



July 19, 2024

Melanie A. Bachman
Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

**RE: Notice of Exempt Modification // Site: Rocky Hill IV CT (ATC: 302479)
699 West Street, Rocky Hill, CT 06067
N 41.65176389 // W 72.66847222**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 12 antennas at the 90 -foot mount on the existing 100-foot monopole tower, located at 699 West Street, Rocky Hill, CT. The tower is owned by American Tower. The property is owned by The Connecticut Light and Power Co. Verizon Wireless facility was approved for colocation by the Council in 2008. Verizon Wireless now intends remove 3 of its existing antennas to replace with 6 new ones and install them for the LTE (3700 MHz) replacements for its 5G upgrade. Additionally, Verizon Wireless will remove 3 existing Antenna mounts and replace them with 3 side by side mounts, replace all remote radio head units (RRUs) with a total of 6 new RRUs, and remove 6 spare 1-5/8" Coax cables; altogether updating leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

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 Lisa Marotta, Mayor of Rocky Hill, its zoning enforcement officer, Kim Ricci, the tower owner, American Tower and the property owner The Connecticut Light and Power Co.

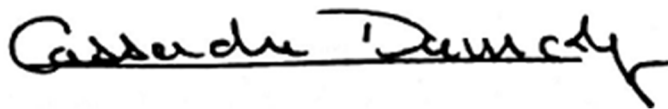
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated July 13, 2024 by American Tower Engineering Services, Inc., a structural analysis dated June 24, 2024 by A.T. Engineering Service, LLC, and a structural mount analysis by Colliers Engineering & Design, Architecture, Landscape Architecture, Surveying, CT dated June 12, 2024, and radio frequency

(RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

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 analyses by A.T. Engineering Service, PLLC, dated June 24, 2024 and structural mount analyses by Colliers Engineering & Design, Architecture, Landscape Architecture, Surveying, CT dated June 12, 2024 pursuant to certain conditions defined therein. Design and engineering is fully illustrated within final mount modification and construction drawings dated signed and stamped July 13, 2024.

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,

A handwritten signature in black ink, appearing to read "Cassandra Darmody", with a stylized flourish at the end.

Cassandra Darmody
Agent for American Tower
c/o Pyramid Network Services, LLC
6615 Towpath Road
East Syracuse, NY 13057
Cell (315) 569-9241
Fax (315) 445-0653

Attachments

Cc: Lisa Marrotta or Kim Ricci
Town of Rocky Hill
761 Old Main Street

Rocky Hill, CT 06067

Land Management

American Tower – as the tower owner

10 Presidential Way

Woburn, MA 01801

The Connecticut Power & Light Company - as property owner

PO Box 270, Hartford, CT 06141

266 Pearl St, Hartford, CT 06103

DOCKET NO. 151 - An application of Springwich Cellular Limited Partnership for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telephone telecommunications tower, associated equipment, and building in the Town of Rocky Hill, Connecticut. The facility is proposed to be constructed on property owned by the Connecticut Light and Power Company (CL&P) located on West Street, adjacent to the CL&P substation at Exit 23 off Route 91.

Connecticut
Siting
Council

August 18, 1992

Findings of Fact

Introduction

1. Springwich Cellular Limited Partnership (Springwich), in accordance with provisions of sections 16-50g through 16-50z of the Connecticut General Statutes (CGS) applied to the Connecticut Siting Council (Council) on March 20, 1992, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, operation, and maintenance of a telecommunications facility in the Town of Rocky Hill, Connecticut, to expand and improve cellular service in Hartford County within the Hartford New England County Metropolitan Area (NECMA). The proposed site would be within property owned by Connecticut Light and Power Company (CL&P) adjacent to the existing CL&P Rocky Hill Substation on West Street. (Springwich 1, Section I, p. 1)
2. Public notice of the application as required by CGS section 16-501(b) was published in the Hartford Courant and the Middletown Press on March 13 and 14, 1992. (Springwich 1, Section I, pp. 5 and 6)
3. Pursuant to CGS section 16-50m, after giving due notice thereof, the Council held a public hearing on the application on June 10, 1992, beginning at 3:00 P.M., and reconvening at 7:00 P.M., in Activity Room 1, Community Center, Church Street, Rocky Hill, Connecticut. (Council Hearing Notice, p. 1)
4. The Council and its staff made an inspection of the proposed site on June 10, 1992. (Council Hearing Notice, p. 3)

5. Pursuant to CGS 16-501(e), the Applicant provided a technical report to and consulted with public officials from the Town of Rocky Hill, Connecticut. (Springwich 1, Section VI, p. 29; Springwich 2; Springwich 5, Q. 15, Attachment pp. 3, 4)
6. On December 21, 1984, the Southern New England Telephone Company (SNET) received an operating license (radio station authorization) from the Federal Communications Commission (FCC) to construct and operate cellular telephone telecommunications facilities in the Hartford NECMA within which the Town of Rocky Hill is located. This license has subsequently been transferred to Springwich. (Springwich 1, Section I, p. 3; Springwich 1, Section VI, p. 27)
7. Radio station authorization from the FCC for the cell site in this application will be applied for by Springwich if a Certificate is granted in this application by the Council. (Springwich 1, Section I, p. 3)
8. The FCC has preempted state regulation of cellular telephone service in the areas of technical standards, market structure, and state certification prior to federal filing. In addition, the FCC has determined that there is a general public need for cellular service and applicants for cellular licenses are not required to demonstrate a general public need for cellular service to state regulators. (Springwich 1, p. 3; Springwich 1, Section III, pp. 3, 4)

Need

9. Cellular service consists of low power transmitter/receiver stations known as cell sites. Cell sites cover a geographic area typically two to ten miles in diameter. The cellular service system design allows for the configuration of cell sites so that the same frequencies can be used at the same time in different cells and uninterrupted service can be provided throughout a service area (hand-off). (Springwich 1, pp. 2, 3; Springwich 1, Section II, pp. 2, 3)
10. The proposed Rocky Hill facility would provide improved cellular coverage to Interstate 91 (I-91), Routes 3, 9, 15, 99, and 160, and the downtown area of Rocky Hill. The Rocky Hill facility would interconnect with existing adjacent facilities in Berlin, Portland, and Hartford (South) to provide hand-off and improved coverage to locations not presently served by these existing facilities. (Springwich 1, pp. 4, 5; Springwich 1, Section VI, pp. 1, 30; Springwich 5, Q. 1E; Springwich 6, Q. 24; Tr. 32-36, 81-91)

11. Areas along streets and roads, particularly in Rocky Hill, where coverages would be improved by service from the proposed facility, include:

Route 3	2.50 miles
Route 9	1.00 miles
Route 15	0.25 miles
Route 99	2.00 miles
Route 160	1.50 miles
Route I-91	4.50 miles

(Springwich 1, Section VI, p. 9; Springwich 5, Q. 1E, Springwich 6, Q. 24A)

12. The proposed Rocky Hill facility would also serve to relieve the Hartford (South) cell site, which handles overflow from the existing Hartford (Main) cell site, and occasionally experiences call blockage during peak calling hours. (Springwich 1, Section VI, p. 1)
13. The average and peak number of cellular calls experienced by the existing Hartford (South), Berlin, and Portland sites during March and April 1992, were as follows:

<u>Facility</u>	<u>Daily Average</u>	<u>Peak Hour</u>
Hartford (South)	8,234	815
Berlin	5,829	609
Portland	1,377	147

(Springwich 5, Q. 8)

14. The search area for the proposed facility contained approximately 750 acres (0.6 mile radius from the proposed site) and focused on the area near Exit 23 off I-91. Factors used by Springwich to determine a site location included a site of approximately one quarter acre in size, land availability, terrain, non-residentially used land, reasonable cost, and the need to cover specific areas in Rocky Hill without interference from other cell sites. (Springwich 1, Section VI, pp. 1-3; Springwich 5, Q. 4; Tr. 2, pp. 32-35)
15. No existing tower sites were within or adjacent to the proposed facility's search area. (Springwich 1, Section VI, p. 2; Springwich 3)

Tower and Antennas

16. A 100-foot self-supporting, steel monopole tower and an adjoining equipment building would be constructed on the proposed 50-foot by 70-foot tower site. The tower would be designed according to Electronic Industries Association Standard 222-D specifications to withstand 100 mile per hour (mph) winds with one half inch of radial ice. Without radial ice, the proposed tower could withstand 115 mph winds. The tower would be painted a blue-grey color to blend against the background of the sky. (Springwich 1, Section V, pp. 3, 4, 8; Springwich 1, Section VI, pp. 1, 4, 19, 22, 28; Springwich 5, Q. 11)
17. The tower would be designed to support a minimum of four and a maximum of six, 13-foot omni-directional whip antennas and one paging antenna on a triangular support structure. The antennas and support structure would add 20 feet to the overall tower height, making the total height of the proposed structure with all appurtenances 120 feet above ground level. (Springwich 1, Section V, pp. 3, 5; Springwich 1, Section VI, p. 20)
18. The fall zone of the proposed tower would lie entirely within CL&P's property which would remain undeveloped except for the proposed tower and Springwich's proposed equipment building. (Springwich 1, Section V, p. 4; Springwich 5, Q. 1C Attachment)

Power Densities

19. The proposed site would be a sectorized cell site using 45 cellular channels operating at 100 watts of effective radiated power, and one paging channel. (Springwich 1, Section II, p. 2; Springwich 1, Section III, p. 4; Springwich 1, Section VI, p. 3)
20. The calculated electromagnetic radio frequency power density at the base of the proposed tower, assuming all channels are operating simultaneously at maximum allowable power, would be 0.29705 mW/cm². The American National Standards Institute safe limit standard, as adopted by the State of Connecticut under CGS section 22a-162 for 880 MHz frequencies used by cellular facilities, is 2.933 mW/cm². (Springwich 1, Section IV, pp. 8, 9; Springwich 1, Section VI, p. 23)

Site Description

21. The proposed tower site is a 50-foot by 70-foot parcel located approximately 450 feet east of Exit 23 off I-91 and 165 feet north of West Street, Rocky Hill, within 12 acres of land owned by CL&P. The site is adjacent to and about 200 feet south of CL&P's Rocky Hill Substation, which provides electric service to the area. The tower site is located in a wooded area of the substation site

and is 203 feet above mean sea level. (Springwich 1, Section VI, pp. 1, 5, 8, 11, 12, 14, 15, 22, 28, 31; Springwich 5, Q. 1C Attachment, Q. 10 Attachment)

22. The nearest CL&P electric line cable serving the Rocky Hill Substation is approximately 130 feet west and north of the proposed site, and outside of the tower's fall zone. Springwich considered the proximity of the electric cables, structures, and substation in determining the location of the proposed facility. The proposed site's location is in compliance with CL&P's restrictions for use of the property. (Springwich 5, Q. 1D Attachment; Springwich 6, Q. 27; Tr. 1, pp. 14-16)
23. Springwich has obtained a preliminary agreement with CL&P for use of the CL&P property off West Street, Rocky Hill, to lease the proposed site location and obtain a right-of-way for access off West Street. (Springwich 1, Section VI, p. 25; Springwich 6, Q. 23)
24. The proposed cell site is located in a R-20 Residential zoning district. The nearest residence is 300 feet east of the site within the Raintree Condominium Associates, Inc. residential complex. There are 78 residences and a 251 room motel within a 1000-foot radius circle of the proposed site. (Springwich 1, Section VI, pp. 8, 12, 15; Springwich 5, Q. 3)
25. A drainage area parallel to the access road on the south side of the proposed site would collect site runoff; however, Springwich determined from Town of Rocky Hill Inland Wetland Maps that no wetland areas existed on the proposed site. (Springwich 5, Q. 1C and 1D; Department of Environmental Protection (DEP) letter, dated May 18, 1992; Tr. 1, pp. 16-19, 60-62)
26. Effects on the environment from construction and operation of the proposed facility would include site and driveway clearing, preparation of the driveway, grading of the proposed tower site, and tower visibility. (Springwich 1, Section VI, pp. 31, 32; DEP Letter, dated May 18, 1992, received May 20, 1992)
27. An existing paved road from West Street to the CL&P substation would be used to gain entrance to the CL&P property. An approximately 210-foot long by 12-foot wide accessway to the proposed tower site would be constructed along an unused driveway previously used by CL&P to access part of the substation. The driveway would be cleared of vegetation, existing blacktop removed, and the roadway graded and surfaced with a minimum of eight inches of gravel. Existing cable guide rails and posts would remain in place. (Springwich 1, Section VI, pp. 2, 11, 14, 18; Springwich 5, Q. 1D Attachment; Tr. 1, pp. 15, 17, 18)

28. A 12-foot by 26-foot, pre-fabricated one-story equipment building would be placed on the proposed site to house Springwiche cellular telephone equipment. The building would be heated and cooled electrically. Security and fire alarms would be installed in the equipment building. No water would flow into or out of the structure. An emergency generator could be used, but would not be permanently installed on-site. (Springwiche 1, Section V, pp. 1, 2, 6, 7; Springwiche 1, Section VI, pp. 1, 2, 11, 17, 19; Springwiche 5, Q. 12)
29. The proposed site would be enclosed by an eight-foot high chainlink fence topped with three strands of barbed wire. (Springwiche 1, Section VI, p. 31; Springwiche 5, Q. 10 Attachment)
30. Utility lines to the proposed equipment building would be buried along the accessway, a distance of approximately 260 feet from the nearest utility pole on West Street. No gas or water lines would be needed for the proposed facility. (Springwiche 1, Section VI, pp. 11, 14; Springwiche 5, Q. 1D Attachment)
31. The proposed site would be cleared of vegetation and boulders before construction of the proposed facility. An additional three to five feet of space outside the new fence would also be cleared for construction access. Springwiche would only clear the minimum number of trees necessary to construct the proposed facility. The enclosed area would be covered by one-inch crushed stone, four inches deep. (Springwiche 1, Section VI, p. 23; Springwiche 5, Q. 10 Attachment, Q. 13; Tr. 1, pp. 15, 16, 63)
32. Trees bordering the proposed tower site along West Street and toward the existing substation would provide a natural buffer to shield the proposed tower and equipment building. The tallest trees surrounding the proposed facility are about 80 feet in height. Springwiche would also plant shrubs along the West Street side of the site to help shield the proposed facility from view. (Springwiche 1, Section VI, pp. 21; Springwiche 5, Q. 1D Attachment, Springwiche 5, Q. 13; Tr. 1, p. 31)
33. Areas disturbed by construction would be landscaped, loamed, and seeded. Springwiche would use erosion and sedimentation controls, such as staked haybales, fabric barriers or culverts, to control runoff water during construction. Controls to collect and dispose of water runoff to existing drainage areas would be engineered in accordance with the Connecticut Soil and Erosion Control Guidelines. (Springwiche 1, Section V, pp. 2; Tr. 1, pp. 16-20)

34. The proposed tower would be visible to: Raintree Condominiums, east of the site; the Corporate Ridge building and the Marriott Hotel, south of the site; some homes along Silo Drive, Butternut Lane, Evergreen Place, Basswood Court, and Hickory Lane north of the site; three homes on West Street, east of the site; traffic on I-91 west of the site; and Century Executive Park, west of the site. (Springwich 6, Q. 26; DEP Letter, dated May 18, 1991, received May 20, 1992)
35. Three nearby 81-foot, 91-foot, and 132-foot high lattice steel towers supporting CL&P's transmission line are located west and north of the site. (Springwich 1, Section VI, pp. 31, 32; Springwich 5, Q. 1C, Attachment C; DEP Letter, dated May 18, 1992)
36. Springwich submitted a notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA) on October 9, 1991, for approval of a structure with a total height of 120 feet above ground level including all appurtenances, for the proposed site. (Springwich 1, Section VI, p. 28)
37. On November 8, 1991, the FAA determined that the proposed Rocky Hill tower is not an obstruction and would not be a hazard to air navigation. Obstruction marking and lighting under FAA regulations would not be necessary. (Springwich 1, Section VI, pp. 27, 28)
38. Construction of the proposed tower site would have no effect on Federally Endangered and Threatened Species or Connecticut Species of Special Concern. (Springwich 1, Section VI, p. 31; Springwich 3, Q. 21)
39. Construction of the proposed tower site would have no effect on any sites having historical significance in the area. (Springwich 3, Q. 22, p. 2)
40. Construction of the proposed tower site would have no effect on any State Park and Recreation Programs in the area including Dinosaur State Park. (Springwich 3, Q. 20, p. 8; DEP Letter, dated May 18, 1992, received May 20, 1992)

Tower Sharing

41. The proposed tower would be designed to accommodate the antennas of other users of the facility including the Town of Rocky Hill and CL&P. Preliminary discussions with CL&P and the Town of Rocky Hill have indicated an interest in sharing the proposed facility but no final agreement has been reached with either entity. The site could provide space for a second equipment building,

approximately 10 feet by 10 feet, to contain the electronic equipment of CL&P and the Town of Rocky Hill. (Springwich 1, Section VI, pp. 4, 29, 32; Springwich 5, Q. 14; Springwich 6, Q. 24; Tr. 1, pp. 20-26, 29-31)

42. No persons or organizations other than the Town of Rocky Hill and CL&P have indicated any interest in sharing the proposed tower. (Springwich 5, Q. 14)

Schedule

43. Construction of the proposed facility would take approximately six weeks. Following testing, the proposed facility could be operational in November 1992. (Springwich 1, Section VI, p. 25)

Costs

44. Estimated construction costs for the proposed Rocky Hill site would include the following:

Radio equipment	\$179,515
Antennas and Tower	55,000
Power and Common Equipment	170,670
Land, Building*	275,000
Miscellaneous (including engineering, materials and installation)	<u>70,000</u>
Total	\$750,185

*Includes acquisition costs

(Springwich 1, Section VI, p. 24)

Alternative Sites

45. Springwich considered eight sites in the Rocky Hill area for the proposed facility and rejected seven sites for some of the following reasons: the design of an existing building would not structurally accommodate cellular electronic equipment; a site would require a tower taller than the proposed tower; topographical features would interfere with coverage; visibility from Dinosaur State Park; a site was outside the search area and would provide inadequate coverage; a site was too close to an existing facility and would create interference; and an existing roof-top tower would not structurally support cellular antennas. (Springwich 1, Section VI, pp. 3, 4; Springwich 5, Q. 2, Q. 16, Q. 17, Q. 18, Q. 19, Q. 20; Springwich 6, Q. 25; Tr. pp. 26-29, 32-34, 67-74)

46. Springwich presented no alternative site to the proposed facility. (Springwich 1, Section VI, p. 4)
47. The Town of Rocky Hill supports the construction of the proposed facility on CL&P's Rocky Hill Substation property. (Springwich 1, Section VI, p. 4; Springwich 5, Q. 10, Q. 14 and Q. 15 Attachment)

TEF/bd

6235E



Structural Analysis Report

Structure : 99 ft Monopole
ATC Asset Name : Rkhl - Rocky Hill
ATC Asset Number : 302479
Engineering Number : 14861766_C3_03
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : ROCKY HILL 4 CT
Carrier Site Number : 5000179983
Site Location : 699 West Street
Rocky Hill, CT 06067-1924
41.6518° N, 72.6685° W
County : Hartford
Date : June 24, 2024
Max Usage : 88%
Analysis Result : Pass

Created By:

Nathan Lyle
Structural Engineer I

Nathan Lyle



COA: PEC.0001553

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 99 ft Monopole tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower:	ITT Meyer Type D, AT&T Technologies #AT-8935, dated April 13, 1984 Mapping by Hightower Solutions, Project #HTS1981, dated August 9, 2007
Foundation:	SNET Site: Rocky Hill, Conn, dated November 12, 1991
Geotechnical:	S&ME Job #1261-08-049Q, dated April 24, 2008
Modification:	ATC Engineering #40737338, dated May 5, 2008

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:	118 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.50" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.20$, $S_i = 0.06$
Site Class:	D - Stiff Soil - Default

Conclusion

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

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

Structure Usages

Structural Component	Usage	Control	Result
Pole Shaft	61.5%	1.2D + 1.0W	Pass
Reinforcement	59.1%	0 ft to 74 ft	Pass
Upper Termination	87.8%	0 ft to 74 ft	Pass
Intermediate Connector	51.7%	0 ft to 74 ft	Pass
Serviceability Usage	29.5%	1.0D + 1.0W	Pass
Base Plate @ 0.0 ft	46.8%	Plate	Pass
Mat & Pier	42.0%	Moment [Soil]	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Shear (k)
Monopole Base	1,158.6	31.6	14.8

**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
92.0	3	Samsung RT4423-48A	-
91.5	3	Samsung MT6413-77A	-
90.0	1	Platform with Handrails	(6) 1 5/8" Coax (2) 1 5/8" Hybriflex
	2	Raycap RVZDC-3315-PF-48	
	3	Andrew LNX-6514DS-VTM	
	3	Samsung B2/B66A RRH ORAN (RF 4439d-25A)	
	3	Samsung RF4461d-13A	
	6	Andrew SBNHH-1D65B	
	6	Mount Reinforcement	
88.0	3	Samsung RT4423-48a with R0440CC clip-on	-

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines	Carrier
105.0	3	CCI HPA-65R-BUU-H6	-	AT&T MOBILITY
	3	Ericsson AIR 6419 N77G		
104.4	2	Raycap DC6-48-60-18-8F (23.5" Height)	-	AT&T MOBILITY
103.0	1	Raycap DC9-48-60-24-8C-EV	(2) 0.92" (23.4mm) Cable (6) 1 5/8" Coax (1) 2" conduit	AT&T MOBILITY
	3	CCI DMP65R-BU6DA		
	3	CCI TPA-65R-BU6DA-K		
	3	Quintel QS66512-2		
101.0	3	Ericsson AIR 6449 n77D	-	AT&T MOBILITY
100.0	1	Platform with Handrails	(3) 0.40" (10.3mm) Fiber (4) 0.82" (20.8mm) 8 AWG 6 (1) 0.92" (23.4mm) Cable (3) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 32 B30		
	3	Ericsson RRUS 32 B66A		
	3	Ericsson RRUS 4415 B25		
	3	Ericsson RRUS 4449 B5, B12		
	3	Ericsson RRUS 4478 B14		
90.4	1	48" x 16" Panel	-	VERIZON WIRELESS
79.0	3	RFS APXV18-206517S-C	-	METRO PCS INC
78.8	-	-	(6) 1 5/8" Coax	METRO PCS INC

(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

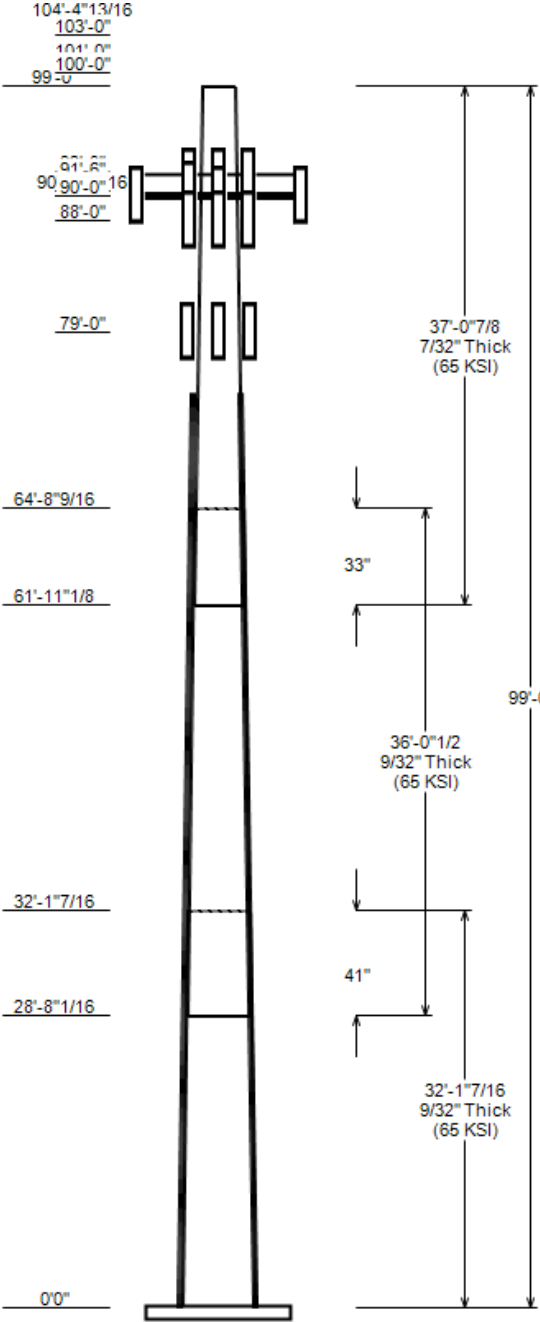
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Services LLC and used in the performance of our engineering services is correct and complete.

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					POLE SECTION PROPERTIES										
Design Wind:	118 mph	Ice Wind:	50 mph w/ 1.5" ice	Service Wind:	60 mph										
Risk Category:	II	Exposure:	B	S _g :	0.201	S _i :	0.055								
Topo Factor:	Method 1	Topo Feature:		Topo Category:	1										
Structure Height:	99.0 ft	Base Elevation:	0.00 ft	Structure Type:	Taper										
Base Diameter:	30.86 in	Base Rotation:	0.00°	Taper:	0.1690 (in/ft)										
						Section	Length (ft)	Flat Diameter (in)		Thick (in)	Joint Type	Joint Length (in)	Pole Shape	Yield Strength (ksi)	
						1	32.120	25.44	30.86	0.273		0.00	12 Sides	65	
						2	36.040	20.48	26.56	0.268	Slip Joint	41.38	12 Sides	65	
						3	37.075	15.12	21.37	0.211	Slip Joint	33.44	12 Sides	65	



DISCRETE APPURTENANCE				LINEAR APPURTENANCE	
Elev (ft)	Description	Elev To (ft)	Description		
105.0	(3) Ericsson AIR 6419 N77G	103.0	(6) 1 5/8" Coax		
105.0	(3) CCI HPA-65R-BUU-H6	103.0	(1) 2" conduit		
104.4	(2) Raycap DC6-48-60-18-8F (23.5" Heig	103.0	(2) 0.92" (23.4mm) Cable		
103.0	(1) Raycap DC9-48-60-24-8C-EV	100.0	(1) 0.92" (23.4mm) Cable		
103.0	(3) Quintel QS66512-2	100.0	(3) 2" conduit		
103.0	(3) CCI TPA-65R-BU6DA-K	100.0	(3) 0.40" (10.3mm) Fiber		
103.0	(3) CCI DMP65R-BU6DA	100.0	(4) 0.82" (20.8mm) 8 AWG 6		
101.0	(3) Ericsson AIR 6449 n77D	90.0	(2) 1 5/8" Hybriflex		
100.0	(3) Ericsson RRUS 4415 B25	90.0	(6) 1 5/8" Coax		
100.0	(3) Ericsson RRUS 32 B30	78.8	(6) 1 5/8" Coax		
100.0	(3) Ericsson RRUS 4478 B14	78.4	(1) #20 w/ Angle Brackets		
100.0	(1) Generic Round Platform with Handrail	78.4	(1) #20 w/ Angle Brackets		
100.0	(3) Ericsson RRUS 32 B66A	78.4	(1) #20 w/ Angle Brackets		
100.0	(3) Ericsson RRUS 4449 B5, B12	78.4	(1) #20 w/ Angle Brackets		
92.0	(3) Samsung RT4423-48A				
91.5	(3) Samsung MT6413-77A				
90.4	(1) Generic 48" x 16" Panel				
90.0	(6) Generic Mount Reinforcement				
90.0	(3) Samsung B2/B66A RRH ORAN (RF 4				
90.0	(3) Andrew LNX-6514DS-VTM				
90.0	(2) Raycap RVZDC-3315-PF-48				
90.0	(1) Generic Round Platform with Handrail				
90.0	(3) Samsung RF4461d-13A				
90.0	(6) Andrew SBNHH-1D65B				
88.0	(3) Samsung RT4423-48a with R0440CC				
79.0	(3) RFS APXV18-206517S-C				

GLOBAL BASE REACTIONS

Load Case	Moment (kip-ft)	Axial (kip)	Shear (kip)
1.2D + 1.0W	1158.57	31.61	14.85
0.9D + 1.0W	1142.66	23.70	14.83
1.2D + 1.0Di + 1.0Wi	435.56	53.22	5.79
1.2D + 1.0Ev + 1.0Eh	70.26	31.53	0.79
0.9D - 1.0Ev + 1.0Eh	69.06	21.74	0.79
1.0D + 1.0W	265.70	26.37	3.43

ANALYSIS PARAMETERS

Location:	Hartford County,CT	Height:	99 ft
Type and Shape:	Taper, 12 Sides	Base Diameter:	30.86 in
Manufacturer:	ITT Meyer	Top Diameter:	15.12 in
K _d (non-service):	0.95	Taper:	0.1690 in/ft
K _e :	0.99	Rotation:	0.000°

ICE & WIND PARAMETERS

Risk Category:	II	Design Wind Speed:	118 mph
Exposure Category:	B	Design Wind Speed w/ Ice:	50 mph
Topo Factor Procedure:	Method 1	Design Ice Thickness:	1.50 in
Topographic Category:	1	Service Wind Speed:	60 mph
Crest Height:	0 ft	HMSL:	200.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):			2.13
T _L (sec):	6	P:	1	C _s :	0.030
S _{ds} :	0.214	S _{d1} :	0.088	C _s Max:	0.030
S _s :	0.201	S ₁ :	0.055	C _s Min:	0.030
F _a :	1.600	F _v :	2.400		

LOAD CASES

1.2D + 1.0W	118 mph Wind with No Ice
0.9D + 1.0W	118 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph Wind with 1.5" Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES																			
Section	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in²)	Ix (in⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in²)	Ix (in⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	32.12	0.2730	65		0.00	2,679	30.86	0.000	26.89	3,210.8	27.61	113.04	25.44	32.12	22.13	1,789.0	22.29	93.19	0.1687
2-12	36.04	0.2680	65	Slip	41.38	2,461	26.56	28.670	22.69	2,001.9	23.88	99.10	20.48	64.71	17.44	909.6	17.80	76.42	0.1687
3-12	37.08	0.2110	65	Slip	33.44	1,546	21.37	61.925	14.38	821.9	24.46	101.29	15.12	99.00	10.13	287.4	16.52	71.66	0.1687
Total Shaft Weight						6,686													

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
105.00	CCI HPA-65R-BUU-H6	3	0.75	0.000	51.00	9.658	0.69	261.47	12.317	0.69
105.00	Ericsson AIR 6419 N77G	3	0.75	0.000	70.00	3.925	0.57	159.96	5.226	0.57
104.40	Raycap DC6-48-60-18-8F (23.5"	2	0.75	0.000	20.00	1.260	1.00	70.51	1.892	1.00
103.00	CCI DMP65R-BU6DA	3	0.75	0.000	79.40	12.709	0.63	326.52	15.384	0.63
103.00	CCI TPA-65R-BU6DA-K	3	0.75	0.000	69.00	12.709	0.60	316.12	15.384	0.60
103.00	Quintel QS66512-2	3	0.75	3.000	111.00	8.133	0.74	302.17	10.807	0.74
103.00	Raycap DC9-48-60-24-8C-EV	1	0.75	0.000	16.00	4.788	1.00	139.85	6.199	1.00
101.00	Ericsson AIR 6449 n77D	3	0.75	0.000	81.60	4.028	0.65	180.58	5.344	0.65
100.00	Ericsson RRUS 32 B66A	3	0.75	0.000	50.70	2.720	0.67	121.01	3.836	0.67
100.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4053.82	50.650	1.00
100.00	Ericsson RRUS 32 B30	3	0.75	0.000	60.00	2.743	0.67	130.57	3.865	0.67
100.00	Ericsson RRUS 4415 B25	3	0.75	0.000	46.00	1.842	0.50	93.04	2.702	0.50
100.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	132.83	2.864	0.50
100.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.40	2.021	0.67	118.27	2.926	0.67
92.00	Samsung RT4423-48A	3	0.75	0.000	18.70	0.855	0.50	40.37	1.450	0.50
91.50	Samsung MT6413-77A	3	0.75	0.000	57.30	3.805	0.61	138.23	5.071	0.61
90.40	Generic 48" x 16" Panel	1	0.80	0.000	30.00	6.519	1.00	175.46	8.349	1.00
90.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4040.50	50.449	1.00
90.00	Andrew SBNHH-1D65B	6	0.75	0.000	50.70	8.173	0.69	217.59	10.864	0.69
90.00	Andrew LNX-6514DS-VTM	3	0.75	0.000	33.10	8.079	0.69	198.92	10.729	0.69
90.00	Generic Mount Reinforcement	6	0.75	0.000	200.00	4.980	0.67	384.06	9.708	0.67
90.00	Samsung RF4461d-13A	3	0.80	0.000	79.10	1.875	0.50	140.42	2.733	0.50
90.00	Samsung B2/B66A RRH ORAN (RF 4	3	0.80	0.000	74.70	1.875	0.50	135.48	2.731	0.50
90.00	Raycap RVZDC-3315-PF-48	2	0.75	0.000	21.40	2.512	0.50	97.16	3.502	0.50
88.00	Samsung RT4423-48a with R0440C	3	0.80	0.000	18.70	0.870	0.50	43.82	1.467	0.50
79.00	RFS APXV18-206517S-C	3	1.00	0.000	26.40	5.160	0.68	113.26	7.377	0.68
Totals	Row Count: 26	74			9,804.30			21,213.99		

LINEAR APPURTENANCE PROPERTIES													
Load Case Azimuth (deg): 0.00													
Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/ Row	Distance Between Rows(in)	Distance Between Cols(in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind	Carrier
0.00	103.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	103.00	2	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	103.00	1	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	4	0.82" (20.8mm) 8 AWG	0.82	0.62	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	3	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	1	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
5.00	90.00	6	1 5/8" Coax	1.98	0.82	N	6	1	1	160	1	Y	VERIZON WIRELESS
5.00	90.00	2	1 5/8" Hybriflex	1.98	1.3	N	1	1	1	160	1	Y	VERIZON WIRELESS
5.00	78.80	6	1 5/8" Coax	1.98	0.82	N	3	1	1	200	1	Y	METRO PCS INC
0.00	78.40	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	0	3.6	Y	
0.00	78.40	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	90	3.6	Y	
0.00	78.40	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	270	3.6	Y	
0.00	78.40	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	180	3.6	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	74.00	4	SOL #20 All Thread Bar	80	2.20	6" Angle Bracket	30.00	3.31	5/8" A36 U-Bolt	N

ASSET: 302479, Rkhl - Rocky Hill
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14861766_C3_03

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description	(Max Length: 5 ft)	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Additional Reinforcing		
													Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00			0.2730	30.860	26.888	3,210.80	27.61	113.04	74.6	201.0	0.0	0.0	19.640	3,508.10	0.0
5.00			0.2730	30.017	26.146	2,952.50	26.78	109.95	75.5	190.0	0.0	451.2	19.640	3,353.40	334.0
10.00			0.2730	29.173	25.405	2,708.40	25.95	106.86	76.4	179.3	0.0	438.5	19.640	3,202.30	334.0
15.00			0.2730	28.330	24.664	2,478.10	25.13	103.77	77.3	169.0	0.0	425.9	19.640	3,054.70	334.0
20.00			0.2730	27.487	23.922	2,261.30	24.30	100.68	78.2	158.9	0.0	413.3	19.640	2,910.60	334.0
25.00			0.2730	26.643	23.181	2,057.50	23.47	97.59	79.1	149.2	0.0	400.7	19.640	2,769.90	334.0
28.67	Bot - Section 2		0.2730	26.024	22.637	1,916.00	22.86	95.33	79.8	142.2	0.0	286.2	19.640	2,668.90	245.3
30.00			0.2730	25.800	22.440	1,866.40	22.64	94.51	80	139.8	0.0	204.0	19.640	2,719.50	88.7
32.12	Top - Section 1		0.2680	25.978	22.187	1,872.00	23.29	96.93	79.3	139.2	0.0	321.9	19.640	2,661.50	141.6
35.00			0.2680	25.493	21.768	1,767.90	22.81	95.12	79.8	134.0	0.0	215.4	19.640	2,583.60	192.4
40.00			0.2680	24.649	21.040	1,596.40	21.97	91.97	80.8	125.1	0.0	364.2	19.640	2,451.30	334.0
45.00			0.2680	23.806	20.312	1,436.40	21.12	88.83	81.7	116.6	0.0	351.8	19.640	2,322.40	334.0
50.00			0.2680	22.963	19.584	1,287.50	20.28	85.68	81.9	108.3	0.0	339.4	19.640	2,197.00	334.0
55.00			0.2680	22.119	18.857	1,149.20	19.44	82.53	81.9	100.4	0.0	327.0	19.640	2,075.10	334.0
60.00			0.2680	21.276	18.129	1,021.20	18.59	79.39	81.9	92.7	0.0	314.6	19.640	1,956.60	334.0
61.93	Bot - Section 3		0.2680	20.951	17.849	974.60	18.27	78.18	81.9	89.9	0.0	117.8	19.640	1,912.00	128.6
64.71	Top - Section 2		0.2110	20.903	14.059	768.30	23.87	99.07	78.7	71.0	0.0	302.1	19.640	1,905.40	186.1
65.00			0.2110	20.854	14.026	762.90	23.80	98.84	78.8	70.7	0.0	13.8	19.640	1,898.80	19.3
70.00			0.2110	20.011	13.453	673.20	22.73	94.84	79.9	65.0	0.0	233.8	19.640	1,785.60	334.0
74.00	Reinf. Top		0.2110	19.336	12.994	606.70	21.88	91.64	80.9	60.6	0.0	180.0	19.640	1,697.60	267.2
75.00			0.2110	19.168	12.880	590.80	21.66	90.84	81.1	59.5	0.0	44.0			
79.00			0.2110	18.493	12.421	529.90	20.80	87.64	81.9	55.4	0.0	172.2			
80.00			0.2110	18.324	12.307	515.40	20.59	86.85	81.9	54.3	0.0	42.1			
85.00			0.2110	17.481	11.734	446.70	19.52	82.85	81.9	49.4	0.0	204.5			
88.00			0.2110	16.975	11.390	408.60	18.88	80.45	81.9	46.5	0.0	118.0			
90.00			0.2110	16.638	11.161	384.40	18.45	78.85	81.9	44.6	0.0	76.7			
90.40			0.2110	16.570	11.115	379.70	18.36	78.53	81.9	44.3	0.0	15.2			
91.50			0.2110	16.385	10.989	366.90	18.13	77.65	81.9	43.3	0.0	41.4			
92.00			0.2110	16.300	10.931	361.20	18.02	77.25	81.9	42.8	0.0	18.6			
95.00			0.2110	15.794	10.588	328.20	17.38	74.85	81.9	40.1	0.0	109.8			
99.00			0.2110	15.120	10.129	287.40	16.52	71.66	81.9	36.7	0.0	141.0			
Totals:												6,685.1	4,943.2		

CALCULATED FORCES

Load Case: 1.2D + 1.0W

118 mph Wind with No Ice

22 Iterations

Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-31.61	-14.85	0.00	-1,158.6	0.00	1,158.57	1,805.30	471.88	1,361.59	1,124.62	0	0	0.503
5.00	-30.35	-14.49	0.00	-1,084.4	0.00	1,084.35	1,776.77	458.87	1,287.56	1,076.06	0.13	-0.24	0.483
10.00	-29.03	-14.16	0.00	-1,011.9	0.00	1,011.87	1,747.04	445.86	1,215.60	1,027.78	0.5	-0.47	0.462
15.00	-27.73	-13.84	0.00	-941.1	0.00	941.07	1,716.09	432.85	1,145.72	979.84	1.13	-0.71	0.440
20.00	-26.45	-13.53	0.00	-871.9	0.00	871.87	1,683.95	419.84	1,077.90	932.31	2	-0.94	0.419
25.00	-25.19	-13.27	0.00	-804.2	0.00	804.21	1,650.60	406.83	1,012.15	885.24	3.11	-1.17	0.397
28.67	-24.29	-13.11	0.00	-755.5	0.00	755.49	1,625.34	397.27	965.18	851.01	4.08	-1.34	0.380
30.00	-23.83	-13.01	0.00	-738.1	0.00	738.07	1,616.04	393.82	948.46	838.71	4.46	-1.4	0.367
32.12	-23.11	-12.87	0.00	-710.5	0.00	710.48	1,583.67	389.38	944.50	828.03	5.1	-1.5	0.363
35.00	-22.40	-12.64	0.00	-673.4	0.00	673.43	1,564.13	382.02	909.16	802.20	6.05	-1.63	0.350
40.00	-21.19	-12.35	0.00	-610.2	0.00	610.21	1,529.25	369.25	849.41	757.81	7.86	-1.84	0.326
45.00	-20.00	-12.06	0.00	-548.5	0.00	548.48	1,493.16	356.48	791.68	714.06	9.89	-2.04	0.301
50.00	-18.83	-11.77	0.00	-488.2	0.00	488.20	1,443.57	343.71	735.99	665.33	12.14	-2.23	0.279
55.00	-17.68	-11.47	0.00	-429.4	0.00	429.38	1,389.93	330.93	682.33	616.52	14.58	-2.42	0.256
60.00	-16.55	-11.23	0.00	-372.0	0.00	372.03	1,336.28	318.16	630.69	569.58	17.21	-2.6	0.231
61.93	-16.11	-11.10	0.00	-350.4	0.00	350.41	1,315.63	313.24	611.36	552.00	18.27	-2.67	0.221
64.71	-15.34	-10.97	0.00	-319.5	0.00	319.49	995.59	246.73	481.66	419.04	19.86	-2.76	0.227
65.00	-15.27	-10.84	0.00	-316.3	0.00	316.32	994.11	246.15	479.40	417.42	20.02	-2.77	0.226
70.00	-14.24	-10.55	0.00	-262.1	0.00	262.11	967.63	236.09	441.04	389.54	23.01	-2.92	0.192

CALCULATED FORCES													
74.00	-13.43	-10.37	0.00	-219.9	0.00	219.90	945.59	228.05	411.51	367.56	25.5	-3.03	0.165
74.00	-13.43	-10.37	0.00	-219.9	0.00	219.90	945.59	228.05	411.51	367.56	25.5	-3.03	0.615
75.00	-13.28	-10.27	0.00	-209.5	0.00	209.54	939.96	226.04	404.28	362.11	26.14	-3.06	0.595
79.00	-12.72	-9.77	0.00	-168.5	0.00	168.46	915.57	217.99	376.03	340.02	28.86	-3.42	0.511
80.00	-12.60	-9.67	0.00	-158.7	0.00	158.69	907.12	215.98	369.12	333.74	29.59	-3.51	0.491
85.00	-12.13	-9.49	0.00	-110.4	0.00	110.35	864.88	205.92	335.56	303.22	33.47	-3.88	0.380
88.00	-11.79	-9.34	0.00	-81.9	0.00	81.87	839.54	199.89	316.20	285.61	35.97	-4.07	0.303
90.00	-6.33	-5.82	0.00	-63.2	0.00	63.19	822.65	195.87	303.60	274.16	37.7	-4.17	0.239
90.40	-6.27	-5.59	0.00	-60.9	0.00	60.86	819.27	195.06	301.12	271.90	38.05	-4.19	0.232
91.50	-6.00	-5.35	0.00	-54.7	0.00	54.71	809.98	192.85	294.33	265.73	39.02	-4.23	0.214
92.00	-5.90	-5.24	0.00	-52.0	0.00	52.03	805.76	191.85	291.27	262.94	39.46	-4.25	0.206
95.00	-5.68	-5.07	0.00	-36.3	0.00	36.33	780.41	185.81	273.24	246.56	42.17	-4.36	0.155
99.00	0.00	-4.61	0.00	-16.1	0.00	16.06	746.63	177.77	250.11	225.54	45.86	-4.45	0.072

CALCULATED FORCES

Load Case: 0.9D + 1.0W

118 mph Wind with No Ice (Reduced DL)

22 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	-23.70	-14.83	0.00	-1,142.7	0.00	1,142.66	1,805.30	471.88	1,361.59	1,124.62	0	0	0.494
5.00	-22.74	-14.45	0.00	-1,068.5	0.00	1,068.52	1,776.77	458.87	1,287.56	1,076.06	0.13	-0.23	0.473
10.00	-21.74	-14.08	0.00	-996.3	0.00	996.30	1,747.04	445.86	1,215.60	1,027.78	0.5	-0.47	0.452
15.00	-20.75	-13.73	0.00	-925.9	0.00	925.89	1,716.09	432.85	1,145.72	979.84	1.11	-0.7	0.431
20.00	-19.78	-13.40	0.00	-857.2	0.00	857.22	1,683.95	419.84	1,077.90	932.31	1.97	-0.93	0.409
25.00	-18.83	-13.12	0.00	-790.2	0.00	790.20	1,650.60	406.83	1,012.15	885.24	3.06	-1.15	0.388
28.67	-18.14	-12.96	0.00	-742.0	0.00	742.02	1,625.34	397.27	965.18	851.01	4.01	-1.32	0.371
30.00	-17.80	-12.85	0.00	-724.8	0.00	724.81	1,616.04	393.82	948.46	838.71	4.39	-1.38	0.359
32.12	-17.26	-12.70	0.00	-697.6	0.00	697.55	1,583.67	389.38	944.50	828.03	5.02	-1.47	0.355
35.00	-16.71	-12.46	0.00	-661.0	0.00	660.98	1,564.13	382.02	909.16	802.20	5.95	-1.6	0.341
40.00	-15.80	-12.15	0.00	-598.7	0.00	598.67	1,529.25	369.25	849.41	757.81	7.74	-1.8	0.318
45.00	-14.90	-11.86	0.00	-537.9	0.00	537.89	1,493.16	356.48	791.68	714.06	9.74	-2	0.294
50.00	-14.02	-11.56	0.00	-478.6	0.00	478.62	1,443.57	343.71	735.99	665.33	11.94	-2.2	0.272
55.00	-13.15	-11.26	0.00	-420.8	0.00	420.82	1,389.93	330.93	682.33	616.52	14.34	-2.38	0.249
60.00	-12.30	-11.03	0.00	-364.5	0.00	364.52	1,336.28	318.16	630.69	569.58	16.93	-2.55	0.225
61.93	-11.97	-10.89	0.00	-343.3	0.00	343.29	1,315.63	313.24	611.36	552.00	17.97	-2.62	0.216
64.71	-11.39	-10.77	0.00	-313.0	0.00	312.95	995.59	246.73	481.66	419.04	19.53	-2.71	0.221
65.00	-11.34	-10.64	0.00	-309.8	0.00	309.85	994.11	246.15	479.40	417.42	19.69	-2.72	0.219
70.00	-10.56	-10.35	0.00	-256.7	0.00	256.66	967.63	236.09	441.04	389.54	22.62	-2.87	0.187
74.00	-9.96	-10.17	0.00	-215.3	0.00	215.26	945.59	228.05	411.51	367.56	25.07	-2.98	0.160
74.00	-9.96	-10.17	0.00	-215.3	0.00	215.26	945.59	228.05	411.51	367.56	25.07	-2.98	0.598
75.00	-9.84	-10.06	0.00	-205.1	0.00	205.09	939.96	226.04	404.28	362.11	25.7	-3	0.579
79.00	-9.41	-9.56	0.00	-164.8	0.00	164.84	915.57	217.99	376.03	340.02	28.37	-3.36	0.497
80.00	-9.32	-9.44	0.00	-155.3	0.00	155.28	907.12	215.98	369.12	333.74	29.09	-3.45	0.477
85.00	-8.96	-9.26	0.00	-108.1	0.00	108.06	864.88	205.92	335.56	303.22	32.9	-3.81	0.369
88.00	-8.70	-9.10	0.00	-80.3	0.00	80.28	839.54	199.89	316.20	285.61	35.35	-3.99	0.294
90.00	-4.66	-5.69	0.00	-62.1	0.00	62.07	822.65	195.87	303.60	274.16	37.04	-4.09	0.233
90.40	-4.62	-5.47	0.00	-59.8	0.00	59.80	819.27	195.06	301.12	271.90	37.39	-4.11	0.226
91.50	-4.42	-5.23	0.00	-53.8	0.00	53.79	809.98	192.85	294.33	265.73	38.34	-4.15	0.209
92.00	-4.34	-5.11	0.00	-51.2	0.00	51.17	805.76	191.85	291.27	262.94	38.77	-4.17	0.201
95.00	-4.18	-4.94	0.00	-35.8	0.00	35.84	780.41	185.81	273.24	246.56	41.43	-4.28	0.151
99.00	0.00	-4.61	0.00	-16.1	0.00	16.06	746.63	177.77	250.11	225.54	45.05	-4.37	0.072

CALCULATED FORCES

Load Case: 1.2D + 1.0Di + 1.0Wi			50 mph Wind with 1.5" Radial Ice								22 Iterations				
Gust Response Factor:		1.10	Ice Dead Load Factor		1.00										
Dead load Factor:		1.20											Ice Importance Factor		1.00
Wind Load Factor:		1.00													
Seg	Pu	Vu	Tu	Mu	Mu	Resultant	Phi	Phi	Phi	Phi	Total	Rotation			
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	(deg)	Ratio		
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)				
0.00	-53.22	-5.79	0.00	-435.6	0.00	435.56	1,805.30	471.88	1,361.59	1,124.62	0	0	0.202		
5.00	-51.63	-5.75	0.00	-406.6	0.00	406.60	1,776.77	458.87	1,287.56	1,076.06	0.05	-0.09	0.194		
10.00	-49.71	-5.66	0.00	-377.8	0.00	377.85	1,747.04	445.86	1,215.60	1,027.78	0.19	-0.18	0.185		
15.00	-47.78	-5.57	0.00	-349.6	0.00	349.55	1,716.09	432.85	1,145.72	979.84	0.42	-0.27	0.175		
20.00	-45.85	-5.46	0.00	-321.7	0.00	321.72	1,683.95	419.84	1,077.90	932.31	0.75	-0.35	0.166		
25.00	-43.93	-5.35	0.00	-294.4	0.00	294.41	1,650.60	406.83	1,012.15	885.24	1.16	-0.44	0.156		
28.67	-42.53	-5.27	0.00	-274.8	0.00	274.76	1,625.34	397.27	965.18	851.01	1.52	-0.5	0.149		
30.00	-41.90	-5.23	0.00	-267.8	0.00	267.77	1,616.04	393.82	948.46	838.71	1.66	-0.52	0.144		
32.12	-40.89	-5.18	0.00	-256.7	0.00	256.67	1,583.67	389.38	944.50	828.03	1.9	-0.55	0.142		
35.00	-39.79	-5.10	0.00	-241.8	0.00	241.76	1,564.13	382.02	909.16	802.20	2.25	-0.6	0.136		
40.00	-37.90	-4.95	0.00	-216.3	0.00	216.27	1,529.25	369.25	849.41	757.81	2.92	-0.68	0.126		
45.00	-36.02	-4.79	0.00	-191.5	0.00	191.52	1,493.16	356.48	791.68	714.06	3.67	-0.75	0.115		
50.00	-34.16	-4.62	0.00	-167.6	0.00	167.56	1,443.57	343.71	735.99	665.33	4.49	-0.81	0.105		
55.00	-32.31	-4.44	0.00	-144.4	0.00	144.45	1,389.93	330.93	682.33	616.52	5.38	-0.88	0.095		
60.00	-30.48	-4.20	0.00	-122.2	0.00	122.24	1,336.28	318.16	630.69	569.58	6.33	-0.94	0.085		
61.93	-29.78	-4.10	0.00	-114.2	0.00	114.16	1,315.63	313.24	611.36	552.00	6.71	-0.96	0.081		
64.71	-28.61	-3.96	0.00	-102.7	0.00	102.74	995.59	246.73	481.66	419.04	7.28	-0.99	0.083		
65.00	-28.51	-3.92	0.00	-101.6	0.00	101.60	994.11	246.15	479.40	417.42	7.34	-0.99	0.082		
70.00	-26.78	-3.65	0.00	-82.0	0.00	82.01	967.63	236.09	441.04	389.54	8.41	-1.04	0.069		
74.00	-25.41	-3.44	0.00	-67.4	0.00	67.41	945.59	228.05	411.51	367.56	9.29	-1.08	0.059		
74.00	-25.41	-3.44	0.00	-67.4	0.00	67.41	945.59	228.05	411.51	367.56	9.29	-1.08	0.211		
75.00	-25.15	-3.38	0.00	-64.0	0.00	63.98	939.96	226.04	404.28	362.11	9.52	-1.08	0.204		
79.00	-23.84	-3.11	0.00	-50.4	0.00	50.44	915.57	217.99	376.03	340.02	10.48	-1.19	0.175		
80.00	-23.67	-3.07	0.00	-47.3	0.00	47.33	907.12	215.98	369.12	333.74	10.73	-1.22	0.168		
85.00	-22.87	-2.94	0.00	-32.0	0.00	31.97	864.88	205.92	335.56	303.22	12.07	-1.33	0.132		
88.00	-22.26	-2.85	0.00	-23.1	0.00	23.14	839.54	199.89	316.20	285.61	12.92	-1.38	0.108		
90.00	-12.48	-1.67	0.00	-17.4	0.00	17.45	822.65	195.87	303.60	274.16	13.51	-1.41	0.079		
90.40	-12.28	-1.62	0.00	-16.8	0.00	16.78	819.27	195.06	301.12	271.90	13.63	-1.42	0.077		
91.50	-11.74	-1.55	0.00	-15.0	0.00	15.00	809.98	192.85	294.33	265.73	13.95	-1.43	0.071		
92.00	-11.56	-1.52	0.00	-14.2	0.00	14.22	805.76	191.85	291.27	262.94	14.1	-1.43	0.069		
95.00	-11.23	-1.47	0.00	-9.7	0.00	9.68	780.41	185.81	273.24	246.56	15.02	-1.46	0.054		
99.00	0.00	-1.18	0.00	-3.8	0.00	3.80	746.63	177.77	250.11	225.54	16.25	-1.49	0.017		

CALCULATED FORCES

Load Case: 1.0D + 1.0W

60 mph Wind with No Ice

21 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	-26.37	-3.43	0.00	-265.7	0.00	265.70	1,805.30	471.88	1,361.59	1,124.62	0	0	0.121
5.00	-25.36	-3.34	0.00	-248.5	0.00	248.54	1,776.77	458.87	1,287.56	1,076.06	0.03	-0.05	0.116
10.00	-24.31	-3.26	0.00	-231.8	0.00	231.82	1,747.04	445.86	1,215.60	1,027.78	0.12	-0.11	0.111
15.00	-23.26	-3.19	0.00	-215.5	0.00	215.50	1,716.09	432.85	1,145.72	979.84	0.26	-0.16	0.106
20.00	-22.23	-3.11	0.00	-199.6	0.00	199.58	1,683.95	419.84	1,077.90	932.31	0.46	-0.22	0.101
25.00	-21.22	-3.05	0.00	-184.0	0.00	184.03	1,650.60	406.83	1,012.15	885.24	0.71	-0.27	0.096
28.67	-20.48	-3.01	0.00	-172.8	0.00	172.84	1,625.34	397.27	965.18	851.01	0.93	-0.31	0.092
30.00	-20.11	-2.99	0.00	-168.8	0.00	168.84	1,616.04	393.82	948.46	838.71	1.02	-0.32	0.089
32.12	-19.53	-2.95	0.00	-162.5	0.00	162.51	1,583.67	389.38	944.50	828.03	1.17	-0.34	0.088
35.00	-18.96	-2.90	0.00	-154.0	0.00	154.01	1,564.13	382.02	909.16	802.20	1.39	-0.37	0.084
40.00	-17.98	-2.83	0.00	-139.5	0.00	139.52	1,529.25	369.25	849.41	757.81	1.8	-0.42	0.079
45.00	-17.01	-2.76	0.00	-125.4	0.00	125.38	1,493.16	356.48	791.68	714.06	2.27	-0.47	0.073
50.00	-16.05	-2.69	0.00	-111.6	0.00	111.59	1,443.57	343.71	735.99	665.33	2.78	-0.51	0.068
55.00	-15.11	-2.62	0.00	-98.1	0.00	98.13	1,389.93	330.93	682.33	616.52	3.34	-0.55	0.062
60.00	-14.18	-2.57	0.00	-85.0	0.00	85.02	1,336.28	318.16	630.69	569.58	3.94	-0.59	0.056
61.93	-13.82	-2.54	0.00	-80.1	0.00	80.08	1,315.63	313.24	611.36	552.00	4.18	-0.61	0.054
64.71	-13.18	-2.51	0.00	-73.0	0.00	73.01	995.59	246.73	481.66	419.04	4.55	-0.63	0.056
65.00	-13.13	-2.48	0.00	-72.3	0.00	72.28	994.11	246.15	479.40	417.42	4.59	-0.63	0.055
70.00	-12.28	-2.41	0.00	-59.9	0.00	59.89	967.63	236.09	441.04	389.54	5.27	-0.67	0.047
74.00	-11.61	-2.37	0.00	-50.2	0.00	50.24	945.59	228.05	411.51	367.56	5.84	-0.69	0.041
74.00	-11.61	-2.37	0.00	-50.2	0.00	50.24	945.59	228.05	411.51	367.56	5.84	-0.69	0.149
75.00	-11.51	-2.35	0.00	-47.9	0.00	47.87	939.96	226.04	404.28	362.11	5.99	-0.7	0.145
79.00	-11.04	-2.23	0.00	-38.5	0.00	38.48	915.57	217.99	376.03	340.02	6.61	-0.78	0.125
80.00	-10.97	-2.21	0.00	-36.2	0.00	36.25	907.12	215.98	369.12	333.74	6.77	-0.8	0.121
85.00	-10.60	-2.16	0.00	-25.2	0.00	25.22	864.88	205.92	335.56	303.22	7.66	-0.89	0.096
88.00	-10.33	-2.13	0.00	-18.7	0.00	18.73	839.54	199.89	316.20	285.61	8.24	-0.93	0.078
90.00	-5.59	-1.33	0.00	-14.5	0.00	14.47	822.65	195.87	303.60	274.16	8.63	-0.95	0.060
90.40	-5.54	-1.28	0.00	-13.9	0.00	13.94	819.27	195.06	301.12	271.90	8.71	-0.96	0.058
91.50	-5.30	-1.22	0.00	-12.5	0.00	12.54	809.98	192.85	294.33	265.73	8.93	-0.97	0.054
92.00	-5.21	-1.19	0.00	-11.9	0.00	11.92	805.76	191.85	291.27	262.94	9.03	-0.97	0.052
95.00	-5.02	-1.16	0.00	-8.3	0.00	8.34	780.41	185.81	273.24	246.56	9.65	-1	0.040
99.00	0.00	-1.07	0.00	-3.7	0.00	3.72	746.63	177.77	250.11	225.54	10.5	-1.02	0.017

