%100
18	M17A	Z	.2789	.2789	0	%100
19	M18	X	-.1868	-.1868	0	%100
20	M18	Z	.3236	.3236	0	%100
21	M19	X	-.2512	-.2512	0	%100
22	M19	Z	.4352	.4352	0	%100
23	M20	X	0	0	0	%100
24	M20	Z	0	0	0	%100
25	M23	X	-.2641	-.2641	0	%100
26	M23	Z	.4574	.4574	0	%100
27	M26A	X	-.644	-.644	0	%100
28	M26A	Z	1.1155	1.1155	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	-.2641	-.2641	0	%100
34	M29	Z	.4574	.4574	0	%100
35	M32	X	-.2641	-.2641	0	%100
36	M32	Z	.4574	.4574	0	%100
37	M35A	X	-.2726	-.2726	0	%100
38	M35A	Z	.4722	.4722	0	%100
39	M36	X	0	0	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	-.3591	-.3591	0	%100
42	M35B	Z	.622	.622	0	%100
43	M37	X	-.3591	-.3591	0	%100
44	M37	Z	.622	.622	0	%100
45	M38	X	0	0	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	0	0	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	-.2463	-.2463	0	%100
50	M40	Z	.4266	.4266	0	%100
51	M41	X	-.2463	-.2463	0	%100
52	M41	Z	.4266	.4266	0	%100
53	MP2A	X	-.3635	-.3635	0	%100
54	MP2A	Z	.6296	.6296	0	%100
55	MP3A	X	-.3635	-.3635	0	%100
56	MP3A	Z	.6296	.6296	0	%100
57	MP4A	X	-.3635	-.3635	0	%100
58	MP4A	Z	.6296	.6296	0	%100
59	MP1C	X	-.3635	-.3635	0	%100
60	MP1C	Z	.6296	.6296	0	%100
61	MP2C	X	-.3635	-.3635	0	%100
62	MP2C	Z	.6296	.6296	0	%100
63	MP3C	X	-.3635	-.3635	0	%100
64	MP3C	Z	.6296	.6296	0	%100
65	MP4C	X	-.3635	-.3635	0	%100
66	MP4C	Z	.6296	.6296	0	%100



Member Distributed Loads (BLC 72 : Structure Wm (210 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
67	MP1B	X	-.3635	-.3635	0	%100
68	MP1B	Z	.6296	.6296	0	%100
69	MP2B	X	-.3635	-.3635	0	%100
70	MP2B	Z	.6296	.6296	0	%100
71	MP3B	X	-.3635	-.3635	0	%100
72	MP3B	Z	.6296	.6296	0	%100
73	MP4B	X	-.3635	-.3635	0	%100
74	MP4B	Z	.6296	.6296	0	%100

Member Distributed Loads (BLC 73 : Structure Wm (240 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-.8366	-.8366	0	%100
2	M6	Z	.483	.483	0	%100
3	M7	X	-.1079	-.1079	0	%100
4	M7	Z	.0623	.0623	0	%100
5	M8	X	-.1451	-.1451	0	%100
6	M8	Z	.0837	.0837	0	%100
7	M16	X	-.1574	-.1574	0	%100
8	M16	Z	.0909	.0909	0	%100
9	MP1A	X	-.6296	-.6296	0	%100
10	MP1A	Z	.3635	.3635	0	%100
11	OVP	X	-.5738	-.5738	0	%100
12	OVP	Z	.3313	.3313	0	%100
13	M26	X	-.6098	-.6098	0	%100
14	M26	Z	.3521	.3521	0	%100
15	M35	X	-.1525	-.1525	0	%100
16	M35	Z	.088	.088	0	%100
17	M17A	X	0	0	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	-.4314	-.4314	0	%100
20	M18	Z	.2491	.2491	0	%100
21	M19	X	-.5802	-.5802	0	%100
22	M19	Z	.335	.335	0	%100
23	M20	X	-.1525	-.1525	0	%100
24	M20	Z	.088	.088	0	%100
25	M23	X	-.1525	-.1525	0	%100
26	M23	Z	.088	.088	0	%100
27	M26A	X	-.8366	-.8366	0	%100
28	M26A	Z	.483	.483	0	%100
29	M27	X	-.1079	-.1079	0	%100
30	M27	Z	.0623	.0623	0	%100
31	M28	X	-.1451	-.1451	0	%100
32	M28	Z	.0837	.0837	0	%100
33	M29	X	-.1525	-.1525	0	%100
34	M29	Z	.088	.088	0	%100
35	M32	X	-.6098	-.6098	0	%100
36	M32	Z	.3521	.3521	0	%100
37	M35A	X	-.6296	-.6296	0	%100
38	M35A	Z	.3635	.3635	0	%100
39	M36	X	-.1574	-.1574	0	%100
40	M36	Z	.0909	.0909	0	%100
41	M35B	X	-.2073	-.2073	0	%100
42	M35B	Z	.1197	.1197	0	%100
43	M37	X	-.8294	-.8294	0	%100
44	M37	Z	.4789	.4789	0	%100
45	M38	X	-.2073	-.2073	0	%100



Member Distributed Loads (BLC 73 : Structure Wm (240 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
46	M38	Z	.1197	.1197	0	%100
47	M39	X	-.1422	-.1422	0	%100
48	M39	Z	.0821	.0821	0	%100
49	M40	X	-.1422	-.1422	0	%100
50	M40	Z	.0821	.0821	0	%100
51	M41	X	-.5688	-.5688	0	%100
52	M41	Z	.3284	.3284	0	%100
53	MP2A	X	-.6296	-.6296	0	%100
54	MP2A	Z	.3635	.3635	0	%100
55	MP3A	X	-.6296	-.6296	0	%100
56	MP3A	Z	.3635	.3635	0	%100
57	MP4A	X	-.6296	-.6296	0	%100
58	MP4A	Z	.3635	.3635	0	%100
59	MP1C	X	-.6296	-.6296	0	%100
60	MP1C	Z	.3635	.3635	0	%100
61	MP2C	X	-.6296	-.6296	0	%100
62	MP2C	Z	.3635	.3635	0	%100
63	MP3C	X	-.6296	-.6296	0	%100
64	MP3C	Z	.3635	.3635	0	%100
65	MP4C	X	-.6296	-.6296	0	%100
66	MP4C	Z	.3635	.3635	0	%100
67	MP1B	X	-.6296	-.6296	0	%100
68	MP1B	Z	.3635	.3635	0	%100
69	MP2B	X	-.6296	-.6296	0	%100
70	MP2B	Z	.3635	.3635	0	%100
71	MP3B	X	-.6296	-.6296	0	%100
72	MP3B	Z	.3635	.3635	0	%100
73	MP4B	X	-.6296	-.6296	0	%100
74	MP4B	Z	.3635	.3635	0	%100

Member Distributed Loads (BLC 74 : Structure Wm (270 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-1.2881	-1.2881	0	%100
2	M6	Z	0	0	0	%100
3	M7	X	0	0	0	%100
4	M7	Z	0	0	0	%100
5	M8	X	0	0	0	%100
6	M8	Z	0	0	0	%100
7	M16	X	0	0	0	%100
8	M16	Z	0	0	0	%100
9	MP1A	X	-.727	-.727	0	%100
10	MP1A	Z	0	0	0	%100
11	OVP	X	-.6625	-.6625	0	%100
12	OVP	Z	0	0	0	%100
13	M26	X	-.5281	-.5281	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	-.5281	-.5281	0	%100
16	M35	Z	0	0	0	%100
17	M17A	X	-.322	-.322	0	%100
18	M17A	Z	0	0	0	%100
19	M18	X	-.3736	-.3736	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	-.5025	-.5025	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	-.5281	-.5281	0	%100
24	M20	Z	0	0	0	%100



Member Distributed Loads (BLC 74 : Structure Wm (270 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
25	M23	X	0	0	0	%100
26	M23	Z	0	0	0	%100
27	M26A	X	-.322	-.322	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	-.3736	-.3736	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	-.5025	-.5025	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	0	0	0	%100
34	M29	Z	0	0	0	%100
35	M32	X	-.5281	-.5281	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	-.5453	-.5453	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	-.5453	-.5453	0	%100
40	M36	Z	0	0	0	%100
41	M35B	X	0	0	0	%100
42	M35B	Z	0	0	0	%100
43	M37	X	-.7183	-.7183	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	-.7183	-.7183	0	%100
46	M38	Z	0	0	0	%100
47	M39	X	-.4926	-.4926	0	%100
48	M39	Z	0	0	0	%100
49	M40	X	0	0	0	%100
50	M40	Z	0	0	0	%100
51	M41	X	-.4926	-.4926	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	-.727	-.727	0	%100
54	MP2A	Z	0	0	0	%100
55	MP3A	X	-.727	-.727	0	%100
56	MP3A	Z	0	0	0	%100
57	MP4A	X	-.727	-.727	0	%100
58	MP4A	Z	0	0	0	%100
59	MP1C	X	-.727	-.727	0	%100
60	MP1C	Z	0	0	0	%100
61	MP2C	X	-.727	-.727	0	%100
62	MP2C	Z	0	0	0	%100
63	MP3C	X	-.727	-.727	0	%100
64	MP3C	Z	0	0	0	%100
65	MP4C	X	-.727	-.727	0	%100
66	MP4C	Z	0	0	0	%100
67	MP1B	X	-.727	-.727	0	%100
68	MP1B	Z	0	0	0	%100
69	MP2B	X	-.727	-.727	0	%100
70	MP2B	Z	0	0	0	%100
71	MP3B	X	-.727	-.727	0	%100
72	MP3B	Z	0	0	0	%100
73	MP4B	X	-.727	-.727	0	%100
74	MP4B	Z	0	0	0	%100

Member Distributed Loads (BLC 75 : Structure Wm (300 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-.8366	-.8366	0	%100
2	M6	Z	-.483	-.483	0	%100
3	M7	X	-.1079	-.1079	0	%100



