

July 25, 2024

Via Electronic and U.S. Mail

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

Re: **Notice of Exempt Modification – Facility Modification
1825 South Main Street (a/k/a 1279 Long Hill Road), Middletown, Connecticut**

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains an existing wireless telecommunications facility at the above-referenced property address (the “Property”). The facility consists of antennas on an existing tower and associated equipment on the ground, near the base of the tower. The tower was approved by the City of Middletown in September of 1999. Cellco’s shared use of the tower was approved by the Siting Council (“Council”) in March of 2000 (TS-VER-083-000214). A copy of the City’s tower approval and the Council’s tower share approval are included in Attachment 1.

Cellco now intends to modify its facility by removing six (6) antennas and nine (9) remote radio heads (“RRHs”) and installing three (3) new antennas and six (6) RRHs utilizing its existing antenna platform and antenna mounts. A set of project plans showing Cellco’s proposed facility modifications and the specifications for Cellco’s new antennas and RRHs are included in Attachment 2.

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

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

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

29443502-v1

Melanie A. Bachman, Esq.

July 25, 2024

Page 2

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

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

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

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

6. According to the attached Structural Analysis Report ("SA") and Antenna Mount Analysis Report ("MA")¹, the existing tower, tower foundation and antenna mounts, with certain modifications, can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4.

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

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

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Benjamin Florsheim, Mayor
Marek Kozilowski, Director of Land Use
SBA, Property Owner
Aleksey Tyurin

¹ In addition to the new antennas described above, the SA and MA includes three (3) APL866513 antennas in the final loading table. These antennas are "place holders" for leasing purposes and will not be installed as a part of this modification proposal.

ATTACHMENT 1

LEGAL NOTICE

NOTICE OF DECISION BY THE MIDDLETOWN PLANNING AND ZONING COMMISSION at its meeting of September 8, 1999

1. Granted a waiver of the road and sidewalk standards for Steeplegate Subdivision (formerly Sunrise Farms) with the condition that: 1) the Association maintain the sidewalks; and 2) each lot have a hammerhead or circle to allow turning and a fifty (50) foot setback. Applicant/agent Attorney Michael Dowley S95-15
2. Approved a request for reduction of the cash bond for Old Farms Subdivision, Phase 3. Applicant/agent Old Farms Associates/Robert C. Fusari, President S88-7
3. Granted Final Approval of the first portion of Greenview Terrace in The Meadows at Riverbend Subdivision, Section 4 with the condition that a cash bond in the amount of \$75,000 be posted. Applicant/agent Tuttle Road Associates/Robert C. Fusari, President S95-6
4. Granted a Special Exception for a wireless communication facility to be located on the west side of South Main Street south of Brush Hill Road. Applicant/agent SBA Inc./Sprint PCS SE99-7
5. Granted a Special Exception for a golf course, clubhouse and maintenance facilities, and uses accessory, thereto to be located between Mile Lane, Tuttle Road, Ridgewood Road and Newfield Street. Applicant/agent Quattro Development Corp./Mark H. Quattro SE99-6

W. Lee Osborne, Chairman
Planning and Zoning Commission

P. O. No. 2000-00673, Account No. 067419

The above legal notice to appear in the Hartford Courant ONCE

Thursday, September 16, 1999

THE MUNICIPAL BUILDING IS WHEELCHAIR ACCESSIBLE

March 6, 2000

Sandy M. Carter
Bell Atlantic Mobile
20 Alexander Drive
P.O. Box 5029
Wallingford, CT 06492

RE: TS-BAM-083-000214 - Cellco Partnership d/b/a Bell Atlantic Mobile request for an order to approve tower sharing at an existing telecommunications facility located at 1825 South Main Street in Middletown, Connecticut.

Dear Ms. Carter:

At a public meeting held March 1, 2000, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This change is under the exclusive jurisdiction of the Council. Any additional change to this facility will require an explicit request to this agency pursuant to § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated February 11, 2000.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/RKE/jlh

c: Honorable Domenique S. Thornton, Mayor, City of Middletown
Mike Loucy, Site Development Manager, Sprint PCS

ATTACHMENT 2

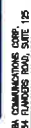
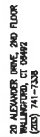


1279 LONG HILL ROAD
MIDDLETOWN, CT 06457
MIDDLESEX COUNTY

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS INSTALLATION ON EXISTING 158'± MONOPOLE

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 12/29/24
ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 07/11/24 (BY COLLIER ENGINEERING & DESIGN)
ANTENNA SUPPORT STRUCTURE (158" MONOPOLE) STRUCTURAL ANALYSIS DATE: 01/16/24 (BY TOWCH ENGINEERING SOLUTIONS)



R.J. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.rjexecutivecentering.com



	CHECKED BY: <i>[Signature]</i>	JMT
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[illegible]

MIDDLETOWN 2 CT
1270 LONG HILL ROAD
MIDDLETOWN, CT 06457

VZM LOCATION CODE:	4400237
MDC LOCATION ID:	500525378
FLUZE PROJECT ID:	16488048

THE QUEST

QUESTIONS

T01

SITE INFORMATION

VERIZON LOCATION CODE:	494027	MIDDLE TOWN 2 CT	CT01945	LONG HILL #1	187156 177	5004262678	187494741	1279 LONG HILL ROAD MIDDLE TOWN, CT 06457	SJA PROPERTIES INC 1000 WEST 10TH AVE POCAHONTAS, VA 22681	SJA PROPERTIES, LLC 801 CONQUEST AVENUE POCAHONTAS, VA 22687	PHILIP H. SCHAUB 501 241 9550	MIDDLESEX COUNTY, CT	(R34) RESIDENTIAL	MONOTONE	151 ±	169 ±	310 ±	48 ±	COAST OF BOSTON MONOTONE 144° 38' 40" E (14.5°) (RAD 01) W 77° 40' 14" E (77.667°) (RAD 01)	CHAPPELL ENGINEERING ASSOCIATES, LLC 1000 WEST 10TH AVE, SUITE 101 POCAHONTAS, VA 22681
VERIZON SITE NAME:	SJA SITE NUMBER:	SJA SITE NAME:	SJA COLOR APP NUMBER:	WAS LOCATION ID:	FUZE PROJECT ID:	SITE ADDRESS:	PROPERTY OWNER:	TOWER OWNER:	COUNTY:	ZONING DISTRICT:	STRUCTURE TYPE:	STRUCTURE HEIGHT:	STRUCTURE HEIGHT WAFFER/DUANCE:	GROUND ELEVATION:	TOTAL AREA:	SITE CONTROL POINT:	AND HEIGHT ENGINEER:			

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS ON OR SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES, OMISSIONS, OR CONFLICTS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ARCHITECT/ENGINEER PLACING THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
2. NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - BUILDING CODE 2499, CONNECTICUT STATE BUILDING CODE
 - INTERNATIONAL MECHANICAL AND PLUMBING CODE
 - STRUCTURAL CODE, IBC/AIA 222 H STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP

SCALE: 1"-1000'



DRIVING DIRECTIONS

FROM WALLINGFORD TAKE CT 60 EAST, TURN LEFT ONTO MAIN STREET, TURN LEFT ONTO LONG HILL ROAD. THE SITE IS LOCATED ON THE RIGHT HAND SIDE.

SHEET INDEX

DWG.	DESCRIPTION	REV.
T01	TITLE SHEET	3
C01	GENERAL NOTES	3
A01	SITE PLAN	3
A02	COMPOUND PLAN	3
A03	TOWER ELEVATION & ANTENNA PLANS	3
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IF01	ITF DATA	3
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MM01	MOUNT MODIFICATION DRAWINGS I	3
MM02	MOUNT MODIFICATION DRAWINGS II	3
MM03	MOUNT MODIFICATION DRAWINGS III	3

DO NOT SCALE DRAWINGS

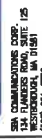
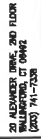
ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS AT THE PROPOSED PROJECT SITE SHALL BE VERIFIED IN THE FIELD DURING THE CONSTRUCTION PHASE. THE PROJECT OWNERS REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES IMMEDIATELY PRIOR TO PROCEEDING WITH THE PROPOSED WORK AFFECTED BY SUCH DISCREPANCIES. IN THE EVENT OF SUCH A NOTIFICATION, SUCH DISCREPANCIES SHALL BECOME THE RESPONSIBILITY OF THE PREVAILING CONTRACTOR RESPONSIBLE FOR CONSTRUCTION.

PROJECT DESCRIPTION

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS EQUIPMENT INSTALLATION AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FROM THE PURPOSE OF PROVIDING PUBLIC WIRELESS SERVICE.
2. THIS FACILITY DOES NOT HAVE WILL BE CONSUMING UNRECOVERABLE ENERGY.
3. NO WASTE WATER SUPPLY IS OR WILL BE PROVIDED AT THIS LOCATION.
4. NO WASTE WATER IS OR WILL BE GENERATED AT THIS LOCATION.
5. NO SOLID WASTE IS OR WILL BE GENERATED AT THIS LOCATION.

SCOPE OF WORK

- REMOVE:
 - (1) ANTENNAS
 - (6) TADPOES
 - DELICATE:
 - (7) ANTENNAS
 - (2) JUNCTION BOXES (if OVD)
 - INSTALL:
 - MOUNT REINFORCEMENTS
 - (1) SIDE BY SIDE ANTENNA ROCKET
 - (3) ANTENNAS
 - (6) TADPOES



DATE: 11/11/2019

APPROVED BY:	JAT
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REV	DATE	DESCRIPTION	BY
SUBMITTALS			

[illegible]

Elliott & Jones (1994)

MIDDLETOWN 2 CT

1279 LONG HILL ROAD
MIDDLETOWN, CT 06457

VIEW LOCATION CODE:	45220
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MDC LOCATION ID:	DATE RECEIVED BY:

SWIFT TIME

SITE PLAN

COMP. COS.

A01



SITE PLAN
SCALE: 1" = 50'-0"



SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER ELEVATION ANALYSIS, SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AND SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS. SBA-PROVIDED TOWER ELEVATION ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

ANTENNA MOUNT REMEDIATION NOTE:
PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS, THE EXISTING ANTENNA MOUNT SHALL BE REMOVED AND THE AREA SHALL BE RECONSTRUCTED TO THE ORIGINAL CONDITION. THE EXISTING ANTENNA MOUNT SHALL BE RECONSTRUCTED AS PER THE MOUNT MODIFICATION DRAWINGS PREPARED BY COLLIER ENGINEERING & DESIGN (PROJECT #21781063).



35 JENNIFER DRIVE, 2ND FLOOR
MIDDLETOWN, CT 06457
(203) 741-7338



SBA COMMUNICATIONS CORP.
134 JENNIFER DRIVE, SUITE 125
MIDDLETOWN, CT 06457
(203) 251-4720



CHAPPELL
ENGINEERING
ASSOCIATES, LLC
P.O. BOX 1000
MIDDLETOWN, CT 06457
(203) 481-7400
www.chappell-engineering.com



JAMES M. FITZGERALD
No. 25887
LICENSED PROFESSIONAL ENGINEER
STATE OF CONNECTICUT

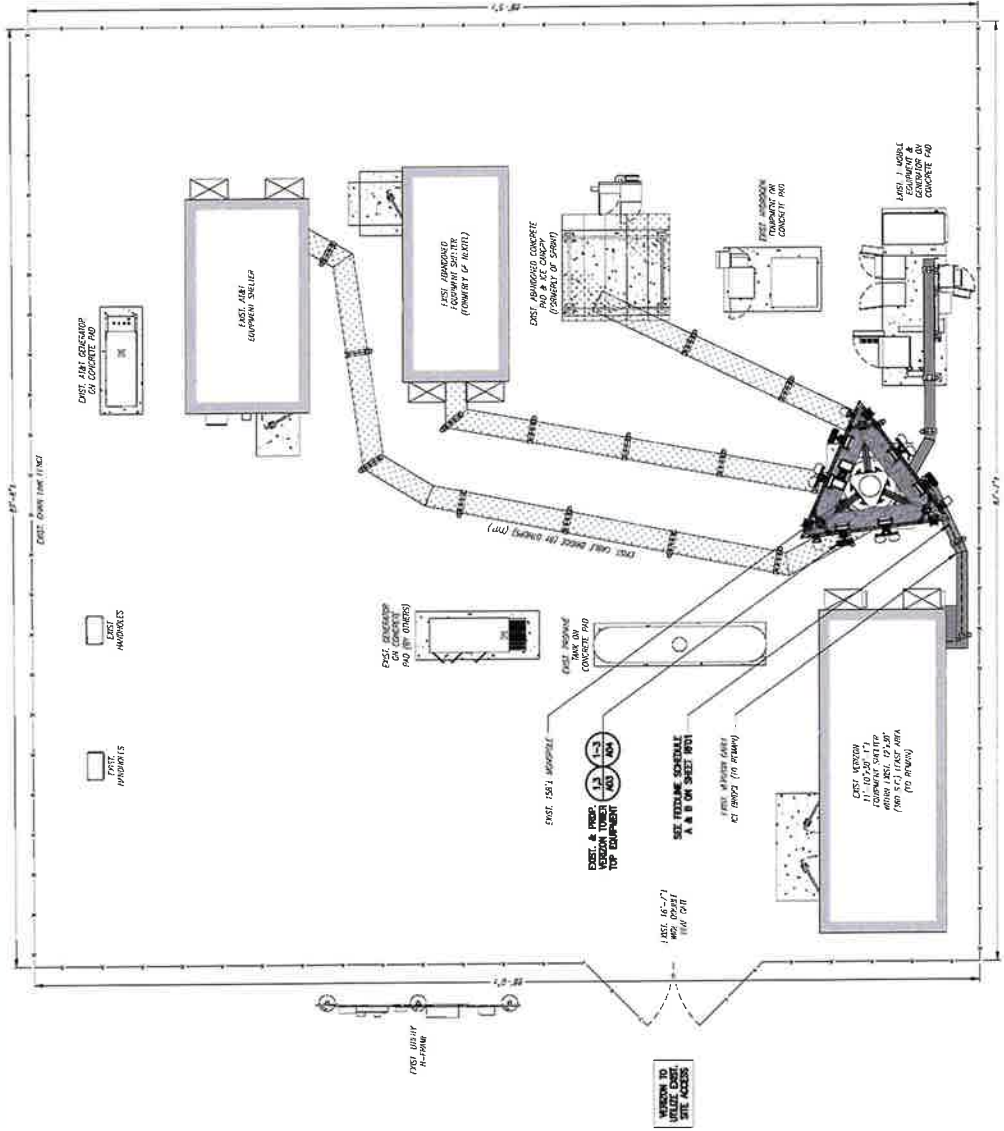
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MIDDLETOWN 2 CT
1780 LONG HILL ROAD
MIDDLETOWN, CT 06457

COMPUND PLAN
SHEET TITLE

A02
SHEET NUMBER



COMPOUND PLAN
SCALE 3/16" = 1'-0"
1
A02



ANTENNA STATUS LEGEND:

EMPTY - EMPTY PIPE

(E) - EXISTING
(P) - INSTALL
(F) - FUTURE

[illegible]

MIDDLETOWN 2 CT
1278 LONG HILL ROAD
MIDDLETOWN CT 06457

VZM LOCATION CODE:	46557
NBO LOCATION ID:	8000000078
PLZE PROJECT ID:	10000000

**TOWER ELEVATION &
ANTENNA PLANS**

SHEET NUMBER
A03



20 ALDEN RD, 2ND FLOOR
MIDDLETOWN, CT 06457
(860) 711-7338



SBA COMMUNICATIONS CORP.
138 PLUMERS ROAD, SUITE 125
MIDDLETOWN, CT 06457
(860) 251-6723



P.A. ENGINEERING CENTRE
100 WEST STREET, SUITE 101
MIDDLETOWN, CT 06457
(860) 411-7400
www.chappellengineering.com



CHECKED BY: JAF
APPROVED BY: JAF

SUBMITTALS		
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MIDDLETOWN 2 CT
1278 LONG HILL ROAD
MIDDLETOWN, CT 06457

FOR LOCATION CODE: 000007
AND LOCATION ID: 00000000
FILE PROJECT ID: 10000000

WEEK TITLE
SITE DETAILS

WEEK NUMBER
A04



SAMSUNG R2400L-25A R2/WWAL RADIO
DIMENSIONS: 15.0" x 15.0" x 10.0"
WEIGHT: 7.1 lb
QUANTITY: 1 PER SITE, TOTAL OF 3
NOTES: 1. PER SITE, TOTAL OF 3
2. SEE MANUFACTURER'S SPECIFICATIONS

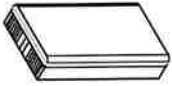


SAMSUNG R2400L-25A R2/WWAL RADIO
DIMENSIONS: 15.0" x 15.0" x 10.0"
WEIGHT: 7.1 lb
QUANTITY: 1 PER SITE, TOTAL OF 3
NOTES: 1. PER SITE, TOTAL OF 3
2. SEE MANUFACTURER'S SPECIFICATIONS



SAMSUNG R2400L-25A R2/WWAL RADIO
DIMENSIONS: 15.0" x 15.0" x 10.0"
WEIGHT: 7.1 lb
QUANTITY: 1 PER SITE, TOTAL OF 3
NOTES: 1. PER SITE, TOTAL OF 3
2. SEE MANUFACTURER'S SPECIFICATIONS

RADIO DETAILS
SCALE: N.T.S.

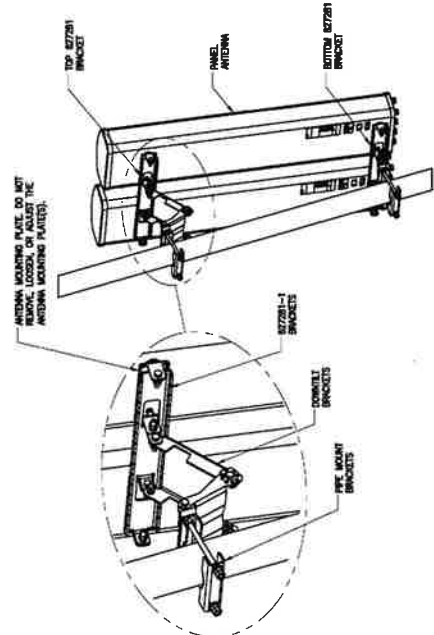


SAMSUNG MTR413-77A ANTENNA
DIMENSIONS: 24.0" x 15.0" x 10.0"
WEIGHT: 9.7 lb
QUANTITY: 1 PER SITE, TOTAL OF 3
NOTES: 1. PER SITE, TOTAL OF 3
2. SEE MANUFACTURER'S SPECIFICATIONS



SAMSUNG MTR413-77A ANTENNA
DIMENSIONS: 24.0" x 15.0" x 10.0"
WEIGHT: 9.7 lb
QUANTITY: 1 PER SITE, TOTAL OF 3
NOTES: 1. PER SITE, TOTAL OF 3
2. SEE MANUFACTURER'S SPECIFICATIONS

ANTENNA DETAILS
SCALE: N.T.S.



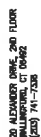
CONSCOPE R2400L-25A R2/WWAL RADIO
SIDE-BY-SIDE ANTENNA MOUNT BRACKET
DIMENSIONS: 24.0" x 15.0" x 10.0"
WEIGHT: 9.7 lb
QUANTITY: 1 PER SITE, TOTAL OF 3
NOTES: 1. PER SITE, TOTAL OF 3
2. SEE MANUFACTURER'S SPECIFICATIONS

TYPICAL SIDE-BY-SIDE ANTENNA MOUNT KIT
SCALE: N.T.S.



NOTE:

1. "ETN" DENOTES "EXISTING TO REMAIN".
2. "ETNE" DENOTES "EXISTING TO BE REMOVED".
3. "NEW" DENOTES "NEW TO BE INSTALLED".
4. WEIGHTS LISTED ARE WITHOUT INCLUDING BRACKETS.
5. INFORMATION IS BASED ON TESTS DATED 02/28/24.



SEA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720



R.J. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
WATTBURG, MA 01752
(508) 481-7400
www.cheapplumbing.org.com



1	1740 0300-10
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APPROVED BY:	JT
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[illegible]

RESEARCH IN THE AREA OF

MIDDLETOWN 2 CT

1278 LONG HILL ROAD
MIDDLETOWN, CT 06457

3009 MILLCOT BLVA

11-11-11 11:11

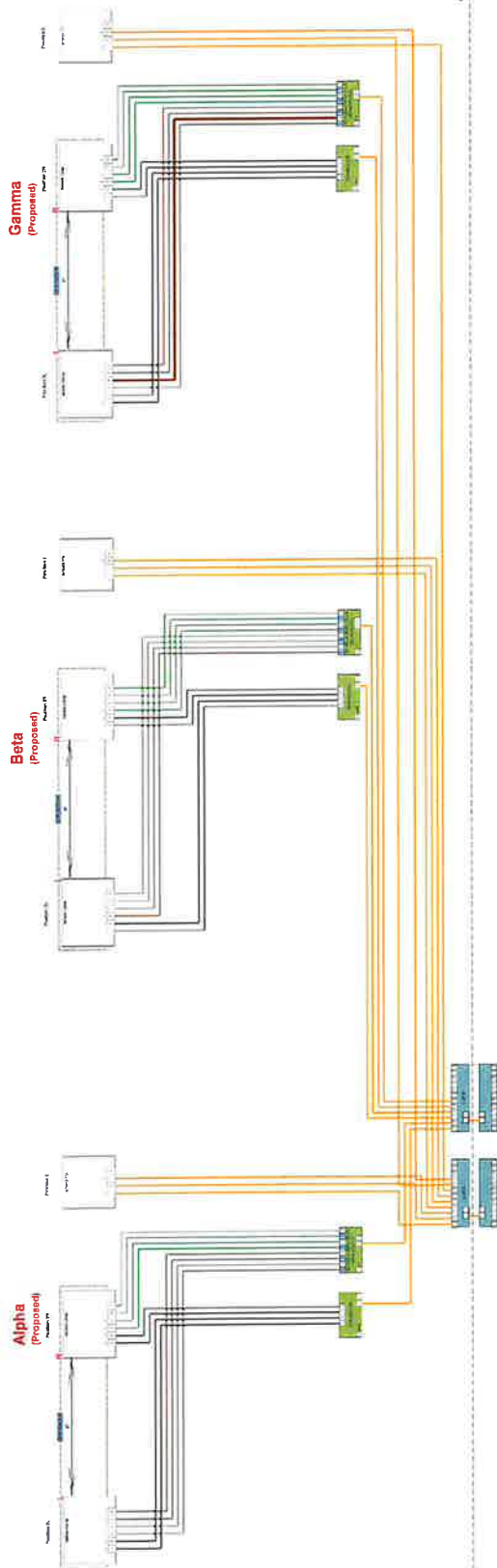
FILE PROJECT ID: 14-00000

706-829-1200

REF PUMPING DIAGRAM

COMP 1210

RF02



RF PLUMBING DIAGRAM
SCALE: N.T.S.





20 ALEXANDER DRIVE, 2ND FLOOR
MIDDLETOWN, CT 06457
(203) 717-7330



SBA COMMUNICATIONS CORP.
124 FARMERS ROAD, SUITE 125
MIDDLETOWN, CT 06457
(203) 251-0726



CHAPMAN & ASSOCIATES, LLC
ENGINEERING
M.E. DEGENE, P.E., M.E.T. SUITE 101
100 WASHINGTON ST., SUITE 101
MIDDLETOWN, CT 06457
(203) 461-7400
www.chapmanassoc.com



PROJECT NO.: 101
SHEET NO.: 101

REV	DATE	DESCRIPTION	BY
1	07/17/14	CONSTRUCTION NUMBER	101
2	07/17/14	CONSTRUCTION NUMBER	101
3	07/17/14	CONSTRUCTION NUMBER	101
4	07/17/14	CONSTRUCTION NUMBER	101
5	07/17/14	CONSTRUCTION NUMBER	101

PROJECT NAME & ADDRESS

MIDDLETOWN 2 CT
1278 LONG HILL ROAD
MIDDLETOWN, CT 06457

101 LOCATION CODE: 101
101 LOCATION ID: 101
101 PROJECT ID: 101

RF COLOR CODE SPECIFICATIONS

RF03

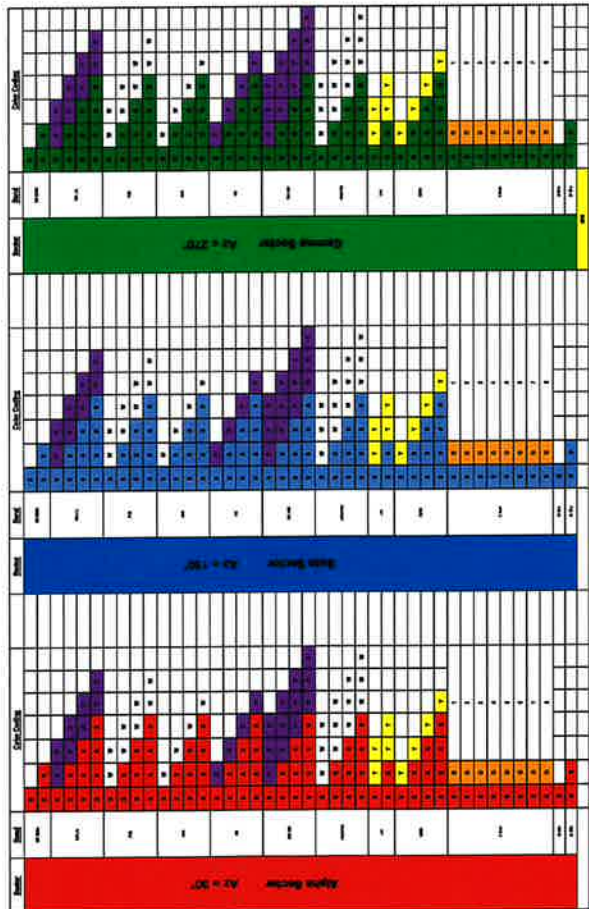
Hybrid Cable on Towers

Hybrid Cable 1

Sector	Identification Color	-48V	RTN
700 Alpha	Blue	Blue	Blue
AWS Alpha	Green	Green	Green
PCS Alpha	Yellow	Yellow	Yellow
850 Alpha	White	White	White
Spare	Blue	Blue	Blue
Spare	Green	Green	Green

Hybrid Cable 2

Sector	Identification Color	-48V	RTN
700 Beta	Blue	Blue	Blue
AWS Beta	Green	Green	Green
PCS Beta	Yellow	Yellow	Yellow
850 Beta	White	White	White
Spare	Blue	Blue	Blue
Spare	Green	Green	Green



CABLE NOTE:
SEE FEEDLINE SCHEDULE A & B ON SHEET RF01
FOR EXISTING & PROPOSED CABLE QUANTITIES.