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

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

Spectral Response Acceleration for Short Period (S_S):	0.201
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}):	0.214
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.088
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_s :	0.030
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	2.130
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	1.820
Total Unfactored Dead Load:	26.370 k
Seismic Base Shear (E):	0.790 k

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
30	97	241	979	0.017	14	299
29	93.5	185	702	0.012	10	230
28	91.75	31	114	0.002	2	39
27	90.95	69	249	0.004	3	86
26	90.2	25	90	0.002	1	31
25	89	142	492	0.009	7	176
24	86.5	215	711	0.013	10	268
23	82.5	367	1,111	0.020	16	456
22	79.5	75	211	0.004	3	93
21	77	384	1,027	0.018	14	478
20	74.5	100	252	0.004	4	124
19	72	672	1,588	0.028	22	835
18	67.5	848	1,784	0.032	25	1,054
17	64.8558	49	96	0.002	1	61
16	63.3183	645	1,207	0.022	17	801
15	60.9625	354	620	0.011	9	440
14	57.5	929	1,461	0.026	21	1,155
13	52.5	942	1,255	0.022	18	1,170
12	47.5	954	1,060	0.019	15	1,186
11	42.5	966	877	0.016	12	1,201
10	37.5	979	708	0.013	10	1,216
9	33.56	569	337	0.006	5	708
8	31.06	582	299	0.005	4	724
7	29.3358	367	170	0.003	2	456
6	26.8358	737	290	0.005	4	917
5	22.5	1,015	290	0.005	4	1,262
4	17.5	1,028	186	0.003	3	1,277
3	12.5	1,040	102	0.002	1	1,293
2	7.5	1,053	41	0.001	1	1,309
1	2.5	1,003	5	0.000	0	1,247
Ericsson AIR 6419 N77G	99	210	886	0.016	12	261
CCI HPA-65R-BUU-H6	99	153	645	0.012	9	190
Raycap DC6-48-60-18-8F (23.5" Height)	99	40	169	0.003	2	50
Raycap DC9-48-60-24-8C-EV	99	16	67	0.001	1	20
Quintel QS66512-2	99	333	1,405	0.025	20	414
CCI TPA-65R-BU6DA-K	99	207	873	0.016	12	257
CCI DMP65R-BU6DA	99	238	1,005	0.018	14	296
Ericsson AIR 6449 n77D	99	245	1,033	0.018	15	304

ASSET: 302479, Rkhl - Rocky Hill
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14861766_C3_03

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
Ericsson RRUS 4415 B25	99	138	582	0.010	8	172
Ericsson RRUS 4449 B5, B12	99	213	898	0.016	13	265
Ericsson RRUS 4478 B14	99	178	752	0.013	11	221
Ericsson RRUS 32 B66A	99	152	642	0.011	9	189
Ericsson RRUS 32 B30	99	180	759	0.014	11	224
Generic Round Platform with Handrails	99	2,500	10,545	0.187	148	3,107
Generic Round Platform with Handrails	90	2,500	8,869	0.158	125	3,107
Samsung RT4423-48A	92	56	207	0.004	3	70
Samsung MT6413-77A	91.5	172	628	0.011	9	214
Generic 48" x 16" Panel	90.4	30	107	0.002	2	37
Samsung RF4461d-13A	90	237	842	0.015	12	295
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	90	224	795	0.014	11	279
Raycap RVZDC-3315-PF-48	90	43	152	0.003	2	53
Generic Mount Reinforcement	90	1,200	4,257	0.076	60	1,491
Andrew LNX-6514DS-VTM	90	99	352	0.006	5	123
Andrew SBNHH-1D65B	90	304	1,079	0.019	15	378
Samsung RT4423-48a with R0440CC clip-on	88	56	191	0.003	3	70
RFS APXV18-206517S-C	79	79	222	0.004	3	98
Totals:		26,372	56,276	1.000	791	32,777

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)
30	97	241	979	0.017	14	206
29	93.5	185	702	0.012	10	158
28	91.75	31	114	0.002	2	27
27	90.95	69	249	0.004	3	59
26	90.2	25	90	0.002	1	22
25	89	142	492	0.009	7	121
24	86.5	215	711	0.013	10	185
23	82.5	367	1,111	0.020	16	314
22	79.5	75	211	0.004	3	64
21	77	384	1,027	0.018	14	329
20	74.5	100	252	0.004	4	86
19	72	672	1,588	0.028	22	576
18	67.5	848	1,784	0.032	25	727
17	64.8558	49	96	0.002	1	42
16	63.3183	645	1,207	0.022	17	553
15	60.9625	354	620	0.011	9	304
14	57.5	929	1,461	0.026	21	796
13	52.5	942	1,255	0.022	18	807
12	47.5	954	1,060	0.019	15	818
11	42.5	966	877	0.016	12	828
10	37.5	979	708	0.013	10	839
9	33.56	569	337	0.006	5	488
8	31.06	582	299	0.005	4	499
7	29.3358	367	170	0.003	2	315
6	26.8358	737	290	0.005	4	632
5	22.5	1,015	290	0.005	4	870
4	17.5	1,028	186	0.003	3	881
3	12.5	1,040	102	0.002	1	892
2	7.5	1,053	41	0.001	1	903
1	2.5	1,003	5	0.000	0	860
Ericsson AIR 6419 N77G	99	210	886	0.016	12	180
CCI HPA-65R-BUU-H6	99	153	645	0.012	9	131
Raycap DC6-48-60-18-8F (23.5" Height)	99	40	169	0.003	2	34
Raycap DC9-48-60-24-8C-EV	99	16	67	0.001	1	14
Quintel QS66512-2	99	333	1,405	0.025	20	285
CCI TPA-65R-BU6DA-K	99	207	873	0.016	12	177
CCI DMP65R-BU6DA	99	238	1,005	0.018	14	204

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 AIR 6449 n77D	99	245	1,033	0.018	15	210
Ericsson RRUS 4415 B25	99	138	582	0.010	8	118
Ericsson RRUS 4449 B5, B12	99	213	898	0.016	13	183
Ericsson RRUS 4478 B14	99	178	752	0.013	11	153
Ericsson RRUS 32 B66A	99	152	642	0.011	9	130
Ericsson RRUS 32 B30	99	180	759	0.014	11	154
Generic Round Platform with Handrails	99	2,500	10,545	0.187	148	2,143
Generic Round Platform with Handrails	90	2,500	8,869	0.158	125	2,143
Samsung RT4423-48A	92	56	207	0.004	3	48
Samsung MT6413-77A	91.5	172	628	0.011	9	147
Generic 48" x 16" Panel	90.4	30	107	0.002	2	26
Samsung RF4461d-13A	90	237	842	0.015	12	203
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	90	224	795	0.014	11	192
Raycap RVZDC-3315-PF-48	90	43	152	0.003	2	37
Generic Mount Reinforcement	90	1,200	4,257	0.076	60	1,029
Andrew LNX-6514DS-VTM	90	99	352	0.006	5	85
Andrew SBNHH-1D65B	90	304	1,079	0.019	15	261
Samsung RT4423-48a with R0440CC clip-on	88	56	191	0.003	3	48
RFS APXV18-206517S-C	79	79	222	0.004	3	68
Totals:		26,372	56,276	1.000	791	22,604

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	-31.53	-0.79	0.00	-70.26	0.00	70.26	1,805.30	471.88	1,362	1,124.62	0.00	0.00	0.04
5.00	-30.22	-0.80	0.00	-66.29	0.00	66.29	1,776.77	458.87	1,288	1,076.06	0.01	-0.01	0.04
10.00	-28.93	-0.81	0.00	-62.28	0.00	62.28	1,747.04	445.86	1,216	1,027.78	0.03	-0.03	0.04
15.00	-27.65	-0.81	0.00	-58.25	0.00	58.25	1,716.09	432.85	1,146	979.84	0.07	-0.04	0.04
20.00	-26.39	-0.81	0.00	-54.19	0.00	54.19	1,683.95	419.84	1,078	932.31	0.12	-0.06	0.03
25.00	-25.47	-0.81	0.00	-50.14	0.00	50.14	1,650.60	406.83	1,012	885.24	0.19	-0.07	0.03
28.67	-25.01	-0.81	0.00	-47.15	0.00	47.15	1,625.34	397.27	965	851.01	0.25	-0.08	0.03
30.00	-24.29	-0.81	0.00	-46.08	0.00	46.08	1,616.04	393.82	948	838.71	0.27	-0.09	0.03
32.12	-23.58	-0.81	0.00	-44.36	0.00	44.36	1,583.67	389.38	944	828.03	0.31	-0.09	0.03
35.00	-22.37	-0.80	0.00	-42.04	0.00	42.04	1,564.13	382.02	909	802.20	0.37	-0.10	0.03
40.00	-21.16	-0.79	0.00	-38.05	0.00	38.05	1,529.25	369.25	849	757.81	0.48	-0.11	0.03
45.00	-19.98	-0.78	0.00	-34.11	0.00	34.11	1,493.16	356.48	792	714.06	0.61	-0.13	0.03
50.00	-18.81	-0.76	0.00	-30.23	0.00	30.23	1,443.57	343.71	736	665.33	0.75	-0.14	0.02
55.00	-17.65	-0.74	0.00	-26.43	0.00	26.43	1,389.93	330.93	682	616.52	0.90	-0.15	0.02
60.00	-17.21	-0.73	0.00	-22.74	0.00	22.74	1,336.28	318.16	631	569.58	1.06	-0.16	0.02
61.93	-16.41	-0.71	0.00	-21.33	0.00	21.33	1,315.63	313.24	611	552.00	1.13	-0.16	0.02
64.71	-16.35	-0.71	0.00	-19.34	0.00	19.34	995.59	246.73	482	419.04	1.23	-0.17	0.02
65.00	-15.30	-0.69	0.00	-19.14	0.00	19.14	994.11	246.15	479	417.42	1.24	-0.17	0.02
70.00	-14.46	-0.66	0.00	-15.71	0.00	15.71	967.63	236.09	441	389.54	1.42	-0.18	0.02
74.00	-14.34	-0.66	0.00	-13.06	0.00	13.06	945.59	228.05	412	367.56	1.58	-0.19	0.05
74.00	-14.34	-0.66	0.00	-13.06	0.00	13.06	945.59	228.05	412	367.56	1.58	-0.19	0.02
75.00	-13.86	-0.65	0.00	-12.40	0.00	12.40	939.96	226.04	404	362.11	1.62	-0.19	0.05
79.00	-13.67	-0.64	0.00	-9.81	0.00	9.81	915.57	217.99	376	340.02	1.78	-0.21	0.04
80.00	-13.21	-0.63	0.00	-9.16	0.00	9.16	907.12	215.98	369	333.74	1.83	-0.22	0.04
85.00	-12.94	-0.62	0.00	-6.02	0.00	6.02	864.88	205.92	336	303.22	2.07	-0.24	0.04
88.00	-12.70	-0.61	0.00	-4.15	0.00	4.15	839.54	199.89	316	285.61	2.22	-0.25	0.03
90.00	-6.94	-0.36	0.00	-2.93	0.00	2.93	822.65	195.87	304	274.16	2.32	-0.25	0.02
90.40	-6.82	-0.35	0.00	-2.78	0.00	2.78	819.27	195.06	301	271.90	2.34	-0.25	0.02
91.50	-6.57	-0.34	0.00	-2.40	0.00	2.40	809.98	192.85	294	265.73	2.40	-0.25	0.02
92.00	-6.27	-0.33	0.00	-2.23	0.00	2.23	805.76	191.85	291	262.94	2.43	-0.25	0.02
95.00	-5.97	-0.31	0.00	-1.25	0.00	1.25	780.41	185.81	273	246.56	2.59	-0.26	0.01
99.00	0.00	-0.28	0.00	0.00	0.00	0.00	746.63	177.77	250	225.54	2.81	-0.26	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	-21.74	-0.79	0.00	-69.06	0.00	69.06	1,805.30	471.88	1,362	1,124.62	0.00	0.00	0.04
5.00	-20.84	-0.80	0.00	-65.10	0.00	65.10	1,776.77	458.87	1,288	1,076.06	0.01	-0.01	0.04
10.00	-19.95	-0.80	0.00	-61.11	0.00	61.11	1,747.04	445.86	1,216	1,027.78	0.03	-0.03	0.03
15.00	-19.07	-0.80	0.00	-57.10	0.00	57.10	1,716.09	432.85	1,146	979.84	0.07	-0.04	0.03
20.00	-18.20	-0.80	0.00	-53.09	0.00	53.09	1,683.95	419.84	1,078	932.31	0.12	-0.06	0.03
25.00	-17.56	-0.80	0.00	-49.08	0.00	49.08	1,650.60	406.83	1,012	885.24	0.19	-0.07	0.03
28.67	-17.25	-0.80	0.00	-46.14	0.00	46.14	1,625.34	397.27	965	851.01	0.25	-0.08	0.03
30.00	-16.75	-0.80	0.00	-45.08	0.00	45.08	1,616.04	393.82	948	838.71	0.27	-0.08	0.03
32.12	-16.26	-0.79	0.00	-43.39	0.00	43.39	1,583.67	389.38	944	828.03	0.31	-0.09	0.03
35.00	-15.42	-0.78	0.00	-41.10	0.00	41.10	1,564.13	382.02	909	802.20	0.37	-0.10	0.03
40.00	-14.60	-0.77	0.00	-37.18	0.00	37.18	1,529.25	369.25	849	757.81	0.48	-0.11	0.02
45.00	-13.78	-0.76	0.00	-33.31	0.00	33.31	1,493.16	356.48	792	714.06	0.60	-0.12	0.02
50.00	-12.97	-0.74	0.00	-29.51	0.00	29.51	1,443.57	343.71	736	665.33	0.73	-0.14	0.02
55.00	-12.17	-0.72	0.00	-25.79	0.00	25.79	1,389.93	330.93	682	616.52	0.88	-0.15	0.02
60.00	-11.87	-0.72	0.00	-22.17	0.00	22.17	1,336.28	318.16	631	569.58	1.04	-0.16	0.02
61.93	-11.32	-0.70	0.00	-20.80	0.00	20.80	1,315.63	313.24	611	552.00	1.11	-0.16	0.02
64.71	-11.28	-0.70	0.00	-18.85	0.00	18.85	995.59	246.73	482	419.04	1.20	-0.17	0.02
65.00	-10.55	-0.67	0.00	-18.65	0.00	18.65	994.11	246.15	479	417.42	1.21	-0.17	0.02
70.00	-9.97	-0.65	0.00	-15.30	0.00	15.30	967.63	236.09	441	389.54	1.39	-0.18	0.02
74.00	-9.89	-0.64	0.00	-12.70	0.00	12.70	945.59	228.05	412	367.56	1.54	-0.18	0.05
74.00	-9.89	-0.64	0.00	-12.70	0.00	12.70	945.59	228.05	412	367.56	1.54	-0.18	0.01
75.00	-9.56	-0.63	0.00	-12.06	0.00	12.06	939.96	226.04	404	362.11	1.58	-0.18	0.04
79.00	-9.43	-0.63	0.00	-9.53	0.00	9.53	915.57	217.99	376	340.02	1.75	-0.21	0.04
80.00	-9.11	-0.61	0.00	-8.91	0.00	8.91	907.12	215.98	369	333.74	1.79	-0.21	0.04
85.00	-8.93	-0.60	0.00	-5.85	0.00	5.85	864.88	205.92	336	303.22	2.02	-0.23	0.03
88.00	-8.76	-0.59	0.00	-4.03	0.00	4.03	839.54	199.89	316	285.61	2.17	-0.24	0.03
90.00	-4.79	-0.35	0.00	-2.84	0.00	2.84	822.65	195.87	304	274.16	2.27	-0.24	0.02
90.40	-4.70	-0.34	0.00	-2.71	0.00	2.71	819.27	195.06	301	271.90	2.29	-0.25	0.02
91.50	-4.53	-0.33	0.00	-2.33	0.00	2.33	809.98	192.85	294	265.73	2.35	-0.25	0.01
92.00	-4.32	-0.32	0.00	-2.16	0.00	2.16	805.76	191.85	291	262.94	2.37	-0.25	0.01
95.00	-4.12	-0.30	0.00	-1.21	0.00	1.21	780.41	185.81	273	246.56	2.53	-0.25	0.01
99.00	0.00	-0.28	0.00	0.00	0.00	0.00	746.63	177.77	250	225.54	2.75	-0.25	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	14.85	0.00	31.61	0.00	0.00	1158.57	74.00	0.61
0.9D + 1.0W	14.83	0.00	23.70	0.00	0.00	1142.66	74.00	0.6
1.2D + 1.0Di + 1.0Wi	5.79	0.00	53.22	0.00	0.00	435.56	74.00	0.21
1.2D + 1.0Ev + 1.0Eh	0.79	0.00	31.53	0.00	0.00	70.26	74.00	0.05
0.9D - 1.0Ev + 1.0Eh	0.79	0.00	21.74	0.00	0.00	69.06	74.00	0.05
1.0D + 1.0W	3.43	0.00	26.37	0.00	0.00	265.70	74.00	0.15

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	74.00	SOL #20 All Thread Bar	289.8	8.7	16.8	0.5171	195.2	330.5	0.5905

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	74.00	SOL #20 All Thread Bar	73.7625	12	7	7	0.8781	0	12	0	0	0.0000

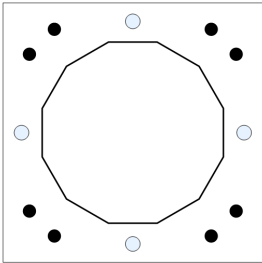
BASE PLATE ANALYSIS @ 0 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
1158.57	31.61	14.85

PLATE PARAMETERS (ID# 22102)

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:	135	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F _y (ksi)	F _u (ksi)	Spacing (in)	Offset (°)
Original [ID#22686]	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# 1882]	#20	2.5	80	100	Angle	2.19	37.74	-

COMPONENT PROPERTIES

Component	ID	Gross Area (in²)	Net Area (in²)	Individual Inertia (in⁴)	Moment of Inertia (in⁴)	Threads/in
Pole	30.86"ø x 0.273" (12 Sides)	25.9345	-	-	3033.57	-
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	3503.45	-

REACTION DISTRIBUTION

Component	ID	Moment M _u (k-ft)	Axial Load P _u (k)	Shear V _u (k)	Moment Factor
Pole	30.86"ø x 0.273" (12 Sides)	537.6	31.61	14.85	0.464
Bolt Group	Original (8) 2.25"ø	537.6	-	14.85	0.464
Dywidag Group	(4) #20	620.9	-	-	0.536

BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES					PLATE PROPERTIES		
Flat-to-Flat Diameter:	30.98	in	Flat Width:	8.302	in	Neutral Axis:	135°
Point-to-Point Diameter:	32.08	in	Flat Radians:	0.524	rad		
Orientation Offset:	15	°					
Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in³)	Applied Moment M _u (k-in)	Moment Capacity ΦM _n (k-in)	Flexure Result M _u /ΦM _n	
Flats	31.240	0.00	31.240	790.3	1687.0	46.8%	✓
Corners	30.147	0.00	30.147	704.0	1628.0	43.2%	✓

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	79.0	0.4	243.6	0.324	32.8% 

DYWIDAG BAR ANALYSIS

Group Quantity	Bar Size	Bar Circle (in)	Applied Axial Load P_u (k)	Compressive Capacity ΦP_n (k)	Compressive Result $P_u / \Phi P_n$
4	#20	37.74	143.5	368.2	39.0% 

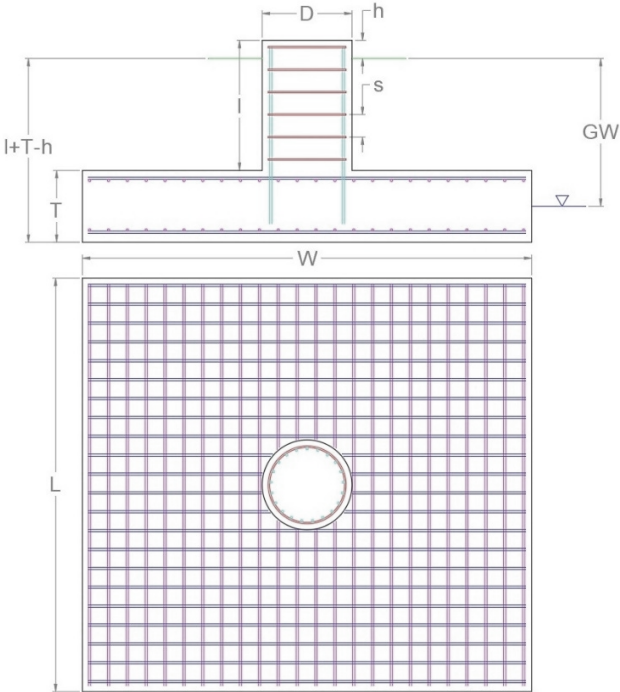
MONOLITHIC MAT & PIER FOUNDATION ANALYSIS

APPLIED GLOBAL REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
1,158.57	31.61	14.85

FOUNDATION PARAMETERS

Mat Length:	L	18	ft
Mat Width:	W	18	ft
Mat Thickness:	T	3	ft
Base Depth:	L+T-h	8	ft
Pier Shape:		Square	
Pier Width:	D	6	ft
Pier Height above Grade:	h	0.5	ft
Concrete Compressive Strength:		3,000	psi
Mat Top Rebar:		(36) #5 bars [60 ksi]	
Mat Bottom Rebar:		(36) #10 bars [60 ksi]	
Pier Vertical Rebar:		(14) #11 bars [60 ksi]	
Pier Rebar Ties:	s	#4 bars @ 12.0" c/c [60 ksi]	
Rebar Clear Cover:		3.0	in
Tower Eccentricity:	ecc	0	ft
Tower Leg Count		1	



SOIL PARAMETERS

Water Table Depth [BGL]:	GW	ft
Soil Unit Weight:	100	pcf
Ultimate Skin Friction:	0	psf
Ultimate Bearing Pressure:	30,000	psf
Bearing Pressure Type:	Gross	
Coefficient of Shear Friction:	0.35	

SOIL STRENGTH ANALYSIS

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

SOIL OVERTURNING ANALYSIS

Design Moment, $M_{u,Design}$ (k-ft)	Nominal Overturning Capacity, $\Phi_m M_n$ (k-ft)	Soil Overturning Usage, $M_{u,Design} / \Phi_m M_n$
1,284.80	3,057.43	42.0%

SOIL BEARING ANALYSIS

Net Bearing Pressure, $P_{u,Net}$ (psf)	Nominal Bearing Capacity, $\Phi_b P_n$ (psf)	Bearing Pressure Controlling Load Direction	Soil Bearing Usage, $P_{u,net} / \Phi_b P_n$
1,734.00	22,500.00	Diagonal to Pad Edge	7.7%

SOIL SLIDING SHEAR ANALYSIS

Applied Shear Force, V_u (k)	Friction Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Nominal Shear Capacity, $\Phi_s V_n$ (k)	Soil Sliding Shear Usage, $V_u / \Phi_s V_n$
14.85	121.04	650.0	35.10	117.11	13.0%

MAT REINFORCING STEEL STRENGTH ANALYSIS

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

MAT REINFORCING ONE WAY SHEAR ANALYSIS

One Way Design Shear, V_u (k)	Nominal One Way Shear Capacity, $\Phi_c V_n$ (k)	One Way Shear Controlling Load Direction	Mat One Way Shear Usage, $V_u / \Phi_c V_n$
46.86	443.37	Diagonal to Pad Edge	10.6%

MAT REINFORCING PUNCHING SHEAR ANALYSIS

Punching Shear Design Stress, v_u (psi)	Nominal Punching Shear Capacity, $\Phi_c v_n$ (psi)	Mat Punching Shear Usage, $v_u / \Phi_c v_n$
17.6	164.3	10.7%

MAT REINFORCING MOMENT TRANSFER ANALYSIS

Moment Transfer Effective Flexural Width, w_t (in)	Neutral Axis Depth (in)	Pier Moment at Joint, M_{ut} (k-in)	Nominal Moment Transfer Capacity, $\Phi M_{sc,f}$ (k-in)	Mat Moment Transfer Usage, $0.6 M_{ut} / \Phi M_{sc,f}$
15.00	5.16	0.00	63,018.0	0.0%

MAT REINFORCING FLEXURE ANALYSIS – UPPER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Upper Rebar Flexure Usage, $M_u / \Phi M_n$
307.80	1,568.54	Parallel to Pad Edge	19.6%

MAT REINFORCING FLEXURE ANALYSIS – LOWER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Lower Rebar Flexure Usage, $M_u / \Phi M_n$
399.30	6,096.76	Parallel to Pad Edge	6.5%

PIER REINFORCING STEEL STRENGTH ANALYSIS

Rebar Cage Diameter (in)	Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
63.62	29,000	0.9	0.75	0.65

PIER REINFORCING MOMENT ANALYSIS

Design Moment, M_u (k-ft)	Nominal Moment Capacity, $\Phi_b M_n$ (k-ft)	Bending Reinforcement Ratio	Pier Rebar Flexure Usage, $M_u / \Phi_b M_n$
1,240.24	3,069.41	0.004	40.4%

PIER REINFORCING COMPRESSION ANALYSIS

Design Compression, P_u (k)	Nominal Compressive Capacity, $\Phi_p P_n$ (k)	Pier Rebar Compressive Usage, $P_u / \Phi_p P_n$
31.61	6,893.70	0.5%

PIER REINFORCING SHEAR ANALYSIS

Design Shear, V_u (k)	Nominal Shear Capacity, $\Phi_v V_n$ (k)	Pier Rebar Shear Usage, $V_u / \Phi_v V_n$
14.85	513.61	2.9%

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Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10238424
Colliers Engineering & Design Project #: 21777941A (Rev 3)

June 12, 2024

Site Information

Site ID: 5000179983-VZW / ROCKY HILL 4 CT
Site Name: ROCKY HILL 4 CT
Carrier Name: Verizon Wireless
Address: 2 West Street
Rocky Hill, Connecticut 06067
Hartford County
Latitude: 41.651764°
Longitude: -72.668472°

Structure Information

Tower Type: 107-Ft Monopole
Mount Type: 12.00-Ft Platform

FUZE ID # 16502069

Analysis Results

Platform: 36.1% **Pass w/ Modifications***

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

***Contractor PMI Requirements:

Included at the end of this MA report

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

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

Report Prepared By: Vincent DiGirolamo



Executive Summary:

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

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

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS Site ID 675027 Dated April 10, 2024
Mount Mapping Report	Structural Components Site ID: 16502069 Dated May 4, 2021
Failing Mount Analysis	Colliers Engineering & Design Project #: 21777941, Rev 2 Dated May 30, 2024
Mount Modification Drawings	Colliers Engineering & Design Project #: 21777941, Rev 1 Dated June 12, 2024

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H Connecticut State Building Code, 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: C Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.993
Seismic Parameters:	S_s : 0.200 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 (V22)

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
89.50	91.50	3	Samsung	MT6413-77A	Added
	90.00	3	Commscope	LNK-6514DS-A1M	Retained
		6	Andrew	SBNHH-1D65B	
		3	Samsung	RF4439d-25A	Added
		3	Samsung	RF4461d-13A	
		2	Raycap	RVZDC-3315-PF-48	
	88.00	3	Samsung	R0440CC	

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

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

Standard Conditions:

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

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

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

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.
7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
 - Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - HSS (Rectangular) ASTM 500 (Gr. B-46)
 - Pipe ASTM A53 (Gr. B-35)
 - Threaded Rod F1554 (Gr. 36)
 - Bolts ASTM A325
8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

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

Analysis Results:

Component	Utilization %	Pass/Fail
<i>Face Horizontal</i>	<i>12.2</i>	<i>Pass</i>
<i>Standoff Horizontal</i>	<i>15.4</i>	<i>Pass</i>
<i>Corner Plate</i>	<i>29.0</i>	<i>Pass</i>
<i>Platform Crossmember</i>	<i>30.9</i>	<i>Pass</i>
<i>Grating Support</i>	<i>17.6</i>	<i>Pass</i>
<i>Mount Pipe</i>	<i>30.9</i>	<i>Pass</i>
<i>Cross Arm Plate</i>	<i>36.1</i>	<i>Pass</i>
<i>Kickers</i>	<i>8.4</i>	<i>Pass</i>
<i>Support Rail Corner</i>	<i>16.9</i>	<i>Pass</i>
<i>Support Rail</i>	<i>12.5</i>	<i>Pass</i>
<i>Mount Connection</i>	<i>27.0</i>	<i>Pass</i>

Structure Rating – (Controlling Utilization of all Components)	36.1%
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Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector B Standoff	89.5	N3	259	3412	0.189	1.804	473	3271	0.346	0.519
Sector A Standoff	89.5	N52	187	3621	0.176	1.696	239	3447	0.121	0.525
Sector C Standoff	89.5	N102 A	155	3272	0.171	1.610	185	3328	0.198	0.475
Sector B Bottom Reinf.	85.5	N160	1271	1319	0.000	0.000	2560	2709	0.000	0.000
Sector A Bottom Reinf.	85.5	N164 A	1331	1385	0.000	0.000	2721	2885	0.000	0.000
Sector C Bottom Reinf.	85.5	N168	1267	1315	0.000	0.000	2657	2816	0.000	0.000

Notes:

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

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

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	33.1	33.1	47.5	47.5
0.5	42.7	42.7	62.9	62.9
1	51.0	51.0	76.9	76.9

Notes:

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

Requirements:

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

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

Attachments:

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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

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

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

MDG #: 5000179983

SMART Project #: 10238424

Fuze Project ID: 16502069

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

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

Base Requirements:

- If installation of the modification will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide “as built drawings” showing contractor’s name, preparer’s signature, and date. Any deviations from the drawings (proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the post-modification passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo shall be time and date stamped.
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: <https://pmi.vzwsmart.com>

Photo Requirements:

- Photos taken at ground level
 - Photo of Gate Signs showing the tower owner, site name, and number.
 - Overall tower structure after installation of the modifications.
 - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed
- Photos taken at Mount Elevation
 - Photos showing the safety climb wire rope above and below the mount prior to modification.
 - Photos showing the climbing facility and safety climb if present.

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

Material Certification:

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

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

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

OR

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

Antenna & Equipment Placement and Geometry Confirmation:

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

OR

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

Comments:

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

- ☐ Yes ☐ No

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

Issue:

Contractor shall install proposed OVP on proposed OVP pipe.

Response:

Special Instruction Confirmation:

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

Comments:

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

- ☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

- ☐ Yes ☐ No

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

- ☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Comments:

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

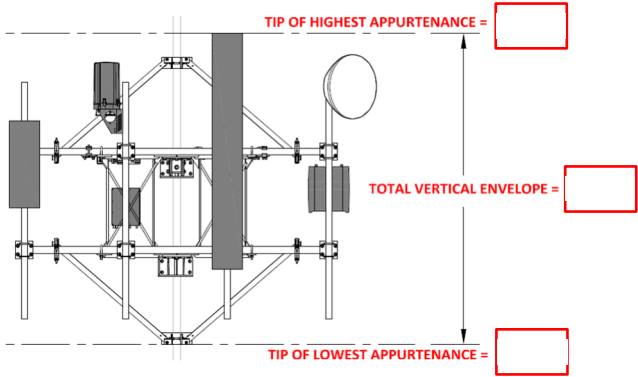


Illustration #1

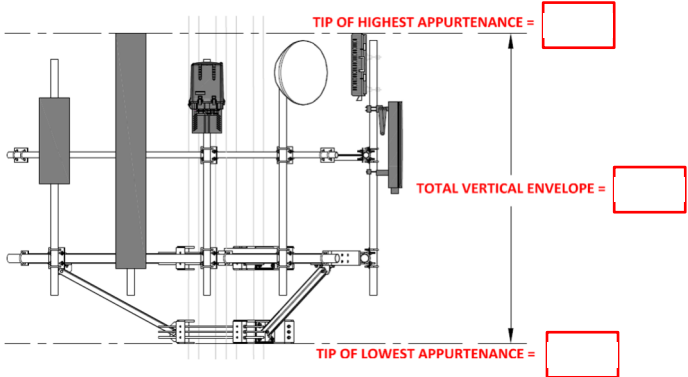


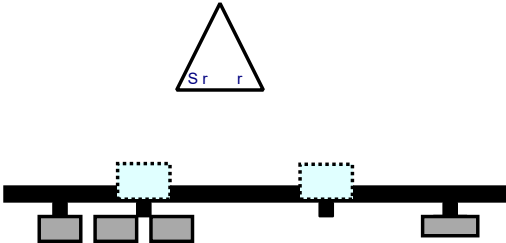
Illustration #2

Certifying Individual:

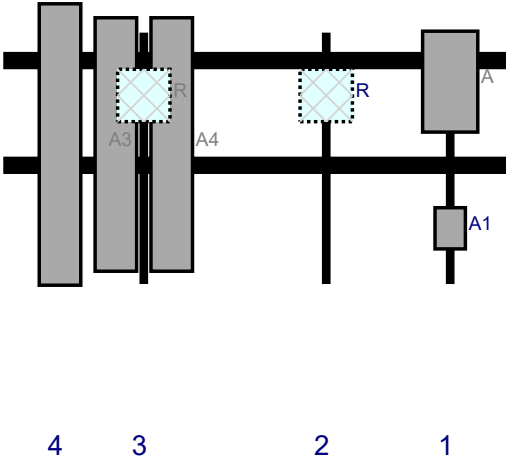
Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

S	r	A							11	2	24
Sr	r	T	M			1	23	424			
M	E	.							P		1

Plan View

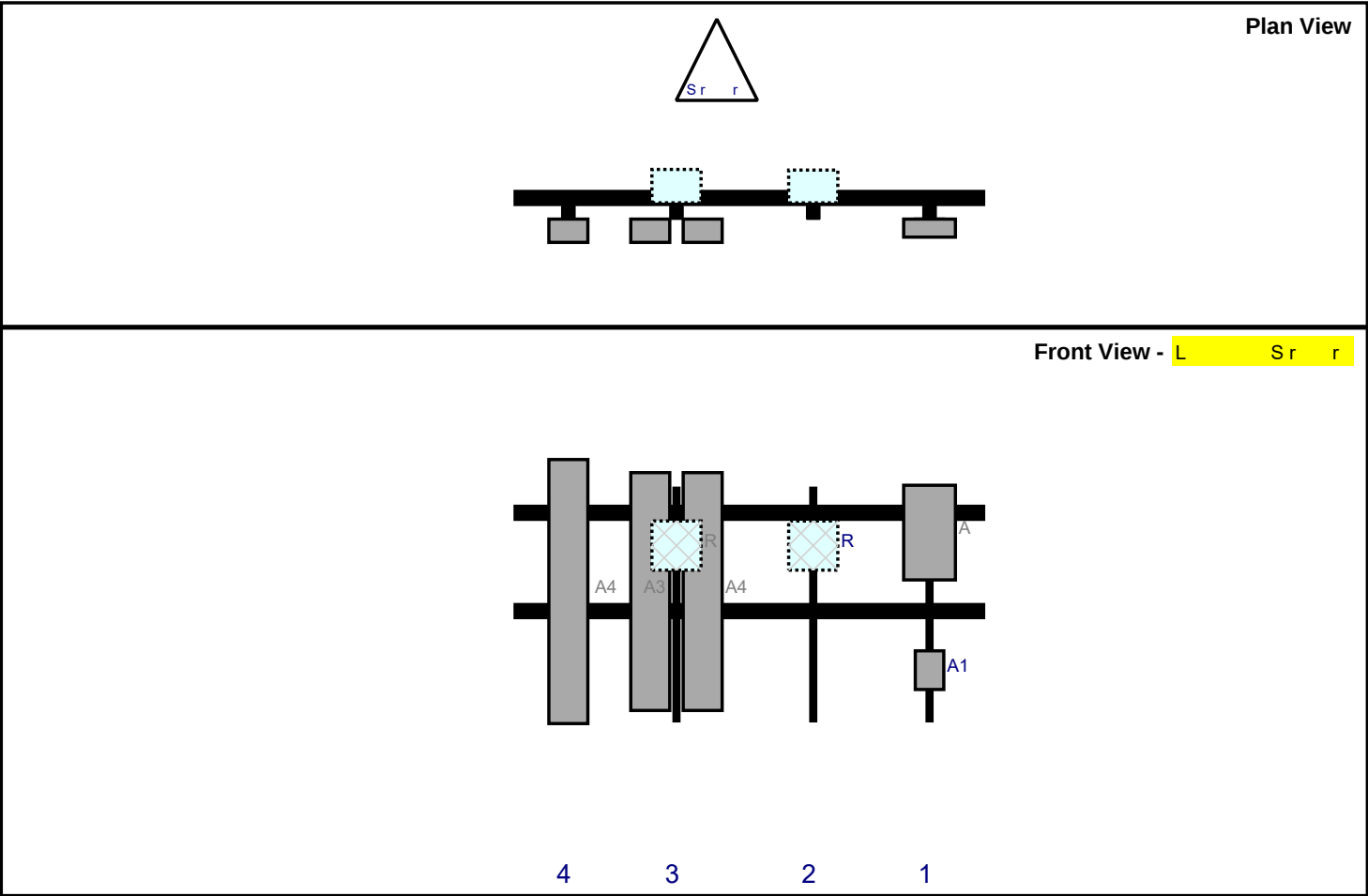


Front View - L Sr r



R	M	d		d	D	P	P	A	.A	A		
				r	L.		P	P	r	T.	O	S
A1	R	44	11.	.	12	1		r	.4			Add d
A	MT	413	A	2.	1.	12	1	r	14.	4		Add d
R	R	443	d 2 A	1	1	2.	2	B	d	1		Add d
A4	SB	1D	B	2.	11.	4.2	3	r	32.	4		R d 4 2 21
A4	SB	1D	B	2.	11.	4.2	3	r	32.	4		R d 4 2 21
R	R	44	1d 13A	1	1	4.2	3	B	d	1		Add d
A3	L	14DS	A1M	.	11.	1.2	4	r	32.	4		R d 4 2 21
O	P	R	D	331	P	4		M	r			Add d

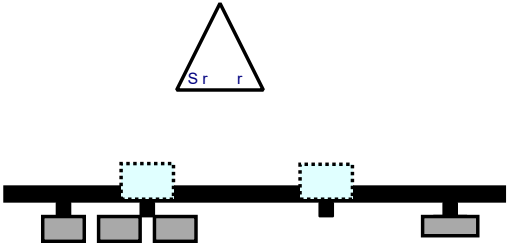
S	r	B							11	2	24
Sr	r	T	M			1	23	424			
M	E	.							P	2	



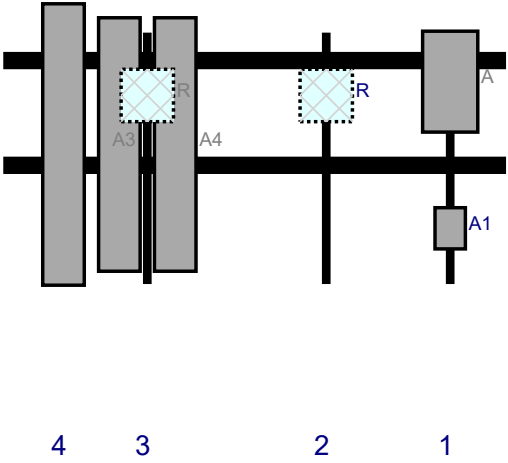
R	M	d		d	D	P	P	A	.A	A		
				r	L.		P	P	r	T.	O	S
A1	R	44	11.	.	12	1		r	.4			Add d
A	MT	413	A	2.	1.	12	1	r	14.	4		Add d
R	R	443	d 2 A	1	1	1.	2	B	d	1		Add d
A4	SB	1D	B	2.	11.	4.	3	r	32.	4		R d 4 2 21
A4	SB	1D	B	2.	11.	4.	3	r	32.	4		R d 4 2 21
R	R	44	1d 13A	1	1	4.	3	B	d	1		Add d
A3	L	14DS	A1M	.	11.	1.	4	r	32.	4		R d 4 2 21

S	r	C							11	2	24
Sr	r	T	M			1	23	424			
M	E	.							P	3	

Plan View



Front View - L Sr r



R	M	d		d	D	P	P	A	.A	A		
				r	L.		P	P	r	T.	O	S
A1	R	44	11.	.	12	1		r	.4			Add d
A	MT	413	A	2.	1.	12	1	r	14.	4		Add d
R	R	443	d 2 A	1	1	2.	2	B	d	1		Add d
A4	SB	1D	B	2.	11.	41.2	3	r	32.	4		R d 4 2 21
A4	SB	1D	B	2.	11.	41.2	3	r	32.	4		R d 4 2 21
R	R	44	1d 13A	1	1	41.2	3	B	d	1		Add d
A3	L	14DS	A1M	.	11.	1.2	4	r	32.	4		R d 4 2 21

By: DSGRO.LMO
Microplm\Laurel\Projects\3021-137700\A3\7719414-Connexico Mount Exhale-3000179983_1502063_MODDWS Mount MOD.dwg 3/26/24-1

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
1		VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	291	291
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150
1		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE		34	34
3		VZWSMART-MSK13	UNIVERSAL CHANNEL CROSSOVER		30	90
3		VZWSMART-P40-278X072	72" LONG, PIPE 2.5 SCH40 (2.875"OD X 0.203" THK)		35	105
1		VZWSMART-P40-238X048	48" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		15	15

SECTION 2 - OTHER REQUIRED PARTS

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

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISION	H42-0501-06	STANDOFF CLAMP BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
TOTAL:						1189

NOTES:

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

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM
SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

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



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Engineering & Design

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Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:

BILL OF MATERIALS

SHEET NUMBER:

SBOM-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

GENERAL NOTES

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

STRUCTURAL STEEL

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

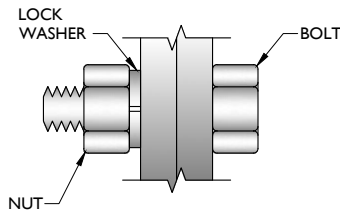
CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE
- ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING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

BOLT SCHEDULE (IN.)

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

WORKABLE GAGES (IN.)

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

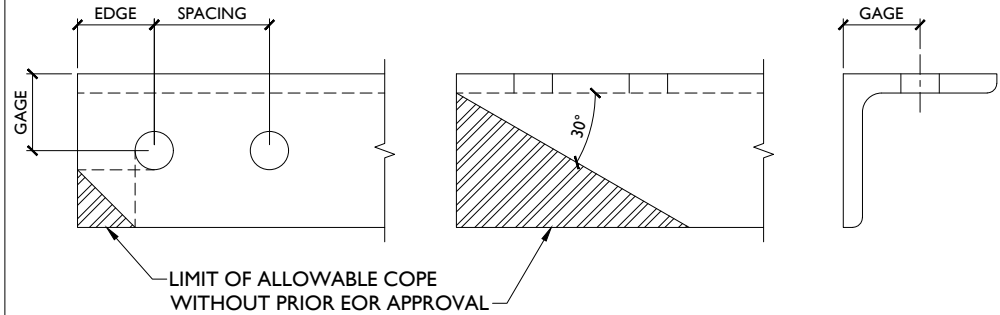


TYP. BOLT ASSEMBLY

NOTES:

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

ALLOWABLE COPING

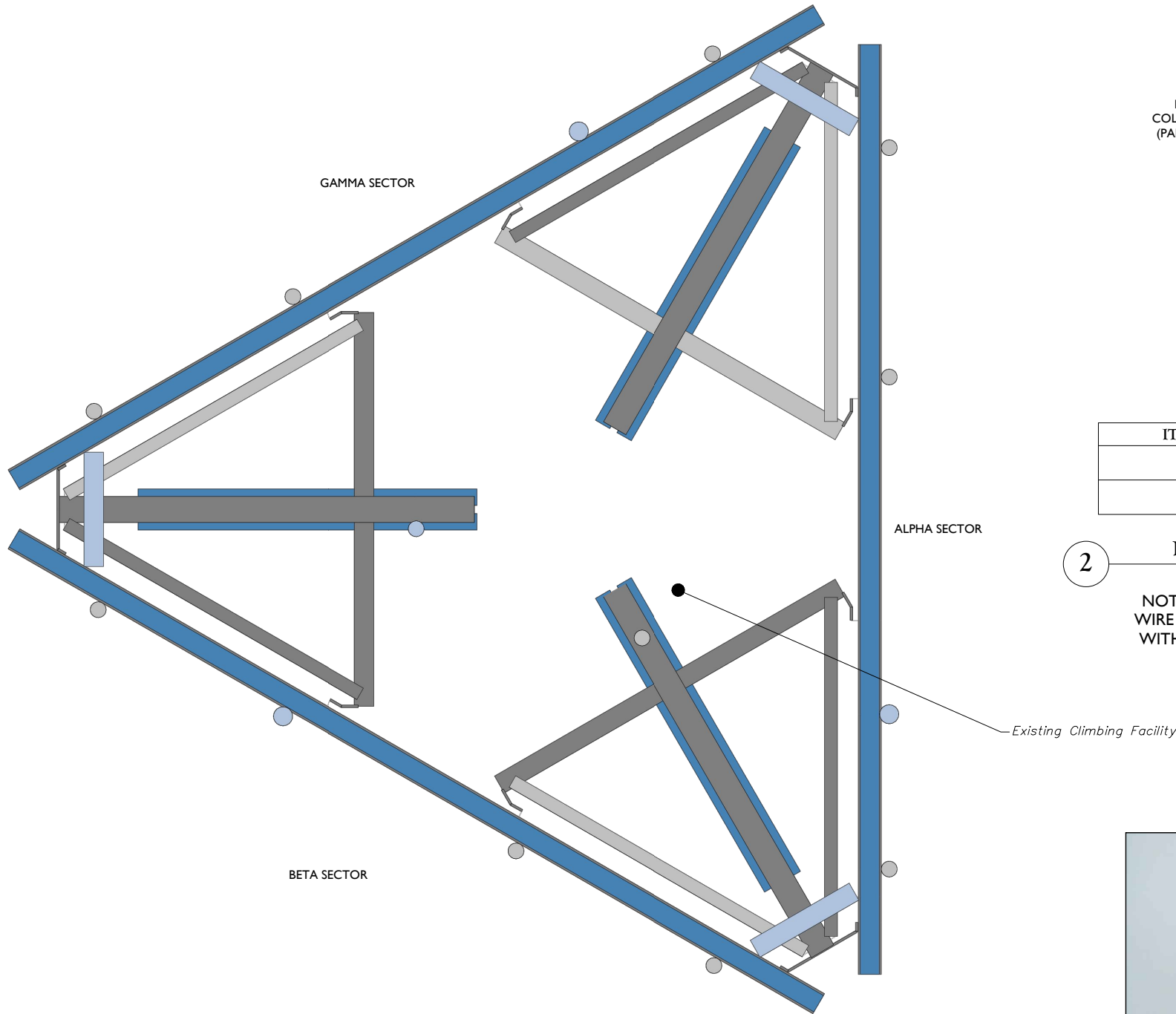


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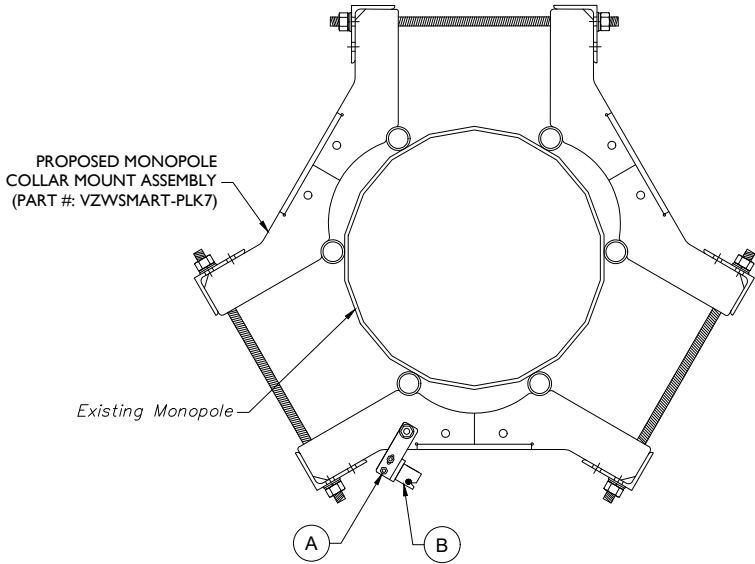
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HARTFORD COUNTY



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

STRUCTURAL NOTES:

- PER THE MOUNT MAPPING COMPLETED BY STRUCTURAL COMPONENTS ON 5/4/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (89'-6") ARE NOT IN GOOD CONDITION AND REQUIRE FURTHER MAINTENANCE. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.



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

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

Existing Climbing Facility

Existing Safety Climb

Existing Climbing Facility



CLIMBING FACILITY PHOTO

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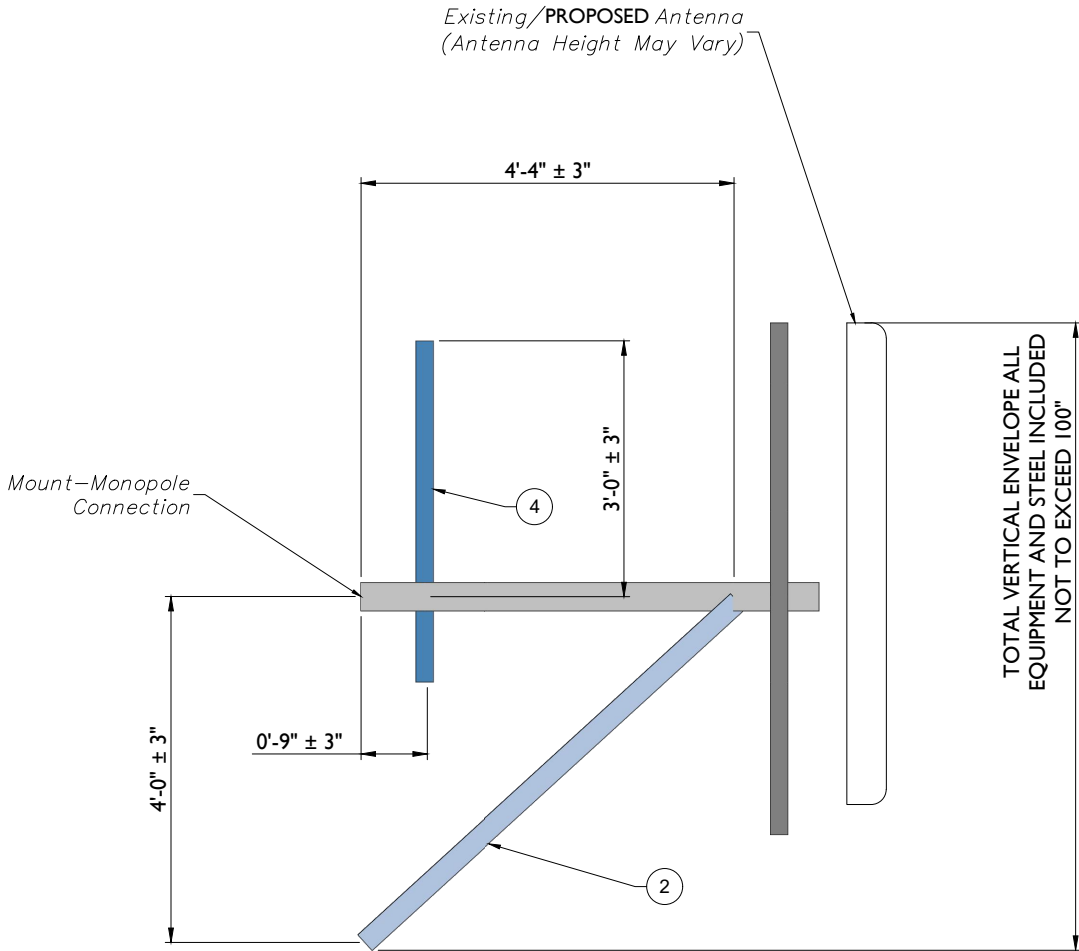
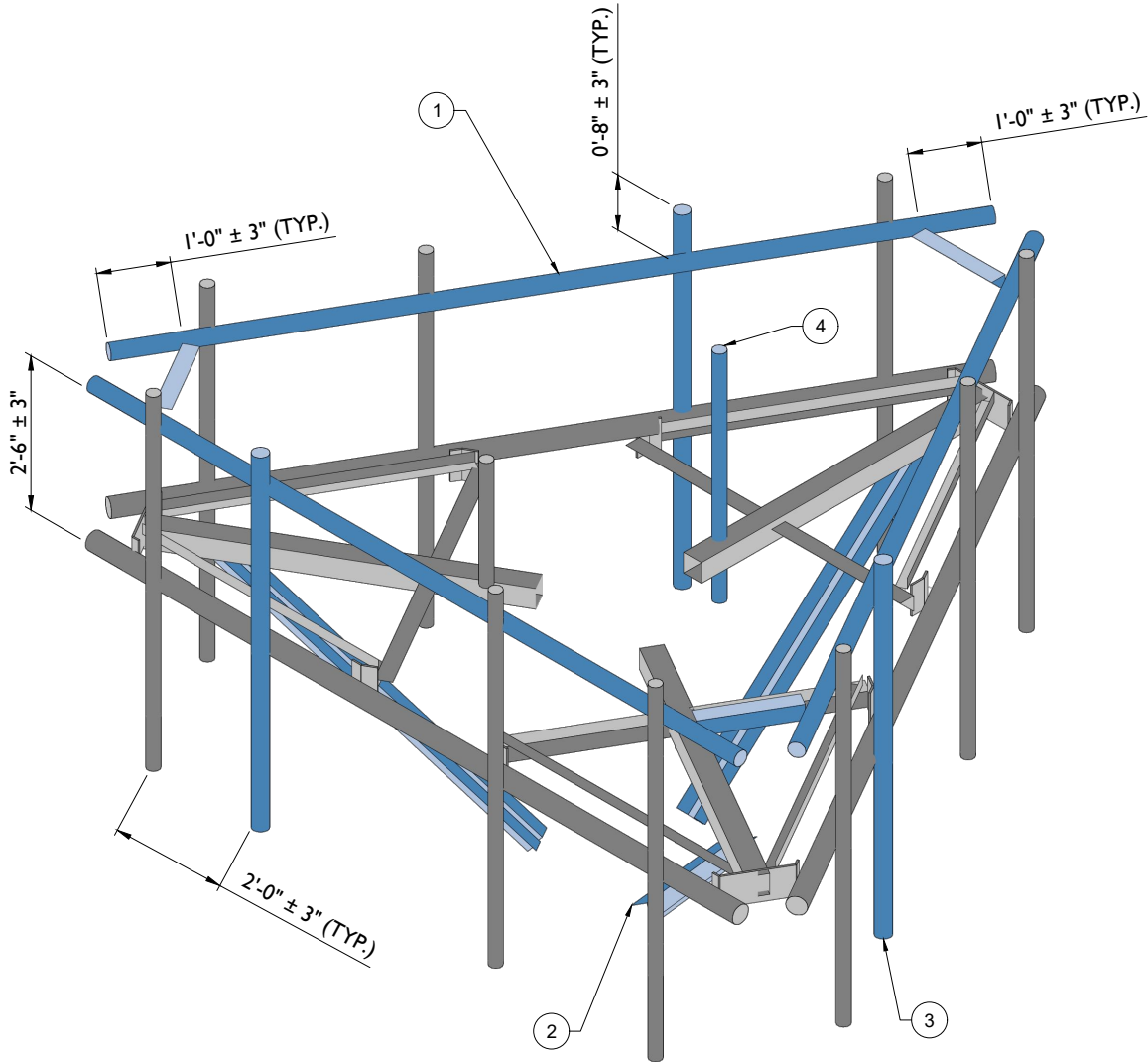
LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

TOTAL VERTICAL ENVELOPE:

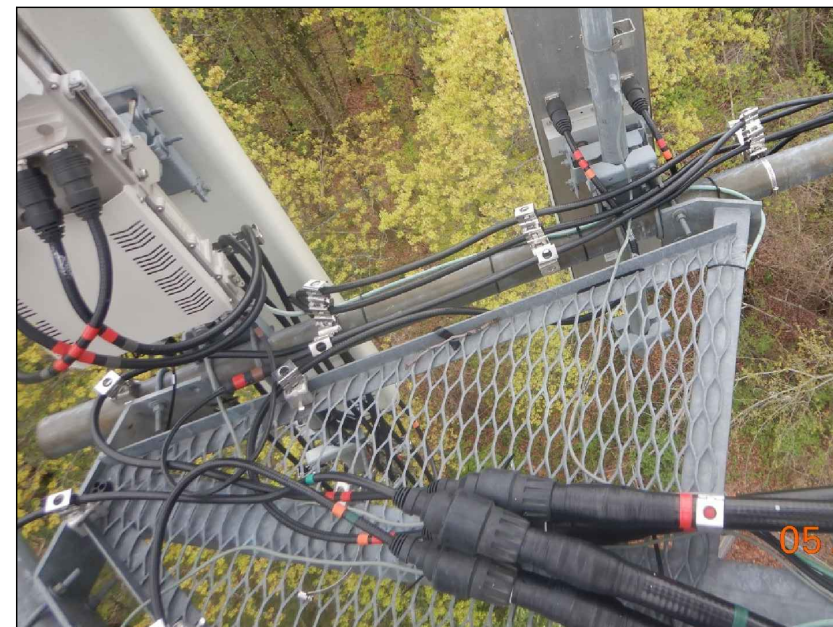
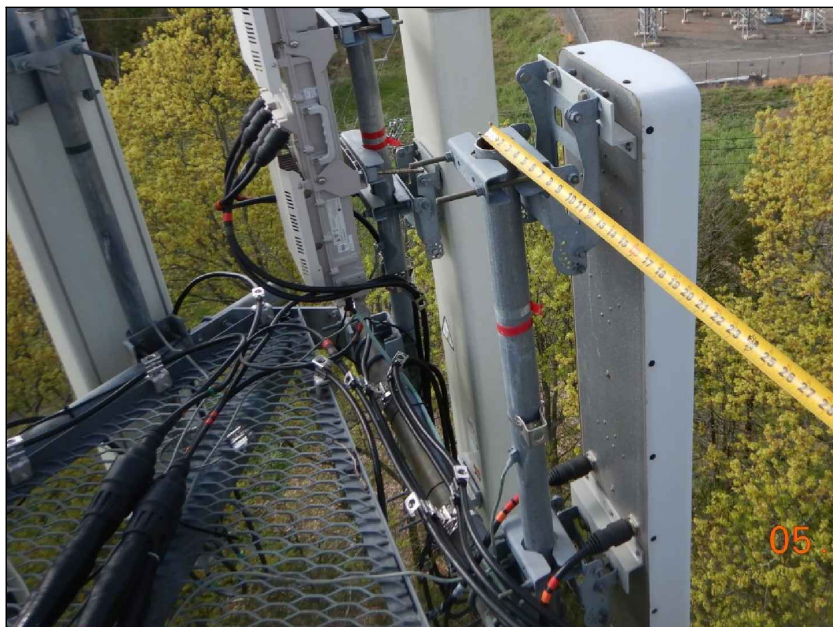
CONTRACTOR SHALL VERIFY AND CONFIRM IN FIELD THAT VERIZON'S OVERALL TIP TO TIP VERTICAL SPACE CONFIGURATION (EQUIPMENT AND STEEL COMBINED) DOES NOT EXCEED THE VERTICAL ENVELOPE LISTED IN THESE DRAWINGS. IF THE SITE'S EXISTING OR PROPOSED CONFIGURATION EXCEEDS THE ALLOWED VERTICAL ENVELOPE LISTED IN THESE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

MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	89'-6"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONNECT NEW HORIZONTAL TO ALL EXISTING AND PROPOSED VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1). CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.
2		1	PROPOSED KICKER KIT (PART #: VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.
3		3	PROPOSED 72" LONG, PIPE 2.5 SCH40 (PART #: VZWSMART-P40-278X072)	CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK13).
4		1	PROPOSED 48" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X048)	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH BACK TO BACK CROSSOVER PLATE (VZWSMART-MSK6). LOCATION BETWEEN BETA AND GAMMA SECTOR ONLY.
GENERAL NOTES:				
A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR				
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).				
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.				