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

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Member Distributed Loads (BLC 75 : Structure Wm (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
4	M7	Z	-0.0623	-0.0623	0	%100
5	M8	X	-0.1451	-0.1451	0	%100
6	M8	Z	-0.0837	-0.0837	0	%100
7	M16	X	-0.1574	-0.1574	0	%100
8	M16	Z	-0.0909	-0.0909	0	%100
9	MP1A	X	-0.6296	-0.6296	0	%100
10	MP1A	Z	-0.3635	-0.3635	0	%100
11	OVP	X	-0.5738	-0.5738	0	%100
12	OVP	Z	-0.3313	-0.3313	0	%100
13	M26	X	-0.1525	-0.1525	0	%100
14	M26	Z	-0.088	-0.088	0	%100
15	M35	X	-0.6098	-0.6098	0	%100
16	M35	Z	-0.3521	-0.3521	0	%100
17	M17A	X	-0.8366	-0.8366	0	%100
18	M17A	Z	-0.483	-0.483	0	%100
19	M18	X	-0.1079	-0.1079	0	%100
20	M18	Z	-0.0623	-0.0623	0	%100
21	M19	X	-0.1451	-0.1451	0	%100
22	M19	Z	-0.0837	-0.0837	0	%100
23	M20	X	-0.6098	-0.6098	0	%100
24	M20	Z	-0.3521	-0.3521	0	%100
25	M23	X	-0.1525	-0.1525	0	%100
26	M23	Z	-0.088	-0.088	0	%100
27	M26A	X	0	0	0	%100
28	M26A	Z	0	0	0	%100
29	M27	X	-0.4314	-0.4314	0	%100
30	M27	Z	-0.2491	-0.2491	0	%100
31	M28	X	-0.5802	-0.5802	0	%100
32	M28	Z	-0.335	-0.335	0	%100
33	M29	X	-0.1525	-0.1525	0	%100
34	M29	Z	-0.088	-0.088	0	%100
35	M32	X	-0.1525	-0.1525	0	%100
36	M32	Z	-0.088	-0.088	0	%100
37	M35A	X	-0.1574	-0.1574	0	%100
38	M35A	Z	-0.0909	-0.0909	0	%100
39	M36	X	-0.6296	-0.6296	0	%100
40	M36	Z	-0.3635	-0.3635	0	%100
41	M35B	X	-0.2073	-0.2073	0	%100
42	M35B	Z	-0.1197	-0.1197	0	%100
43	M37	X	-0.2073	-0.2073	0	%100
44	M37	Z	-0.1197	-0.1197	0	%100
45	M38	X	-0.8294	-0.8294	0	%100
46	M38	Z	-0.4789	-0.4789	0	%100
47	M39	X	-0.5688	-0.5688	0	%100
48	M39	Z	-0.3284	-0.3284	0	%100
49	M40	X	-0.1422	-0.1422	0	%100
50	M40	Z	-0.0821	-0.0821	0	%100
51	M41	X	-0.1422	-0.1422	0	%100
52	M41	Z	-0.0821	-0.0821	0	%100
53	MP2A	X	-0.6296	-0.6296	0	%100
54	MP2A	Z	-0.3635	-0.3635	0	%100
55	MP3A	X	-0.6296	-0.6296	0	%100
56	MP3A	Z	-0.3635	-0.3635	0	%100
57	MP4A	X	-0.6296	-0.6296	0	%100
58	MP4A	Z	-0.3635	-0.3635	0	%100
59	MP1C	X	-0.6296	-0.6296	0	%100
60	MP1C	Z	-0.3635	-0.3635	0	%100



Member Distributed Loads (BLC 75 : Structure Wm (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
61	MP2C	X	-.6296	-.6296	0	%100
62	MP2C	Z	-.3635	-.3635	0	%100
63	MP3C	X	-.6296	-.6296	0	%100
64	MP3C	Z	-.3635	-.3635	0	%100
65	MP4C	X	-.6296	-.6296	0	%100
66	MP4C	Z	-.3635	-.3635	0	%100
67	MP1B	X	-.6296	-.6296	0	%100
68	MP1B	Z	-.3635	-.3635	0	%100
69	MP2B	X	-.6296	-.6296	0	%100
70	MP2B	Z	-.3635	-.3635	0	%100
71	MP3B	X	-.6296	-.6296	0	%100
72	MP3B	Z	-.3635	-.3635	0	%100
73	MP4B	X	-.6296	-.6296	0	%100
74	MP4B	Z	-.3635	-.3635	0	%100

Member Distributed Loads (BLC 76 : Structure Wm (330 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M6	X	-.161	-.161	0	%100
2	M6	Z	-.2789	-.2789	0	%100
3	M7	X	-.1868	-.1868	0	%100
4	M7	Z	-.3236	-.3236	0	%100
5	M8	X	-.2512	-.2512	0	%100
6	M8	Z	-.4352	-.4352	0	%100
7	M16	X	-.2726	-.2726	0	%100
8	M16	Z	-.4722	-.4722	0	%100
9	MP1A	X	-.3635	-.3635	0	%100
10	MP1A	Z	-.6296	-.6296	0	%100
11	OVP	X	-.3313	-.3313	0	%100
12	OVP	Z	-.5738	-.5738	0	%100
13	M26	X	0	0	0	%100
14	M26	Z	0	0	0	%100
15	M35	X	-.2641	-.2641	0	%100
16	M35	Z	-.4574	-.4574	0	%100
17	M17A	X	-.644	-.644	0	%100
18	M17A	Z	-1.1155	-1.1155	0	%100
19	M18	X	0	0	0	%100
20	M18	Z	0	0	0	%100
21	M19	X	0	0	0	%100
22	M19	Z	0	0	0	%100
23	M20	X	-.2641	-.2641	0	%100
24	M20	Z	-.4574	-.4574	0	%100
25	M23	X	-.2641	-.2641	0	%100
26	M23	Z	-.4574	-.4574	0	%100
27	M26A	X	-.161	-.161	0	%100
28	M26A	Z	-.2789	-.2789	0	%100
29	M27	X	-.1868	-.1868	0	%100
30	M27	Z	-.3236	-.3236	0	%100
31	M28	X	-.2512	-.2512	0	%100
32	M28	Z	-.4352	-.4352	0	%100
33	M29	X	-.2641	-.2641	0	%100
34	M29	Z	-.4574	-.4574	0	%100
35	M32	X	0	0	0	%100
36	M32	Z	0	0	0	%100
37	M35A	X	0	0	0	%100
38	M35A	Z	0	0	0	%100
39	M36	X	-.2726	-.2726	0	%100



Member Distributed Loads (BLC 76 : Structure Wm (330 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
40	M36	Z	-4722	-4722	0	%100
41	M35B	X	-3591	-3591	0	%100
42	M35B	Z	-622	-622	0	%100
43	M37	X	0	0	0	%100
44	M37	Z	0	0	0	%100
45	M38	X	-3591	-3591	0	%100
46	M38	Z	-622	-622	0	%100
47	M39	X	-2463	-2463	0	%100
48	M39	Z	-4266	-4266	0	%100
49	M40	X	-2463	-2463	0	%100
50	M40	Z	-4266	-4266	0	%100
51	M41	X	0	0	0	%100
52	M41	Z	0	0	0	%100
53	MP2A	X	-3635	-3635	0	%100
54	MP2A	Z	-6296	-6296	0	%100
55	MP3A	X	-3635	-3635	0	%100
56	MP3A	Z	-6296	-6296	0	%100
57	MP4A	X	-3635	-3635	0	%100
58	MP4A	Z	-6296	-6296	0	%100
59	MP1C	X	-3635	-3635	0	%100
60	MP1C	Z	-6296	-6296	0	%100
61	MP2C	X	-3635	-3635	0	%100
62	MP2C	Z	-6296	-6296	0	%100
63	MP3C	X	-3635	-3635	0	%100
64	MP3C	Z	-6296	-6296	0	%100
65	MP4C	X	-3635	-3635	0	%100
66	MP4C	Z	-6296	-6296	0	%100
67	MP1B	X	-3635	-3635	0	%100
68	MP1B	Z	-6296	-6296	0	%100
69	MP2B	X	-3635	-3635	0	%100
70	MP2B	Z	-6296	-6296	0	%100
71	MP3B	X	-3635	-3635	0	%100
72	MP3B	Z	-6296	-6296	0	%100
73	MP4B	X	-3635	-3635	0	%100
74	MP4B	Z	-6296	-6296	0	%100

Member Distributed Loads (BLC 87 : BLC 39 Transient Area Loads)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Locationft	End Locationft
1	M29	Y	-1.5372	-5.7579	0	.842
2	M29	Y	-5.7579	-6.5981	.842	1.6839
3	M29	Y	-6.5981	-4.0578	1.6839	2.5259
4	M32	Y	-3.0153	-5.4676	0	.6315
5	M32	Y	-5.4676	-6.1617	.6315	1.263
6	M32	Y	-6.1617	-4.7336	1.263	1.8944
7	M32	Y	-4.7336	-2.9416	1.8944	2.5259
8	M26	Y	-1.5387	-5.7559	0	.842
9	M26	Y	-5.7559	-6.5964	.842	1.6839
10	M26	Y	-6.5964	-4.0605	1.6839	2.5259
11	M35	Y	-3.0172	-5.4676	0	.6315
12	M35	Y	-5.4676	-6.1632	.6315	1.263
13	M35	Y	-6.1632	-4.7351	1.263	1.8944
14	M35	Y	-4.7351	-2.9381	1.8944	2.5259
15	M20	Y	-3.0153	-5.4676	0	.6315
16	M20	Y	-5.4676	-6.1617	.6315	1.263
17	M20	Y	-6.1617	-4.7336	1.263	1.8944
18	M20	Y	-4.7336	-2.9416	1.8944	2.5259



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 21777757
 Model Name : Antenna Mount Analysis

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Member Distributed Loads (BLC 87 : BLC 39 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
19	M23	Y	-1.5372	-5.7579	0	.842
20	M23	Y	-5.7579	-6.5981	.842	1.6839
21	M23	Y	-6.5981	-4.0578	1.6839	2.5259