LINE COLOR CODE SPECIFICATIONS
SCALE: N.T.S.

HYBRID CABLE COLOR CODE SPECIFICATIONS
SCALE: N.T.S.

[illegible]

[illegible]

LEGEND

PROPOSED	EXISTING
REMOVED	ADDITION

PROPOSED RADIO TOWER STRUCTURE

TABLE OF DIMENSIONS

NO.	DESCRIPTION	UNIT	VALUE
1	Overall Height	Feet	100.00
2	Base Width	Feet	10.00
3	Base Depth	Feet	10.00
4	Base Area	Sq. Feet	100.00
5	Base Volume	Cu. Feet	1000.00
6	Base Weight	Lbs.	10000.00
7	Base Moment	Feet-Lbs.	100000.00
8	Base Stress	Lbs./Sq. Ft.	100.00
9	Base Strain	In./In.	0.001
10	Base Displacement	In.	0.1

PROPOSED RADIO TOWER STRUCTURE

TABLE OF DIMENSIONS

NO.	DESCRIPTION	UNIT	VALUE
1	Overall Height	Feet	100.00
2	Base Width	Feet	10.00
3	Base Depth	Feet	10.00
4	Base Area	Sq. Feet	100.00
5	Base Volume	Cu. Feet	1000.00
6	Base Weight	Lbs.	10000.00
7	Base Moment	Feet-Lbs.	100000.00
8	Base Stress	Lbs./Sq. Ft.	100.00
9	Base Strain	In./In.	0.001
10	Base Displacement	In.	0.1

PROPOSED RADIO TOWER STRUCTURE

TABLE OF DIMENSIONS

NO.	DESCRIPTION	UNIT	VALUE
1	Overall Height	Feet	100.00
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6	Base Weight	Lbs.	10000.00
7	Base Moment	Feet-Lbs.	100000.00
8	Base Stress	Lbs./Sq. Ft.	100.00
9	Base Strain	In./In.	0.001
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PROPOSED RADIO TOWER STRUCTURE

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NO.	DESCRIPTION	UNIT	VALUE
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3	Base Depth	Feet	10.00
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5	Base Volume	Cu. Feet	1000.00
6	Base Weight	Lbs.	10000.00
7	Base Moment	Feet-Lbs.	100000.00
8	Base Stress	Lbs./Sq. Ft.	100.00
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PROPOSED RADIO TOWER STRUCTURE

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NO.	DESCRIPTION	UNIT	VALUE
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6	Base Weight	Lbs.	10000.00
7	Base Moment	Feet-Lbs.	100000.00
8	Base Stress	Lbs./Sq. Ft.	100.00
9	Base Strain	In./In.	0.001
10	Base Displacement	In.	0.1

PROPOSED RADIO TOWER STRUCTURE

TABLE OF DIMENSIONS

NO.	DESCRIPTION	UNIT	VALUE
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PROPOSED RADIO TOWER STRUCTURE

TABLE OF DIMENSIONS

NO.	DESCRIPTION	UNIT	VALUE
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9	Base Strain	In./In.	0.001
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PROPOSED RADIO TOWER STRUCTURE

TABLE OF DIMENSIONS

NO.	DESCRIPTION	UNIT	VALUE
1	Overall Height	Feet	100.00
2	Base Width	Feet	10.00
3	Base Depth	Feet	10.00
4	Base Area	Sq. Feet	100.00
5	Base Volume	Cu. Feet	1000.00
6	Base Weight	Lbs.	10000.00



20 KEMMER DRIVE, 2ND FLOOR
MIDDLETOWN, CT 06457
(860) 941-7328



200 CHAMBERS ST. 10TH FLOOR
NEW YORK, NY 10037
(212) 211-7222



44 EXCHANGE DRIVE
NEW BRITAIN, CT 06053
(860) 441-7400
www.chapelleng.com



DESIGNED BY: JNF
APPROVED BY: JNF

SUBMITTALS
REV. DATE DESCRIPTION BY

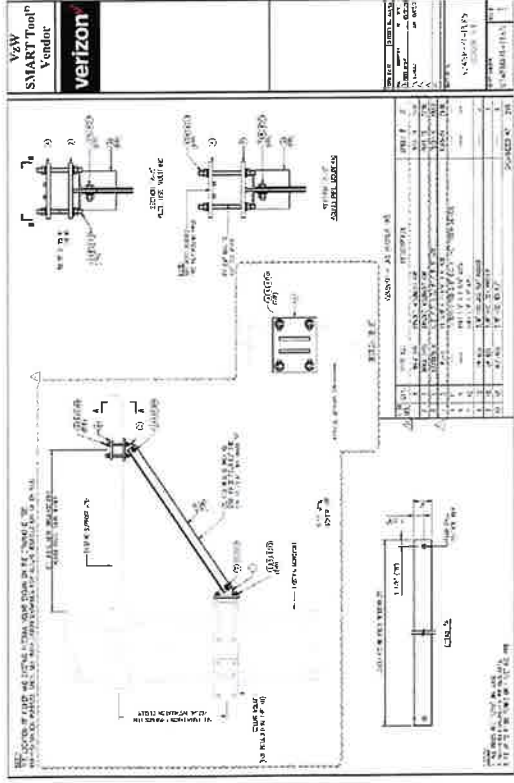
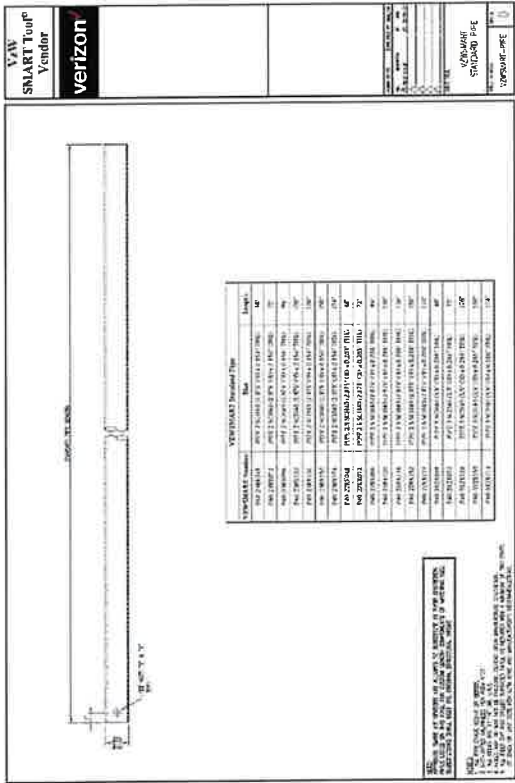
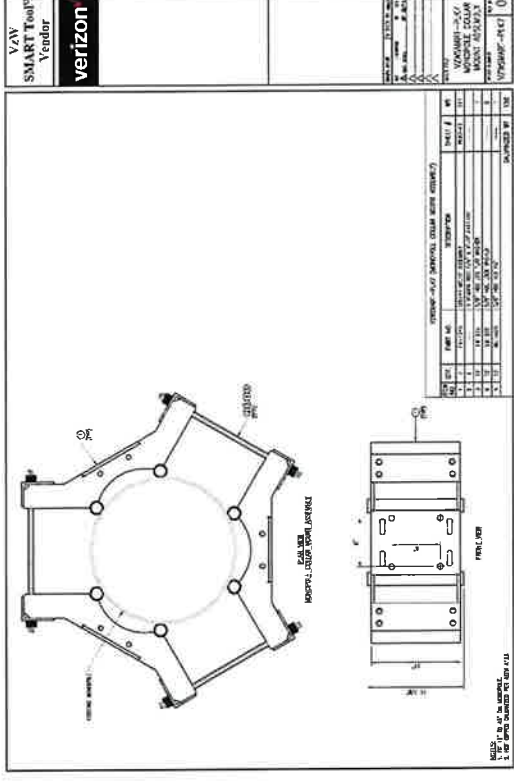
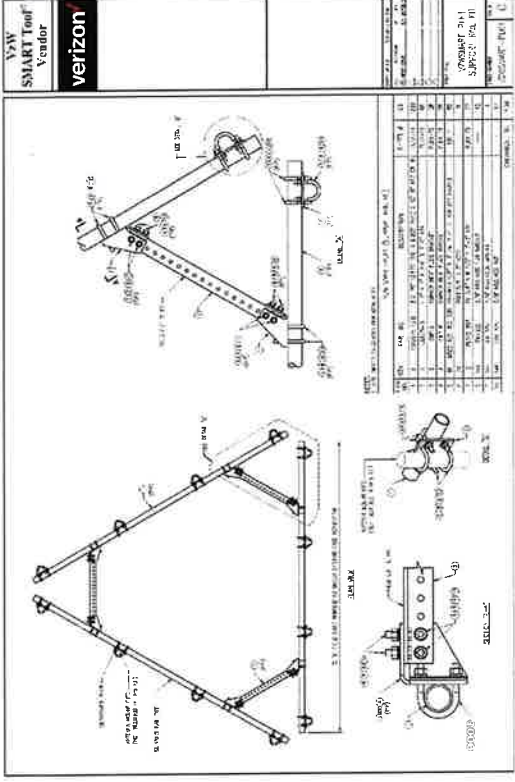
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2	07/07/14	CONTRACTOR REVIEW	DC
3	07/17/14	CONTRACTOR REVIEW	DC
4	07/24/14	REDESIGN FOR COMPLETION	DC
5	08/04/14	REDESIGN FOR REVIEW	DC

PROJECT NAME: 2 CT
MIDDLETOWN 2 CT
1770 LONG HILL ROAD
MIDDLETOWN, CT 06457

PER LOCATION CODE: 000007
MID LOCATION IS: 00000009
FUSE PROJECT IS: 10000000

SHEET TITLE
MOUNT MODIFICATION
DRAWINGS III

SHEET NUMBER
MM03



C-band 64T64R

Gen 2

SAMSUNG

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



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

Gen 2. 64T64R C-band MUU Dimensions	
Size (WxHxD)	400 x 73.4 x 140 mm (15.75 x 2.89 x 5.51 inch)
Weight	26kg (57.3 lb)

Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 ~ 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	200 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
ERP	80.5 dBm @320W (55 dBm + 25.5 dB)
Conductive Power	320W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @1Rx, 18.36MHz with 30kHz,51RBs
Modulation	DL 256QAM support, (DL 1024QAM with 1~2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,287W (100% load, room temp.)
Size (WHD)	400 x 73.4 x 140 mm (15.75 x 28.90 x 5.51 inch)
Volume	41.1L
Weight	26kg (57.3 lb)
Operating Temperature	-40°C ~ 55°C (w/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 38.104 FCC 47 CFR 27.53 : < -13dBm/MHz < -40 dBm/MHz @ above 4 GHz < -50 dBm /MHz @ 4.040 ~ 4.050 MHz < -60 dBm /MHz @ above 4.050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI

SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

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

Model Code RF4439d-25A



Homepage
samsungnetworks.com

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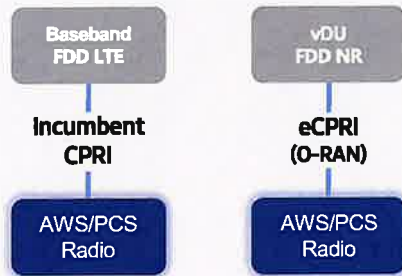


Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

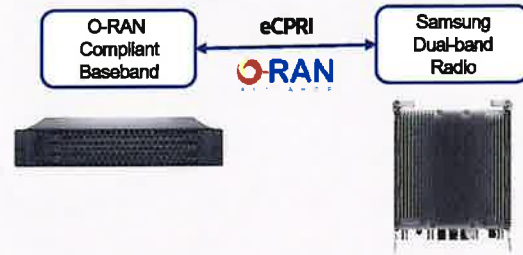
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

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

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



Optimum Spectrum Utilization

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

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



Brand New Features in a Compact Size

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



Technical Specifications

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

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

SAMSUNG

Specifications



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

Item	Specification	
Air Interface Band	Band13 (700MHz)	LTE, NR(HW resource ready)
Frequency	DL: 746~756MHz UL: 777~787MHz	Band5 (850MHz) DL: 869~894MHz UL: 824~849MHz
IBW	10MHz	25MHz
OBW	10MHz	25MHz
Carrier Bandwidth	LTE/NR 5~10MHz	LTE 5/10MHz NR 5/10/15/20MHz
# of carriers	2C*	3C
Total # of carriers	4C + B13 (SDL) 1C	
RF Chain	4T4R/2T4R/2T2R/1T2R 2T2R+2T2R bi-sector Total : 320W	
RF Output Power	4 x 40W or 2 x 60W	4 x 40W or 2 x 60W
Spectrum Analyzer		TX/RX Support
RX Sensitivity		Typ. -104.5dBm @1Rx (25RBs 5MHz)
Modulation		256QAM support, (1024QAM with 1~2dB power back-off)
Input Power		-48VDC (-38VDC to -57VDC)
Power Consumption		1.165 Watt @ 100% RF load, room temperature
Size (WHD)		380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)
Volume		37.5 L
Weight (W/o Solar Shield & finger guard)		35.9 kg (79.1 lb)
Operating Temperature		-40°C (-40°F) ~ 55°C (131°F) (Without solar load)
Cooling		Natural convection
Unwanted Emission		3GPP 36.104 FCC 47 CFR 27.53 c), f)
CPRI Cascade		Not supported
Optic Interface		-69 dBm/100 kHz per path @ 896 ~901MHz
RET & TMA Interface		FCC 47 CFR 22.917
Bias-T		20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-df)
Mounting Options		Not supported
NB-IoT		AISG 3.0
PIM Cancellation		4 ports (2 ports per band)
# of antenna port		Pole, wall
External Alarm		2GB+2IB or 4IB
Fronthaul Interface		2GB+2IB or 2GB+2IB or 4GB
CPRI compression		Support
		4
		Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)
		Not Support

ATTACHMENT 3



C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
(603) 644-2800

support@csquaredsystems.com

Calculated Radio Frequency Emissions Report



Middletown 2

1825 South Main Street, Middletown, CT

May 14, 2024

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna arrays mounted at 158' on an existing monopole tower located at 1825 South Main Street in Middletown, CT. The coordinates of the tower are 41° 30' 40.45" N, 72° 40' 14.63" W.

Verizon is proposing the following:

- 1) Install nine (9) multi-band antennas, three (3) per sector to support its commercial LTE and 5G network.

This report considers the planned antenna configuration for Verizon¹ as well as existing antenna configuration for AT&T², DISH³, T-Mobile⁴ and others⁵ (Clearwire, Sprint and City of Middletown) to derive the resulting % MPE of its proposed modification.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

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

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

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment C of this report.

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

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

¹ As referenced to Verizon's Radio Frequency Design Sheet updated 02/26/2023.

² As referenced to AT&T's Connecticut Siting Council Notice of Exempt Modification – 1825 South Main Street, Middletown, Connecticut, dated 05/05/2022

³ As referenced to DISH's Connecticut Siting Council Tower Share Application – 1279 Long Hill Road, Middletown, Connecticut, dated 02/16/2023

⁴ As referenced to T-Mobile's Connecticut Siting Council Exempt Modification Application – 1279 Long Hill Road, Middletown, Connecticut, dated 05/02/2022

⁵ As referenced to DISH's Connecticut Siting Council Tower Share Application – 1279 Long Hill Road, Middletown, Connecticut, dated 02/16/2023

3. RF Exposure Prediction Methods

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

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

Where:

EIRP = Effective Isotropic Radiated Power

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

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

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

4. Antenna Inventory

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

Operator	Sector / Call Sign	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha / 30°	700	160	14.9	4944	SBNHH-1D65B	68	0	6.0	158
		850	160	14.7	4722		66			
		1900	160	18.2	10571		66			
		2100	240	18.6	27386		63			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	158
	Beta / 150°	700	160	14.9	4944	SBNHH-1D65B	68	0	6.0	158
		850	160	14.7	4722		65.5			
		1900	160	18.2	10571		66.2			
		2100	240	18.6	27386		63			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	158
	Gamma / 270°	700	160	14.9	4944	SBNHH-1D65B	68	0	6.0	158
		850	160	14.7	4722		65.5			
		1900	160	18.2	10571		66.2			
		2100	240	18.6	27386		63			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	158

Table 1: Proposed Antenna Inventory⁶⁷

⁶ Antenna heights are in reference to Verizon's Radio Frequency Design Sheet updated 02/26/2024.

⁷ Transmit power assumes 0 dB of cable loss.

5. Calculation Results

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

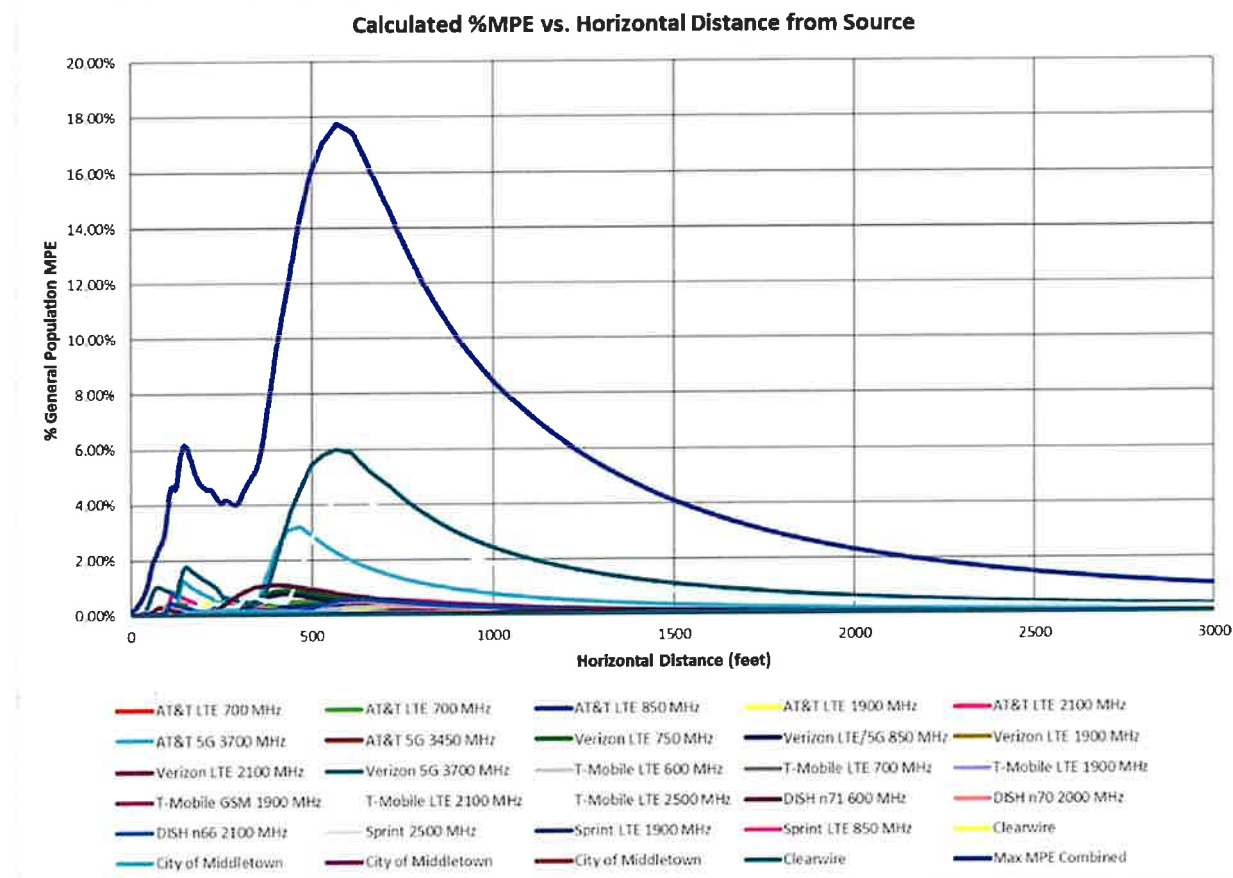


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (17.72% of the General Population limit) is calculated to occur at a horizontal distance of 568 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 1500 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 568 feet from the site (reference Figure 1).

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

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm ²)	Limit (mW/cm ²)	% MPE
AT&T 5G 3450 MHz	1	0.0	108.8	568	0.000000	1.000	0.00%
AT&T 5G 3700 MHz	1	108.4	105.2	568	0.022609	1.000	2.26%
AT&T LTE 1900 MHz	1	160.0	107.0	568	0.001453	1.000	0.15%
AT&T LTE 2100 MHz	1	240.0	107.0	568	0.002271	1.000	0.23%
AT&T LTE 700 MHz	1	160.0	107.0	568	0.002185	0.467	0.47%
AT&T LTE 700 MHz	1	160.0	107.0	568	0.002195	0.509	0.43%
AT&T LTE 850 MHz	1	160.0	107.0	568	0.001955	0.567	0.34%
City of Middletown	1	100.0	124.5	568	0.000175	0.200	0.09%
City of Middletown	1	100.0	120.0	568	0.000185	0.538	0.03%
City of Middletown	1	1.0	120.0	568	0.000017	1.000	0.00%
Clearwire	1	100.0	146.0	568	0.000132	1.000	0.01%
Clearwire	1	1.0	151.0	568	0.000007	1.000	0.00%
DISH n66 2100 MHz	4	40.0	97.0	568	0.004999	1.000	0.50%
DISH n70 2000 MHz	4	40.0	97.0	568	0.004591	1.000	0.46%
DISH n71 600 MHz	4	61.5	97.0	568	0.003164	0.400	0.79%
Sprint 2500 MHz	1	160.0	146.0	568	0.000135	1.000	0.01%
Sprint LTE 1900 MHz	1	160.0	146.0	568	0.000098	1.000	0.01%
Sprint LTE 850 MHz	1	160.0	146.0	568	0.000343	1.000	0.03%
T-Mobile GSM 1900 MHz	1	120.0	137.0	568	0.000509	1.000	0.05%
T-Mobile LTE 1900 MHz	1	120.0	137.0	568	0.000509	1.000	0.05%
T-Mobile LTE 2100 MHz	1	120.0	137.0	568	0.000306	1.000	0.03%
T-Mobile LTE 2500 MHz	1	240.0	137.0	568	0.042761	1.000	4.28%
T-Mobile LTE 600 MHz	1	140.0	137.0	568	0.001015	0.400	0.25%
T-Mobile LTE 700 MHz	1	60.0	137.0	568	0.000287	0.467	0.06%
Verizon 5G 3700 MHz	1	320.0	158.0	568	0.060025	1.000	6.00%
Verizon LTE 1900 MHz	1	160.0	158.0	568	0.000175	1.000	0.02%
Verizon LTE 2100 MHz	1	240.0	158.0	568	0.000163	1.000	0.02%
Verizon LTE 750 MHz	1	160.0	158.0	568	0.003143	0.500	0.63%
Verizon LTE/5G 850 MHz	1	160.0	158.0	568	0.002860	0.567	0.50%
Total							17.72%

Table 2: Maximum Percent of General Population Exposure Values^{8,9,10}

⁸ Frequencies listed are representative of the operating band and are not the specific operating frequency.

⁹ The total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

¹⁰ In the case where antenna model and power information were unavailable, parameters of typical wireless carrier were used.

6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **17.72%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 568 feet away from the site.

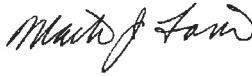
7. Statement of Certification

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



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

May 14, 2024
Date



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

May 14, 2024
Date

Attachment A: References

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

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

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

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

(A) Limits for Occupational/Controlled Exposure¹¹

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

(B) Limits for General Population/Uncontrolled Exposure¹²

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

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

Table 3: FCC Limits for Maximum Permissible Exposure

¹¹ 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.