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SCALE: AS SHOWN	JOB NUMBER: 21777941
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Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN CT, P.C.
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SHEET TITLE :

MOUNT PHOTOS

SHEET NUMBER :

SS-2

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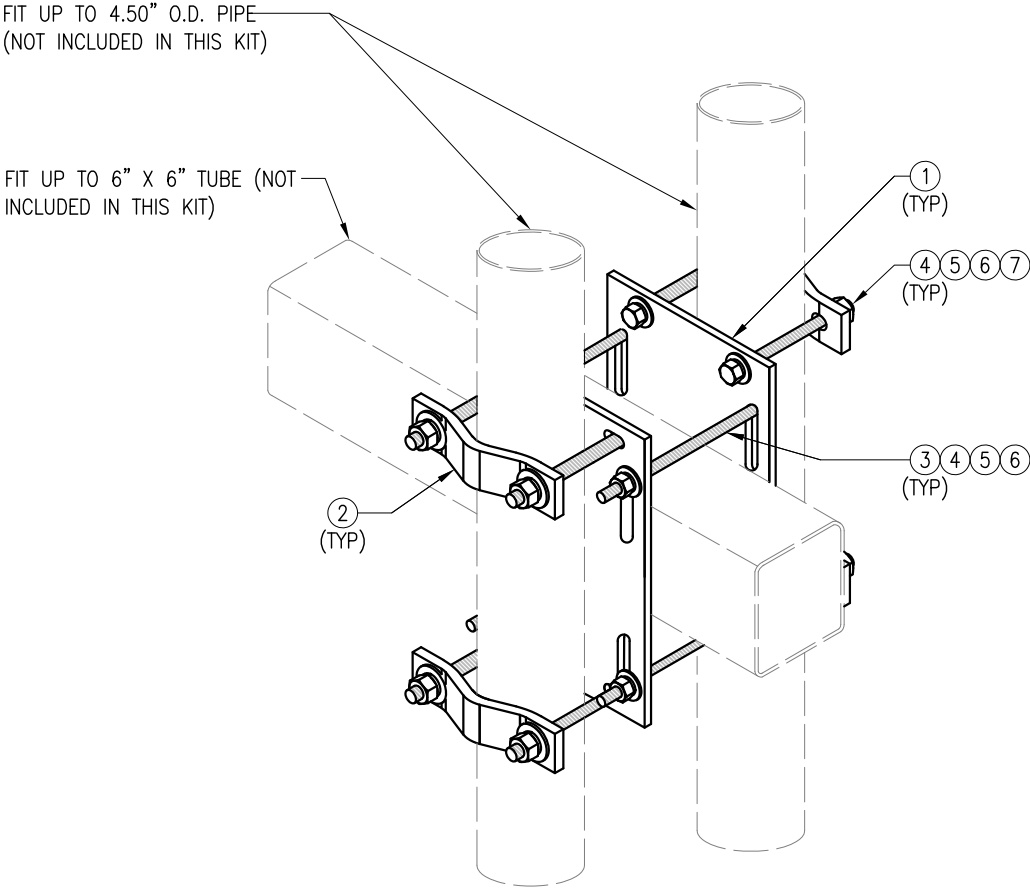
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1	FIRST ISSUE	SK	05/08/20

SHEET TITLE:
VZWSMART-MSK6
BACK TO BACK
CROSSOVER

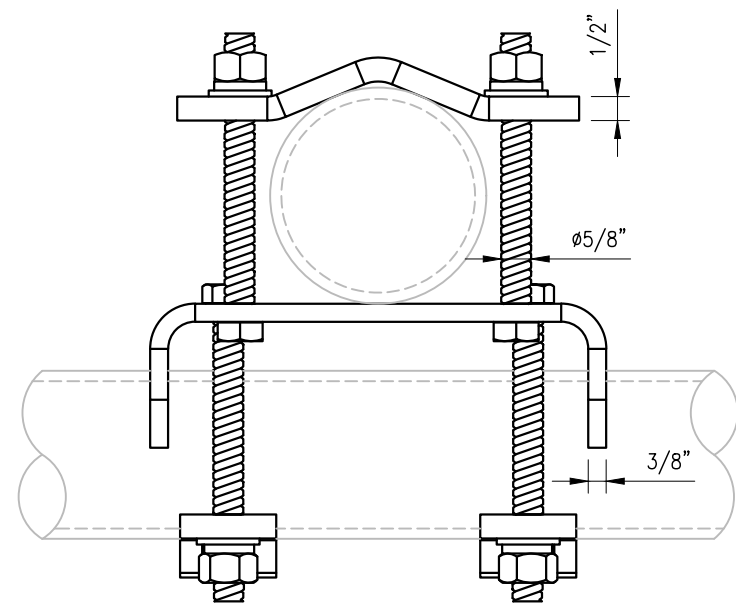
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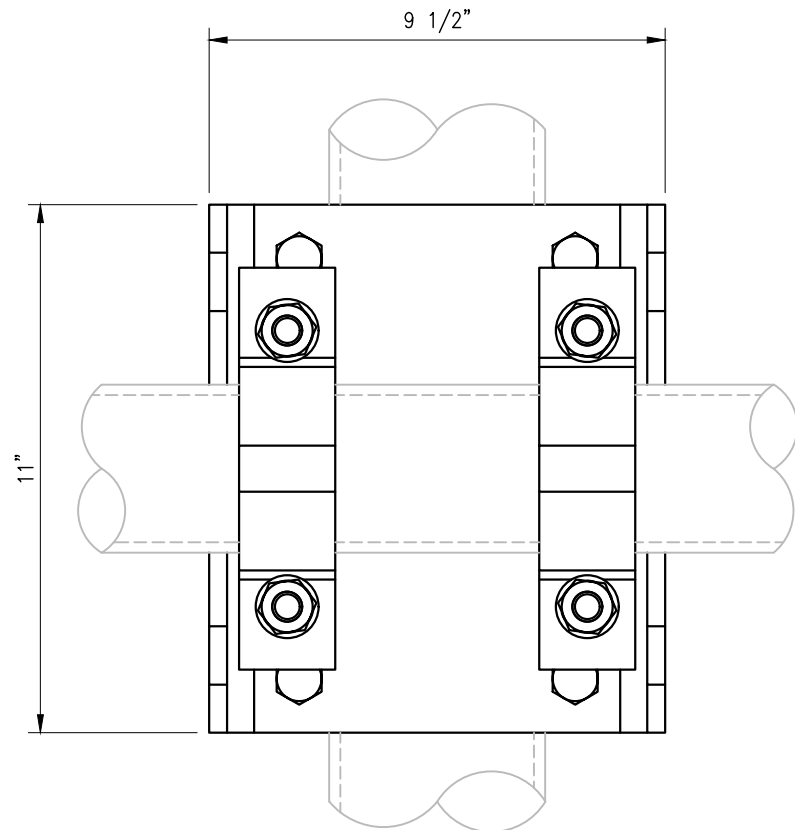
ISOMETRIC VIEW
BACK TO BACK CROSSOVER

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

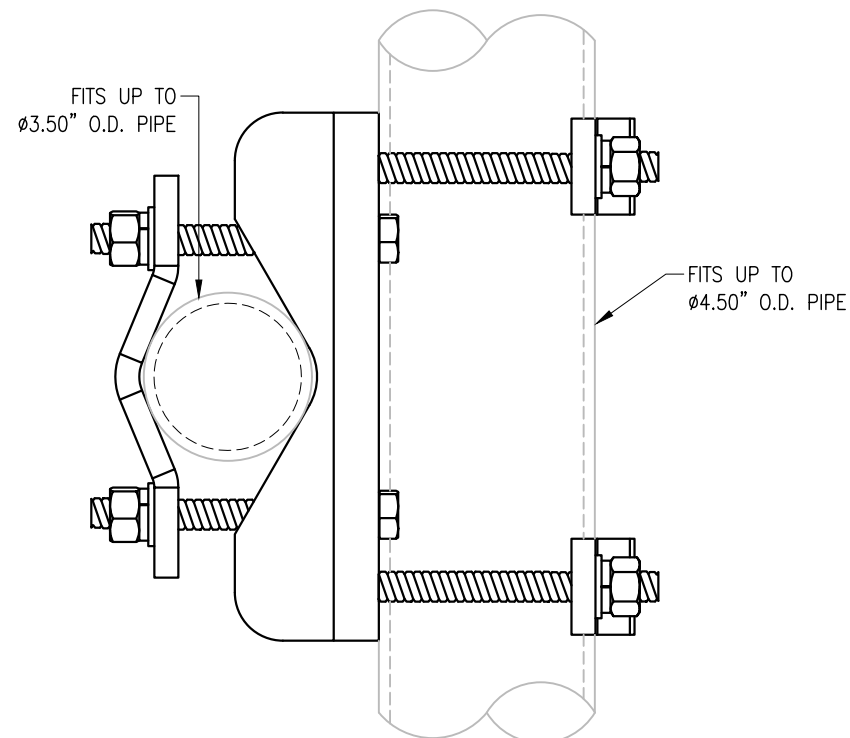
NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.



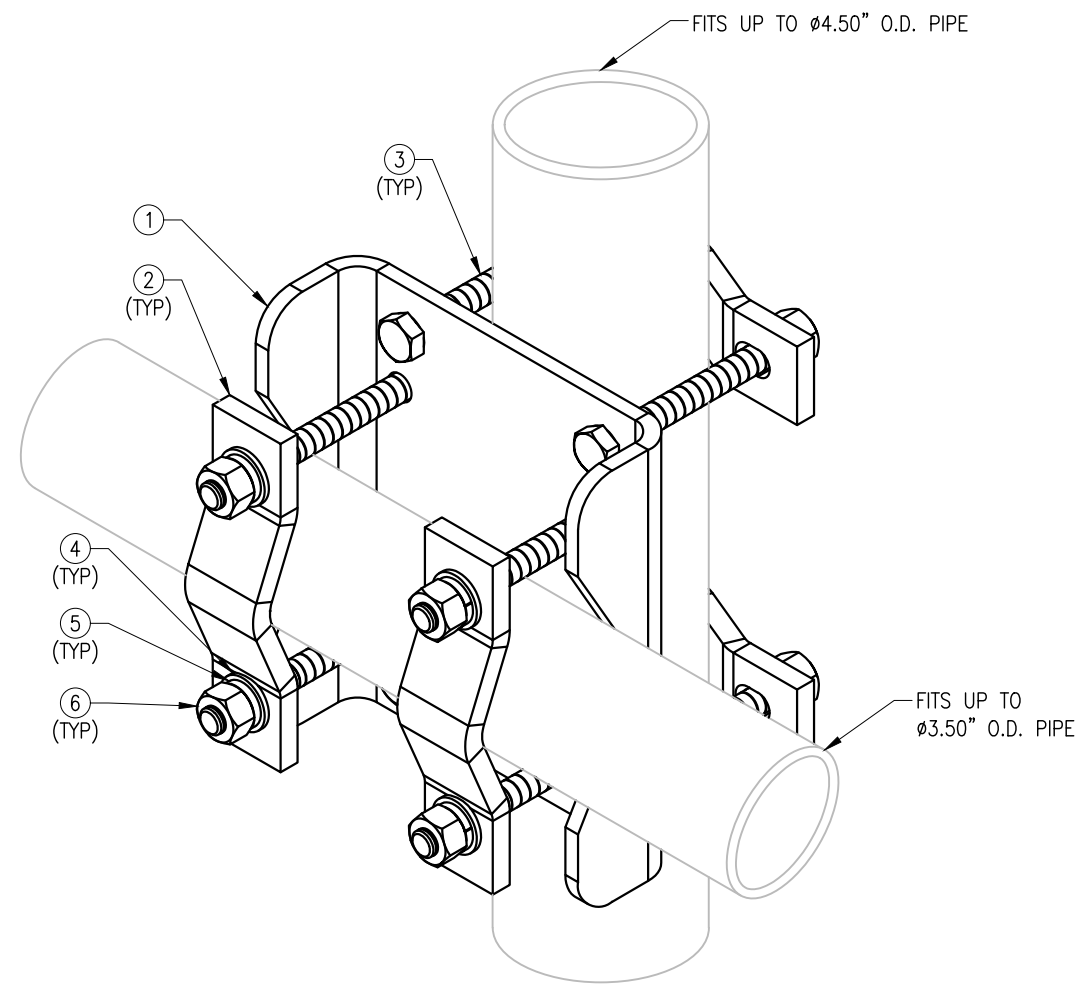
TOP VIEW



FRONT VIEW



SIDE VIEW



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

VZWSMART-MSK13 (UNIVERSAL CHANNEL CROSSOVER)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	P574-029-01	PL 3/8" X 11" X 14 1/8" A36 BENT PLATE	MSK13-F1	14.73
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK3-F1	10
3	8	---	BOLT 5/8" X 6" FULL THREAD SAE GR-5	---	--
4	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
5	8	LW-625	5/8" HDG LOCK WASHER	---	0
6	8	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					29.91

VzW
SMART Tool[®]
Vendor

verizon

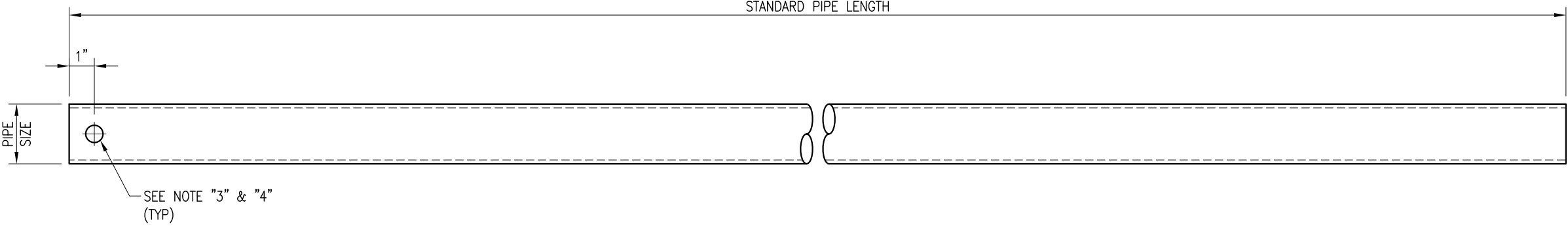
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3			
4			
5			

SHEET TITLE:
VZWSMART-MSK13
UNIVERSAL CHANNEL
CROSSOVER

SHEET NUMBER: VZWSMART-MSK13
REV #: 0



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

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

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

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Vendor



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DRAWN BY: BT CHECKED BY: HMA/KW

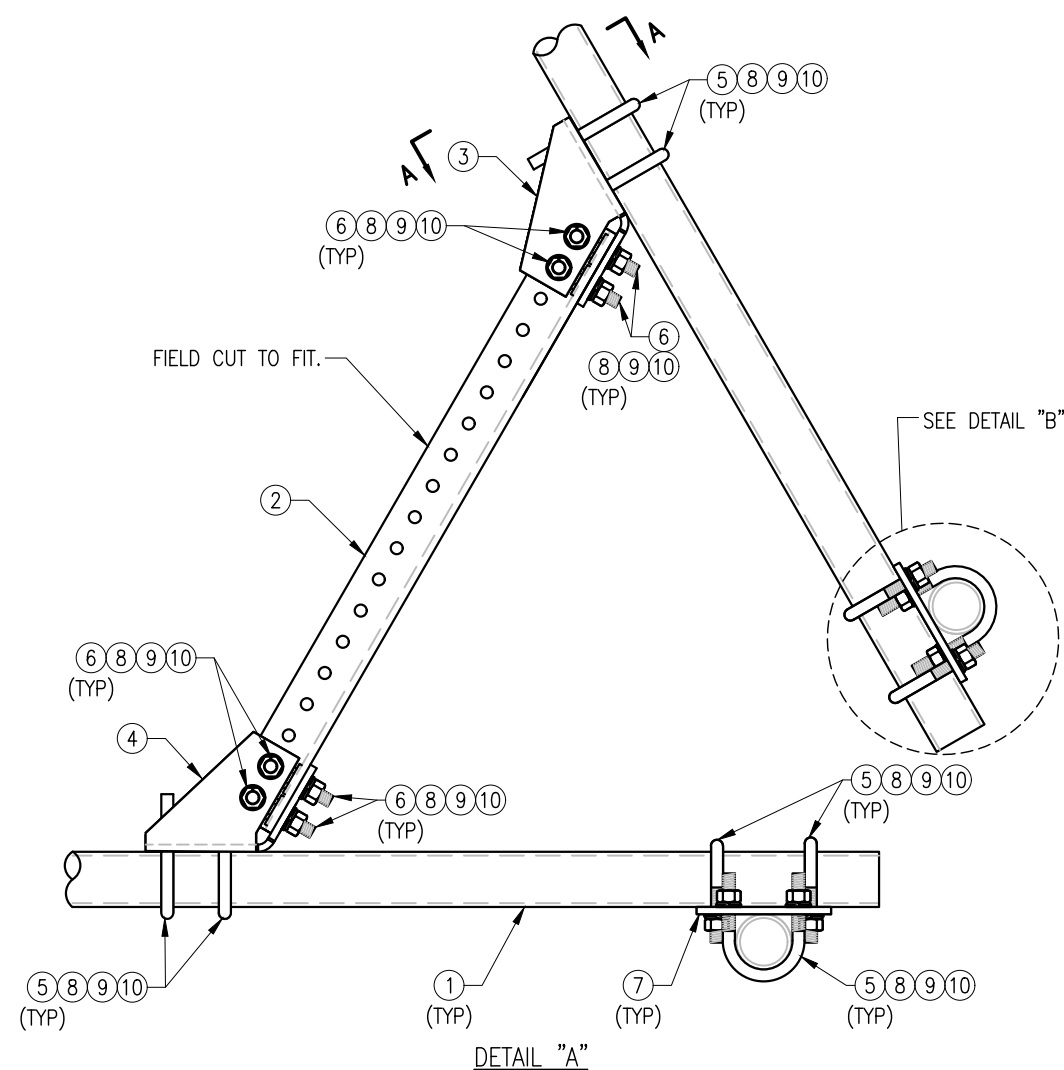
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

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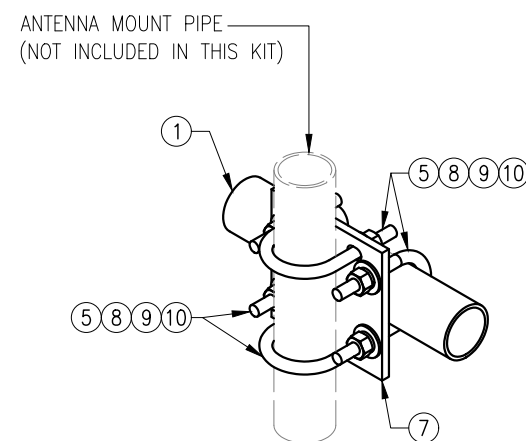
VZWSMART
STANDARD PIPE

SHEET NUMBER: REV #:

VZWSMART-PIPE 0



DETAIL "A"



DETAIL "B"

1. HOT-DIPPED GALVANIZED PER ASTM A123.

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

CHECKED BY: HMA

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

SHEET TITLE:

VZWSMART-PLK1
SUPPORT RAIL KIT

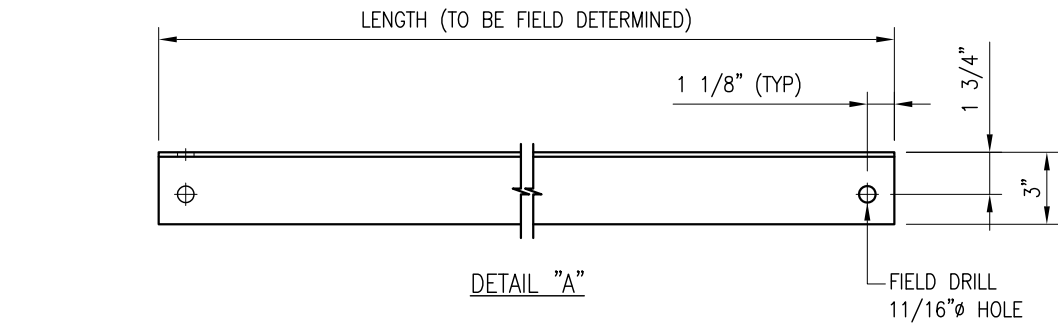
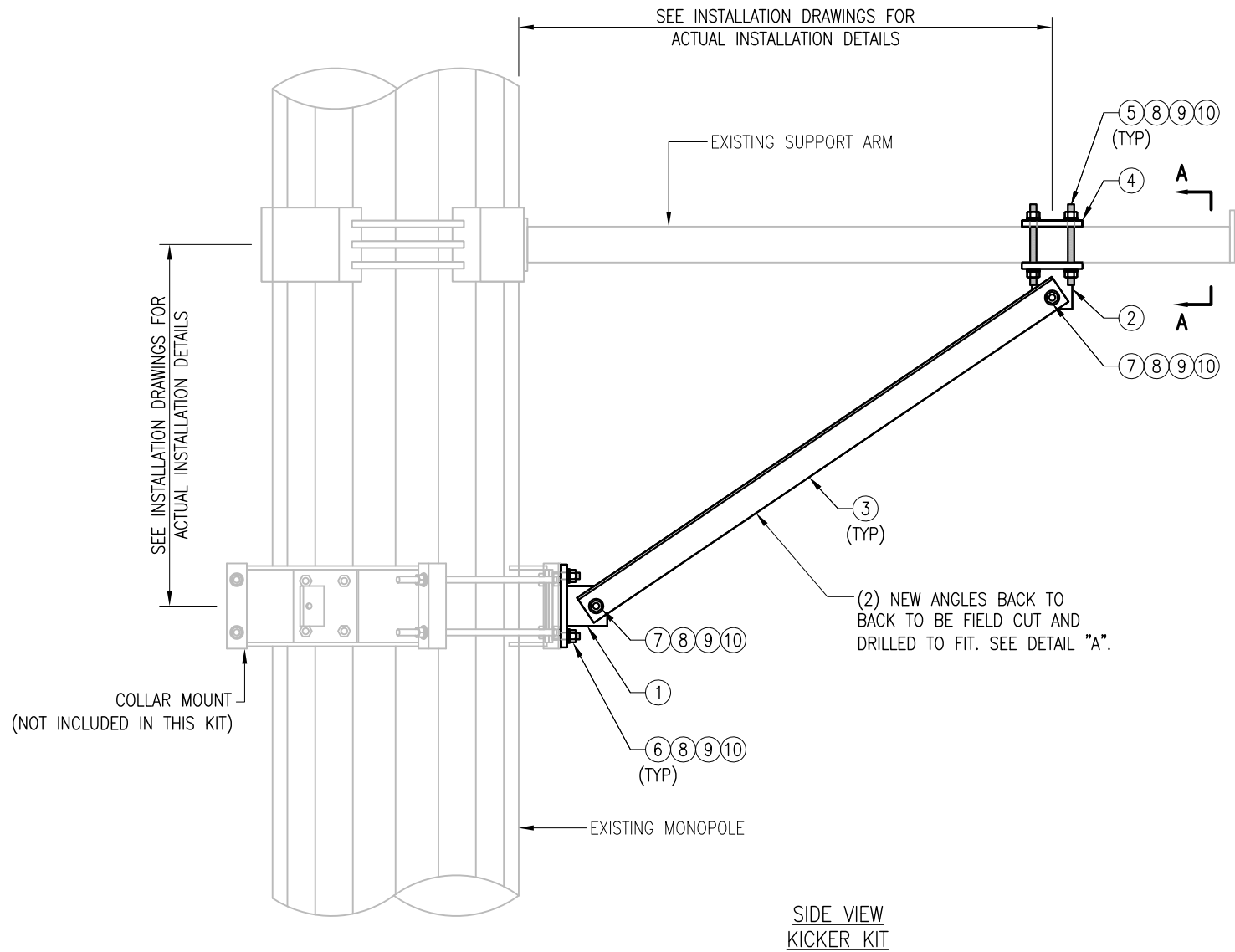
SHEET NUMBER:

VZWSMART-PLK1

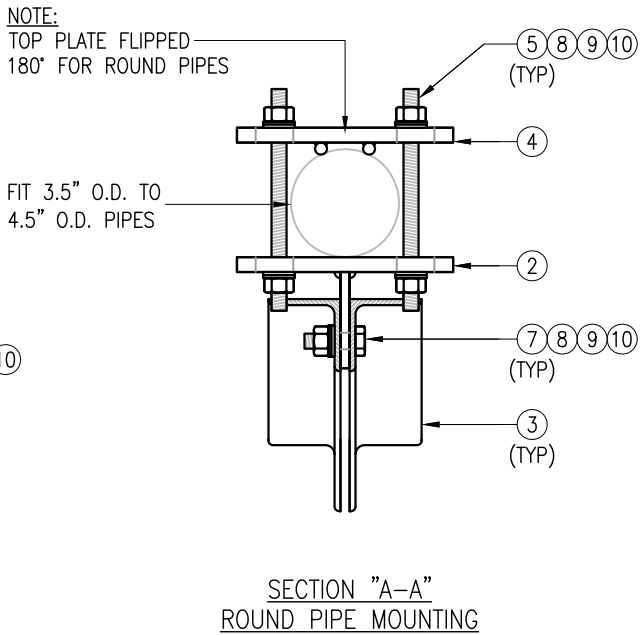
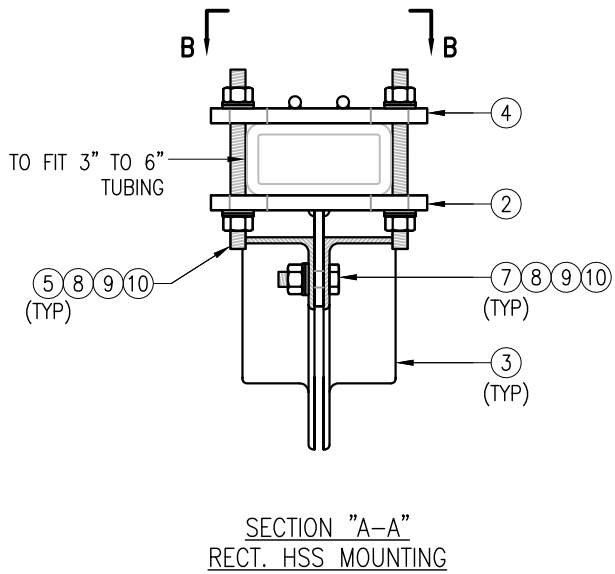
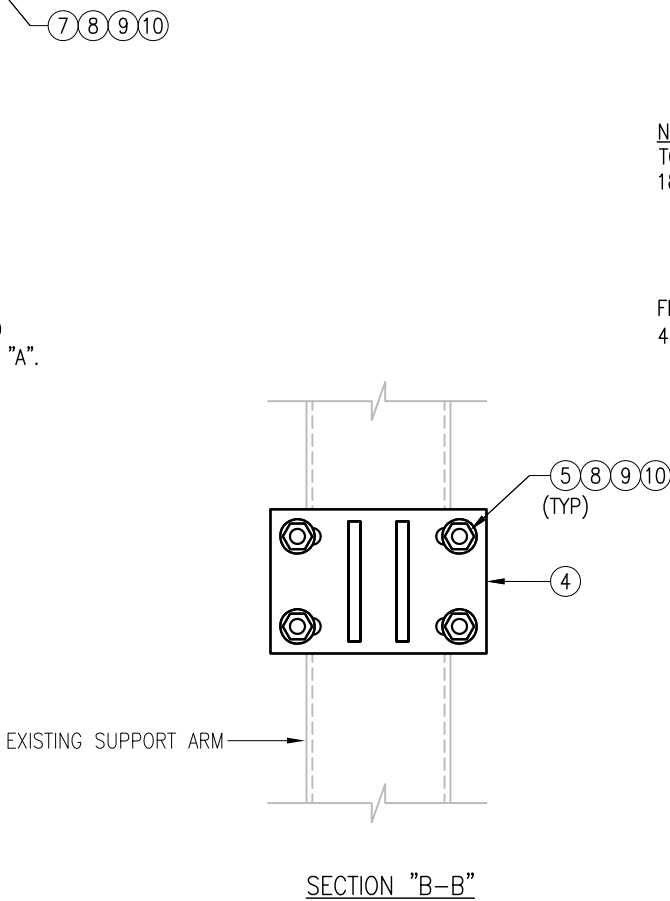
REV #:

0

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



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



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

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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	05/08/20
2			
3			
4			

SHEET TITLE:

VZWSMART-PLK5
KICKER KIT

SHEET NUMBER: VZWSMART-PLK5
REV #: 0



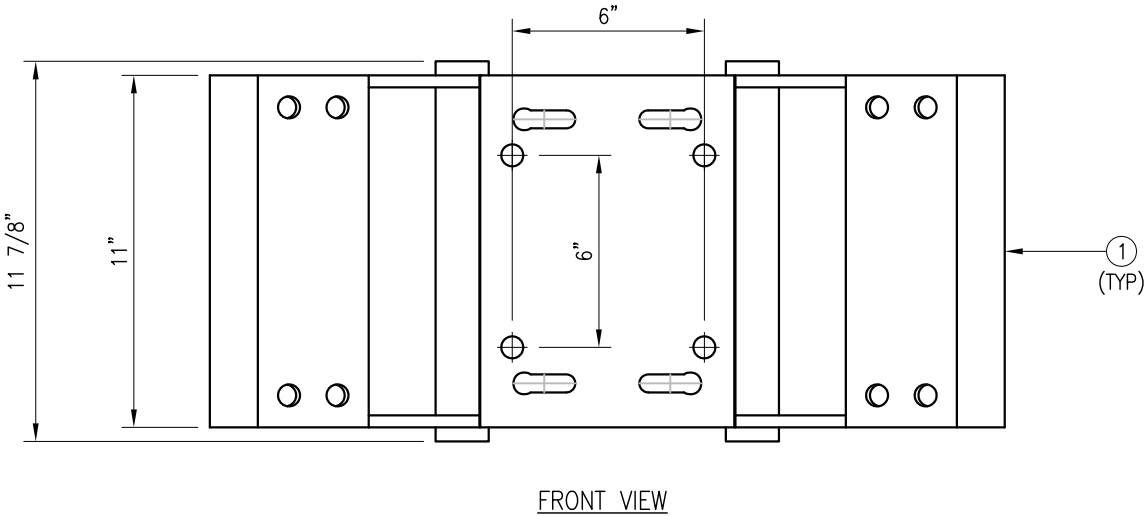
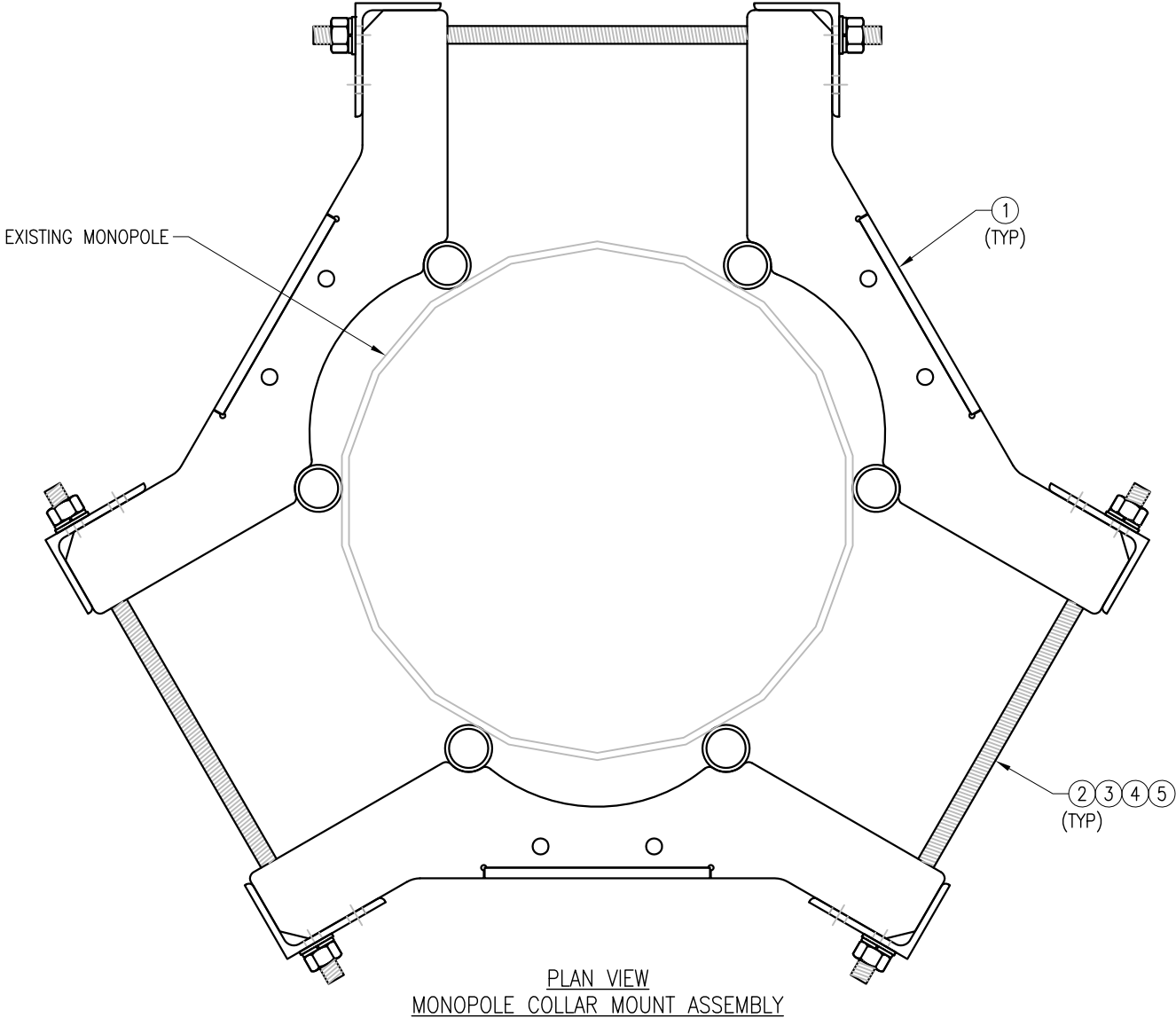
FOR REFERENCE
ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
△ 1	FIRST ISSUE	BT	05/11/20
△ 2			
△ 3			
△ 4			
△ 5			

SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7	REV #: 0
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NOTES:
1. FIT 12" TO 45" DIA MONOPOLE.
2. HOT-DIPPED GALVANIZED PER ASTM A123.

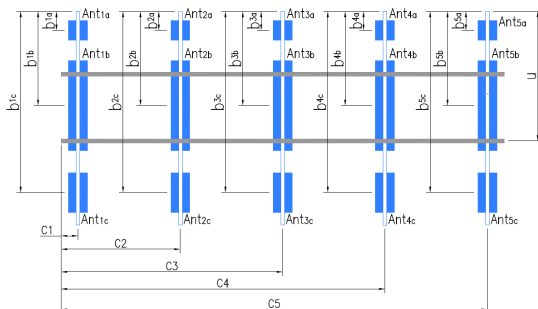
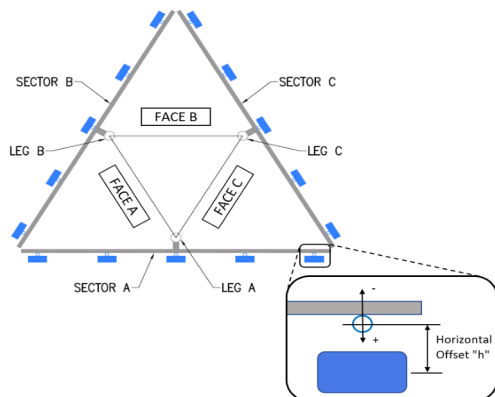
VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT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



FCC #
1286220

Tower Owner:	American Tower	Mapping Date:	5/4/2021
Site Name:	RKHL- Rocky hill	Tower Type:	Monopole
Site Number or ID:	16502069	Tower Height (Ft.):	107
Mapping Contractor:	Structural Components	Mount Elevation (Ft.):	88

Please insert the sketches of the antenna mount from the "Sketches" tab with dimensions and members here.



Antenna Layout (Looking Out From Tower)

[illegible][illegible]

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1	Missing a large amount of step pegs and extremely loose step pegs in a lot of spots.	2-8&303-305
2	Safety climb was tagged out unsafe by the general manager.	306&307
3		
4		
5		
6		
7		
8		

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

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

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



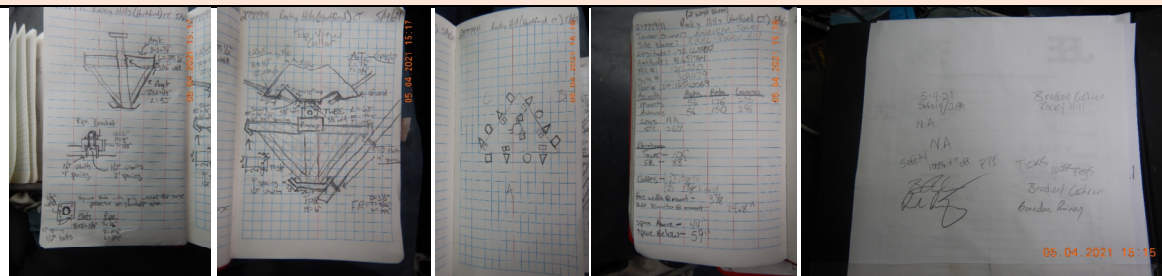
Antenna Mount Mapping Form (PATENT PENDING)

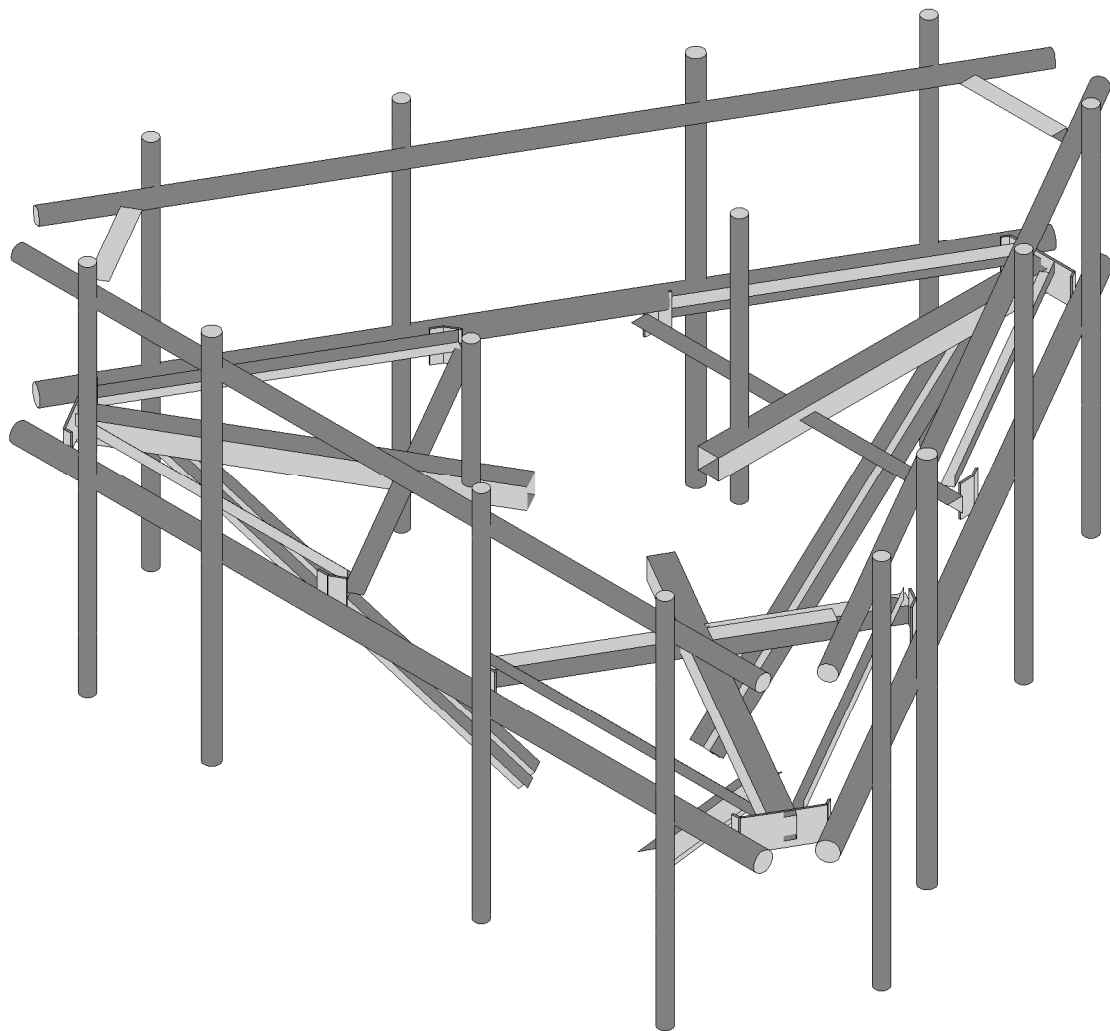
FCC #
1286220

Tower Owner:	American Tower	Mapping Date:	5/4/2021
Site Name:	RKHL- Rocky hill	Tower Type:	Monopole
Site Number or ID:	16502069	Tower Height (Ft.):	107
Mapping Contractor:	Structural Components	Mount Elevation (Ft.):	88

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Please Insert Sketches of the Antenna Mount





Envelope Only Solution

Colliers Engineering & Des...

SK - 1

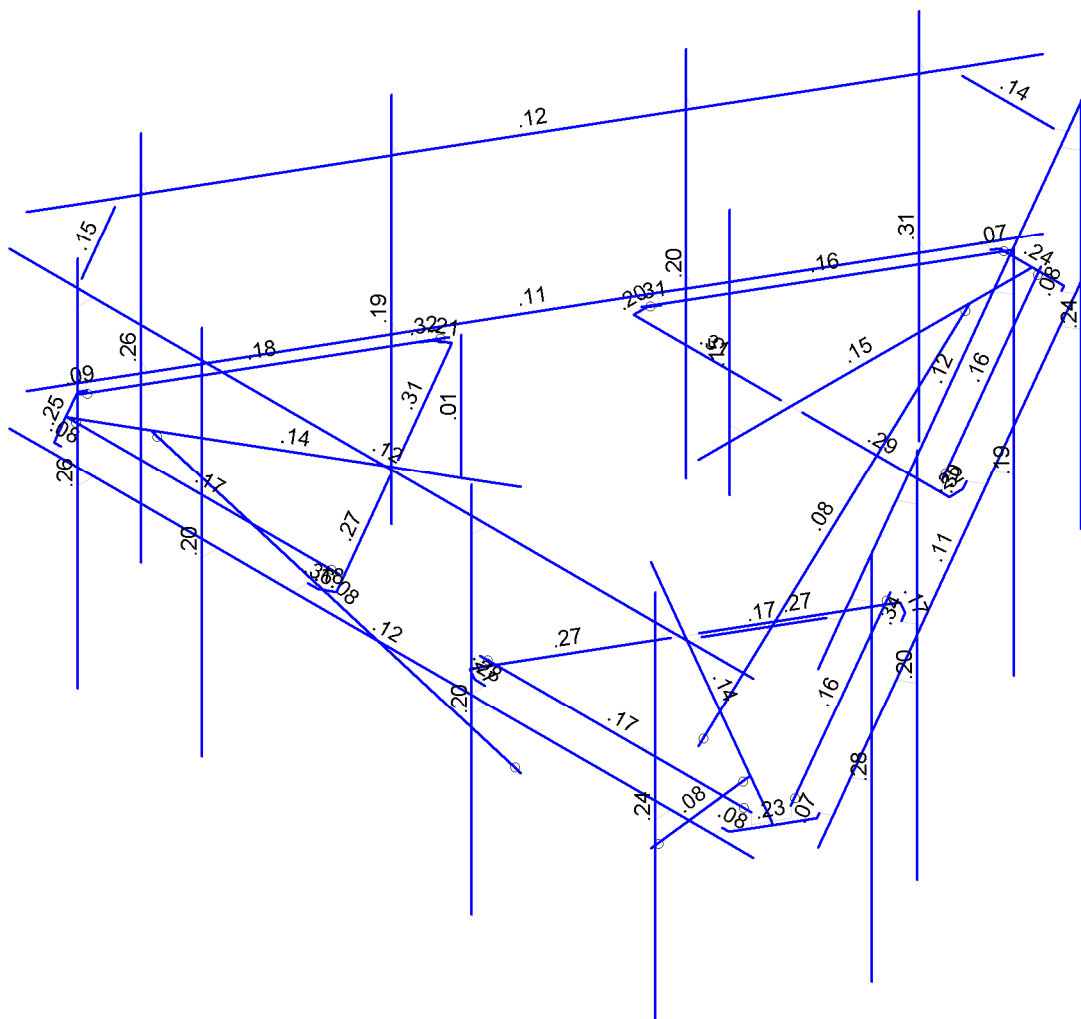
June 11, 2024 at 11:42 AM

Rendered Model

5000179983-VZW_MT_LO_H.r3d



Code Check (Env)	
No Calc	> 1.0
90-1.0	75-50
50-75	0-50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

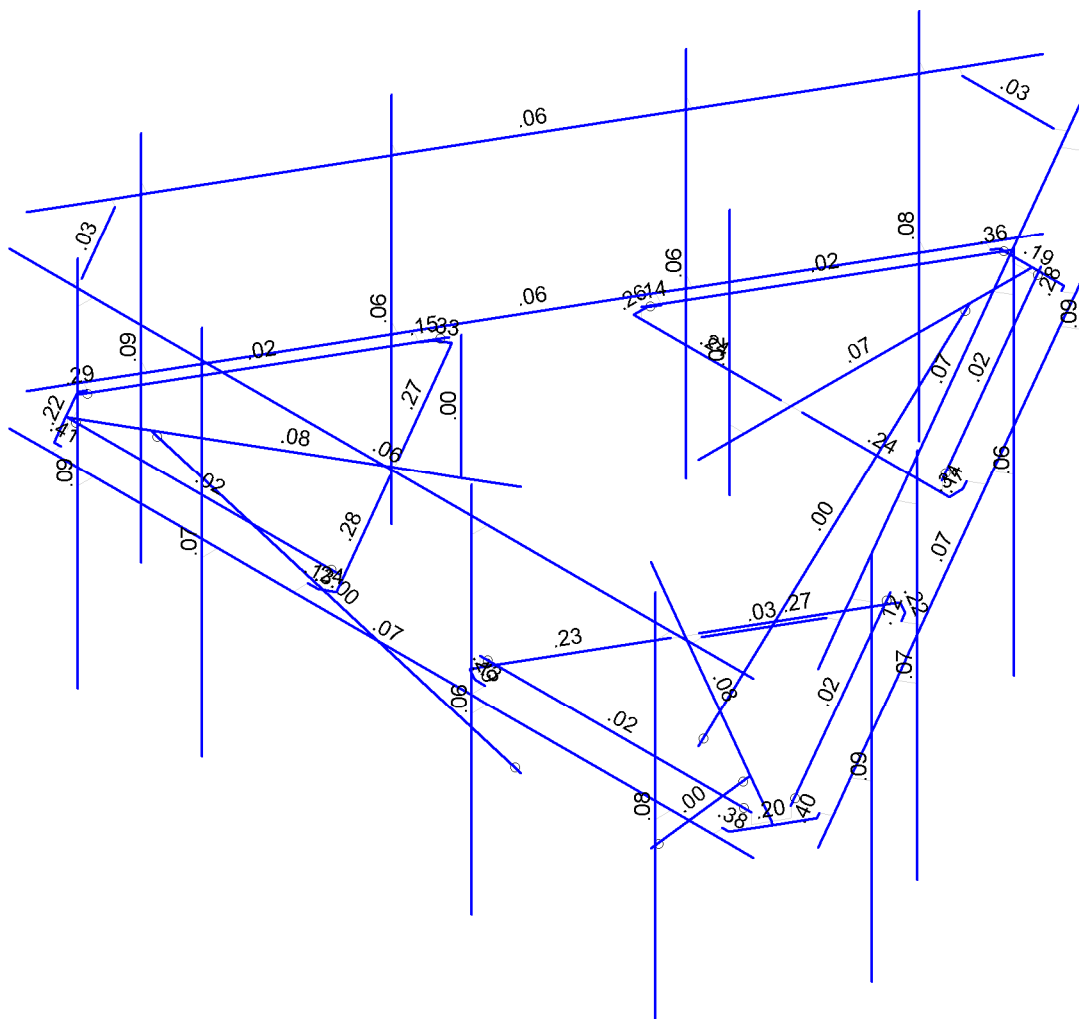
Colliers Engineering & Des...