Member Distributed Loads (BLC 88 : BLC 40 Transient Area Loads)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M29	Y	-4.0982	-15.3504	0	.842
2	M29	Y	-15.3504	-17.5904	.842	1.6839
3	M29	Y	-17.5904	-10.818	1.6839	2.5259
4	M32	Y	-8.0387	-14.5764	0	.6315
5	M32	Y	-14.5764	-16.4268	.6315	1.263
6	M32	Y	-16.4268	-12.6196	1.263	1.8944
7	M32	Y	-12.6196	-7.8423	1.8944	2.5259
8	M26	Y	-4.1022	-15.3449	0	.842
9	M26	Y	-15.3449	-17.5859	.842	1.6839
10	M26	Y	-17.5859	-10.8251	1.6839	2.5259
11	M35	Y	-8.0438	-14.5765	0	.6315
12	M35	Y	-14.5765	-16.4308	.6315	1.263
13	M35	Y	-16.4308	-12.6235	1.263	1.8944
14	M35	Y	-12.6235	-7.8328	1.8944	2.5259
15	M20	Y	-8.0387	-14.5764	0	.6315
16	M20	Y	-14.5764	-16.4268	.6315	1.263
17	M20	Y	-16.4268	-12.6196	1.263	1.8944
18	M20	Y	-12.6196	-7.8423	1.8944	2.5259
19	M23	Y	-4.0982	-15.3504	0	.842
20	M23	Y	-15.3504	-17.5904	.842	1.6839
21	M23	Y	-17.5904	-10.818	1.6839	2.5259

Member Distributed Loads (BLC 89 : BLC 84 Transient Area Loads)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M29	Y	-.0621	-.2325	0	.842
2	M29	Y	-.2325	-.2665	.842	1.6839
3	M29	Y	-.2665	-.1639	1.6839	2.5259
4	M32	Y	-.1218	-.2208	0	.6315
5	M32	Y	-.2208	-.2488	.6315	1.263
6	M32	Y	-.2488	-.1912	1.263	1.8944
7	M32	Y	-.1912	-.1188	1.8944	2.5259
8	M26	Y	-.0621	-.2324	0	.842
9	M26	Y	-.2324	-.2664	.842	1.6839
10	M26	Y	-.2664	-.164	1.6839	2.5259
11	M35	Y	-.1218	-.2208	0	.6315
12	M35	Y	-.2208	-.2489	.6315	1.263
13	M35	Y	-.2489	-.1912	1.263	1.8944
14	M35	Y	-.1912	-.1187	1.8944	2.5259
15	M20	Y	-.1218	-.2208	0	.6315
16	M20	Y	-.2208	-.2488	.6315	1.263
17	M20	Y	-.2488	-.1912	1.263	1.8944
18	M20	Y	-.1912	-.1188	1.8944	2.5259
19	M23	Y	-.0621	-.2325	0	.842
20	M23	Y	-.2325	-.2665	.842	1.6839
21	M23	Y	-.2665	-.1639	1.6839	2.5259

Member Distributed Loads (BLC 90 : BLC 85 Transient Area Loads)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M29	Z	-.1549	-.5802	0	.842



Member Distributed Loads (BLC 90 : BLC 85 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
2	M29	Z	-.5802	-.6649	.842	1.6839
3	M29	Z	-.6649	-.4089	1.6839	2.5259
4	M32	Z	-.3038	-.551	0	.6315
5	M32	Z	-.551	-.6209	.6315	1.263
6	M32	Z	-.6209	-.477	1.263	1.8944
7	M32	Z	-.477	-.2964	1.8944	2.5259
8	M26	Z	-.1551	-.58	0	.842
9	M26	Z	-.58	-.6647	.842	1.6839
10	M26	Z	-.6647	-.4092	1.6839	2.5259
11	M35	Z	-.304	-.551	0	.6315
12	M35	Z	-.551	-.6211	.6315	1.263
13	M35	Z	-.6211	-.4771	1.263	1.8944
14	M35	Z	-.4771	-.2961	1.8944	2.5259
15	M20	Z	-.3038	-.551	0	.6315
16	M20	Z	-.551	-.6209	.6315	1.263
17	M20	Z	-.6209	-.477	1.263	1.8944
18	M20	Z	-.477	-.2964	1.8944	2.5259
19	M23	Z	-.1549	-.5802	0	.842
20	M23	Z	-.5802	-.6649	.842	1.6839
21	M23	Z	-.6649	-.4089	1.6839	2.5259

Member Distributed Loads (BLC 91 : BLC 86 Transient Area Loads)

	Member Label	Direction	Start Magnitude	End Magnitude	Start Location[ft]	End Location[ft]
1	M29	X	.1549	.5802	0	.842
2	M29	X	.5802	.6649	.842	1.6839
3	M29	X	.6649	.4089	1.6839	2.5259
4	M32	X	.3038	.551	0	.6315
5	M32	X	.551	.6209	.6315	1.263
6	M32	X	.6209	.477	1.263	1.8944
7	M32	X	.477	.2964	1.8944	2.5259
8	M26	X	.1551	.58	0	.842
9	M26	X	.58	.6647	.842	1.6839
10	M26	X	.6647	.4092	1.6839	2.5259
11	M35	X	.304	.551	0	.6315
12	M35	X	.551	.6211	.6315	1.263
13	M35	X	.6211	.4771	1.263	1.8944
14	M35	X	.4771	.2961	1.8944	2.5259
15	M20	X	.3038	.551	0	.6315
16	M20	X	.551	.6209	.6315	1.263
17	M20	X	.6209	.477	1.263	1.8944
18	M20	X	.477	.2964	1.8944	2.5259
19	M23	X	.1549	.5802	0	.842
20	M23	X	.5802	.6649	.842	1.6839
21	M23	X	.6649	.4089	1.6839	2.5259

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N54	N58	N60	N56	Y	Two Way	-.0052
2	N64A	N52A	N54A	N66A	Y	Two Way	-.0052
3	N43	N39A	N41	N45	Y	Two Way	-.0052

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N54	N58	N60	N56	Y	Two Way	-.0139



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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
2	N64A	N52A	N54A	N66A	Y	Two Way	-.0139
3	N43	N39A	N41	N45	Y	Two Way	-.0139

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N54	N58	N60	N56	Y	Two Way	-.00021
2	N64A	N52A	N54A	N66A	Y	Two Way	-.00021
3	N43	N39A	N41	N45	Y	Two Way	-.00021

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N54	N58	N60	N56	Z	Two Way	-.000524
2	N64A	N52A	N54A	N66A	Z	Two Way	-.000524
3	N43	N39A	N41	N45	Z	Two Way	-.000524

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N54	N58	N60	N56	X	Two Way	.000524
2	N64A	N52A	N54A	N66A	X	Two Way	.000524
3	N43	N39A	N41	N45	X	Two Way	.000524

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	N13	1287.876	10	2976.439	13	1971.09	1	8.528	13	2.182	4	.457	16
2		-1286.488	4	687.529	70	-2541.042	7	1.404	7	-2.179	10	-.214	9
3	N31	1707.367	9	2726.011	21	1118.486	3	-.737	3	1.833	12	-1.367	3
4		-2202.23	3	644.499	66	-835.263	9	-3.788	21	-1.83	6	-7.158	21
5	N46	1940.472	11	2722.366	17	1587.471	1	-.856	11	1.992	8	6.844	17
6		-1447.208	5	647.172	74	-1301.183	7	-4.28	17	-1.989	2	1.379	11
7	Totals:	4685.739	10	8189.173	22	4667.491	1						
8		-4685.741	4	2032.18	67	-4667.489	7						

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

Member	Shape	Code Check	Lo...	LC	Shear Check	Lo.....	LC	phi*Pnc	phi*Pnt	phi*Mn y	phi*Mn...	Cb	Eqn				
1	M6	HSS5X3X6	.361	0	16	.069	0	y	15	161080...	197892	17.595	25.323	2.719	H1-...		
2	M7	HSS3.50...	.083	.792	7	.101	.792		20	84594.0...	86112	7.555	7.555	1.321	H1-...		
3	M8	HSS3.50...	.271	2....	15	.132	3.81		17	76390.14	86112	7.555	7.555	1.361	H1-...		
4	M16	HSS3.50...	.128	3....	14	.064	11...		14	28515.15	86112	7.555	7.555	2.533	H1-...		
5	MP1A	PIPE_2.0	.280	4	24	.059	4		8	14916.0...	32130	1.872	1.872	1.906	H1-...		
6	OVP	PIPE_2.0	.191	3	1	.019	3		1	26521.4...	32130	1.872	1.872	1.364	H1-...		
7	M26	L1.5x1.5x4	.129	1.21	15	.018	0		z	19	12632.1...	22275	.36	.834	1.735	H2-1	
8	M35	L1.5x1.5x4	.150	2....	22	.021	2....		y	22	12632.1...	22275	.36	.834	1.145	H2-1	
9	M17A	HSS5X3X6	.342	0	24	.057	0		y	22	161080...	197892	17.595	25.323	2.666	H1-...	
10	M18	HSS3.50...	.088	.792	3	.102	.792			16	84594.0...	86112	7.555	7.555	1.306	H1-...	
11	M19	HSS3.50...	.274	2....	23	.131	3.81			13	76390.14	86112	7.555	7.555	1.366	H1-...	
12	M20	L1.5x1.5x4	.129	1....	23	.019	0			z	14	12632.1...	22275	.36	.834	1.685	H2-1
13	M23	L1.5x1.5x4	.152	2....	18	.021	2....			y	18	12632.1...	22275	.36	.834	1.146	H2-1
14	M26A	HSS5X3X6	.343	0	20	.061	0			y	31	161080...	197892	17.595	25.323	2.666	H1-...
15	M27	HSS3.50...	.083	.792	11	.101	.792			24	84594.0...	86112	7.555	7.555	1.333	H1-...	
16	M28	HSS3.50...	.273	2....	19	.131	3.81			21	76390.14	86112	7.555	7.555	1.365	H1-...	
17	M29	L1.5x1.5x4	.131	1.21	19	.018	0			z	23	12632.1...	22275	.36	.834	1.69	H2-1
18	M32	L1.5x1.5x4	.151	2....	14	.021	2....			y	14	12632.1...	22275	.36	.834	1.145	H2-1



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 2177757
 Model Name : Antenna Mount Analysis