¹² General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

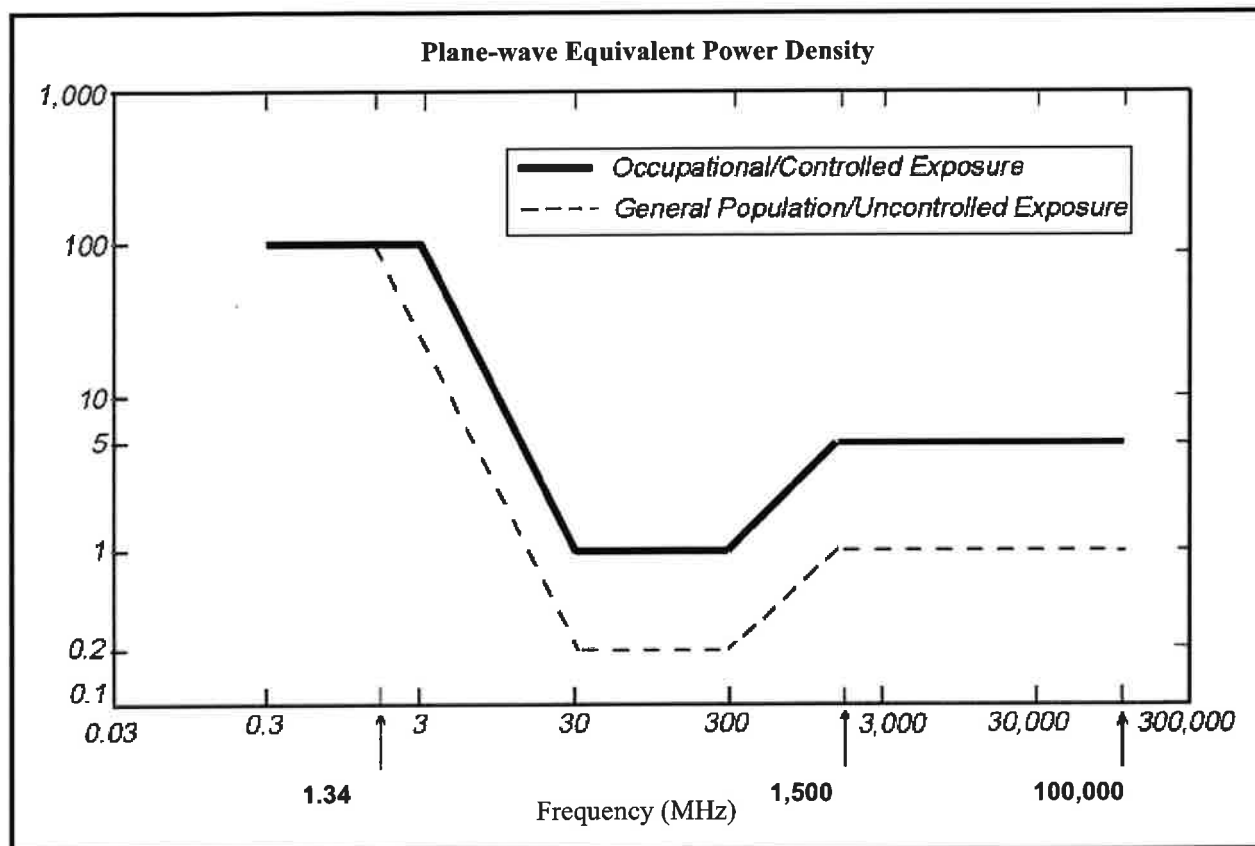
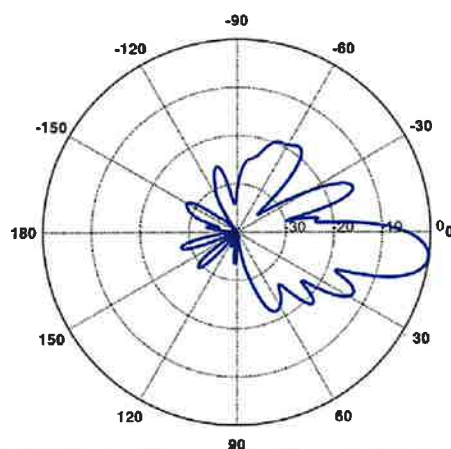


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

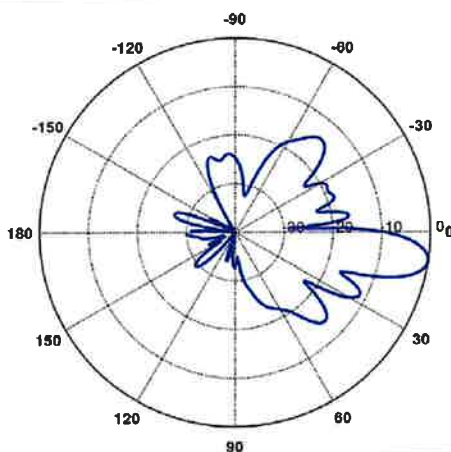
750 MHz

Manufacturer: COMMSCOPE
 Model #: SBNHH-1D65B
 Frequency Band: 698-806 MHz
 Gain: 14.9 dBi
 Vertical Beamwidth: 12.1°
 Horizontal Beamwidth: 68°
 Polarization: ±45°
 Dimensions (L x W x D): 72.8" x 11.8" x 7.08"



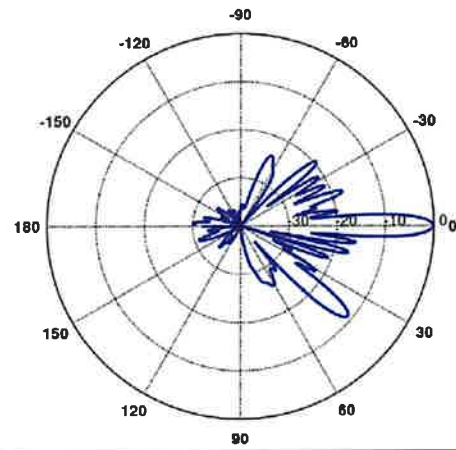
885 MHz

Manufacturer: COMMSCOPE
 Model #: SBNHH-1D65B
 Frequency Band: 806-896 MHz
 Gain: 14.7 dBi
 Vertical Beamwidth: 10.7°
 Horizontal Beamwidth: 66°
 Polarization: ±45°
 Dimensions (L x W x D): 72.8" x 11.8" x 7.08"



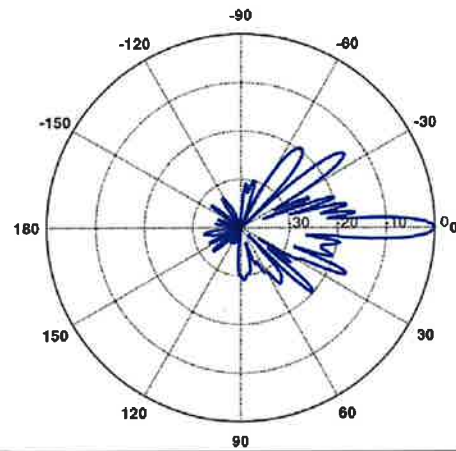
1900 MHz

Manufacturer: COMMSCOPE
 Model #: SBNHH-1D65B
 Frequency Band: 1850-1990 MHz
 Gain: 18.2 dBi
 Vertical Beamwidth: 5.2°
 Horizontal Beamwidth: 66°
 Polarization: ±45°
 Dimensions (L x W x D): 72.8" x 11.8" x 7.08"



2100 MHz

Manufacturer: COMMSCOPE
 Model #: SBNHH-1D65B
 Frequency Band: 1920-2200 MHz
 Gain: 18.6 dBi
 Vertical Beamwidth: 5°
 Horizontal Beamwidth: 63°
 Polarization: ±45°
 Dimensions (L x W x D): 72.8" x 11.8" x 7.08"



ATTACHMENT 4



A **CONGRUEX**® COMPANY

Tower Engineering Solutions, LLC
1320 Greenway Drive, Suite 600, Irving, Texas 75038
Phone: (972) 483-0607, Fax: (972) 975-9615

Structural Analysis Report

<u>Structure Information</u>	Tower Type	Existing 158 ft SUMMIT Monopole
<u>Customer Information</u>	Name	SBA Communications Corp
	Site Number	CT01080-S
	Site Name	Long Hill -1
<u>Carrier Information</u>	Name	Verizon
	Site ID / Name	5000232378 / Middletown 2 CT
	App #	167156, V7
<u>Site Information</u>	Address:	1279 Long Hill Rd Middletown, Connecticut 06457, Middlesex County
	Latitude:	41.511231°
	Longitude:	-72.670744°

Analysis Result:

Max Structural Usage: **85.6% [Pass]**
Max Foundation Usage: **57.0% [Pass]**
Additional Usage Caused by New Mount/Mount Modification: +3.0%

Report Prepared By: Praveen Shrestha





A **CONGRUEX**® COMPANY

Tower Engineering Solutions, LLC
1320 Greenway Drive, Suite 600, Irving, Texas 75038
Phone: (972) 483-0607, Fax: (972) 975-9615

Structural Analysis Report

<u>Structure Information</u>	<i>Tower Type</i>	<i>Existing 158 ft SUMMIT Monopole</i>
<u>Customer Information</u>	<i>Name</i>	<i>SBA Communications Corp</i>
	<i>Site Number</i>	<i>CT01080-S</i>
	<i>Site Name</i>	<i>Long Hill -1</i>
<u>Carrier Information</u>	<i>Name</i>	<i>Verizon</i>
	<i>Site ID / Name</i>	<i>5000232378 / Middletown 2 CT</i>
	<i>App #</i>	<i>167156, V7</i>
<u>Site Information</u>	<i>Address:</i>	<i>1279 Long Hill Rd</i> <i>Middletown, Connecticut 06457, Middlesex</i> <i>County</i>
	<i>Latitude:</i>	<i>41.511231°</i>
	<i>Longitude:</i>	<i>-72.670744°</i>

Analysis Result:

Max Structural Usage: **85.6% [Pass]**

Max Foundation Usage: **57.0% [Pass]**

Additional Usage Caused by New Mount/Mount Modification: +3.0%

Report Prepared By: Praveen Shrestha

Introduction

The purpose of this report is to summarize the analysis results on the 158 ft SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Document Type	Remarks
Tower Drawings	Tower drawings prepared by Summit Manufacturing, Inc., Job No. 5173 dated 11/08/1999
Foundation Drawing	Foundation drawings prepared by Paul J. Ford & Company, Job No. 29299-641 dated 10/22/1999
Geotechnical Report	Geotechnical report prepared by Jawarski Geotech, Inc., Project No. C98590G dated 02/04/1999
Modification Drawings	N/A
Mount Analysis	N/A

Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the TIA-222-H. In accordance with this standard, the structure was analyzed using TESPoles, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Codes and Standards	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code	
Wind Parameters	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} :	120.0 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00"
	Service Load Wind Speed:	60 mph + 0" Radial ice
	Exposure Category:	C
	Risk Category:	II
	Ground Elevation Factor (K_e):	0.989
Topographic Parameters	Method:	Method 1
	Feature Type:	Flat
	Crest Height (H):	0 ft
	Length of Feature (L):	0.0 ft
	Distance to crest (x):	0.0 ft
Seismic Parameters:	S_s	0.211 g
	S_1	0.055 g

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	158.0	6	Commscope SBNHH-1D65B - Panel	(1) Low Profile Platform	(10) 1 5/8" (2) 1 5/8" Hybrid (1) 1/2"	Verizon
-		2	Amphenol LPA-80063-6CF-EDIN-5 - Panel			
-		4	RFS APL866513-42T0 w/ Mount Pipe			
-		3	Alcatel RRH2X60-AWS			
-		3	Alcatel RRH2X60-700			
-		3	Alcatel RRH2X60-PCS			
-		6	RFS FD9R6004/2CL-3CL Diplexer			
-		2	RFS DB-T1-6C-8AB-0Z Distribution Box			
10	146.0	3	RFS APXVSPP18-C-A20 w/ Mount Pipe - Panel	(1) Low Profile Platform	(4) 1 1/4" Hybrid/Fiber	T-Mobile Sprint
11		3	RFS APXVTM14-C-120 w/ Mount Pipe - Panel			
12		3	Alcatel TD-RRH8x20-25			
13		3	Alcatel 1900MHz RRH			
14		3	Alcatel 800 MHz RRH			
15		3	Alcatel 800MHz Filters			
16		4	RFS ACU-A20-N RET			
17	137.0	3	Ericsson AIR6419 B41 - Panel	Low Profile Platform w/ Support rail w/ End connection MS-HRECP-35	(7) 1 5/8" (3) 1 5/8" Fiber (1) 1.9" Fiber	T-Mobile
18		3	Ericsson KRY 112 489/2			
19		9	Allen Telecom FE15501P77/75			
20		3	Ericsson 4449 B71 + B85			
21		3	Ericsson 4460 B25 + B66			
22		3	Kathrein 782 11056			
23		3	RFS APXVAARR24_43-U-NA20			
24	124.583	1	SC229-DFLN - Omni	Pipe Mount	(1) 1/2" (3) 7/8"	City of Middletown
25	120.225	2	SC479-HF1LDF(D00-E5749) - Omni			
26	120.0	1	DS428E83101T - TTA			
27		1	Cambium Network HP3-11- Dish	(1) Ring Mount (DCH8)	(1) EW90	

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
28	107.0	3	Cci TPA65R-BU6DA-K Panel	(3) SitePro1 VFA14-H10-2120 (Sector Frame) (2) SitePro1 LWRM (Ring Mount) (6) SitePro1 MM01 (Stand-Off)	(6) 0.92" DC (12) 1 5/8" (1) 3" Conduit (3) 3/8" Fiber	AT&T
29		3	Cci DMP65R-BU6DA Panel			
30		3	Powerwave TT19-08BP111-001 TMA			
31		3	Cci DTMAPB7819VG12A TMA			
32		6	Powerwave LGP21903 Diplexer			
33		6	Powerwave 7020.00 RET			
34		3	Ericsson RRUS 4478 B14 RRU			
35		3	Ericsson RRUS 8843 B2 B66A RRU			
36		3	Ericsson RRUS 4449 B5/B12 RRU			
37		3	Raycap DC6-48-60-18-8F OVP			
38	105.2	3	Ericsson Air 6449 B77D Panel			
39	97.0	3	JMA Wireless MX08FRO665-21	Platform w/HRK Commscope MC-PK8-DSH	(1) 1.6" Hybrid	Dish Wireless
40		3	Fujitsu TA08025-B605			
41		3	Fujitsu TA08025-B604			
42		1	Raycap RDIDC-9181-PF-48			
-	50.0	1	Lucent L112 GPS Receiver	-	-	Verizon

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	158.0	6	Commscope SBNHH-1D65B - Panel	Platform w/ Hand Rails Modified W/ (3) Commscope BSAMNT-SBS-1-2, (1) vzwsmart VZWsmart-PLK1, (1) vzwsmart vzwsmart-plk5, (1) vzwsmart vzwsmart-plk7 [SUPPORT RAIL KIT, KICKER KIT & MONOPOLE COLLAR MOUNT ASSEMBLY] (6) 76" long, L3x3x1/4, (3) 20" Long, L3x3x1/4 (6) 6"Long HSS3x2 1/2x1/4	(10) 1 5/8" (1) 1 5/8" Fiber (2) 1 1/4" Hybrid	Verizon
2		3	RFS APL866513-42T0 w/ Mount Pipe			
3		3	Samsung MT6413-77A - Panel			
4		6	RFS FD9R6004/2CL-3CL - Diplexer			
5		3	Samsung B2/B66A RRH ORAN (RF4439d-25A) - RRU			
6		3	Samsung RF4461d-13A - RRU			
7		3	Alcatel RRH2X60-AWS - RRU			
8		2	RFS DB-T1-6Z-8AB-0Z - OVP			
43	50.0	1	Lucent L112 GPS Receiver	-	-	

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Utilization %	Pass / Fail
Pole Shaft	81.1%	Pass
Anchor Bolt	58.6%	Pass
Base Plate	85.6%	Pass
Structure Rating – (Controlling Utilization of all Components)		85.6%

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4799.6	42.0	63.4

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Service Load Condition (Rigidity)

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4531 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a comprehensive structural analysis.

Usage Diagram - Max Ratio 81.12% at 96.5ft

Structure: CT01080-S-SBA
Site Name: Long Hill -1
Height: 158.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-H
Exposure: C
Gh: 1.1

3/18/2024

Page: 1



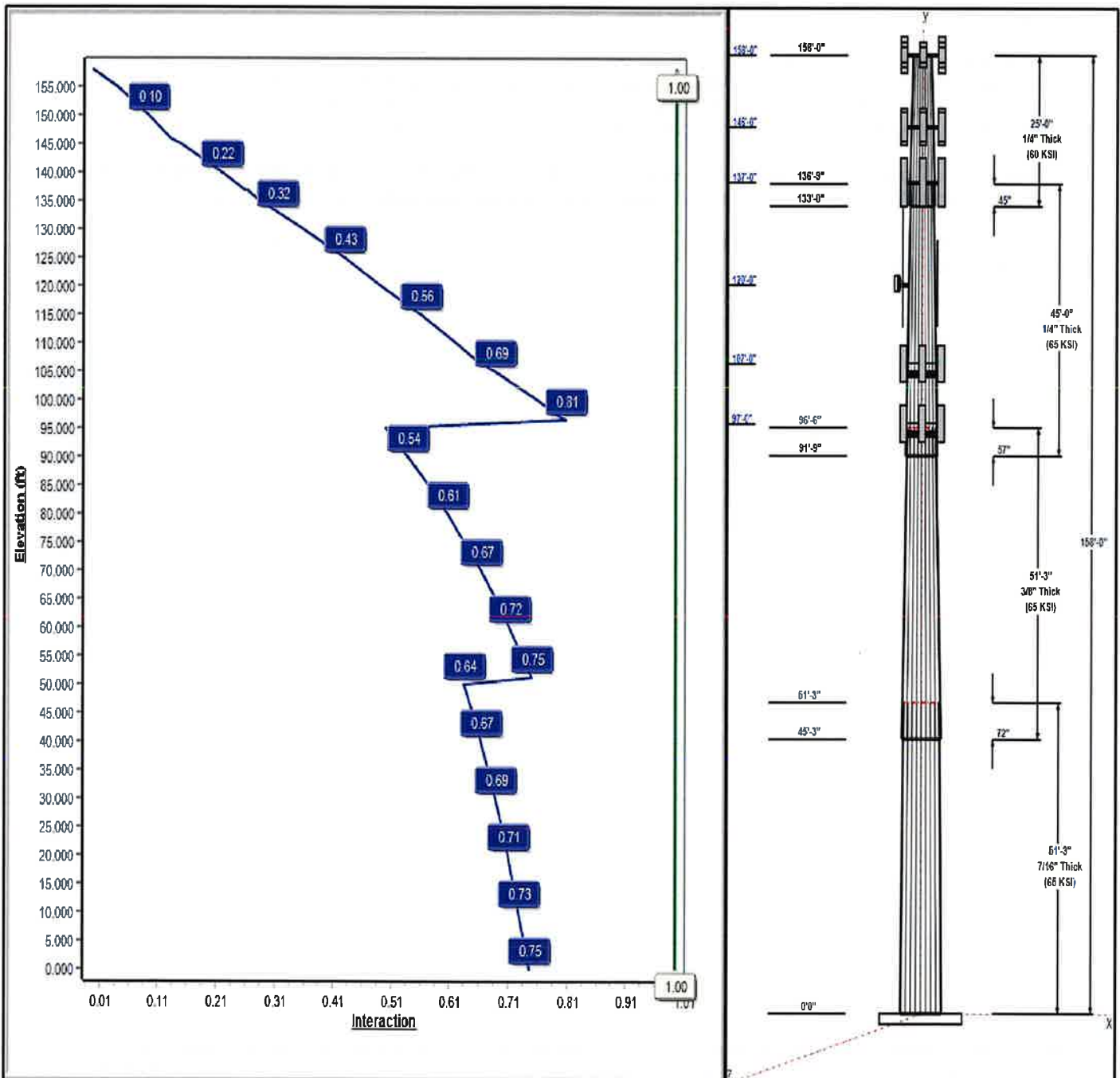
Dead Load Factor: 1.20
Wind Load Factor: 1.00

Load Case : 1.2D + 1.0W 120 mph Wind



Iterations: 24

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Structure: CT01080-S-SBA

Type: Tapered
 Site Name: Long Hill -1
 Height: 158.00 (ft)
 Base Elev: 0.00 (ft)

Base Shape: 18 Sided
 Taper: 0.23500

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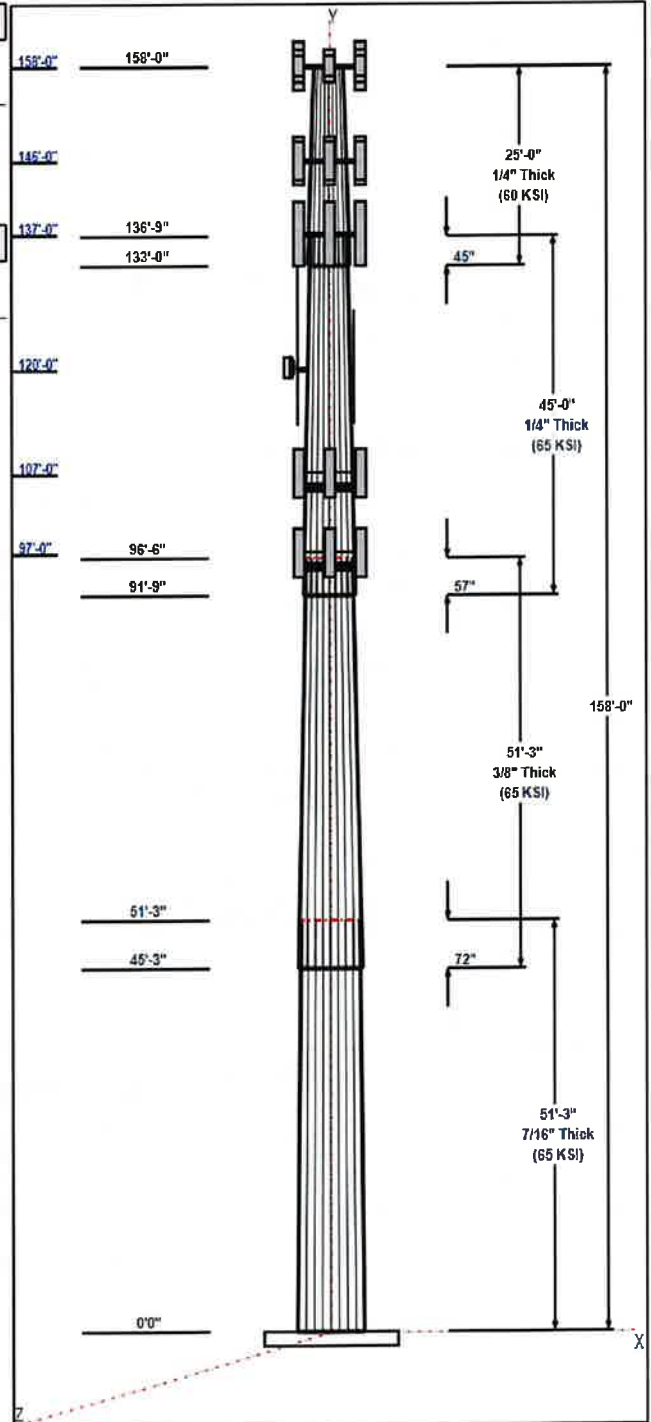


Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	51.25	46.34	58.38	0.438		0.23500	65
2	51.25	36.45	48.50	0.375	Slip	0.23500	65
3	45.00	27.49	38.07	0.250	Slip	0.23500	65
4	25.00	23.00	28.88	0.250	Slip	0.23500	60

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
158.00	158.00	1	6' Lightning rod	
158.00	158.00	6	Commscope	Verizon
158.00	158.00	3	RFS APL866513-42T0 w/	Verizon
158.00	158.00	6	RFS FD9R6004/2CL-3CL	Verizon
158.00	158.00	3	BSAMNT-SBS-1-2	Verizon
158.00	158.00	3	Samsung MT6413-77A	Verizon
158.00	158.00	3	B2/B66A RRH ORAN	Verizon
158.00	158.00	3	RF4461d-13A	Verizon
158.00	158.00	1	Platform w/ Hand Railsw/	Verizon
158.00	158.00	3	RRH2X60-AWS	Verizon
158.00	158.00	2	RFS DB-T1-6C-8AB-0Z	Verizon
146.00	146.00	3	RFS APXVTM14-C-120 w/	Sprint
146.00	146.00	3	Alcatel TD-RRH8x20-25	Sprint
146.00	146.00	3	Alcatel 1900MHz RRH	Sprint
146.00	146.00	3	Alcatel 800 MHz RRH	Sprint
146.00	146.00	3	Alcatel 800MHz Filters	Sprint
146.00	146.00	4	RFS ACU-A20-N RET	Sprint
146.00	146.00	1	Low Profile Platform	Sprint
146.00	146.00	3	RFS APXVSPP18-C-A20	Sprint
137.00	137.00	1	Low Profile Platform w/	T-Mobile
137.00	137.00	1	HRK12 (Handrail Kit)	T-Mobile
137.00	137.00	3	Ericsson AIR6419 B41	T-Mobile
137.00	137.00	3	RFS	T-Mobile
137.00	137.00	3	Ericsson KRY 112 489/2	T-Mobile
137.00	137.00	9	Allen Telecom	T-Mobile
137.00	137.00	3	Ericsson 4449 B71 + B85	T-Mobile
137.00	137.00	3	Ericsson 4460 B25 + B66	T-Mobile
137.00	137.00	3	Kathrein 782 11056	T-Mobile
120.00	120.22	2	SC479-HF1LDF	City of Middletown
120.00	124.58	1	SC229-DFLN	City of Middletown
120.00	120.00	1	Cambium Network	city of middletown
120.00	120.00	1	Flush Mount	City of Middletown
120.00	120.00	1	Pipe Mount	City Of Middletown
120.00	120.00	1	DS428E83I01T - TTA	City of Middletown
107.00	107.00	3	TPA65R-BU6DA-K	AT&T
107.00	107.00	3	DMP65R-BU6DA	AT&T
107.00	105.20	3	AIR 6449 B77D	AT&T
107.00	107.00	1	(3) VFA14-H10-2120	AT&T
107.00	107.00	2	Collar Mount (3-Sided)	AT&T
107.00	107.00	6	SitePro1 MM01	AT&T
107.00	107.00	3	RRUS 4478 B14	AT&T
107.00	107.00	3	RRUS 8843 B2 B66A	AT&T
107.00	107.00	3	RRUS 4449 B5/B12	AT&T
107.00	107.00	3	CCI DTMAP7819VG12A	AT&T
107.00	107.00	3	Raycap DC6-48-60-18-8F	AT&T



Structure: CT01080-S-SBA

Type: Tapered
Site Name: Long Hill -1
Height: 158.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23500

3/18/2024

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107.00	107.00	6	Powerwave 7020.00 RET's	AT&T
107.00	107.00	3	Powerwave	AT&T
107.00	107.00	6	Powerwave LGP21903	AT&T
97.00	97.00	3	MX08FRO665-21	Dish Wireless
97.00	97.00	3	TA08025-B605	Dish Wireless
97.00	97.00	3	TA08025-B604	Dish Wireless
97.00	97.00	1	RDIDC-9181-OF-48	Dish Wireless
97.00	97.00	1	MC-PK8-DSH	Dish Wireless
50.00	50.00	1	Lucent L112 GPS Receiver	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	158.00	Inside	1 5/8" Coax	Verizon
3.00	158.00	Inside	1 5/8" Hybrid	Verizon
3.00	158.00	Inside	1-1/4" Hybrid	Verizon
3.00	146.00	Inside	1-1/4" Hybrid	Sprint
3.00	137.00	Inside	1 5/8" Coax	T-Mobile
3.00	137.00	Inside	1 5/8" Fiber	T-Mobile
3.00	137.00	Inside	1.9" Fiber	T-Mobile
3.00	120.00	Inside	1/2" Coax	City Of Middletown
3.00	120.00	Inside	7/8" Coax	City Of Middletown
3.00	120.00	Inside	EW90	City Of Middletown
3.00	107.00	Inside	0.92" DC	AT&T
3.00	107.00	Inside	1 5/8" Coax	AT&T
3.00	107.00	Inside	3" Conduit	AT&T
3.00	107.00	Inside	3/8" Fiber	AT&T
3.00	97.00	Inside	1.6" Hybrid	Dish Wireless