SK - 2

June 11, 2024 at 11:42 AM

Bending Check

5000179983-VZW_MT_LO_H.r3d



Page 3

Basic Load Cases

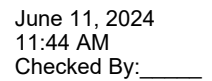
	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Antenna D	None					102		
2	Antenna Di	None					102		
3	Antenna Wo (0 Deg)	None					102		
4	Antenna Wo (30 Deg)	None					102		
5	Antenna Wo (60 Deg)	None					102		
6	Antenna Wo (90 Deg)	None					102		
7	Antenna Wo (120 Deg)	None					102		
8	Antenna Wo (150 Deg)	None					102		
9	Antenna Wo (180 Deg)	None					102		
10	Antenna Wo (210 Deg)	None					102		
11	Antenna Wo (240 Deg)	None					102		
12	Antenna Wo (270 Deg)	None					102		
13	Antenna Wo (300 Deg)	None					102		
14	Antenna Wo (330 Deg)	None					102		
15	Antenna Wi (0 Deg)	None					102		
16	Antenna Wi (30 Deg)	None					102		
17	Antenna Wi (60 Deg)	None					102		
18	Antenna Wi (90 Deg)	None					102		
19	Antenna Wi (120 Deg)	None					102		
20	Antenna Wi (150 Deg)	None					102		
21	Antenna Wi (180 Deg)	None					102		
22	Antenna Wi (210 Deg)	None					102		
23	Antenna Wi (240 Deg)	None					102		
24	Antenna Wi (270 Deg)	None					102		
25	Antenna Wi (300 Deg)	None					102		
26	Antenna Wi (330 Deg)	None					102		
27	Antenna Wm (0 Deg)	None					102		
28	Antenna Wm (30 Deg)	None					102		
29	Antenna Wm (60 Deg)	None					102		
30	Antenna Wm (90 Deg)	None					102		
31	Antenna Wm (120 Deg)	None					102		
32	Antenna Wm (150 Deg)	None					102		
33	Antenna Wm (180 Deg)	None					102		
34	Antenna Wm (210 Deg)	None					102		
35	Antenna Wm (240 Deg)	None					102		
36	Antenna Wm (270 Deg)	None					102		
37	Antenna Wm (300 Deg)	None					102		
38	Antenna Wm (330 Deg)	None					102		
39	Structure D	None		-1				3	
40	Structure Di	None						62	3
41	Structure Wo (0 Deg)	None						124	
42	Structure Wo (30 Deg)	None						124	
43	Structure Wo (60 Deg)	None						124	
44	Structure Wo (90 Deg)	None						124	
45	Structure Wo (120 D...	None						124	
46	Structure Wo (150 D...	None						124	
47	Structure Wo (180 D...	None						124	
48	Structure Wo (210 D...	None						124	
49	Structure Wo (240 D...	None						124	
50	Structure Wo (270 D...	None						124	
51	Structure Wo (300 D...	None						124	
52	Structure Wo (330 D...	None						124	
53	Structure Wi (0 Deg)	None						124	

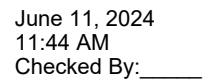
Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
54	Structure Wi (30 Deg)	None						124	
55	Structure Wi (60 Deg)	None						124	
56	Structure Wi (90 Deg)	None						124	
57	Structure Wi (120 De..	None						124	
58	Structure Wi (150 De..	None						124	
59	Structure Wi (180 De..	None						124	
60	Structure Wi (210 De..	None						124	
61	Structure Wi (240 De..	None						124	
62	Structure Wi (270 De..	None						124	
63	Structure Wi (300 De..	None						124	
64	Structure Wi (330 De..	None						124	
65	Structure Wm (0 Deg)	None						124	
66	Structure Wm (30 De..	None						124	
67	Structure Wm (60 De..	None						124	
68	Structure Wm (90 De..	None						124	
69	Structure Wm (120 D..	None						124	
70	Structure Wm (150 D..	None						124	
71	Structure Wm (180 D..	None						124	
72	Structure Wm (210 D..	None						124	
73	Structure Wm (240 D..	None						124	
74	Structure Wm (270 D..	None						124	
75	Structure Wm (300 D..	None						124	
76	Structure Wm (330 D..	None						124	
77	Lm1	None					1		
78	Lm2	None					1		
79	Lv1	None					1		
80	Lv2	None					1		
81	Antenna Ev	None					102		
82	Antenna Eh (0 Deg)	None					68		
83	Antenna Eh (90 Deg)	None					68		
84	Structure Ev	ELY		-.043				3	
85	Structure Eh (0 Deg)	ELZ			-.107			3	
86	Structure Eh (90 Deg)	ELX	.107					3	
87	BLC 39 Transient Are..	None						30	
88	BLC 40 Transient Are..	None						30	
89	BLC 84 Transient Are..	None						30	
90	BLC 85 Transient Are..	None						30	
91	BLC 86 Transient Are..	None						30	

Load Combinations

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



Page 7

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
21	M44	N56	N62			RIGID	None	None	RIGID	Typical
22	M47	N65	N69			RIGID	None	None	RIGID	Typical
23	M49	N66	N73			RIGID	None	None	RIGID	Typical
24	M52A	N67	N70			RIGID	None	None	RIGID	Typical
25	M54	N68	N74			RIGID	None	None	RIGID	Typical
26	M55	N79	N75			RIGID	None	None	RIGID	Typical
27	M56	N75	N77			RIGID	None	None	RIGID	Typical
28	M57	N76	N77			RIGID	None	None	RIGID	Typical
29	M59A	N82	N83			RIGID	None	None	RIGID	Typical
30	M60	N84	N85			RIGID	None	None	RIGID	Typical
31	M62	N88	N89			RIGID	None	None	RIGID	Typical
32	M75	N128	N129			RIGID	None	None	RIGID	Typical
33	M76A	N111	N106			RIGID	None	None	RIGID	Typical
34	M77A	N106	N112			RIGID	None	None	RIGID	Typical
35	M80A	N115	N119			RIGID	None	None	RIGID	Typical
36	M82	N116	N123			RIGID	None	None	RIGID	Typical
37	M85A	N117	N120			RIGID	None	None	RIGID	Typical
38	M87	N118	N124			RIGID	None	None	RIGID	Typical
39	M88A	N129	N125			RIGID	None	None	RIGID	Typical
40	M89	N125	N127			RIGID	None	None	RIGID	Typical
41	M90	N126	N127			RIGID	None	None	RIGID	Typical
42	M92A	N132	N133			RIGID	None	None	RIGID	Typical
43	M93	N134	N135A			RIGID	None	None	RIGID	Typical
44	M94	N136	N137			RIGID	None	None	RIGID	Typical
45	M95	N138	N139			RIGID	None	None	RIGID	Typical
46	M10	N101	N103A		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
47	M43	N102	N5		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
48	M35	N60	N62		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
49	M36	N61	N53		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
50	M68	N110	N112		90	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
51	M69	N111	N103		90	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
52	MP3A	N17	N16			DUAL MOUNT...	Beam	Pipe	A53 Gr.B	Typical
53	MP4A	N19	N18			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
54	MP2A	N21	N20			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
55	MP1A	N23	N22			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
56	MP3C	N91	N90			DUAL MOUNT...	Beam	Pipe	A53 Gr.B	Typical
57	MP4C	N93	N92			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
58	MP2C	N95	N94			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
59	MP1C	N97	N96			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
60	MP3B	N141	N140			DUAL MOUNT...	Beam	Pipe	A53 Gr.B	Typical
61	MP4B	N143A	N142			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
62	MP2B	N145	N144A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
63	MP1B	N147	N146			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
64	M100	N153	N152			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
65	M41	N55	N78			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
66	M1	N2	N1			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
67	M58A	N80	N81			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
68	M91A	N130	N131A			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
69	M76	N101	N105			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
70	M77	N105	N131			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
71	M84	N5	N104A			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
72	M85	N104A	N144			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
73	M45	N60	N64			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
74	M46A	N64	N65			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
75	M50A	N53	N63			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
76	M51C	N63	N67			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
77	M78	N110	N114			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
78	M79A	N114	N115			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
79	M83A	N103	N113			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
80	M84A	N113	N117			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
81	M46	N86C	N87A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
82	M80	N87A	N135			Corner Plate	Beam	BAR	A36 Gr.36	Typical
83	M91	N86C	N148			Corner Plate	Beam	BAR	A36 Gr.36	Typical
84	M37	N71	N72			Corner Plate	Beam	BAR	A36 Gr.36	Typical
85	M48	N72	N66			Corner Plate	Beam	BAR	A36 Gr.36	Typical
86	M53	N71	N68			Corner Plate	Beam	BAR	A36 Gr.36	Typical
87	M70	N121	N122			Corner Plate	Beam	BAR	A36 Gr.36	Typical
88	M81	N122	N116			Corner Plate	Beam	BAR	A36 Gr.36	Typical
89	M86	N121	N118			Corner Plate	Beam	BAR	A36 Gr.36	Typical
90	M91B	N149A	N128		270	Grating Support	Beam	Single Angle	A36 Gr.36	Typical
91	M92B	N150A	N126			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
92	M93A	N153A	N87C		270	Grating Support	Beam	Single Angle	A36 Gr.36	Typical
93	M96	N158A	N87B			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
94	M97	N159B	N76		270	Grating Support	Beam	Single Angle	A36 Gr.36	Typical
95	M98	N149A	N155A			RIGID	None	None	RIGID	Typical
96	M99	N150A	N156A			RIGID	None	None	RIGID	Typical
97	M100A	N153A	N158B			RIGID	None	None	RIGID	Typical
98	M103	N158A	N163			RIGID	None	None	RIGID	Typical
99	M104	N159B	N164			RIGID	None	None	RIGID	Typical
100	M100B	N87	N100			RIGID	None	None	RIGID	Typical
101	M101	N159C	N160			MOD KICKERS	Column	Double Angle (...)	A36 Gr.36	Typical
102	M102	N163A	N164A			MOD KICKERS	Column	Double Angle (...)	A36 Gr.36	Typical
103	M103A	N167	N168			MOD KICKERS	Column	Double Angle (...)	A36 Gr.36	Typical
104	M104A	N167A	N159			RIGID	None	None	RIGID	Typical
105	M105	N169	N155			RIGID	None	None	RIGID	Typical
106	M106	N171	N172			RIGID	None	None	RIGID	Typical
107	M107	N173	N174			RIGID	None	None	RIGID	Typical
108	M108	N166	N165			MOD HORIZO...	Beam	Pipe	A53 Gr.B	Typical
109	M113	N179	N178			MOD HORIZO...	Beam	Pipe	A53 Gr.B	Typical
110	M118	N190	N189			MOD HORIZO...	Beam	Pipe	A53 Gr.B	Typical
111	M119	N173A	N195A			RIGID	None	None	RIGID	Typical
112	M120	N174A	N196A			RIGID	None	None	RIGID	Typical
113	M121	N198	N200			RIGID	None	None	RIGID	Typical
114	M122	N199	N201			RIGID	None	None	RIGID	Typical
115	M123	N203	N205			RIGID	None	None	RIGID	Typical
116	M124	N204	N206			RIGID	None	None	RIGID	Typical
117	M125	N195A	N206		90	MOD SR CON...	Column	Single Angle	A36 Gr.36	Typical
118	M126	N200	N196A		90	MOD SR CON...	Column	Single Angle	A36 Gr.36	Typical
119	M127	N205	N201		90	MOD SR CON...	Column	Single Angle	A36 Gr.36	Typical
120	M120A	N180	N198A			RIGID	None	None	RIGID	Typical
121	M121A	N199A	N200A			RIGID	None	None	RIGID	Typical
122	M122A	N202	N203A			RIGID	None	None	RIGID	Typical
123	M123A	N205A	N206A			RIGID	None	None	RIGID	Typical
124	M124A	N207	N208			RIGID	None	None	RIGID	Typical
125	M125A	N209	N210			RIGID	None	None	RIGID	Typical
126	M126A	N211	N212			RIGID	None	None	RIGID	Typical
127	M127A	N182	N204A			RIGID	None	None	RIGID	Typical
128	OVP	N215	N216			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
129	M129	N213	N214			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M4						Yes				None
2	M34						Yes				None
3	M67						Yes				None
4	M19						Yes	** NA **			None
5	M20						Yes	** NA **			None
6	M21						Yes	** NA **			None
7	M22						Yes	** NA **			None
8	M52						Yes	** NA **			None
9	M58						Yes	** NA **			None
10	M59						Yes	** NA **			None
11	M79		BenPIN				Yes	** NA **			None
12	M83		BenPIN				Yes	** NA **			None
13	M88		BenPIN				Yes	** NA **			None
14	M92		BenPIN				Yes	** NA **			None
15	M50						Yes	** NA **			None
16	M51						Yes	** NA **			None
17	M51A						Yes	** NA **			None
18	M38						Yes	** NA **			None
19	M42						Yes	** NA **			None
20	M43A						Yes	** NA **			None
21	M44						Yes	** NA **			None
22	M47		BenPIN				Yes	** NA **			None
23	M49		BenPIN				Yes	** NA **			None
24	M52A		BenPIN				Yes	** NA **			None
25	M54		BenPIN				Yes	** NA **			None
26	M55						Yes	** NA **			None
27	M56						Yes	** NA **			None
28	M57						Yes	** NA **			None
29	M59A						Yes	** NA **			None
30	M60						Yes	** NA **			None
31	M62						Yes	** NA **			None
32	M75						Yes	** NA **			None
33	M76A						Yes	** NA **			None
34	M77A						Yes	** NA **			None
35	M80A		BenPIN				Yes	** NA **			None
36	M82		BenPIN				Yes	** NA **			None
37	M85A		BenPIN				Yes	** NA **			None
38	M87		BenPIN				Yes	** NA **			None
39	M88A						Yes	** NA **			None
40	M89						Yes	** NA **			None
41	M90						Yes	** NA **			None
42	M92A						Yes	** NA **			None
43	M93						Yes	** NA **			None
44	M94						Yes	** NA **			None
45	M95						Yes	** NA **			None
46	M10						Yes	Default			None
47	M43						Yes	Default			None
48	M35						Yes	Default			None
49	M36						Yes	Default			None
50	M68						Yes	Default			None
51	M69						Yes	Default			None
52	MP3A						Yes	Default			None
53	MP4A						Yes	** NA **			None
54	MP2A						Yes	** NA **			None
55	MP1A						Yes	** NA **			None
56	MP3C						Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
57	MP4C						Yes	** NA **			None
58	MP2C						Yes	** NA **			None
59	MP1C						Yes	** NA **			None
60	MP3B						Yes				None
61	MP4B						Yes	** NA **			None
62	MP2B						Yes	** NA **			None
63	MP1B						Yes	** NA **			None
64	M100						Yes	** NA **			None
65	M41	OOOOOX	OOOOOX				Yes	Default			None
66	M1						Yes	Default			None
67	M58A						Yes	Default			None
68	M91A						Yes	Default			None
69	M76						Yes	** NA **			None
70	M77						Yes	** NA **			None
71	M84						Yes	** NA **			None
72	M85						Yes	** NA **			None
73	M45						Yes	** NA **			None
74	M46A						Yes	** NA **			None
75	M50A						Yes	** NA **			None
76	M51C						Yes	** NA **			None
77	M78						Yes	** NA **			None
78	M79A						Yes	** NA **			None
79	M83A						Yes	** NA **			None
80	M84A						Yes	** NA **			None
81	M46						Yes	Default			None
82	M80						Yes				None
83	M91						Yes				None
84	M37						Yes	Default			None
85	M48						Yes				None
86	M53						Yes				None
87	M70						Yes	Default			None
88	M81						Yes				None
89	M86						Yes				None
90	M91B	OOOOOX	OOOOOX				Yes	Default			None
91	M92B	OOOOOX	OOOOOX				Yes	Default			None
92	M93A	OOOOOX	OOOOOX				Yes	Default			None
93	M96	OOOOOX	OOOOOX				Yes	Default			None
94	M97	OOOOOX	OOOOOX				Yes	Default			None
95	M98						Yes	** NA **			None
96	M99						Yes	** NA **			None
97	M100A						Yes	** NA **			None
98	M103						Yes	** NA **			None
99	M104						Yes	** NA **			None
100	M100B						Yes	** NA **			None
101	M101	BenPIN	BenPIN				Yes	** NA **			None
102	M102	BenPIN	BenPIN				Yes	** NA **			None
103	M103A	BenPIN	BenPIN				Yes	** NA **			None
104	M104A						Yes	** NA **			None
105	M105						Yes	** NA **			None
106	M106						Yes	** NA **			None
107	M107						Yes	** NA **			None
108	M108						Yes	Default			None
109	M113						Yes	Default			None
110	M118						Yes	Default			None
111	M119	OOOOOX					Yes	** NA **			None
112	M120	OOOOOX					Yes	** NA **			None
113	M121	OOOOOX					Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat..	Analysis ...	Inactive	Seismic...
114	M122	OOOOOX					Yes	** NA **			None
115	M123	OOOOOX					Yes	** NA **			None
116	M124	OOOOOX					Yes	** NA **			None
117	M125						Yes	** NA **			None
118	M126						Yes	** NA **			None
119	M127						Yes	** NA **			None
120	M120A						Yes	** NA **			None
121	M121A						Yes	** NA **			None
122	M122A						Yes	** NA **			None
123	M123A						Yes	** NA **			None
124	M124A						Yes	** NA **			None
125	M125A						Yes	** NA **			None
126	M126A						Yes	** NA **			None
127	M127A						Yes	** NA **			None
128	OVP						Yes	** NA **			None
129	M129						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-3.3	4.67
2	MP1A	My	-.001	4.67
3	MP1A	Mz	0	4.67
4	MP1B	Y	-3.3	4.67
5	MP1B	My	0	4.67
6	MP1B	Mz	-.001	4.67
7	MP1C	Y	-3.3	4.67
8	MP1C	My	.00055	4.67
9	MP1C	Mz	.000953	4.67
10	MP4A	Y	-22.95	.17
11	MP4A	My	-.015	.17
12	MP4A	Mz	0	.17
13	MP4A	Y	-22.95	5.17
14	MP4A	My	-.015	5.17
15	MP4A	Mz	0	5.17
16	MP4B	Y	-22.95	.17
17	MP4B	My	0	.17
18	MP4B	Mz	-.015	.17
19	MP4B	Y	-22.95	5.17
20	MP4B	My	0	5.17
21	MP4B	Mz	-.015	5.17
22	MP4C	Y	-22.95	.17
23	MP4C	My	.008	.17
24	MP4C	Mz	.013	.17
25	MP4C	Y	-22.95	5.17
26	MP4C	My	.008	5.17
27	MP4C	Mz	.013	5.17
28	MP3A	Y	-20	.17
29	MP3A	My	-.013	.17
30	MP3A	Mz	.013	.17
31	MP3A	Y	-20	5.17
32	MP3A	My	-.013	5.17
33	MP3A	Mz	.013	5.17
34	MP3B	Y	-20	.17
35	MP3B	My	-.013	.17
36	MP3B	Mz	-.013	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
37	MP3B	Y	-20	5.17
38	MP3B	My	-.013	5.17
39	MP3B	Mz	-.013	5.17
40	MP3C	Y	-20	.17
41	MP3C	My	.018	.17
42	MP3C	Mz	.005	.17
43	MP3C	Y	-20	5.17
44	MP3C	My	.018	5.17
45	MP3C	Mz	.005	5.17
46	MP3A	Y	-20	.17
47	MP3A	My	-.013	.17
48	MP3A	Mz	-.013	.17
49	MP3A	Y	-20	5.17
50	MP3A	My	-.013	5.17
51	MP3A	Mz	-.013	5.17
52	MP3B	Y	-20	.17
53	MP3B	My	.013	.17
54	MP3B	Mz	-.013	.17
55	MP3B	Y	-20	5.17
56	MP3B	My	.013	5.17
57	MP3B	Mz	-.013	5.17
58	MP3C	Y	-20	.17
59	MP3C	My	-.005	.17
60	MP3C	Mz	.018	.17
61	MP3C	Y	-20	5.17
62	MP3C	My	-.005	5.17
63	MP3C	Mz	.018	5.17
64	MP1A	Y	-28.65	.17
65	MP1A	My	-.012	.17
66	MP1A	Mz	0	.17
67	MP1A	Y	-28.65	2.17
68	MP1A	My	-.012	2.17
69	MP1A	Mz	0	2.17
70	MP1B	Y	-28.65	.17
71	MP1B	My	0	.17
72	MP1B	Mz	-.012	.17
73	MP1B	Y	-28.65	2.17
74	MP1B	My	0	2.17
75	MP1B	Mz	-.012	2.17
76	MP1C	Y	-28.65	.17
77	MP1C	My	.006	.17
78	MP1C	Mz	.01	.17
79	MP1C	Y	-28.65	2.17
80	MP1C	My	.006	2.17
81	MP1C	Mz	.01	2.17
82	MP2A	Y	-74.7	1.5
83	MP2A	My	.05	1.5
84	MP2A	Mz	0	1.5
85	MP2B	Y	-74.7	1.5
86	MP2B	My	0	1.5
87	MP2B	Mz	.05	1.5
88	MP2C	Y	-74.7	1.5
89	MP2C	My	-.025	1.5
90	MP2C	Mz	-.043	1.5
91	MP3A	Y	-79.1	1.5
92	MP3A	My	.053	1.5
93	MP3A	Mz	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
94	MP3B	Y	-79.1	1.5
95	MP3B	My	0	1.5
96	MP3B	Mz	.053	1.5
97	MP3C	Y	-79.1	1.5
98	MP3C	My	-.026	1.5
99	MP3C	Mz	-.046	1.5
100	OVP	Y	-32	1
101	OVP	My	0	1
102	OVP	Mz	0	1

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	Y	-20.854	4.67
2	MP1A	My	-.007	4.67
3	MP1A	Mz	0	4.67
4	MP1B	Y	-20.854	4.67
5	MP1B	My	0	4.67
6	MP1B	Mz	-.007	4.67
7	MP1C	Y	-20.854	4.67
8	MP1C	My	.003	4.67
9	MP1C	Mz	.006	4.67
10	MP4A	Y	-101.028	.17
11	MP4A	My	-.067	.17
12	MP4A	Mz	0	.17
13	MP4A	Y	-101.028	5.17
14	MP4A	My	-.067	5.17
15	MP4A	Mz	0	5.17
16	MP4B	Y	-101.028	.17
17	MP4B	My	0	.17
18	MP4B	Mz	-.067	.17
19	MP4B	Y	-101.028	5.17
20	MP4B	My	0	5.17
21	MP4B	Mz	-.067	5.17
22	MP4C	Y	-101.028	.17
23	MP4C	My	.034	.17
24	MP4C	Mz	.058	.17
25	MP4C	Y	-101.028	5.17
26	MP4C	My	.034	5.17
27	MP4C	Mz	.058	5.17
28	MP3A	Y	-91.745	.17
29	MP3A	My	-.061	.17
30	MP3A	Mz	.061	.17
31	MP3A	Y	-91.745	5.17
32	MP3A	My	-.061	5.17
33	MP3A	Mz	.061	5.17
34	MP3B	Y	-91.745	.17
35	MP3B	My	-.061	.17
36	MP3B	Mz	-.061	.17
37	MP3B	Y	-91.745	5.17
38	MP3B	My	-.061	5.17
39	MP3B	Mz	-.061	5.17
40	MP3C	Y	-91.745	.17
41	MP3C	My	.084	.17
42	MP3C	Mz	.022	.17
43	MP3C	Y	-91.745	5.17
44	MP3C	My	.084	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
45	MP3C	Mz	.022	5.17
46	MP3A	Y	-91.745	.17
47	MP3A	My	-.061	.17
48	MP3A	Mz	-.061	.17
49	MP3A	Y	-91.745	5.17
50	MP3A	My	-.061	5.17
51	MP3A	Mz	-.061	5.17
52	MP3B	Y	-91.745	.17
53	MP3B	My	.061	.17
54	MP3B	Mz	-.061	.17
55	MP3B	Y	-91.745	5.17
56	MP3B	My	.061	5.17
57	MP3B	Mz	-.061	5.17
58	MP3C	Y	-91.745	.17
59	MP3C	My	-.022	.17
60	MP3C	Mz	.084	.17
61	MP3C	Y	-91.745	5.17
62	MP3C	My	-.022	5.17
63	MP3C	Mz	.084	5.17
64	MP1A	Y	-45.059	.17
65	MP1A	My	-.019	.17
66	MP1A	Mz	0	.17
67	MP1A	Y	-45.059	2.17
68	MP1A	My	-.019	2.17
69	MP1A	Mz	0	2.17
70	MP1B	Y	-45.059	.17
71	MP1B	My	0	.17
72	MP1B	Mz	-.019	.17
73	MP1B	Y	-45.059	2.17
74	MP1B	My	0	2.17
75	MP1B	Mz	-.019	2.17
76	MP1C	Y	-45.059	.17
77	MP1C	My	.009	.17
78	MP1C	Mz	.016	.17
79	MP1C	Y	-45.059	2.17
80	MP1C	My	.009	2.17
81	MP1C	Mz	.016	2.17
82	MP2A	Y	-68.202	1.5
83	MP2A	My	.045	1.5
84	MP2A	Mz	0	1.5
85	MP2B	Y	-68.202	1.5
86	MP2B	My	0	1.5
87	MP2B	Mz	.045	1.5
88	MP2C	Y	-68.202	1.5
89	MP2C	My	-.023	1.5
90	MP2C	Mz	-.039	1.5
91	MP3A	Y	-68.902	1.5
92	MP3A	My	.046	1.5
93	MP3A	Mz	0	1.5
94	MP3B	Y	-68.902	1.5
95	MP3B	My	0	1.5
96	MP3B	Mz	.046	1.5
97	MP3C	Y	-68.902	1.5
98	MP3C	My	-.023	1.5
99	MP3C	Mz	-.04	1.5
100	OVP	Y	-131.557	1
101	OVP	My	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
102	OVP	Mz	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	4.67
2	MP1A	Z	-33.273	4.67
3	MP1A	Mx	0	4.67
4	MP1B	X	0	4.67
5	MP1B	Z	-6.425	4.67
6	MP1B	Mx	.002	4.67
7	MP1C	X	0	4.67
8	MP1C	Z	-13.137	4.67
9	MP1C	Mx	-.004	4.67
10	MP4A	X	0	.17
11	MP4A	Z	-178.55	.17
12	MP4A	Mx	0	.17
13	MP4A	X	0	5.17
14	MP4A	Z	-178.55	5.17
15	MP4A	Mx	0	5.17
16	MP4B	X	0	.17
17	MP4B	Z	-118.778	.17
18	MP4B	Mx	.079	.17
19	MP4B	X	0	5.17
20	MP4B	Z	-118.778	5.17
21	MP4B	Mx	.079	5.17
22	MP4C	X	0	.17
23	MP4C	Z	-133.721	.17
24	MP4C	Mx	-.077	.17
25	MP4C	X	0	5.17
26	MP4C	Z	-133.721	5.17
27	MP4C	Mx	-.077	5.17
28	MP3A	X	0	.17
29	MP3A	Z	-106.588	.17
30	MP3A	Mx	-.071	.17
31	MP3A	X	0	5.17
32	MP3A	Z	-106.588	5.17
33	MP3A	Mx	-.071	5.17
34	MP3B	X	0	.17
35	MP3B	Z	-45.846	.17
36	MP3B	Mx	.031	.17
37	MP3B	X	0	5.17
38	MP3B	Z	-45.846	5.17
39	MP3B	Mx	.031	5.17
40	MP3C	X	0	.17
41	MP3C	Z	-61.032	.17
42	MP3C	Mx	-.015	.17
43	MP3C	X	0	5.17
44	MP3C	Z	-61.032	5.17
45	MP3C	Mx	-.015	5.17
46	MP3A	X	0	.17
47	MP3A	Z	-106.588	.17
48	MP3A	Mx	.071	.17
49	MP3A	X	0	5.17
50	MP3A	Z	-106.588	5.17
51	MP3A	Mx	.071	5.17
52	MP3B	X	0	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
53	MP3B	Z	-45.846	.17
54	MP3B	Mx	.031	.17
55	MP3B	X	0	5.17
56	MP3B	Z	-45.846	5.17
57	MP3B	Mx	.031	5.17
58	MP3C	X	0	.17
59	MP3C	Z	-61.032	.17
60	MP3C	Mx	-.056	.17
61	MP3C	X	0	5.17
62	MP3C	Z	-61.032	5.17
63	MP3C	Mx	-.056	5.17
64	MP1A	X	0	.17
65	MP1A	Z	-61.129	.17
66	MP1A	Mx	0	.17
67	MP1A	X	0	2.17
68	MP1A	Z	-61.129	2.17
69	MP1A	Mx	0	2.17
70	MP1B	X	0	.17
71	MP1B	Z	-21.472	.17
72	MP1B	Mx	.009	.17
73	MP1B	X	0	2.17
74	MP1B	Z	-21.472	2.17
75	MP1B	Mx	.009	2.17
76	MP1C	X	0	.17
77	MP1C	Z	-31.386	.17
78	MP1C	Mx	-.011	.17
79	MP1C	X	0	2.17
80	MP1C	Z	-31.386	2.17
81	MP1C	Mx	-.011	2.17
82	MP2A	X	0	1.5
83	MP2A	Z	-59.968	1.5
84	MP2A	Mx	0	1.5
85	MP2B	X	0	1.5
86	MP2B	Z	-40.237	1.5
87	MP2B	Mx	-.027	1.5
88	MP2C	X	0	1.5
89	MP2C	Z	-45.169	1.5
90	MP2C	Mx	.026	1.5
91	MP3A	X	0	1.5
92	MP3A	Z	-72.348	1.5
93	MP3A	Mx	0	1.5
94	MP3B	X	0	1.5
95	MP3B	Z	-49.328	1.5
96	MP3B	Mx	-.033	1.5
97	MP3C	X	0	1.5
98	MP3C	Z	-55.083	1.5
99	MP3C	Mx	.032	1.5
100	OVP	X	0	1
101	OVP	Z	-115.293	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	13.28	4.67
2	MP1A	Z	-23.002	4.67
3	MP1A	Mx	-.004	4.67

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
4	MP1B	X	6.569	4.67
5	MP1B	Z	-11.377	4.67
6	MP1B	Mx	.004	4.67
7	MP1C	X	13.28	4.67
8	MP1C	Z	-23.002	4.67
9	MP1C	Mx	-.004	4.67
10	MP4A	X	81.803	.17
11	MP4A	Z	-141.688	.17
12	MP4A	Mx	-.055	.17
13	MP4A	X	81.803	5.17
14	MP4A	Z	-141.688	5.17
15	MP4A	Mx	-.055	5.17
16	MP4B	X	66.861	.17
17	MP4B	Z	-115.806	.17
18	MP4B	Mx	.077	.17
19	MP4B	X	66.861	5.17
20	MP4B	Z	-115.806	5.17
21	MP4B	Mx	.077	5.17
22	MP4C	X	81.803	.17
23	MP4C	Z	-141.688	.17
24	MP4C	Mx	-.055	.17
25	MP4C	X	81.803	5.17
26	MP4C	Z	-141.688	5.17
27	MP4C	Mx	-.055	5.17
28	MP3A	X	45.701	.17
29	MP3A	Z	-79.157	.17
30	MP3A	Mx	-.083	.17
31	MP3A	X	45.701	5.17
32	MP3A	Z	-79.157	5.17
33	MP3A	Mx	-.083	5.17
34	MP3B	X	30.516	.17
35	MP3B	Z	-52.855	.17
36	MP3B	Mx	.015	.17
37	MP3B	X	30.516	5.17
38	MP3B	Z	-52.855	5.17
39	MP3B	Mx	.015	5.17
40	MP3C	X	45.701	.17
41	MP3C	Z	-79.157	.17
42	MP3C	Mx	.022	.17
43	MP3C	X	45.701	5.17
44	MP3C	Z	-79.157	5.17
45	MP3C	Mx	.022	5.17
46	MP3A	X	45.701	.17
47	MP3A	Z	-79.157	.17
48	MP3A	Mx	.022	.17
49	MP3A	X	45.701	5.17
50	MP3A	Z	-79.157	5.17
51	MP3A	Mx	.022	5.17
52	MP3B	X	30.516	.17
53	MP3B	Z	-52.855	.17
54	MP3B	Mx	.056	.17
55	MP3B	X	30.516	5.17
56	MP3B	Z	-52.855	5.17
57	MP3B	Mx	.056	5.17
58	MP3C	X	45.701	.17
59	MP3C	Z	-79.157	.17
60	MP3C	Mx	-.083	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
61	MP3C	X	45.701	5.17
62	MP3C	Z	-79.157	5.17
63	MP3C	Mx	-.083	5.17
64	MP1A	X	25.607	.17
65	MP1A	Z	-44.353	.17
66	MP1A	Mx	-.011	.17
67	MP1A	X	25.607	2.17
68	MP1A	Z	-44.353	2.17
69	MP1A	Mx	-.011	2.17
70	MP1B	X	15.693	.17
71	MP1B	Z	-27.181	.17
72	MP1B	Mx	.011	.17
73	MP1B	X	15.693	2.17
74	MP1B	Z	-27.181	2.17
75	MP1B	Mx	.011	2.17
76	MP1C	X	25.607	.17
77	MP1C	Z	-44.353	.17
78	MP1C	Mx	-.011	.17
79	MP1C	X	25.607	2.17
80	MP1C	Z	-44.353	2.17
81	MP1C	Mx	-.011	2.17
82	MP2A	X	27.518	1.5
83	MP2A	Z	-47.662	1.5
84	MP2A	Mx	.018	1.5
85	MP2B	X	22.585	1.5
86	MP2B	Z	-39.118	1.5
87	MP2B	Mx	-.026	1.5
88	MP2C	X	27.518	1.5
89	MP2C	Z	-47.662	1.5
90	MP2C	Mx	.018	1.5
91	MP3A	X	33.297	1.5
92	MP3A	Z	-57.672	1.5
93	MP3A	Mx	.022	1.5
94	MP3B	X	27.542	1.5
95	MP3B	Z	-47.704	1.5
96	MP3B	Mx	-.032	1.5
97	MP3C	X	33.297	1.5
98	MP3C	Z	-57.672	1.5
99	MP3C	Mx	.022	1.5
100	OVP	X	50.296	1
101	OVP	Z	-87.115	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	11.377	4.67
2	MP1A	Z	-6.569	4.67
3	MP1A	Mx	-.004	4.67
4	MP1B	X	23.002	4.67
5	MP1B	Z	-13.28	4.67
6	MP1B	Mx	.004	4.67
7	MP1C	X	28.815	4.67
8	MP1C	Z	-16.636	4.67
9	MP1C	Mx	0	4.67
10	MP4A	X	115.806	.17
11	MP4A	Z	-66.861	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
12	MP4A	Mx	-.077	.17
13	MP4A	X	115.806	5.17
14	MP4A	Z	-66.861	5.17
15	MP4A	Mx	-.077	5.17
16	MP4B	X	141.688	.17
17	MP4B	Z	-81.803	.17
18	MP4B	Mx	.055	.17
19	MP4B	X	141.688	5.17
20	MP4B	Z	-81.803	5.17
21	MP4B	Mx	.055	5.17
22	MP4C	X	154.629	.17
23	MP4C	Z	-89.275	.17
24	MP4C	Mx	0	.17
25	MP4C	X	154.629	5.17
26	MP4C	Z	-89.275	5.17
27	MP4C	Mx	0	5.17
28	MP3A	X	52.855	.17
29	MP3A	Z	-30.516	.17
30	MP3A	Mx	-.056	.17
31	MP3A	X	52.855	5.17
32	MP3A	Z	-30.516	5.17
33	MP3A	Mx	-.056	5.17
34	MP3B	X	79.157	.17
35	MP3B	Z	-45.701	.17
36	MP3B	Mx	-.022	.17
37	MP3B	X	79.157	5.17
38	MP3B	Z	-45.701	5.17
39	MP3B	Mx	-.022	5.17
40	MP3C	X	92.308	.17
41	MP3C	Z	-53.294	.17
42	MP3C	Mx	.071	.17
43	MP3C	X	92.308	5.17
44	MP3C	Z	-53.294	5.17
45	MP3C	Mx	.071	5.17
46	MP3A	X	52.855	.17
47	MP3A	Z	-30.516	.17
48	MP3A	Mx	-.015	.17
49	MP3A	X	52.855	5.17
50	MP3A	Z	-30.516	5.17
51	MP3A	Mx	-.015	5.17
52	MP3B	X	79.157	.17
53	MP3B	Z	-45.701	.17
54	MP3B	Mx	.083	.17
55	MP3B	X	79.157	5.17
56	MP3B	Z	-45.701	5.17
57	MP3B	Mx	.083	5.17
58	MP3C	X	92.308	.17
59	MP3C	Z	-53.294	.17
60	MP3C	Mx	-.071	.17
61	MP3C	X	92.308	5.17
62	MP3C	Z	-53.294	5.17
63	MP3C	Mx	-.071	5.17
64	MP1A	X	27.181	.17
65	MP1A	Z	-15.693	.17
66	MP1A	Mx	-.011	.17
67	MP1A	X	27.181	2.17
68	MP1A	Z	-15.693	2.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
69	MP1A	Mx	-.011	2.17
70	MP1B	X	44.353	.17
71	MP1B	Z	-25.607	.17
72	MP1B	Mx	.011	.17
73	MP1B	X	44.353	2.17
74	MP1B	Z	-25.607	2.17
75	MP1B	Mx	.011	2.17
76	MP1C	X	52.939	.17
77	MP1C	Z	-30.564	.17
78	MP1C	Mx	0	.17
79	MP1C	X	52.939	2.17
80	MP1C	Z	-30.564	2.17
81	MP1C	Mx	0	2.17
82	MP2A	X	39.118	1.5
83	MP2A	Z	-22.585	1.5
84	MP2A	Mx	.026	1.5
85	MP2B	X	47.662	1.5
86	MP2B	Z	-27.518	1.5
87	MP2B	Mx	-.018	1.5
88	MP2C	X	51.934	1.5
89	MP2C	Z	-29.984	1.5
90	MP2C	Mx	0	1.5
91	MP3A	X	47.704	1.5
92	MP3A	Z	-27.542	1.5
93	MP3A	Mx	.032	1.5
94	MP3B	X	57.672	1.5
95	MP3B	Z	-33.297	1.5
96	MP3B	Mx	-.022	1.5
97	MP3C	X	62.656	1.5
98	MP3C	Z	-36.174	1.5
99	MP3C	Mx	0	1.5
100	OVP	X	80.749	1
101	OVP	Z	-46.62	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	6.425	4.67
2	MP1A	Z	0	4.67
3	MP1A	Mx	-.002	4.67
4	MP1B	X	33.273	4.67
5	MP1B	Z	0	4.67
6	MP1B	Mx	0	4.67
7	MP1C	X	26.561	4.67
8	MP1C	Z	0	4.67
9	MP1C	Mx	.004	4.67
10	MP4A	X	118.778	.17
11	MP4A	Z	0	.17
12	MP4A	Mx	-.079	.17
13	MP4A	X	118.778	5.17
14	MP4A	Z	0	5.17
15	MP4A	Mx	-.079	5.17
16	MP4B	X	178.55	.17
17	MP4B	Z	0	.17
18	MP4B	Mx	0	.17
19	MP4B	X	178.55	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
20	MP4B	Z	0	5.17
21	MP4B	Mx	0	5.17
22	MP4C	X	163.607	.17
23	MP4C	Z	0	.17
24	MP4C	Mx	.055	.17
25	MP4C	X	163.607	5.17
26	MP4C	Z	0	5.17
27	MP4C	Mx	.055	5.17
28	MP3A	X	45.846	.17
29	MP3A	Z	0	.17
30	MP3A	Mx	-.031	.17
31	MP3A	X	45.846	5.17
32	MP3A	Z	0	5.17
33	MP3A	Mx	-.031	5.17
34	MP3B	X	106.588	.17
35	MP3B	Z	0	.17
36	MP3B	Mx	-.071	.17
37	MP3B	X	106.588	5.17
38	MP3B	Z	0	5.17
39	MP3B	Mx	-.071	5.17
40	MP3C	X	91.403	.17
41	MP3C	Z	0	.17
42	MP3C	Mx	.083	.17
43	MP3C	X	91.403	5.17
44	MP3C	Z	0	5.17
45	MP3C	Mx	.083	5.17
46	MP3A	X	45.846	.17
47	MP3A	Z	0	.17
48	MP3A	Mx	-.031	.17
49	MP3A	X	45.846	5.17
50	MP3A	Z	0	5.17
51	MP3A	Mx	-.031	5.17
52	MP3B	X	106.588	.17
53	MP3B	Z	0	.17
54	MP3B	Mx	.071	.17
55	MP3B	X	106.588	5.17
56	MP3B	Z	0	5.17
57	MP3B	Mx	.071	5.17
58	MP3C	X	91.403	.17
59	MP3C	Z	0	.17
60	MP3C	Mx	-.022	.17
61	MP3C	X	91.403	5.17
62	MP3C	Z	0	5.17
63	MP3C	Mx	-.022	5.17
64	MP1A	X	21.472	.17
65	MP1A	Z	0	.17
66	MP1A	Mx	-.009	.17
67	MP1A	X	21.472	2.17
68	MP1A	Z	0	2.17
69	MP1A	Mx	-.009	2.17
70	MP1B	X	61.129	.17
71	MP1B	Z	0	.17
72	MP1B	Mx	0	.17
73	MP1B	X	61.129	2.17
74	MP1B	Z	0	2.17
75	MP1B	Mx	0	2.17
76	MP1C	X	51.215	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
77	MP1C	Z	0	.17
78	MP1C	Mx	.011	.17
79	MP1C	X	51.215	2.17
80	MP1C	Z	0	2.17
81	MP1C	Mx	.011	2.17
82	MP2A	X	40.237	1.5
83	MP2A	Z	0	1.5
84	MP2A	Mx	.027	1.5
85	MP2B	X	59.968	1.5
86	MP2B	Z	0	1.5
87	MP2B	Mx	0	1.5
88	MP2C	X	55.035	1.5
89	MP2C	Z	0	1.5
90	MP2C	Mx	-.018	1.5
91	MP3A	X	49.328	1.5
92	MP3A	Z	0	1.5
93	MP3A	Mx	.033	1.5
94	MP3B	X	72.348	1.5
95	MP3B	Z	0	1.5
96	MP3B	Mx	0	1.5
97	MP3C	X	66.593	1.5
98	MP3C	Z	0	1.5
99	MP3C	Mx	-.022	1.5
100	OVP	X	100.591	1
101	OVP	Z	0	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	11.377	4.67
2	MP1A	Z	6.569	4.67
3	MP1A	Mx	-.004	4.67
4	MP1B	X	23.002	4.67
5	MP1B	Z	13.28	4.67
6	MP1B	Mx	-.004	4.67
7	MP1C	X	11.377	4.67
8	MP1C	Z	6.569	4.67
9	MP1C	Mx	.004	4.67
10	MP4A	X	115.806	.17
11	MP4A	Z	66.861	.17
12	MP4A	Mx	-.077	.17
13	MP4A	X	115.806	5.17
14	MP4A	Z	66.861	5.17
15	MP4A	Mx	-.077	5.17
16	MP4B	X	141.688	.17
17	MP4B	Z	81.803	.17
18	MP4B	Mx	-.055	.17
19	MP4B	X	141.688	5.17
20	MP4B	Z	81.803	5.17
21	MP4B	Mx	-.055	5.17
22	MP4C	X	115.806	.17
23	MP4C	Z	66.861	.17
24	MP4C	Mx	.077	.17
25	MP4C	X	115.806	5.17
26	MP4C	Z	66.861	5.17
27	MP4C	Mx	.077	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
28	MP3A	X	52.855	.17
29	MP3A	Z	30.516	.17
30	MP3A	Mx	-.015	.17
31	MP3A	X	52.855	5.17
32	MP3A	Z	30.516	5.17
33	MP3A	Mx	-.015	5.17
34	MP3B	X	79.157	.17
35	MP3B	Z	45.701	.17
36	MP3B	Mx	-.083	.17
37	MP3B	X	79.157	5.17
38	MP3B	Z	45.701	5.17
39	MP3B	Mx	-.083	5.17
40	MP3C	X	52.855	.17
41	MP3C	Z	30.516	.17
42	MP3C	Mx	.056	.17
43	MP3C	X	52.855	5.17
44	MP3C	Z	30.516	5.17
45	MP3C	Mx	.056	5.17
46	MP3A	X	52.855	.17
47	MP3A	Z	30.516	.17
48	MP3A	Mx	-.056	.17
49	MP3A	X	52.855	5.17
50	MP3A	Z	30.516	5.17
51	MP3A	Mx	-.056	5.17
52	MP3B	X	79.157	.17
53	MP3B	Z	45.701	.17
54	MP3B	Mx	.022	.17
55	MP3B	X	79.157	5.17
56	MP3B	Z	45.701	5.17
57	MP3B	Mx	.022	5.17
58	MP3C	X	52.855	.17
59	MP3C	Z	30.516	.17
60	MP3C	Mx	.015	.17
61	MP3C	X	52.855	5.17
62	MP3C	Z	30.516	5.17
63	MP3C	Mx	.015	5.17
64	MP1A	X	27.181	.17
65	MP1A	Z	15.693	.17
66	MP1A	Mx	-.011	.17
67	MP1A	X	27.181	2.17
68	MP1A	Z	15.693	2.17
69	MP1A	Mx	-.011	2.17
70	MP1B	X	44.353	.17
71	MP1B	Z	25.607	.17
72	MP1B	Mx	-.011	.17
73	MP1B	X	44.353	2.17
74	MP1B	Z	25.607	2.17
75	MP1B	Mx	-.011	2.17
76	MP1C	X	27.181	.17
77	MP1C	Z	15.693	.17
78	MP1C	Mx	.011	.17
79	MP1C	X	27.181	2.17
80	MP1C	Z	15.693	2.17
81	MP1C	Mx	.011	2.17
82	MP2A	X	39.118	1.5
83	MP2A	Z	22.585	1.5
84	MP2A	Mx	.026	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
85	MP2B	X	47.662	1.5
86	MP2B	Z	27.518	1.5
87	MP2B	Mx	.018	1.5
88	MP2C	X	39.118	1.5
89	MP2C	Z	22.585	1.5
90	MP2C	Mx	-.026	1.5
91	MP3A	X	47.704	1.5
92	MP3A	Z	27.542	1.5
93	MP3A	Mx	.032	1.5
94	MP3B	X	57.672	1.5
95	MP3B	Z	33.297	1.5
96	MP3B	Mx	.022	1.5
97	MP3C	X	47.704	1.5
98	MP3C	Z	27.542	1.5
99	MP3C	Mx	-.032	1.5
100	OVP	X	99.847	1
101	OVP	Z	57.647	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	13.28	4.67
2	MP1A	Z	23.002	4.67
3	MP1A	Mx	-.004	4.67
4	MP1B	X	6.569	4.67
5	MP1B	Z	11.377	4.67
6	MP1B	Mx	-.004	4.67
7	MP1C	X	3.213	4.67
8	MP1C	Z	5.564	4.67
9	MP1C	Mx	.002	4.67
10	MP4A	X	81.803	.17
11	MP4A	Z	141.688	.17
12	MP4A	Mx	-.055	.17
13	MP4A	X	81.803	5.17
14	MP4A	Z	141.688	5.17
15	MP4A	Mx	-.055	5.17
16	MP4B	X	66.861	.17
17	MP4B	Z	115.806	.17
18	MP4B	Mx	-.077	.17
19	MP4B	X	66.861	5.17
20	MP4B	Z	115.806	5.17
21	MP4B	Mx	-.077	5.17
22	MP4C	X	59.389	.17
23	MP4C	Z	102.865	.17
24	MP4C	Mx	.079	.17
25	MP4C	X	59.389	5.17
26	MP4C	Z	102.865	5.17
27	MP4C	Mx	.079	5.17
28	MP3A	X	45.701	.17
29	MP3A	Z	79.157	.17
30	MP3A	Mx	.022	.17
31	MP3A	X	45.701	5.17
32	MP3A	Z	79.157	5.17
33	MP3A	Mx	.022	5.17
34	MP3B	X	30.516	.17
35	MP3B	Z	52.855	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
36	MP3B	Mx	-.056	.17
37	MP3B	X	30.516	5.17
38	MP3B	Z	52.855	5.17
39	MP3B	Mx	-.056	5.17
40	MP3C	X	22.923	.17
41	MP3C	Z	39.704	.17
42	MP3C	Mx	.031	.17
43	MP3C	X	22.923	5.17
44	MP3C	Z	39.704	5.17
45	MP3C	Mx	.031	5.17
46	MP3A	X	45.701	.17
47	MP3A	Z	79.157	.17
48	MP3A	Mx	-.083	.17
49	MP3A	X	45.701	5.17
50	MP3A	Z	79.157	5.17
51	MP3A	Mx	-.083	5.17
52	MP3B	X	30.516	.17
53	MP3B	Z	52.855	.17
54	MP3B	Mx	-.015	.17
55	MP3B	X	30.516	5.17
56	MP3B	Z	52.855	5.17
57	MP3B	Mx	-.015	5.17
58	MP3C	X	22.923	.17
59	MP3C	Z	39.704	.17
60	MP3C	Mx	.031	.17
61	MP3C	X	22.923	5.17
62	MP3C	Z	39.704	5.17
63	MP3C	Mx	.031	5.17
64	MP1A	X	25.607	.17
65	MP1A	Z	44.353	.17
66	MP1A	Mx	-.011	.17
67	MP1A	X	25.607	2.17
68	MP1A	Z	44.353	2.17
69	MP1A	Mx	-.011	2.17
70	MP1B	X	15.693	.17
71	MP1B	Z	27.181	.17
72	MP1B	Mx	-.011	.17
73	MP1B	X	15.693	2.17
74	MP1B	Z	27.181	2.17
75	MP1B	Mx	-.011	2.17
76	MP1C	X	10.736	.17
77	MP1C	Z	18.596	.17
78	MP1C	Mx	.009	.17
79	MP1C	X	10.736	2.17
80	MP1C	Z	18.596	2.17
81	MP1C	Mx	.009	2.17
82	MP2A	X	27.518	1.5
83	MP2A	Z	47.662	1.5
84	MP2A	Mx	.018	1.5
85	MP2B	X	22.585	1.5
86	MP2B	Z	39.118	1.5
87	MP2B	Mx	.026	1.5
88	MP2C	X	20.118	1.5
89	MP2C	Z	34.846	1.5
90	MP2C	Mx	-.027	1.5
91	MP3A	X	33.297	1.5
92	MP3A	Z	57.672	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
93	MP3A	Mx	.022	1.5
94	MP3B	X	27.542	1.5
95	MP3B	Z	47.704	1.5
96	MP3B	Mx	.032	1.5
97	MP3C	X	24.664	1.5
98	MP3C	Z	42.72	1.5
99	MP3C	Mx	-.033	1.5
100	OVP	X	61.322	1
101	OVP	Z	106.213	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP1A	X	0	4.67
2	MP1A	Z	33.273	4.67
3	MP1A	Mx	0	4.67
4	MP1B	X	0	4.67
5	MP1B	Z	6.425	4.67
6	MP1B	Mx	-.002	4.67
7	MP1C	X	0	4.67
8	MP1C	Z	13.137	4.67
9	MP1C	Mx	.004	4.67
10	MP4A	X	0	.17
11	MP4A	Z	178.55	.17
12	MP4A	Mx	0	.17
13	MP4A	X	0	5.17
14	MP4A	Z	178.55	5.17
15	MP4A	Mx	0	5.17
16	MP4B	X	0	.17
17	MP4B	Z	118.778	.17
18	MP4B	Mx	-.079	.17
19	MP4B	X	0	5.17
20	MP4B	Z	118.778	5.17
21	MP4B	Mx	-.079	5.17
22	MP4C	X	0	.17
23	MP4C	Z	133.721	.17
24	MP4C	Mx	.077	.17
25	MP4C	X	0	5.17
26	MP4C	Z	133.721	5.17
27	MP4C	Mx	.077	5.17
28	MP3A	X	0	.17
29	MP3A	Z	106.588	.17
30	MP3A	Mx	.071	.17
31	MP3A	X	0	5.17
32	MP3A	Z	106.588	5.17
33	MP3A	Mx	.071	5.17
34	MP3B	X	0	.17
35	MP3B	Z	45.846	.17
36	MP3B	Mx	-.031	.17
37	MP3B	X	0	5.17
38	MP3B	Z	45.846	5.17
39	MP3B	Mx	-.031	5.17
40	MP3C	X	0	.17
41	MP3C	Z	61.032	.17
42	MP3C	Mx	.015	.17
43	MP3C	X	0	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
44	MP3C	Z	61.032	5.17
45	MP3C	Mx	.015	5.17
46	MP3A	X	0	.17
47	MP3A	Z	106.588	.17
48	MP3A	Mx	-.071	.17
49	MP3A	X	0	5.17
50	MP3A	Z	106.588	5.17
51	MP3A	Mx	-.071	5.17
52	MP3B	X	0	.17
53	MP3B	Z	45.846	.17
54	MP3B	Mx	-.031	.17
55	MP3B	X	0	5.17
56	MP3B	Z	45.846	5.17
57	MP3B	Mx	-.031	5.17
58	MP3C	X	0	.17
59	MP3C	Z	61.032	.17
60	MP3C	Mx	.056	.17
61	MP3C	X	0	5.17
62	MP3C	Z	61.032	5.17
63	MP3C	Mx	.056	5.17
64	MP1A	X	0	.17
65	MP1A	Z	61.129	.17
66	MP1A	Mx	0	.17
67	MP1A	X	0	2.17
68	MP1A	Z	61.129	2.17
69	MP1A	Mx	0	2.17
70	MP1B	X	0	.17
71	MP1B	Z	21.472	.17
72	MP1B	Mx	-.009	.17
73	MP1B	X	0	2.17
74	MP1B	Z	21.472	2.17
75	MP1B	Mx	-.009	2.17
76	MP1C	X	0	.17
77	MP1C	Z	31.386	.17
78	MP1C	Mx	.011	.17
79	MP1C	X	0	2.17
80	MP1C	Z	31.386	2.17
81	MP1C	Mx	.011	2.17
82	MP2A	X	0	1.5
83	MP2A	Z	59.968	1.5
84	MP2A	Mx	0	1.5
85	MP2B	X	0	1.5
86	MP2B	Z	40.237	1.5
87	MP2B	Mx	.027	1.5
88	MP2C	X	0	1.5
89	MP2C	Z	45.169	1.5
90	MP2C	Mx	-.026	1.5
91	MP3A	X	0	1.5
92	MP3A	Z	72.348	1.5
93	MP3A	Mx	0	1.5
94	MP3B	X	0	1.5
95	MP3B	Z	49.328	1.5
96	MP3B	Mx	.033	1.5
97	MP3C	X	0	1.5
98	MP3C	Z	55.083	1.5
99	MP3C	Mx	-.032	1.5
100	OVP	X	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
101	OVP	Z	115.293	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-13.28	4.67
2	MP1A	Z	23.002	4.67
3	MP1A	Mx	.004	4.67
4	MP1B	X	-6.569	4.67
5	MP1B	Z	11.377	4.67
6	MP1B	Mx	-.004	4.67
7	MP1C	X	-13.28	4.67
8	MP1C	Z	23.002	4.67
9	MP1C	Mx	.004	4.67
10	MP4A	X	-81.803	.17
11	MP4A	Z	141.688	.17
12	MP4A	Mx	.055	.17
13	MP4A	X	-81.803	5.17
14	MP4A	Z	141.688	5.17
15	MP4A	Mx	.055	5.17
16	MP4B	X	-66.861	.17
17	MP4B	Z	115.806	.17
18	MP4B	Mx	-.077	.17
19	MP4B	X	-66.861	5.17
20	MP4B	Z	115.806	5.17
21	MP4B	Mx	-.077	5.17
22	MP4C	X	-81.803	.17
23	MP4C	Z	141.688	.17
24	MP4C	Mx	.055	.17
25	MP4C	X	-81.803	5.17
26	MP4C	Z	141.688	5.17
27	MP4C	Mx	.055	5.17
28	MP3A	X	-45.701	.17
29	MP3A	Z	79.157	.17
30	MP3A	Mx	.083	.17
31	MP3A	X	-45.701	5.17
32	MP3A	Z	79.157	5.17
33	MP3A	Mx	.083	5.17
34	MP3B	X	-30.516	.17
35	MP3B	Z	52.855	.17
36	MP3B	Mx	-.015	.17
37	MP3B	X	-30.516	5.17
38	MP3B	Z	52.855	5.17
39	MP3B	Mx	-.015	5.17
40	MP3C	X	-45.701	.17
41	MP3C	Z	79.157	.17
42	MP3C	Mx	-.022	.17
43	MP3C	X	-45.701	5.17
44	MP3C	Z	79.157	5.17
45	MP3C	Mx	-.022	5.17
46	MP3A	X	-45.701	.17
47	MP3A	Z	79.157	.17
48	MP3A	Mx	-.022	.17
49	MP3A	X	-45.701	5.17
50	MP3A	Z	79.157	5.17
51	MP3A	Mx	-.022	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
52	MP3B	X	-30.516	.17
53	MP3B	Z	52.855	.17
54	MP3B	Mx	-.056	.17
55	MP3B	X	-30.516	5.17
56	MP3B	Z	52.855	5.17
57	MP3B	Mx	-.056	5.17
58	MP3C	X	-45.701	.17
59	MP3C	Z	79.157	.17
60	MP3C	Mx	.083	.17
61	MP3C	X	-45.701	5.17
62	MP3C	Z	79.157	5.17
63	MP3C	Mx	.083	5.17
64	MP1A	X	-25.607	.17
65	MP1A	Z	44.353	.17
66	MP1A	Mx	.011	.17
67	MP1A	X	-25.607	2.17
68	MP1A	Z	44.353	2.17
69	MP1A	Mx	.011	2.17
70	MP1B	X	-15.693	.17
71	MP1B	Z	27.181	.17
72	MP1B	Mx	-.011	.17
73	MP1B	X	-15.693	2.17
74	MP1B	Z	27.181	2.17
75	MP1B	Mx	-.011	2.17
76	MP1C	X	-25.607	.17
77	MP1C	Z	44.353	.17
78	MP1C	Mx	.011	.17
79	MP1C	X	-25.607	2.17
80	MP1C	Z	44.353	2.17
81	MP1C	Mx	.011	2.17
82	MP2A	X	-27.518	1.5
83	MP2A	Z	47.662	1.5
84	MP2A	Mx	-.018	1.5
85	MP2B	X	-22.585	1.5
86	MP2B	Z	39.118	1.5
87	MP2B	Mx	.026	1.5
88	MP2C	X	-27.518	1.5
89	MP2C	Z	47.662	1.5
90	MP2C	Mx	-.018	1.5
91	MP3A	X	-33.297	1.5
92	MP3A	Z	57.672	1.5
93	MP3A	Mx	-.022	1.5
94	MP3B	X	-27.542	1.5
95	MP3B	Z	47.704	1.5
96	MP3B	Mx	.032	1.5
97	MP3C	X	-33.297	1.5
98	MP3C	Z	57.672	1.5
99	MP3C	Mx	-.022	1.5
100	OVP	X	-50.296	1
101	OVP	Z	87.115	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-11.377	4.67
2	MP1A	Z	6.569	4.67