Sept 18, 2023
 5:23 PM
 Checked By: _____

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

Member	Shape	Code Check	Lo...	LC	Shear Check	Lo.....	LC	phi*Pnc	phi*Pnt	phi*Mn y	phi*Mn...	Cb	Eqn	
19	M35A	HSS3.50...	.128	3...	22	.063	11...	22	28515.15	86112	7.555	7.555	2.526	H1-...
20	M36	HSS3.50...	.130	3...	17	.063	11...	18	28515.15	86112	7.555	7.555	2.533	H1-...
21	M35B	HSS2.37...	.123	4...	16	.044	11...	7	6295.422	41400	2.46	2.46	3.161	H1-...
22	M37	HSS2.37...	.124	4...	13	.045	11...	3	6295.422	41400	2.46	2.46	3.151	H1-...
23	M38	HSS2.37...	.124	4...	21	.044	11...	11	6295.422	41400	2.46	2.46	3.137	H1-...
24	M39	HSS2.37...	.068	1...	7	.074	0	2	39646.7...	41400	2.46	2.46	1.136	H1-...
25	M40	HSS2.37...	.069	1...	3	.072	0	10	39646.7...	41400	2.46	2.46	1.136	H1-...
26	M41	HSS2.37...	.070	1...	11	.070	0	6	39646.7...	41400	2.46	2.46	1.136	H1-...
27	MP2A	PIPE_2.0	.447	4	1	.131	4	11	14916.0...	32130	1.872	1.872	1.854	H1-...
28	MP3A	PIPE_2.0	.239	4	1	.044	4	7	14916.0...	32130	1.872	1.872	1.836	H1-...
29	MP4A	PIPE_2.0	.293	4	14	.050	2....	5	14916.0...	32130	1.872	1.872	1.9	H1-...
30	MP1C	PIPE_2.0	.278	4	20	.059	4	4	14916.0...	32130	1.872	1.872	1.382	H1-...
31	MP2C	PIPE_2.0	.450	4	9	.135	4	7	14916.0...	32130	1.872	1.872	1.892	H1-...
32	MP3C	PIPE_2.0	.238	4	8	.043	4	3	14916.0...	32130	1.872	1.872	1.609	H1-...
33	MP4C	PIPE_2.0	.291	4	22	.052	2....	1	14916.0...	32130	1.872	1.872	1.725	H1-...
34	MP1B	PIPE_2.0	.277	4	16	.058	4	12	14916.0...	32130	1.872	1.872	1.605	H1-...
35	MP2B	PIPE_2.0	.441	4	4	.135	4	3	14916.0...	32130	1.872	1.872	1.842	H1-...
36	MP3B	PIPE_2.0	.241	4	4	.041	4	11	14916.0...	32130	1.872	1.872	1.735	H1-...
37	MP4B	PIPE_2.0	.290	4	18	.052	2....	9	14916.0...	32130	1.872	1.872	1.406	H1-...

I. Mount-to-Tower Connection Check

<u>Custom Orientation Required</u>	No
<u>Tower Connection Bolt Checks</u>	Yes
<u>Bolt Orientation</u>	Parallel
Bolt Quantity per Reaction:	4
d_x (in) (Delta X of typ. bolt config. sketch) :	7
d_y (in) (Delta Y of typ. bolt config. sketch) :	7
Bolt Type:	A325N
Bolt Diameter (in):	0.75
Required Tensile Strength / bolt (kips):	7.5
Required Shear Strength / bolt (kips):	1.0
Tensile Capacity / bolt (kips):	29.8
Shear Capacity / bolt (kips):	17.9
Bolt Overall Utilization:	25.0%
<u>Tower Connection Baseplate Checks</u>	No

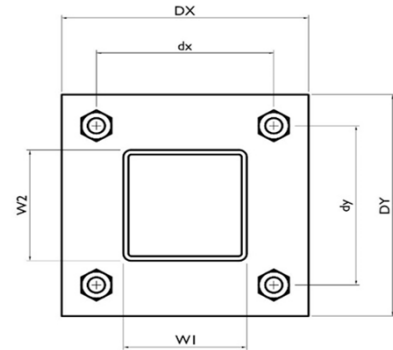
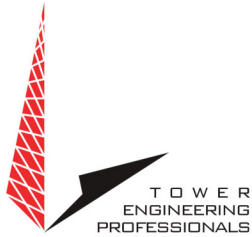


EXHIBIT 5





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Non-Ionizing Electromagnetic Radiation (NIER) Study

Site Number:

302481

Site Name:

Hrfr - South

Location:

Hartford Connecticut

Tenants:

AT&T Mobility, T-Mobile, Dish Wireless, & Verizon Wireless

Prepared For:

American Tower, Inc.
Woburn, Massachusetts

December 20th, 2023

68513 P-415177

Prepared By:

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

Approved By:

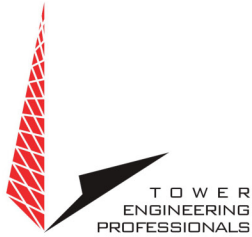
A circular professional engineer seal for the State of Connecticut, featuring the text "STATE OF CONNECTICUT", "SCOTT C. BRANTLEY", "15538", and "LICENSED PROFESSIONAL ENGINEER". A blue ink signature is written over the seal, and the date "12/22/23" is written in blue ink to the right of the seal.



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POWER DENSITY CALCULATIONS.....	4
SITE MITIGATION & CONTROL	5
COMPLIANCE DETERMINATION.....	5
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APPENDIX 2.2 ANTENNA INVENTORY	8
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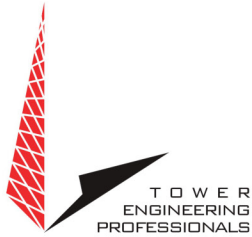
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Non-Ionizing Electromagnetic Radiation (NIER) Study

302481 Hrfr - South
Hartford 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 302481 Hrfr - South is located at 289 Mountain St., in Hartford Connecticut at coordinates 41.726592, -72.708190. The support structure is a 110' 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), T-Mobile (T-Mobile), & 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 200' from the base of the tower with a height of 6' above ground level was used, beyond 200' 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 302481 Hrfr - South.RF NIER Study 12/1/23.
- 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.

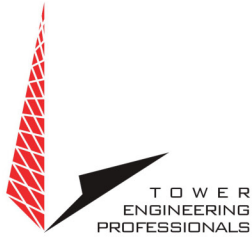
TEP recommends that all personnel working on this tower be trained in RF safety procedures and carry a personal RF monitor at all times.

COMPLIANCE DETERMINATION

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

APPENDIX 1 Site Photos

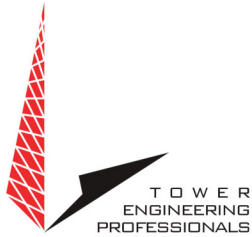




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Appendix 2.1 Antenna Inventory

302481 Hrfr - South							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azimuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
1	AT&T	Ericsson	Air 6419	3600-3900	010	70300	104.0
2	AT&T	Ericsson	Air 6419	3600-3900	130	70300	104.0
3	AT&T	Ericsson	Air 6419	3600-3900	250	70300	104.0
4	AT&T	CCI	OPA-65R-LCUU	Unknown	239	10522	102.6
5	AT&T	CCI	OPA-65R-LCUU	Unknown	144	10522	102.6
6	AT&T	CCI	DMP65R-BU8DA	700/800/2100	010	36002	137.0
7	AT&T	CCI	DMP65R-BU6DA	700/800/2100	010	36002	137.0
8	AT&T	CCI	DMP65R-BU6DA	700/800/2100	010	36002	137.0
9	AT&T	Quintel	QD8616-7	700/1900/2100/	010	42370	102.0
10	AT&T	Quintel	QD8616-7	700/1900/2100/	130	42370	102.0
11	AT&T	Quintel	QD8616-7	700/1900/2100/	250	42370	102.0
12	AT&T	Ericsson	Air 6449	3600-3900	010	70300	100.0
13	AT&T	Ericsson	Air 6449	3600-3900	130	70300	100.0
14	AT&T	Ericsson	Air 6449	3600-3900	250	70300	100.0
15	T-Mobile	Ericsson	Air6449	2500-2700	060	24400	90.0
16	T-Mobile	Ericsson	Air6449	2500-2700	180	24400	90.0
17	T-Mobile	Ericsson	Air6449	2500-2700	270	24400	90.0
18	T-Mobile	RFS	APXVAARR24	600/700/1900	060	10543	90.0
19	T-Mobile	RFS	APXVAARR24	600/700/1900	180	10543	90.0
20	T-Mobile	RFS	APXVAARR24	600/700/1900	270	10543	90.0
21	T-Mobile	Ericsson	Air32	2100	060	14356	90.0
22	T-Mobile	Ericsson	Air32	2100	180	14356	90.0
23	T-Mobile	Ericsson	Air32	2100	270	14356	90.0
24	T-Mobile	Ericsson	Air32	1900/2100	060	14356	90.0
25	T-Mobile	Ericsson	Air32	1900/2100	180	14356	90.0
26	T-Mobile	Ericsson	Air32	1900/2100	270	14356	90.0

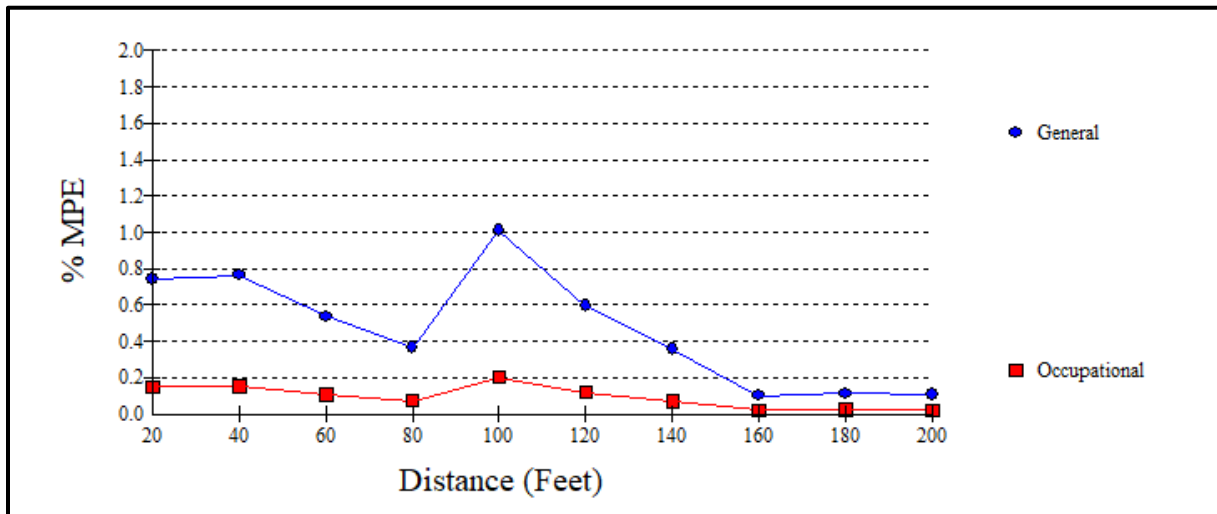


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Appendix 2.2 Antenna Inventory