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	67.0	50.0	Clipped

Reactions

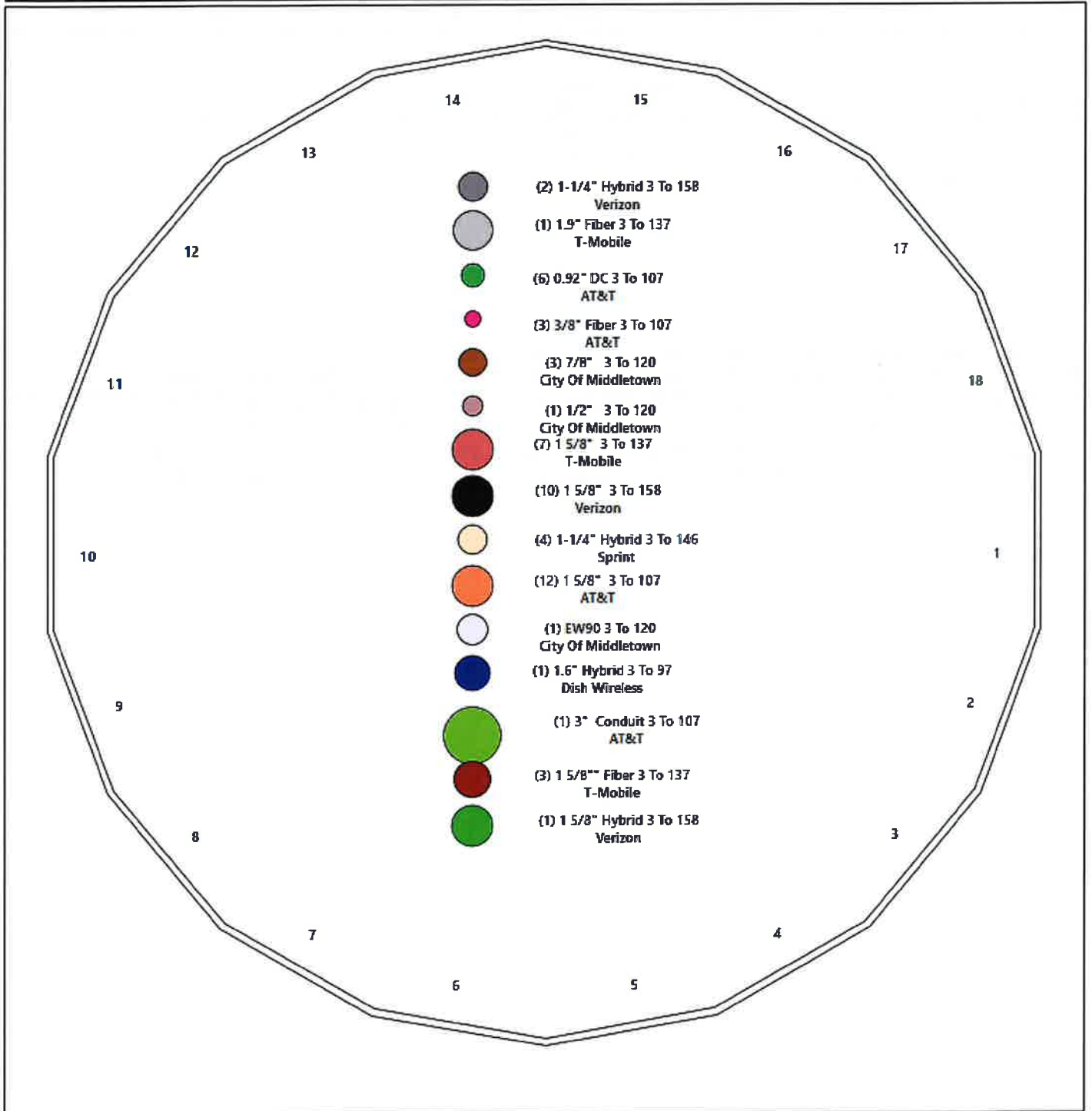
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 120 mph Wind	4799.6	42.0	63.4
0.9D + 1.0W 120 mph Wind	4734.3	42.0	47.6
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1251.0	11.0	88.8
1.2D + 1.0Ev + 1.0Eh	121.4	0.8	65.9
0.9D + 1.0Ev + 1.0Eh	119.9	0.8	50.0
1.0D + 1.0W 60 mph Wind	1065.5	9.4	52.9

Structure: CT01080-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Long Hill -1
Height: 158.00 (ft)

3/18/2024

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Shaft Properties

Structure: CT01080-S-SBA	Code: TIA-222-H	3/18/2024
Site Name: Long Hill -1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	51.250	0.4375	65		0.00	12,573
2	18	51.250	0.3750	65	Slip	72.00	8,738
3	18	45.000	0.2500	65	Slip	57.00	3,953
4	18	25.000	0.2500	60	Slip	45.00	1,734
Total Shaft Weight:							26,998

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	58.38	0.00	80.46	34128.26	22.12	133.44	46.34	51.25	63.73	16963.8	17.26	105.9	0.235000
2	48.50	45.25	57.27	16756.62	21.39	129.32	36.45	96.50	42.94	7061.30	15.73	97.21	0.235000
3	38.07	91.75	30.01	5422.58	25.44	152.28	27.49	136.75	21.62	2027.15	17.98	109.9	0.235000
4	28.88	133.0	22.71	2351.37	18.96	115.50	23.00	158.00	18.05	1180.40	14.81	92.00	0.235000

Load Summary

Structure: CT01080-S-SBA

Code: EIA_H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	158.00	6' Lightning rod	1	6.50	0.38	1.00	30.83	1.109	1.00	0.00	0.00
2	158.00	Commscope SBNHH-1D65B	6	50.71	8.05	0.83	177.05	8.897	0.83	0.00	0.00
3	158.00	RFS APL866513-42T0 w/ Mount	3	48.70	5.65	0.93	275.71	7.392	0.93	0.00	0.00
4	158.00	RFS FD9R6004/2CL-3CL Diplexer	6	3.00	0.31	0.50	8.21	0.566	0.50	0.00	0.00
5	158.00	BSAMNT-SBS-1-2	3	25.35	0.00	1.00	37.21	0.000	1.00	0.00	0.00
6	158.00	Samsung MT6413-77A	3	57.30	3.78	0.76	118.16	4.315	0.76	0.00	0.00
7	158.00	B2/B66A RRH ORAN	3	74.70	1.87	0.67	108.91	2.238	0.67	0.00	0.00
8	158.00	RF4461d-13A	3	72.50	1.87	0.67	105.70	2.238	0.67	0.00	0.00
9	158.00	Platform w/ Hand Railsw/	1	4531.82	48.20	1.00	7711.90	65.112	1.00	0.00	0.00
10	158.00	RRH2X60-AWS	3	55.00	3.50	0.67	108.62	4.029	0.67	0.00	0.00
11	158.00	RFS DB-T1-6C-8AB-0Z Distributi	2	18.90	4.80	1.00	100.04	5.474	1.00	0.00	0.00
12	146.00	RFS APXVTM14-C-120 w/ Mount	3	89.00	7.94	0.78	188.53	7.064	0.78	0.00	0.00
13	146.00	Alcatel TD-RRH8x20-25	3	70.00	4.05	0.50	138.41	4.576	0.50	0.00	0.00
14	146.00	Alcatel 1900MHz RRH	3	60.00	2.38	0.50	158.97	2.959	0.50	0.00	0.00
15	146.00	Alcatel 800 MHz RRH	3	53.00	2.13	0.50	102.17	2.780	0.50	0.00	0.00
16	146.00	Alcatel 800MHz Filters	3	8.80	0.67	0.50	20.53	1.039	0.50	0.00	0.00
17	146.00	RFS ACU-A20-N RET	4	1.00	0.12	0.50	3.86	0.289	0.50	0.00	0.00
18	146.00	Low Profile Platform	1	1600.00	30.00	1.00	2528.27	46.709	1.00	0.00	0.00
19	146.00	RFS APXVSP18-C-A20 w/ Mount	3	90.00	9.62	0.83	271.46	11.848	0.83	0.00	0.00
20	137.00	Low Profile Platform w/ Support Kit	1	1200.00	25.00	1.00	1891.79	38.836	1.00	0.00	0.00
21	137.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	466.91	11.108	1.00	0.00	0.00
22	137.00	Ericsson AIR6419 B41	3	66.10	3.80	0.76	129.66	4.326	0.76	0.00	0.00
23	137.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	392.29	21.480	0.70	0.00	0.00
24	137.00	Ericsson KRY 112 489/2	3	15.20	0.90	0.67	30.43	1.382	0.67	0.00	0.00
25	137.00	Allen Telecom FE15501P77/75	9	15.20	0.90	0.67	30.43	1.382	0.67	0.00	0.00
26	137.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	111.35	2.346	0.67	0.00	0.00
27	137.00	Ericsson 4460 B25 + B66	3	109.00	2.85	0.67	156.50	3.296	0.67	0.00	0.00
28	137.00	Kathrein 782 11056	3	2.90	0.13	0.67	5.54	0.323	0.67	0.00	0.00
29	120.00	SC479-HF1LDF	2	34.00	5.03	1.00	115.10	8.386	1.00	0.00	0.22
30	120.00	SC229-DFLN	1	32.00	6.72	1.00	142.38	12.066	1.00	0.00	4.58
31	120.00	Cambium Network HP3-11- Dish	1	50.00	8.92	1.00	168.95	10.065	1.00	0.00	0.00
32	120.00	Flush Mount	1	350.00	5.00	1.00	541.15	7.276	1.00	0.00	0.00
33	120.00	Pipe Mount	1	400.00	10.00	1.00	582.05	15.689	1.00	0.00	0.00
34	120.00	DS428E83I01T - TTA	1	50.00	8.92	0.50	267.59	11.622	0.50	0.00	0.00
35	107.00	TPA65R-BU6DA-K	3	69.00	12.71	0.72	265.70	13.648	0.72	0.00	0.00
36	107.00	DMP65R-BU6DA	3	79.40	12.71	0.72	269.24	13.654	0.72	0.00	0.00
37	107.00	AIR 6449 B77D	3	106.00	4.02	0.85	177.66	4.550	0.85	0.00	-1.80
38	107.00	(3) VFA14-H10-2120	1	2736.00	50.70	0.75	4459.42	91.761	0.75	0.00	0.00
39	107.00	Collar Mount (3-Sided)	2	264.35	2.00	1.00	502.23	3.350	1.00	0.00	0.00
40	107.00	SitePro1 MM01	6	26.06	0.10	1.00	31.92	0.122	1.00	0.00	0.00
41	107.00	RRUS 4478 B14	3	59.40	2.02	0.67	86.13	2.429	0.67	0.00	0.00
42	107.00	RRUS 8843 B2 B66A	3	72.00	1.64	0.67	102.48	1.973	0.67	0.00	0.00
43	107.00	RRUS 4449 B5/B12	3	73.00	1.64	0.67	108.37	1.934	0.67	0.00	0.00
44	107.00	CCI DTMAP7819VG12A TMA's	3	19.18	0.98	0.60	35.61	1.406	0.60	0.00	0.00
45	107.00	Raycap DC6-48-60-18-8F	3	32.80	2.20	0.67	73.90	2.875	0.67	0.00	0.00
46	107.00	Powerwave 7020.00 RET's	6	2.20	0.34	0.60	8.80	0.605	0.60	0.00	0.00
47	107.00	Powerwave TT19-08BP111-001	3	16.00	0.55	0.60	29.04	0.878	0.60	0.00	0.00
48	107.00	Powerwave LGP21903 Diplexer	6	5.30	0.23	0.60	10.53	0.448	0.60	0.00	0.00
49	97.00	MX08FRO665-21	3	64.50	12.49	0.74	250.14	13.425	0.74	0.00	0.00
50	97.00	TA08025-B605	3	75.00	1.96	0.67	108.38	2.318	0.67	0.00	0.00

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
51	97.00	TA08025-B604	3	63.90	1.96	0.67	96.21	2.318	0.67	0.00	0.00
52	97.00	RDIDC-9181-OF-48	1	21.90	2.01	1.00	55.88	2.373	1.00	0.00	0.00
53	97.00	MC-PK8-DSH	1	1727.00	37.59	1.00	2804.22	67.736	1.00	0.00	0.00
54	50.00	Lucent L112 GPS Receiver	1	0.50	0.12	1.00	4.47	0.243	1.00	0.00	0.00
Totals:			153	19,753.15			36,988.08				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	158.00	(10) 1 5/8" Coax	0.00	Inside
3.00	158.00	(1) 1 5/8" Hybrid	0.00	Inside
3.00	158.00	(2) 1-1/4" Hybrid	0.00	Inside
3.00	146.00	(4) 1-1/4" Hybrid	0.00	Inside
3.00	137.00	(7) 1 5/8" Coax	0.00	Inside
3.00	137.00	(3) 1 5/8" Fiber	0.00	Inside
3.00	137.00	(1) 1.9" Fiber	0.00	Inside
3.00	120.00	(1) 1/2" Coax	0.00	Inside
3.00	120.00	(3) 7/8" Coax	0.00	Inside
3.00	120.00	(1) EW90	0.00	Inside
3.00	107.00	(6) 0.92" DC	0.00	Inside
3.00	107.00	(12) 1 5/8" Coax	0.00	Inside
3.00	107.00	(1) 3" Conduit	0.00	Inside
3.00	107.00	(3) 3/8" Fiber	0.00	Inside
3.00	97.00	(1) 1.6" Hybrid	0.00	Inside

Shaft Section Properties

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	58.380	80.458	34128.3	22.12	133.44	75.4	1151.	0.0
5.00		0.4375	57.205	78.826	32093.8	21.64	130.75	75.9	1105.	1355.0
10.00		0.4375	56.030	77.194	30141.9	21.17	128.07	76.5	1059.	1327.3
15.00		0.4375	54.855	75.563	28270.8	20.70	125.38	77.1	1015.	1299.5
20.00		0.4375	53.680	73.931	26478.8	20.22	122.70	77.6	971.6	1271.7
25.00		0.4375	52.505	72.300	24764.1	19.75	120.01	78.2	929.0	1244.0
30.00		0.4375	51.330	70.668	23125.1	19.28	117.33	78.7	887.3	1216.2
35.00		0.4375	50.155	69.036	21560.1	18.80	114.64	79.3	846.7	1188.5
40.00		0.4375	48.980	67.405	20067.3	18.33	111.95	79.8	807.0	1160.7
45.00		0.4375	47.805	65.773	18645.1	17.86	109.27	80.4	768.2	1132.9
45.25	Bot - Section 2	0.4375	47.746	65.692	18575.8	17.83	109.13	80.4	766.3	55.9
50.00		0.4375	46.630	64.142	17291.7	17.38	106.58	81.0	730.4	1964.3
51.25	Top - Section 1	0.3750	47.086	55.596	15326.4	20.73	125.56	0.0	0.0	509.2
55.00		0.3750	46.205	54.547	14475.2	20.32	123.21	77.5	617.0	702.7
60.00		0.3750	45.030	53.149	13390.2	19.76	120.08	78.2	585.7	916.2
65.00		0.3750	43.855	51.750	12360.7	19.21	116.95	78.8	555.1	892.4
70.00		0.3750	42.680	50.352	11385.5	18.66	113.81	79.5	525.4	868.6
75.00		0.3750	41.505	48.953	10462.9	18.11	110.68	80.1	496.5	844.8
80.00		0.3750	40.330	47.555	9591.6	17.55	107.55	80.8	468.4	821.0
85.00		0.3750	39.155	46.156	8770.0	17.00	104.41	81.4	441.2	797.2
90.00		0.3750	37.980	44.758	7996.7	16.45	101.28	82.1	414.7	773.4
91.75	Bot - Section 3	0.3750	37.569	44.268	7737.2	16.25	100.18	82.3	405.6	265.1
95.00		0.3750	36.805	43.359	7270.3	15.90	98.15	82.5	389.1	813.0
96.50	Top - Section 2	0.2500	36.953	29.122	4956.5	24.65	147.81	0.0	0.0	369.6
97.00		0.2500	36.835	29.029	4909.0	24.57	147.34	72.5	262.5	49.5
100.00		0.2500	36.130	28.470	4630.6	24.07	144.52	73.1	252.4	293.5
105.00		0.2500	34.955	27.537	4190.4	23.24	139.82	74.1	236.1	476.4
107.00		0.2500	34.485	27.164	4022.5	22.91	137.94	74.5	229.7	186.1
110.00		0.2500	33.780	26.605	3779.1	22.41	135.12	75.0	220.3	274.4
115.00		0.2500	32.605	25.673	3395.5	21.59	130.42	76.0	205.1	444.7
120.00		0.2500	31.430	24.740	3038.9	20.76	125.72	77.0	190.4	428.9
125.00		0.2500	30.255	23.808	2708.1	19.93	121.02	78.0	176.3	413.0
130.00		0.2500	29.080	22.876	2402.3	19.10	116.32	78.9	162.7	397.1
133.00	Bot - Section 4	0.2500	28.375	22.316	2230.3	18.60	113.50	79.5	154.8	230.7
135.00		0.2500	27.905	21.943	2120.3	18.27	111.62	79.9	149.7	303.9
136.75	Top - Section 3	0.2500	27.994	22.014	2140.8	18.33	111.97	0.0	0.0	261.8
137.00		0.2500	27.935	21.967	2127.2	18.29	111.74	74.5	150.0	18.7
140.00		0.2500	27.230	21.408	1968.8	17.79	108.92	75.0	142.4	221.4
145.00		0.2500	26.055	20.476	1722.6	16.97	104.22	75.9	130.2	356.3
146.00		0.2500	25.820	20.289	1676.0	16.80	103.28	76.1	127.9	69.4
150.00		0.2500	24.880	19.543	1497.9	16.14	99.52	76.2	118.6	271.1
155.00		0.2500	23.705	18.611	1293.6	15.31	94.82	76.2	107.5	324.6
158.00		0.2500	23.000	18.051	1180.4	14.81	92.00	76.2	101.1	187.1
										26997.7

Wind Loading - Shaft

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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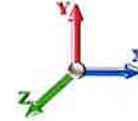


Load Case: 1.2D + 1.0W 120 mph Wind - Controlling Direction

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	29.426	32.37	543.40	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	29.426	32.37	532.46	0.730	0.000	5.00	24.452	17.85	577.8	0.0	1626.0
10.00		1.00	0.85	29.426	32.37	521.52	0.730	0.000	5.00	23.955	17.49	566.0	0.0	1592.7
15.00		1.00	0.85	29.426	32.37	510.59	0.730	0.000	5.00	23.457	17.12	554.3	0.0	1559.4
20.00		1.00	0.90	31.222	34.34	514.67	0.730	0.000	5.00	22.960	16.76	575.7	0.0	1526.1
25.00		1.00	0.95	32.724	36.00	515.37	0.730	0.000	5.00	22.463	16.40	590.3	0.0	1492.8
30.00		1.00	0.98	34.005	37.41	513.60	0.730	0.000	5.00	21.966	16.04	599.8	0.0	1459.5
35.00		1.00	1.01	35.126	38.64	510.05	0.730	0.000	5.00	21.469	15.67	605.6	0.0	1426.2
40.00		1.00	1.04	36.128	39.74	505.16	0.730	0.000	5.00	20.972	15.31	608.4	0.0	1392.8
45.00		1.00	1.07	37.035	40.74	499.19	0.730	0.000	5.00	20.475	14.95	608.9	0.0	1359.5
45.25 Bot - Section 2		1.00	1.07	37.078	40.79	498.87	0.730	0.000	0.25	1.011	0.74	30.1	0.0	67.1
50.00 Appurtenance(s)		1.00	1.09	37.865	41.65	492.35	0.730	0.000	4.75	19.268	14.07	585.9	0.0	2357.1
51.25 Top - Section 1		1.00	1.10	38.063	41.87	490.52	0.730	0.000	1.25	4.996	3.65	152.7	0.0	611.0
55.00		1.00	1.12	38.633	42.50	492.78	0.730	0.000	3.75	14.802	10.81	459.2	0.0	843.3
60.00		1.00	1.14	39.347	43.28	484.67	0.730	0.000	5.00	19.301	14.09	609.8	0.0	1099.4
65.00		1.00	1.16	40.016	44.02	476.01	0.730	0.000	5.00	18.803	13.73	604.2	0.0	1070.8
70.00		1.00	1.17	40.645	44.71	466.89	0.730	0.000	5.00	18.306	13.36	597.5	0.0	1042.3
75.00		1.00	1.19	41.240	45.36	457.34	0.730	0.000	5.00	17.809	13.00	589.8	0.0	1013.7
80.00		1.00	1.21	41.804	45.98	447.43	0.730	0.000	5.00	17.312	12.64	581.1	0.0	985.2
85.00		1.00	1.22	42.341	46.57	437.17	0.730	0.000	5.00	16.815	12.27	571.7	0.0	956.6
90.00		1.00	1.24	42.853	47.14	426.61	0.730	0.000	5.00	16.318	11.91	561.5	0.0	928.1
91.75 Bot - Section 3		1.00	1.24	43.027	47.33	422.85	0.730	0.000	1.75	5.594	4.08	193.3	0.0	318.1
95.00		1.00	1.25	43.344	47.68	415.77	0.730	0.000	3.25	10.364	7.57	360.7	0.0	975.7
96.50 Top - Section 2		1.00	1.26	43.487	47.84	412.47	0.730	0.000	1.50	4.713	3.44	164.6	0.0	443.5
97.00 Appurtenance(s)		1.00	1.26	43.534	47.89	417.03	0.730	0.000	0.50	1.561	1.14	54.6	0.0	59.4
100.00		1.00	1.27	43.815	48.20	410.36	0.730	0.000	3.00	9.261	6.76	325.8	0.0	352.2
105.00		1.00	1.28	44.267	48.69	399.06	0.730	0.000	5.00	15.038	10.98	534.5	0.0	571.7
107.00 Appurtenance(s)		1.00	1.28	44.443	48.89	394.47	0.730	0.000	2.00	5.876	4.29	209.7	0.0	223.4
110.00		1.00	1.29	44.703	49.17	387.54	0.730	0.000	3.00	8.665	6.33	311.0	0.0	329.3
115.00		1.00	1.30	45.123	49.64	375.81	0.730	0.000	5.00	14.044	10.25	508.8	0.0	533.7
120.00 Appurtenance(s)		1.00	1.32	45.529	50.08	363.89	0.730	0.000	5.00	13.546	9.89	495.3	0.0	514.6
125.00		1.00	1.33	45.922	50.51	351.80	0.730	0.000	5.00	13.049	9.53	481.2	0.0	495.6
130.00		1.00	1.34	46.303	50.93	339.53	0.730	0.000	5.00	12.552	9.16	466.7	0.0	476.6
133.00 Bot - Section 4		1.00	1.34	46.526	51.18	332.10	0.730	0.000	3.00	7.293	5.32	272.5	0.0	276.8
135.00		1.00	1.35	46.672	51.34	327.11	0.730	0.000	2.00	4.847	3.54	181.7	0.0	364.7
136.75 Top - Section 3		1.00	1.35	46.799	51.48	322.73	0.730	0.000	1.75	4.176	3.05	156.9	0.0	314.1
137.00 Appurtenance(s)		1.00	1.35	46.817	51.50	327.97	0.730	0.000	0.25	0.592	0.43	22.2	0.0	22.4
140.00		1.00	1.36	47.031	51.73	320.42	0.730	0.000	3.00	7.002	5.11	264.4	0.0	265.7
145.00		1.00	1.37	47.379	52.12	307.73	0.730	0.000	5.00	11.272	8.23	428.9	0.0	427.6
146.00 Appurtenance(s)		1.00	1.37	47.448	52.19	305.18	0.730	0.000	1.00	2.195	1.60	83.6	0.0	83.2
150.00		1.00	1.38	47.719	52.49	294.90	0.730	0.000	4.00	8.580	6.26	328.8	0.0	325.3
155.00		1.00	1.39	48.049	52.85	281.95	0.730	0.000	5.00	10.278	7.50	396.6	0.0	389.5
158.00 Appurtenance(s)		1.00	1.39	48.244	53.07	274.12	0.730	0.000	3.00	5.928	4.33	229.7	0.0	224.6
Totals:									158.00			17,101.5		32,397.2

Discrete Appurtenance Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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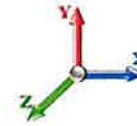