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
3	MP1A	Mx	.004	4.67
4	MP1B	X	-23.002	4.67
5	MP1B	Z	13.28	4.67
6	MP1B	Mx	-.004	4.67
7	MP1C	X	-28.815	4.67
8	MP1C	Z	16.636	4.67
9	MP1C	Mx	0	4.67
10	MP4A	X	-115.806	.17
11	MP4A	Z	66.861	.17
12	MP4A	Mx	.077	.17
13	MP4A	X	-115.806	5.17
14	MP4A	Z	66.861	5.17
15	MP4A	Mx	.077	5.17
16	MP4B	X	-141.688	.17
17	MP4B	Z	81.803	.17
18	MP4B	Mx	-.055	.17
19	MP4B	X	-141.688	5.17
20	MP4B	Z	81.803	5.17
21	MP4B	Mx	-.055	5.17
22	MP4C	X	-154.629	.17
23	MP4C	Z	89.275	.17
24	MP4C	Mx	0	.17
25	MP4C	X	-154.629	5.17
26	MP4C	Z	89.275	5.17
27	MP4C	Mx	0	5.17
28	MP3A	X	-52.855	.17
29	MP3A	Z	30.516	.17
30	MP3A	Mx	.056	.17
31	MP3A	X	-52.855	5.17
32	MP3A	Z	30.516	5.17
33	MP3A	Mx	.056	5.17
34	MP3B	X	-79.157	.17
35	MP3B	Z	45.701	.17
36	MP3B	Mx	.022	.17
37	MP3B	X	-79.157	5.17
38	MP3B	Z	45.701	5.17
39	MP3B	Mx	.022	5.17
40	MP3C	X	-92.308	.17
41	MP3C	Z	53.294	.17
42	MP3C	Mx	-.071	.17
43	MP3C	X	-92.308	5.17
44	MP3C	Z	53.294	5.17
45	MP3C	Mx	-.071	5.17
46	MP3A	X	-52.855	.17
47	MP3A	Z	30.516	.17
48	MP3A	Mx	.015	.17
49	MP3A	X	-52.855	5.17
50	MP3A	Z	30.516	5.17
51	MP3A	Mx	.015	5.17
52	MP3B	X	-79.157	.17
53	MP3B	Z	45.701	.17
54	MP3B	Mx	-.083	.17
55	MP3B	X	-79.157	5.17
56	MP3B	Z	45.701	5.17
57	MP3B	Mx	-.083	5.17
58	MP3C	X	-92.308	.17
59	MP3C	Z	53.294	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
60	MP3C	Mx	.071	.17
61	MP3C	X	-92.308	5.17
62	MP3C	Z	53.294	5.17
63	MP3C	Mx	.071	5.17
64	MP1A	X	-27.181	.17
65	MP1A	Z	15.693	.17
66	MP1A	Mx	.011	.17
67	MP1A	X	-27.181	2.17
68	MP1A	Z	15.693	2.17
69	MP1A	Mx	.011	2.17
70	MP1B	X	-44.353	.17
71	MP1B	Z	25.607	.17
72	MP1B	Mx	-.011	.17
73	MP1B	X	-44.353	2.17
74	MP1B	Z	25.607	2.17
75	MP1B	Mx	-.011	2.17
76	MP1C	X	-52.939	.17
77	MP1C	Z	30.564	.17
78	MP1C	Mx	0	.17
79	MP1C	X	-52.939	2.17
80	MP1C	Z	30.564	2.17
81	MP1C	Mx	0	2.17
82	MP2A	X	-39.118	1.5
83	MP2A	Z	22.585	1.5
84	MP2A	Mx	-.026	1.5
85	MP2B	X	-47.662	1.5
86	MP2B	Z	27.518	1.5
87	MP2B	Mx	.018	1.5
88	MP2C	X	-51.934	1.5
89	MP2C	Z	29.984	1.5
90	MP2C	Mx	0	1.5
91	MP3A	X	-47.704	1.5
92	MP3A	Z	27.542	1.5
93	MP3A	Mx	-.032	1.5
94	MP3B	X	-57.672	1.5
95	MP3B	Z	33.297	1.5
96	MP3B	Mx	.022	1.5
97	MP3C	X	-62.656	1.5
98	MP3C	Z	36.174	1.5
99	MP3C	Mx	0	1.5
100	OVP	X	-80.749	1
101	OVP	Z	46.62	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-6.425	4.67
2	MP1A	Z	0	4.67
3	MP1A	Mx	.002	4.67
4	MP1B	X	-33.273	4.67
5	MP1B	Z	0	4.67
6	MP1B	Mx	0	4.67
7	MP1C	X	-26.561	4.67
8	MP1C	Z	0	4.67
9	MP1C	Mx	-.004	4.67
10	MP4A	X	-118.778	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
11	MP4A	Z	0	.17
12	MP4A	Mx	.079	.17
13	MP4A	X	-118.778	5.17
14	MP4A	Z	0	5.17
15	MP4A	Mx	.079	5.17
16	MP4B	X	-178.55	.17
17	MP4B	Z	0	.17
18	MP4B	Mx	0	.17
19	MP4B	X	-178.55	5.17
20	MP4B	Z	0	5.17
21	MP4B	Mx	0	5.17
22	MP4C	X	-163.607	.17
23	MP4C	Z	0	.17
24	MP4C	Mx	-.055	.17
25	MP4C	X	-163.607	5.17
26	MP4C	Z	0	5.17
27	MP4C	Mx	-.055	5.17
28	MP3A	X	-45.846	.17
29	MP3A	Z	0	.17
30	MP3A	Mx	.031	.17
31	MP3A	X	-45.846	5.17
32	MP3A	Z	0	5.17
33	MP3A	Mx	.031	5.17
34	MP3B	X	-106.588	.17
35	MP3B	Z	0	.17
36	MP3B	Mx	.071	.17
37	MP3B	X	-106.588	5.17
38	MP3B	Z	0	5.17
39	MP3B	Mx	.071	5.17
40	MP3C	X	-91.403	.17
41	MP3C	Z	0	.17
42	MP3C	Mx	-.083	.17
43	MP3C	X	-91.403	5.17
44	MP3C	Z	0	5.17
45	MP3C	Mx	-.083	5.17
46	MP3A	X	-45.846	.17
47	MP3A	Z	0	.17
48	MP3A	Mx	.031	.17
49	MP3A	X	-45.846	5.17
50	MP3A	Z	0	5.17
51	MP3A	Mx	.031	5.17
52	MP3B	X	-106.588	.17
53	MP3B	Z	0	.17
54	MP3B	Mx	-.071	.17
55	MP3B	X	-106.588	5.17
56	MP3B	Z	0	5.17
57	MP3B	Mx	-.071	5.17
58	MP3C	X	-91.403	.17
59	MP3C	Z	0	.17
60	MP3C	Mx	.022	.17
61	MP3C	X	-91.403	5.17
62	MP3C	Z	0	5.17
63	MP3C	Mx	.022	5.17
64	MP1A	X	-21.472	.17
65	MP1A	Z	0	.17
66	MP1A	Mx	.009	.17
67	MP1A	X	-21.472	2.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
68	MP1A	Z	0	2.17
69	MP1A	Mx	.009	2.17
70	MP1B	X	-61.129	.17
71	MP1B	Z	0	.17
72	MP1B	Mx	0	.17
73	MP1B	X	-61.129	2.17
74	MP1B	Z	0	2.17
75	MP1B	Mx	0	2.17
76	MP1C	X	-51.215	.17
77	MP1C	Z	0	.17
78	MP1C	Mx	-.011	.17
79	MP1C	X	-51.215	2.17
80	MP1C	Z	0	2.17
81	MP1C	Mx	-.011	2.17
82	MP2A	X	-40.237	1.5
83	MP2A	Z	0	1.5
84	MP2A	Mx	-.027	1.5
85	MP2B	X	-59.968	1.5
86	MP2B	Z	0	1.5
87	MP2B	Mx	0	1.5
88	MP2C	X	-55.035	1.5
89	MP2C	Z	0	1.5
90	MP2C	Mx	.018	1.5
91	MP3A	X	-49.328	1.5
92	MP3A	Z	0	1.5
93	MP3A	Mx	-.033	1.5
94	MP3B	X	-72.348	1.5
95	MP3B	Z	0	1.5
96	MP3B	Mx	0	1.5
97	MP3C	X	-66.593	1.5
98	MP3C	Z	0	1.5
99	MP3C	Mx	.022	1.5
100	OVP	X	-100.591	1
101	OVP	Z	0	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-11.377	4.67
2	MP1A	Z	-6.569	4.67
3	MP1A	Mx	.004	4.67
4	MP1B	X	-23.002	4.67
5	MP1B	Z	-13.28	4.67
6	MP1B	Mx	.004	4.67
7	MP1C	X	-11.377	4.67
8	MP1C	Z	-6.569	4.67
9	MP1C	Mx	-.004	4.67
10	MP4A	X	-115.806	.17
11	MP4A	Z	-66.861	.17
12	MP4A	Mx	.077	.17
13	MP4A	X	-115.806	5.17
14	MP4A	Z	-66.861	5.17
15	MP4A	Mx	.077	5.17
16	MP4B	X	-141.688	.17
17	MP4B	Z	-81.803	.17
18	MP4B	Mx	.055	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
19	MP4B	X	-141.688	5.17
20	MP4B	Z	-81.803	5.17
21	MP4B	Mx	.055	5.17
22	MP4C	X	-115.806	.17
23	MP4C	Z	-66.861	.17
24	MP4C	Mx	-.077	.17
25	MP4C	X	-115.806	5.17
26	MP4C	Z	-66.861	5.17
27	MP4C	Mx	-.077	5.17
28	MP3A	X	-52.855	.17
29	MP3A	Z	-30.516	.17
30	MP3A	Mx	.015	.17
31	MP3A	X	-52.855	5.17
32	MP3A	Z	-30.516	5.17
33	MP3A	Mx	.015	5.17
34	MP3B	X	-79.157	.17
35	MP3B	Z	-45.701	.17
36	MP3B	Mx	.083	.17
37	MP3B	X	-79.157	5.17
38	MP3B	Z	-45.701	5.17
39	MP3B	Mx	.083	5.17
40	MP3C	X	-52.855	.17
41	MP3C	Z	-30.516	.17
42	MP3C	Mx	-.056	.17
43	MP3C	X	-52.855	5.17
44	MP3C	Z	-30.516	5.17
45	MP3C	Mx	-.056	5.17
46	MP3A	X	-52.855	.17
47	MP3A	Z	-30.516	.17
48	MP3A	Mx	.056	.17
49	MP3A	X	-52.855	5.17
50	MP3A	Z	-30.516	5.17
51	MP3A	Mx	.056	5.17
52	MP3B	X	-79.157	.17
53	MP3B	Z	-45.701	.17
54	MP3B	Mx	-.022	.17
55	MP3B	X	-79.157	5.17
56	MP3B	Z	-45.701	5.17
57	MP3B	Mx	-.022	5.17
58	MP3C	X	-52.855	.17
59	MP3C	Z	-30.516	.17
60	MP3C	Mx	-.015	.17
61	MP3C	X	-52.855	5.17
62	MP3C	Z	-30.516	5.17
63	MP3C	Mx	-.015	5.17
64	MP1A	X	-27.181	.17
65	MP1A	Z	-15.693	.17
66	MP1A	Mx	.011	.17
67	MP1A	X	-27.181	2.17
68	MP1A	Z	-15.693	2.17
69	MP1A	Mx	.011	2.17
70	MP1B	X	-44.353	.17
71	MP1B	Z	-25.607	.17
72	MP1B	Mx	.011	.17
73	MP1B	X	-44.353	2.17
74	MP1B	Z	-25.607	2.17
75	MP1B	Mx	.011	2.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
76	MP1C	X	-27.181	.17
77	MP1C	Z	-15.693	.17
78	MP1C	Mx	-.011	.17
79	MP1C	X	-27.181	2.17
80	MP1C	Z	-15.693	2.17
81	MP1C	Mx	-.011	2.17
82	MP2A	X	-39.118	1.5
83	MP2A	Z	-22.585	1.5
84	MP2A	Mx	-.026	1.5
85	MP2B	X	-47.662	1.5
86	MP2B	Z	-27.518	1.5
87	MP2B	Mx	-.018	1.5
88	MP2C	X	-39.118	1.5
89	MP2C	Z	-22.585	1.5
90	MP2C	Mx	.026	1.5
91	MP3A	X	-47.704	1.5
92	MP3A	Z	-27.542	1.5
93	MP3A	Mx	-.032	1.5
94	MP3B	X	-57.672	1.5
95	MP3B	Z	-33.297	1.5
96	MP3B	Mx	-.022	1.5
97	MP3C	X	-47.704	1.5
98	MP3C	Z	-27.542	1.5
99	MP3C	Mx	.032	1.5
100	OVP	X	-99.847	1
101	OVP	Z	-57.647	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP1A	X	-13.28	4.67
2	MP1A	Z	-23.002	4.67
3	MP1A	Mx	.004	4.67
4	MP1B	X	-6.569	4.67
5	MP1B	Z	-11.377	4.67
6	MP1B	Mx	.004	4.67
7	MP1C	X	-3.213	4.67
8	MP1C	Z	-5.564	4.67
9	MP1C	Mx	-.002	4.67
10	MP4A	X	-81.803	.17
11	MP4A	Z	-141.688	.17
12	MP4A	Mx	.055	.17
13	MP4A	X	-81.803	5.17
14	MP4A	Z	-141.688	5.17
15	MP4A	Mx	.055	5.17
16	MP4B	X	-66.861	.17
17	MP4B	Z	-115.806	.17
18	MP4B	Mx	.077	.17
19	MP4B	X	-66.861	5.17
20	MP4B	Z	-115.806	5.17
21	MP4B	Mx	.077	5.17
22	MP4C	X	-59.389	.17
23	MP4C	Z	-102.865	.17
24	MP4C	Mx	-.079	.17
25	MP4C	X	-59.389	5.17
26	MP4C	Z	-102.865	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
27	MP4C	Mx	-.079	5.17
28	MP3A	X	-45.701	.17
29	MP3A	Z	-79.157	.17
30	MP3A	Mx	-.022	.17
31	MP3A	X	-45.701	5.17
32	MP3A	Z	-79.157	5.17
33	MP3A	Mx	-.022	5.17
34	MP3B	X	-30.516	.17
35	MP3B	Z	-52.855	.17
36	MP3B	Mx	.056	.17
37	MP3B	X	-30.516	5.17
38	MP3B	Z	-52.855	5.17
39	MP3B	Mx	.056	5.17
40	MP3C	X	-22.923	.17
41	MP3C	Z	-39.704	.17
42	MP3C	Mx	-.031	.17
43	MP3C	X	-22.923	5.17
44	MP3C	Z	-39.704	5.17
45	MP3C	Mx	-.031	5.17
46	MP3A	X	-45.701	.17
47	MP3A	Z	-79.157	.17
48	MP3A	Mx	.083	.17
49	MP3A	X	-45.701	5.17
50	MP3A	Z	-79.157	5.17
51	MP3A	Mx	.083	5.17
52	MP3B	X	-30.516	.17
53	MP3B	Z	-52.855	.17
54	MP3B	Mx	.015	.17
55	MP3B	X	-30.516	5.17
56	MP3B	Z	-52.855	5.17
57	MP3B	Mx	.015	5.17
58	MP3C	X	-22.923	.17
59	MP3C	Z	-39.704	.17
60	MP3C	Mx	-.031	.17
61	MP3C	X	-22.923	5.17
62	MP3C	Z	-39.704	5.17
63	MP3C	Mx	-.031	5.17
64	MP1A	X	-25.607	.17
65	MP1A	Z	-44.353	.17
66	MP1A	Mx	.011	.17
67	MP1A	X	-25.607	2.17
68	MP1A	Z	-44.353	2.17
69	MP1A	Mx	.011	2.17
70	MP1B	X	-15.693	.17
71	MP1B	Z	-27.181	.17
72	MP1B	Mx	.011	.17
73	MP1B	X	-15.693	2.17
74	MP1B	Z	-27.181	2.17
75	MP1B	Mx	.011	2.17
76	MP1C	X	-10.736	.17
77	MP1C	Z	-18.596	.17
78	MP1C	Mx	-.009	.17
79	MP1C	X	-10.736	2.17
80	MP1C	Z	-18.596	2.17
81	MP1C	Mx	-.009	2.17
82	MP2A	X	-27.518	1.5
83	MP2A	Z	-47.662	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
84	MP2A	Mx	-.018	1.5
85	MP2B	X	-22.585	1.5
86	MP2B	Z	-39.118	1.5
87	MP2B	Mx	-.026	1.5
88	MP2C	X	-20.118	1.5
89	MP2C	Z	-34.846	1.5
90	MP2C	Mx	.027	1.5
91	MP3A	X	-33.297	1.5
92	MP3A	Z	-57.672	1.5
93	MP3A	Mx	-.022	1.5
94	MP3B	X	-27.542	1.5
95	MP3B	Z	-47.704	1.5
96	MP3B	Mx	-.032	1.5
97	MP3C	X	-24.664	1.5
98	MP3C	Z	-42.72	1.5
99	MP3C	Mx	.033	1.5
100	OVP	X	-61.322	1
101	OVP	Z	-106.213	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	4.67
2	MP1A	Z	-8.324	4.67
3	MP1A	Mx	0	4.67
4	MP1B	X	0	4.67
5	MP1B	Z	-2.776	4.67
6	MP1B	Mx	.000925	4.67
7	MP1C	X	0	4.67
8	MP1C	Z	-4.163	4.67
9	MP1C	Mx	-.001	4.67
10	MP4A	X	0	.17
11	MP4A	Z	-35.523	.17
12	MP4A	Mx	0	.17
13	MP4A	X	0	5.17
14	MP4A	Z	-35.523	5.17
15	MP4A	Mx	0	5.17
16	MP4B	X	0	.17
17	MP4B	Z	-24.95	.17
18	MP4B	Mx	.017	.17
19	MP4B	X	0	5.17
20	MP4B	Z	-24.95	5.17
21	MP4B	Mx	.017	5.17
22	MP4C	X	0	.17
23	MP4C	Z	-27.593	.17
24	MP4C	Mx	-.016	.17
25	MP4C	X	0	5.17
26	MP4C	Z	-27.593	5.17
27	MP4C	Mx	-.016	5.17
28	MP3A	X	0	.17
29	MP3A	Z	-31.536	.17
30	MP3A	Mx	-.021	.17
31	MP3A	X	0	5.17
32	MP3A	Z	-31.536	5.17
33	MP3A	Mx	-.021	5.17
34	MP3B	X	0	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
35	MP3B	Z	-22.122	.17
36	MP3B	Mx	.015	.17
37	MP3B	X	0	5.17
38	MP3B	Z	-22.122	5.17
39	MP3B	Mx	.015	5.17
40	MP3C	X	0	.17
41	MP3C	Z	-24.475	.17
42	MP3C	Mx	-.006	.17
43	MP3C	X	0	5.17
44	MP3C	Z	-24.475	5.17
45	MP3C	Mx	-.006	5.17
46	MP3A	X	0	.17
47	MP3A	Z	-31.536	.17
48	MP3A	Mx	.021	.17
49	MP3A	X	0	5.17
50	MP3A	Z	-31.536	5.17
51	MP3A	Mx	.021	5.17
52	MP3B	X	0	.17
53	MP3B	Z	-22.122	.17
54	MP3B	Mx	.015	.17
55	MP3B	X	0	5.17
56	MP3B	Z	-22.122	5.17
57	MP3B	Mx	.015	5.17
58	MP3C	X	0	.17
59	MP3C	Z	-24.475	.17
60	MP3C	Mx	-.022	.17
61	MP3C	X	0	5.17
62	MP3C	Z	-24.475	5.17
63	MP3C	Mx	-.022	5.17
64	MP1A	X	0	.17
65	MP1A	Z	-15.378	.17
66	MP1A	Mx	0	.17
67	MP1A	X	0	2.17
68	MP1A	Z	-15.378	2.17
69	MP1A	Mx	0	2.17
70	MP1B	X	0	.17
71	MP1B	Z	-6.755	.17
72	MP1B	Mx	.003	.17
73	MP1B	X	0	2.17
74	MP1B	Z	-6.755	2.17
75	MP1B	Mx	.003	2.17
76	MP1C	X	0	.17
77	MP1C	Z	-8.91	.17
78	MP1C	Mx	-.003	.17
79	MP1C	X	0	2.17
80	MP1C	Z	-8.91	2.17
81	MP1C	Mx	-.003	2.17
82	MP2A	X	0	1.5
83	MP2A	Z	-16.2	1.5
84	MP2A	Mx	0	1.5
85	MP2B	X	0	1.5
86	MP2B	Z	-11.461	1.5
87	MP2B	Mx	-.008	1.5
88	MP2C	X	0	1.5
89	MP2C	Z	-12.645	1.5
90	MP2C	Mx	.007	1.5
91	MP3A	X	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
92	MP3A	Z	-16.2	1.5
93	MP3A	Mx	0	1.5
94	MP3B	X	0	1.5
95	MP3B	Z	-11.65	1.5
96	MP3B	Mx	-.008	1.5
97	MP3C	X	0	1.5
98	MP3C	Z	-12.788	1.5
99	MP3C	Mx	.007	1.5
100	OVP	X	0	1
101	OVP	Z	-30.867	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	3.468	4.67
2	MP1A	Z	-6.008	4.67
3	MP1A	Mx	-.001	4.67
4	MP1B	X	2.082	4.67
5	MP1B	Z	-3.605	4.67
6	MP1B	Mx	.001	4.67
7	MP1C	X	3.468	4.67
8	MP1C	Z	-6.008	4.67
9	MP1C	Mx	-.001	4.67
10	MP4A	X	16.44	.17
11	MP4A	Z	-28.474	.17
12	MP4A	Mx	-.011	.17
13	MP4A	X	16.44	5.17
14	MP4A	Z	-28.474	5.17
15	MP4A	Mx	-.011	5.17
16	MP4B	X	13.796	.17
17	MP4B	Z	-23.896	.17
18	MP4B	Mx	.016	.17
19	MP4B	X	13.796	5.17
20	MP4B	Z	-23.896	5.17
21	MP4B	Mx	.016	5.17
22	MP4C	X	16.44	.17
23	MP4C	Z	-28.474	.17
24	MP4C	Mx	-.011	.17
25	MP4C	X	16.44	5.17
26	MP4C	Z	-28.474	5.17
27	MP4C	Mx	-.011	5.17
28	MP3A	X	14.591	.17
29	MP3A	Z	-25.273	.17
30	MP3A	Mx	-.027	.17
31	MP3A	X	14.591	5.17
32	MP3A	Z	-25.273	5.17
33	MP3A	Mx	-.027	5.17
34	MP3B	X	12.238	.17
35	MP3B	Z	-21.196	.17
36	MP3B	Mx	.006	.17
37	MP3B	X	12.238	5.17
38	MP3B	Z	-21.196	5.17
39	MP3B	Mx	.006	5.17
40	MP3C	X	14.591	.17
41	MP3C	Z	-25.273	.17
42	MP3C	Mx	.007	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
43	MP3C	X	14.591	5.17
44	MP3C	Z	-25.273	5.17
45	MP3C	Mx	.007	5.17
46	MP3A	X	14.591	.17
47	MP3A	Z	-25.273	.17
48	MP3A	Mx	.007	.17
49	MP3A	X	14.591	5.17
50	MP3A	Z	-25.273	5.17
51	MP3A	Mx	.007	5.17
52	MP3B	X	12.238	.17
53	MP3B	Z	-21.196	.17
54	MP3B	Mx	.022	.17
55	MP3B	X	12.238	5.17
56	MP3B	Z	-21.196	5.17
57	MP3B	Mx	.022	5.17
58	MP3C	X	14.591	.17
59	MP3C	Z	-25.273	.17
60	MP3C	Mx	-.027	.17
61	MP3C	X	14.591	5.17
62	MP3C	Z	-25.273	5.17
63	MP3C	Mx	-.027	5.17
64	MP1A	X	6.611	.17
65	MP1A	Z	-11.451	.17
66	MP1A	Mx	-.003	.17
67	MP1A	X	6.611	2.17
68	MP1A	Z	-11.451	2.17
69	MP1A	Mx	-.003	2.17
70	MP1B	X	4.455	.17
71	MP1B	Z	-7.717	.17
72	MP1B	Mx	.003	.17
73	MP1B	X	4.455	2.17
74	MP1B	Z	-7.717	2.17
75	MP1B	Mx	.003	2.17
76	MP1C	X	6.611	.17
77	MP1C	Z	-11.451	.17
78	MP1C	Mx	-.003	.17
79	MP1C	X	6.611	2.17
80	MP1C	Z	-11.451	2.17
81	MP1C	Mx	-.003	2.17
82	MP2A	X	7.507	1.5
83	MP2A	Z	-13.003	1.5
84	MP2A	Mx	.005	1.5
85	MP2B	X	6.323	1.5
86	MP2B	Z	-10.951	1.5
87	MP2B	Mx	-.007	1.5
88	MP2C	X	7.507	1.5
89	MP2C	Z	-13.003	1.5
90	MP2C	Mx	.005	1.5
91	MP3A	X	7.531	1.5
92	MP3A	Z	-13.044	1.5
93	MP3A	Mx	.005	1.5
94	MP3B	X	6.394	1.5
95	MP3B	Z	-11.074	1.5
96	MP3B	Mx	-.007	1.5
97	MP3C	X	7.531	1.5
98	MP3C	Z	-13.044	1.5
99	MP3C	Mx	.005	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
100	OVP	X	13.718	1
101	OVP	Z	-23.76	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	3.605	4.67
2	MP1A	Z	-2.082	4.67
3	MP1A	Mx	-.001	4.67
4	MP1B	X	6.008	4.67
5	MP1B	Z	-3.468	4.67
6	MP1B	Mx	.001	4.67
7	MP1C	X	7.209	4.67
8	MP1C	Z	-4.162	4.67
9	MP1C	Mx	0	4.67
10	MP4A	X	23.896	.17
11	MP4A	Z	-13.796	.17
12	MP4A	Mx	-.016	.17
13	MP4A	X	23.896	5.17
14	MP4A	Z	-13.796	5.17
15	MP4A	Mx	-.016	5.17
16	MP4B	X	28.474	.17
17	MP4B	Z	-16.44	.17
18	MP4B	Mx	.011	.17
19	MP4B	X	28.474	5.17
20	MP4B	Z	-16.44	5.17
21	MP4B	Mx	.011	5.17
22	MP4C	X	30.763	.17
23	MP4C	Z	-17.761	.17
24	MP4C	Mx	0	.17
25	MP4C	X	30.763	5.17
26	MP4C	Z	-17.761	5.17
27	MP4C	Mx	0	5.17
28	MP3A	X	21.196	.17
29	MP3A	Z	-12.238	.17
30	MP3A	Mx	-.022	.17
31	MP3A	X	21.196	5.17
32	MP3A	Z	-12.238	5.17
33	MP3A	Mx	-.022	5.17
34	MP3B	X	25.273	.17
35	MP3B	Z	-14.591	.17
36	MP3B	Mx	-.007	.17
37	MP3B	X	25.273	5.17
38	MP3B	Z	-14.591	5.17
39	MP3B	Mx	-.007	5.17
40	MP3C	X	27.311	.17
41	MP3C	Z	-15.768	.17
42	MP3C	Mx	.021	.17
43	MP3C	X	27.311	5.17
44	MP3C	Z	-15.768	5.17
45	MP3C	Mx	.021	5.17
46	MP3A	X	21.196	.17
47	MP3A	Z	-12.238	.17
48	MP3A	Mx	-.006	.17
49	MP3A	X	21.196	5.17
50	MP3A	Z	-12.238	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
51	MP3A	Mx	-.006	5.17
52	MP3B	X	25.273	.17
53	MP3B	Z	-14.591	.17
54	MP3B	Mx	.027	.17
55	MP3B	X	25.273	5.17
56	MP3B	Z	-14.591	5.17
57	MP3B	Mx	.027	5.17
58	MP3C	X	27.311	.17
59	MP3C	Z	-15.768	.17
60	MP3C	Mx	-.021	.17
61	MP3C	X	27.311	5.17
62	MP3C	Z	-15.768	5.17
63	MP3C	Mx	-.021	5.17
64	MP1A	X	7.717	.17
65	MP1A	Z	-4.455	.17
66	MP1A	Mx	-.003	.17
67	MP1A	X	7.717	2.17
68	MP1A	Z	-4.455	2.17
69	MP1A	Mx	-.003	2.17
70	MP1B	X	11.451	.17
71	MP1B	Z	-6.611	.17
72	MP1B	Mx	.003	.17
73	MP1B	X	11.451	2.17
74	MP1B	Z	-6.611	2.17
75	MP1B	Mx	.003	2.17
76	MP1C	X	13.317	.17
77	MP1C	Z	-7.689	.17
78	MP1C	Mx	0	.17
79	MP1C	X	13.317	2.17
80	MP1C	Z	-7.689	2.17
81	MP1C	Mx	0	2.17
82	MP2A	X	10.951	1.5
83	MP2A	Z	-6.323	1.5
84	MP2A	Mx	.007	1.5
85	MP2B	X	13.003	1.5
86	MP2B	Z	-7.507	1.5
87	MP2B	Mx	-.005	1.5
88	MP2C	X	14.029	1.5
89	MP2C	Z	-8.1	1.5
90	MP2C	Mx	0	1.5
91	MP3A	X	11.074	1.5
92	MP3A	Z	-6.394	1.5
93	MP3A	Mx	.007	1.5
94	MP3B	X	13.044	1.5
95	MP3B	Z	-7.531	1.5
96	MP3B	Mx	-.005	1.5
97	MP3C	X	14.029	1.5
98	MP3C	Z	-8.1	1.5
99	MP3C	Mx	0	1.5
100	OVP	X	22.275	1
101	OVP	Z	-12.86	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	2.776	4.67

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
2	MP1A	Z	0	4.67
3	MP1A	Mx	-.000925	4.67
4	MP1B	X	8.324	4.67
5	MP1B	Z	0	4.67
6	MP1B	Mx	0	4.67
7	MP1C	X	6.937	4.67
8	MP1C	Z	0	4.67
9	MP1C	Mx	.001	4.67
10	MP4A	X	24.95	.17
11	MP4A	Z	0	.17
12	MP4A	Mx	-.017	.17
13	MP4A	X	24.95	5.17
14	MP4A	Z	0	5.17
15	MP4A	Mx	-.017	5.17
16	MP4B	X	35.523	.17
17	MP4B	Z	0	.17
18	MP4B	Mx	0	.17
19	MP4B	X	35.523	5.17
20	MP4B	Z	0	5.17
21	MP4B	Mx	0	5.17
22	MP4C	X	32.879	.17
23	MP4C	Z	0	.17
24	MP4C	Mx	.011	.17
25	MP4C	X	32.879	5.17
26	MP4C	Z	0	5.17
27	MP4C	Mx	.011	5.17
28	MP3A	X	22.122	.17
29	MP3A	Z	0	.17
30	MP3A	Mx	-.015	.17
31	MP3A	X	22.122	5.17
32	MP3A	Z	0	5.17
33	MP3A	Mx	-.015	5.17
34	MP3B	X	31.536	.17
35	MP3B	Z	0	.17
36	MP3B	Mx	-.021	.17
37	MP3B	X	31.536	5.17
38	MP3B	Z	0	5.17
39	MP3B	Mx	-.021	5.17
40	MP3C	X	29.183	.17
41	MP3C	Z	0	.17
42	MP3C	Mx	.027	.17
43	MP3C	X	29.183	5.17
44	MP3C	Z	0	5.17
45	MP3C	Mx	.027	5.17
46	MP3A	X	22.122	.17
47	MP3A	Z	0	.17
48	MP3A	Mx	-.015	.17
49	MP3A	X	22.122	5.17
50	MP3A	Z	0	5.17
51	MP3A	Mx	-.015	5.17
52	MP3B	X	31.536	.17
53	MP3B	Z	0	.17
54	MP3B	Mx	.021	.17
55	MP3B	X	31.536	5.17
56	MP3B	Z	0	5.17
57	MP3B	Mx	.021	5.17
58	MP3C	X	29.183	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
59	MP3C	Z	0	.17
60	MP3C	Mx	-.007	.17
61	MP3C	X	29.183	5.17
62	MP3C	Z	0	5.17
63	MP3C	Mx	-.007	5.17
64	MP1A	X	6.755	.17
65	MP1A	Z	0	.17
66	MP1A	Mx	-.003	.17
67	MP1A	X	6.755	2.17
68	MP1A	Z	0	2.17
69	MP1A	Mx	-.003	2.17
70	MP1B	X	15.378	.17
71	MP1B	Z	0	.17
72	MP1B	Mx	0	.17
73	MP1B	X	15.378	2.17
74	MP1B	Z	0	2.17
75	MP1B	Mx	0	2.17
76	MP1C	X	13.222	.17
77	MP1C	Z	0	.17
78	MP1C	Mx	.003	.17
79	MP1C	X	13.222	2.17
80	MP1C	Z	0	2.17
81	MP1C	Mx	.003	2.17
82	MP2A	X	11.461	1.5
83	MP2A	Z	0	1.5
84	MP2A	Mx	.008	1.5
85	MP2B	X	16.2	1.5
86	MP2B	Z	0	1.5
87	MP2B	Mx	0	1.5
88	MP2C	X	15.015	1.5
89	MP2C	Z	0	1.5
90	MP2C	Mx	-.005	1.5
91	MP3A	X	11.65	1.5
92	MP3A	Z	0	1.5
93	MP3A	Mx	.008	1.5
94	MP3B	X	16.2	1.5
95	MP3B	Z	0	1.5
96	MP3B	Mx	0	1.5
97	MP3C	X	15.062	1.5
98	MP3C	Z	0	1.5
99	MP3C	Mx	-.005	1.5
100	OVP	X	27.436	1
101	OVP	Z	0	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	3.605	4.67
2	MP1A	Z	2.082	4.67
3	MP1A	Mx	-.001	4.67
4	MP1B	X	6.008	4.67
5	MP1B	Z	3.468	4.67
6	MP1B	Mx	-.001	4.67
7	MP1C	X	3.605	4.67
8	MP1C	Z	2.082	4.67
9	MP1C	Mx	.001	4.67

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
10	MP4A	X	23.896	.17
11	MP4A	Z	13.796	.17
12	MP4A	Mx	-.016	.17
13	MP4A	X	23.896	5.17
14	MP4A	Z	13.796	5.17
15	MP4A	Mx	-.016	5.17
16	MP4B	X	28.474	.17
17	MP4B	Z	16.44	.17
18	MP4B	Mx	-.011	.17
19	MP4B	X	28.474	5.17
20	MP4B	Z	16.44	5.17
21	MP4B	Mx	-.011	5.17
22	MP4C	X	23.896	.17
23	MP4C	Z	13.796	.17
24	MP4C	Mx	.016	.17
25	MP4C	X	23.896	5.17
26	MP4C	Z	13.796	5.17
27	MP4C	Mx	.016	5.17
28	MP3A	X	21.196	.17
29	MP3A	Z	12.238	.17
30	MP3A	Mx	-.006	.17
31	MP3A	X	21.196	5.17
32	MP3A	Z	12.238	5.17
33	MP3A	Mx	-.006	5.17
34	MP3B	X	25.273	.17
35	MP3B	Z	14.591	.17
36	MP3B	Mx	-.027	.17
37	MP3B	X	25.273	5.17
38	MP3B	Z	14.591	5.17
39	MP3B	Mx	-.027	5.17
40	MP3C	X	21.196	.17
41	MP3C	Z	12.238	.17
42	MP3C	Mx	.022	.17
43	MP3C	X	21.196	5.17
44	MP3C	Z	12.238	5.17
45	MP3C	Mx	.022	5.17
46	MP3A	X	21.196	.17
47	MP3A	Z	12.238	.17
48	MP3A	Mx	-.022	.17
49	MP3A	X	21.196	5.17
50	MP3A	Z	12.238	5.17
51	MP3A	Mx	-.022	5.17
52	MP3B	X	25.273	.17
53	MP3B	Z	14.591	.17
54	MP3B	Mx	.007	.17
55	MP3B	X	25.273	5.17
56	MP3B	Z	14.591	5.17
57	MP3B	Mx	.007	5.17
58	MP3C	X	21.196	.17
59	MP3C	Z	12.238	.17
60	MP3C	Mx	.006	.17
61	MP3C	X	21.196	5.17
62	MP3C	Z	12.238	5.17
63	MP3C	Mx	.006	5.17
64	MP1A	X	7.717	.17
65	MP1A	Z	4.455	.17
66	MP1A	Mx	-.003	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
67	MP1A	X	7.717	2.17
68	MP1A	Z	4.455	2.17
69	MP1A	Mx	-.003	2.17
70	MP1B	X	11.451	.17
71	MP1B	Z	6.611	.17
72	MP1B	Mx	-.003	.17
73	MP1B	X	11.451	2.17
74	MP1B	Z	6.611	2.17
75	MP1B	Mx	-.003	2.17
76	MP1C	X	7.717	.17
77	MP1C	Z	4.455	.17
78	MP1C	Mx	.003	.17
79	MP1C	X	7.717	2.17
80	MP1C	Z	4.455	2.17
81	MP1C	Mx	.003	2.17
82	MP2A	X	10.951	1.5
83	MP2A	Z	6.323	1.5
84	MP2A	Mx	.007	1.5
85	MP2B	X	13.003	1.5
86	MP2B	Z	7.507	1.5
87	MP2B	Mx	.005	1.5
88	MP2C	X	10.951	1.5
89	MP2C	Z	6.323	1.5
90	MP2C	Mx	-.007	1.5
91	MP3A	X	11.074	1.5
92	MP3A	Z	6.394	1.5
93	MP3A	Mx	.007	1.5
94	MP3B	X	13.044	1.5
95	MP3B	Z	7.531	1.5
96	MP3B	Mx	.005	1.5
97	MP3C	X	11.074	1.5
98	MP3C	Z	6.394	1.5
99	MP3C	Mx	-.007	1.5
100	OVP	X	26.732	1
101	OVP	Z	15.434	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	3.468	4.67
2	MP1A	Z	6.008	4.67
3	MP1A	Mx	-.001	4.67
4	MP1B	X	2.082	4.67
5	MP1B	Z	3.605	4.67
6	MP1B	Mx	-.001	4.67
7	MP1C	X	1.388	4.67
8	MP1C	Z	2.404	4.67
9	MP1C	Mx	.000925	4.67
10	MP4A	X	16.44	.17
11	MP4A	Z	28.474	.17
12	MP4A	Mx	-.011	.17
13	MP4A	X	16.44	5.17
14	MP4A	Z	28.474	5.17
15	MP4A	Mx	-.011	5.17
16	MP4B	X	13.796	.17
17	MP4B	Z	23.896	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
18	MP4B	Mx	-.016	.17
19	MP4B	X	13.796	5.17
20	MP4B	Z	23.896	5.17
21	MP4B	Mx	-.016	5.17
22	MP4C	X	12.475	.17
23	MP4C	Z	21.607	.17
24	MP4C	Mx	.017	.17
25	MP4C	X	12.475	5.17
26	MP4C	Z	21.607	5.17
27	MP4C	Mx	.017	5.17
28	MP3A	X	14.591	.17
29	MP3A	Z	25.273	.17
30	MP3A	Mx	.007	.17
31	MP3A	X	14.591	5.17
32	MP3A	Z	25.273	5.17
33	MP3A	Mx	.007	5.17
34	MP3B	X	12.238	.17
35	MP3B	Z	21.196	.17
36	MP3B	Mx	-.022	.17
37	MP3B	X	12.238	5.17
38	MP3B	Z	21.196	5.17
39	MP3B	Mx	-.022	5.17
40	MP3C	X	11.061	.17
41	MP3C	Z	19.158	.17
42	MP3C	Mx	.015	.17
43	MP3C	X	11.061	5.17
44	MP3C	Z	19.158	5.17
45	MP3C	Mx	.015	5.17
46	MP3A	X	14.591	.17
47	MP3A	Z	25.273	.17
48	MP3A	Mx	-.027	.17
49	MP3A	X	14.591	5.17
50	MP3A	Z	25.273	5.17
51	MP3A	Mx	-.027	5.17
52	MP3B	X	12.238	.17
53	MP3B	Z	21.196	.17
54	MP3B	Mx	-.006	.17
55	MP3B	X	12.238	5.17
56	MP3B	Z	21.196	5.17
57	MP3B	Mx	-.006	5.17
58	MP3C	X	11.061	.17
59	MP3C	Z	19.158	.17
60	MP3C	Mx	.015	.17
61	MP3C	X	11.061	5.17
62	MP3C	Z	19.158	5.17
63	MP3C	Mx	.015	5.17
64	MP1A	X	6.611	.17
65	MP1A	Z	11.451	.17
66	MP1A	Mx	-.003	.17
67	MP1A	X	6.611	2.17
68	MP1A	Z	11.451	2.17
69	MP1A	Mx	-.003	2.17
70	MP1B	X	4.455	.17
71	MP1B	Z	7.717	.17
72	MP1B	Mx	-.003	.17
73	MP1B	X	4.455	2.17
74	MP1B	Z	7.717	2.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
75	MP1B	Mx	-.003	2.17
76	MP1C	X	3.377	.17
77	MP1C	Z	5.85	.17
78	MP1C	Mx	.003	.17
79	MP1C	X	3.377	2.17
80	MP1C	Z	5.85	2.17
81	MP1C	Mx	.003	2.17
82	MP2A	X	7.507	1.5
83	MP2A	Z	13.003	1.5
84	MP2A	Mx	.005	1.5
85	MP2B	X	6.323	1.5
86	MP2B	Z	10.951	1.5
87	MP2B	Mx	.007	1.5
88	MP2C	X	5.73	1.5
89	MP2C	Z	9.925	1.5
90	MP2C	Mx	-.008	1.5
91	MP3A	X	7.531	1.5
92	MP3A	Z	13.044	1.5
93	MP3A	Mx	.005	1.5
94	MP3B	X	6.394	1.5
95	MP3B	Z	11.074	1.5
96	MP3B	Mx	.007	1.5
97	MP3C	X	5.825	1.5
98	MP3C	Z	10.089	1.5
99	MP3C	Mx	-.008	1.5
100	OVP	X	16.291	1
101	OVP	Z	28.217	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	4.67
2	MP1A	Z	8.324	4.67
3	MP1A	Mx	0	4.67
4	MP1B	X	0	4.67
5	MP1B	Z	2.776	4.67
6	MP1B	Mx	-.000925	4.67
7	MP1C	X	0	4.67
8	MP1C	Z	4.163	4.67
9	MP1C	Mx	.001	4.67
10	MP4A	X	0	.17
11	MP4A	Z	35.523	.17
12	MP4A	Mx	0	.17
13	MP4A	X	0	5.17
14	MP4A	Z	35.523	5.17
15	MP4A	Mx	0	5.17
16	MP4B	X	0	.17
17	MP4B	Z	24.95	.17
18	MP4B	Mx	-.017	.17
19	MP4B	X	0	5.17
20	MP4B	Z	24.95	5.17
21	MP4B	Mx	-.017	5.17
22	MP4C	X	0	.17
23	MP4C	Z	27.593	.17
24	MP4C	Mx	.016	.17
25	MP4C	X	0	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
26	MP4C	Z	27.593	5.17
27	MP4C	Mx	.016	5.17
28	MP3A	X	0	.17
29	MP3A	Z	31.536	.17
30	MP3A	Mx	.021	.17
31	MP3A	X	0	5.17
32	MP3A	Z	31.536	5.17
33	MP3A	Mx	.021	5.17
34	MP3B	X	0	.17
35	MP3B	Z	22.122	.17
36	MP3B	Mx	-.015	.17
37	MP3B	X	0	5.17
38	MP3B	Z	22.122	5.17
39	MP3B	Mx	-.015	5.17
40	MP3C	X	0	.17
41	MP3C	Z	24.475	.17
42	MP3C	Mx	.006	.17
43	MP3C	X	0	5.17
44	MP3C	Z	24.475	5.17
45	MP3C	Mx	.006	5.17
46	MP3A	X	0	.17
47	MP3A	Z	31.536	.17
48	MP3A	Mx	-.021	.17
49	MP3A	X	0	5.17
50	MP3A	Z	31.536	5.17
51	MP3A	Mx	-.021	5.17
52	MP3B	X	0	.17
53	MP3B	Z	22.122	.17
54	MP3B	Mx	-.015	.17
55	MP3B	X	0	5.17
56	MP3B	Z	22.122	5.17
57	MP3B	Mx	-.015	5.17
58	MP3C	X	0	.17
59	MP3C	Z	24.475	.17
60	MP3C	Mx	.022	.17
61	MP3C	X	0	5.17
62	MP3C	Z	24.475	5.17
63	MP3C	Mx	.022	5.17
64	MP1A	X	0	.17
65	MP1A	Z	15.378	.17
66	MP1A	Mx	0	.17
67	MP1A	X	0	2.17
68	MP1A	Z	15.378	2.17
69	MP1A	Mx	0	2.17
70	MP1B	X	0	.17
71	MP1B	Z	6.755	.17
72	MP1B	Mx	-.003	.17
73	MP1B	X	0	2.17
74	MP1B	Z	6.755	2.17
75	MP1B	Mx	-.003	2.17
76	MP1C	X	0	.17
77	MP1C	Z	8.91	.17
78	MP1C	Mx	.003	.17
79	MP1C	X	0	2.17
80	MP1C	Z	8.91	2.17
81	MP1C	Mx	.003	2.17
82	MP2A	X	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
83	MP2A	Z	16.2	1.5
84	MP2A	Mx	0	1.5
85	MP2B	X	0	1.5
86	MP2B	Z	11.461	1.5
87	MP2B	Mx	.008	1.5
88	MP2C	X	0	1.5
89	MP2C	Z	12.645	1.5
90	MP2C	Mx	-.007	1.5
91	MP3A	X	0	1.5
92	MP3A	Z	16.2	1.5
93	MP3A	Mx	0	1.5
94	MP3B	X	0	1.5
95	MP3B	Z	11.65	1.5
96	MP3B	Mx	.008	1.5
97	MP3C	X	0	1.5
98	MP3C	Z	12.788	1.5
99	MP3C	Mx	-.007	1.5
100	OVP	X	0	1
101	OVP	Z	30.867	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP1A	X	-3.468	4.67
2	MP1A	Z	6.008	4.67
3	MP1A	Mx	.001	4.67
4	MP1B	X	-2.082	4.67
5	MP1B	Z	3.605	4.67
6	MP1B	Mx	-.001	4.67
7	MP1C	X	-3.468	4.67
8	MP1C	Z	6.008	4.67
9	MP1C	Mx	.001	4.67
10	MP4A	X	-16.44	.17
11	MP4A	Z	28.474	.17
12	MP4A	Mx	.011	.17
13	MP4A	X	-16.44	5.17
14	MP4A	Z	28.474	5.17
15	MP4A	Mx	.011	5.17
16	MP4B	X	-13.796	.17
17	MP4B	Z	23.896	.17
18	MP4B	Mx	-.016	.17
19	MP4B	X	-13.796	5.17
20	MP4B	Z	23.896	5.17
21	MP4B	Mx	-.016	5.17
22	MP4C	X	-16.44	.17
23	MP4C	Z	28.474	.17
24	MP4C	Mx	.011	.17
25	MP4C	X	-16.44	5.17
26	MP4C	Z	28.474	5.17
27	MP4C	Mx	.011	5.17
28	MP3A	X	-14.591	.17
29	MP3A	Z	25.273	.17
30	MP3A	Mx	.027	.17
31	MP3A	X	-14.591	5.17
32	MP3A	Z	25.273	5.17
33	MP3A	Mx	.027	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
34	MP3B	X	-12.238	.17
35	MP3B	Z	21.196	.17
36	MP3B	Mx	-.006	.17
37	MP3B	X	-12.238	5.17
38	MP3B	Z	21.196	5.17
39	MP3B	Mx	-.006	5.17
40	MP3C	X	-14.591	.17
41	MP3C	Z	25.273	.17
42	MP3C	Mx	-.007	.17
43	MP3C	X	-14.591	5.17
44	MP3C	Z	25.273	5.17
45	MP3C	Mx	-.007	5.17
46	MP3A	X	-14.591	.17
47	MP3A	Z	25.273	.17
48	MP3A	Mx	-.007	.17
49	MP3A	X	-14.591	5.17
50	MP3A	Z	25.273	5.17
51	MP3A	Mx	-.007	5.17
52	MP3B	X	-12.238	.17
53	MP3B	Z	21.196	.17
54	MP3B	Mx	-.022	.17
55	MP3B	X	-12.238	5.17
56	MP3B	Z	21.196	5.17
57	MP3B	Mx	-.022	5.17
58	MP3C	X	-14.591	.17
59	MP3C	Z	25.273	.17
60	MP3C	Mx	.027	.17
61	MP3C	X	-14.591	5.17
62	MP3C	Z	25.273	5.17
63	MP3C	Mx	.027	5.17
64	MP1A	X	-6.611	.17
65	MP1A	Z	11.451	.17
66	MP1A	Mx	.003	.17
67	MP1A	X	-6.611	2.17
68	MP1A	Z	11.451	2.17
69	MP1A	Mx	.003	2.17
70	MP1B	X	-4.455	.17
71	MP1B	Z	7.717	.17
72	MP1B	Mx	-.003	.17
73	MP1B	X	-4.455	2.17
74	MP1B	Z	7.717	2.17
75	MP1B	Mx	-.003	2.17
76	MP1C	X	-6.611	.17
77	MP1C	Z	11.451	.17
78	MP1C	Mx	.003	.17
79	MP1C	X	-6.611	2.17
80	MP1C	Z	11.451	2.17
81	MP1C	Mx	.003	2.17
82	MP2A	X	-7.507	1.5
83	MP2A	Z	13.003	1.5
84	MP2A	Mx	-.005	1.5
85	MP2B	X	-6.323	1.5
86	MP2B	Z	10.951	1.5
87	MP2B	Mx	.007	1.5
88	MP2C	X	-7.507	1.5
89	MP2C	Z	13.003	1.5
90	MP2C	Mx	-.005	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
91	MP3A	X	-7.531	1.5
92	MP3A	Z	13.044	1.5
93	MP3A	Mx	-.005	1.5
94	MP3B	X	-6.394	1.5
95	MP3B	Z	11.074	1.5
96	MP3B	Mx	.007	1.5
97	MP3C	X	-7.531	1.5
98	MP3C	Z	13.044	1.5
99	MP3C	Mx	-.005	1.5
100	OVP	X	-13.718	1
101	OVP	Z	23.76	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-3.605	4.67
2	MP1A	Z	2.082	4.67
3	MP1A	Mx	.001	4.67
4	MP1B	X	-6.008	4.67
5	MP1B	Z	3.468	4.67
6	MP1B	Mx	-.001	4.67
7	MP1C	X	-7.209	4.67
8	MP1C	Z	4.162	4.67
9	MP1C	Mx	0	4.67
10	MP4A	X	-23.896	.17
11	MP4A	Z	13.796	.17
12	MP4A	Mx	.016	.17
13	MP4A	X	-23.896	5.17
14	MP4A	Z	13.796	5.17
15	MP4A	Mx	.016	5.17
16	MP4B	X	-28.474	.17
17	MP4B	Z	16.44	.17
18	MP4B	Mx	-.011	.17
19	MP4B	X	-28.474	5.17
20	MP4B	Z	16.44	5.17
21	MP4B	Mx	-.011	5.17
22	MP4C	X	-30.763	.17
23	MP4C	Z	17.761	.17
24	MP4C	Mx	0	.17
25	MP4C	X	-30.763	5.17
26	MP4C	Z	17.761	5.17
27	MP4C	Mx	0	5.17
28	MP3A	X	-21.196	.17
29	MP3A	Z	12.238	.17
30	MP3A	Mx	.022	.17
31	MP3A	X	-21.196	5.17
32	MP3A	Z	12.238	5.17
33	MP3A	Mx	.022	5.17
34	MP3B	X	-25.273	.17
35	MP3B	Z	14.591	.17
36	MP3B	Mx	.007	.17
37	MP3B	X	-25.273	5.17
38	MP3B	Z	14.591	5.17
39	MP3B	Mx	.007	5.17
40	MP3C	X	-27.311	.17
41	MP3C	Z	15.768	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
42	MP3C	Mx	-.021	.17
43	MP3C	X	-27.311	5.17
44	MP3C	Z	15.768	5.17
45	MP3C	Mx	-.021	5.17
46	MP3A	X	-21.196	.17
47	MP3A	Z	12.238	.17
48	MP3A	Mx	.006	.17
49	MP3A	X	-21.196	5.17
50	MP3A	Z	12.238	5.17
51	MP3A	Mx	.006	5.17
52	MP3B	X	-25.273	.17
53	MP3B	Z	14.591	.17
54	MP3B	Mx	-.027	.17
55	MP3B	X	-25.273	5.17
56	MP3B	Z	14.591	5.17
57	MP3B	Mx	-.027	5.17
58	MP3C	X	-27.311	.17
59	MP3C	Z	15.768	.17
60	MP3C	Mx	.021	.17
61	MP3C	X	-27.311	5.17
62	MP3C	Z	15.768	5.17
63	MP3C	Mx	.021	5.17
64	MP1A	X	-7.717	.17
65	MP1A	Z	4.455	.17
66	MP1A	Mx	.003	.17
67	MP1A	X	-7.717	2.17
68	MP1A	Z	4.455	2.17
69	MP1A	Mx	.003	2.17
70	MP1B	X	-11.451	.17
71	MP1B	Z	6.611	.17
72	MP1B	Mx	-.003	.17
73	MP1B	X	-11.451	2.17
74	MP1B	Z	6.611	2.17
75	MP1B	Mx	-.003	2.17
76	MP1C	X	-13.317	.17
77	MP1C	Z	7.689	.17
78	MP1C	Mx	0	.17
79	MP1C	X	-13.317	2.17
80	MP1C	Z	7.689	2.17
81	MP1C	Mx	0	2.17
82	MP2A	X	-10.951	1.5
83	MP2A	Z	6.323	1.5
84	MP2A	Mx	-.007	1.5
85	MP2B	X	-13.003	1.5
86	MP2B	Z	7.507	1.5
87	MP2B	Mx	.005	1.5
88	MP2C	X	-14.029	1.5
89	MP2C	Z	8.1	1.5
90	MP2C	Mx	0	1.5
91	MP3A	X	-11.074	1.5
92	MP3A	Z	6.394	1.5
93	MP3A	Mx	-.007	1.5
94	MP3B	X	-13.044	1.5
95	MP3B	Z	7.531	1.5
96	MP3B	Mx	.005	1.5
97	MP3C	X	-14.029	1.5
98	MP3C	Z	8.1	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
99	MP3C	Mx	0	1.5
100	OVP	X	-22.275	1
101	OVP	Z	12.86	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-2.776	4.67
2	MP1A	Z	0	4.67
3	MP1A	Mx	.000925	4.67
4	MP1B	X	-8.324	4.67
5	MP1B	Z	0	4.67
6	MP1B	Mx	0	4.67
7	MP1C	X	-6.937	4.67
8	MP1C	Z	0	4.67
9	MP1C	Mx	-.001	4.67
10	MP4A	X	-24.95	.17
11	MP4A	Z	0	.17
12	MP4A	Mx	.017	.17
13	MP4A	X	-24.95	5.17
14	MP4A	Z	0	5.17
15	MP4A	Mx	.017	5.17
16	MP4B	X	-35.523	.17
17	MP4B	Z	0	.17
18	MP4B	Mx	0	.17
19	MP4B	X	-35.523	5.17
20	MP4B	Z	0	5.17
21	MP4B	Mx	0	5.17
22	MP4C	X	-32.879	.17
23	MP4C	Z	0	.17
24	MP4C	Mx	-.011	.17
25	MP4C	X	-32.879	5.17
26	MP4C	Z	0	5.17
27	MP4C	Mx	-.011	5.17
28	MP3A	X	-22.122	.17
29	MP3A	Z	0	.17
30	MP3A	Mx	.015	.17
31	MP3A	X	-22.122	5.17
32	MP3A	Z	0	5.17
33	MP3A	Mx	.015	5.17
34	MP3B	X	-31.536	.17
35	MP3B	Z	0	.17
36	MP3B	Mx	.021	.17
37	MP3B	X	-31.536	5.17
38	MP3B	Z	0	5.17
39	MP3B	Mx	.021	5.17
40	MP3C	X	-29.183	.17
41	MP3C	Z	0	.17
42	MP3C	Mx	-.027	.17
43	MP3C	X	-29.183	5.17
44	MP3C	Z	0	5.17
45	MP3C	Mx	-.027	5.17
46	MP3A	X	-22.122	.17
47	MP3A	Z	0	.17
48	MP3A	Mx	.015	.17
49	MP3A	X	-22.122	5.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
50	MP3A	Z	0	5.17
51	MP3A	Mx	.015	5.17
52	MP3B	X	-31.536	.17
53	MP3B	Z	0	.17
54	MP3B	Mx	-.021	.17
55	MP3B	X	-31.536	5.17
56	MP3B	Z	0	5.17
57	MP3B	Mx	-.021	5.17
58	MP3C	X	-29.183	.17
59	MP3C	Z	0	.17
60	MP3C	Mx	.007	.17
61	MP3C	X	-29.183	5.17
62	MP3C	Z	0	5.17
63	MP3C	Mx	.007	5.17
64	MP1A	X	-6.755	.17
65	MP1A	Z	0	.17
66	MP1A	Mx	.003	.17
67	MP1A	X	-6.755	2.17
68	MP1A	Z	0	2.17
69	MP1A	Mx	.003	2.17
70	MP1B	X	-15.378	.17
71	MP1B	Z	0	.17
72	MP1B	Mx	0	.17
73	MP1B	X	-15.378	2.17
74	MP1B	Z	0	2.17
75	MP1B	Mx	0	2.17
76	MP1C	X	-13.222	.17
77	MP1C	Z	0	.17
78	MP1C	Mx	-.003	.17
79	MP1C	X	-13.222	2.17
80	MP1C	Z	0	2.17
81	MP1C	Mx	-.003	2.17
82	MP2A	X	-11.461	1.5
83	MP2A	Z	0	1.5
84	MP2A	Mx	-.008	1.5
85	MP2B	X	-16.2	1.5
86	MP2B	Z	0	1.5
87	MP2B	Mx	0	1.5
88	MP2C	X	-15.015	1.5
89	MP2C	Z	0	1.5
90	MP2C	Mx	.005	1.5
91	MP3A	X	-11.65	1.5
92	MP3A	Z	0	1.5
93	MP3A	Mx	-.008	1.5
94	MP3B	X	-16.2	1.5
95	MP3B	Z	0	1.5
96	MP3B	Mx	0	1.5
97	MP3C	X	-15.062	1.5
98	MP3C	Z	0	1.5
99	MP3C	Mx	.005	1.5
100	OVP	X	-27.436	1
101	OVP	Z	0	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
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Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-3.605	4.67
2	MP1A	Z	-2.082	4.67
3	MP1A	Mx	.001	4.67
4	MP1B	X	-6.008	4.67
5	MP1B	Z	-3.468	4.67
6	MP1B	Mx	.001	4.67
7	MP1C	X	-3.605	4.67
8	MP1C	Z	-2.082	4.67
9	MP1C	Mx	-.001	4.67
10	MP4A	X	-23.896	.17
11	MP4A	Z	-13.796	.17
12	MP4A	Mx	.016	.17
13	MP4A	X	-23.896	5.17
14	MP4A	Z	-13.796	5.17
15	MP4A	Mx	.016	5.17
16	MP4B	X	-28.474	.17
17	MP4B	Z	-16.44	.17
18	MP4B	Mx	.011	.17
19	MP4B	X	-28.474	5.17
20	MP4B	Z	-16.44	5.17
21	MP4B	Mx	.011	5.17
22	MP4C	X	-23.896	.17
23	MP4C	Z	-13.796	.17
24	MP4C	Mx	-.016	.17
25	MP4C	X	-23.896	5.17
26	MP4C	Z	-13.796	5.17
27	MP4C	Mx	-.016	5.17
28	MP3A	X	-21.196	.17
29	MP3A	Z	-12.238	.17
30	MP3A	Mx	.006	.17
31	MP3A	X	-21.196	5.17
32	MP3A	Z	-12.238	5.17
33	MP3A	Mx	.006	5.17
34	MP3B	X	-25.273	.17
35	MP3B	Z	-14.591	.17
36	MP3B	Mx	.027	.17
37	MP3B	X	-25.273	5.17
38	MP3B	Z	-14.591	5.17
39	MP3B	Mx	.027	5.17
40	MP3C	X	-21.196	.17
41	MP3C	Z	-12.238	.17
42	MP3C	Mx	-.022	.17
43	MP3C	X	-21.196	5.17
44	MP3C	Z	-12.238	5.17
45	MP3C	Mx	-.022	5.17
46	MP3A	X	-21.196	.17
47	MP3A	Z	-12.238	.17
48	MP3A	Mx	.022	.17
49	MP3A	X	-21.196	5.17
50	MP3A	Z	-12.238	5.17
51	MP3A	Mx	.022	5.17
52	MP3B	X	-25.273	.17
53	MP3B	Z	-14.591	.17
54	MP3B	Mx	-.007	.17
55	MP3B	X	-25.273	5.17
56	MP3B	Z	-14.591	5.17
57	MP3B	Mx	-.007	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
58	MP3C	X	-21.196	.17
59	MP3C	Z	-12.238	.17
60	MP3C	Mx	-.006	.17
61	MP3C	X	-21.196	5.17
62	MP3C	Z	-12.238	5.17
63	MP3C	Mx	-.006	5.17
64	MP1A	X	-7.717	.17
65	MP1A	Z	-4.455	.17
66	MP1A	Mx	.003	.17
67	MP1A	X	-7.717	2.17
68	MP1A	Z	-4.455	2.17
69	MP1A	Mx	.003	2.17
70	MP1B	X	-11.451	.17
71	MP1B	Z	-6.611	.17
72	MP1B	Mx	.003	.17
73	MP1B	X	-11.451	2.17
74	MP1B	Z	-6.611	2.17
75	MP1B	Mx	.003	2.17
76	MP1C	X	-7.717	.17
77	MP1C	Z	-4.455	.17
78	MP1C	Mx	-.003	.17
79	MP1C	X	-7.717	2.17
80	MP1C	Z	-4.455	2.17
81	MP1C	Mx	-.003	2.17
82	MP2A	X	-10.951	1.5
83	MP2A	Z	-6.323	1.5
84	MP2A	Mx	-.007	1.5
85	MP2B	X	-13.003	1.5
86	MP2B	Z	-7.507	1.5
87	MP2B	Mx	-.005	1.5
88	MP2C	X	-10.951	1.5
89	MP2C	Z	-6.323	1.5
90	MP2C	Mx	.007	1.5
91	MP3A	X	-11.074	1.5
92	MP3A	Z	-6.394	1.5
93	MP3A	Mx	-.007	1.5
94	MP3B	X	-13.044	1.5
95	MP3B	Z	-7.531	1.5
96	MP3B	Mx	-.005	1.5
97	MP3C	X	-11.074	1.5
98	MP3C	Z	-6.394	1.5
99	MP3C	Mx	.007	1.5
100	OVP	X	-26.732	1
101	OVP	Z	-15.434	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-3.468	4.67
2	MP1A	Z	-6.008	4.67
3	MP1A	Mx	.001	4.67
4	MP1B	X	-2.082	4.67
5	MP1B	Z	-3.605	4.67
6	MP1B	Mx	.001	4.67
7	MP1C	X	-1.388	4.67
8	MP1C	Z	-2.404	4.67