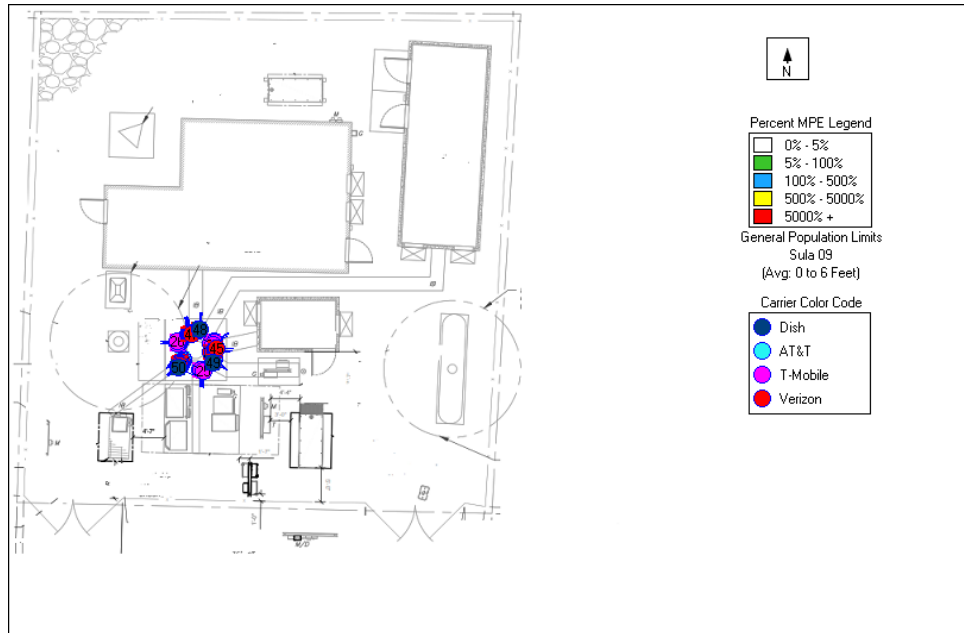
302481 Hrfr - South							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azimuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
27	Verizon	Samsung	MT6407-77A	3700-3900	030	18286	80.0
28	Verizon	Samsung	MT6407-77A	3700-3900	180	18286	80.0
29	Verizon	Samsung	MT6407-77A	3700-3900	270	18286	80.0
30	Verizon	Samsung	CBRS 20W	3700-3900	090	243	80.0
31	Verizon	Samsung	CBRS 20W	3700-3900	220	243	80.0
32	Verizon	Samsung	CBRS 20W	3700-3900	350	243	80.0
33	Verizon	Commscope	JAHH-65B-R3B	700/800/1900/2100	090	32167	80.0
34	Verizon	Commscope	JAHH-65B-R3B	700/800/1900/2100	220	32167	80.0
35	Verizon	Commscope	JAHH-65B-R3B	700/800/1900/2100	350	32167	80.0
36	Verizon	Commscope	JAHH-65B-R3B	700/800/1900/2100	090	32167	80.0
37	Verizon	Commscope	JAHH-65B-R3B	700/800/1900/2100	220	32167	80.0
38	Verizon	Commscope	JAHH-65B-R3B	700/800/1900/2100	350	32167	80.0
39	Verizon	Commscope	NHHSS-65B	700/800/1900/2100	090	32167	80.0
40	Verizon	Commscope	NHHSS-65B	700/800/1900/2100	220	32167	80.0
41	Verizon	Commscope	NHHSS-65B	700/800/1900/2100	350	32167	80.0
42	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	090	32167	80.0
43	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	220	32167	80.0
44	Verizon	Commscope	NHH-65B-R2B	700/800/1900/2100	350	32167	80.0
45	Verizon	Samsung	MT6413-77A	3700-3900	030	18286	80.0
46	Verizon	Samsung	MT6413-77A	3700-3900	180	18286	80.0
47	Verizon	Samsung	MT6413-77A	3700-3900	270	18286	80.0
48	Dish	JMA	MX08FRO665-21	600/1900/2100	000	48332	70.0
49	Dish	JMA	MX08FRO665-21	600/1900/2100	120	48332	70.0
50	Dish	JMA	MX08FRO665-21	600/1900/2100	240	48332	70.0

Appendix 3.1 MPE Limit Study



Maximum Power Density (@100'):	0.0062 mW/cm ²
General Population MPE (@100'):	1.0085%
Occupational MPE (@100'):	0.2017%

Appendix 3.2 MPE Limit Study





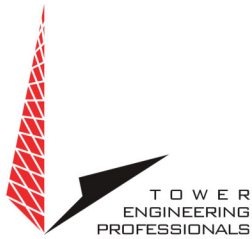
Appendix 4 Information Pertaining to MPE Studies

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.



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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.

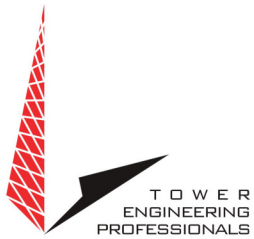


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Appendix 5 MPE Standards Methodology

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.

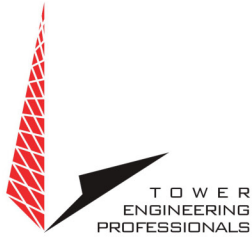


The FCC's limits for exposure at different frequencies are shown in the following Tables.

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.

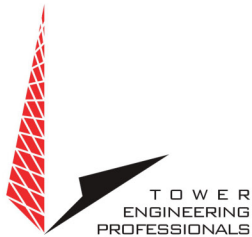
Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	180/F ²	30
30 -300	27.5	0.073	0.2	30
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:

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

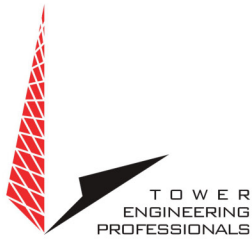
Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length



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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



AN APPLICATION SUBMITTED BY THE SOUTHERN : CONNECTICUT SITING
NEW ENGLAND TELEPHONE COMPANY FOR A :
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY : COUNCIL
AND PUBLIC NEED FOR THE CONSTRUCTION, :
MAINTENANCE, AND OPERATION OF FACILITIES :
TO PROVIDE CELLULAR SERVICE IN THE HARTFORD :
AND MIDDLESEX COUNTIES. : May 15, 1984

F I N D I N G S O F F A C T

1. Southern New England Telephone Company, (SNET), in accordance with provisions of sections 16-50g to 16-50z of Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on January 30, 1984, for a certificate of environmental compatibility and public need (certificate) for the construction, maintenance, and operation of six telecommunications towers and associated equipment buildings in the towns of Middletown (alternate Berlin), Middlefield, South Windsor, Hartford, East Hartford, and Southington, Connecticut, to provide Domestic Public Cellular Radio Telecommunication Service (cellular service). (Record)
2. The fee as prescribed by section 16-50v-1 of the Regulations of Connecticut State Agencies (RSA) accompanied the application. (Record)
3. The application was accompanied by proof of service as required by section 16-50l of the CGS. (Record)
4. Affidavits of newspaper notice as required by Statute and section 16-50l-1 of the RSA were also filed with the application. (Record)
5. Pursuant to section 16-50m of the CGS, the Council, after giving due notice thereof, held public hearings in the Middlefield Town Hall in Middlefield, Connecticut, at 7:15 P.M. on March 21, 1984, and in the South Windsor Town Hall in South Windsor, Connecticut, at 7:00 P.M. on March 22, 1984. (Record)

6. The parties to the proceeding are the applicant, SNET, and those persons and organizations whose names are listed in the Decision and Order which accompanies these findings. (Record)
7. The following state agencies filed written comments with the Council pursuant to section 16-50j of the CGS: the Department of Economic Development (DED), the Department of Environmental Protection (DEP), and the Department of Transportation (DOT). (Record)
8. The Council took administrative notice of its record in Docket 35, in which the application was rejected without prejudice. (Record)
9. The Council visited the Southington, Hartford, and East Hartford sites on September 27, 1983, and held public hearings on September 29 and 30, 1984, in New Britain. (Record)
10. On March 21, 1984, members of the Council and its staff made an inspection of the proposed sites in Middlefield, Middletown, and the alternate site in Berlin. On March 22, 1984, members of the Council and its staff made an inspection of the proposed and alternate sites in South Windsor. (Record)
11. On September 27, 1983, members of the Council and its staff made an inspection of the proposed sites in Southington, Hartford, and East Hartford. (Record)
12. Cellular service consists of small overlapping broadcast regions, 2-10 miles in diameter, known as cells. Each cell is served by a transmitter limited by the Federal Communications Commission (FCC) to no more than 100 watts effective radiated power per channel. Each cell has a central switching point containing electronic apparatus uniting the cells into a system. Mobile units are

limited to a maximum of seven watts of transmitted power by the FCC. In the proposed system each cell would have a maximum of 45 channels. (SNET 6, Exhibit 1-II, pp. 5-8; Tr. 4/21/84, p. 53)

13. Each proposed cell site would have approximately the same equipment. A single story masonry structure measuring 20'x24' would house electronic equipment on each site. Each building would have one door and no windows. As the equipment operates automatically, no personnel would be stationed on-site. (SNET 6, Exhibit 1-V, pp. 1-2)
14. Sites would each have a driveway and space for one vehicle, with no parking lots. Shrubs would be planted around each site to reduce the buildings' visibility. Fences would be constructed around the tower site with security and fire alarms inside. (SNET 6, Exhibit 1-V, pp. 1-2)
15. Each tower would be a self-supporting hollow steel pole. Towers would measure 36" in diameter at the base, tapering to 14" at the top. The towers would range from 75 to 150 feet. The masts would be 12-sided and would be painted blue-gray to blend in with the sky. (SNET 6, Exhibit 1-V, pp. 1-4)
16. Each mast would support a 10' wide triangular platform at the top, which would hold a minimum of four and a maximum of six whip-type omnidirectional antennas. (SNET 6, Exhibit 1-V, pp. 1-4)
17. Each triangular platform would have two functions: support of the transmit and receive antennas; and support of directional antennas in the future, if and when such antennas were required to subdivide the cells. (SNET 6, Tr. 9/30/83, pp. 42-43)