Load Case: 1.2D + 1.0W 120 mph Wind - Controlling Direction

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	158.00	Samsung MT6413-77A	3	48.244	53.068	0.57	0.75	6.46	206.28	0.000	0.000	-343.02	0.00	0.00
2	158.00	6' Lightning rod	1	48.244	53.068	1.00	1.00	0.38	7.80	0.000	0.000	-20.17	0.00	0.00
3	158.00	Commscope	6	48.244	53.068	0.62	0.75	30.07	365.11	0.000	0.000	-1595.58	0.00	0.00
4	158.00	RFS APL866513-42T0 w/	3	48.244	53.068	0.70	0.75	11.82	175.32	0.000	0.000	-627.40	0.00	0.00
5	158.00	RFS FD9R6004/2CL-3CL	6	48.244	53.068	0.38	0.75	0.70	21.60	0.000	0.000	-37.01	0.00	0.00
6	158.00	Platform w/ Hand Railsw/	1	48.244	53.068	1.00	1.00	48.20	5438.18	0.000	0.000	-2557.88	0.00	0.00
7	158.00	B2/B66A RRH ORAN	3	48.244	53.068	0.50	0.75	2.82	268.92	0.000	0.000	-149.60	0.00	0.00
8	158.00	RF4461d-13A	3	48.244	53.068	0.50	0.75	2.82	261.00	0.000	0.000	-149.60	0.00	0.00
9	158.00	RRH2X60-AWS	3	48.244	53.068	0.50	0.75	5.28	198.00	0.000	0.000	-280.00	0.00	0.00
10	158.00	RFS DB-T1-6C-8AB-0Z	2	48.244	53.068	1.00	1.00	9.60	45.36	0.000	0.000	-509.45	0.00	0.00
11	158.00	BSAMNT-SBS-1-2	3	48.244	53.068	1.00	1.00	0.00	91.26	0.000	0.000	0.00	0.00	0.00
12	146.00	Alcatel 1900MHz RRH	3	47.448	52.193	0.40	0.80	2.86	216.00	0.000	0.000	-149.06	0.00	0.00
13	146.00	Alcatel 800 MHz RRH	3	47.448	52.193	0.40	0.80	2.56	190.80	0.000	0.000	-133.40	0.00	0.00
14	146.00	Alcatel TD-RRH8x20-25	3	47.448	52.193	0.40	0.80	4.86	252.00	0.000	0.000	-253.66	0.00	0.00
15	146.00	RFS APXVTM14-C-120 w/	3	47.448	52.193	0.62	0.80	14.86	320.40	0.000	0.000	-775.78	0.00	0.00
16	146.00	RFS ACU-A20-N RET	4	47.448	52.193	0.40	0.80	0.19	4.80	0.000	0.000	-10.02	0.00	0.00
17	146.00	Low Profile Platform	1	47.448	52.193	1.00	1.00	30.00	1920.00	0.000	0.000	-1565.79	0.00	0.00
18	146.00	RFS APXVSP18-C-A20	3	47.448	52.193	0.66	0.80	19.16	324.00	0.000	0.000	-1000.17	0.00	0.00
19	146.00	Alcatel 800MHz Filters	3	47.448	52.193	0.40	0.80	0.80	31.68	0.000	0.000	-41.96	0.00	0.00
20	137.00	Ericsson KRY 112 489/2	3	46.817	51.498	0.50	0.75	1.36	54.72	0.000	0.000	-69.87	0.00	0.00
21	137.00	HRK12 (Handrail Kit)	1	46.817	51.498	1.00	1.00	6.75	314.06	0.000	0.000	-347.61	0.00	0.00
22	137.00	Ericsson AIR6419 B41	3	46.817	51.498	0.57	0.75	6.50	237.96	0.000	0.000	-334.64	0.00	0.00
23	137.00	RFS	3	46.817	51.498	0.52	0.75	31.88	460.80	0.000	0.000	-1641.67	0.00	0.00
24	137.00	Ericsson 4449 B71 + B85	3	46.817	51.498	0.50	0.75	2.97	263.52	0.000	0.000	-152.94	0.00	0.00
25	137.00	Allen Telecom	9	46.817	51.498	0.50	0.75	4.07	164.16	0.000	0.000	-209.61	0.00	0.00
26	137.00	Ericsson 4460 B25 + B66	3	46.817	51.498	0.50	0.75	4.30	392.40	0.000	0.000	-221.26	0.00	0.00
27	137.00	Kathrein 782 11056	3	46.817	51.498	0.50	0.75	0.20	10.44	0.000	0.000	-10.09	0.00	0.00
28	137.00	Low Profile Platform w/	1	46.817	51.498	1.00	1.00	25.00	1440.00	0.000	0.000	-1287.46	0.00	0.00
29	120.00	SC479-HF1LDF	2	45.547	50.101	1.00	1.00	10.06	81.60	0.000	0.220	-504.02	0.00	-110.88
30	120.00	DS428E83I01T - TTA	1	45.529	50.082	0.40	0.80	3.57	60.00	0.000	0.000	-178.69	0.00	0.00
31	120.00	Pipe Mount	1	45.529	50.082	1.00	1.00	10.00	480.00	0.000	0.000	-500.82	0.00	0.00
32	120.00	Flush Mount	1	45.529	50.082	1.00	1.00	5.00	420.00	0.000	0.000	-250.41	0.00	0.00
33	120.00	Cambium Network	1	45.529	50.082	1.00	1.00	8.92	60.00	0.000	0.000	-446.73	0.00	0.00
34	120.00	SC229-DFLN	1	45.889	50.478	1.00	1.00	6.72	38.40	0.000	4.580	-339.21	0.00	-1553.60
35	107.00	DMP65R-BU6DA	3	44.443	48.887	0.58	0.80	21.96	285.84	0.000	0.000	-1073.71	0.00	0.00
36	107.00	(3) VFA14-H10-2120	1	44.443	48.887	0.56	0.75	28.52	3283.20	0.000	0.000	-1394.21	0.00	0.00
37	107.00	AIR 6449 B77D	3	44.285	48.713	0.68	0.80	8.20	381.60	0.000	-1.800	-399.49	0.00	719.08
38	107.00	Powerwave 7020.00	6	44.443	48.887	0.48	0.80	0.98	15.84	0.000	0.000	-47.87	0.00	0.00
39	107.00	TPA65R-BU6DA-K	3	44.443	48.887	0.58	0.80	21.96	248.40	0.000	0.000	-1073.71	0.00	0.00
40	107.00	Powerwave LGP21903	6	44.443	48.887	0.48	0.80	0.66	38.16	0.000	0.000	-32.38	0.00	0.00
41	107.00	Powerwave	3	44.443	48.887	0.48	0.80	0.79	57.60	0.000	0.000	-38.72	0.00	0.00
42	107.00	Collar Mount (3-Sided)	2	44.443	48.887	1.00	1.00	4.00	634.44	0.000	0.000	-195.55	0.00	0.00
43	107.00	RRUS 4449 B5/B12	3	44.443	48.887	0.54	0.80	2.64	262.80	0.000	0.000	-128.92	0.00	0.00
44	107.00	Raycap DC6-48-60-18-8F	3	44.443	48.887	0.54	0.80	3.54	118.08	0.000	0.000	-172.94	0.00	0.00
45	107.00	CCI DTMAP7819VG12A	3	44.443	48.887	0.48	0.80	1.41	69.05	0.000	0.000	-68.99	0.00	0.00
46	107.00	SitePro1 MM01	6	44.443	48.887	1.00	1.00	0.60	187.63	0.000	0.000	-29.33	0.00	0.00
47	107.00	RRUS 8843 B2 B66A	3	44.443	48.887	0.54	0.80	2.64	259.20	0.000	0.000	-128.92	0.00	0.00

Discrete Appurtenance Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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48	107.00	RRUS 4478 B14	3	44.443	48.887	0.54	0.80	3.25	213.84	0.000	0.000	-158.79	0.00	0.00
49	97.00	MC-PK8-DSH	1	43.534	47.888	1.00	1.00	37.59	2072.40	0.000	0.000	-1800.11	0.00	0.00
50	97.00	RDIDC-9181-OF-48	1	43.534	47.888	0.75	0.75	1.51	26.28	0.000	0.000	-72.19	0.00	0.00
51	97.00	TA08025-B604	3	43.534	47.888	0.50	0.75	2.95	230.04	0.000	0.000	-141.49	0.00	0.00
52	97.00	TA08025-B605	3	43.534	47.888	0.50	0.75	2.95	270.00	0.000	0.000	-141.49	0.00	0.00
53	97.00	MX08FRO665-21	3	43.534	47.888	0.55	0.75	20.80	232.20	0.000	0.000	-995.87	0.00	0.00
54	50.00	Lucent L112 GPS	1	37.865	41.652	1.00	1.00	0.12	0.60	0.000	0.000	-5.00	0.00	0.00

Totals: 23,703.78

-24,794.2
9

Total Applied Force Summary

Structure: CT01080-S-SBA	Code: TIA-222-H	3/18/2024
Site Name: Long Hill -1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 12
	Struct Class: II	



Load Case: 1.2D + 1.0W 120 mph Wind - Controlling Direction

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.00



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		-577.77	-1741.90	0.00	0.00
10.00		-566.03	-1882.41	0.00	0.00
15.00		-554.28	-1849.10	0.00	0.00
20.00		-575.65	-1815.79	0.00	0.00
25.00		-590.28	-1782.48	0.00	0.00
30.00		-599.80	-1749.17	0.00	0.00
35.00		-605.56	-1715.85	0.00	0.00
40.00		-608.40	-1682.54	0.00	0.00
45.00		-608.89	-1649.23	0.00	0.00
45.25		-30.09	-81.59	0.00	0.00
50.00	(1) attachments	-590.87	-2632.93	0.00	0.00
51.25		-152.70	-683.44	0.00	0.00
55.00		-459.18	-1060.56	0.00	0.00
60.00		-609.81	-1389.10	0.00	0.00
65.00		-604.20	-1360.55	0.00	0.00
70.00		-597.48	-1331.99	0.00	0.00
75.00		-589.76	-1303.44	0.00	0.00
80.00		-581.14	-1274.89	0.00	0.00
85.00		-571.70	-1246.34	0.00	0.00
90.00		-561.51	-1217.78	0.00	0.00
91.75		-193.27	-419.48	0.00	0.00
95.00		-360.73	-1163.96	0.00	0.00
96.50		-164.57	-530.43	0.00	0.00
97.00	(11) attachments	-3205.72	-2919.25	0.00	0.00
100.00		-325.84	-519.45	0.00	0.00
105.00		-534.54	-850.52	0.00	0.00
107.00	(48) attachments	-5153.23	-6390.56	0.00	719.08
110.00		-311.03	-436.09	0.00	0.00
115.00		-508.85	-711.59	0.00	0.00
120.00	(7) attachments	-2715.14	-1832.56	0.00	-1664.49
125.00		-481.20	-661.28	0.00	0.00
130.00		-466.70	-642.25	0.00	0.00
133.00		-272.45	-376.21	0.00	0.00
135.00		-181.65	-430.97	0.00	0.00
136.75		-156.93	-372.10	0.00	0.00
137.00	(29) attachments	-4297.39	-3368.80	0.00	0.00
140.00		-264.44	-327.68	0.00	0.00
145.00		-428.86	-530.90	0.00	0.00
146.00	(23) attachments	-4013.47	-3363.58	0.00	0.00
150.00		-328.78	-389.66	0.00	0.00
155.00		-396.56	-469.94	0.00	0.00
158.00	(34) attachments	-6499.38	-7351.66	0.00	0.00
	Totals:	-41,895.8	-63,510.0	0.00	-945.41
		4	2		

Calculated Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 1.2D + 1.0W 120 mph Wind - Controlling Direction

Iterations 24

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-63.44	-42.01	0.00	-4799.6	0.00	4799.62	5458.79	1412.03	6788.21	6509.99	0.00	0.000	0.000	0.750
5.00	-61.55	-41.64	0.00	-4589.5	0.00	4589.59	5387.61	1383.40	6515.69	6293.83	0.11	0.196	0.000	0.742
10.00	-59.53	-41.27	0.00	-4381.4	0.00	4381.41	5314.79	1354.76	6248.75	6079.27	0.42	0.394	0.000	0.733
15.00	-57.54	-40.90	0.00	-4175.0	0.00	4175.06	5240.33	1326.13	5987.40	5866.42	0.94	0.596	0.000	0.724
20.00	-55.59	-40.51	0.00	-3970.5	0.00	3970.54	5164.24	1297.49	5731.63	5655.41	1.67	0.801	0.000	0.714
25.00	-53.67	-40.09	0.00	-3768.0	0.00	3768.01	5086.52	1268.86	5481.44	5446.36	2.63	1.009	0.000	0.703
30.00	-51.78	-39.64	0.00	-3567.5	0.00	3567.59	5007.16	1240.22	5236.83	5239.39	3.80	1.220	0.000	0.692
35.00	-49.94	-39.19	0.00	-3369.3	0.00	3369.38	4926.16	1211.59	4997.81	5034.61	5.19	1.433	0.000	0.680
40.00	-48.12	-38.71	0.00	-3173.4	0.00	3173.45	4843.52	1182.96	4764.37	4832.15	6.81	1.649	0.000	0.668
45.00	-46.42	-38.15	0.00	-2979.8	0.00	2979.88	4759.26	1154.32	4536.51	4632.12	8.65	1.867	0.000	0.654
45.25	-46.26	-38.20	0.00	-2970.3	0.00	2970.35	4755.00	1152.89	4525.26	4622.19	8.75	1.879	0.000	0.653
50.00	-43.57	-37.62	0.00	-2788.8	0.00	2788.88	4673.35	1125.69	4314.24	4434.65	10.72	2.088	0.000	0.639
51.25	-42.81	-37.53	0.00	-2741.8	0.00	2741.85	3853.76	975.71	3781.44	3703.28	11.28	2.145	0.000	0.753
55.00	-41.64	-37.18	0.00	-2601.1	0.00	2601.11	3804.98	957.30	3640.11	3586.87	13.03	2.313	0.000	0.738
60.00	-40.12	-36.69	0.00	-2415.2	0.00	2415.21	3738.51	932.76	3455.85	3433.13	15.59	2.559	0.000	0.716
65.00	-38.63	-36.19	0.00	-2231.7	0.00	2231.78	3670.40	908.22	3276.37	3281.16	18.40	2.806	0.000	0.692
70.00	-37.18	-35.68	0.00	-2050.8	0.00	2050.85	3600.66	883.67	3101.68	3131.08	21.47	3.053	0.000	0.667
75.00	-35.76	-35.17	0.00	-1872.4	0.00	1872.45	3529.28	859.13	2931.78	2983.02	24.80	3.298	0.000	0.640
80.00	-34.38	-34.66	0.00	-1696.5	0.00	1696.59	3456.27	834.59	2766.66	2837.10	28.38	3.540	0.000	0.610
85.00	-33.03	-34.15	0.00	-1523.2	0.00	1523.29	3381.62	810.04	2606.33	2693.44	32.22	3.779	0.000	0.577
90.00	-31.76	-33.59	0.00	-1352.5	0.00	1352.56	3305.34	785.50	2450.79	2552.14	36.30	4.012	0.000	0.541
91.75	-31.29	-33.43	0.00	-1293.7	0.00	1293.77	3278.25	776.91	2397.48	2503.28	37.78	4.095	0.000	0.528
95.00	-30.09	-33.04	0.00	-1185.1	0.00	1185.12	3221.38	760.95	2300.03	2408.83	40.62	4.243	0.000	0.503
96.50	-29.55	-32.86	0.00	-1135.5	0.00	1135.56	1897.75	511.10	1556.38	1434.63	41.96	4.311	0.000	0.811
97.00	-26.83	-29.50	0.00	-1119.1	0.00	1119.12	1894.22	509.46	1546.43	1427.35	42.42	4.334	0.000	0.802
100.00	-26.21	-29.24	0.00	-1030.6	0.00	1030.64	1872.71	499.64	1487.40	1383.76	45.20	4.521	0.000	0.762
105.00	-25.30	-28.73	0.00	-884.42	0.00	884.42	1835.54	483.28	1391.58	1311.57	50.09	4.815	0.000	0.692
107.00	-19.32	-23.10	0.00	-827.68	0.00	827.68	1820.21	476.74	1354.14	1282.88	52.13	4.931	0.000	0.658
110.00	-18.82	-22.83	0.00	-758.38	0.00	758.38	1796.73	466.92	1298.94	1240.06	55.28	5.099	0.000	0.624
115.00	-18.06	-22.33	0.00	-644.26	0.00	644.26	1756.29	450.56	1209.50	1169.36	60.76	5.363	0.000	0.564
120.00	-16.42	-19.52	0.00	-530.92	0.00	530.92	1714.21	434.19	1123.25	1099.58	66.50	5.610	0.000	0.494
125.00	-15.74	-19.04	0.00	-433.31	0.00	433.31	1670.50	417.83	1040.18	1030.84	72.49	5.835	0.000	0.432
130.00	-15.10	-18.55	0.00	-338.12	0.00	338.12	1625.15	401.47	960.31	963.25	78.71	6.038	0.000	0.362
133.00	-14.72	-18.26	0.00	-282.48	0.00	282.48	1597.15	391.65	913.92	923.31	82.53	6.148	0.000	0.317
135.00	-14.30	-18.05	0.00	-245.96	0.00	245.96	1578.16	385.11	883.63	896.95	85.12	6.216	0.000	0.285
136.75	-13.93	-17.86	0.00	-214.37	0.00	214.37	1475.57	356.62	820.90	841.36	87.40	6.270	0.000	0.267
137.00	-11.04	-13.23	0.00	-209.91	0.00	209.91	1473.30	355.87	817.43	838.27	87.73	6.277	0.000	0.259
140.00	-10.73	-12.95	0.00	-170.23	0.00	170.23	1445.77	346.81	776.33	801.47	91.69	6.353	0.000	0.221
145.00	-10.24	-12.47	0.00	-105.50	0.00	105.50	1398.74	331.70	710.18	741.32	98.39	6.453	0.000	0.151
146.00	-7.34	-8.11	0.00	-93.03	0.00	93.03	1389.16	328.68	697.30	729.47	99.74	6.469	0.000	0.133
150.00	-6.98	-7.74	0.00	-60.60	0.00	60.60	1340.27	316.60	646.98	677.68	105.17	6.522	0.000	0.095
155.00	-6.56	-7.30	0.00	-21.89	0.00	21.89	1276.33	301.50	586.72	614.25	112.01	6.561	0.000	0.041
158.00	0.00	-6.50	0.00	0.00	0.00	0.00	1237.97	292.43	551.98	577.69	116.13	6.568	0.000	0.000

Wind Loading - Shaft

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 14



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind - Controlling Direction

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.109	5.62	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.109	5.62	0.00	1.200	0.828	5.00	25.142	30.17	169.5	301.1	1927.1
10.00		1.00	0.85	5.109	5.62	0.00	1.200	0.887	5.00	24.694	29.63	166.5	316.5	1909.2
15.00		1.00	0.85	5.109	5.62	0.00	1.200	0.924	5.00	24.228	29.07	163.4	323.0	1882.4
20.00		1.00	0.90	5.421	5.96	0.00	1.200	0.951	5.00	23.753	28.50	170.0	325.5	1851.6
25.00		1.00	0.95	5.681	6.25	0.00	1.200	0.973	5.00	23.274	27.93	174.5	325.9	1818.6
30.00		1.00	0.98	5.904	6.49	0.00	1.200	0.991	5.00	22.791	27.35	177.6	324.7	1784.1
35.00		1.00	1.01	6.098	6.71	0.00	1.200	1.006	5.00	22.307	26.77	179.6	322.4	1748.6
40.00		1.00	1.04	6.272	6.90	0.00	1.200	1.019	5.00	21.821	26.19	180.7	319.3	1712.2
45.00		1.00	1.07	6.430	7.07	0.00	1.200	1.032	5.00	21.334	25.60	181.1	315.6	1675.1
45.25 Bot - Section 2		1.00	1.07	6.437	7.08	0.00	1.200	1.032	0.25	1.054	1.26	9.0	15.8	82.9
50.00 Appurtenance(s)		1.00	1.09	6.574	7.23	0.00	1.200	1.042	4.75	20.093	24.11	174.4	300.4	2657.5
51.25 Top - Section 1		1.00	1.10	6.608	7.27	0.00	1.200	1.045	1.25	5.214	6.26	45.5	78.8	689.8
55.00		1.00	1.12	6.707	7.38	0.00	1.200	1.052	3.75	15.459	18.55	136.9	233.7	1077.0
60.00		1.00	1.14	6.831	7.51	0.00	1.200	1.062	5.00	20.185	24.22	182.0	306.5	1405.9
65.00		1.00	1.16	6.947	7.64	0.00	1.200	1.070	5.00	19.695	23.63	180.6	301.2	1372.0
70.00		1.00	1.17	7.056	7.76	0.00	1.200	1.078	5.00	19.205	23.05	178.9	295.5	1337.8
75.00		1.00	1.19	7.160	7.88	0.00	1.200	1.086	5.00	18.714	22.46	176.9	289.6	1303.4
80.00		1.00	1.21	7.258	7.98	0.00	1.200	1.093	5.00	18.222	21.87	174.6	283.5	1268.7
85.00		1.00	1.22	7.351	8.09	0.00	1.200	1.099	5.00	17.731	21.28	172.0	277.2	1233.8
90.00		1.00	1.24	7.440	8.18	0.00	1.200	1.106	5.00	17.239	20.69	169.3	270.7	1198.7
91.75 Bot - Section 3		1.00	1.24	7.470	8.22	0.00	1.200	1.108	1.75	5.917	7.10	58.3	93.9	412.0
95.00		1.00	1.25	7.525	8.28	0.00	1.200	1.112	3.25	10.966	13.16	108.9	173.9	1149.5
96.50 Top - Section 2		1.00	1.26	7.550	8.30	0.00	1.200	1.113	1.50	4.991	5.99	49.7	79.6	523.2
97.00 Appurtenance(s)		1.00	1.26	7.558	8.31	0.00	1.200	1.114	0.50	1.654	1.98	16.5	26.5	85.8
100.00		1.00	1.27	7.607	8.37	0.00	1.200	1.117	3.00	9.820	11.78	98.6	156.4	508.6
105.00		1.00	1.28	7.685	8.45	0.00	1.200	1.123	5.00	15.973	19.17	162.0	253.7	825.4
107.00 Appurtenance(s)		1.00	1.28	7.716	8.49	0.00	1.200	1.125	2.00	6.251	7.50	63.7	100.4	323.7
110.00		1.00	1.29	7.761	8.54	0.00	1.200	1.128	3.00	9.229	11.07	94.5	148.0	477.3
115.00		1.00	1.30	7.834	8.62	0.00	1.200	1.133	5.00	14.988	17.99	155.0	239.4	773.1
120.00 Appurtenance(s)		1.00	1.32	7.904	8.69	0.00	1.200	1.138	5.00	14.495	17.39	151.2	232.1	746.7
125.00		1.00	1.33	7.973	8.77	0.00	1.200	1.142	5.00	14.001	16.80	147.3	224.7	720.3
130.00		1.00	1.34	8.039	8.84	0.00	1.200	1.147	5.00	13.508	16.21	143.3	217.1	693.7
133.00 Bot - Section 4		1.00	1.34	8.077	8.89	0.00	1.200	1.150	3.00	7.867	9.44	83.9	127.5	404.3
135.00		1.00	1.35	8.103	8.91	0.00	1.200	1.151	2.00	5.231	6.28	55.9	85.2	449.9
136.75 Top - Section 3		1.00	1.35	8.125	8.94	0.00	1.200	1.153	1.75	4.512	5.41	48.4	73.6	387.8
137.00 Appurtenance(s)		1.00	1.35	8.128	8.94	0.00	1.200	1.153	0.25	0.640	0.77	6.9	10.5	33.0
140.00		1.00	1.36	8.165	8.98	0.00	1.200	1.155	3.00	7.580	9.10	81.7	123.2	388.9
145.00		1.00	1.37	8.226	9.05	0.00	1.200	1.160	5.00	12.239	14.69	132.9	197.6	625.2
146.00 Appurtenance(s)		1.00	1.37	8.238	9.06	0.00	1.200	1.160	1.00	2.388	2.87	26.0	39.2	122.4
150.00		1.00	1.38	8.285	9.11	0.00	1.200	1.163	4.00	9.356	11.23	102.3	151.8	477.1
155.00		1.00	1.39	8.342	9.18	0.00	1.200	1.167	5.00	11.251	13.50	123.9	181.8	571.3
158.00 Appurtenance(s)		1.00	1.39	8.376	9.21	0.00	1.200	1.170	3.00	6.513	7.82	72.0	106.2	330.8
Totals:									158.00			5,145.9		40,966.4

Discrete Appurtenance Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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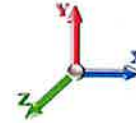
Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind - Controlling Direction