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
9	MP1C	Mx	-.000925	4.67
10	MP4A	X	-16.44	.17
11	MP4A	Z	-28.474	.17
12	MP4A	Mx	.011	.17
13	MP4A	X	-16.44	5.17
14	MP4A	Z	-28.474	5.17
15	MP4A	Mx	.011	5.17
16	MP4B	X	-13.796	.17
17	MP4B	Z	-23.896	.17
18	MP4B	Mx	.016	.17
19	MP4B	X	-13.796	5.17
20	MP4B	Z	-23.896	5.17
21	MP4B	Mx	.016	5.17
22	MP4C	X	-12.475	.17
23	MP4C	Z	-21.607	.17
24	MP4C	Mx	-.017	.17
25	MP4C	X	-12.475	5.17
26	MP4C	Z	-21.607	5.17
27	MP4C	Mx	-.017	5.17
28	MP3A	X	-14.591	.17
29	MP3A	Z	-25.273	.17
30	MP3A	Mx	-.007	.17
31	MP3A	X	-14.591	5.17
32	MP3A	Z	-25.273	5.17
33	MP3A	Mx	-.007	5.17
34	MP3B	X	-12.238	.17
35	MP3B	Z	-21.196	.17
36	MP3B	Mx	.022	.17
37	MP3B	X	-12.238	5.17
38	MP3B	Z	-21.196	5.17
39	MP3B	Mx	.022	5.17
40	MP3C	X	-11.061	.17
41	MP3C	Z	-19.158	.17
42	MP3C	Mx	-.015	.17
43	MP3C	X	-11.061	5.17
44	MP3C	Z	-19.158	5.17
45	MP3C	Mx	-.015	5.17
46	MP3A	X	-14.591	.17
47	MP3A	Z	-25.273	.17
48	MP3A	Mx	.027	.17
49	MP3A	X	-14.591	5.17
50	MP3A	Z	-25.273	5.17
51	MP3A	Mx	.027	5.17
52	MP3B	X	-12.238	.17
53	MP3B	Z	-21.196	.17
54	MP3B	Mx	.006	.17
55	MP3B	X	-12.238	5.17
56	MP3B	Z	-21.196	5.17
57	MP3B	Mx	.006	5.17
58	MP3C	X	-11.061	.17
59	MP3C	Z	-19.158	.17
60	MP3C	Mx	-.015	.17
61	MP3C	X	-11.061	5.17
62	MP3C	Z	-19.158	5.17
63	MP3C	Mx	-.015	5.17
64	MP1A	X	-6.611	.17
65	MP1A	Z	-11.451	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
66	MP1A	Mx	.003	.17
67	MP1A	X	-6.611	2.17
68	MP1A	Z	-11.451	2.17
69	MP1A	Mx	.003	2.17
70	MP1B	X	-4.455	.17
71	MP1B	Z	-7.717	.17
72	MP1B	Mx	.003	.17
73	MP1B	X	-4.455	2.17
74	MP1B	Z	-7.717	2.17
75	MP1B	Mx	.003	2.17
76	MP1C	X	-3.377	.17
77	MP1C	Z	-5.85	.17
78	MP1C	Mx	-.003	.17
79	MP1C	X	-3.377	2.17
80	MP1C	Z	-5.85	2.17
81	MP1C	Mx	-.003	2.17
82	MP2A	X	-7.507	1.5
83	MP2A	Z	-13.003	1.5
84	MP2A	Mx	-.005	1.5
85	MP2B	X	-6.323	1.5
86	MP2B	Z	-10.951	1.5
87	MP2B	Mx	-.007	1.5
88	MP2C	X	-5.73	1.5
89	MP2C	Z	-9.925	1.5
90	MP2C	Mx	.008	1.5
91	MP3A	X	-7.531	1.5
92	MP3A	Z	-13.044	1.5
93	MP3A	Mx	-.005	1.5
94	MP3B	X	-6.394	1.5
95	MP3B	Z	-11.074	1.5
96	MP3B	Mx	-.007	1.5
97	MP3C	X	-5.825	1.5
98	MP3C	Z	-10.089	1.5
99	MP3C	Mx	.008	1.5
100	OVP	X	-16.291	1
101	OVP	Z	-28.217	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	4.67
2	MP1A	Z	-2.08	4.67
3	MP1A	Mx	0	4.67
4	MP1B	X	0	4.67
5	MP1B	Z	-.402	4.67
6	MP1B	Mx	.000134	4.67
7	MP1C	X	0	4.67
8	MP1C	Z	-.821	4.67
9	MP1C	Mx	-.000237	4.67
10	MP4A	X	0	.17
11	MP4A	Z	-11.159	.17
12	MP4A	Mx	0	.17
13	MP4A	X	0	5.17
14	MP4A	Z	-11.159	5.17
15	MP4A	Mx	0	5.17
16	MP4B	X	0	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
17	MP4B	Z	-7.424	.17
18	MP4B	Mx	.005	.17
19	MP4B	X	0	5.17
20	MP4B	Z	-7.424	5.17
21	MP4B	Mx	.005	5.17
22	MP4C	X	0	.17
23	MP4C	Z	-8.358	.17
24	MP4C	Mx	-.005	.17
25	MP4C	X	0	5.17
26	MP4C	Z	-8.358	5.17
27	MP4C	Mx	-.005	5.17
28	MP3A	X	0	.17
29	MP3A	Z	-6.662	.17
30	MP3A	Mx	-.004	.17
31	MP3A	X	0	5.17
32	MP3A	Z	-6.662	5.17
33	MP3A	Mx	-.004	5.17
34	MP3B	X	0	.17
35	MP3B	Z	-2.865	.17
36	MP3B	Mx	.002	.17
37	MP3B	X	0	5.17
38	MP3B	Z	-2.865	5.17
39	MP3B	Mx	.002	5.17
40	MP3C	X	0	.17
41	MP3C	Z	-3.814	.17
42	MP3C	Mx	-.000931	.17
43	MP3C	X	0	5.17
44	MP3C	Z	-3.814	5.17
45	MP3C	Mx	-.000931	5.17
46	MP3A	X	0	.17
47	MP3A	Z	-6.662	.17
48	MP3A	Mx	.004	.17
49	MP3A	X	0	5.17
50	MP3A	Z	-6.662	5.17
51	MP3A	Mx	.004	5.17
52	MP3B	X	0	.17
53	MP3B	Z	-2.865	.17
54	MP3B	Mx	.002	.17
55	MP3B	X	0	5.17
56	MP3B	Z	-2.865	5.17
57	MP3B	Mx	.002	5.17
58	MP3C	X	0	.17
59	MP3C	Z	-3.814	.17
60	MP3C	Mx	-.003	.17
61	MP3C	X	0	5.17
62	MP3C	Z	-3.814	5.17
63	MP3C	Mx	-.003	5.17
64	MP1A	X	0	.17
65	MP1A	Z	-3.821	.17
66	MP1A	Mx	0	.17
67	MP1A	X	0	2.17
68	MP1A	Z	-3.821	2.17
69	MP1A	Mx	0	2.17
70	MP1B	X	0	.17
71	MP1B	Z	-1.342	.17
72	MP1B	Mx	.000559	.17
73	MP1B	X	0	2.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	MP1B	Z	-1.342	2.17
75	MP1B	Mx	.000559	2.17
76	MP1C	X	0	.17
77	MP1C	Z	-1.962	.17
78	MP1C	Mx	-.000708	.17
79	MP1C	X	0	2.17
80	MP1C	Z	-1.962	2.17
81	MP1C	Mx	-.000708	2.17
82	MP2A	X	0	1.5
83	MP2A	Z	-3.748	1.5
84	MP2A	Mx	0	1.5
85	MP2B	X	0	1.5
86	MP2B	Z	-2.515	1.5
87	MP2B	Mx	-.002	1.5
88	MP2C	X	0	1.5
89	MP2C	Z	-2.823	1.5
90	MP2C	Mx	.002	1.5
91	MP3A	X	0	1.5
92	MP3A	Z	-4.522	1.5
93	MP3A	Mx	0	1.5
94	MP3B	X	0	1.5
95	MP3B	Z	-3.083	1.5
96	MP3B	Mx	-.002	1.5
97	MP3C	X	0	1.5
98	MP3C	Z	-3.443	1.5
99	MP3C	Mx	.002	1.5
100	OVP	X	0	1
101	OVP	Z	-7.206	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	.83	4.67
2	MP1A	Z	-1.438	4.67
3	MP1A	Mx	-.000277	4.67
4	MP1B	X	.411	4.67
5	MP1B	Z	-.711	4.67
6	MP1B	Mx	.000237	4.67
7	MP1C	X	.83	4.67
8	MP1C	Z	-1.438	4.67
9	MP1C	Mx	-.000277	4.67
10	MP4A	X	5.113	.17
11	MP4A	Z	-8.855	.17
12	MP4A	Mx	-.003	.17
13	MP4A	X	5.113	5.17
14	MP4A	Z	-8.855	5.17
15	MP4A	Mx	-.003	5.17
16	MP4B	X	4.179	.17
17	MP4B	Z	-7.238	.17
18	MP4B	Mx	.005	.17
19	MP4B	X	4.179	5.17
20	MP4B	Z	-7.238	5.17
21	MP4B	Mx	.005	5.17
22	MP4C	X	5.113	.17
23	MP4C	Z	-8.855	.17
24	MP4C	Mx	-.003	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
25	MP4C	X	5.113	5.17
26	MP4C	Z	-8.855	5.17
27	MP4C	Mx	-.003	5.17
28	MP3A	X	2.856	.17
29	MP3A	Z	-4.947	.17
30	MP3A	Mx	-.005	.17
31	MP3A	X	2.856	5.17
32	MP3A	Z	-4.947	5.17
33	MP3A	Mx	-.005	5.17
34	MP3B	X	1.907	.17
35	MP3B	Z	-3.303	.17
36	MP3B	Mx	.000931	.17
37	MP3B	X	1.907	5.17
38	MP3B	Z	-3.303	5.17
39	MP3B	Mx	.000931	5.17
40	MP3C	X	2.856	.17
41	MP3C	Z	-4.947	.17
42	MP3C	Mx	.001	.17
43	MP3C	X	2.856	5.17
44	MP3C	Z	-4.947	5.17
45	MP3C	Mx	.001	5.17
46	MP3A	X	2.856	.17
47	MP3A	Z	-4.947	.17
48	MP3A	Mx	.001	.17
49	MP3A	X	2.856	5.17
50	MP3A	Z	-4.947	5.17
51	MP3A	Mx	.001	5.17
52	MP3B	X	1.907	.17
53	MP3B	Z	-3.303	.17
54	MP3B	Mx	.003	.17
55	MP3B	X	1.907	5.17
56	MP3B	Z	-3.303	5.17
57	MP3B	Mx	.003	5.17
58	MP3C	X	2.856	.17
59	MP3C	Z	-4.947	.17
60	MP3C	Mx	-.005	.17
61	MP3C	X	2.856	5.17
62	MP3C	Z	-4.947	5.17
63	MP3C	Mx	-.005	5.17
64	MP1A	X	1.6	.17
65	MP1A	Z	-2.772	.17
66	MP1A	Mx	-.000667	.17
67	MP1A	X	1.6	2.17
68	MP1A	Z	-2.772	2.17
69	MP1A	Mx	-.000667	2.17
70	MP1B	X	.981	.17
71	MP1B	Z	-1.699	.17
72	MP1B	Mx	.000708	.17
73	MP1B	X	.981	2.17
74	MP1B	Z	-1.699	2.17
75	MP1B	Mx	.000708	2.17
76	MP1C	X	1.6	.17
77	MP1C	Z	-2.772	.17
78	MP1C	Mx	-.000667	.17
79	MP1C	X	1.6	2.17
80	MP1C	Z	-2.772	2.17
81	MP1C	Mx	-.000667	2.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
82	MP2A	X	1.72	1.5
83	MP2A	Z	-2.979	1.5
84	MP2A	Mx	.001	1.5
85	MP2B	X	1.412	1.5
86	MP2B	Z	-2.445	1.5
87	MP2B	Mx	-.002	1.5
88	MP2C	X	1.72	1.5
89	MP2C	Z	-2.979	1.5
90	MP2C	Mx	.001	1.5
91	MP3A	X	2.081	1.5
92	MP3A	Z	-3.604	1.5
93	MP3A	Mx	.001	1.5
94	MP3B	X	1.721	1.5
95	MP3B	Z	-2.981	1.5
96	MP3B	Mx	-.002	1.5
97	MP3C	X	2.081	1.5
98	MP3C	Z	-3.604	1.5
99	MP3C	Mx	.001	1.5
100	OVP	X	3.143	1
101	OVP	Z	-5.445	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	.711	4.67
2	MP1A	Z	-.411	4.67
3	MP1A	Mx	-.000237	4.67
4	MP1B	X	1.438	4.67
5	MP1B	Z	-.83	4.67
6	MP1B	Mx	.000277	4.67
7	MP1C	X	1.801	4.67
8	MP1C	Z	-1.04	4.67
9	MP1C	Mx	0	4.67
10	MP4A	X	7.238	.17
11	MP4A	Z	-4.179	.17
12	MP4A	Mx	-.005	.17
13	MP4A	X	7.238	5.17
14	MP4A	Z	-4.179	5.17
15	MP4A	Mx	-.005	5.17
16	MP4B	X	8.855	.17
17	MP4B	Z	-5.113	.17
18	MP4B	Mx	.003	.17
19	MP4B	X	8.855	5.17
20	MP4B	Z	-5.113	5.17
21	MP4B	Mx	.003	5.17
22	MP4C	X	9.664	.17
23	MP4C	Z	-5.58	.17
24	MP4C	Mx	0	.17
25	MP4C	X	9.664	5.17
26	MP4C	Z	-5.58	5.17
27	MP4C	Mx	0	5.17
28	MP3A	X	3.303	.17
29	MP3A	Z	-1.907	.17
30	MP3A	Mx	-.003	.17
31	MP3A	X	3.303	5.17
32	MP3A	Z	-1.907	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP3A	Mx	-.003	5.17
34	MP3B	X	4.947	.17
35	MP3B	Z	-2.856	.17
36	MP3B	Mx	-.001	.17
37	MP3B	X	4.947	5.17
38	MP3B	Z	-2.856	5.17
39	MP3B	Mx	-.001	5.17
40	MP3C	X	5.769	.17
41	MP3C	Z	-3.331	.17
42	MP3C	Mx	.004	.17
43	MP3C	X	5.769	5.17
44	MP3C	Z	-3.331	5.17
45	MP3C	Mx	.004	5.17
46	MP3A	X	3.303	.17
47	MP3A	Z	-1.907	.17
48	MP3A	Mx	-.000931	.17
49	MP3A	X	3.303	5.17
50	MP3A	Z	-1.907	5.17
51	MP3A	Mx	-.000931	5.17
52	MP3B	X	4.947	.17
53	MP3B	Z	-2.856	.17
54	MP3B	Mx	.005	.17
55	MP3B	X	4.947	5.17
56	MP3B	Z	-2.856	5.17
57	MP3B	Mx	.005	5.17
58	MP3C	X	5.769	.17
59	MP3C	Z	-3.331	.17
60	MP3C	Mx	-.004	.17
61	MP3C	X	5.769	5.17
62	MP3C	Z	-3.331	5.17
63	MP3C	Mx	-.004	5.17
64	MP1A	X	1.699	.17
65	MP1A	Z	-.981	.17
66	MP1A	Mx	-.000708	.17
67	MP1A	X	1.699	2.17
68	MP1A	Z	-.981	2.17
69	MP1A	Mx	-.000708	2.17
70	MP1B	X	2.772	.17
71	MP1B	Z	-1.6	.17
72	MP1B	Mx	.000667	.17
73	MP1B	X	2.772	2.17
74	MP1B	Z	-1.6	2.17
75	MP1B	Mx	.000667	2.17
76	MP1C	X	3.309	.17
77	MP1C	Z	-1.91	.17
78	MP1C	Mx	0	.17
79	MP1C	X	3.309	2.17
80	MP1C	Z	-1.91	2.17
81	MP1C	Mx	0	2.17
82	MP2A	X	2.445	1.5
83	MP2A	Z	-1.412	1.5
84	MP2A	Mx	.002	1.5
85	MP2B	X	2.979	1.5
86	MP2B	Z	-1.72	1.5
87	MP2B	Mx	-.001	1.5
88	MP2C	X	3.246	1.5
89	MP2C	Z	-1.874	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
90	MP2C	Mx	0	1.5
91	MP3A	X	2.981	1.5
92	MP3A	Z	-1.721	1.5
93	MP3A	Mx	.002	1.5
94	MP3B	X	3.604	1.5
95	MP3B	Z	-2.081	1.5
96	MP3B	Mx	-.001	1.5
97	MP3C	X	3.916	1.5
98	MP3C	Z	-2.261	1.5
99	MP3C	Mx	0	1.5
100	OVP	X	5.047	1
101	OVP	Z	-2.914	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	.402	4.67
2	MP1A	Z	0	4.67
3	MP1A	Mx	-.000134	4.67
4	MP1B	X	2.08	4.67
5	MP1B	Z	0	4.67
6	MP1B	Mx	0	4.67
7	MP1C	X	1.66	4.67
8	MP1C	Z	0	4.67
9	MP1C	Mx	.000277	4.67
10	MP4A	X	7.424	.17
11	MP4A	Z	0	.17
12	MP4A	Mx	-.005	.17
13	MP4A	X	7.424	5.17
14	MP4A	Z	0	5.17
15	MP4A	Mx	-.005	5.17
16	MP4B	X	11.159	.17
17	MP4B	Z	0	.17
18	MP4B	Mx	0	.17
19	MP4B	X	11.159	5.17
20	MP4B	Z	0	5.17
21	MP4B	Mx	0	5.17
22	MP4C	X	10.225	.17
23	MP4C	Z	0	.17
24	MP4C	Mx	.003	.17
25	MP4C	X	10.225	5.17
26	MP4C	Z	0	5.17
27	MP4C	Mx	.003	5.17
28	MP3A	X	2.865	.17
29	MP3A	Z	0	.17
30	MP3A	Mx	-.002	.17
31	MP3A	X	2.865	5.17
32	MP3A	Z	0	5.17
33	MP3A	Mx	-.002	5.17
34	MP3B	X	6.662	.17
35	MP3B	Z	0	.17
36	MP3B	Mx	-.004	.17
37	MP3B	X	6.662	5.17
38	MP3B	Z	0	5.17
39	MP3B	Mx	-.004	5.17
40	MP3C	X	5.713	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
41	MP3C	Z	0	.17
42	MP3C	Mx	.005	.17
43	MP3C	X	5.713	5.17
44	MP3C	Z	0	5.17
45	MP3C	Mx	.005	5.17
46	MP3A	X	2.865	.17
47	MP3A	Z	0	.17
48	MP3A	Mx	-.002	.17
49	MP3A	X	2.865	5.17
50	MP3A	Z	0	5.17
51	MP3A	Mx	-.002	5.17
52	MP3B	X	6.662	.17
53	MP3B	Z	0	.17
54	MP3B	Mx	.004	.17
55	MP3B	X	6.662	5.17
56	MP3B	Z	0	5.17
57	MP3B	Mx	.004	5.17
58	MP3C	X	5.713	.17
59	MP3C	Z	0	.17
60	MP3C	Mx	-.001	.17
61	MP3C	X	5.713	5.17
62	MP3C	Z	0	5.17
63	MP3C	Mx	-.001	5.17
64	MP1A	X	1.342	.17
65	MP1A	Z	0	.17
66	MP1A	Mx	-.000559	.17
67	MP1A	X	1.342	2.17
68	MP1A	Z	0	2.17
69	MP1A	Mx	-.000559	2.17
70	MP1B	X	3.821	.17
71	MP1B	Z	0	.17
72	MP1B	Mx	0	.17
73	MP1B	X	3.821	2.17
74	MP1B	Z	0	2.17
75	MP1B	Mx	0	2.17
76	MP1C	X	3.201	.17
77	MP1C	Z	0	.17
78	MP1C	Mx	.000667	.17
79	MP1C	X	3.201	2.17
80	MP1C	Z	0	2.17
81	MP1C	Mx	.000667	2.17
82	MP2A	X	2.515	1.5
83	MP2A	Z	0	1.5
84	MP2A	Mx	.002	1.5
85	MP2B	X	3.748	1.5
86	MP2B	Z	0	1.5
87	MP2B	Mx	0	1.5
88	MP2C	X	3.44	1.5
89	MP2C	Z	0	1.5
90	MP2C	Mx	-.001	1.5
91	MP3A	X	3.083	1.5
92	MP3A	Z	0	1.5
93	MP3A	Mx	.002	1.5
94	MP3B	X	4.522	1.5
95	MP3B	Z	0	1.5
96	MP3B	Mx	0	1.5
97	MP3C	X	4.162	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
98	MP3C	Z	0	1.5
99	MP3C	Mx	-.001	1.5
100	OVP	X	6.287	1
101	OVP	Z	0	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP1A	X	.711	4.67
2	MP1A	Z	.411	4.67
3	MP1A	Mx	-.000237	4.67
4	MP1B	X	1.438	4.67
5	MP1B	Z	.83	4.67
6	MP1B	Mx	-.000277	4.67
7	MP1C	X	.711	4.67
8	MP1C	Z	.411	4.67
9	MP1C	Mx	.000237	4.67
10	MP4A	X	7.238	.17
11	MP4A	Z	4.179	.17
12	MP4A	Mx	-.005	.17
13	MP4A	X	7.238	5.17
14	MP4A	Z	4.179	5.17
15	MP4A	Mx	-.005	5.17
16	MP4B	X	8.855	.17
17	MP4B	Z	5.113	.17
18	MP4B	Mx	-.003	.17
19	MP4B	X	8.855	5.17
20	MP4B	Z	5.113	5.17
21	MP4B	Mx	-.003	5.17
22	MP4C	X	7.238	.17
23	MP4C	Z	4.179	.17
24	MP4C	Mx	.005	.17
25	MP4C	X	7.238	5.17
26	MP4C	Z	4.179	5.17
27	MP4C	Mx	.005	5.17
28	MP3A	X	3.303	.17
29	MP3A	Z	1.907	.17
30	MP3A	Mx	-.000931	.17
31	MP3A	X	3.303	5.17
32	MP3A	Z	1.907	5.17
33	MP3A	Mx	-.000931	5.17
34	MP3B	X	4.947	.17
35	MP3B	Z	2.856	.17
36	MP3B	Mx	-.005	.17
37	MP3B	X	4.947	5.17
38	MP3B	Z	2.856	5.17
39	MP3B	Mx	-.005	5.17
40	MP3C	X	3.303	.17
41	MP3C	Z	1.907	.17
42	MP3C	Mx	.003	.17
43	MP3C	X	3.303	5.17
44	MP3C	Z	1.907	5.17
45	MP3C	Mx	.003	5.17
46	MP3A	X	3.303	.17
47	MP3A	Z	1.907	.17
48	MP3A	Mx	-.003	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
49	MP3A	X	3.303	5.17
50	MP3A	Z	1.907	5.17
51	MP3A	Mx	-.003	5.17
52	MP3B	X	4.947	.17
53	MP3B	Z	2.856	.17
54	MP3B	Mx	.001	.17
55	MP3B	X	4.947	5.17
56	MP3B	Z	2.856	5.17
57	MP3B	Mx	.001	5.17
58	MP3C	X	3.303	.17
59	MP3C	Z	1.907	.17
60	MP3C	Mx	.000931	.17
61	MP3C	X	3.303	5.17
62	MP3C	Z	1.907	5.17
63	MP3C	Mx	.000931	5.17
64	MP1A	X	1.699	.17
65	MP1A	Z	.981	.17
66	MP1A	Mx	-.000708	.17
67	MP1A	X	1.699	2.17
68	MP1A	Z	.981	2.17
69	MP1A	Mx	-.000708	2.17
70	MP1B	X	2.772	.17
71	MP1B	Z	1.6	.17
72	MP1B	Mx	-.000667	.17
73	MP1B	X	2.772	2.17
74	MP1B	Z	1.6	2.17
75	MP1B	Mx	-.000667	2.17
76	MP1C	X	1.699	.17
77	MP1C	Z	.981	.17
78	MP1C	Mx	.000708	.17
79	MP1C	X	1.699	2.17
80	MP1C	Z	.981	2.17
81	MP1C	Mx	.000708	2.17
82	MP2A	X	2.445	1.5
83	MP2A	Z	1.412	1.5
84	MP2A	Mx	.002	1.5
85	MP2B	X	2.979	1.5
86	MP2B	Z	1.72	1.5
87	MP2B	Mx	.001	1.5
88	MP2C	X	2.445	1.5
89	MP2C	Z	1.412	1.5
90	MP2C	Mx	-.002	1.5
91	MP3A	X	2.981	1.5
92	MP3A	Z	1.721	1.5
93	MP3A	Mx	.002	1.5
94	MP3B	X	3.604	1.5
95	MP3B	Z	2.081	1.5
96	MP3B	Mx	.001	1.5
97	MP3C	X	2.981	1.5
98	MP3C	Z	1.721	1.5
99	MP3C	Mx	-.002	1.5
100	OVP	X	6.24	1
101	OVP	Z	3.603	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	.83	4.67
2	MP1A	Z	1.438	4.67
3	MP1A	Mx	-.000277	4.67
4	MP1B	X	.411	4.67
5	MP1B	Z	.711	4.67
6	MP1B	Mx	-.000237	4.67
7	MP1C	X	.201	4.67
8	MP1C	Z	.348	4.67
9	MP1C	Mx	.000134	4.67
10	MP4A	X	5.113	.17
11	MP4A	Z	8.855	.17
12	MP4A	Mx	-.003	.17
13	MP4A	X	5.113	5.17
14	MP4A	Z	8.855	5.17
15	MP4A	Mx	-.003	5.17
16	MP4B	X	4.179	.17
17	MP4B	Z	7.238	.17
18	MP4B	Mx	-.005	.17
19	MP4B	X	4.179	5.17
20	MP4B	Z	7.238	5.17
21	MP4B	Mx	-.005	5.17
22	MP4C	X	3.712	.17
23	MP4C	Z	6.429	.17
24	MP4C	Mx	.005	.17
25	MP4C	X	3.712	5.17
26	MP4C	Z	6.429	5.17
27	MP4C	Mx	.005	5.17
28	MP3A	X	2.856	.17
29	MP3A	Z	4.947	.17
30	MP3A	Mx	.001	.17
31	MP3A	X	2.856	5.17
32	MP3A	Z	4.947	5.17
33	MP3A	Mx	.001	5.17
34	MP3B	X	1.907	.17
35	MP3B	Z	3.303	.17
36	MP3B	Mx	-.003	.17
37	MP3B	X	1.907	5.17
38	MP3B	Z	3.303	5.17
39	MP3B	Mx	-.003	5.17
40	MP3C	X	1.433	.17
41	MP3C	Z	2.482	.17
42	MP3C	Mx	.002	.17
43	MP3C	X	1.433	5.17
44	MP3C	Z	2.482	5.17
45	MP3C	Mx	.002	5.17
46	MP3A	X	2.856	.17
47	MP3A	Z	4.947	.17
48	MP3A	Mx	-.005	.17
49	MP3A	X	2.856	5.17
50	MP3A	Z	4.947	5.17
51	MP3A	Mx	-.005	5.17
52	MP3B	X	1.907	.17
53	MP3B	Z	3.303	.17
54	MP3B	Mx	-.000931	.17
55	MP3B	X	1.907	5.17
56	MP3B	Z	3.303	5.17
57	MP3B	Mx	-.000931	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
58	MP3C	X	1.433	.17
59	MP3C	Z	2.482	.17
60	MP3C	Mx	.002	.17
61	MP3C	X	1.433	5.17
62	MP3C	Z	2.482	5.17
63	MP3C	Mx	.002	5.17
64	MP1A	X	1.6	.17
65	MP1A	Z	2.772	.17
66	MP1A	Mx	-.000667	.17
67	MP1A	X	1.6	2.17
68	MP1A	Z	2.772	2.17
69	MP1A	Mx	-.000667	2.17
70	MP1B	X	.981	.17
71	MP1B	Z	1.699	.17
72	MP1B	Mx	-.000708	.17
73	MP1B	X	.981	2.17
74	MP1B	Z	1.699	2.17
75	MP1B	Mx	-.000708	2.17
76	MP1C	X	.671	.17
77	MP1C	Z	1.162	.17
78	MP1C	Mx	.000559	.17
79	MP1C	X	.671	2.17
80	MP1C	Z	1.162	2.17
81	MP1C	Mx	.000559	2.17
82	MP2A	X	1.72	1.5
83	MP2A	Z	2.979	1.5
84	MP2A	Mx	.001	1.5
85	MP2B	X	1.412	1.5
86	MP2B	Z	2.445	1.5
87	MP2B	Mx	.002	1.5
88	MP2C	X	1.257	1.5
89	MP2C	Z	2.178	1.5
90	MP2C	Mx	-.002	1.5
91	MP3A	X	2.081	1.5
92	MP3A	Z	3.604	1.5
93	MP3A	Mx	.001	1.5
94	MP3B	X	1.721	1.5
95	MP3B	Z	2.981	1.5
96	MP3B	Mx	.002	1.5
97	MP3C	X	1.542	1.5
98	MP3C	Z	2.67	1.5
99	MP3C	Mx	-.002	1.5
100	OVP	X	3.833	1
101	OVP	Z	6.638	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	4.67
2	MP1A	Z	2.08	4.67
3	MP1A	Mx	0	4.67
4	MP1B	X	0	4.67
5	MP1B	Z	.402	4.67
6	MP1B	Mx	-.000134	4.67
7	MP1C	X	0	4.67
8	MP1C	Z	.821	4.67

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
9	MP1C	Mx	.000237	4.67
10	MP4A	X	0	.17
11	MP4A	Z	11.159	.17
12	MP4A	Mx	0	.17
13	MP4A	X	0	5.17
14	MP4A	Z	11.159	5.17
15	MP4A	Mx	0	5.17
16	MP4B	X	0	.17
17	MP4B	Z	7.424	.17
18	MP4B	Mx	-.005	.17
19	MP4B	X	0	5.17
20	MP4B	Z	7.424	5.17
21	MP4B	Mx	-.005	5.17
22	MP4C	X	0	.17
23	MP4C	Z	8.358	.17
24	MP4C	Mx	.005	.17
25	MP4C	X	0	5.17
26	MP4C	Z	8.358	5.17
27	MP4C	Mx	.005	5.17
28	MP3A	X	0	.17
29	MP3A	Z	6.662	.17
30	MP3A	Mx	.004	.17
31	MP3A	X	0	5.17
32	MP3A	Z	6.662	5.17
33	MP3A	Mx	.004	5.17
34	MP3B	X	0	.17
35	MP3B	Z	2.865	.17
36	MP3B	Mx	-.002	.17
37	MP3B	X	0	5.17
38	MP3B	Z	2.865	5.17
39	MP3B	Mx	-.002	5.17
40	MP3C	X	0	.17
41	MP3C	Z	3.814	.17
42	MP3C	Mx	.000931	.17
43	MP3C	X	0	5.17
44	MP3C	Z	3.814	5.17
45	MP3C	Mx	.000931	5.17
46	MP3A	X	0	.17
47	MP3A	Z	6.662	.17
48	MP3A	Mx	-.004	.17
49	MP3A	X	0	5.17
50	MP3A	Z	6.662	5.17
51	MP3A	Mx	-.004	5.17
52	MP3B	X	0	.17
53	MP3B	Z	2.865	.17
54	MP3B	Mx	-.002	.17
55	MP3B	X	0	5.17
56	MP3B	Z	2.865	5.17
57	MP3B	Mx	-.002	5.17
58	MP3C	X	0	.17
59	MP3C	Z	3.814	.17
60	MP3C	Mx	.003	.17
61	MP3C	X	0	5.17
62	MP3C	Z	3.814	5.17
63	MP3C	Mx	.003	5.17
64	MP1A	X	0	.17
65	MP1A	Z	3.821	.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
66	MP1A	Mx	0	.17
67	MP1A	X	0	2.17
68	MP1A	Z	3.821	2.17
69	MP1A	Mx	0	2.17
70	MP1B	X	0	.17
71	MP1B	Z	1.342	.17
72	MP1B	Mx	-.000559	.17
73	MP1B	X	0	2.17
74	MP1B	Z	1.342	2.17
75	MP1B	Mx	-.000559	2.17
76	MP1C	X	0	.17
77	MP1C	Z	1.962	.17
78	MP1C	Mx	.000708	.17
79	MP1C	X	0	2.17
80	MP1C	Z	1.962	2.17
81	MP1C	Mx	.000708	2.17
82	MP2A	X	0	1.5
83	MP2A	Z	3.748	1.5
84	MP2A	Mx	0	1.5
85	MP2B	X	0	1.5
86	MP2B	Z	2.515	1.5
87	MP2B	Mx	.002	1.5
88	MP2C	X	0	1.5
89	MP2C	Z	2.823	1.5
90	MP2C	Mx	-.002	1.5
91	MP3A	X	0	1.5
92	MP3A	Z	4.522	1.5
93	MP3A	Mx	0	1.5
94	MP3B	X	0	1.5
95	MP3B	Z	3.083	1.5
96	MP3B	Mx	.002	1.5
97	MP3C	X	0	1.5
98	MP3C	Z	3.443	1.5
99	MP3C	Mx	-.002	1.5
100	OVP	X	0	1
101	OVP	Z	7.206	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-.83	4.67
2	MP1A	Z	1.438	4.67
3	MP1A	Mx	.000277	4.67
4	MP1B	X	-.411	4.67
5	MP1B	Z	.711	4.67
6	MP1B	Mx	-.000237	4.67
7	MP1C	X	-.83	4.67
8	MP1C	Z	1.438	4.67
9	MP1C	Mx	.000277	4.67
10	MP4A	X	-5.113	.17
11	MP4A	Z	8.855	.17
12	MP4A	Mx	.003	.17
13	MP4A	X	-5.113	5.17
14	MP4A	Z	8.855	5.17
15	MP4A	Mx	.003	5.17
16	MP4B	X	-4.179	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP4B	Z	7.238	.17
18	MP4B	Mx	-.005	.17
19	MP4B	X	-4.179	5.17
20	MP4B	Z	7.238	5.17
21	MP4B	Mx	-.005	5.17
22	MP4C	X	-5.113	.17
23	MP4C	Z	8.855	.17
24	MP4C	Mx	.003	.17
25	MP4C	X	-5.113	5.17
26	MP4C	Z	8.855	5.17
27	MP4C	Mx	.003	5.17
28	MP3A	X	-2.856	.17
29	MP3A	Z	4.947	.17
30	MP3A	Mx	.005	.17
31	MP3A	X	-2.856	5.17
32	MP3A	Z	4.947	5.17
33	MP3A	Mx	.005	5.17
34	MP3B	X	-1.907	.17
35	MP3B	Z	3.303	.17
36	MP3B	Mx	-.000931	.17
37	MP3B	X	-1.907	5.17
38	MP3B	Z	3.303	5.17
39	MP3B	Mx	-.000931	5.17
40	MP3C	X	-2.856	.17
41	MP3C	Z	4.947	.17
42	MP3C	Mx	-.001	.17
43	MP3C	X	-2.856	5.17
44	MP3C	Z	4.947	5.17
45	MP3C	Mx	-.001	5.17
46	MP3A	X	-2.856	.17
47	MP3A	Z	4.947	.17
48	MP3A	Mx	-.001	.17
49	MP3A	X	-2.856	5.17
50	MP3A	Z	4.947	5.17
51	MP3A	Mx	-.001	5.17
52	MP3B	X	-1.907	.17
53	MP3B	Z	3.303	.17
54	MP3B	Mx	-.003	.17
55	MP3B	X	-1.907	5.17
56	MP3B	Z	3.303	5.17
57	MP3B	Mx	-.003	5.17
58	MP3C	X	-2.856	.17
59	MP3C	Z	4.947	.17
60	MP3C	Mx	.005	.17
61	MP3C	X	-2.856	5.17
62	MP3C	Z	4.947	5.17
63	MP3C	Mx	.005	5.17
64	MP1A	X	-1.6	.17
65	MP1A	Z	2.772	.17
66	MP1A	Mx	.000667	.17
67	MP1A	X	-1.6	2.17
68	MP1A	Z	2.772	2.17
69	MP1A	Mx	.000667	2.17
70	MP1B	X	-.981	.17
71	MP1B	Z	1.699	.17
72	MP1B	Mx	-.000708	.17
73	MP1B	X	-.981	2.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	MP1B	Z	1.699	2.17
75	MP1B	Mx	-.000708	2.17
76	MP1C	X	-1.6	.17
77	MP1C	Z	2.772	.17
78	MP1C	Mx	.000667	.17
79	MP1C	X	-1.6	2.17
80	MP1C	Z	2.772	2.17
81	MP1C	Mx	.000667	2.17
82	MP2A	X	-1.72	1.5
83	MP2A	Z	2.979	1.5
84	MP2A	Mx	-.001	1.5
85	MP2B	X	-1.412	1.5
86	MP2B	Z	2.445	1.5
87	MP2B	Mx	.002	1.5
88	MP2C	X	-1.72	1.5
89	MP2C	Z	2.979	1.5
90	MP2C	Mx	-.001	1.5
91	MP3A	X	-2.081	1.5
92	MP3A	Z	3.604	1.5
93	MP3A	Mx	-.001	1.5
94	MP3B	X	-1.721	1.5
95	MP3B	Z	2.981	1.5
96	MP3B	Mx	.002	1.5
97	MP3C	X	-2.081	1.5
98	MP3C	Z	3.604	1.5
99	MP3C	Mx	-.001	1.5
100	OVP	X	-3.143	1
101	OVP	Z	5.445	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-.711	4.67
2	MP1A	Z	.411	4.67
3	MP1A	Mx	.000237	4.67
4	MP1B	X	-1.438	4.67
5	MP1B	Z	.83	4.67
6	MP1B	Mx	-.000277	4.67
7	MP1C	X	-1.801	4.67
8	MP1C	Z	1.04	4.67
9	MP1C	Mx	0	4.67
10	MP4A	X	-7.238	.17
11	MP4A	Z	4.179	.17
12	MP4A	Mx	.005	.17
13	MP4A	X	-7.238	5.17
14	MP4A	Z	4.179	5.17
15	MP4A	Mx	.005	5.17
16	MP4B	X	-8.855	.17
17	MP4B	Z	5.113	.17
18	MP4B	Mx	-.003	.17
19	MP4B	X	-8.855	5.17
20	MP4B	Z	5.113	5.17
21	MP4B	Mx	-.003	5.17
22	MP4C	X	-9.664	.17
23	MP4C	Z	5.58	.17
24	MP4C	Mx	0	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
25	MP4C	X	-9.664	5.17
26	MP4C	Z	5.58	5.17
27	MP4C	Mx	0	5.17
28	MP3A	X	-3.303	.17
29	MP3A	Z	1.907	.17
30	MP3A	Mx	.003	.17
31	MP3A	X	-3.303	5.17
32	MP3A	Z	1.907	5.17
33	MP3A	Mx	.003	5.17
34	MP3B	X	-4.947	.17
35	MP3B	Z	2.856	.17
36	MP3B	Mx	.001	.17
37	MP3B	X	-4.947	5.17
38	MP3B	Z	2.856	5.17
39	MP3B	Mx	.001	5.17
40	MP3C	X	-5.769	.17
41	MP3C	Z	3.331	.17
42	MP3C	Mx	-.004	.17
43	MP3C	X	-5.769	5.17
44	MP3C	Z	3.331	5.17
45	MP3C	Mx	-.004	5.17
46	MP3A	X	-3.303	.17
47	MP3A	Z	1.907	.17
48	MP3A	Mx	.000931	.17
49	MP3A	X	-3.303	5.17
50	MP3A	Z	1.907	5.17
51	MP3A	Mx	.000931	5.17
52	MP3B	X	-4.947	.17
53	MP3B	Z	2.856	.17
54	MP3B	Mx	-.005	.17
55	MP3B	X	-4.947	5.17
56	MP3B	Z	2.856	5.17
57	MP3B	Mx	-.005	5.17
58	MP3C	X	-5.769	.17
59	MP3C	Z	3.331	.17
60	MP3C	Mx	.004	.17
61	MP3C	X	-5.769	5.17
62	MP3C	Z	3.331	5.17
63	MP3C	Mx	.004	5.17
64	MP1A	X	-1.699	.17
65	MP1A	Z	.981	.17
66	MP1A	Mx	.000708	.17
67	MP1A	X	-1.699	2.17
68	MP1A	Z	.981	2.17
69	MP1A	Mx	.000708	2.17
70	MP1B	X	-2.772	.17
71	MP1B	Z	1.6	.17
72	MP1B	Mx	-.000667	.17
73	MP1B	X	-2.772	2.17
74	MP1B	Z	1.6	2.17
75	MP1B	Mx	-.000667	2.17
76	MP1C	X	-3.309	.17
77	MP1C	Z	1.91	.17
78	MP1C	Mx	0	.17
79	MP1C	X	-3.309	2.17
80	MP1C	Z	1.91	2.17
81	MP1C	Mx	0	2.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
82	MP2A	X	-2.445	1.5
83	MP2A	Z	1.412	1.5
84	MP2A	Mx	-.002	1.5
85	MP2B	X	-2.979	1.5
86	MP2B	Z	1.72	1.5
87	MP2B	Mx	.001	1.5
88	MP2C	X	-3.246	1.5
89	MP2C	Z	1.874	1.5
90	MP2C	Mx	0	1.5
91	MP3A	X	-2.981	1.5
92	MP3A	Z	1.721	1.5
93	MP3A	Mx	-.002	1.5
94	MP3B	X	-3.604	1.5
95	MP3B	Z	2.081	1.5
96	MP3B	Mx	.001	1.5
97	MP3C	X	-3.916	1.5
98	MP3C	Z	2.261	1.5
99	MP3C	Mx	0	1.5
100	OVP	X	-5.047	1
101	OVP	Z	2.914	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-.402	4.67
2	MP1A	Z	0	4.67
3	MP1A	Mx	.000134	4.67
4	MP1B	X	-2.08	4.67
5	MP1B	Z	0	4.67
6	MP1B	Mx	0	4.67
7	MP1C	X	-1.66	4.67
8	MP1C	Z	0	4.67
9	MP1C	Mx	-.000277	4.67
10	MP4A	X	-7.424	.17
11	MP4A	Z	0	.17
12	MP4A	Mx	.005	.17
13	MP4A	X	-7.424	5.17
14	MP4A	Z	0	5.17
15	MP4A	Mx	.005	5.17
16	MP4B	X	-11.159	.17
17	MP4B	Z	0	.17
18	MP4B	Mx	0	.17
19	MP4B	X	-11.159	5.17
20	MP4B	Z	0	5.17
21	MP4B	Mx	0	5.17
22	MP4C	X	-10.225	.17
23	MP4C	Z	0	.17
24	MP4C	Mx	-.003	.17
25	MP4C	X	-10.225	5.17
26	MP4C	Z	0	5.17
27	MP4C	Mx	-.003	5.17
28	MP3A	X	-2.865	.17
29	MP3A	Z	0	.17
30	MP3A	Mx	.002	.17
31	MP3A	X	-2.865	5.17
32	MP3A	Z	0	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP3A	Mx	.002	5.17
34	MP3B	X	-6.662	.17
35	MP3B	Z	0	.17
36	MP3B	Mx	.004	.17
37	MP3B	X	-6.662	5.17
38	MP3B	Z	0	5.17
39	MP3B	Mx	.004	5.17
40	MP3C	X	-5.713	.17
41	MP3C	Z	0	.17
42	MP3C	Mx	-.005	.17
43	MP3C	X	-5.713	5.17
44	MP3C	Z	0	5.17
45	MP3C	Mx	-.005	5.17
46	MP3A	X	-2.865	.17
47	MP3A	Z	0	.17
48	MP3A	Mx	.002	.17
49	MP3A	X	-2.865	5.17
50	MP3A	Z	0	5.17
51	MP3A	Mx	.002	5.17
52	MP3B	X	-6.662	.17
53	MP3B	Z	0	.17
54	MP3B	Mx	-.004	.17
55	MP3B	X	-6.662	5.17
56	MP3B	Z	0	5.17
57	MP3B	Mx	-.004	5.17
58	MP3C	X	-5.713	.17
59	MP3C	Z	0	.17
60	MP3C	Mx	.001	.17
61	MP3C	X	-5.713	5.17
62	MP3C	Z	0	5.17
63	MP3C	Mx	.001	5.17
64	MP1A	X	-1.342	.17
65	MP1A	Z	0	.17
66	MP1A	Mx	.000559	.17
67	MP1A	X	-1.342	2.17
68	MP1A	Z	0	2.17
69	MP1A	Mx	.000559	2.17
70	MP1B	X	-3.821	.17
71	MP1B	Z	0	.17
72	MP1B	Mx	0	.17
73	MP1B	X	-3.821	2.17
74	MP1B	Z	0	2.17
75	MP1B	Mx	0	2.17
76	MP1C	X	-3.201	.17
77	MP1C	Z	0	.17
78	MP1C	Mx	-.000667	.17
79	MP1C	X	-3.201	2.17
80	MP1C	Z	0	2.17
81	MP1C	Mx	-.000667	2.17
82	MP2A	X	-2.515	1.5
83	MP2A	Z	0	1.5
84	MP2A	Mx	-.002	1.5
85	MP2B	X	-3.748	1.5
86	MP2B	Z	0	1.5
87	MP2B	Mx	0	1.5
88	MP2C	X	-3.44	1.5
89	MP2C	Z	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
90	MP2C	Mx	.001	1.5
91	MP3A	X	-3.083	1.5
92	MP3A	Z	0	1.5
93	MP3A	Mx	-.002	1.5
94	MP3B	X	-4.522	1.5
95	MP3B	Z	0	1.5
96	MP3B	Mx	0	1.5
97	MP3C	X	-4.162	1.5
98	MP3C	Z	0	1.5
99	MP3C	Mx	.001	1.5
100	OVP	X	-6.287	1
101	OVP	Z	0	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-.711	4.67
2	MP1A	Z	-.411	4.67
3	MP1A	Mx	.000237	4.67
4	MP1B	X	-1.438	4.67
5	MP1B	Z	-.83	4.67
6	MP1B	Mx	.000277	4.67
7	MP1C	X	-.711	4.67
8	MP1C	Z	-.411	4.67
9	MP1C	Mx	-.000237	4.67
10	MP4A	X	-7.238	.17
11	MP4A	Z	-4.179	.17
12	MP4A	Mx	.005	.17
13	MP4A	X	-7.238	5.17
14	MP4A	Z	-4.179	5.17
15	MP4A	Mx	.005	5.17
16	MP4B	X	-8.855	.17
17	MP4B	Z	-5.113	.17
18	MP4B	Mx	.003	.17
19	MP4B	X	-8.855	5.17
20	MP4B	Z	-5.113	5.17
21	MP4B	Mx	.003	5.17
22	MP4C	X	-7.238	.17
23	MP4C	Z	-4.179	.17
24	MP4C	Mx	-.005	.17
25	MP4C	X	-7.238	5.17
26	MP4C	Z	-4.179	5.17
27	MP4C	Mx	-.005	5.17
28	MP3A	X	-3.303	.17
29	MP3A	Z	-1.907	.17
30	MP3A	Mx	.000931	.17
31	MP3A	X	-3.303	5.17
32	MP3A	Z	-1.907	5.17
33	MP3A	Mx	.000931	5.17
34	MP3B	X	-4.947	.17
35	MP3B	Z	-2.856	.17
36	MP3B	Mx	.005	.17
37	MP3B	X	-4.947	5.17
38	MP3B	Z	-2.856	5.17
39	MP3B	Mx	.005	5.17
40	MP3C	X	-3.303	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
41	MP3C	Z	-1.907	.17
42	MP3C	Mx	-.003	.17
43	MP3C	X	-3.303	5.17
44	MP3C	Z	-1.907	5.17
45	MP3C	Mx	-.003	5.17
46	MP3A	X	-3.303	.17
47	MP3A	Z	-1.907	.17
48	MP3A	Mx	.003	.17
49	MP3A	X	-3.303	5.17
50	MP3A	Z	-1.907	5.17
51	MP3A	Mx	.003	5.17
52	MP3B	X	-4.947	.17
53	MP3B	Z	-2.856	.17
54	MP3B	Mx	-.001	.17
55	MP3B	X	-4.947	5.17
56	MP3B	Z	-2.856	5.17
57	MP3B	Mx	-.001	5.17
58	MP3C	X	-3.303	.17
59	MP3C	Z	-1.907	.17
60	MP3C	Mx	-.000931	.17
61	MP3C	X	-3.303	5.17
62	MP3C	Z	-1.907	5.17
63	MP3C	Mx	-.000931	5.17
64	MP1A	X	-1.699	.17
65	MP1A	Z	-.981	.17
66	MP1A	Mx	.000708	.17
67	MP1A	X	-1.699	2.17
68	MP1A	Z	-.981	2.17
69	MP1A	Mx	.000708	2.17
70	MP1B	X	-2.772	.17
71	MP1B	Z	-1.6	.17
72	MP1B	Mx	.000667	.17
73	MP1B	X	-2.772	2.17
74	MP1B	Z	-1.6	2.17
75	MP1B	Mx	.000667	2.17
76	MP1C	X	-1.699	.17
77	MP1C	Z	-.981	.17
78	MP1C	Mx	-.000708	.17
79	MP1C	X	-1.699	2.17
80	MP1C	Z	-.981	2.17
81	MP1C	Mx	-.000708	2.17
82	MP2A	X	-2.445	1.5
83	MP2A	Z	-1.412	1.5
84	MP2A	Mx	-.002	1.5
85	MP2B	X	-2.979	1.5
86	MP2B	Z	-1.72	1.5
87	MP2B	Mx	-.001	1.5
88	MP2C	X	-2.445	1.5
89	MP2C	Z	-1.412	1.5
90	MP2C	Mx	.002	1.5
91	MP3A	X	-2.981	1.5
92	MP3A	Z	-1.721	1.5
93	MP3A	Mx	-.002	1.5
94	MP3B	X	-3.604	1.5
95	MP3B	Z	-2.081	1.5
96	MP3B	Mx	-.001	1.5
97	MP3C	X	-2.981	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
98	MP3C	Z	-1.721	1.5
99	MP3C	Mx	.002	1.5
100	OVP	X	-6.24	1
101	OVP	Z	-3.603	1
102	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-.83	4.67
2	MP1A	Z	-1.438	4.67
3	MP1A	Mx	.000277	4.67
4	MP1B	X	-.411	4.67
5	MP1B	Z	-.711	4.67
6	MP1B	Mx	.000237	4.67
7	MP1C	X	-.201	4.67
8	MP1C	Z	-.348	4.67
9	MP1C	Mx	-.000134	4.67
10	MP4A	X	-5.113	.17
11	MP4A	Z	-8.855	.17
12	MP4A	Mx	.003	.17
13	MP4A	X	-5.113	5.17
14	MP4A	Z	-8.855	5.17
15	MP4A	Mx	.003	5.17
16	MP4B	X	-4.179	.17
17	MP4B	Z	-7.238	.17
18	MP4B	Mx	.005	.17
19	MP4B	X	-4.179	5.17
20	MP4B	Z	-7.238	5.17
21	MP4B	Mx	.005	5.17
22	MP4C	X	-3.712	.17
23	MP4C	Z	-6.429	.17
24	MP4C	Mx	-.005	.17
25	MP4C	X	-3.712	5.17
26	MP4C	Z	-6.429	5.17
27	MP4C	Mx	-.005	5.17
28	MP3A	X	-2.856	.17
29	MP3A	Z	-4.947	.17
30	MP3A	Mx	-.001	.17
31	MP3A	X	-2.856	5.17
32	MP3A	Z	-4.947	5.17
33	MP3A	Mx	-.001	5.17
34	MP3B	X	-1.907	.17
35	MP3B	Z	-3.303	.17
36	MP3B	Mx	.003	.17
37	MP3B	X	-1.907	5.17
38	MP3B	Z	-3.303	5.17
39	MP3B	Mx	.003	5.17
40	MP3C	X	-1.433	.17
41	MP3C	Z	-2.482	.17
42	MP3C	Mx	-.002	.17
43	MP3C	X	-1.433	5.17
44	MP3C	Z	-2.482	5.17
45	MP3C	Mx	-.002	5.17
46	MP3A	X	-2.856	.17
47	MP3A	Z	-4.947	.17
48	MP3A	Mx	.005	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
49	MP3A	X	-2.856	5.17
50	MP3A	Z	-4.947	5.17
51	MP3A	Mx	.005	5.17
52	MP3B	X	-1.907	.17
53	MP3B	Z	-3.303	.17
54	MP3B	Mx	.000931	.17
55	MP3B	X	-1.907	5.17
56	MP3B	Z	-3.303	5.17
57	MP3B	Mx	.000931	5.17
58	MP3C	X	-1.433	.17
59	MP3C	Z	-2.482	.17
60	MP3C	Mx	-.002	.17
61	MP3C	X	-1.433	5.17
62	MP3C	Z	-2.482	5.17
63	MP3C	Mx	-.002	5.17
64	MP1A	X	-1.6	.17
65	MP1A	Z	-2.772	.17
66	MP1A	Mx	.000667	.17
67	MP1A	X	-1.6	2.17
68	MP1A	Z	-2.772	2.17
69	MP1A	Mx	.000667	2.17
70	MP1B	X	-.981	.17
71	MP1B	Z	-1.699	.17
72	MP1B	Mx	.000708	.17
73	MP1B	X	-.981	2.17
74	MP1B	Z	-1.699	2.17
75	MP1B	Mx	.000708	2.17
76	MP1C	X	-.671	.17
77	MP1C	Z	-1.162	.17
78	MP1C	Mx	-.000559	.17
79	MP1C	X	-.671	2.17
80	MP1C	Z	-1.162	2.17
81	MP1C	Mx	-.000559	2.17
82	MP2A	X	-1.72	1.5
83	MP2A	Z	-2.979	1.5
84	MP2A	Mx	-.001	1.5
85	MP2B	X	-1.412	1.5
86	MP2B	Z	-2.445	1.5
87	MP2B	Mx	-.002	1.5
88	MP2C	X	-1.257	1.5
89	MP2C	Z	-2.178	1.5
90	MP2C	Mx	.002	1.5
91	MP3A	X	-2.081	1.5
92	MP3A	Z	-3.604	1.5
93	MP3A	Mx	-.001	1.5
94	MP3B	X	-1.721	1.5
95	MP3B	Z	-2.981	1.5
96	MP3B	Mx	-.002	1.5
97	MP3C	X	-1.542	1.5
98	MP3C	Z	-2.67	1.5
99	MP3C	Mx	.002	1.5
100	OVP	X	-3.833	1
101	OVP	Z	-6.638	1
102	OVP	Mx	0	1

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
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Member Point Loads (BLC 77 : Lm1) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	M1	Y	-500	%28

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	M1	Y	-500	%89

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	M1	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	M1	Y	-250	0

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP1A	Y	-.141	4.67
2	MP1A	My	-4.7e-5	4.67
3	MP1A	Mz	0	4.67
4	MP1B	Y	-.141	4.67
5	MP1B	My	0	4.67
6	MP1B	Mz	-4.7e-5	4.67
7	MP1C	Y	-.141	4.67
8	MP1C	My	2.3e-5	4.67
9	MP1C	Mz	4.1e-5	4.67
10	MP4A	Y	-.979	.17
11	MP4A	My	-.000653	.17
12	MP4A	Mz	0	.17
13	MP4A	Y	-.979	5.17
14	MP4A	My	-.000653	5.17
15	MP4A	Mz	0	5.17
16	MP4B	Y	-.979	.17
17	MP4B	My	0	.17
18	MP4B	Mz	-.000653	.17
19	MP4B	Y	-.979	5.17
20	MP4B	My	0	5.17
21	MP4B	Mz	-.000653	5.17
22	MP4C	Y	-.979	.17
23	MP4C	My	.000326	.17
24	MP4C	Mz	.000565	.17
25	MP4C	Y	-.979	5.17
26	MP4C	My	.000326	5.17
27	MP4C	Mz	.000565	5.17
28	MP3A	Y	-.853	.17
29	MP3A	My	-.000569	.17
30	MP3A	Mz	.000569	.17
31	MP3A	Y	-.853	5.17
32	MP3A	My	-.000569	5.17
33	MP3A	Mz	.000569	5.17
34	MP3B	Y	-.853	.17
35	MP3B	My	-.000569	.17
36	MP3B	Mz	-.000569	.17
37	MP3B	Y	-.853	5.17
38	MP3B	My	-.000569	5.17
39	MP3B	Mz	-.000569	5.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
40	MP3C	Y	-.853	.17
41	MP3C	My	.000777	.17
42	MP3C	Mz	.000208	.17
43	MP3C	Y	-.853	5.17
44	MP3C	My	.000777	5.17
45	MP3C	Mz	.000208	5.17
46	MP3A	Y	-.853	.17
47	MP3A	My	-.000569	.17
48	MP3A	Mz	-.000569	.17
49	MP3A	Y	-.853	5.17
50	MP3A	My	-.000569	5.17
51	MP3A	Mz	-.000569	5.17
52	MP3B	Y	-.853	.17
53	MP3B	My	.000569	.17
54	MP3B	Mz	-.000569	.17
55	MP3B	Y	-.853	5.17
56	MP3B	My	.000569	5.17
57	MP3B	Mz	-.000569	5.17
58	MP3C	Y	-.853	.17
59	MP3C	My	-.000208	.17
60	MP3C	Mz	.000777	.17
61	MP3C	Y	-.853	5.17
62	MP3C	My	-.000208	5.17
63	MP3C	Mz	.000777	5.17
64	MP1A	Y	-1.222	.17
65	MP1A	My	-.000509	.17
66	MP1A	Mz	0	.17
67	MP1A	Y	-1.222	2.17
68	MP1A	My	-.000509	2.17
69	MP1A	Mz	0	2.17
70	MP1B	Y	-1.222	.17
71	MP1B	My	0	.17
72	MP1B	Mz	-.000509	.17
73	MP1B	Y	-1.222	2.17
74	MP1B	My	0	2.17
75	MP1B	Mz	-.000509	2.17
76	MP1C	Y	-1.222	.17
77	MP1C	My	.000255	.17
78	MP1C	Mz	.000441	.17
79	MP1C	Y	-1.222	2.17
80	MP1C	My	.000255	2.17
81	MP1C	Mz	.000441	2.17
82	MP2A	Y	-3.187	1.5
83	MP2A	My	.002	1.5
84	MP2A	Mz	0	1.5
85	MP2B	Y	-3.187	1.5
86	MP2B	My	0	1.5
87	MP2B	Mz	.002	1.5
88	MP2C	Y	-3.187	1.5
89	MP2C	My	-.001	1.5
90	MP2C	Mz	-.002	1.5
91	MP3A	Y	-3.375	1.5
92	MP3A	My	.002	1.5
93	MP3A	Mz	0	1.5
94	MP3B	Y	-3.375	1.5
95	MP3B	My	0	1.5
96	MP3B	Mz	.002	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
97	MP3C	Y	-3.375	1.5
98	MP3C	My	-.001	1.5
99	MP3C	Mz	-.002	1.5
100	OVP	Y	-1.365	1
101	OVP	My	0	1
102	OVP	Mz	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	Z	-.352	4.67
2	MP1A	Mx	0	4.67
3	MP1B	Z	-.352	4.67
4	MP1B	Mx	.000117	4.67
5	MP1C	Z	-.352	4.67
6	MP1C	Mx	-.000102	4.67
7	MP4A	Z	-2.448	.17
8	MP4A	Mx	0	.17
9	MP4A	Z	-2.448	5.17
10	MP4A	Mx	0	5.17
11	MP4B	Z	-2.448	.17
12	MP4B	Mx	.002	.17
13	MP4B	Z	-2.448	5.17
14	MP4B	Mx	.002	5.17
15	MP4C	Z	-2.448	.17
16	MP4C	Mx	-.001	.17
17	MP4C	Z	-2.448	5.17
18	MP4C	Mx	-.001	5.17
19	MP3A	Z	-2.133	.17
20	MP3A	Mx	-.001	.17
21	MP3A	Z	-2.133	5.17
22	MP3A	Mx	-.001	5.17
23	MP3B	Z	-2.133	.17
24	MP3B	Mx	.001	.17
25	MP3B	Z	-2.133	5.17
26	MP3B	Mx	.001	5.17
27	MP3C	Z	-2.133	.17
28	MP3C	Mx	-.000521	.17
29	MP3C	Z	-2.133	5.17
30	MP3C	Mx	-.000521	5.17
31	MP3A	Z	-2.133	.17
32	MP3A	Mx	.001	.17
33	MP3A	Z	-2.133	5.17
34	MP3A	Mx	.001	5.17
35	MP3B	Z	-2.133	.17
36	MP3B	Mx	.001	.17
37	MP3B	Z	-2.133	5.17
38	MP3B	Mx	.001	5.17
39	MP3C	Z	-2.133	.17
40	MP3C	Mx	-.002	.17
41	MP3C	Z	-2.133	5.17
42	MP3C	Mx	-.002	5.17
43	MP1A	Z	-3.056	.17
44	MP1A	Mx	0	.17
45	MP1A	Z	-3.056	2.17
46	MP1A	Mx	0	2.17
47	MP1B	Z	-3.056	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
48	MP1B	Mx	.001	.17
49	MP1B	Z	-3.056	2.17
50	MP1B	Mx	.001	2.17
51	MP1C	Z	-3.056	.17
52	MP1C	Mx	-.001	.17
53	MP1C	Z	-3.056	2.17
54	MP1C	Mx	-.001	2.17
55	MP2A	Z	-7.968	1.5
56	MP2A	Mx	0	1.5
57	MP2B	Z	-7.968	1.5
58	MP2B	Mx	-.005	1.5
59	MP2C	Z	-7.968	1.5
60	MP2C	Mx	.005	1.5
61	MP3A	Z	-8.437	1.5
62	MP3A	Mx	0	1.5
63	MP3B	Z	-8.437	1.5
64	MP3B	Mx	-.006	1.5
65	MP3C	Z	-8.437	1.5
66	MP3C	Mx	.005	1.5
67	OVP	Z	-3.413	1
68	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	.352	4.67
2	MP1A	Mx	-.000117	4.67
3	MP1B	X	.352	4.67
4	MP1B	Mx	0	4.67
5	MP1C	X	.352	4.67
6	MP1C	Mx	5.9e-5	4.67
7	MP4A	X	2.448	.17
8	MP4A	Mx	-.002	.17
9	MP4A	X	2.448	5.17
10	MP4A	Mx	-.002	5.17
11	MP4B	X	2.448	.17
12	MP4B	Mx	0	.17
13	MP4B	X	2.448	5.17
14	MP4B	Mx	0	5.17
15	MP4C	X	2.448	.17
16	MP4C	Mx	.000816	.17
17	MP4C	X	2.448	5.17
18	MP4C	Mx	.000816	5.17
19	MP3A	X	2.133	.17
20	MP3A	Mx	-.001	.17
21	MP3A	X	2.133	5.17
22	MP3A	Mx	-.001	5.17
23	MP3B	X	2.133	.17
24	MP3B	Mx	-.001	.17
25	MP3B	X	2.133	5.17
26	MP3B	Mx	-.001	5.17
27	MP3C	X	2.133	.17
28	MP3C	Mx	.002	.17
29	MP3C	X	2.133	5.17
30	MP3C	Mx	.002	5.17
31	MP3A	X	2.133	.17
32	MP3A	Mx	-.001	.17