18. The omnidirectional antennas would be 12' long and 3" in diameter. These antennas and the support platform would add 17' to the overall tower structure heights. (SNET 6, Exhibit 1-V, pp. 1-4)
19. The Federal Aviation Administration (FAA) has determined that none of the tower structures would present a hazard to air navigation. Therefore, no lights would be necessary on any of the proposed towers. (SNET 6, Exhibit 1-V, p. 4)
20. The antenna tower structures would have a wind loading design of 40 lbs. per square foot, which would withstand a basic wind speed of 125 mph. This design includes the additional load which would be created by a 2" radial ice build-up on the structure. (SNET 6, Exhibit 3, Q. 6; SNET Exhibit 13)
21. SNET has no plans to place equipment not related to cellular communications, such as microwave dishes, on the towers. (SNET 6, Tr. 9/29/83, p. 73)
22. Transmitters at the tower sites would broadcast in the frequency band of 880-890 MHz. (SNET 6, Exhibit 1-IV, p. 3)
23. For the purposes of cellular service construction permit applications, the FCC has defined a New England County Metropolitan Area (NECMA) consisting of Hartford, Tolland, and Middlesex counties. This Hartford NECMA is part of SNET's planned Cellular Geographic Service Area (CGSA) in Connecticut, which includes three NECMAs. Fairfield County and New Haven County constitute the other NECMAs within SNET's planned Connecticut CGSA. The Connecticut CGSA

- would include 17 cell sites as an integrated network. (SNET 6, Exhibit 1-III, pp. 2-3; SNET 6, CSC Exhibit 3; SNET 6, Tr. 9/29/83, p. 95)
24. SNET received FCC construction permits for the Hartford NECMA on December 8, 1983. (Tr. 3/21/84, p. 14)
 25. The planned system contains the fewest number of towers and cells possible for adequate coverage of the Connecticut CGSA. (SNET 6, Tr. 9/30/83, p. 23)
 26. The FCC requires that a licensee serve at least 75% of its licensed service area within three years of obtaining an operating license or risk losing the license. (SNET 6, Exhibit 1-VI(g), p. 2; SNET 6, CSC Exhibit 3; SNET 6, 9/30/83, pp. 30-34)
 27. Cellular service would be an improved mobile telephone service. To date, mobile telephone service has been regulated by the Connecticut Department of Public Utility Control (DPUC). Eventually, cellular service could replace the existing simplex mobile service. Cellular service has been classified by the FCC as a form of basic local exchange service, which would also be subject to DPUC regulation. (SNET 6, Exhibit 2, Q. 4; SNET 6, Tr. 9/29/83, p. 58; SNET 6, Tr. 9/30/83, pp. 4, 84)
 28. SNET has informed the FCC that it will seek DPUC direction regarding state franchise and/or other applicable state or local authorizations to implement and maintain a cellular service. (SNET 6, CSC Exhibit 3)
 29. In the United States, cellular service is now provided in the cities of Chicago; Washington, D.C.; Baltimore; and Indianapolis. (Tr. 3/21/84, p. 18)

30. Nationally, a public need exists to improve the present mobile telephone service, due to the current system's limited capacity, long waiting lists nationally, and poor quality service, which have created congested channels and long waiting times. (SNET 6, Exhibit 1-I, pp. 3-4; SNET 6, Exhibit 1-II, pp. 2-3; DOT Comments of 3/22/84)
31. SNET has 675 mobile customers who are being served by only five radio channels in the present simplex system in Connecticut. There are no customers waiting to obtain the present simplex mobile system service in the State of Connecticut. (SNET 6, Tr. 9/30/83, pp. 62-63)
32. The proposed coverage for all three Connecticut NECMA's would encompass approximately 77% of all Connecticut residences and approximately 82% of all Connecticut businesses located within the three NECMAs. (SNET 1-IV, p. 12; SNET 6, CSC Exhibit 3)
33. Monthly service costs could range from \$100 to \$130 in the three Connecticut NECMAs. Average monthly charges would be approximately \$150.00, including the leasing of mobile unit equipment. (SNET Exhibit 6, CSC Exhibit 3, Docket 35 Exhibit 3, Q. 33)
34. List prices for the mobile cellular automobile radio units generally range from \$2500 - \$3800 per unit. (Tr. 3/22/84, p. 162)
35. The greatest initial potential use of the cellular mobile system is in the business community. (SNET 6, Tr. 9/30/83, p. 60)
36. SNET has no plans to expand its system statewide but intends to apply to the FCC to expand into the Danbury and New London NECMAs

when they become available. Future expansion of the system would depend on demand. (SNET 6, Tr. 9/30/83, p. 57)

37. The FCC has established the technical standards for cellular service to insure the efficient use of the allotted frequency spectrum and to insure nationwide compatibility. (SNET 6, Exhibit 1-I, p. 4)
38. The FCC has preempted the states' regulation of cellular service in three major areas: technical standards, market structure, and state certification prior to federal application for a construction permit. (SNET 6, Exhibit 1-III, p. 4)
39. The FCC has reserved to the states jurisdiction with respect to charges, classifications, practices, services, facilities, and regulation of service by licensed carriers. (SNET 1-III, p. 8)
40. According to FCC rules, there will be two licenses awarded in each NECMA to provide competition. One will be awarded to a wireline company, the other to a non-wireline applicant. (SNET 1-I, p. 4)
41. The FCC defines a Reliable Service Contour as an area having a signal quality greater than or equal to 39 dbu as determined by the Carey method. This is the required method of estimating coverage for FCC permit applications. (SNET 6, Tr. 9/29/83, pp. 96-97)
42. Cell-splitting is a technique for accommodating the future growth of demand for cellular mobile service. It consists of adding a cell between existing cells, thus increasing the number of calls which can be handled in an area. Cell-splitting can be achieved

by the addition of cell sites containing lower power omnidirectional antennas, the conversion to directional antennas, or both. (SNET 6, Exhibit 1-II, p. 8)

43. Each new cell achieved by cell-splitting would require additional towers and/or associated equipment. (SNET 6, Exhibit 3, Q. 7)
44. An omnidirectional antenna is designed to radiate in 360 degrees, but may be blocked by part of the tower itself, thus causing an effect on its radio pattern known as shadowing. Terrain and buildings can also cause shadowing. (SNET 6, Tr. 9/30/83, pp. 14-18)
45. Shadowing in urban areas can be reduced by overlapping coverage from two cell sites. Such overlapping of coverage fills in holes from shadowing and increases the possible number of simultaneous conversations. (SNET 6, Tr. 9/30/83, pp. 18-19)
46. The potential for intermodulation interference and shadowing may be significant when antennas are located on the same tower. (SNET 6, Exhibit 1-IV, p. 7)
47. SNET investigated the possibility of mounting antennas on existing towers which were not identified. Such existing towers were deemed not suitable, generally because they were of insufficient height. SNET investigated roof tops as antenna sites. If other antennas are already on a roof top, antenna spacing and intermodulation interference are major concerns. (SNET 6, Exhibit 1-IV, pp. 6, 11; SNET 6, Tr. 9/29/83, pp. 74-75)
48. SNET is willing to consider sharing of the proposed facilities, on a case by case basis, with public or private entities including

competing cellular companies. (SNET 6, Tr. 9/30/83, pp. 59, 106; Tr. 3/22/84, p. 173)

49. If for some reason cellular mobile service is not provided or ceases, SNET would assume the responsibility of dismantling the proposed towers. (SNET 6, Tr. 9/30/83, p. 92)
50. The Hartford NECMA system could be constructed and operated even if SNET were unable to operate any other of the proposed NECMA systems. (Tr. 3/21/84, p. 48)
51. In order for the cellular mobile system to work, there must be a close inter-relationship between the cell sites. (SNET 6, Tr. 9/29/83, p. 67)
52. As the first step in the site selection process, SNET considered the state as a whole and determined where within the state cellular coverage was needed, where the population centers were located, and where cellular service should be offered first. The next step was the identification of locations for sites, given the restriction of the inter-relationships between sites. This resulted in a grid. (SNET 6, Tr. 9/29/83, pp. 91-92)
53. The cellular grid forms the foundation for the entire design of SNET's system. This design would also allow for an orderly expansion of the system in the future. SNET next identified areas which would be compatible with the grid design. (SNET 6, Exhibit 1-IV, p.4; SNET 6, Tr. 9/30/83, p. 92)
54. A search area was created around individual grid points. Within each search area SNET first looked for areas of higher terrain which would require the lowest antenna heights. The environmental

considerations for each tower site included local housing; population density; land use; and proximity of historic, scenic, and recreational areas. Other factors considered in site selection were the impact of construction on the environment, the number of trees to be cut, how much fill would be required, and degree of screening by trees. SNET's final determination was whether land was available at reasonable cost. (SNET 6, Tr. 9/29/83, pp. 92-93; SNET 6, Tr. 9/30/83, pp. 12-13)

55. Computer modeling was used by SNET to predict cell site coverages. Modeling was also used to establish the antenna mast heights necessary at each site. Tower heights shorter than those proposed would degrade the performance of the system. (SNET 6, Exhibit 1-IV, p. 5; Tr. pp. 47-48, 190)
56. SNET could not eliminate a cell and still maintain its desired level of performance. (SNET 6, Tr. 9/30/83, p. 24)
57. The location of each of the 17 cells in the planned system affects the position of other sites on the grid. Although the search areas allow some flexibility, any relocation of a site may cause deficiencies which may require adjustment in adjacent cells. (SNET 6, Exhibit 1-IV, p. 3; SNET 6, Tr. 9/29/83, pp. 65, 92-95; SNET 6, Metromedia A. p. 4; SNET 6, Exhibit 3, Q. 20)
58. Use of an alternate site which did not substantially affect the proposed coverage area would not require SNET to file a major application with the FCC. (SNET 6, Exhibit 3, Q. 28)
59. The deletion of a tower from a proposed service area system could have an effect not only upon the system for which a license is sought, but also on other adjacent systems because of technical