Iterations

24

Dead Load Factor 1.20

Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	158.00	Samsung MT6413-77A	3	8.376	9.213	0.57	0.75	7.38	388.87	0.000	0.000	-67.98	0.00	0.00
2	158.00	6' Lightning rod	1	8.376	9.213	1.00	1.00	1.11	26.83	0.000	0.000	-10.22	0.00	0.00
3	158.00	Commscope	6	8.376	9.213	0.62	0.75	33.23	1123.18	0.000	0.000	-306.14	0.00	0.00
4	158.00	RFS APL866513-42T0 w/	3	8.376	9.213	0.70	0.75	15.47	861.44	0.000	0.000	-142.50	0.00	0.00
5	158.00	RFS FD9R6004/2CL-3CL	6	8.376	9.213	0.38	0.75	1.27	38.43	0.000	0.000	-11.73	0.00	0.00
6	158.00	Platform w/ Hand Railsw/	1	8.376	9.213	1.00	1.00	65.11	10550.09	0.000	0.000	-599.89	0.00	0.00
7	158.00	B2/B66A RRH ORAN	3	8.376	9.213	0.50	0.75	3.37	595.66	0.000	0.000	-31.09	0.00	0.00
8	158.00	RF4461d-13A	3	8.376	9.213	0.50	0.75	3.37	578.11	0.000	0.000	-31.09	0.00	0.00
9	158.00	RRH2X60-AWS	3	8.376	9.213	0.50	0.75	6.07	298.56	0.000	0.000	-55.96	0.00	0.00
10	158.00	RFS DB-T1-6C-8AB-OZ	2	8.376	9.213	1.00	1.00	10.95	153.44	0.000	0.000	-100.86	0.00	0.00
11	158.00	BSAMNT-SBS-1-2	3	8.376	9.213	1.00	1.00	0.00	123.39	0.000	0.000	0.00	0.00	0.00
12	146.00	Alcatel 1900MHz RRH	3	8.238	9.061	0.40	0.80	3.55	467.32	0.000	0.000	-32.17	0.00	0.00
13	146.00	Alcatel 800 MHz RRH	3	8.238	9.061	0.40	0.80	3.34	275.02	0.000	0.000	-30.23	0.00	0.00
14	146.00	Alcatel TD-RRH8x20-25	3	8.238	9.061	0.40	0.80	5.49	457.23	0.000	0.000	-49.76	0.00	0.00
15	146.00	RFS APXVTM14-C-120 w/	3	8.238	9.061	0.62	0.80	13.22	618.98	0.000	0.000	-119.83	0.00	0.00
16	146.00	RFS ACU-A20-N RET	4	8.238	9.061	0.40	0.80	0.46	11.03	0.000	0.000	-4.19	0.00	0.00
17	146.00	Low Profile Platform	1	8.238	9.061	1.00	1.00	46.71	2948.27	0.000	0.000	-423.24	0.00	0.00
18	146.00	RFS APXVSP18-C-A20	3	8.238	9.061	0.66	0.80	23.60	818.87	0.000	0.000	-213.86	0.00	0.00
19	146.00	Alcatel 800MHz Filters	3	8.238	9.061	0.40	0.80	1.25	51.87	0.000	0.000	-11.30	0.00	0.00
20	137.00	Ericsson KRY 112 489/2	3	8.128	8.941	0.50	0.75	2.08	80.62	0.000	0.000	-18.63	0.00	0.00
21	137.00	HRK12 (Handrail Kit)	1	8.128	8.941	1.00	1.00	11.11	211.47	0.000	0.000	-99.32	0.00	0.00
22	137.00	Ericsson AIR6419 B41	3	8.128	8.941	0.57	0.75	7.40	360.54	0.000	0.000	-66.13	0.00	0.00
23	137.00	RFS	3	8.128	8.941	0.52	0.75	33.83	1253.67	0.000	0.000	-302.47	0.00	0.00
24	137.00	Ericsson 4449 B71 + B85	3	8.128	8.941	0.50	0.75	3.54	202.76	0.000	0.000	-31.62	0.00	0.00
25	137.00	Allen Telecom	9	8.128	8.941	0.50	0.75	6.25	241.86	0.000	0.000	-55.89	0.00	0.00
26	137.00	Ericsson 4460 B25 + B66	3	8.128	8.941	0.50	0.75	4.97	483.91	0.000	0.000	-44.42	0.00	0.00
27	137.00	Kathrein 782 11056	3	8.128	8.941	0.50	0.75	0.49	15.06	0.000	0.000	-4.35	0.00	0.00
28	137.00	Low Profile Platform w/	1	8.128	8.941	1.00	1.00	38.84	1831.79	0.000	0.000	-347.22	0.00	0.00
29	120.00	SC479-HF1LDF	2	7.907	8.698	1.00	1.00	16.77	172.60	0.000	0.220	-145.89	0.00	-32.09
30	120.00	DS428E83101T - TTA	1	7.904	8.695	0.40	0.80	4.65	277.59	0.000	0.000	-40.42	0.00	0.00
31	120.00	Pipe Mount	1	7.904	8.695	1.00	1.00	15.69	582.05	0.000	0.000	-136.41	0.00	0.00
32	120.00	Flush Mount	1	7.904	8.695	1.00	1.00	7.28	511.15	0.000	0.000	-63.26	0.00	0.00
33	120.00	Cambium Network	1	7.904	8.695	1.00	1.00	10.06	126.75	0.000	0.000	-87.51	0.00	0.00
34	120.00	SC229-DLFLN	1	7.967	8.764	1.00	1.00	12.07	100.28	0.000	4.580	-105.74	0.00	-484.30
35	107.00	DMP65R-BU6DA	3	7.716	8.487	0.58	0.80	23.59	653.46	0.000	0.000	-200.25	0.00	0.00
36	107.00	(3) VFA14-H10-2120	1	7.716	8.487	0.56	0.75	51.62	4922.62	0.000	0.000	-438.08	0.00	0.00
37	107.00	AIR 6449 B77D	3	7.688	8.457	0.68	0.80	9.28	596.58	0.000	-1.800	-78.49	0.00	141.29
38	107.00	Powerwave 7020.00	6	7.716	8.487	0.48	0.80	1.74	38.02	0.000	0.000	-14.79	0.00	0.00
39	107.00	TPA65R-BU6DA-K	3	7.716	8.487	0.58	0.80	23.58	638.11	0.000	0.000	-200.16	0.00	0.00
40	107.00	Powerwave LGP21903	6	7.716	8.487	0.48	0.80	1.29	53.97	0.000	0.000	-10.96	0.00	0.00
41	107.00	Powerwave	3	7.716	8.487	0.48	0.80	1.26	79.33	0.000	0.000	-10.74	0.00	0.00
42	107.00	Collar Mount (3-Sided)	2	7.716	8.487	1.00	1.00	6.70	1004.90	0.000	0.000	-56.86	0.00	0.00
43	107.00	RRUS 4449 B5/B12	3	7.716	8.487	0.54	0.80	3.11	334.12	0.000	0.000	-26.39	0.00	0.00
44	107.00	Raycap DC6-48-60-18-8F	3	7.716	8.487	0.54	0.80	4.62	191.28	0.000	0.000	-39.24	0.00	0.00
45	107.00	CCI DTMAP7819VG12A	3	7.716	8.487	0.48	0.80	2.03	96.38	0.000	0.000	-17.19	0.00	0.00
46	107.00	SitePro1 MM01	6	7.716	8.487	1.00	1.00	0.73	379.17	0.000	0.000	-6.24	0.00	0.00
47	107.00	RRUS 8843 B2 B66A	3	7.716	8.487	0.54	0.80	3.17	322.75	0.000	0.000	-26.92	0.00	0.00

Discrete Appurtenance Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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48	107.00	RRUS 4478 B14	3	7.716	8.487	0.54	0.80	3.91	265.82	0.000	0.000	-33.15	0.00	0.00
49	97.00	MC-PK8-DSH	1	7.558	8.314	1.00	1.00	67.74	2776.62	0.000	0.000	-563.15	0.00	0.00
50	97.00	RDIDC-9181-OF-48	1	7.558	8.314	0.75	0.75	1.78	47.56	0.000	0.000	-14.79	0.00	0.00
51	97.00	TA08025-B604	3	7.558	8.314	0.50	0.75	3.49	290.68	0.000	0.000	-29.05	0.00	0.00
52	97.00	TA08025-B605	3	7.558	8.314	0.50	0.75	3.49	332.35	0.000	0.000	-29.05	0.00	0.00
53	97.00	MX08FRO665-21	3	7.558	8.314	0.55	0.75	22.35	587.53	0.000	0.000	-185.84	0.00	0.00
54	50.00	Lucent L112 GPS	1	6.574	7.231	1.00	1.00	0.24	2.77	0.000	0.000	-1.76	0.00	0.00

Totals: 40,452.69

-5,774.41

Total Applied Force Summary

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

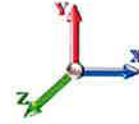
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind - Controlling Direction

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations

24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		-169.54	-2042.97	0.00	0.00
10.00		-166.52	-2198.88	0.00	0.00
15.00		-163.38	-2172.07	0.00	0.00
20.00		-169.96	-2141.33	0.00	0.00
25.00		-174.54	-2108.34	0.00	0.00
30.00		-177.61	-2073.84	0.00	0.00
35.00		-179.57	-2038.26	0.00	0.00
40.00		-180.66	-2001.86	0.00	0.00
45.00		-181.07	-1964.81	0.00	0.00
45.25		-8.95	-97.36	0.00	0.00
50.00	(1) attachments	-176.12	-2935.51	0.00	0.00
51.25		-45.48	-762.21	0.00	0.00
55.00		-136.87	-1294.23	0.00	0.00
60.00		-182.01	-1695.63	0.00	0.00
65.00		-180.61	-1661.71	0.00	0.00
70.00		-178.88	-1627.52	0.00	0.00
75.00		-176.86	-1593.07	0.00	0.00
80.00		-174.57	-1558.39	0.00	0.00
85.00		-172.04	-1523.51	0.00	0.00
90.00		-169.30	-1488.45	0.00	0.00
91.75		-58.34	-513.40	0.00	0.00
95.00		-108.93	-1337.82	0.00	0.00
96.50		-49.74	-610.07	0.00	0.00
97.00	(11) attachments	-838.38	-4149.55	0.00	0.00
100.00		-98.60	-675.85	0.00	0.00
105.00		-162.04	-1104.23	0.00	0.00
107.00	(48) attachments	-1223.12	-10011.74	0.00	141.29
110.00		-94.54	-584.07	0.00	0.00
115.00		-154.98	-951.01	0.00	0.00
120.00	(7) attachments	-730.46	-2695.07	0.00	-516.40
125.00		-147.35	-885.95	0.00	0.00
130.00		-143.33	-859.38	0.00	0.00
133.00		-83.88	-503.75	0.00	0.00
135.00		-55.95	-516.21	0.00	0.00
136.75		-48.39	-445.75	0.00	0.00
137.00	(29) attachments	-976.91	-4722.91	0.00	0.00
140.00		-81.69	-450.93	0.00	0.00
145.00		-132.88	-728.53	0.00	0.00
146.00	(23) attachments	-910.55	-5791.69	0.00	0.00
150.00		-102.31	-541.46	0.00	0.00
155.00		-123.89	-651.75	0.00	0.00
158.00	(34) attachments	-1429.45	-15117.03	0.00	0.00
Totals:		-10,920.2	-88,828.0	0.00	-375.11
		7	8		

Calculated Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 18



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind - Controlling Direction

Iterations 24

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-88.82	-10.96	0.00	-1251.0	0.00	1251.05	5458.79	1412.03	6788.21	6509.99	0.00	0.000	0.000	0.209
5.00	-86.77	-10.87	0.00	-1196.2	0.00	1196.25	5387.61	1383.40	6515.69	6293.83	0.03	0.051	0.000	0.206
10.00	-84.56	-10.78	0.00	-1141.9	0.00	1141.91	5314.79	1354.76	6248.75	6079.27	0.11	0.103	0.000	0.204
15.00	-82.38	-10.68	0.00	-1088.0	0.00	1088.03	5240.33	1326.13	5987.40	5866.42	0.24	0.155	0.000	0.201
20.00	-80.23	-10.58	0.00	-1034.6	0.00	1034.62	5164.24	1297.49	5731.63	5655.41	0.44	0.209	0.000	0.199
25.00	-78.11	-10.47	0.00	-981.71	0.00	981.71	5086.52	1268.86	5481.44	5446.36	0.68	0.263	0.000	0.196
30.00	-76.03	-10.36	0.00	-929.34	0.00	929.34	5007.16	1240.22	5236.83	5239.39	0.99	0.318	0.000	0.193
35.00	-73.98	-10.24	0.00	-877.55	0.00	877.55	4926.16	1211.59	4997.81	5034.61	1.35	0.373	0.000	0.189
40.00	-71.97	-10.12	0.00	-826.36	0.00	826.36	4843.52	1182.96	4764.37	4832.15	1.77	0.430	0.000	0.186
45.00	-70.00	-9.95	0.00	-775.79	0.00	775.79	4759.26	1154.32	4536.51	4632.12	2.25	0.486	0.000	0.182
45.25	-69.90	-9.98	0.00	-773.30	0.00	773.30	4755.00	1152.89	4525.26	4622.19	2.28	0.489	0.000	0.182
50.00	-66.96	-9.82	0.00	-725.90	0.00	725.90	4673.35	1125.69	4314.24	4434.65	2.79	0.544	0.000	0.178
51.25	-66.19	-9.80	0.00	-713.63	0.00	713.63	3853.76	975.71	3781.44	3703.28	2.94	0.559	0.000	0.210
55.00	-64.89	-9.71	0.00	-676.88	0.00	676.88	3804.98	957.30	3640.11	3586.87	3.40	0.602	0.000	0.206
60.00	-63.19	-9.58	0.00	-628.33	0.00	628.33	3738.51	932.76	3455.85	3433.13	4.06	0.667	0.000	0.200
65.00	-61.52	-9.45	0.00	-580.43	0.00	580.43	3670.40	908.22	3276.37	3281.16	4.79	0.731	0.000	0.194
70.00	-59.88	-9.31	0.00	-533.19	0.00	533.19	3600.66	883.67	3101.68	3131.08	5.59	0.795	0.000	0.187
75.00	-58.28	-9.18	0.00	-486.62	0.00	486.62	3529.28	859.13	2931.78	2983.02	6.46	0.859	0.000	0.180
80.00	-56.72	-9.04	0.00	-440.73	0.00	440.73	3456.27	834.59	2766.66	2837.10	7.39	0.922	0.000	0.172
85.00	-55.19	-8.90	0.00	-395.52	0.00	395.52	3381.62	810.04	2606.33	2693.44	8.39	0.984	0.000	0.163
90.00	-53.70	-8.75	0.00	-351.00	0.00	351.00	3305.34	785.50	2450.79	2552.14	9.46	1.044	0.000	0.154
91.75	-53.18	-8.71	0.00	-335.70	0.00	335.70	3278.25	776.91	2397.48	2503.28	9.84	1.066	0.000	0.150
95.00	-51.84	-8.60	0.00	-307.40	0.00	307.40	3221.38	760.95	2300.03	2408.83	10.58	1.104	0.000	0.144
96.50	-51.23	-8.55	0.00	-294.51	0.00	294.51	1897.75	511.10	1556.38	1434.63	10.93	1.122	0.000	0.233
97.00	-47.09	-7.65	0.00	-290.23	0.00	290.23	1894.22	509.46	1546.43	1427.35	11.05	1.128	0.000	0.228
100.00	-46.41	-7.59	0.00	-267.29	0.00	267.29	1872.71	499.64	1487.40	1383.76	11.77	1.176	0.000	0.218
105.00	-45.30	-7.44	0.00	-229.35	0.00	229.35	1835.54	483.28	1391.58	1311.57	13.05	1.252	0.000	0.200
107.00	-35.32	-6.02	0.00	-214.60	0.00	214.60	1820.21	476.74	1354.14	1282.88	13.58	1.282	0.000	0.187
110.00	-34.73	-5.95	0.00	-196.53	0.00	196.53	1796.73	466.92	1298.94	1240.06	14.40	1.326	0.000	0.178
115.00	-33.78	-5.81	0.00	-166.79	0.00	166.79	1756.29	450.56	1209.50	1169.36	15.83	1.394	0.000	0.162
120.00	-31.09	-5.05	0.00	-137.22	0.00	137.22	1714.21	434.19	1123.25	1099.58	17.32	1.458	0.000	0.143
125.00	-30.21	-4.91	0.00	-111.99	0.00	111.99	1670.50	417.83	1040.18	1030.84	18.88	1.517	0.000	0.127
130.00	-29.35	-4.76	0.00	-87.47	0.00	87.47	1625.15	401.47	960.31	963.25	20.50	1.569	0.000	0.109
133.00	-28.85	-4.67	0.00	-73.19	0.00	73.19	1597.15	391.65	913.92	923.31	21.49	1.597	0.000	0.097
135.00	-28.33	-4.61	0.00	-63.85	0.00	63.85	1578.16	385.11	883.63	896.95	22.17	1.615	0.000	0.089
136.75	-27.89	-4.55	0.00	-55.78	0.00	55.78	1475.57	356.62	820.90	841.36	22.76	1.629	0.000	0.085
137.00	-23.19	-3.45	0.00	-54.64	0.00	54.64	1473.30	355.87	817.43	838.27	22.85	1.631	0.000	0.081
140.00	-22.74	-3.36	0.00	-44.30	0.00	44.30	1445.77	346.81	776.33	801.47	23.88	1.651	0.000	0.071
145.00	-22.02	-3.21	0.00	-27.49	0.00	27.49	1398.74	331.70	710.18	741.32	25.62	1.677	0.000	0.053
146.00	-16.25	-2.14	0.00	-24.28	0.00	24.28	1389.16	328.68	697.30	729.47	25.97	1.681	0.000	0.045
150.00	-15.72	-2.02	0.00	-15.74	0.00	15.74	1340.27	316.60	646.98	677.68	27.39	1.695	0.000	0.035
155.00	-15.07	-1.88	0.00	-5.64	0.00	5.64	1276.33	301.50	586.72	614.25	29.17	1.705	0.000	0.021
158.00	0.00	-1.43	0.00	0.00	0.00	0.00	1237.97	292.43	551.98	577.69	30.24	1.707	0.000	0.000

Wind Loading - Shaft

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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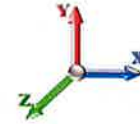


Load Case: 1.0D + 1.0W 60 mph Wind - Controlling Direction

Iterations 23

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	6.582	7.24	271.70	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.582	7.24	266.23	0.730	0.000	5.00	24.452	17.85	129.2	0.0	1355.0
10.00		1.00	0.85	6.582	7.24	260.76	0.730	0.000	5.00	23.955	17.49	126.6	0.0	1327.3
15.00		1.00	0.85	6.582	7.24	255.29	0.730	0.000	5.00	23.457	17.12	124.0	0.0	1299.5
20.00		1.00	0.90	6.984	7.68	257.34	0.730	0.000	5.00	22.960	16.76	128.8	0.0	1271.7
25.00		1.00	0.95	7.320	8.05	257.69	0.730	0.000	5.00	22.463	16.40	132.0	0.0	1244.0
30.00		1.00	0.98	7.606	8.37	256.80	0.730	0.000	5.00	21.966	16.04	134.2	0.0	1216.2
35.00		1.00	1.01	7.857	8.64	255.03	0.730	0.000	5.00	21.469	15.67	135.5	0.0	1188.5
40.00		1.00	1.04	8.081	8.89	252.58	0.730	0.000	5.00	20.972	15.31	136.1	0.0	1160.7
45.00		1.00	1.07	8.284	9.11	249.59	0.730	0.000	5.00	20.475	14.95	136.2	0.0	1132.9
45.25 Bot - Section 2		1.00	1.07	8.294	9.12	249.43	0.730	0.000	0.25	1.011	0.74	6.7	0.0	55.9
50.00 Appurtenance(s)		1.00	1.09	8.470	9.32	246.17	0.730	0.000	4.75	19.268	14.07	131.0	0.0	1964.3
51.25 Top - Section 1		1.00	1.10	8.514	9.37	245.26	0.730	0.000	1.25	4.996	3.65	34.2	0.0	509.2
55.00		1.00	1.12	8.642	9.51	246.39	0.730	0.000	3.75	14.802	10.81	102.7	0.0	702.7
60.00		1.00	1.14	8.801	9.68	242.33	0.730	0.000	5.00	19.301	14.09	136.4	0.0	916.2
65.00		1.00	1.16	8.951	9.85	238.01	0.730	0.000	5.00	18.803	13.73	135.2	0.0	892.4
70.00		1.00	1.17	9.092	10.00	233.44	0.730	0.000	5.00	18.306	13.36	133.6	0.0	868.6
75.00		1.00	1.19	9.225	10.15	228.67	0.730	0.000	5.00	17.809	13.00	131.9	0.0	844.8
80.00		1.00	1.21	9.351	10.29	223.71	0.730	0.000	5.00	17.312	12.64	130.0	0.0	821.0
85.00		1.00	1.22	9.471	10.42	218.59	0.730	0.000	5.00	16.815	12.27	127.9	0.0	797.2
90.00		1.00	1.24	9.586	10.54	213.31	0.730	0.000	5.00	16.318	11.91	125.6	0.0	773.4
91.75 Bot - Section 3		1.00	1.24	9.625	10.59	211.42	0.730	0.000	1.75	5.594	4.08	43.2	0.0	265.1
95.00		1.00	1.25	9.695	10.66	207.89	0.730	0.000	3.25	10.364	7.57	80.7	0.0	813.0
96.50 Top - Section 2		1.00	1.26	9.727	10.70	206.24	0.730	0.000	1.50	4.713	3.44	36.8	0.0	369.6
97.00 Appurtenance(s)		1.00	1.26	9.738	10.71	208.51	0.730	0.000	0.50	1.561	1.14	12.2	0.0	49.5
100.00		1.00	1.27	9.801	10.78	205.18	0.730	0.000	3.00	9.261	6.76	72.9	0.0	293.5
105.00		1.00	1.28	9.902	10.89	199.53	0.730	0.000	5.00	15.038	10.98	119.6	0.0	476.4
107.00 Appurtenance(s)		1.00	1.28	9.941	10.94	197.24	0.730	0.000	2.00	5.876	4.29	46.9	0.0	186.1
110.00		1.00	1.29	9.999	11.00	193.77	0.730	0.000	3.00	8.665	6.33	69.6	0.0	274.4
115.00		1.00	1.30	10.093	11.10	187.90	0.730	0.000	5.00	14.044	10.25	113.8	0.0	444.7
120.00 Appurtenance(s)		1.00	1.32	10.184	11.20	181.95	0.730	0.000	5.00	13.546	9.89	110.8	0.0	428.9
125.00		1.00	1.33	10.272	11.30	175.90	0.730	0.000	5.00	13.049	9.53	107.6	0.0	413.0
130.00		1.00	1.34	10.357	11.39	169.77	0.730	0.000	5.00	12.552	9.16	104.4	0.0	397.1
133.00 Bot - Section 4		1.00	1.34	10.407	11.45	166.05	0.730	0.000	3.00	7.293	5.32	60.9	0.0	230.7
135.00		1.00	1.35	10.440	11.48	163.56	0.730	0.000	2.00	4.847	3.54	40.6	0.0	303.9
136.75 Top - Section 3		1.00	1.35	10.468	11.51	161.36	0.730	0.000	1.75	4.176	3.05	35.1	0.0	261.8
137.00 Appurtenance(s)		1.00	1.35	10.472	11.52	163.99	0.730	0.000	0.25	0.592	0.43	5.0	0.0	18.7
140.00		1.00	1.36	10.520	11.57	160.21	0.730	0.000	3.00	7.002	5.11	59.2	0.0	221.4
145.00		1.00	1.37	10.598	11.66	153.87	0.730	0.000	5.00	11.272	8.23	95.9	0.0	356.3
146.00 Appurtenance(s)		1.00	1.37	10.613	11.67	152.59	0.730	0.000	1.00	2.195	1.60	18.7	0.0	69.4
150.00		1.00	1.38	10.674	11.74	147.45	0.730	0.000	4.00	8.580	6.26	73.5	0.0	271.1
155.00		1.00	1.39	10.748	11.82	140.97	0.730	0.000	5.00	10.278	7.50	88.7	0.0	324.6
158.00 Appurtenance(s)		1.00	1.39	10.791	11.87	137.06	0.730	0.000	3.00	5.928	4.33	51.4	0.0	187.1
Totals:									158.00			3,825.3		26,997.7

Discrete Appurtenance Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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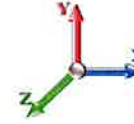


Load Case: 1.0D + 1.0W 60 mph Wind - Controlling Direction

Iterations 23

Dead Load Factor 1.00

Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	158.00	Samsung MT6413-77A	3	10.791	11.870	0.57	0.75	6.46	171.90	0.000	0.000	-76.73	0.00	0.00
2	158.00	6' Lightning rod	1	10.791	11.870	1.00	1.00	0.38	6.50	0.000	0.000	-4.51	0.00	0.00
3	158.00	Commscope	6	10.791	11.870	0.62	0.75	30.07	304.26	0.000	0.000	-356.91	0.00	0.00
4	158.00	RFS APL866513-42T0 w/	3	10.791	11.870	0.70	0.75	11.82	146.10	0.000	0.000	-140.34	0.00	0.00
5	158.00	RFS FD9R6004/2CL-3CL	6	10.791	11.870	0.38	0.75	0.70	18.00	0.000	0.000	-8.28	0.00	0.00
6	158.00	Platform w/ Hand Railsw/	1	10.791	11.870	1.00	1.00	48.20	4531.82	0.000	0.000	-572.16	0.00	0.00
7	158.00	B2/B66A RRH ORAN	3	10.791	11.870	0.50	0.75	2.82	224.10	0.000	0.000	-33.46	0.00	0.00
8	158.00	RF4461d-13A	3	10.791	11.870	0.50	0.75	2.82	217.50	0.000	0.000	-33.46	0.00	0.00
9	158.00	RRH2X60-AWS	3	10.791	11.870	0.50	0.75	5.28	165.00	0.000	0.000	-62.63	0.00	0.00
10	158.00	RFS DB-T1-6C-8AB-0Z	2	10.791	11.870	1.00	1.00	9.60	37.80	0.000	0.000	-113.96	0.00	0.00
11	158.00	BSAMNT-SBS-1-2	3	10.791	11.870	1.00	1.00	0.00	76.05	0.000	0.000	0.00	0.00	0.00
12	146.00	Alcatel 1900MHz RRH	3	10.613	11.675	0.40	0.80	2.86	180.00	0.000	0.000	-33.34	0.00	0.00
13	146.00	Alcatel 800 MHz RRH	3	10.613	11.675	0.40	0.80	2.56	159.00	0.000	0.000	-29.84	0.00	0.00
14	146.00	Alcatel TD-RRH8x20-25	3	10.613	11.675	0.40	0.80	4.86	210.00	0.000	0.000	-56.74	0.00	0.00
15	146.00	RFS APXVTM14-C-120 w/	3	10.613	11.675	0.62	0.80	14.86	267.00	0.000	0.000	-173.53	0.00	0.00
16	146.00	RFS ACU-A20-N RET	4	10.613	11.675	0.40	0.80	0.19	4.00	0.000	0.000	-2.24	0.00	0.00
17	146.00	Low Profile Platform	1	10.613	11.675	1.00	1.00	30.00	1600.00	0.000	0.000	-350.24	0.00	0.00
18	146.00	RFS APXVSP18-C-A20	3	10.613	11.675	0.66	0.80	19.16	270.00	0.000	0.000	-223.72	0.00	0.00
19	146.00	Alcatel 800MHz Filters	3	10.613	11.675	0.40	0.80	0.80	26.40	0.000	0.000	-9.39	0.00	0.00
20	137.00	Ericsson KRY 112 489/2	3	10.472	11.519	0.50	0.75	1.36	45.60	0.000	0.000	-15.63	0.00	0.00
21	137.00	HRK12 (Handrail Kit)	1	10.472	11.519	1.00	1.00	6.75	261.72	0.000	0.000	-77.76	0.00	0.00
22	137.00	Ericsson AIR6419 B41	3	10.472	11.519	0.57	0.75	6.50	198.30	0.000	0.000	-74.85	0.00	0.00
23	137.00	RFS	3	10.472	11.519	0.52	0.75	31.88	384.00	0.000	0.000	-367.21	0.00	0.00
24	137.00	Ericsson 4449 B71 + B85	3	10.472	11.519	0.50	0.75	2.97	219.60	0.000	0.000	-34.21	0.00	0.00
25	137.00	Allen Telecom	9	10.472	11.519	0.50	0.75	4.07	136.80	0.000	0.000	-46.89	0.00	0.00
26	137.00	Ericsson 4460 B25 + B66	3	10.472	11.519	0.50	0.75	4.30	327.00	0.000	0.000	-49.49	0.00	0.00
27	137.00	Kathrein 782 11056	3	10.472	11.519	0.50	0.75	0.20	8.70	0.000	0.000	-2.26	0.00	0.00
28	137.00	Low Profile Platform w/	1	10.472	11.519	1.00	1.00	25.00	1200.00	0.000	0.000	-287.98	0.00	0.00
29	120.00	SC479-HF1LDF	2	10.188	11.207	1.00	1.00	10.06	68.00	0.000	0.220	-112.74	0.00	-24.80
30	120.00	DS428E83I01T - TTA	1	10.184	11.203	0.40	0.80	3.57	50.00	0.000	0.000	-39.97	0.00	0.00
31	120.00	Pipe Mount	1	10.184	11.203	1.00	1.00	10.00	400.00	0.000	0.000	-112.03	0.00	0.00
32	120.00	Flush Mount	1	10.184	11.203	1.00	1.00	5.00	350.00	0.000	0.000	-56.01	0.00	0.00
33	120.00	Cambium Network	1	10.184	11.203	1.00	1.00	8.92	50.00	0.000	0.000	-99.93	0.00	0.00
34	120.00	SC229-DFLN	1	10.265	11.291	1.00	1.00	6.72	32.00	0.000	4.580	-75.88	0.00	-347.52
35	107.00	DMP65R-BU6DA	3	9.941	10.935	0.58	0.80	21.96	238.20	0.000	0.000	-240.17	0.00	0.00
36	107.00	(3) VFA14-H10-2120	1	9.941	10.935	0.56	0.75	28.52	2736.00	0.000	0.000	-311.86	0.00	0.00
37	107.00	AIR 6449 B77D	3	9.906	10.896	0.68	0.80	8.20	318.00	0.000	-1.800	-89.36	0.00	160.85
38	107.00	Powerwave 7020.00	6	9.941	10.935	0.48	0.80	0.98	13.20	0.000	0.000	-10.71	0.00	0.00
39	107.00	TPA65R-BU6DA-K	3	9.941	10.935	0.58	0.80	21.96	207.00	0.000	0.000	-240.17	0.00	0.00
40	107.00	Powerwave LGP21903	6	9.941	10.935	0.48	0.80	0.66	31.80	0.000	0.000	-7.24	0.00	0.00
41	107.00	Powerwave	3	9.941	10.935	0.48	0.80	0.79	48.00	0.000	0.000	-8.66	0.00	0.00
42	107.00	Collar Mount (3-Sided)	2	9.941	10.935	1.00	1.00	4.00	528.70	0.000	0.000	-43.74	0.00	0.00
43	107.00	RRUS 4449 B5/B12	3	9.941	10.935	0.54	0.80	2.64	219.00	0.000	0.000	-28.84	0.00	0.00
44	107.00	Raycap DC6-48-60-18-8F	3	9.941	10.935	0.54	0.80	3.54	98.40	0.000	0.000	-38.68	0.00	0.00
45	107.00	CCI DTMAP7819VG12A	3	9.941	10.935	0.48	0.80	1.41	57.54	0.000	0.000	-15.43	0.00	0.00
46	107.00	SitePro1 MM01	6	9.941	10.935	1.00	1.00	0.60	156.36	0.000	0.000	-6.56	0.00	0.00
47	107.00	RRUS 8843 B2 B66A	3	9.941	10.935	0.54	0.80	2.64	216.00	0.000	0.000	-28.84	0.00	0.00