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP3A	X	2.133	5.17
34	MP3A	Mx	-.001	5.17
35	MP3B	X	2.133	.17
36	MP3B	Mx	.001	.17
37	MP3B	X	2.133	5.17
38	MP3B	Mx	.001	5.17
39	MP3C	X	2.133	.17
40	MP3C	Mx	-.000521	.17
41	MP3C	X	2.133	5.17
42	MP3C	Mx	-.000521	5.17
43	MP1A	X	3.056	.17
44	MP1A	Mx	-.001	.17
45	MP1A	X	3.056	2.17
46	MP1A	Mx	-.001	2.17
47	MP1B	X	3.056	.17
48	MP1B	Mx	0	.17
49	MP1B	X	3.056	2.17
50	MP1B	Mx	0	2.17
51	MP1C	X	3.056	.17
52	MP1C	Mx	.000637	.17
53	MP1C	X	3.056	2.17
54	MP1C	Mx	.000637	2.17
55	MP2A	X	7.968	1.5
56	MP2A	Mx	.005	1.5
57	MP2B	X	7.968	1.5
58	MP2B	Mx	0	1.5
59	MP2C	X	7.968	1.5
60	MP2C	Mx	-.003	1.5
61	MP3A	X	8.437	1.5
62	MP3A	Mx	.006	1.5
63	MP3B	X	8.437	1.5
64	MP3B	Mx	0	1.5
65	MP3C	X	8.437	1.5
66	MP3C	Mx	-.003	1.5
67	OVP	X	3.413	1
68	OVP	Mx	0	1

Joint Loads and Enforced Displacements

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

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N153A	N158A	N87B	Y	Two Way	-.005
2	N150A	N126	N128	N149A	Y	Two Way	-.005
3	N159B	N55	N78	N76	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N153A	N158A	N87B	Y	Two Way	-.012
2	N150A	N126	N128	N149A	Y	Two Way	-.012
3	N159B	N55	N78	N76	Y	Two Way	-.012

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N153A	N158A	N87B	Y	Two Way	-.000222
2	N150A	N126	N128	N149A	Y	Two Way	-.000222
3	N159B	N55	N78	N76	Y	Two Way	-.000222

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N153A	N158A	N87B	Z	Two Way	-.000555
2	N150A	N126	N128	N149A	Z	Two Way	-.000555
3	N159B	N55	N78	N76	Z	Two Way	-.000555

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N87C	N153A	N158A	N87B	X	Two Way	.000555
2	N150A	N126	N128	N149A	X	Two Way	.000555
3	N159B	N55	N78	N76	X	Two Way	.000555

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N3	max	1142.718	10	473.452	19	3409.64	1	.239	24	1.799	4	.057	5
2		min	-1145.876	4	33.435	1	-1566.123	7	.051	64	-1.804	10	-.251	23
3	N52	max	3039.632	9	238.561	15	1009.994	2	.084	6	1.677	12	.228	33
4		min	-1373.341	3	-19.36	50	-1967.664	9	-.393	36	-1.696	6	-.142	3
5	N102A	max	1294.997	10	185.138	23	519.169	11	.154	20	1.605	8	.144	11
6		min	-2928.014	4	-57.979	41	-1645.719	19	-.244	38	-1.61	2	-.315	41
7	N160	max	54.753	10	2560.156	13	-544.901	7	0	75	0	4	0	10
8		min	-54.794	4	485.572	7	-2709.098	13	0	1	0	10	0	4
9	N164A	max	-487.395	3	2720.554	21	1442.552	21	0	6	0	12	0	12
10		min	-2498.03	21	501.9	3	281.316	3	0	12	0	6	0	6
11	N168	max	2438.426	17	2657.421	17	1407.601	17	0	8	0	8	0	8
12		min	522.965	11	539.481	11	295.43	10	0	38	0	38	0	38
13	Totals:	max	4652.727	10	8411.574	13	4411.745	1						
14		min	-4652.726	4	2149.194	71	-4411.744	7						

Joint Reactions (By Combination)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N3	127.322	33.435	3409.64	.096	-.058	-.056
2	1	N52	-55.482	128.033	931.791	-.115	1.029	-.046
3	1	N102A	-57.768	122.055	518.466	-.1	-.824	.053
4	1	N160	.048	1271.025	-1318.916	0	0	0
5	1	N164A	-670.805	734.298	439.479	0	0	0
6	1	N168	656.686	719.367	431.285	0	0	0
7	1	Totals:	.001	3008.213	4411.745			
8	1	COG (ft):	X: -.042	Y: .708	Z: .007			
9	2	N3	-32.996	45.348	3227.367	.072	-.045	.007
10	2	N52	-1083.336	163.064	1009.994	-.092	.146	-.116
11	2	N102A	-1450.64	76.986	212.223	-.108	-1.61	-.03
12	2	N160	-23.204	1241.157	-1289.041	0	0	0
13	2	N164A	-542.644	575.046	340.021	0	0	0
14	2	N168	806.461	906.612	528.848	0	0	0
15	2	Totals:	-2326.359	3008.212	4029.412			
16	2	COG (ft):	X: -.042	Y: .708	Z: .007			
17	3	N3	-685.434	90.247	2283.449	.073	1.081	-.018
18	3	N52	-1373.341	186.637	1007.691	-.104	.234	-.142

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
19	3	N102A	-2521.778	31.176	-665.102	-.027	-.915	-.063
20	3	N160	-44.703	1090.697	-1137.888	0	0	0
21	3	N164A	-487.395	501.9	281.316	0	0	0
22	3	N168	978.912	1107.555	617.159	0	0	0
23	3	Totals:	-4133.739	3008.212	2386.625			
24	3	COG (ft):	X: -.042	Y: .708	Z: .007			
25	4	N3	-1145.876	149.923	707.051	.087	1.799	-.011
26	4	N52	-1071.644	178.879	646.454	-.082	.213	-.138
27	4	N102A	-2928.014	2.253	-1385.508	.059	-.013	-.063
28	4	N160	-54.794	873.056	-926.119	0	0	0
29	4	N164A	-555.683	564.34	294.024	0	0	0
30	4	N168	1103.284	1239.759	664.087	0	0	0
31	4	Totals:	-4652.726	3008.211	-.012			
32	4	COG (ft):	X: -.042	Y: .708	Z: .007			
33	5	N3	-803.707	202.812	-667.188	.076	.936	.057
34	5	N52	-479.615	139.294	-338.676	.011	-.88	-.129
35	5	N102A	-2922.072	-7.826	-1473.008	.076	-.159	-.067
36	5	N160	-45.335	680.115	-741.405	0	0	0
37	5	N164A	-708.615	726.523	356.995	0	0	0
38	5	N168	1138.682	1267.29	657.401	0	0	0
39	5	Totals:	-3820.661	3008.209	-2205.881			
40	5	COG (ft):	X: -.042	Y: .708	Z: .007			
41	6	N3	-254.873	240.813	-1348.5	.055	-.061	.056
42	6	N52	461.201	91.934	-1400.233	.084	-1.696	-.094
43	6	N102A	-2559.211	-1.678	-1401.039	.082	-.225	-.049
44	6	N160	-23.247	550.606	-613.226	0	0	0
45	6	N164A	-869.291	915.154	438.709	0	0	0
46	6	N168	1099.816	1211.378	607.968	0	0	0
47	6	Totals:	-2145.606	3008.207	-3716.322			
48	6	COG (ft):	X: -.042	Y: .708	Z: .007			
49	7	N3	-131.838	259.452	-1566.123	.064	.056	-.045
50	7	N52	1725.891	52.262	-1890.408	.075	-1.044	-.023
51	7	N102A	-1583.44	24.832	-1472.977	.126	.817	.024
52	7	N160	-.03	485.572	-544.901	0	0	0
53	7	N164A	-1015.413	1098.619	534.378	0	0	0
54	7	N168	1004.83	1087.469	528.287	0	0	0
55	7	Totals:	0	3008.207	-4411.744			
56	7	COG (ft):	X: -.042	Y: .708	Z: .007			
57	8	N3	33.213	247.659	-1384.012	.088	.039	-.108
58	8	N52	2753.21	17.372	-1964.247	.052	-.159	.047
59	8	N102A	-194.526	69.835	-1170.325	.134	1.605	.107
60	8	N160	23.08	515.404	-574.722	0	0	0
61	8	N164A	-1143.735	1257.778	633.464	0	0	0
62	8	N168	855.117	900.159	430.431	0	0	0
63	8	Totals:	2326.36	3008.207	-4029.411			
64	8	COG (ft):	X: -.042	Y: .708	Z: .007			
65	9	N3	682.997	202.761	-433.239	.087	-1.087	-.083
66	9	N52	3039.632	-6.184	-1967.664	.064	-.251	.073
67	9	N102A	882.345	115.578	-294.406	.053	.916	.141
68	9	N160	45.076	665.791	-725.742	0	0	0
69	9	N164A	-1199.053	1331.117	692.532	0	0	0
70	9	N168	682.743	699.145	341.895	0	0	0
71	9	Totals:	4133.74	3008.208	-2386.624			
72	9	COG (ft):	X: -.042	Y: .708	Z: .007			
73	10	N3	1142.718	142.867	1145.25	.073	-1.804	-.09
74	10	N52	2732.92	1.549	-1608.673	.041	-.233	.07
75	10	N102A	1294.997	144.55	425.53	-.033	.016	.14

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
76	10	N160	54.753	883.469	-937.523	0	0	0
77	10	N164A	-1130.82	1268.83	679.999	0	0	0
78	10	N168	558.159	566.944	295.43	0	0	0
79	10	Totals:	4652.727	3008.209	.013			
80	10	COG (ft):	X: -.042	Y: .708	Z: .007			
81	11	N3	797.264	89.959	2513.835	.084	-.937	-.158
82	11	N52	2147.811	41.215	-623.275	-.052	.86	.06
83	11	N102A	1285.504	154.671	519.169	-.05	.157	.144
84	11	N160	45.095	1076.378	-1122.231	0	0	0
85	11	N164A	-977.978	1106.506	616.453	0	0	0
86	11	N168	522.965	539.481	301.931	0	0	0
87	11	Totals:	3820.662	3008.211	2205.882			
88	11	COG (ft):	X: -.042	Y: .708	Z: .007			
89	12	N3	244.845	52.026	3190.72	.105	.062	-.157
90	12	N52	1209.9	88.436	437.823	-.124	1.677	.026
91	12	N102A	922.484	148.521	452.082	-.056	.22	.126
92	12	N160	23.503	1205.922	-1250.489	0	0	0
93	12	N164A	-817.103	917.836	534.953	0	0	0
94	12	N168	561.978	595.472	351.234	0	0	0
95	12	Totals:	2145.607	3008.212	3716.323			
96	12	COG (ft):	X: -.042	Y: .708	Z: .007			
97	13	N3	22.437	409.818	3271.387	.237	-.047	-.223
98	13	N52	2047.678	222.888	-892.398	-.106	.259	-.038
99	13	N102A	-2018.624	176.445	-1026.964	.086	-.268	.111
100	13	N160	-.182	2560.156	-2709.098	0	0	0
101	13	N164A	-2343.837	2548.314	1367.358	0	0	0
102	13	N168	2292.529	2493.953	1337.274	0	0	0
103	13	Totals:	.002	8411.574	1347.558			
104	13	COG (ft):	X: -.05	Y: .605	Z: -.002			
105	14	N3	-40.936	413.062	3192.681	.231	-.026	-.205
106	14	N52	1749.961	232.772	-867.73	-.1	.012	-.058
107	14	N102A	-2428.113	164.037	-1129.67	.084	-.475	.088
108	14	N160	-6.125	2549.112	-2697.144	0	0	0
109	14	N164A	-2306.767	2503.403	1338.907	0	0	0
110	14	N168	2337.205	2549.187	1366.358	0	0	0
111	14	Totals:	-694.774	8411.573	1203.403			
112	14	COG (ft):	X: -.05	Y: .605	Z: -.002			
113	15	N3	-218.203	424.741	2903.808	.23	.266	-.209
114	15	N52	1659.945	238.561	-875.818	-.102	.008	-.065
115	15	N102A	-2747.05	150.864	-1385.584	.106	-.295	.077
116	15	N160	-12.189	2505.805	-2652.569	0	0	0
117	15	N164A	-2291.648	2484.166	1323.255	0	0	0
118	15	N168	2387.568	2607.436	1392.194	0	0	0
119	15	Totals:	-1221.576	8411.573	705.287			
120	15	COG (ft):	X: -.05	Y: .605	Z: -.002			
121	16	N3	-337.155	441.211	2445.113	.233	.452	-.208
122	16	N52	1732.091	236.755	-989.771	-.095	-.023	-.065
123	16	N102A	-2884.755	142.025	-1597.982	.13	-.054	.076
124	16	N160	-15.174	2443.667	-2591.778	0	0	0
125	16	N164A	-2310.293	2500.839	1327.197	0	0	0
126	16	N168	2425.727	2647.076	1407.222	0	0	0
127	16	Totals:	-1389.558	8411.573	.002			
128	16	COG (ft):	X: -.05	Y: .605	Z: -.002			
129	17	N3	-250.397	457.019	2026.964	.232	.233	-.193
130	17	N52	1905.246	227.129	-1275.629	-.071	-.319	-.063
131	17	N102A	-2894.619	138.719	-1642.177	.137	-.068	.075
132	17	N160	-12.423	2385.728	-2535.589	0	0	0

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
133	17	N164A	-2353.236	2545.557	1345.055	0	0
134	17	N168	2438.426	2657.421	1407.601	0	0
135	17	Totals:	-1167.003	8411.572	-673.773		
136	17	COG (ft):	X: -.05	Y: .605	Z: -.002		
137	18	N3	-105.519	468.436	1798.44	.227	-.03
138	18	N52	2202.208	214.206	-1581.224	-.051	-.525
139	18	N102A	-2779.109	140.264	-1634.806	.14	-.055
140	18	N160	-6.284	2345.691	-2494.6	0	0
141	18	N164A	-2401.2	2601.254	1369.462	0	0
142	18	N168	2426.638	2641.721	1393.913	0	0
143	18	Totals:	-663.266	8411.572	-1148.815		
144	18	COG (ft):	X: -.05	Y: .605	Z: -.002		
145	19	N3	-56.672	473.452	1733.287	.229	-.02
146	19	N52	2585.619	202.165	-1727.916	-.052	-.344
147	19	N102A	-2479.416	147.418	-1645.719	.152	.233
148	19	N160	-.271	2327.899	-2475.265	0	0
149	19	N164A	-2445.818	2656.398	1398.457	0	0
150	19	N168	2396.56	2604.239	1369.607	0	0
151	19	Totals:	.001	8411.572	-1347.549		
152	19	COG (ft):	X: -.05	Y: .605	Z: -.002		
153	20	N3	7.1	470.215	1811.993	.235	-.041
154	20	N52	2883.235	192.287	-1752.213	-.058	-.097
155	20	N102A	-2070.203	159.825	-1543.332	.154	.441
156	20	N160	5.661	2338.942	-2487.217	0	0
157	20	N164A	-2482.904	2701.304	1426.879	0	0
158	20	N168	2351.888	2548.998	1340.497	0	0
159	20	Totals:	694.776	8411.572	-1203.393		
160	20	COG (ft):	X: -.05	Y: .605	Z: -.002		
161	21	N3	184.158	458.54	2101.385	.236	-.334
162	21	N52	2972.971	186.498	-1744.557	-.056	-.094
163	21	N102A	-1750.811	172.993	-1287.515	.132	.261
164	21	N160	11.76	2382.245	-2531.783	0	0
165	21	N164A	-2498.03	2720.554	1442.552	0	0
166	21	N168	2301.531	2490.743	1314.64	0	0
167	21	Totals:	1221.579	8411.572	-705.278		
168	21	COG (ft):	X: -.05	Y: .605	Z: -.002		
169	22	N3	303.002	442.059	2560.302	.233	-.519
170	22	N52	2900.484	188.303	-1630.855	-.063	-.062
171	22	N102A	-1612.606	181.831	-1075.135	.108	.02
172	22	N160	14.714	2444.383	-2592.571	0	0
173	22	N164A	-2479.391	2703.893	1438.621	0	0
174	22	N168	2263.357	2451.103	1299.645	0	0
175	22	Totals:	1389.561	8411.572	.008		
176	22	COG (ft):	X: -.05	Y: .605	Z: -.002		
177	23	N3	215.981	426.246	2977.999	.235	-.3
178	23	N52	2727.844	197.936	-1344.992	-.087	.233
179	23	N102A	-1602.983	185.138	-1030.445	.102	.035
180	23	N160	11.947	2502.32	-2648.76	0	0
181	23	N164A	-2436.455	2659.169	1420.724	0	0
182	23	N168	2250.673	2440.764	1299.257	0	0
183	23	Totals:	1167.006	8411.573	673.783		
184	23	COG (ft):	X: -.05	Y: .605	Z: -.002		
185	24	N3	70.827	414.83	3206.15	.239	-.037
186	24	N52	2431.171	210.853	-1039.421	-.107	.44
187	24	N102A	-1718.576	183.593	-1037.424	.098	.021
188	24	N160	5.846	2542.359	-2689.755	0	0
189	24	N164A	-2388.471	2603.465	1396.335	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
190	24	N168	2262.472	2456.472	1312.94	0	0	0
191	24	Totals:	663.269	8411.573	1148.825			
192	24	COG (ft):	X: -.05	Y: .605	Z: -.002			
193	25	N3	6.747	114.902	1042.08	.058	-.005	-.026
194	25	N52	1358.657	86.372	-724.421	-.392	.095	.221
195	25	N102A	-907.609	139.557	-488.561	-.212	-.086	-.022
196	25	N160	-.004	872.476	-922.828	0	0	0
197	25	N164A	-1409.398	1514.026	816.842	0	0	0
198	25	N168	951.608	1030.885	552.624	0	0	0
199	25	Totals:	0	3758.22	275.736			
200	25	COG (ft):	X: -.56	Y: .567	Z: .785			
201	26	N3	-3.409	115.649	1030.695	.056	-.004	-.022
202	26	N52	1294.422	88.547	-719.708	-.391	.04	.217
203	26	N102A	-994.529	136.755	-507.583	-.212	-.135	-.027
204	26	N160	-1.453	870.608	-920.959	0	0	0
205	26	N164A	-1401.377	1504.091	810.674	0	0	0
206	26	N168	960.952	1042.57	558.714	0	0	0
207	26	Totals:	-145.394	3758.22	251.832			
208	26	COG (ft):	X: -.56	Y: .567	Z: .785			
209	27	N3	-44.105	118.466	971.516	.056	.066	-.023
210	27	N52	1276.396	90.024	-719.675	-.392	.046	.215
211	27	N102A	-1061.608	133.927	-562.365	-.207	-.091	-.029
212	27	N160	-2.813	861.204	-911.515	0	0	0
213	27	N164A	-1397.916	1499.501	806.975	0	0	0
214	27	N168	971.693	1055.098	564.229	0	0	0
215	27	Totals:	-258.354	3758.22	149.164			
216	27	COG (ft):	X: -.56	Y: .567	Z: .785			
217	28	N3	-72.866	122.212	872.939	.057	.111	-.023
218	28	N52	1295.382	89.569	-742.171	-.39	.044	.215
219	28	N102A	-1087.16	132.145	-607.374	-.202	-.035	-.029
220	28	N160	-3.433	847.596	-898.274	0	0	0
221	28	N164A	-1402.159	1503.369	807.741	0	0	0
222	28	N168	979.438	1063.329	567.138	0	0	0
223	28	Totals:	-290.797	3758.22	0			
224	28	COG (ft):	X: -.56	Y: .567	Z: .785			
225	29	N3	-51.385	125.523	787.227	.057	.057	-.019
226	29	N52	1332.126	87.161	-803.767	-.384	-.024	.216
227	29	N102A	-1086.658	131.516	-613.009	-.201	-.044	-.029
228	29	N160	-2.834	835.539	-886.73	0	0	0
229	29	N164A	-1411.652	1513.463	811.706	0	0	0
230	29	N168	981.618	1065.018	566.706	0	0	0
231	29	Totals:	-238.785	3758.219	-137.867			
232	29	COG (ft):	X: -.56	Y: .567	Z: .785			
233	30	N3	-16.985	127.897	744.79	.055	-.006	-.019
234	30	N52	1390.776	84.286	-870.097	-.38	-.075	.218
235	30	N102A	-1063.956	131.894	-608.644	-.2	-.048	-.028
236	30	N160	-1.466	827.45	-878.724	0	0	0
237	30	N164A	-1421.633	1525.195	816.802	0	0	0
238	30	N168	979.163	1061.497	563.605	0	0	0
239	30	Totals:	-134.101	3758.219	-232.268			
240	30	COG (ft):	X: -.56	Y: .567	Z: .785			
241	31	N3	-9.459	129.059	731.156	.056	.002	-.025
242	31	N52	1469.823	81.856	-900.797	-.381	-.034	.222
243	31	N102A	-1002.832	133.548	-612.981	-.198	.017	-.023
244	31	N160	-.009	823.389	-874.456	0	0	0
245	31	N164A	-1430.748	1536.619	822.724	0	0	0
246	31	N168	973.225	1053.748	558.619	0	0	0

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
247	31	Totals:	0	3758.219	-275.736		
248	31	COG (ft):	X: -.56	Y: .567	Z: .785		
249	32	N3	.715	128.313	742.541	.057	0
250	32	N52	1534.057	79.682	-905.493	-.382	.021
251	32	N102A	-915.928	136.351	-593.974	-.197	.066
252	32	N160	1.439	825.257	-876.324	0	0
253	32	N164A	-1438.769	1546.554	828.89	0	0
254	32	N168	963.881	1042.063	552.528	0	0
255	32	Totals:	145.395	3758.219	-251.832		
256	32	COG (ft):	X: -.56	Y: .567	Z: .785		
257	33	N3	41.401	125.496	801.746	.057	-.07
258	33	N52	1552.068	78.205	-905.548	-.381	.015
259	33	N102A	-848.826	139.179	-539.197	-.202	.023
260	33	N160	2.802	834.66	-885.769	0	0
261	33	N164A	-1442.23	1551.145	832.591	0	0
262	33	N168	953.14	1029.535	547.013	0	0
263	33	Totals:	258.355	3758.219	-149.164		
264	33	COG (ft):	X: -.56	Y: .567	Z: .785		
265	34	N3	70.159	121.749	900.331	.056	-.114
266	34	N52	1533.063	78.66	-883.062	-.383	.017
267	34	N102A	-823.249	140.961	-494.189	-.207	-.033
268	34	N160	3.42	848.268	-899.009	0	0
269	34	N164A	-1437.988	1547.278	831.825	0	0
270	34	N168	945.394	1021.304	544.105	0	0
271	34	Totals:	290.799	3758.219	0		
272	34	COG (ft):	X: -.56	Y: .567	Z: .785		
273	35	N3	48.665	118.438	986.021	.057	-.06
274	35	N52	1496.346	81.068	-821.464	-.388	.085
275	35	N102A	-823.765	141.59	-488.531	-.208	-.024
276	35	N160	2.82	860.325	-910.553	0	0
277	35	N164A	-1428.495	1537.183	827.858	0	0
278	35	N168	943.215	1019.615	544.536	0	0
279	35	Totals:	238.786	3758.22	137.867		
280	35	COG (ft):	X: -.56	Y: .567	Z: .785		
281	36	N3	14.251	116.065	1028.441	.058	.002
282	36	N52	1437.707	83.943	-755.136	-.393	.136
283	36	N102A	-846.468	141.212	-492.877	-.209	-.02
284	36	N160	1.454	868.414	-918.56	0	0
285	36	N164A	-1418.513	1525.45	822.762	0	0
286	36	N168	945.67	1023.136	547.637	0	0
287	36	Totals:	134.102	3758.22	232.268		
288	36	COG (ft):	X: -.56	Y: .567	Z: .785		
289	37	N3	4.734	121.089	1037.109	.064	.005
290	37	N52	781.616	138.698	-399.8	-.132	.064
291	37	N102A	-1570.682	-49.964	-871.732	-.243	-.059
292	37	N160	.001	877.449	-928.267	0	0
293	37	N164A	-848.048	921.6	492.885	0	0
294	37	N168	1632.381	1749.339	945.542	0	0
295	37	Totals:	.002	3758.211	275.737		
296	37	COG (ft):	X: .9	Y: .567	Z: .785		
297	38	N3	-5.427	121.831	1025.712	.062	.006
298	38	N52	717.391	140.881	-395.04	-.131	.009
299	38	N102A	-1657.62	-52.752	-890.718	-.244	-.108
300	38	N160	-1.448	875.584	-926.402	0	0
301	38	N164A	-840.031	911.648	486.68	0	0
302	38	N168	1641.742	1761.021	951.602	0	0
303	38	Totals:	-145.392	3758.211	251.833		

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
304	38	COG (ft):	X: .9	Y: .567	Z: .785			
305	39	N3	-46.121	124.638	966.519	.063	.077	-.086
306	39	N52	699.357	142.355	-395.009	-.132	.014	-.032
307	39	N102A	-1724.688	-55.569	-945.532	-.239	-.065	-.315
308	39	N160	-2.808	866.183	-916.96	0	0	0
309	39	N164A	-836.561	907.055	482.991	0	0	0
310	39	N168	1652.469	1773.551	957.155	0	0	0
311	39	Totals:	-258.352	3758.211	149.165			
312	39	COG (ft):	X: .9	Y: .567	Z: .785			
313	40	N3	-74.877	128.377	867.929	.063	.122	-.085
314	40	N52	718.343	141.88	-417.507	-.13	.013	-.032
315	40	N102A	-1750.234	-57.349	-990.583	-.233	-.008	-.315
316	40	N160	-3.427	852.575	-903.72	0	0	0
317	40	N164A	-840.809	910.932	483.769	0	0	0
318	40	N168	1660.208	1781.796	960.112	0	0	0
319	40	Totals:	-290.796	3758.211	0			
320	40	COG (ft):	X: .9	Y: .567	Z: .785			
321	41	N3	-53.393	131.69	782.2	.063	.068	-.081
322	41	N52	755.128	139.424	-479.074	-.125	-.055	-.032
323	41	N102A	-1749.765	-57.979	-996.215	-.232	-.017	-.315
324	41	N160	-2.829	840.511	-892.169	0	0	0
325	41	N164A	-850.346	921.055	487.713	0	0	0
326	41	N168	1662.422	1783.511	959.679	0	0	0
327	41	Totals:	-238.783	3758.211	-137.866			
328	41	COG (ft):	X: .9	Y: .567	Z: .785			
329	42	N3	-18.991	134.068	739.747	.061	.005	-.081
330	42	N52	813.825	136.49	-545.394	-.12	-.106	-.029
331	42	N102A	-1727.092	-57.602	-991.852	-.232	-.021	-.314
332	42	N160	-1.461	832.413	-884.152	0	0	0
333	42	N164A	-860.377	932.827	492.804	0	0	0
334	42	N168	1659.997	1780.015	956.58	0	0	0
335	42	Totals:	-134.099	3758.211	-232.267			
336	42	COG (ft):	X: .9	Y: .567	Z: .785			
337	43	N3	-11.458	135.234	726.11	.062	.013	-.087
338	43	N52	892.879	134.022	-576.141	-.121	-.065	-.025
339	43	N102A	-1665.954	-55.954	-996.239	-.229	.044	-.31
340	43	N160	-.004	828.344	-879.877	0	0	0
341	43	N164A	-869.505	944.285	498.771	0	0	0
342	43	N168	1654.045	1772.279	951.641	0	0	0
343	43	Totals:	.002	3758.211	-275.735			
344	43	COG (ft):	X: .9	Y: .567	Z: .785			
345	44	N3	-1.278	134.493	737.506	.064	.012	-.091
346	44	N52	957.102	131.84	-580.884	-.122	-.01	-.021
347	44	N102A	-1579.031	-53.166	-977.267	-.229	.093	-.304
348	44	N160	1.444	830.209	-881.742	0	0	0
349	44	N164A	-877.523	954.237	504.976	0	0	0
350	44	N168	1644.683	1760.598	945.58	0	0	0
351	44	Totals:	145.396	3758.211	-251.831			
352	44	COG (ft):	X: .9	Y: .567	Z: .785			
353	45	N3	39.406	131.686	796.726	.063	-.059	-.09
354	45	N52	975.121	130.366	-580.938	-.121	-.016	-.019
355	45	N102A	-1511.941	-50.349	-922.459	-.234	.05	-.302
356	45	N160	2.806	839.61	-891.183	0	0	0
357	45	N164A	-880.993	958.831	508.666	0	0	0
358	45	N168	1633.957	1748.067	940.026	0	0	0
359	45	Totals:	258.356	3758.211	-149.163			
360	45	COG (ft):	X: .9	Y: .567	Z: .785			

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
361	46	N3	68.159	127.946	895.324	.063	-.104	-.09
362	46	N52	956.116	130.841	-558.449	-.123	-.015	-.019
363	46	N102A	-1486.371	-48.57	-877.41	-.239	-.007	-.302
364	46	N160	3.424	853.218	-904.424	0	0	0
365	46	N164A	-876.746	954.954	507.888	0	0	0
366	46	N168	1626.217	1739.823	937.071	0	0	0
367	46	Totals:	290.8	3758.211	.002			
368	46	COG (ft):	X: .9	Y: .567	Z: .785			
369	47	N3	46.663	124.633	981.031	.063	-.05	-.094
370	47	N52	919.357	133.297	-496.88	-.128	.054	-.02
371	47	N102A	-1486.853	-47.94	-871.754	-.24	.002	-.302
372	47	N160	2.825	865.281	-915.974	0	0	0
373	47	N164A	-867.209	944.831	503.943	0	0	0
374	47	N168	1624.004	1738.108	937.503	0	0	0
375	47	Totals:	238.788	3758.211	137.868			
376	47	COG (ft):	X: .9	Y: .567	Z: .785			
377	48	N3	12.246	122.255	1023.466	.065	.013	-.094
378	48	N52	860.672	136.231	-430.563	-.133	.105	-.022
379	48	N102A	-1509.527	-48.316	-876.098	-.241	.007	-.303
380	48	N160	1.46	873.38	-923.991	0	0	0
381	48	N164A	-857.177	933.058	498.852	0	0	0
382	48	N168	1626.43	1741.604	940.602	0	0	0
383	48	Totals:	134.104	3758.211	232.269			
384	48	COG (ft):	X: .9	Y: .567	Z: .785			
385	49	N3	-2.114	132.142	900.357	.066	0	-.051
386	49	N52	989.356	131.661	-567.768	-.21	.02	.038
387	49	N102A	-974.684	115.127	-563.736	-.177	-.028	-.033
388	49	N160	-.008	860.543	-912.437	0	0	0
389	49	N164A	-996.69	1078.499	575.423	0	0	0
390	49	N168	984.14	1065.244	568.16	0	0	0
391	49	Totals:	0	3383.215	0			
392	49	COG (ft):	X: -.037	Y: .63	Z: .439			
393	50	N3	-1.754	139.963	897.594	.074	-.01	-.029
394	50	N52	1305.852	-19.36	-748.527	-.091	-.017	.171
395	50	N102A	-778.24	89.557	-461.916	-.003	.005	.05
396	50	N160	-.021	867.034	-919.537	0	0	0
397	50	N164A	-1330.204	1430.514	767.986	0	0	0
398	50	N168	804.366	875.503	464.399	0	0	0
399	50	Totals:	0	3383.21	0			
400	50	COG (ft):	X: -.702	Y: .63	Z: .439			
401	51	N3	-3.021	170.808	1073.042	.093	-.001	-.059
402	51	N52	970.021	105.217	-557.852	-.023	-.01	-.04
403	51	N102A	-952.522	85.585	-555.622	.015	-.001	.045
404	51	N160	-.015	1024.685	-1087.189	0	0	0
405	51	N164A	-983.777	1069.281	568.001	0	0	0
406	51	N168	969.315	1054.003	559.622	0	0	0
407	51	Totals:	0	3509.578	0			
408	51	COG (ft):	X: -.042	Y: .708	Z: .007			
409	52	N3	.578	143.728	1124.525	.077	0	-.052
410	52	N52	804.318	96.187	-421.79	-.028	.042	-.036
411	52	N102A	-791.115	80.348	-428.817	.006	-.045	.042
412	52	N160	-.009	939.854	-995.832	0	0	0
413	52	N164A	-859.664	934.8	498.645	0	0	0
414	52	N168	845.893	920.255	490.676	0	0	0
415	52	Totals:	0	3115.173	267.406			
416	52	COG (ft):	X: -.042	Y: .708	Z: .007			
417	53	N3	-19.989	144.491	1099.443	.078	.026	-.052

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
	418	53	N52	745.38	99.209	-402.768	-.029	.022	-.04
	419	53	N102A	-866.381	76.839	-463.767	.007	-.055	.037
	420	53	N160	-1.164	936.039	-991.972	0	0	0
	421	53	N164A	-850.228	923.611	492.223	0	0	0
	422	53	N168	858.68	934.985	498.413	0	0	0
	423	53	Totals:	-133.701	3115.173	231.574			
	424	53	COG (ft):	X: -.042	Y: .708	Z: .007			
	425	54	N3	-35.92	147.164	1034.981	.079	.046	-.052
	426	54	N52	717.426	100.673	-408.501	-.028	-.006	-.043
	427	54	N102A	-936.036	73.098	-506.592	.01	-.05	.033
	428	54	N160	-2.011	925.119	-980.883	0	0	0
	429	54	N164A	-846.948	919.255	488.999	0	0	0
	430	54	N168	871.919	949.864	505.698	0	0	0
	431	54	Totals:	-231.571	3115.173	133.703			
	432	54	COG (ft):	X: -.042	Y: .708	Z: .007			
	433	55	N3	-42.95	151.031	948.395	.082	.053	-.053
	434	55	N52	727.942	100.188	-437.453	-.024	-.035	-.044
	435	55	N102A	-981.432	70.127	-545.825	.014	-.033	.03
	436	55	N160	-2.323	910.019	-965.534	0	0	0
	437	55	N164A	-850.705	922.898	489.837	0	0	0
	438	55	N168	882.064	960.91	510.58	0	0	0
	439	55	Totals:	-267.403	3115.173	0			
	440	55	COG (ft):	X: -.042	Y: .708	Z: .007			
	441	56	N3	-39.19	155.056	862.891	.085	.046	-.053
	442	56	N52	774.123	97.883	-481.868	-.02	-.057	-.043
	443	56	N102A	-990.392	68.722	-570.948	.017	-.007	.03
	444	56	N160	-2.016	894.786	-950.04	0	0	0
	445	56	N164A	-860.491	933.567	494.514	0	0	0
	446	56	N168	886.395	965.159	511.748	0	0	0
	447	56	Totals:	-231.571	3115.173	-133.703			
	448	56	COG (ft):	X: -.042	Y: .708	Z: .007			
	449	57	N3	-25.648	158.161	801.385	.087	.026	-.053
	450	57	N52	843.576	94.378	-529.837	-.016	-.066	-.039
	451	57	N102A	-960.529	69.258	-575.235	.02	.021	.033
	452	57	N160	-1.171	883.501	-938.552	0	0	0
	453	57	N164A	-873.684	948.399	501.774	0	0	0
	454	57	N168	883.753	961.476	508.892	0	0	0
	455	57	Totals:	-133.701	3115.173	-231.573			
	456	57	COG (ft):	X: -.042	Y: .708	Z: .007			
	457	58	N3	-5.95	159.513	780.348	.088	-.001	-.053
	458	58	N52	917.705	90.609	-568.516	-.013	-.059	-.035
	459	58	N102A	-899.835	71.594	-557.541	.021	.042	.037
	460	58	N160	-.015	879.187	-934.147	0	0	0
	461	58	N164A	-886.75	963.423	509.675	0	0	0
	462	58	N168	874.846	950.845	502.775	0	0	0
	463	58	Totals:	0	3115.173	-267.405			
	464	58	COG (ft):	X: -.042	Y: .708	Z: .007			
	465	59	N3	14.622	158.75	805.434	.088	-.028	-.053
	466	59	N52	976.636	87.589	-587.534	-.012	-.04	-.031
	467	59	N102A	-824.569	75.103	-522.598	.02	.052	.042
	468	59	N160	1.142	883.003	-938.008	0	0	0
	469	59	N164A	-896.187	974.612	516.097	0	0	0
	470	59	N168	862.059	936.116	495.037	0	0	0
	471	59	Totals:	133.702	3115.173	-231.573			
	472	59	COG (ft):	X: -.042	Y: .708	Z: .007			
	473	60	N3	30.554	156.077	869.904	.086	-.048	-.052
	474	60	N52	1004.585	86.125	-581.804	-.014	-.011	-.028

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
475	60	N102A	-754.908	78.844	-479.777	.017	.048	.047
476	60	N160	1.989	893.923	-949.097	0	0	0
477	60	N164A	-899.467	978.968	519.32	0	0	0
478	60	N168	848.82	921.236	487.751	0	0	0
479	60	Totals:	231.572	3115.173	-133.702			
480	60	COG (ft):	X: -.042	Y: .708	Z: .007			
481	61	N3	37.579	152.209	956.492	.083	-.055	-.052
482	61	N52	994.068	86.609	-552.858	-.017	.017	-.027
483	61	N102A	-709.506	81.815	-440.54	.013	.031	.05
484	61	N160	2.299	909.023	-964.445	0	0	0
485	61	N164A	-895.711	975.326	518.482	0	0	0
486	61	N168	838.675	910.19	482.869	0	0	0
487	61	Totals:	267.404	3115.173	0			
488	61	COG (ft):	X: -.042	Y: .708	Z: .007			
489	62	N3	33.813	148.184	1041.992	.08	-.048	-.052
490	62	N52	947.894	88.913	-508.446	-.022	.039	-.028
491	62	N102A	-700.545	83.221	-415.409	.01	.005	.05
492	62	N160	1.991	924.257	-979.94	0	0	0
493	62	N164A	-885.925	964.657	513.805	0	0	0
494	62	N168	834.344	905.941	481.701	0	0	0
495	62	Totals:	231.572	3115.173	133.703			
496	62	COG (ft):	X: -.042	Y: .708	Z: .007			
497	63	N3	20.271	145.08	1103.491	.078	-.028	-.052
498	63	N52	878.446	92.419	-460.475	-.026	.048	-.031
499	63	N102A	-730.415	82.683	-411.118	.007	-.023	.047
500	63	N160	1.146	935.541	-991.427	0	0	0
501	63	N164A	-872.731	949.825	506.545	0	0	0
502	63	N168	836.985	909.625	484.559	0	0	0
503	63	Totals:	133.703	3115.173	231.574			
504	63	COG (ft):	X: -.042	Y: .708	Z: .007			
505	64	N3	1.404	96.688	829.149	.051	0	-.035
506	64	N52	537.313	67.255	-268.23	-.022	.045	-.025
507	64	N102A	-528.924	56.81	-275.879	.002	-.044	.03
508	64	N160	-.003	657.822	-696.578	0	0	0
509	64	N164A	-588.86	640.478	342.302	0	0	0
510	64	N168	579.071	630.141	336.642	0	0	0
511	64	Totals:	0	2149.194	267.406			
512	64	COG (ft):	X: -.042	Y: .708	Z: .007			
513	65	N3	-19.165	97.458	804.066	.052	.026	-.036
514	65	N52	478.376	70.289	-249.208	-.023	.025	-.029
515	65	N102A	-604.189	53.284	-310.827	.003	-.054	.025
516	65	N160	-1.164	654.003	-692.715	0	0	0
517	65	N164A	-579.421	629.284	335.874	0	0	0
518	65	N168	591.862	644.877	344.384	0	0	0
519	65	Totals:	-133.701	2149.194	231.573			
520	65	COG (ft):	X: -.042	Y: .708	Z: .007			
521	66	N3	-35.099	100.146	739.602	.054	.046	-.036
522	66	N52	450.422	71.757	-254.941	-.021	-.003	-.032
523	66	N102A	-673.842	49.527	-353.652	.006	-.05	.02
524	66	N160	-2.015	643.077	-681.62	0	0	0
525	66	N164A	-576.144	624.925	332.643	0	0	0
526	66	N168	605.106	659.763	351.671	0	0	0
527	66	Totals:	-231.571	2149.194	133.703			
528	66	COG (ft):	X: -.042	Y: .708	Z: .007			
529	67	N3	-42.13	104.032	653.016	.057	.053	-.036
530	67	N52	460.938	71.266	-283.894	-.018	-.032	-.033
531	67	N102A	-719.236	46.544	-392.885	.009	-.032	.018

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
532	67	N160	-2.327	627.969	-666.264	0	0
533	67	N164A	-579.905	628.57	333.476	0	0
534	67	N168	615.257	670.813	356.551	0	0
535	67	Totals:	-267.403	2149.194	0		
536	67	COG (ft):	X: -.042	Y: .708	Z: .007		
537	68	N3	-38.369	108.075	567.512	.059	.046
538	68	N52	507.118	68.947	-328.309	-.013	-.054
539	68	N102A	-728.196	45.135	-418.009	.013	-.006
540	68	N160	-2.018	612.728	-650.763	0	0
541	68	N164A	-589.698	639.244	338.151	0	0
542	68	N168	619.592	675.064	357.715	0	0
543	68	Totals:	-231.571	2149.194	-133.703		
544	68	COG (ft):	X: -.042	Y: .708	Z: .007		
545	69	N3	-24.826	111.191	506.007	.062	.026
546	69	N52	576.571	65.423	-376.277	-.009	-.063
547	69	N102A	-698.332	45.678	-422.298	.016	.021
548	69	N160	-1.169	601.439	-639.271	0	0
549	69	N164A	-602.897	654.084	345.414	0	0
550	69	N168	616.951	671.379	354.853	0	0
551	69	Totals:	-133.702	2149.194	-231.573		
552	69	COG (ft):	X: -.042	Y: .708	Z: .007		
553	70	N3	-5.126	112.547	484.971	.063	0
554	70	N52	650.699	61.637	-414.956	-.007	-.057
555	70	N102A	-637.639	48.027	-404.604	.017	.043
556	70	N160	-.008	597.124	-634.866	0	0
557	70	N164A	-615.968	669.116	353.319	0	0
558	70	N168	608.042	660.743	348.73	0	0
559	70	Totals:	0	2149.194	-267.405		
560	70	COG (ft):	X: -.042	Y: .708	Z: .007		
561	71	N3	15.449	111.776	510.059	.062	-.028
562	71	N52	709.63	58.603	-433.974	-.006	-.037
563	71	N102A	-562.375	51.554	-369.663	.016	.053
564	71	N160	1.154	600.943	-638.729	0	0
565	71	N164A	-625.407	680.311	359.748	0	0
566	71	N168	595.251	646.007	340.987	0	0
567	71	Totals:	133.702	2149.194	-231.573		
568	71	COG (ft):	X: -.042	Y: .708	Z: .007		
569	72	N3	31.383	109.088	574.53	.06	-.048
570	72	N52	737.578	57.135	-428.243	-.007	-.009
571	72	N102A	-492.716	55.311	-326.842	.013	.048
572	72	N160	2.004	611.87	-649.824	0	0
573	72	N164A	-628.685	684.669	362.978	0	0
574	72	N168	582.007	631.121	333.699	0	0
575	72	Totals:	231.572	2149.194	-133.702		
576	72	COG (ft):	X: -.042	Y: .708	Z: .007		
577	73	N3	38.409	105.202	661.118	.058	-.055
578	73	N52	727.063	57.626	-399.296	-.011	.02
579	73	N102A	-447.315	58.295	-287.604	.009	.031
580	73	N160	2.316	626.978	-665.18	0	0
581	73	N164A	-624.925	681.024	362.144	0	0
582	73	N168	571.857	620.07	328.819	0	0
583	73	Totals:	267.404	2149.194	0		
584	73	COG (ft):	X: -.042	Y: .708	Z: .007		
585	74	N3	34.643	101.159	746.618	.055	-.047
586	74	N52	680.889	59.944	-354.885	-.015	.042
587	74	N102A	-438.355	59.703	-262.473	.006	.005
588	74	N160	2.006	642.219	-680.681	0	0

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
589	74	N164A	-615.132	670.351	357.469	0	0	0
590	74	N168	567.521	615.819	327.656	0	0	0
591	74	Totals:	231.572	2149.194	133.703			
592	74	COG (ft):	X: -.042	Y: .708	Z: .007			
593	75	N3	21.099	98.043	808.116	.053	-.028	-.035
594	75	N52	611.441	63.468	-306.914	-.019	.051	-.02
595	75	N102A	-468.224	59.16	-258.181	.003	-.023	.035
596	75	N160	1.157	653.508	-692.173	0	0	0
597	75	N164A	-601.932	655.511	350.207	0	0	0
598	75	N168	570.162	619.505	330.519	0	0	0
599	75	Totals:	133.702	2149.194	231.574			
600	75	COG (ft):	X: -.042	Y: .708	Z: .007			

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc.....	LC	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn....	Eqn
1	M4	HSS4X4X3	.154	0	10	.073	4.423 y	15	95088...	106812	12.662	12.662	1...H1-1b
2	M34	HSS4X4X3	.142	4.367	21	.081	4.423 y	23	95088...	106812	12.662	12.662	1...H1-1b
3	M67	HSS4X4X3	.140	4.367	18	.083	4.423 y	39	95088...	106812	12.662	12.662	1...H1-1b
4	M10	L3X3X6	.285	2.375	24	.239	.099 z	8	60230...	68364	2.307	5.322	1...H2-1
5	M43	L3X3X6	.305	0	15	.238	2.276 z	12	60230...	68364	2.307	5.322	1...H2-1
6	M35	L3X3X6	.309	2.375	21	.268	.099 z	3	60230...	68364	2.307	5.322	1...H2-1
7	M36	L3X3X6	.275	0	20	.279	2.276 z	8	60230...	68364	2.307	5.322	1...H2-1
8	M68	L3X3X6	.270	2.375	16	.265	.099 y	4	60230...	68364	2.307	5.322	1...H2-1
9	M69	L3X3X6	.274	0	17	.231	2.276 y	11	60230...	68364	2.307	5.322	1...H2-1
10	MP3A	PIPE 2.5	.198	3.188	1	.074	1.438	2	37773...	50715	3.596	3.596	1...H1-1b
11	MP4A	PIPE 2.0	.260	3.125	22	.085	3.125	8	20866...	32130	1.872	1.872	1...H1-1b
12	MP2A	PIPE 2.0	.204	3.188	3	.058	1.438	6	20866...	32130	1.872	1.872	1...H1-1b
13	MP1A	PIPE 2.0	.241	3.125	16	.081	3.125	6	20866...	32130	1.872	1.872	1...H1-1b
14	MP3C	PIPE 2.5	.199	3.25	9	.075	1.438	10	37773...	50715	3.596	3.596	1...H1-1b
15	MP4C	PIPE 2.0	.281	3.188	19	.089	3.188	10	20866...	32130	1.872	1.872	1...H1-1b
16	MP2C	PIPE 2.0	.190	3.188	10	.061	1.438	2	20866...	32130	1.872	1.872	1...H1-1b
17	MP1C	PIPE 2.0	.243	3.188	13	.086	3.188	2	20866...	32130	1.872	1.872	2...H1-1b
18	MP3B	PIPE 2.5	.203	3.125	4	.057	1.438	6	37773...	50715	3.596	3.596	1...H1-1b
19	MP4B	PIPE 2.0	.309	3.188	15	.083	3.188	12	20866...	32130	1.872	1.872	1...H1-1b
20	MP2B	PIPE 2.0	.189	3.125	8	.062	3.125	10	20866...	32130	1.872	1.872	1...H1-1b
21	MP1B	PIPE 2.0	.261	3.125	21	.090	.688	10	20866...	32130	1.872	1.872	1...H1-1b
22	M100	PIPE 2.0	.007	2	10	.001	2	10	30625...	32130	1.872	1.872	2...H1-1b
23	M41	L2x2x4	.172	0	8	.018	4.378 y	15	11571...	30585.6	.691	1.457	1...H2-1
24	M1	PIPE 3.0	.122	3.25	26	.065	1.375	2	30165...	65205	5.749	5.749	2...H1-1b
25	M58A	PIPE 3.0	.110	10.625	19	.067	10.5	9	30165...	65205	5.749	5.749	2...H1-1b
26	M91A	PIPE 3.0	.105	7.875	14	.062	7.875	5	30165...	65205	5.749	5.749	1...H1-1b
27	M76	PL3/8x6	.220	0	8	.306	0 y	19	70647...	72900	.57	9.113	1...H1-1b
28	M77	PL3/8x6	.300	.167	8	.135	0 y	13	71583...	72900	.57	9.113	1...H1-1b
29	M84	PL3/8x6	.200	0	4	.257	0 y	19	70647...	72900	.57	9.113	1...H1-1b
30	M85	PL3/8x6	.308	.167	6	.144	0 y	24	71583...	72900	.57	9.113	1...H1-1b
31	M45	PL3/8x6	.209	0	4	.327	0 y	15	70647...	72900	.57	9.113	1...H1-1b
32	M46A	PL3/8x6	.322	.167	3	.150	0 y	21	71583...	72900	.57	9.113	1...H1-1b
33	M50A	PL3/8x6	.177	.219	2	.238	0 y	15	70647...	72900	.57	9.113	1...H1-1b
34	M51C	PL3/8x6	.361	.167	2	.128	0 y	20	71583...	72900	.57	9.113	1...H1-1b
35	M78	PL3/8x6	.168	.219	10	.224	0 y	22	70647...	72900	.57	9.113	1...H1-1b
36	M79A	PL3/8x6	.343	.167	10	.124	0 y	16	71583...	72900	.57	9.113	1...H1-1b
37	M83A	PL3/8x6	.214	0	12	.290	0 y	23	70647...	72900	.57	9.113	1...H1-1b
38	M84A	PL3/8x6	.278	.167	12	.129	0 y	17	71583...	72900	.57	9.113	1...H1-1b
39	M46	PL3/8x6	.241	.516	2	.192	.516 y	13	36285...	72900	.57	9.113	1...H1-1b
40	M80	PL3/8x6	.085	.112	2	.275	0 y	24	72302...	72900	.57	9.113	1...H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc.....	LC	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn.....	Eqn
41	M91	PL3/8x6	.075	.112	3	.365	0 y	14	72302...	72900	.57	9.113	1...H1-1b
42	M37	PL3/8x6	.246	.516	9	.216	.516 y	22	36285...	72900	.57	9.113	1...H1-1b
43	M48	PL3/8x6	.092	.112	9	.290	0 y	20	72302...	72900	.57	9.113	1...H1-1b
44	M53	PL3/8x6	.079	.112	9	.406	0 y	22	72302...	72900	.57	9.113	1...H1-1b
45	M70	PL3/8x6	.231	.516	6	.203	.516 y	19	36285...	72900	.57	9.113	1...H1-1b
46	M81	PL3/8x6	.068	.112	5	.403	0 y	18	72302...	72900	.57	9.113	1...H1-1b
47	M86	PL3/8x6	.080	.112	5	.380	0 y	40	72302...	72900	.57	9.113	1...H1-1b
48	M91B	L2x2x4	.167	4.378	23	.021	4.378 z	23	11571...	30585.6	.691	1.448	1...H2-1
49	M92B	L2x2x4	.164	0	4	.018	4.378 y	23	11571...	30585.6	.691	1.457	1...H2-1
50	M93A	L2x2x4	.165	4.378	19	.021	4.378 z	19	11571...	30585.6	.691	1.448	1...H2-1
51	M96	L2x2x4	.161	4.378	19	.020	4.378 y	19	11571...	30585.6	.691	1.448	1...H2-1
52	M97	L2x2x4	.176	4.378	15	.022	4.378 z	15	11571...	30585.6	.691	1.448	1...H2-1
53	M101	LL3x3x3x3	.079	5.928	13	.005	0 z	4	47259...	70632	5.543	3.745	1 H1-1b*
54	M102	LL3x3x3x3	.084	5.928	21	.005	0 z	12	47259...	70632	5.543	3.745	1 H1-1b*
55	M103A	LL3x3x3x3	.082	5.928	17	.005	5.928 z	8	47259...	70632	5.543	3.745	1 H1-1b*
56	M108	PIPE_2.5	.117	3.25	33	.062	1.375	8	15797.3	50715	3.596	3.596	2...H1-1b
57	M113	PIPE_2.5	.120	3.375	17	.065	1.5	4	15797.3	50715	3.596	3.596	2...H1-1b
58	M118	PIPE_2.5	.125	4.125	14	.063	10.5	10	15797.3	50715	3.596	3.596	2...H1-1b
59	M125	L3X3X4	.152	1.474	1	.032	0 y	6	44464...	46656	1.688	3.756	2...H2-1
60	M126	L3X3X4	.169	1.474	9	.035	.522 y	8	44464...	46656	1.688	3.756	2...H2-1
61	M127	L3X3X4	.142	1.474	5	.033	.138 y	4	44464...	46656	1.688	3.756	2...H2-1
62	OVP	PIPE_2.0	.152	3	12	.015	3	12	26521...	32130	1.872	1.872	1...H1-1b

I. Mount-to-Tower Connection Check

Custom Orientation Required

No

Tower Connection Bolt Checks

Yes

Bolt Orientation

Parallel

Bolt Quantity per Reaction:

4

d_x (in) (Delta X of typ. bolt config. sketch):

6

d_y (in) (Delta Y of typ. bolt config. sketch):

6

Bolt Type:

A325N

Bolt Diameter (in):

0.625

Required Tensile Strength / bolt (kips):

2.2

Required Shear Strength / bolt (kips):

0.3

Tensile Capacity / bolt (kips):

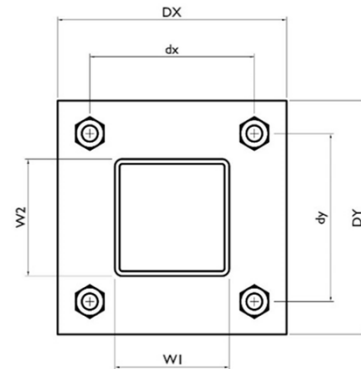
20.7

Shear Capacity / bolt (kips):

12.4

Bolt Overall Utilization:

10.4%



Tower Connection Baseplate Checks

Yes

Connecting Standoff Member Shape:

Rect Tube

Weld Stiffener Configuration:

No Stiffeners

Plate Width, D_x (in):

10

Plate Height, D_y (in):

10

$W1$ (in):

4

$W2$ (in):

4

Member Thickness (in):

0.1875

Stiffener location a_1 (in):

Stiffener location b_1 (in):

Stiffener location a_2 (in):

Stiffener location b_2 (in):

F_y (ksi, plate):

36

Plate Thickness (in):

0.5

Length of Yield Line, L_y (in):

6.29

Bolt Eccentricity, e (in):

1.59

M_u (kip-in):

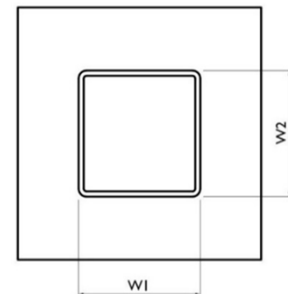
3.44

$\Phi \cdot M_n$ (kip-in):

12.73

Plate Bending Utilization:

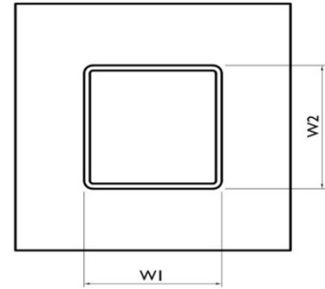
27.0%

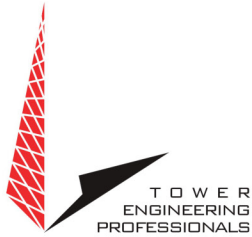


Tower Connection Weld Checks

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

Yes
Rectangle
None
None
6
4
4
16.00
21.33
21.33
85.33
2.1875
2.1875
0.77
8.35
9.2%





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Non-Ionizing Electromagnetic Radiation (NIER) Study

Site Number:

302479

Site Name:

Rkhl - Rocky Hill

Location:

Rocky Hill, Connecticut

Tenants:

AT&T Mobility, & Verizon Wireless

Prepared For:

American Tower, Inc.
Woburn, Massachusetts

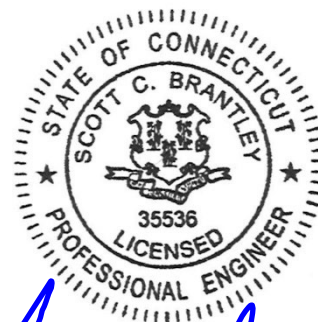
July 1st, 2024

93980 P-405144

Prepared By:

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

Approved By:



Handwritten signature and date: 02/01/24



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RALEIGH, NORTH CAROLINA



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Non-Ionizing Electromagnetic Radiation (NIER) Study

302479 Rkhl - Rocky Hill
Rocky Hill, 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 302479 Rkhl - Rocky Hill is located at 699 West St., in Rocky Hill, Connecticut at coordinates 41.651798, -72.668504. The support structure is a 155' monopole. An aerial view of the tower can be found in Appendix 1, Site Photos. The tenants are AT&T Mobility (AT&T) & Verizon Wireless (VZW). A table listing all antennae and effective radiated power (ERP) levels that were used in this study may be found in Appendix 2, Antenna Inventory.