- characteristics of cellular development. (SNET 6, Metromedia A, pp. 4-5)
60. The State Historic Preservation Officer concluded that the sites in this application would have no effect on the state's historic, architectural, or archaeological resources. (SNET 5; SNET 6)
 61. The construction of the proposed facilities would not contribute any significant air, water, or noise pollution. (SNET 1-VI, pp. 7-9)
 62. For the frequency range to be used by these proposed facilities, the American National Standards Institute (ANSI) advisory guideline for radiofrequency electromagnetic radiation (RFER) exposure is approximately 3 milliwatts per square centimeter. The exact standard is determined in this frequency range by dividing the frequency by 300. (SNET 6, CSC Exhibit 2; SNET 6, Tr. 9/30/83, pp. 76-77)
 63. The future addition of directional antennas would not change the expected levels of electromagnetic power densities. (Docket 35 Tr. 9/30/83, p. 78)
 64. The power densities at these tower sites would be approximately 100 times lower than the present American National Standards Institute (ANSI) standard. Figures calculated by SNET for power densities were the worst case, and such conditions are expected only intermittently, if at all. (SNET 6, Tr. 9/30/83, pp. 76-77; SNET 6, DEP Comments of 9/15/83)
 65. None of the proposed or alternate sites in this application appear to be the preferred habitat of any rare and/or endangered species, according to the DEP. (SNET Exhibit 3, Q. 4)

66. Cell site construction would take place during normal daytime working hours. (Tr. 3/22/84)
67. The proposed Southington tower site is located on Shuttle Meadow Road and owned by Frank E. Rogers of Long Bottom Road in Southington, Connecticut. This proposed site is a 100'x75' parcel, wooded, primarily level, and borders an apple orchard. It is located in a Residence-80 Zoning District. (SNET 6, Exhibit 1-VI, p. 1)
68. There are no residences near the Southington site, and surrounding properties are owned by the New Britain Water Company and Rogers Orchards. (SNET 6, Exhibit 1-VI, p. 3)
69. The elevation of the Southington site is 483' above mean sea level (AMSL) and the height of the proposed tower structure is 167'. (SNET 6, Exhibit 1-VI, p. 2)
70. Calculated RFER power density at the Southington site would be .01488 mW/cm² or less at the antenna mast base. (SNET 6, Exhibit 1-VI, p. 2)
71. The western slope of a nearby ridge and trees would mask the view of the Southington tower from Flanders Road. The orchard and densely forested properties in the area would reduce any silhouetting effect. The top of the tower would be visible along Long Bottom Road, but the view would fade rapidly. (SNET 6, DEP Comments of 9/15/83; SNET 6, Tr. 9/30/83, pp. 45-48)
72. An entire section of the Southington search area was not considered for potential sites in order to preserve scenic qualities of Sunset Rock State Park. (SNET 6, Exhibit 1-VI, p. 2; SNET 6, Tr. 9/30/83, p. 45)

73. Construction at the Southington site would include an 8' chain link fence, a 12' wide gravel and stone driveway, a 14' wide gate, clearance of a 10' wide area for tower construction, and the addition of a 4" thick layer of washed stone within the fence. (SNET 6, Exhibit 1-IV, p. 2)
74. The proposed Southington site is within a regulated wetland. (SNET 6, Exhibit 3, Q. 9)
75. In its grading and drainage plan, SNET proposes to remove all trees, brush, boulders, topsoil, and organic matter from the Southington site. Diversion ditches would be constructed to lead water flow around the site. (SNET 6, Exhibit 3, Q. 9; SNET 6, Exhibit 14 & 18)
76. Top soil stabilization and improved appearance could be achieved by loaming and seeding the Southington site after construction. (SNET 6, Exhibit 1-VI, p. 2)
77. SNET conducted preliminary studies of two alternate sites in the Southington search area, as requested by the Council. The New Britain Water Company replied to SNET that it would be very reluctant to open water company property for any other use. Mr. Frank Rogers offered to make available a larger parcel of land which would offer less visibility than the proposed Southington site, but the use of this site would require the removal of more trees than would be necessary in the original site plan. The incremental benefits from the use of either alternate site would be slight. (SNET 6, Exhibit 6, Int. Set No. 3, Q. 1)

78. The proposed Hartford tower site is located off Mountain Street, on property owned by the Metropolitan District (MD). (SNET 6, Exhibit 1-IV, p. 1)
79. The proposed Hartford site is a 100'x100' wooded tract, on property used by the MD as a water storage facility. The site consists of dry level ground and the MD property is completely enclosed by fencing with a locked gate. (SNET 6, Exhibit 1-VI, p. 1)
80. The Hartford site is zoned Residential-5 and surrounded by single family housing. (SNET 6, Exhibit 1-VI, p. 1)
81. The elevation of the Hartford site is 286' AMSL, and the proposed tower structure height is 117'. (SNET 6, Exhibit 1-VI, p. 1)
82. Based on calculations using conservative consumptions, the RFER power density at the Hartford site would be .03112 mW/cm² or less at the antenna mast base. (SNET 6, Exhibit 1-VI, p. 2)
83. During times of foliage, trees would provide close range screening of the Hartford tower, but the structure would be easily discernible from six homes in the nearby Avery Heights development. The tower would also be visible along Mountain Street, but views from the south would be screened by the water storage facility and Cedar Mountain. The tower would not be visible along Newington Avenue. (SNET 6, DEP letter of 9/15/83)
84. The proposed Hartford tower would probably be visible from at least a short portion of I-84, since that relatively flat area provides no screening between the highway and the proposed site. (SNET 6, Tr. 9/30/83, pp. 45-46)

85. SNET proposes to construct an 8' chain link fence around the Hartford tower site, a 14' wide double gate, and a 12' wide washed stone driveway. (SNET 6, Exhibit 1-VI, p. 1)
86. The proposed construction would not adversely affect the water supply adjacent to the Hartford site. (SNET 6, Exhibit 1-VI, p. 1)
87. The Hartford site location is advantageous because it is close to downtown Hartford and major inter-state highways. It is also isolated from the residential area around it. (SNET 6, Exhibit 1-VI, p. 1)
88. The principal environmental effect of the Hartford facility at the proposed site would be its visibility. (SNET 6, Exhibit 1-VI, p. 1)
89. The proposed East Hartford site is located on Prestige Park Road and is owned by Tolland Enterprises of 183 Prestige Park Road in East Hartford, Connecticut. (SNET 6, Exhibit 1-VI, p. 1)
90. The proposed East Hartford site is located within an industrial park which contains manufacturing, storage, and warehouse buildings. (SNET 6, Exhibit 1-VI, p. 1)
91. The properties adjacent to the East Hartford site include single family homes, and an abandoned house on an adjacent piece of property. (SNET 6, Tr. 9/29/83, pp. 120-122)
92. The East Hartford site is zoned Industrial-3, while the adjacent residential area is zoned R-2. (SNET 6, Exhibit 1-VI, p. 1)

93. SNET investigated two alternate sites within Prestige Industrial Park in the East Hartford search area. Alternate site No. 1 would generally increase the visibility of the tower structure. No other environmental advantages or disadvantages have been determined. Alternate site No. 2 is 1600' west of the proposed site. The availability and cost of this site are uncertain. No environmental advantages or disadvantages would result from the use of either alternate site. (SNET 6, Exhibit 6, Q. 1, p. 5)
94. The proposed East Hartford tower would have a visual impact on the area. (SNET 6, Tr. 9/29/83, pp. 106, 119)
95. A border of trees on the east side of the East Hartford site would reduce visibility of the lower portion of the tower from most houses on Goodwin Street. The tower would be clearly visible from the residence north of the site in the winter, and intermittently visible when trees are in leaf. Beyond the intersection of Goodwin Street with Prestige Park Road, the tower structure would not be visible. (SNET 6, DEP Comments of 9/15/83)
96. As part of the specifications, SNET proposes to add 2½" of new concrete to the East Hartford site, with a 4" processed stone base. An addition to the existing industrial building would be constructed on level, paved ground next to a railroad spur line. (SNET 6, Exhibit 1-VI, p. 1)
97. Except for some minor limb trimming, trees on the East Hartford site would be preserved. (SNET 6, Exhibit 1-VI, p. 1; Tr. 9/30/83, p. 50)

98. The elevation of the East Hartford site is 70' AMSL, and the proposed tower structure height is 167'. (SNET 6, Exhibit 1-VI, p. 2)
99. Based on calculations using conservative assumptions, the RFER power density for the East Hartford tower site would be .01488 mW/cm² or less at the antenna mast base. (SNET 6, Exhibit 1-VI, p. 2)
100. The proposed Middletown tower site is located on Atkins Street and owned by William Shepard of North Wales, Pennsylvania. This proposed site is a 50'x115' parcel, presently used as a cornfield. It is located in a R-1 residential zoning district. (SNET 1-VI, pp. 1-15)
101. There are no residences within 1200' of the proposed Middletown site. The surrounding land contains cultivated farmland and a gas transmission line. (SNET 1-VI, p. 22)
102. The elevation of the proposed Middletown site is 223' AMSL, and the height of the proposed tower structure is 167'. (SNET 1-VI, p. 28)
103. Calculated RFER power density at the proposed Middletown site would be 0.01488 mW/cm² or less at the antenna mast base. (SNET 1-VI, p. 23)
104. The proposed Middletown site would be exposed in open farmland and would be visible to homes on Middle Street 2300 feet away. Proximity to the Aetna complex would reduce the tower's visual impact. There are no wetlands or water courses on the proposed site. The tower would be intermittently visible from residences

- on Spruce Brook Road and Savage Hill Road. (DEP Comments, 3/20/84; SNET 3, Q. 12; SNET 1-VI, p. 32)
105. As an alternate to the Middletown site, SNET proposes a site on Beckley Road owned by John C. Matulis, 260 Beckly Road, Berlin. This site is a partially wooded, 1-acre lot at the edge of a grazing field, in an R-43 Residential Zone. (SNET 1-VI, p. 37)
 106. The alternate Berlin site is 1200 feet from the nearest Berlin Fair building, near a CL&P transmission lines and a CL&P Substation. (SNET 1-VI, p. 44)
 107. The elevation of this alternate site is 190 feet AMSL, and the height of the proposed tower structure is 167 feet. (SNET 1-Section VI, p. 37)
 108. The RFER power density at the alternate Berlin site would be 0.01488 mW/cm^2 or less at the antenna mast base. (SNET 1-VI, p. 45)
 109. Because it is less visible, SNET prefers the alternate Berlin site over the proposed Middletown site. (Tr. 3/21/84, p. 37)
 110. The tower at the alternate Berlin site would be visible from Beckley Road, from homes west of a nearby ridge line, and from homes to the east at a greater distance. The top of the mast might be visible from the Berlin Fair Grounds but not conspicuous. CL&P transmission lines would provide additional screening. (DEP Comments, 3/20/84)
 111. Construction might cause runoff to increase. Erosion control techniques would be used at the alternate Berlin site. Some trees and ground cover would be cleared, but SNET proposes to replant identical species. (SNET 1-VI, pp. 38-42)