Discrete Appurtenance Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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48	107.00	RRUS 4478 B14	3	9.941	10.935	0.54	0.80	3.25	178.20	0.000	0.000	-35.52	0.00	0.00
49	97.00	MC-PK8-DSH	1	9.738	10.712	1.00	1.00	37.59	1727.00	0.000	0.000	-402.66	0.00	0.00
50	97.00	RDIDC-9181-OF-48	1	9.738	10.712	0.75	0.75	1.51	21.90	0.000	0.000	-16.15	0.00	0.00
51	97.00	TA08025-B604	3	9.738	10.712	0.50	0.75	2.95	191.70	0.000	0.000	-31.65	0.00	0.00
52	97.00	TA08025-B605	3	9.738	10.712	0.50	0.75	2.95	225.00	0.000	0.000	-31.65	0.00	0.00
53	97.00	MX08FRO665-21	3	9.738	10.712	0.55	0.75	20.80	193.50	0.000	0.000	-222.76	0.00	0.00
54	50.00	Lucent L112 GPS	1	8.470	9.317	1.00	1.00	0.12	0.50	0.000	0.000	-1.12	0.00	0.00

Totals: 19,753.15

-5,546.09

Total Applied Force Summary

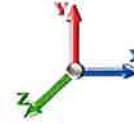
Structure: CT01080-S-SBA **Code:** TIA-222-H 3/18/2024
Site Name: Long Hill -1 **Exposure:** C
Height: 158.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 22



Load Case: 1.0D + 1.0W 60 mph Wind - Controlling Direction

Iterations 23

Dead Load Factor 1.00
Wind Load Factor 1.00



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		-129.24	-1451.58	0.00	0.00
10.00		-126.61	-1568.68	0.00	0.00
15.00		-123.98	-1540.92	0.00	0.00
20.00		-128.76	-1513.16	0.00	0.00
25.00		-132.04	-1485.40	0.00	0.00
30.00		-134.17	-1457.64	0.00	0.00
35.00		-135.45	-1429.88	0.00	0.00
40.00		-136.09	-1402.12	0.00	0.00
45.00		-136.20	-1374.36	0.00	0.00
45.25		-6.73	-67.99	0.00	0.00
50.00	(1) attachments	-132.17	-2194.11	0.00	0.00
51.25		-34.16	-569.53	0.00	0.00
55.00		-102.71	-883.80	0.00	0.00
60.00		-136.41	-1157.58	0.00	0.00
65.00		-135.15	-1133.79	0.00	0.00
70.00		-133.65	-1110.00	0.00	0.00
75.00		-131.92	-1086.20	0.00	0.00
80.00		-129.99	-1062.41	0.00	0.00
85.00		-127.88	-1038.61	0.00	0.00
90.00		-125.60	-1014.82	0.00	0.00
91.75		-43.23	-349.57	0.00	0.00
95.00		-80.69	-969.97	0.00	0.00
96.50		-36.81	-442.03	0.00	0.00
97.00	(11) attachments	-717.07	-2432.71	0.00	0.00
100.00		-72.89	-432.88	0.00	0.00
105.00		-119.57	-708.77	0.00	0.00
107.00	(48) attachments	-1152.70	-5325.47	0.00	160.85
110.00		-69.57	-363.41	0.00	0.00
115.00		-113.82	-592.99	0.00	0.00
120.00	(7) attachments	-607.33	-1527.13	0.00	-372.32
125.00		-107.64	-551.07	0.00	0.00
130.00		-104.39	-535.21	0.00	0.00
133.00		-60.94	-313.51	0.00	0.00
135.00		-40.63	-359.14	0.00	0.00
136.75		-35.10	-310.08	0.00	0.00
137.00	(29) attachments	-961.26	-2807.33	0.00	0.00
140.00		-59.15	-273.07	0.00	0.00
145.00		-95.93	-442.42	0.00	0.00
146.00	(23) attachments	-897.75	-2802.98	0.00	0.00
150.00		-73.54	-324.71	0.00	0.00
155.00		-88.71	-391.61	0.00	0.00
158.00	(34) attachments	-1453.81	-6126.38	0.00	0.00
Totals:		-9,371.44	-52,925.0 2	0.00	-211.47

Calculated Forces

Structure: CT01080-S-SBA

Code: TIA-222-H

3/18/2024

Site Name: Long Hill -1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 23

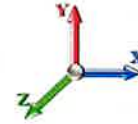


Load Case: 1.0D + 1.0W 60 mph Wind - Controlling Direction

Iterations 23

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-52.92	-9.39	0.00	-1065.5	0.00	1065.50	5458.79	1412.03	6788.21	6509.99	0.00	0.000	0.000	0.173
5.00	-51.46	-9.30	0.00	-1018.5	0.00	1018.55	5387.61	1383.40	6515.69	6293.83	0.02	0.043	0.000	0.171
10.00	-49.89	-9.21	0.00	-972.04	0.00	972.04	5314.79	1354.76	6248.75	6079.27	0.09	0.088	0.000	0.169
15.00	-48.34	-9.12	0.00	-925.99	0.00	925.99	5240.33	1326.13	5987.40	5866.42	0.21	0.132	0.000	0.167
20.00	-46.82	-9.03	0.00	-880.38	0.00	880.38	5164.24	1297.49	5731.63	5655.41	0.37	0.178	0.000	0.165
25.00	-45.33	-8.93	0.00	-835.25	0.00	835.25	5086.52	1268.86	5481.44	5446.36	0.58	0.224	0.000	0.162
30.00	-43.86	-8.82	0.00	-790.61	0.00	790.61	5007.16	1240.22	5236.83	5239.39	0.84	0.271	0.000	0.160
35.00	-42.43	-8.71	0.00	-746.51	0.00	746.51	4926.16	1211.59	4997.81	5034.61	1.15	0.318	0.000	0.157
40.00	-41.02	-8.60	0.00	-702.94	0.00	702.94	4843.52	1182.96	4764.37	4832.15	1.51	0.366	0.000	0.154
45.00	-39.64	-8.48	0.00	-659.91	0.00	659.91	4759.26	1154.32	4536.51	4632.12	1.92	0.414	0.000	0.151
45.25	-39.57	-8.49	0.00	-657.80	0.00	657.80	4755.00	1152.89	4525.26	4622.19	1.94	0.416	0.000	0.151
50.00	-37.37	-8.36	0.00	-617.49	0.00	617.49	4673.35	1125.69	4314.24	4434.65	2.38	0.463	0.000	0.147
51.25	-36.80	-8.33	0.00	-607.04	0.00	607.04	3853.76	975.71	3781.44	3703.28	2.50	0.475	0.000	0.174
55.00	-35.91	-8.25	0.00	-575.79	0.00	575.79	3804.98	957.30	3640.11	3586.87	2.89	0.513	0.000	0.170
60.00	-34.75	-8.14	0.00	-534.54	0.00	534.54	3738.51	932.76	3455.85	3433.13	3.46	0.567	0.000	0.165
65.00	-33.61	-8.02	0.00	-493.85	0.00	493.85	3670.40	908.22	3276.37	3281.16	4.08	0.622	0.000	0.160
70.00	-32.49	-7.91	0.00	-453.74	0.00	453.74	3600.66	883.67	3101.68	3131.08	4.76	0.676	0.000	0.154
75.00	-31.40	-7.79	0.00	-414.20	0.00	414.20	3529.28	859.13	2931.78	2983.02	5.50	0.731	0.000	0.148
80.00	-30.33	-7.68	0.00	-375.24	0.00	375.24	3456.27	834.59	2766.66	2837.10	6.29	0.784	0.000	0.141
85.00	-29.29	-7.56	0.00	-336.86	0.00	336.86	3381.62	810.04	2606.33	2693.44	7.14	0.837	0.000	0.134
90.00	-28.27	-7.44	0.00	-299.06	0.00	299.06	3305.34	785.50	2450.79	2552.14	8.05	0.889	0.000	0.126
91.75	-27.92	-7.40	0.00	-286.05	0.00	286.05	3278.25	776.91	2397.48	2503.28	8.38	0.907	0.000	0.123
95.00	-26.95	-7.31	0.00	-262.00	0.00	262.00	3221.38	760.95	2300.03	2408.83	9.01	0.940	0.000	0.117
96.50	-26.50	-7.28	0.00	-251.03	0.00	251.03	1897.75	511.10	1556.38	1434.63	9.30	0.955	0.000	0.189
97.00	-24.08	-6.53	0.00	-247.39	0.00	247.39	1894.22	509.46	1546.43	1427.35	9.40	0.960	0.000	0.186
100.00	-23.64	-6.47	0.00	-227.81	0.00	227.81	1872.71	499.64	1487.40	1383.76	10.02	1.001	0.000	0.177
105.00	-22.93	-6.36	0.00	-195.46	0.00	195.46	1835.54	483.28	1391.58	1311.57	11.10	1.066	0.000	0.162
107.00	-17.63	-5.11	0.00	-182.91	0.00	182.91	1820.21	476.74	1354.14	1282.88	11.56	1.092	0.000	0.152
110.00	-17.26	-5.05	0.00	-167.58	0.00	167.58	1796.73	466.92	1298.94	1240.06	12.25	1.129	0.000	0.145
115.00	-16.66	-4.94	0.00	-142.33	0.00	142.33	1756.29	450.56	1209.50	1169.36	13.47	1.187	0.000	0.131
120.00	-15.15	-4.31	0.00	-117.26	0.00	117.26	1714.21	434.19	1123.25	1099.58	14.74	1.242	0.000	0.116
125.00	-14.59	-4.21	0.00	-95.68	0.00	95.68	1670.50	417.83	1040.18	1030.84	16.07	1.291	0.000	0.102
130.00	-14.06	-4.10	0.00	-74.65	0.00	74.65	1625.15	401.47	960.31	963.25	17.45	1.336	0.000	0.086
133.00	-13.75	-4.04	0.00	-62.35	0.00	62.35	1597.15	391.65	913.92	923.31	18.30	1.361	0.000	0.076
135.00	-13.39	-3.99	0.00	-54.28	0.00	54.28	1578.16	385.11	883.63	896.95	18.87	1.375	0.000	0.069
136.75	-13.08	-3.95	0.00	-47.30	0.00	47.30	1475.57	356.62	820.90	841.36	19.38	1.387	0.000	0.065
137.00	-10.29	-2.92	0.00	-46.32	0.00	46.32	1473.30	355.87	817.43	838.27	19.45	1.389	0.000	0.062
140.00	-10.02	-2.86	0.00	-37.55	0.00	37.55	1445.77	346.81	776.33	801.47	20.33	1.406	0.000	0.054
145.00	-9.58	-2.75	0.00	-23.26	0.00	23.26	1398.74	331.70	710.18	741.32	21.81	1.428	0.000	0.038
146.00	-6.80	-1.79	0.00	-20.51	0.00	20.51	1389.16	328.68	697.30	729.47	22.11	1.431	0.000	0.033
150.00	-6.48	-1.71	0.00	-13.36	0.00	13.36	1340.27	316.60	646.98	677.68	23.32	1.443	0.000	0.025
155.00	-6.09	-1.61	0.00	-4.83	0.00	4.83	1276.33	301.50	586.72	614.25	24.83	1.452	0.000	0.013
158.00	0.00	-1.45	0.00	0.00	0.00	0.00	1237.97	292.43	551.98	577.69	25.74	1.453	0.000	0.000

Final Analysis Summary

Structure: CT01080-S-SBA	Code: TIA-222-H	3/18/2024
Site Name: Long Hill -1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 24
	Struct Class: II	



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 120 mph Wind	42.0	0.00	63.44	0.00	0.00	4799.62
0.9D + 1.0W 120 mph Wind	42.0	0.00	47.56	0.00	0.00	4734.29
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.0	0.00	88.82	0.00	0.00	1251.05
1.2D + 1.0Ev + 1.0Eh	0.8	0.00	65.95	0.00	0.00	121.39
0.9D + 1.0Ev + 1.0Eh	0.8	0.00	49.99	0.00	0.00	119.90
1.0D + 1.0W 60 mph Wind	9.4	0.00	52.92	0.00	0.00	1065.50

Max Stresses

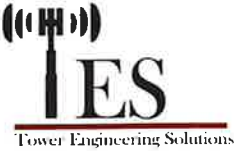
Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 120 mph Wind	-29.55	-32.86	0.00	-1135.5	0.00	1135.5	1897.75	511.10	1556.38	1434.63	96.50	0.811
0.9D + 1.0W 120 mph Wind	-21.63	-32.23	0.00	-1108.5	0.00	1108.5	1897.75	511.10	1556.38	1434.63	96.50	0.788
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-51.23	-8.55	0.00	-294.51	0.00	294.51	1897.75	511.10	1556.38	1434.63	96.50	0.233
1.2D + 1.0Ev + 1.0Eh	-33.16	0.86	0.00	38.79	0.00	38.79	1897.75	511.10	1556.38	1434.63	96.50	0.045
0.9D + 1.0Ev + 1.0Eh	-25.15	0.84	0.00	38.24	0.00	38.24	1897.75	511.10	1556.38	1434.63	96.50	0.040
1.0D + 1.0W 60 mph Wind	-26.50	-7.28	0.00	-251.03	0.00	251.03	1897.75	511.10	1556.38	1434.63	96.50	0.189

Base Plate Summary

Structure: CT01080-S-SB	Code: TIA-222-H	3/18/2024
Site Name: Long Hill -1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 25



Reactions		Base Plate		Anchor Bolts	
Original Design		Yield (ksi):	50.00	Bolt Circle:	66.00
Moment (kip-ft):	4350.00	Width (in):	67.00	Number Bolts:	24.00
Axial (kip):	51.00	Style:	Clipped	Bolt Type:	2.25" 18J
Shear (kip):	37.50	Polygon Sides:	0.00	Bolt Diameter (in):	2.25
Analysis (1.2D + 1.0W)		Clip Length (in):	13.00	Yield (ksi):	75.00
Moment (kip-ft):	4799.62	Effective Len (in):	7.75	Ultimate (ksi):	100.00
Axial (kip):	63.44	Moment (kip-in):	564.21	Arrangement:	Clustered
Shear (kip):	42.01	Allow Stress (ksi):	67.50	Cluster Dist (in):	6.00
		Applied Stress (ksi):	58.05	Start Angle (deg):	45.00
		Stress Ratio:	0.86	Compression	
				Force (kip):	148.09
				Allowable (kip):	268.39
				Ratio:	0.55
				Tension	
				Force (kip):	142.80
				Allowable (kip):	243.75
				Ratio:	0.59

	Monopole Mat Foundation Design		Date 3/18/2024	
	Customer Name:	Verizon	TIA Standard:	TIA-222-H
	Site Name:		Structure Height (Ft.):	158
	Site Number:	CT01080-S-SBA	Engineer Name:	S. Hesselbein
	Engr. Number:	146198	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	63.4	Shear Force (Kips):	42.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4799.6

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	10.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	23	Width of Pad (ft.):	23
Final Length of pad (ft)	23.0	Final width of pad (ft):	23.0

Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	39	Qty. of Rebar in Pad (W):	39	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	39	Qty. of Rebar in Pad (W):	39	

Soil Design Parameters:

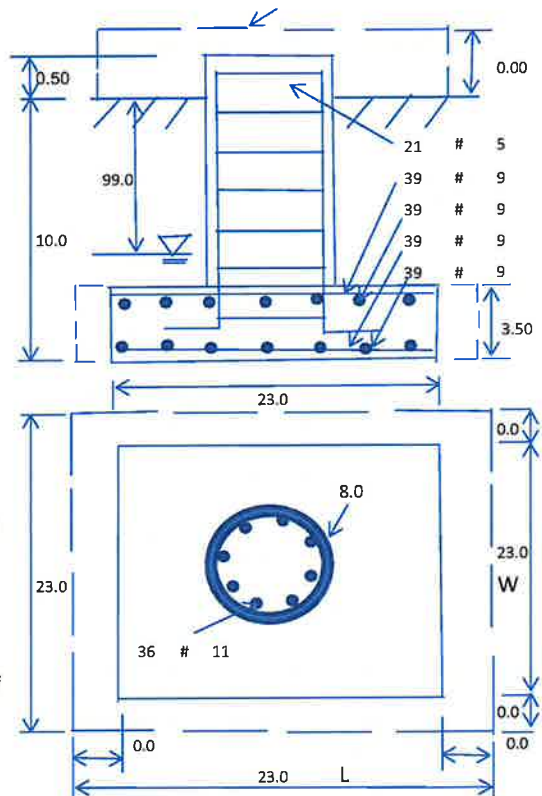
Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	12000	Ultimate Skin Friction:	425	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	3111.77	Total Dry Soil Weight (Kips):	388.97
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	388.97	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2203.36	Total Dry Concrete Weight (Kips):	330.50
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	330.50	Total Vertical Load on Base (Kips):	782.88

Check Soil Capacities:

Calculated Maximum Net Soil Pressure under the base (psf):	3565	<	Allowable Factored Soil Bearing (psf):	9000	0.40	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	8175.7	>	Design Factored Moment (kips-ft):	4676	0.57	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.75	OK!				



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):

0.90

Strength reduction factor (Shear):

0.75

Strength reduction factor (Axial compression):

0.65

Wind Load Factor on Concrete Design:

1.00

Load/
Capacity
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):

1.56

Tie / Stirrup Area (sq. in./each):

0.31

Calculated Moment Capacity (Mn,Kips-Ft):

10388.7

>

Design Factored Moment (Mu, Kips-F

5093.6

0.49

OK!

Calculated Shear Capacity (Kips):

1070.8

>

Design Factored Shear (Kips):

42.0

0.04

OK!

Calculated Tension Capacity (Tn, Kips):

3032.6

>

Design Factored Tension (Tu Kips):

0.0

0.00

OK!

Calculated Compression Capacity (Pn, Kips):

9523.4

>

Design Factored Axial Load (Pu Kips):

63.4

0.01

OK!

Moment & Axial Strength Combination:

0.49

OK!

Check Tie Spacing (Design/Required):

0.5

OK!

Pier Reinforcement Ratio:

0.008

Reinforcement Ratio is satisfied per ACI

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):

871.6

>

One-Way Factored Shear (L-D. Kips):

243.9

0.28

OK!

One-Way Design Shear Capacity (W-Direction, Kips):

871.6

>

One-Way Factored Shear (W-D., Kips)

243.9

0.28

OK!

One-Way Design Shear Capacity (Corner-Corner, Kips):

686.7

>

One-Way Factored Shear (C-C, Kips):

236.8

0.34

OK!

Lower Steel Pad Reinforcement Ratio (L-Direct.):

0.0037

OK!

Lower Steel Pad Reinf. Ratio (W-Direct

0.0037

Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):

6454.0

>

Moment at Bottom (L-Dir. K-Ft):

1315.0

0.20

OK!

Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):

6454.0

>

Moment at Bottom (W-Dir. K-Ft):

1315.0

0.20

OK!

Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):

8992.8

>

Moment at Bottom (C-C Dir. K-Ft):

1859.7

0.21

OK!

Upper Steel Pad Reinforcement Ratio (L-Direct.):

0.0037

OK!

Upper Steel Reinf. Ratio (W-Dir.):

0.0037

Upper Steel Pad Moment Capacity (L-Direct, Kips-ft):

6454.0

>

Moment at the top (L-Dir K-Ft):

593.8

0.09

OK!

Upper Steel Pad Moment Capacity (W-Direct, Kips-ft):

6454.0

>

Moment at the top (W-Dir K-Ft):

593.8

0.09

OK!

Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):

8992.8

>

Moment at the top (C-C Dir. K-Ft):

564.3

0.06

OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:

1919.8

k-ft.

Max. factored shear stress $v_{u,CD}$:

3.0

Psi

Max. factored shear stress $v_{u,AB}$:

9.0

Psi

Factored shear Strength ϕv_n :

164.3

Psi

Max. factored shear stress v_u :

9.0

Psi

Check Usage of Punching Shear Capacity:

0.06

OK!

(4).Check Bending Capacity of the Pad Within the Effective Slab Width:

Overturning moment to be transferred by flexure:

1439.9

k-ft.

Effective Width for resisting OT moment:

18.5

ft.

Calculated number of Rebar in Effective width:

32

Actual number of Rebar in Effective width:

32

Steel Pad Moment Capacity (L-Direct, Kips-ft):

5290.8

k-ft.

Check Usage of the Flexure Capacity:

0.27

OK!



Colliers Engineering & Design
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Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10237225
Colliers Engineering & Design Project #: 21781063 (Rev. 4)

July 11, 2024

Site Information

Site ID: 5000232378-VZW / MIDDLETOWN 2 CT
Site Name: MIDDLETOWN 2 CT
Carrier Name: Verizon Wireless
Address: 1825 South Main Street
Middletown, Connecticut 06459
Middlesex County
Latitude: 41.511237°
Longitude: -72.670730°

Structure Information

Tower Type: 158-Ft Monopole
Mount Type: 13.00-Ft Platform

FUZE ID # 16486546

Analysis Results

Platform: 56.2% 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: Frank Centone



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: 674967, Dated February 26, 2024
Desktop Mount Mapping Report	Colliers Engineering & Design, Project #: 21781063 dated November 11, 2021
Previous Mount Analysis	Colliers Engineering & Design, Project #: 21781063 (Rev 3) dated May 17, 2024
Mount Modification Drawings	Colliers Engineering & Design, Project #: 21781063 (Rev 3) dated June 7, 2024

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 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: 1.00 in Risk Category: II Exposure Category: C Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.989
Seismic Parameters:	S_s : 0.209 g S_1 : 0.056 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, L_v : 250 lbs. Maintenance Load, L_m : 500 lbs.
Analysis Software:	RISA-3D (V17)

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
156.00	158.00	3	Samsung	RF4461d-13A	Added
		3	Samsung	MT6413-77A	
		3	Samsung	RF4439d-25A	
		6	Andrew	SBNHH-1D65B	Retained
		2	Raycap	RRFDC-3315-PF-48	
		6	RFS	FD9R6004/2CL-3CL	
		3	RFS	APL866513	Leased
		3	Alcatel-Lucent	RRH2X60-AWS	

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

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

Standard Conditions:

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

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

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

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

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

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

Analysis Results:

Component	Utilization %	Pass/Fail
Standoff_2	42.9%	Pass
Standoff_1	20.3%	Pass
Grating Angle	32.3%	Pass
Cross Members	27.9%	Pass
Mount Pipe	40.2%	Pass
Support Rail	20.5%	Pass
Top Corner Plate	56.2%	Pass
Double Angle Face Horizontal	17.0%	Pass
Kicker Kit	8.5%	Pass
Mount Connection	30.0%	Pass

Structure Rating – (Controlling Utilization of all Components)	56.2%
--	-------

Mount Connection Envelope Reactions:

Connection Description	Elev - AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector A Standoff	156	N2	279	4148	0.625	3.295	591	1330	1.317	1.016
Sector C Standoff	156	N18	212	4031	0.522	2.949	476	1224	1.121	0.880
Sector B Standoff	156	N24	218	4277	0.504	3.237	480	1409	1.138	1.075
Sector B Bottom Reinforcement	154	N115A	1265	2990	0.000	0.000	1511	3526	0.000	0.000
Sector A Bottom Reinforcement	154	N119B	1294	3060	0.000	0.000	1664	3895	0.000	0.000
Sector C Bottom Reinforcement	154	N122	1288	3046	0.000	0.000	1562	3648	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

BASELINE mount weight per SBA agreement: 3,372.82 lbs

Increase in mount weight due to Verizon loading change per SBA agreement: 1,159.00 lbs

The weights listed above include 3 sector(s).

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	19.5	19.5	32.3	32.3
0.5	23.8	23.8	42.0	42.0
1	27.8	27.8	51.5	51.5

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. Desktop 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 #: 5000232378

SMART Project #: 10237225

Fuze Project ID: 16486546

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:

1. Contractor shall relocate existing OVPs on proposed OVP pipe.
2. Contractor shall record all dimensions and member sizes requested in the Mount Geometry Verification Requirements section of the Mount Modification Drawings. Contractor shall provide the requested information to Colliers Engineering & Design for structural verification while on site. Contact EOR if these documents are not available to the general contractor.
3. Contractor shall inspect climbing facilities and safety climb, if present, and ensure they are in good condition. Contractor shall install safety climb wire rope guides in locations where wire rope is rubbing against the mount or mount-to-tower connection steel. Wire brush clean any observed corrosion and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote). Contractor shall provide photos of wire rope guide installation as part of PMI documents. Contact EOR if additional guidance is required.