POWER DENSITY CALCULATIONS

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

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



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

- ATC furnished data and does not include other unidentified communication facilities.
- Load List at Load List at 302479 Rkhl - Rocky Hill.RF NIER Study 6/14/24.
- FCC databases.
- Carrier standard configurations.
- Empirical data collected by TEP.

SITE MITIGATION & CONTROL

In order to comply with FCC, tenant, & ATC requirements, TEP recommends the placement of signage at the following points:

Site Entrance

1. Site ID Sign (tower owner defined)
2. RF Information Sign (Green)

Tower Access Point

1. RF Exposure Sign (Yellow)

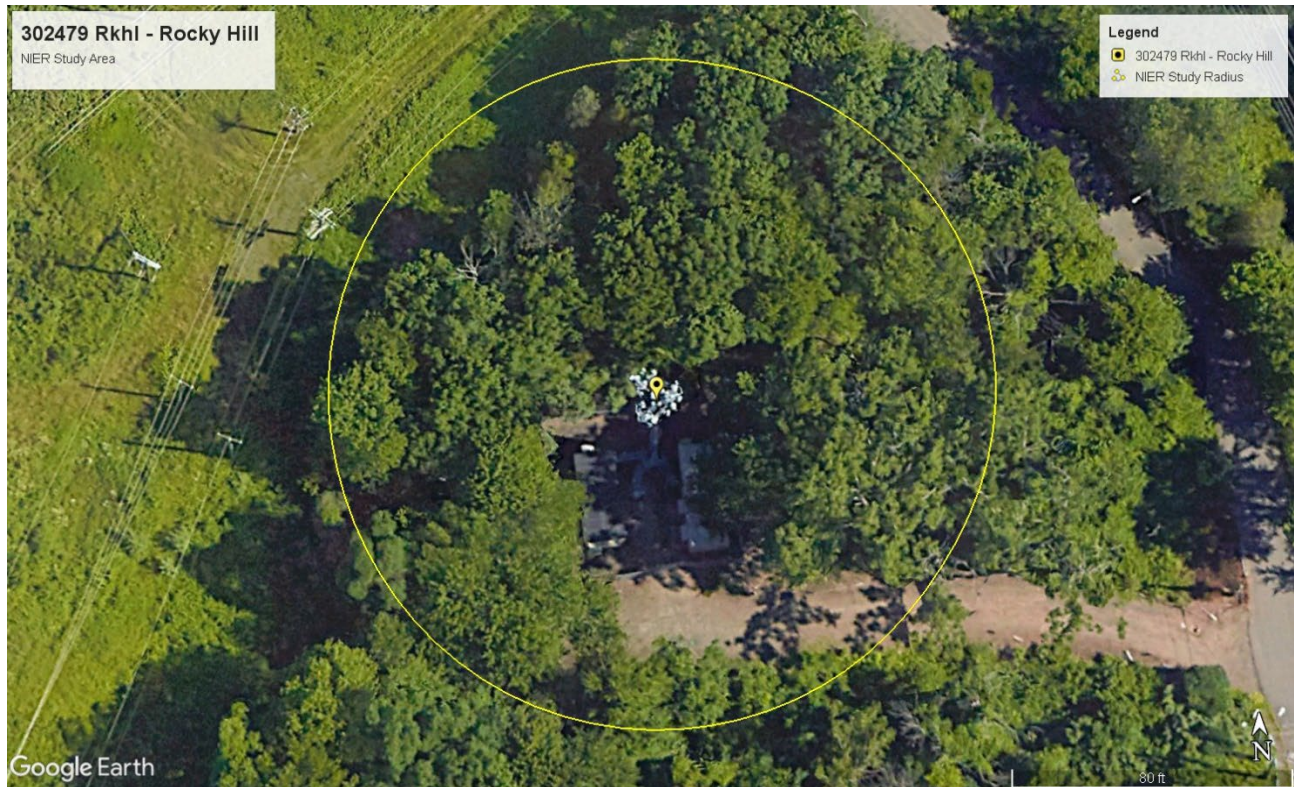
COMPLIANCE DETERMINATION

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



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APPENDIX 1 Site Photos

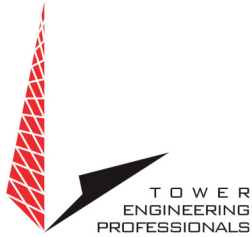


Aerial View of Site



Appendix 2.1 Antenna Inventory

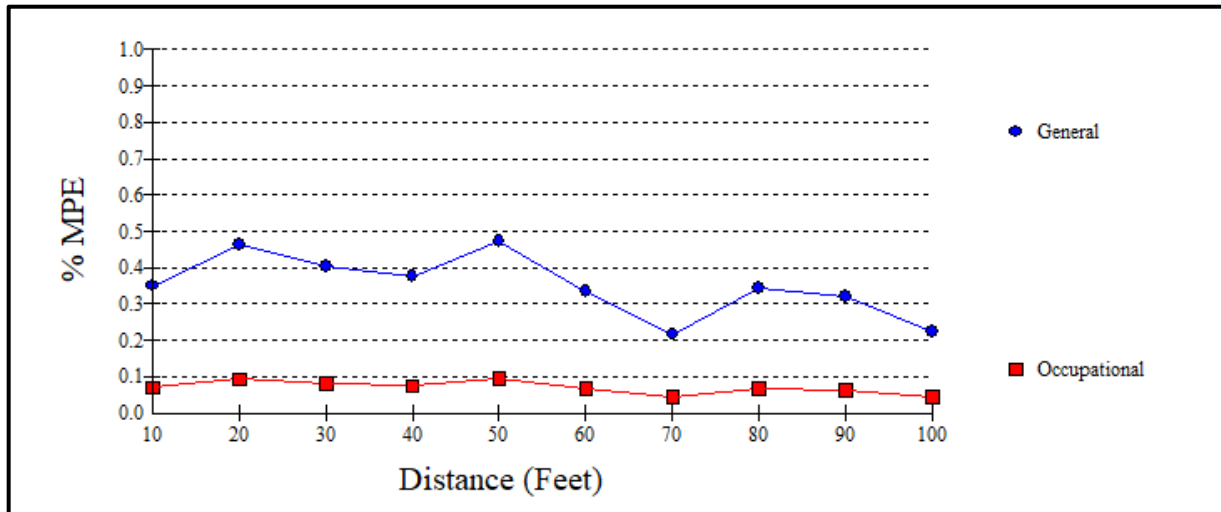
302479 Rkhl - Rocky Hill							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azimuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
1	AT&T	Ericsson	Air6419	3700/3800/3900	019	24345	105
2	AT&T	Ericsson	Air6419	3700/3800/3900	144	24345	105
3	AT&T	Ericsson	Air6419	3700/3800/3900	261	24345	105
4	AT&T	CCI	HPA-65R-BUU-H8	800/1900	040	24830	105
5	AT&T	CCI	HPA-65R-BUU-H8	800/1900	150	24830	105
6	AT&T	CCI	HPA-65R-BUU-H8	800/1900	270	24830	105
7	AT&T	CCI	DMP65R-BU8D	700/800	019	24830	105
8	AT&T	CCI	DMP65R-BU8D	700/800	144	24830	105
9	AT&T	CCI	DMP65R-BU8D	700/800	261	24830	105
10	AT&T	Quintel	QS66512-2	700/800/1900	000	31565	105
11	AT&T	Quintel	QS66512-2	700/800/1900	110	31565	105
12	AT&T	Quintel	QS66512-2	700/800/1900	220	31565	105
13	AT&T	Ericsson	Air6449	3700/3800/3900	019	24345	105
14	AT&T	Ericsson	Air6449	3700/3800/3900	144	24345	105
15	AT&T	Ericsson	Air6419	3700/3800/3900	261	24345	105
16	AT&T	CCI	TPA-65R-BU6DA-K	600	030	12190	105
17	AT&T	CCI	TPA-65R-BU6DA-K	600	150	12190	105
18	AT&T	CCI	TPA-65R-BU6DA-K	600	270	12190	105



Appendix 2.2 Antenna Inventory

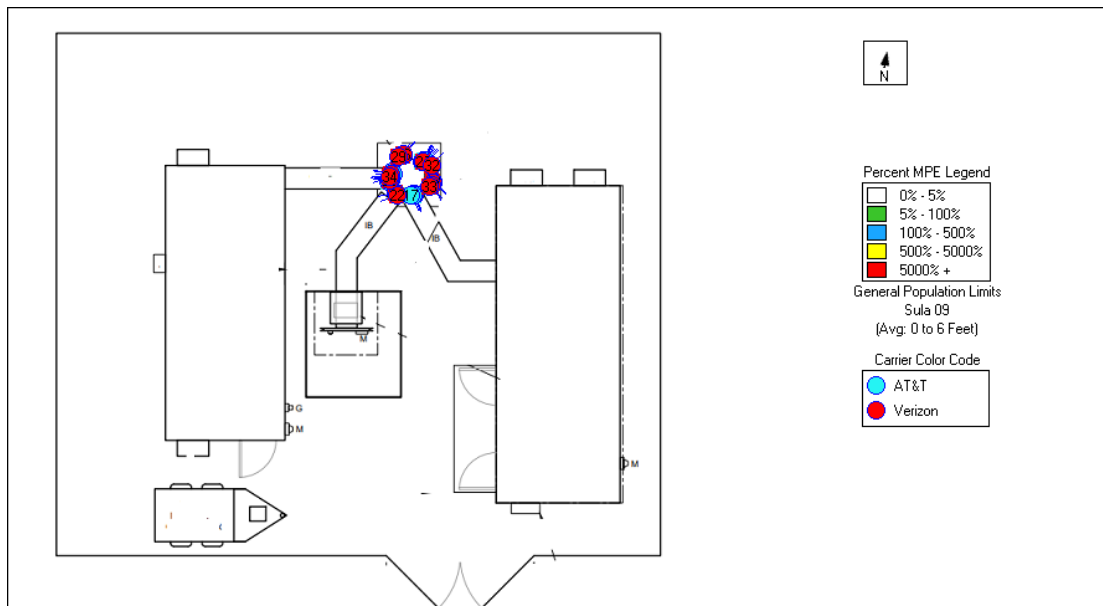
302479 Rkhl - Rocky Hill							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azimuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
19	VZW	Samsung	MT6407-77A	3700/3800/3900	030	14245	91.5
20	VZW	Samsung	MT6407-77A	3700/3800/3900	120	14245	91.5
21	VZW	Samsung	MT6407-77A	3700/3800/3900	240	14245	91.5
22	VZW	Andrew	SBNHH-1D65B	800/2100	030	14245	90
23	VZW	Andrew	SBNHH-1D65B	800/2100	120	14245	90
24	VZW	Andrew	SBNHH-1D65B	800/2100	240	26630	90
25	VZW	Andrew	SBNHH-1D65B	800/2100	030	14245	90
26	VZW	Andrew	SBNHH-1D65B	800/2100	120	14245	90
27	VZW	Andrew	SBNHH-1D65B	800/2100	240	26630	90
28	VZW	Andrew	LNX-6514DS-VTM	800	030	18970	90
29	VZW	Andrew	LNX-6514DS-VTM	800	120	18970	90
30	VZW	Andrew	LNX-6514DS-VTM	800	240	18970	90
31	VZW	Samsung	RT4423-48a	3500/3600	030	2384	87
32	VZW	Samsung	RT4423-48a	3500/3600	120	2384	87
33	VZW	Samsung	RT4423-48a	3500/3600	120	2384	87

Appendix 3.1 MPE Limit Study



Maximum Power Density (@50'):	0.0030 mW/cm ²
General Population MPE (@50'):	0.4731%
Occupational MPE (@50'):	0.0946%

Appendix 3.2 MPE Limit Study



Appendix 4 RF Hazard Signs

RF Safety Exposure Categorization								
Exposure Conditions	Control Measures	Signage						
- Operational of the source(s) or locations where RF fields are too weak to cause exposures greater than General Public limit. <table border="1"> <tr> <th>Cat.</th><th>Occupational Worker</th><th>General Public</th></tr> <tr> <td>1</td><td><20%</td><td><100%</td></tr> </table> - Green zone is where the time and spatial-average is below 20% of Occupational Worker limit or <100% of General Public limit.	Cat.	Occupational Worker	General Public	1	<20%	<100%	- RF Safety Guideline/NIER report must be submitted to RFSO for approval. - No special EME safety practices required in these areas. - No signage required except Information sign.	 *the antenna owner information and Antenna Structure Registration Number and must be displayed on the sign. INFORMATION sign for access to rooftop/access door.
Cat.	Occupational Worker	General Public						
1	<20%	<100%						
- Operational of the source(s) or locations where RF exposure could cause exposure greater than General Public limit but not the Occupational Worker limit to be exceeded in accessible areas. <table border="1"> <tr> <th>Cat.</th><th>Occupational Worker</th><th>General</th></tr> <tr> <td>2</td><td>≥20% but <100%</td><td>>100%</td></tr> </table> - Blue zone is where the spatial average is between 20%-100% of Occupational Worker limit. This limit MUST be less than the Occupational limit.	Cat.	Occupational Worker	General	2	≥20% but <100%	>100%	- RF Safety Guideline/NIER report must be submitted to RFSO for approval. - Recommended RF safety awareness training for all workers in this area. - Controlled areas with barriers and/or signage required in these area. - Do not walk in front of the antenna face or no loitering in this controlled area. - Individual MUST have full control over any area where the exposure levels exceed the limit.	 NOTICE signage shall be posted on the barriers/stanchion to prevent anyone from entering into the area (must be cordon off around the antennas - 4 posts /3 signs). Or must be posted in location that can be easily viewed by individuals that enter the areas of concerns.
Cat.	Occupational Worker	General						
2	≥20% but <100%	>100%						
- Operational of the source(s) or locations where RF exposure exceeded the Occupational Worker limit in accessible areas. <table border="1"> <tr> <th>Cat.</th><th>Occupational Worker</th><th>General Public</th></tr> <tr> <td>3</td><td>≥100%</td><td>≥500%</td></tr> </table> - Yellow zone is where the spatial average is above 100% of Occupational Worker limit.	Cat.	Occupational Worker	General Public	3	≥100%	≥500%	- RF Safety Guideline/NIER report must be submitted to RFSO for approval. - Individual shall not enter and work in these areas without RS approval - Required RF safety training and access area is restricted only for authorized worker. - Controlled areas with barriers and signage required in these area. - Do not walk in front of the antenna face. - Require reduction of RF power and approval from Radiation Safety prior any work on the antennas.	 CAUTION signage shall be posted on the barriers/stanchion to prevent anyone from entering into the area (must be cordon off around the antennas - 4 posts /3 signs).
Cat.	Occupational Worker	General Public						
3	≥100%	≥500%						
- Exposure will exceed exposure limit in accessible areas. <table border="1"> <tr> <th>Cat.</th><th>Occupational Worker</th><th>General Public</th></tr> <tr> <td>4</td><td>>500%</td><td>>1000%</td></tr> </table> - Red zone is where the time and spatial-averaged levels fall above 500% of Occupational Worker limit or is not feasible to prevent exposures.	Cat.	Occupational Worker	General Public	4	>500%	>1000%	- RF Safety Guideline/NIER report must be submitted to RFSO for approval. - MUST re-engineer site to reduce the EME fields. No access allowed-Prohibited access! There must be controls to detect any unauthorized enter and terminate the RF energy in the area. - Lock out tag out of transmitters during the maintenance of the antenna system. - PPE is not sufficient. - Special RF training and PPE are required. (Applies only to individuals trained by RS).	 RF WARNING & Pacemaker DANGER signage or appropriate DANGER sign shall be posted very near radiation RF sources or if appropriate DANGER sign.
Cat.	Occupational Worker	General Public						
4	>500%	>1000%						



Appendix 5 Information Pertaining to MPE Studies

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

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

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

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



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

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

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



Appendix 6 MPE Standards Methodology

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

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



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

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

f = frequency

* = Plane-wave equivalent power density



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

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

f = frequency

* = Plane-wave equivalent power density

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

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



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

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

Cylindrical Model (Near Field Predictions)

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

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

Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length



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

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

Where:

S = Power Density

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

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

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



Spherical Model (Far Field Predictions)

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

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

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

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

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

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

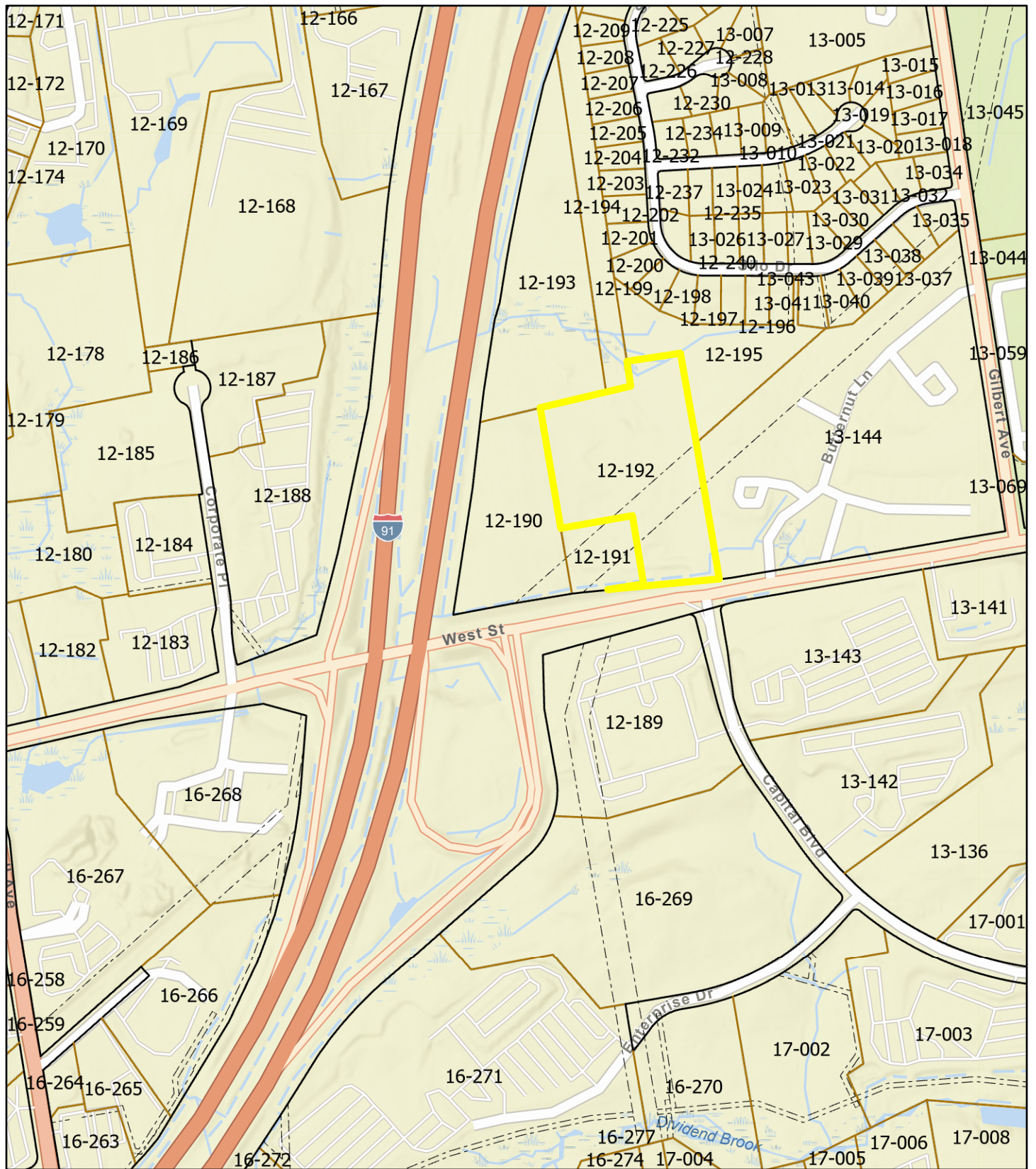
R = Distance from the antenna

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



CAI Technologies
Precision Mapping. Geospatial Solutions.

www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2023.



Information on the Property Records for the Municipality of Rocky Hill was last updated on 7/19/2024.



Parcel Information

Location:	699 WEST STREET	Property Use:	Vacant Land	Primary Use:	Pub Util Land
Unique ID:	001195	Map Block Lot:	12-192	Acres:	9.9800
490 Acres:	0.00	Zone:	R-20	Volume / Page:	0139/0448
Developers Map / Lot:		Census:	5242		

Value Information

	Appraised Value	Assessed Value
Land	1,099,600	769,720
Buildings	0	0
Detached Outbuildings	294,200	205,940
Total	1,393,800	975,660

Owner's Information

Owner's Data

CONNECTICUT LIGHT + POWER CO THE
PO BOX 270
HARTFORD, CT 06141-0270

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Other Improvements	2018	0.00	0.00	1
Frame Shed	2003	0.00	0.00	360
Frame Shed	2003	0.00	0.00	312
Cell Tower	2008	0.00	0.00	150

Owner History - Sales

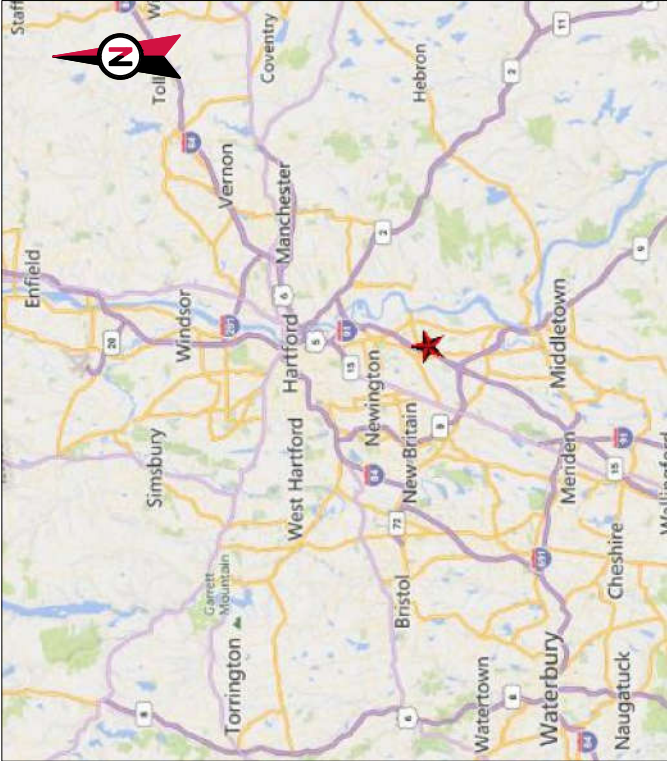
Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price
CONNECTICUT LIGHT + POWER CO THE	0139	0448	07/01/1982		\$0

Building Permits

Permit Number	Permit Type	Date Opened	Reason
2022-682	T: ROOFING	12/07/2022	ROOF: REMOVE EXISTING MEMBRANE AND EDGE METAL. INSULATION TO REMAIN
2022-178	T: COMMERCIAL	04/28/2022	Remove 3 Antennas And Install 12 Antennas On Existing Tower, And Remove A Bbu And Install Equipment
2021-591	T: COMMERCIAL	11/03/2021	Verizon Wireless Proposes To Modify Their Existing Mount, Replace (3) Antennas, 6 Rru's 1 Ovp 2 Hybr
2018-428	T: COMMERCIAL	04/25/2018	At&T, An Existing Tenant On The Existing Tower Desires To Modify Its Existing Te Lecomunications Fa

Permit Number	Permit Type	Date Opened	Reason
2017-323	T: REMODEL	01/18/2017	Verizon Wireless Is Replacing Antenna Panels And Remote Radio Heads With New Mo Dels To Existing Ce
2013-0266	T: COMMERCIAL	03/07/2013	Install Antenna's And All Related Equipment
2013-0148	T: ELECTRIC	11/30/2012	Wiring For Antennas
2013-0079	T: COMMERCIAL	09/07/2012	Replace And Wire Anttenas On Existing Tower Cl+ P Owner

Information Published With Permission From The Assessor





AMERICAN TOWER®

ATC SITE NAME: RKHL - ROCKY HILL
ATC SITE NUMBER: 302479
VERIZON SITE NAME: ROCKY HILL 4 CT
VERIZON SITE NUMBER: 5000179983
VERIZON FUZE PID: 16502069
SITE ADDRESS: 699 WEST STREET
ROCKY HILL, CT 06067



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
Δ	FOR CONSTRUCTION	JLR	07/12/24
Δ			
Δ			
Δ			
Δ			

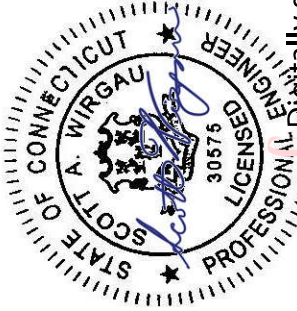
ATC SITE NUMBER:
302479

ATC SITE NAME:
RKHL - ROCKY HILL

VERIZON SITE NAME:
ROCKY HILL 4 CT

SITE ADDRESS:
699 WEST STREET
ROCKY HILL, CT 06067

SEAL:



Scott Wirgau
by Scott Wirgau
Date: 2024.07.13
12:22:00 -04'00'



TITLE SHEET	
SHEET NUMBER: G-001	REVISION: 0

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. 1. 2020 NFPA 70, NATIONAL ELECTRIC CODE (NEC) 2. 2022 CONNECTICUT STATE BUILDING CODE 3. 2021 INTERNATIONAL BUILDING CODE (IBC) DESIGN CRITERIA FROM TOWER STRUCTURAL ANALYSIS: BASIC WIND SPEED: 118 MPH (3-SECOND GUST) BASIC WIND SPEED W/ ICE: 50 MPH (3-SECOND GUST) W/ 1.50" RADIAL ICE CONCURRENT ANSI/TIA-222-H / 2021 IBC / 2022 CONNECTICUT STATE BUILDING CODE B II METHOD 1 TOPOGRAPHIC CATEGORY: 1 SPECTRAL RESPONSE: S_s=0.20, S_i=0.06 SITE CLASS: D - STIFF SOIL - DEFAULT INFORMATION TAKEN FROM STRUCTURAL ANALYSIS COMPLETED BY A.T. ENGINEERING SERVICES LLC, DATED 06/24/2024.		<u>SITE ADDRESS:</u> 699 WEST STREET ROCKY HILL, CT 06067 COUNTY: HARTFORD <u>REGISTERED COORDINATES:</u> LATITUDE: 41.65176389 41° 39' 6.35" N LONGITUDE: -72.66847222 72° 40' 6.5" W GROUND ELEVATION: 200' AMSL		THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: REMOVE (3) ANTENNA(s), (6) RRH(s), AND (6) 1-5/8" COAX CABLE(s) INSTALL MOUNT MODIFICATIONS, (3) SIDE-BY-SIDE MOUNT(s), (6) ANTENNA(s), AND (6) RRH(s) EXISTING (9) ANTENNA(s), (2) OVP(s), AND (6) 1-5/8" COAX / (2) 1-5/8" 6X12 HYBRID CABLE(s) TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
					G-001	TITLE SHEET	0	07/12/24	JLR
					G-002	GENERAL NOTES	0	07/12/24	JLR
					C-101	DETAILED SITE PLAN	0	07/12/24	JLR
					C-201	TOWER ELEVATION	0	07/12/24	JLR
					C-401	ANTENNA INFORMATION & SCHEDULE	0	07/12/24	JLR
					C-501	CONSTRUCTION DETAILS	0	07/12/24	JLR
					E-501	GROUNDING DETAILS	0	07/12/24	JLR
						SUPPLEMENTAL SHEETS (4 PAGES)			

GENERAL CONSTRUCTION NOTES:

1.

OWNER FURNISHED MATERIALS: VERIZON "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
2.

A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)

B. ACTELCO 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
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.

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

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 CONSTRUCTOR 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 MEMPHIS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND VERIFICATION BY THE VERIZON REP. ANY WORK DONE BY THE VERIZON REP TO BE OF SUPERIOR 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 APURTENANCES 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.

SPECIAL CONSTRUCTION
ANTENNA INSTALLATION NOTES:

1.

WORK INCLUDED:

A.

ANTENNA AND COAXIAL/HYBRID CABLES ARE FURNISHED BY VERIZON UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
- B.

INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND VERIZON SPECIFICATIONS.
- C.

INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
- D.

INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
- E.

INSTALL COAXIAL/HYBRID CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL/HYBRID CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
2.

ANTENNA AND COAXIAL/HYBRID CABLE GROUNDING:

A.

ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

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

AMERICAN TOWER®

A.T. ENGINEERING SERVICES LLC

1 FENTON MAIN

SUITE 300

CARY, NC 27511

PHONE: (919) 468-0112

PEC.0001553

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REV.	DESCRIPTION	BY	DATE
01	FOR CONSTRUCTION	JLR	07/12/24

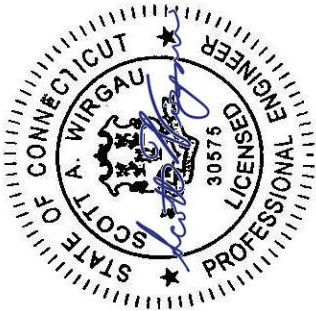
ATC SITE NUMBER:
302479

ATC SITE NAME:
RKHL - ROCKY HILL

VERIZON SITE NAME:
ROCKY HILL 4 CT

SITE ADDRESS:
699 WEST STREET
ROCKY HILL, CT 06067

SEAL:



Digitally Signed: 2024-07-13

ATC JOB NO:	14861766_G0
CUSTOMER ID:	ROCKY HILL 4 CT
CUSTOMER #:	5000179983

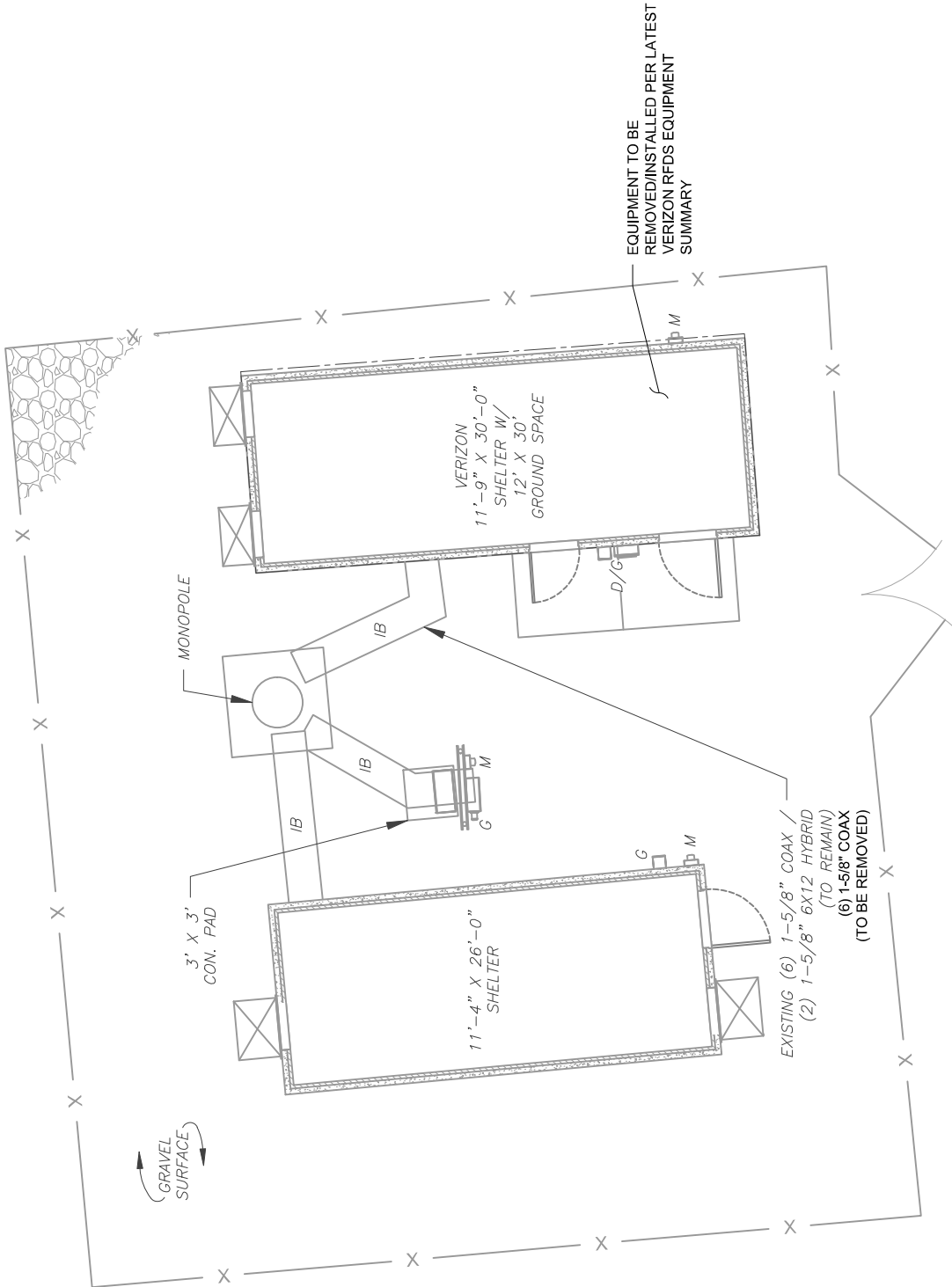
GENERAL NOTES

SHEET NUMBER: G-002	REVISION: 0
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SITE PLAN NOTES:

1. 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.
2. 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.
3. NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

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



1

DETAILED SITE PLAN

GRAPHIC SCALE

10 0 5 10

(IN FEET)

1 UNIT = 10 FEET



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REV.	DESCRIPTION	BY	DATE
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Δ			
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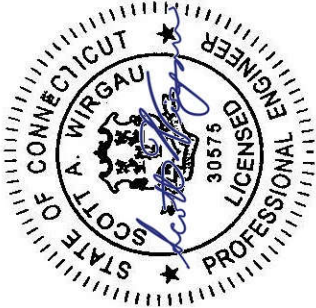
ATC SITE NUMBER:
302479

ATC SITE NAME:
RKHL - ROCKY HILL

VERIZON SITE NAME:
ROCKY HILL 4 CT

SITE ADDRESS:
699 WEST STREET
ROCKY HILL, CT 06067

SEAL:



Digitally Signed: 2024-07-13

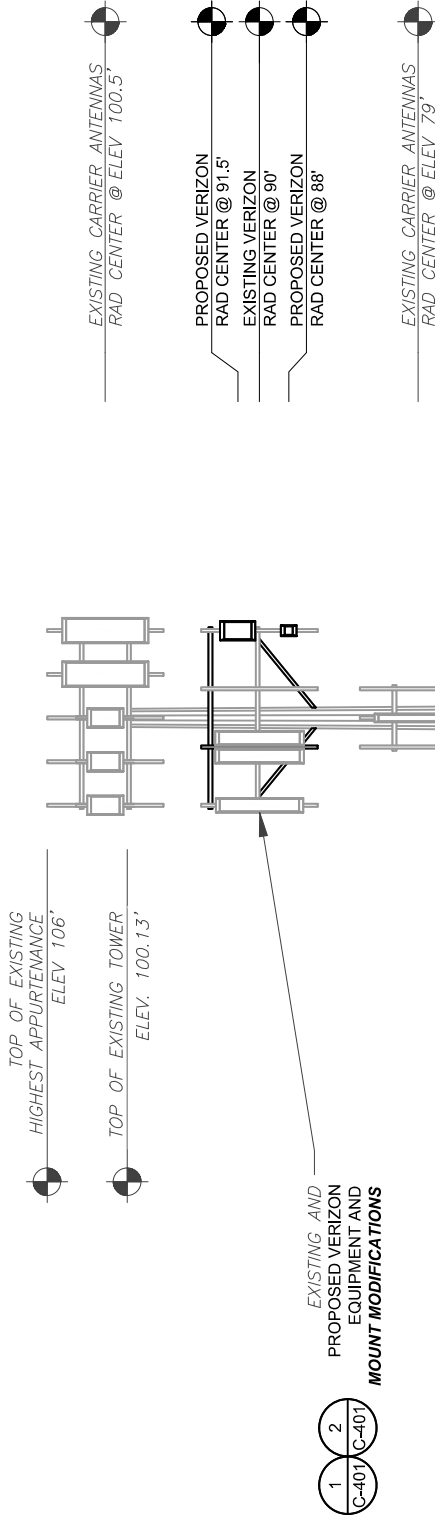
ATC JOB NO:	14861766_G0
CUSTOMER ID:	ROCKY HILL 4 CT
CUSTOMER #:	5000179983

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

FAA REGISTERED HEIGHT: 108' AGL

PER MOUNT ANALYSIS COMPLETED BY COLLIER'S
ENGINEERING & DESIGN, DATED 06/12/2024, THE
EXISTING MOUNT MUST BE MODIFIED TO
ADEQUATELY SUPPORT THE PROPOSED
LOADING. THE MOUNT MODIFICATION DETAILED
AT THE END OF THIS PLAN SET, MUST BE
INSTALLED PRIOR TO THE INSTALLATION OF THE
PROPOSED ANTENNAS AND OTHER EQUIPMENT.



EXISTING (6) 1-5/8" COAX /
(2) 1-5/8" 6X12 HYBRID
(TO REMAIN)
(6) 1-5/8" COAX
(TO BE REMOVED)

EXISTING TOWER

EXISTING GRADE
ELEV 0'

1 TOWER ELEVATION
SCALE: N.T.S.

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

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



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ATC SITE NUMBER:

302479

ATC SITE NAME:

RKHL - ROCKY HILL

VERIZON SITE NAME:

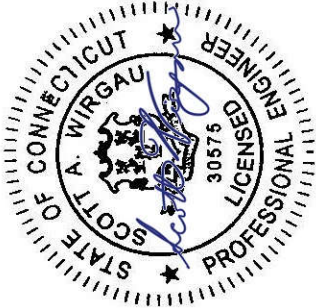
ROCKY HILL 4 CT

SITE ADDRESS:

699 WEST STREET

ROCKY HILL, CT 06067

SEAL:



Digitally Signed: 2024-07-13

verizon

ATC JOB NO:

14861766_G0

CUSTOMER ID:

ROCKY HILL 4 CT

CUSTOMER #:

5000179983

TOWER ELEVATION

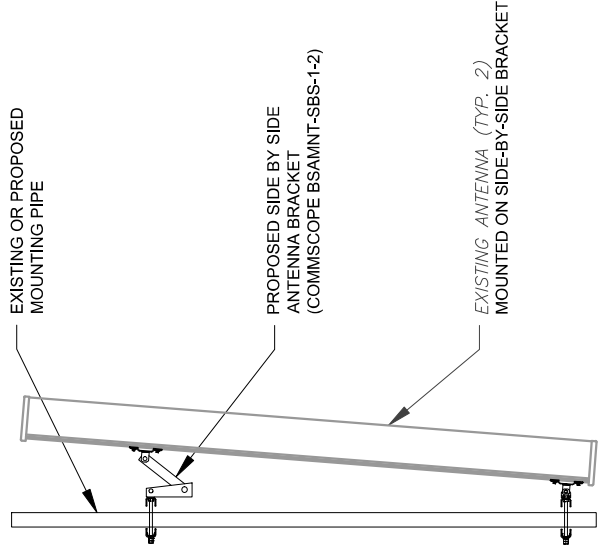
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C-201

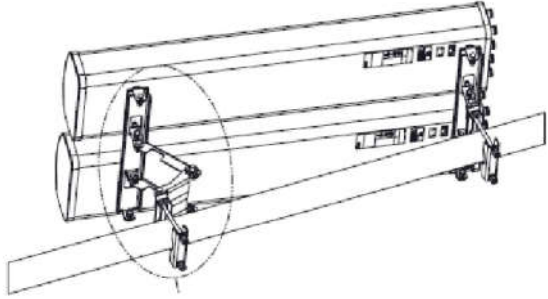
REVISION:

0

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



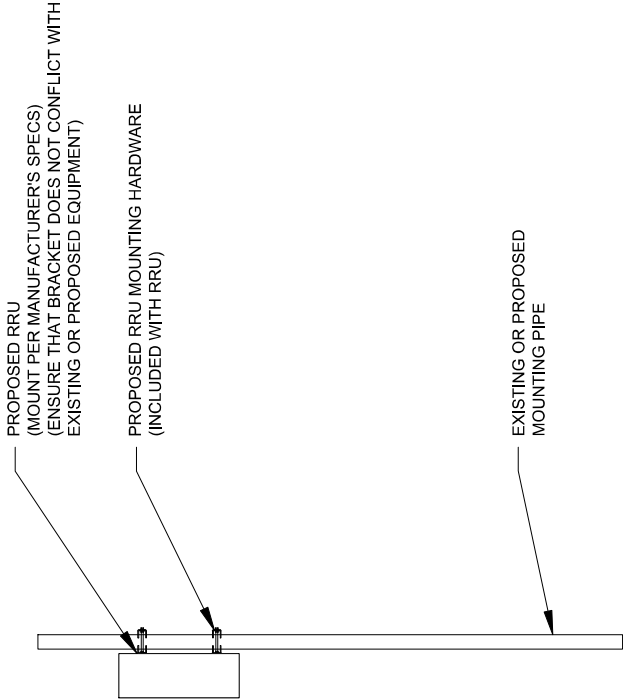
PROFILE VIEW



ISOMETRIC VIEW (BY MANUFACTURER)

1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



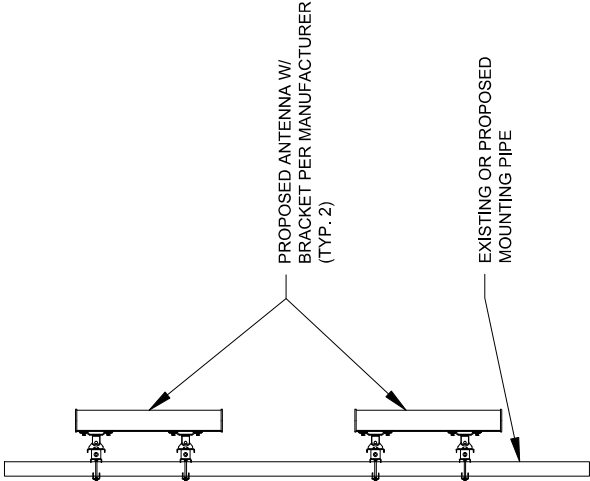
3 PROPOSED RRU MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.

2

PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.





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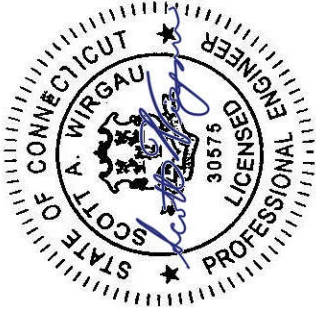
REV.	DESCRIPTION	BY	DATE
Δ0	FOR CONSTRUCTION	JLR	07/12/24

ATC SITE NUMBER:
302479
ATC SITE NAME:

RKHL - ROCKY HILL
VERIZON SITE NAME:
ROCKY HILL 4 CT

SITE ADDRESS:
699 WEST STREET
ROCKY HILL, CT 06067

SEAL:

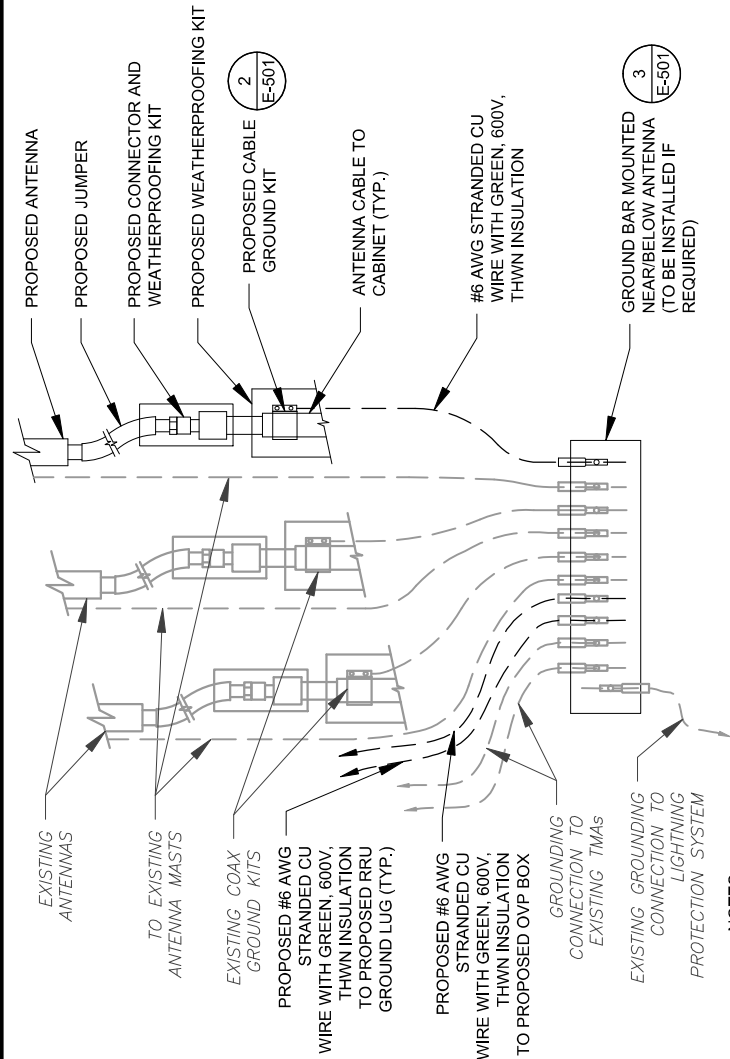


Digitally Signed: 2024-07-13

	
ATC JOB NO:	14861766_G0
CUSTOMER ID:	ROCKY HILL 4 CT
CUSTOMER #:	5000179983

CONSTRUCTION
DETAILS

SHEET NUMBER:	REVISION:
C-501	0

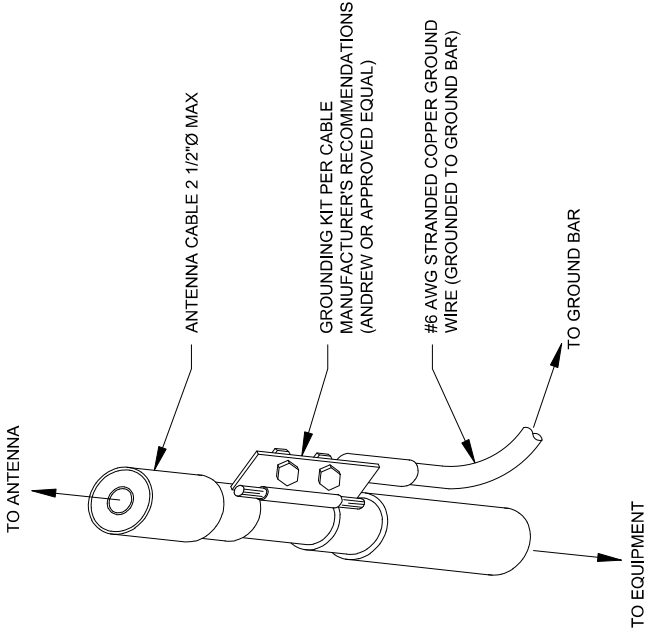


NOTES:

- 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.
- 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.

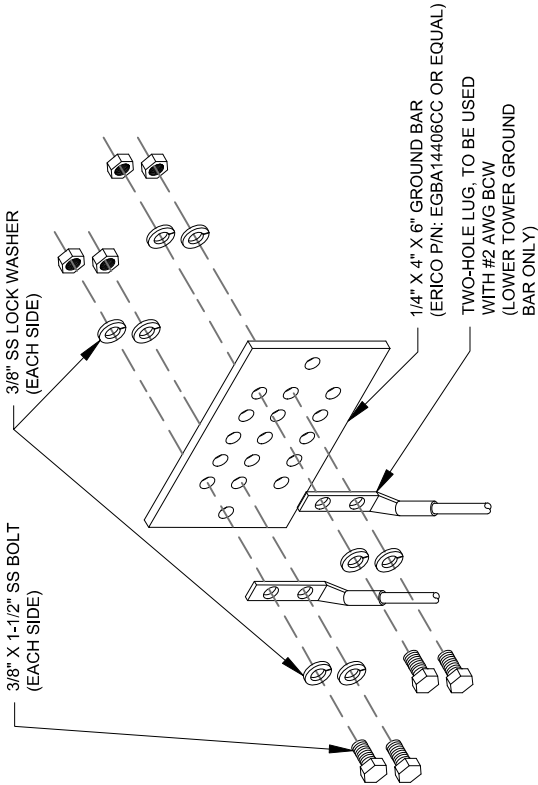


GROUND KIT NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- 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:

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

3 TOWER GROUND BAR DETAIL

SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
Δ0	FOR CONSTRUCTION	JLR	07/12/24
Δ1			
Δ2			
Δ3			
Δ4			

ATC SITE NUMBER:

302479

ATC SITE NAME:

RKHL - ROCKY HILL

VERIZON SITE NAME:

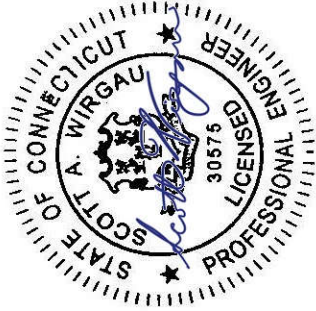
ROCKY HILL 4 CT

SITE ADDRESS:

699 WEST STREET

ROCKY HILL, CT 06067

SEAL:



Digitally Signed: 2024-07-13



ATC JOB NO:	14861766_G0
CUSTOMER ID:	ROCKY HILL 4 CT
CUSTOMER #:	5000179983

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0



Colliers Engineering & Design,
Architecture, Landscape Architecture,
Surveying, CT P.C.
2000 Midlantic Drive Suite 100
Mt. Laurel, NJ 08054
856.797.0412
peter.albano@collierseng.com



Mount Post-Modification Analysis Report
(1) 12.00-Ft Platform
Site ID: 5000179983-VZW / ROCKY HILL 4 CT
June 12, 2024
Page | 6

Requirements:

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

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

Attachments:

- Contractor Required PMI Report Deliverables
- Antenna Placement Diagrams
- Mount Modification Drawings
- Mount Photos
- Mount Mapping Report (for reference only)
- Analysis Calculations

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix
SMART Tool Project #: 10238424
Colliers Engineering & Design Project #: 21777941A (Rev 3)
June 12, 2024

Site Information

Site ID: 5000179983-VZW / ROCKY HILL 4 CT
Site Name: ROCKY HILL 4 CT
Carrier Name: Verizon Wireless
Address: 2 West Street
Rocky Hill, Connecticut 06067
Hartford County
Latitude: 41.651764°
Longitude: -72.668472°

Structure Information

Tower Type: 107-Ft Monopole
Mount Type: 12.00-Ft Platform
FUZE ID # 16502069

Analysis Results

Platform: 36.1% Pass w/ Modifications*

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

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

Report Prepared By: Vincent DiGirolamo



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



MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4

































































[illegible]

VZW
SMART Tool®
Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: JRM	CHECKED BY: MAM/VA	DATE: 08/12/2021	
DESIGNED BY: JRM		DATE: 08/12/2021	
APPROVED BY: JRM		DATE: 08/12/2021	
SHEET TITLE:			
SHEET NO.:			
PROJECT NAME:			
VZW-SMART-MSK13		UNIVERSAL CHANNEL CROSSOVER	
REV: 3		REV: 3	
VZW-SMART-MSK13		UNIVERSAL CHANNEL CROSSOVER	

TOP VIEW

SIDE VIEW

FRONT VIEW

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT.
1	1	2514-025-01	PL 3/8" X 1 1/2" X 1 1/8" ASB BENT PLATE	14/23	
2	1	2514-025-02	PL 3/8" X 1 1/2" X 1 1/8" ASB BENT PLATE	14/23	
3	8	W003-F1	W003-F1	---	
4	8	W003-F1	W003-F1	---	
5	8	W003-F1	W003-F1	---	
6	8	W003-F1	W003-F1	---	
7	8	W003-F1	W003-F1	---	
8	8	W003-F1	W003-F1	---	
9	8	W003-F1	W003-F1	---	
10	8	W003-F1	W003-F1	---	

UNIVERSAL CHANNEL CROSSOVER

NOTES:

1. HOT-DIPPED GALVANIZED PER ASTM A123.

[illegible]

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1 MOUNT MODIFICATIONS

ORIGIN ID: SYRA (315) 569-9241
 CASSANDRA DARMODY
 PYRAMID NETWORK SERVICES LLC
 6615 TOWMPATH RD

SHIP DATE: 19 JUL 24
 ACTWGT: 0.50 LB
 CAD: 114425996/INET4730

E SYRACUSE, NY 13057
 UNITED STATES US

BILL SENDER

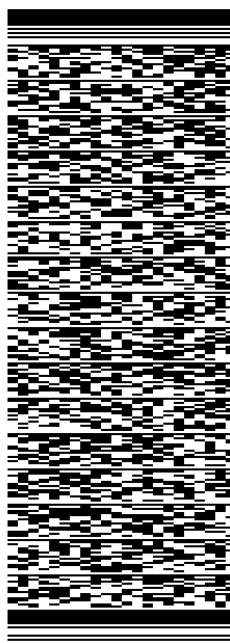
TO LISA MARROTTA OR KIM RICCI

TOWN OF ROCKY HILL
 761 OLD MAIN STREET

ROCKY HILL CT 06067

(860) 258-2761 REF: ATONV2000 ROCKYHILL 14861766
 INV: ATONV2000 ROCKYHILL 14861766
 PO: ATONV2000 ROCKYHILL 14861766 DEPT:

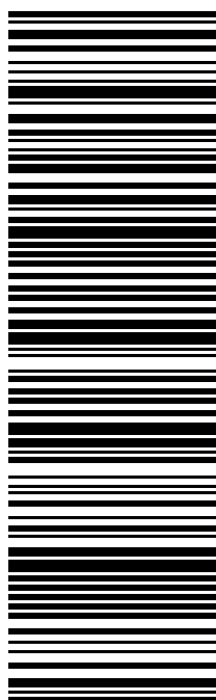
583J9/E0E4/9AE3



TRK# 7775 0749 9130
 0201

WED - 24 JUL 5:00P
 EXPRESS SAVER

4Z SWNDG 06067
 CT-US BDL



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ORIGIN ID: SYRA (315) 569-9241
 CASSANDRA DARMODY
 PYRAMID NETWORK SERVICES LLC
 6615 TOWPATH RD
 E SYRACUSE, NY 13057
 UNITED STATES US

SHIP DATE: 19 JUL 24
 ACTWGT: 0.50 LB
 CAD: 114425996/NET4730
 BILL SENDER

TO PROPERTY MANAGEMENT

CONNECTICUT LIGHT AND POWER CO

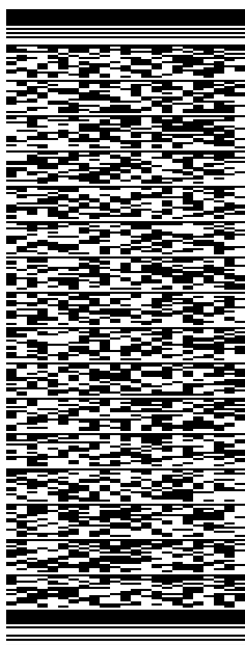
266 PEARL STREET

PO BOX 270 HARTFORD CT 06141

HARTFORD CT 06103

(800) 286-2000 REF: ATCONV2000 ROCKYHILL 14861766
 INV: ATCONV2000 ROCKYHILL 14861766
 PO: ATCONV2000 ROCKYHILL 14861766 DEPT:

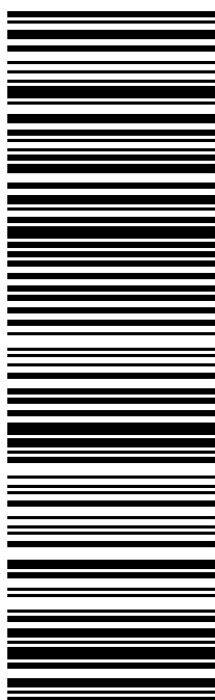
583J9/E0E4/9AE3



TRK# 7775 0763 5867
 0201

WED - 24 JUL 5:00P
 EXPRESS SAVER

4Z SWNDG 06103
 CT-US BDL



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 CASSANDRA DARMODY
 PYRAMID NETWORK SERVICES LLC
 6615 TOWPATH RD

SHIP DATE: 19 JUL 24
 ACTWGT: 0.50 LB
 CAD: 114425996/NET4730

E SYRACUSE, NY 13057
 UNITED STATES US

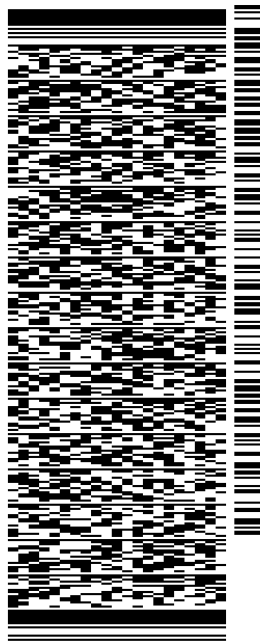
BILL SENDER

TO **LAND MANGEMENT**
AMERICAN TOWER CORP
10 PRESIDENTIAL WAY

WOBURN MA 01801

(919) 306-1512 REF: ATONV2000 ROCKYHILL 14861766
 INV: ATONV2000 ROCKYHILL 14861766
 PO: ATONV2000 ROCKYHILL 14861766 DEPT:

583J9/E0E4/9AE3

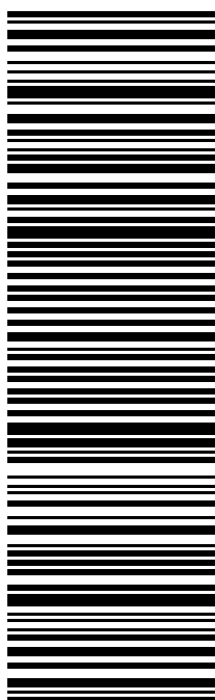


J243024071301uv

TRK# 7775 0756 3187
 0201

WED - 24 JUL 5:00P
 EXPRESS SAVER

4Z WLMGG 01801
 MA-US BOS



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