112. Access to the alternate Berlin site would be adjacent to the existing transmission line right-of-way. (SNET 1-VI, p. 34)
113. The alternate Berlin site contains no wetlands although the access road would cross a designated inland wetland area. (DEP Comments, 3/20/84; SNET 12; Tr. 3/21/84)
114. The alternate Berlin site would provide coverage to major highways and intersections of I-91 with routes 9, 15, and 72. (SNET 1-VI, p. 50)
115. The proposed South Windsor site is located on Niederwerfer Road, on property owned by Kenneth E. Waldron, 2974 Ellington Road, South Windsor. This is a 120'x80' parcel of land containing some evergreen trees and is located within a Rural Residence zoning district. (SNET 1-VII, p. 14)
116. The proposed South Windsor site is flat and surrounded by agricultural lands, a wildlife sanctuary, and several residences. (SNET 1-VII, p. 14)
117. The elevation of the proposed South Windsor site is 370 feet AMSL, and the proposed tower structure height is 117'. (SNET 1-VII, p. 28)
118. The RFER power density at the South Windsor site would be 0.03112 mW/cm² or less at the antenna mast base. (SNET 1-VII, p. 23)
119. The proposed South Windsor tower would be visible from Idlenot Farm Sanctuary and from Niederwerfer Road. The top of the mast would be clearly visible from the South Windsor Wildlife Sanctuary and intermittently visible from Ellington Road. (SNET 6, DEP Comments, 9/15/83)

120. The western portion of the proposed South Windsor site, which would contain an access road, is within a town designated inland wetland area. (SNET 1-VII, p. 14; SNET 3, Q. 3)
121. SNET has identified an alternate location within the South Windsor search area, which would be less visible than the originally proposed location. (SNET 1-VII, p. 1)
122. The alternate South Windsor site is on a ridge 600 feet west of Niederwerfer Road. This 100'x100' parcel is heavily wooded and owned by Clifford W. and Carol B. Slicer, 391 Niederwerfer Road, South Windsor. This alternate site is within a Rural Residence zone district and abuts a wildlife sanctuary. (SNET 1-VII, p. 36)
123. The elevation of the alternate South Windsor site is 410 feet AMSL, and the proposed tower structure height is 75 feet. Because of the higher elevation, this proposed tower is 25 feet shorter than the originally proposed South Windsor tower. (SNET 1-VII, pp. 45, 51; SNET 2, Attachment 1, p. 1)
124. The RFER power density at the alternate South Windsor site would be 0.05158 mW/cm² or less at the antenna mast base. (SNET 2-VII, p. 45)
125. There are no regulated wetlands on the alternate South Windsor site, although the access road would pass through a regulated wetland. Access would involve the clearing of more brush than at the original proposed site. This tower would be visible to about a dozen homes on Niederwerfer Road. Nearby transmission lines would help shield this structure's visibility. Only the top portion of the tower would be visible above the trees. The tower would be intermittently visible along Niederwerfer Road from the

- junction with Ellington Road and Rockville Road. (DEP Comments, 3/20/84; SNET 3, Q. 3, 18)
126. The alternate South Windsor site would have less environmental impact and would be preferable to the original proposed South Windsor site. (SNET 1-VII, p. 51; Tr. 3/22/84, pp. 82, 94, 124)
 127. The South Windsor cell location would provide coverage to major roadways such as I-84, I-91, and Routes 5, 20, 30, and 74, as well as Bradley International Airport. (SNET 1-VII, p. 50)
 128. The proposed Middlefield site is located near the peak of Beseck Mountain on Kikapoo Road. The proposed site is owned by Joseph J. Vinci, Sr. of 1000 Neufield Street, Middletown, and is located in a residential zone. (SNET 1-VIII, pp. 13-14)
 129. The proposed Middlefield site is a 110'x220' parcel of undeveloped woodland. It is one half mile west of Beseck Lake. (SNET 1-VIII, p. 14)
 130. The elevation of the proposed Middlefield site is 778 feet AMSL. The proposed antenna mast height is 75 feet, a reduction of 25 feet from the original proposal. (SNET 1-VIII, pp. 1, 14, 23; SNET 2, Attachment 1, p. 1)
 131. The RFER power density at the proposed Middlefield site would be 0.05158 mW/cm² or less at the antenna mast base. (SNET 2-VIII, p. 23)
 132. Environmental impacts arising from the use of the proposed Middlefield site would be minimal. (DEP Comments, 3/20/84)
 133. The proposed Middlefield tower would be visible from the eastern side of Beseck Lake and Sections of Route 147. On the westerly side of Beseck Lake, the tower would be difficult to see because

- of tree screening. (Tr. 3/21/84, pp. 35-36; Tr. 3/22/84, pp. 177-178)
134. The proposed Middlefield site is near at least eight other antenna structures of various heights. (SNET 1-VIII, p. 22)
 135. The proposed Middlefield site would provide radio coverage to major roadways such as I-91, Routes 5, 9, 10, 15, 17, 66, 68, and 77, as well as various major industrial and business centers. (SNET 1-VIII, p. 1)
 136. The cost of constructing the facility at the Hartford site is estimated at \$675,200. (SNET 6, Exhibit 1-VI(f), p. 1)
 137. SNET has undertaken negotiations with the Hartford site owner granting the right to lease the site for 25 years, but lease costs have yet to be determined. (SNET 6, Exhibit 1-VI(f), p. 1)
 138. The cost of the East Hartford site construction, including engineering, material, and installation of equipment, is estimated at \$628,400. (SNET 6, Exhibit 1-VI(f), p. 1)
 139. An alternate East Hartford site located in the same industrial park as the proposed mast location was estimated at \$370,000 over a 25 year period. (SNET 6, Exhibit 6, Q. 1, p. 6)
 140. Additional leasing and other costs would add \$400,000 to the total cost of the alternate East Hartford site over a 25 year period. (SNET 6, Exhibit 6, Q. 1, p. 6)
 141. A second alternate East Hartford site is possible with a 25 year lease with 5-year renewable options. The total 25-year rental costs would be \$150,000. (SNET 6, Exhibit 6, p. 6)

142. The cost for the Southington site construction, including engineering, materials, and installation of equipment, is estimated at \$562,300. (SNET 6, Exhibit 1-VI(f), p. 1)

143. An alternate site adjacent to the proposed Southington site would cost an additional \$274,000 over the 25 year period of the lease. Other increased costs for this site would bring the total additional costs to \$300,000. (SNET 6, Exhibit 6, Q. 1, pp. 3-4)

144. Total cost for engineering, material, and installation for the Berlin alternate site is estimated at \$565,300, including

Radio equipment	\$ 38,200;
Antenna equipment	\$ 13,700;
Power and common equipment	\$318,900;
Land, building, mast	\$193,800; and
Miscellaneous	\$ 400.

(SNET 1-VI, p. 46)

145. The comparative estimated costs of undergrounding vs aerial utility service from the nearest utility pole to the facility building in Berlin are

Aerial cost	\$ 9,200; and
Underground cost	\$136,300.

(SNET 9, p. 1)

146. The total cost to construct the facility in Middlefield is estimated at \$554,100, including

Radio equipment	\$ 45,100;
Antenna equipment	\$ 11,000;
Power and common equipment	\$318,900;
Land, building, mast	\$178,700; and
Miscellaneous	\$ 400.

(SNET 1-VIII, p. 24)

147. The comparative estimated costs of undergrounding vs aerial utility service from the nearest utility pole to the facility

building in Middlefield are

Aerial cost	\$ 4,000; and
Undergrounding	\$14,320.

(SNET 9, p. 1)

148. The total construction cost including estimated engineering, material, and installation costs for the Middletown facility is estimated at \$565,300, including

Radio equipment	\$ 38,200;
Antenna equipment	\$ 13,700;
Land, building, mast	\$193,800;
Power and common equipment	\$318,900; and
Miscellaneous	\$ 400.

(SNET 1-VI, p. 24)

149. The costs associated with the engineering installation, and material for masts of varying heights as used in the cellular system are as follows:

	<u>Material</u>	<u>Installation</u>	<u>Total</u>
1. 150'	\$31,137	\$29,000	\$60,137
2. 100'	\$22,879	\$29,000	\$51,879
3. 75'	\$19,769	\$29,000	\$48,769
4. 60;	\$17,686	\$29,000	\$46,686

(SNET 8, p. 1)

150. The total cost to construct the facility at the original South Windsor site is estimated at \$619,300, including

Radio equipment	\$ 62,400;
Antenna equipment	\$ 12,800;
Land, building, mast	\$179,300;
Power and common equipment	\$364,200; and
Miscellaneous	\$ 600.

(SNET 1- VII, p. 24)

151. The total cost to construct the facility at the alternate location in South Windsor is estimated at \$624,300, including

Radio equipment	\$ 62,400;
Antenna equipment	\$ 12,800;
Power and common equipment	\$364,200;
Land, building, mast	\$184,300; and
Miscellaneous	\$ 600.

(SNET 1-VII, p. 46)

152. The comparative estimated costs of undergrounding vs aerial utility service from the nearest utility pole to the facility building at the alternate South Windsor site are

Aerial	\$ 6,000; and
Underground	\$72,430.

(SNET 9, p. 1)

153. The Berlin, Middlefield, Middletown, South Windsor original, and South Windsor alternate sites would have aerial electric and telephone lines with secondary lines underground as proposed by SNET. (SNET 3, Q. 2)

154. Electric and telephone lines for the East Hartford, Hartford, Middletown, Southington, and South Windsor original sites would be underground as proposed by SNET. (SNET 9, p. 1)

155. List prices for the mobile cellular automobile radio units generally range from \$2500 - \$3800 per unit. (Tr. 3/22/84, p. 162)

156. The terms of the leases at all the SNET sites include a land use agreement for 25 years. (Tr. 3/22/84, pp. 166-167)

EXHIBIT 7





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