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:

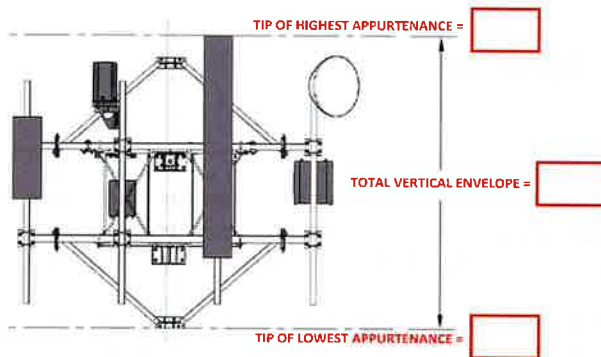


Illustration #1

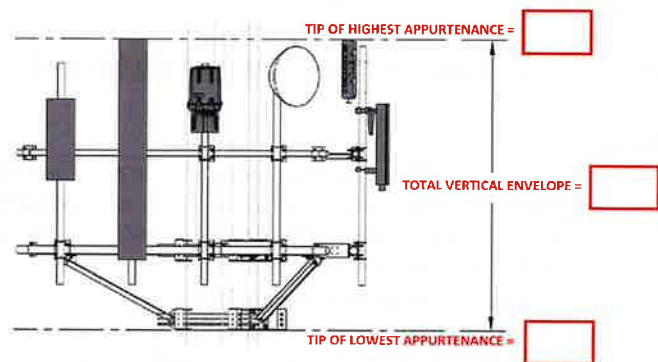


Illustration #2

Certifying Individual:

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

Sector: **A**

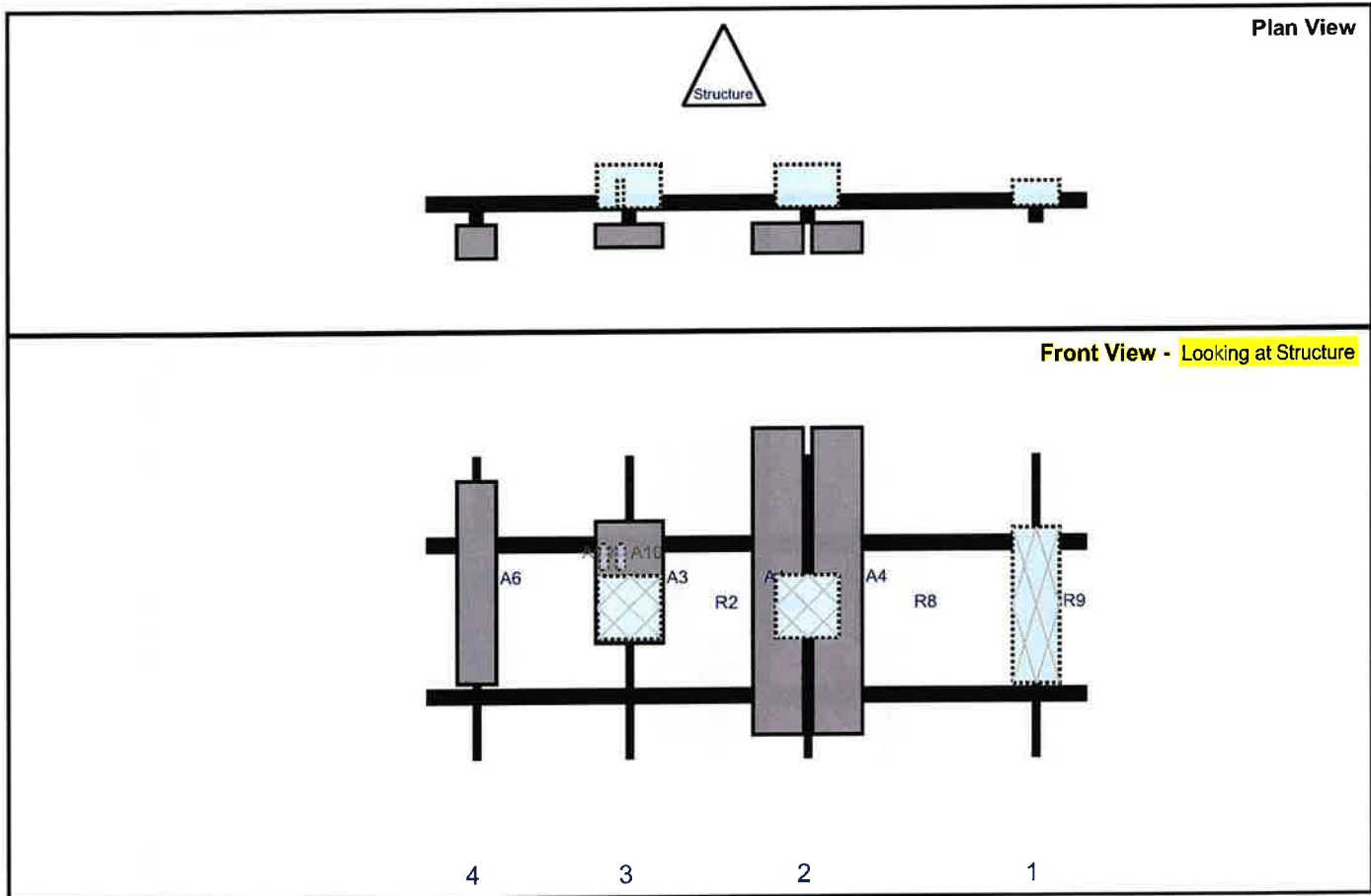
7/11/2024

Structure Type: Monopole

10237225

Mount Elev: 156.00

Page: 1



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R9	RRH2X60-AWS	37	11	144	1	a	Behind	36	0	Leased	
A4	SBNHH-1D65B	72.6	11.9	90	2	a	Front	30	-7	Retained	
A4	SBNHH-1D65B	72.6	11.9	90	2	b	Front	30	7	Retained	
R8	RF4439d-25A	15	15	90	2	a	Behind	36	0	Added	
A3	MT6413-77A	28.9	15.8	48	3	a	Front	30	0	Added	
R2	RF4461d-13A	15	15	48	3	a	Behind	36	0	Added	
A10	FD9R6004/2CL-3CL	5.8	1.5	48	3	a	Behind	24	-2	Retained	
A10	FD9R6004/2CL-3CL	5.8	1.5	48	3	b	Behind	24	-6	Retained	
A6	APL866513	48	9.2	12	4	a	Front	30	0	Leased	
OVP	RRFDC-3315-PF-48	29.5	16.5		Member					Retained	

Sector: B

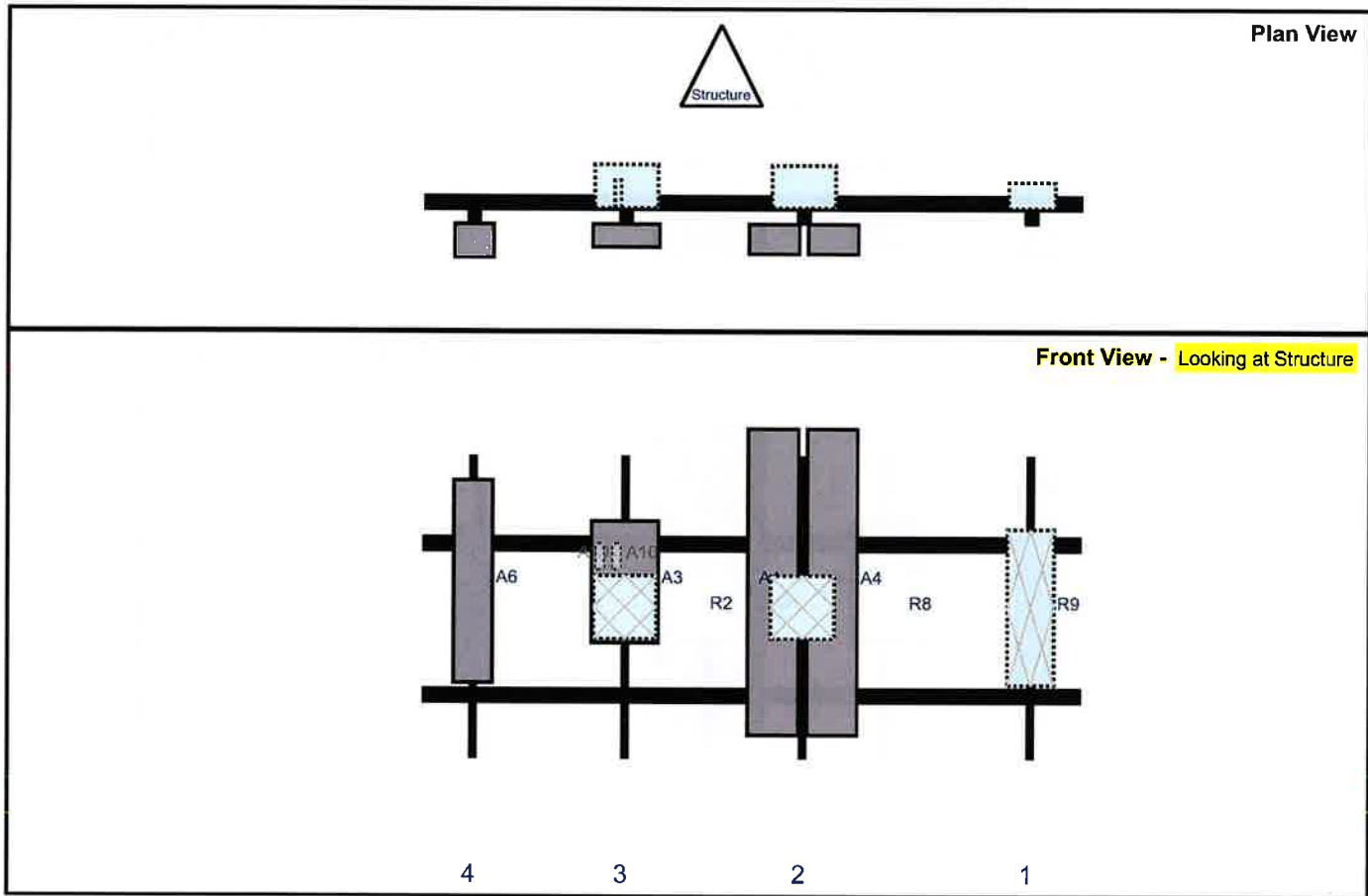
7/11/2024

Structure Type: Monopole

10237225

Mount Elev: 156.00

Page: 2



Ref#	Model	Height (in)	Width (in)	H Dist Fm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R9	RRH2X60-AWS	37	11	144	1	a	Behind	36	0	Leased	
A4	SBNHH-1D65B	72.6	11.9	90	2	a	Front	30	-7	Retained	
A4	SBNHH-1D65B	72.6	11.9	90	2	b	Front	30	7	Retained	
R8	RF4439d-25A	15	15	90	2	a	Behind	36	0	Added	
A3	MT6413-77A	28.9	15.8	48	3	a	Front	30	0	Added	
R2	RF4461d-13A	15	15	48	3	a	Behind	36	0	Added	
A10	FD9R6004/2CL-3CL	5.8	1.5	48	3	a	Behind	24	-2	Retained	
A10	FD9R6004/2CL-3CL	5.8	1.5	48	3	b	Behind	24	-6	Retained	
A6	APL866513	48	9.2	12	4	a	Front	30	0	Leased	
OVP	RRFDC-3315-PF-48	29.5	16.5		Member					Retained	

Sector: C

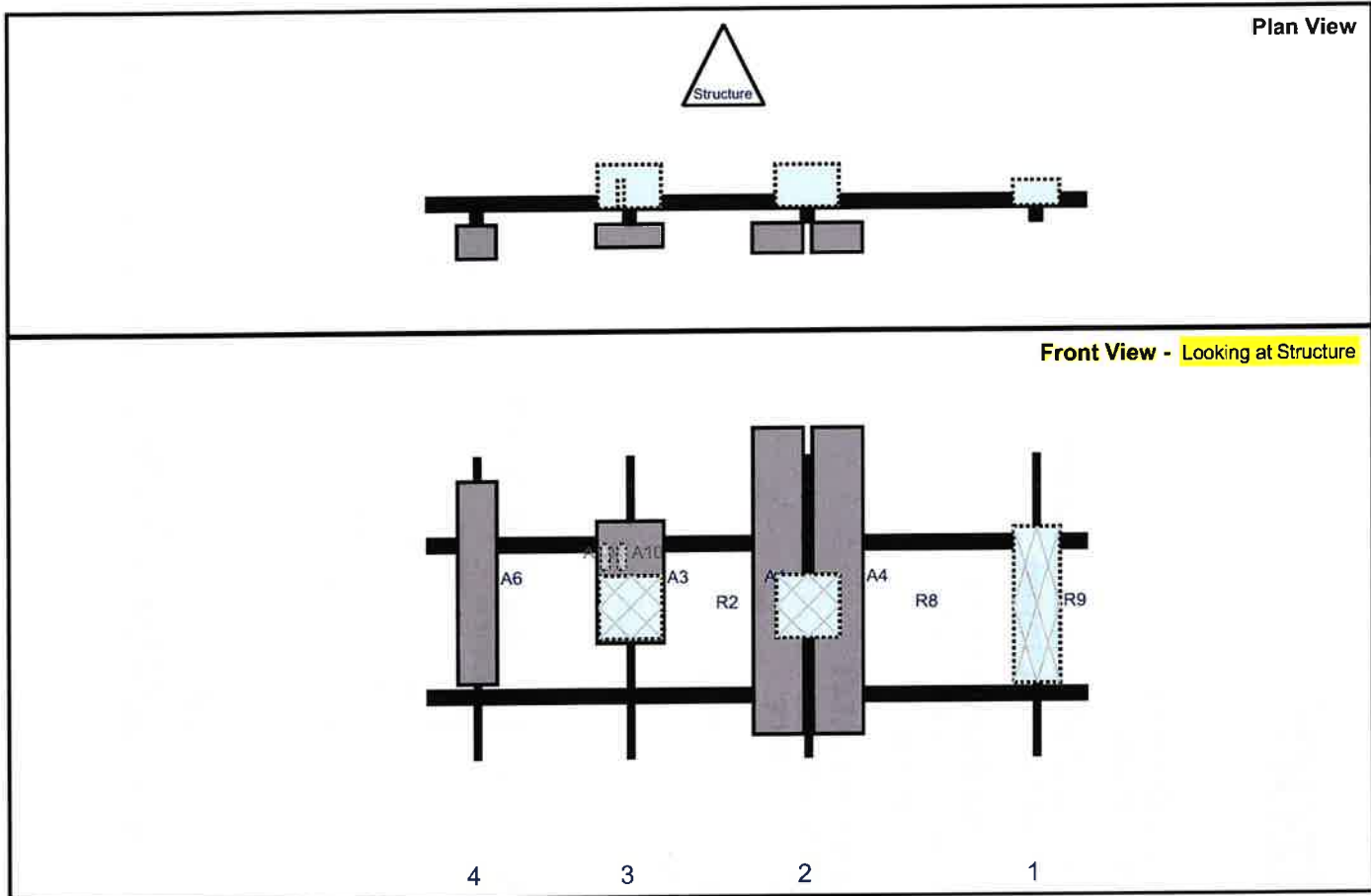
7/11/2024

Structure Type: Monopole

10237225

Mount Elev: 156.00

Page: 3



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R9	RRH2X60-AWS	37	11	144	1	a	Behind	36	0	Leased	
A4	SBNHH-1D65B	72.6	11.9	90	2	a	Front	30	-7	Retained	
A4	SBNHH-1D65B	72.6	11.9	90	2	b	Front	30	7	Retained	
R8	RF4439d-25A	15	15	90	2	a	Behind	36	0	Added	
A3	MT6413-77A	28.9	15.8	48	3	a	Front	30	0	Added	
R2	RF4461d-13A	15	15	48	3	a	Behind	36	0	Added	
A10	FD9R6004/2CL-3CL	5.8	1.5	48	3	a	Behind	24	-2	Retained	
A10	FD9R6004/2CL-3CL	5.8	1.5	48	3	b	Behind	24	-6	Retained	
A6	APL866513	48	9.2	12	4	a	Front	30	0	Leased	



MOUNT MODIFICATION DRAWINGS
13.00' PLATFORM
TOWER OWNER: SBA COMMUNICATIONS CORPORATION
TOWER OWNER SITE NUMBER: CT01080

CARRIER SITE NAME: MIDDLETOWN 2 CT
CARRIER SITE NUMBER: 5000232378
FUZE ID: 16486546

1825 SOUTH MAIN STREET
MIDDLETOWN, CT 06459
MIDDLESEX COUNTY

LATITUDE: 41.511237° N
LONGITUDE: -72.67073° W



www.colliersengineering.com

Colliers Engineering & Design
1000 Main Street, Suite 100
Middletown, CT 06459
Tel: 860.336.1111
Fax: 860.336.1112
Email: info@collierseng.com



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SHEET INDEX

SHEET	DESCRIPTION
ST-1	TITLE SHEET
SDM-1	BILL OF MATERIALS
SDM-1	GENERAL NOTES
SDM-1	CLIMBING FACILITY DETAIL
SD-1	MODIFICATION DETAILS
SD-2	MODIFICATION DETAILS
SD-3	GEOMETRY VERIFICATION SKETCHES
SD-4	MOUNT PHOTOS
SD-5	SPECIFICATION SHEETS

PROJECT INFORMATION

APPLICANT/LESSEE	COMPANY: VERIZON WIRELESS
CLIENT REPRESENTATIVE	CLIENT REPRESENTATIVE
COMPANY: VERIZON WIRELESS	PROJECT MANAGER
PROJECT MANAGER	COMPANY: COLLIER ENGINEERING & DESIGN
CONTACT: PETER ALBANO	PHONE: 860.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM	

CONTRACTOR PMI REQUIREMENTS
PMI LOCATION: 1000 MAIN STREET, SUITE 100, MIDDLETOWN, CT 06459
PMI PROJECT #
PMI ANALYSIS DATE

DESIGN CRITERIA

WIND LOADS
BASIC WIND SPEED (1 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY: C
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 316.7'
ICE LOADS
ICE WIND SPEED (1 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.00 IN
SEISMIC LOADS
SEISMIC DESIGN CATEGORY: B
SHORT TERM MCR GROUND MOTION, S ₁ = .20g
LONG TERM MCR GROUND MOTION, S ₂ = .08g

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NOTED FOR SCALE DRAWINGS FOR CONSTRUCTION

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1		VZWSMART-4SK6	BACK TO BACK CROSSOVER PLATE		34	34
1		VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET 504.1.	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 504.1.	291	291
1		VZWSMART-PLK7	HONOROLE COLLAR MOUNT ASSEMBLY		150	150
1	VZWSMART	VZWSMART-F40-23BX048	48" LONG, RIF 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.)
6	-	-	76" LONG, L3x3x1/4	GALVANIZED	21	126
3	-	-	20" LONG, L3x3x1/4	GALVANIZED	5	15
6	-	-	6" LONG, HSS3x2 1/2x1/4	GALVANIZED	2	12
6	-	-	6" LONG, 2 1/2x1/2 SHIRT PLATE	GALVANIZED	2	12
-	-	-	1/2" A325N BOLTS	GALVANIZED		
-	-	-	1/2" U-BOLT, 425 GR. 2	GALVANIZED		

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISION	PI-CLAMP-LV-0106	CLAMP BRACKET	OR FOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PI-CHK-CG-5M	WIRE ROPE GUIDE	OR FOR APPROVED EQUIVALENT	-	-
TOTAL						1159

*FOR ACTUAL INSTALL WEIGHT PLEASE CHECK THE MA REPORT

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.

COMMSCOPE			
CONTACT	SALVADOR ANGUIANO		
PHONE	(817) 944-7492		
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM		
WEBSITE	WWW.COMMSCOPE.COM		
METRONITE FABRICATORS, LLC			
CONTACT	KENT BAHEY		
PHONE	(704) 333-7045 (O), (704) 982-2788 (F)		
EMAIL	KENT@METRONITELLC.COM		
WEBSITE	METRONITEFABRICATOR.COM		

PERFECTVISION			
CONTACT	WIRELESS SALES		
PHONE	(844) 887-4721		
EMAIL	WWW.PEPECT-VISION.COM		
WEBSITE	WIRELESS.SALES@PEPECT-VISION.COM		
SABRE INDUSTRIES, INC.			
CONTACT	ANGE WELCH		
PHONE	(866) 438-6937		
EMAIL	ANGEWELCH@SABREINDUSTRIES.COM		
WEBSITE	WWW.SABREINDUSTRIES.COM		

SITE PRO 1			
CONTACT	PALLA BOEWELL		
PHONE	(972) 315-9841		
EMAIL	PALLA.BOEWEELL@VALPOINT.COM		
WEBSITE	WWW.VTERRA.COM		



www.collinsengineering.com

During August 24, 2024



PROJECT LOCATION: 1825 SOUTH MAIN STREET, MIDDLETOWN, CT 06459

FOR THIS PROJECT, CONTACT: JAMES W. WATSON

PROJECT NO: 23783

NO.	DATE	DESCRIPTION
1	08/10/2024	ISSUED FOR PERMIT
2	08/10/2024	ISSUED FOR PERMIT
3	08/10/2024	ISSUED FOR PERMIT
4	08/10/2024	ISSUED FOR PERMIT
5	08/10/2024	ISSUED FOR PERMIT
6	08/10/2024	ISSUED FOR PERMIT
7	08/10/2024	ISSUED FOR PERMIT
8	08/10/2024	ISSUED FOR PERMIT
9	08/10/2024	ISSUED FOR PERMIT
10	08/10/2024	ISSUED FOR PERMIT



08/10/2024

COLLINS ENGINEERING & DESIGN, P.C.

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SITE NAME:

MIDDLETOWN 2 CT

5000332378

1825 SOUTH MAIN STREET

MIDDLETOWN, CT 06459

MIDDLESEX COUNTY

08/10/2024

08/10/2024

08/10/2024

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GENERAL NOTES

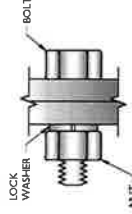
1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H, MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
 2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES, ANY DAMAGE TO EXISTING STRUCTURES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
 3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK. ORDERING MATERIAL AND PREPARING OF SHOP DRAWINGS, ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
 4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
 5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
 6. ALL CONSTRUCTION MEANS AND METHODS, INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE MODIFICATIONS. THE CONTRACTOR SHALL MEET AND ADHERE TO ALL REQUIREMENTS OF THE FEDERAL COMMUNICATIONS COMMISSION (FCC) PART 17, AND THE FEDERAL AVIATION ADMINISTRATION (FAA) PART 322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
 7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
 8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 10 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, BRACING AND ANY OTHER STRUCTURAL MEANS NECESSARY TO MAINTAIN THE STRENGTH AND STABILITY OF THE STRUCTURE UNTIL THE STRUCTURE IS FULLY COMPLETED.
 9. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
 10. 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.
 11. 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.
 12. 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 AND CONSTRUCTED BY A QUALIFIED STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
 13. DO NOT SCALE DRAWINGS.
 14. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
 15. ALL MATERIAL UTILIZED FOR THE 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.
 16. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.
- ## STRUCTURAL STEEL
1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
 - a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) HANDBOOK OF STEEL CONSTRUCTION (15TH EDITION)
 - b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
 - c. AISC CODE OF STANDARD PRACTICE
 2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:
 - a. CHANNELS, ANGLES, PLATES, ETC. ASTM A36 (GR 36)
 - b. STEEL PIPE ASTM A53 (GR 35)
 - c. BOLTS ASTM A573
 - d. LOCK WASHERS ASTM A563
 3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR 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 REDSIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
 4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - a. SUBMIT SHOP DRAWINGS TO:
PETR.ALANO@COLLIERENGINE.COM
 - b. PROVIDE COLLIER ENGINEERING & DESIGN PROJECT # AND COLLIER ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
 5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
 6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
 7. ALL NEW STEEL SHALL BE HOT DIP GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
 8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
 9. WAREHOUSE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS. FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
 10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
 11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
 12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
 13. ALL NEW STEEL SHALL BE HOT DIP GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
 14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COAT OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
 15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

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

WORKABLE GAGES (IN.)

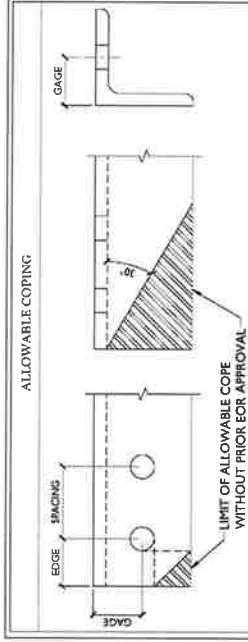
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

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

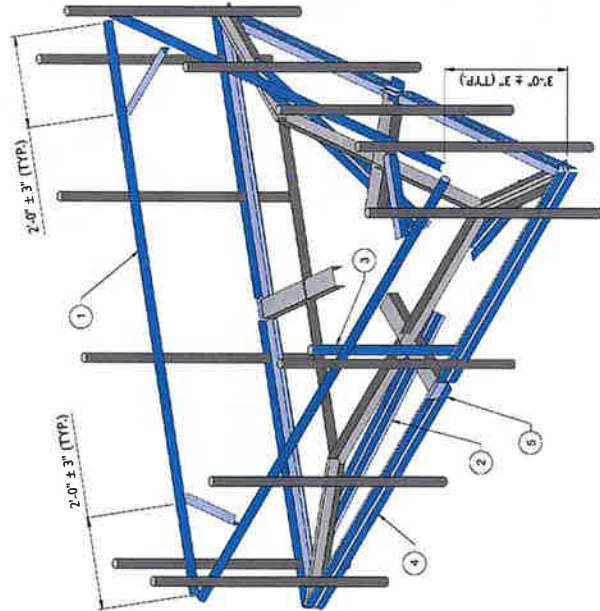
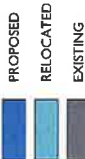


SGN-1

NOTES: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

[illegible]

LEGEND:



PROPOSED ISOMETRIC VIEW

SCALE: N.T.S.

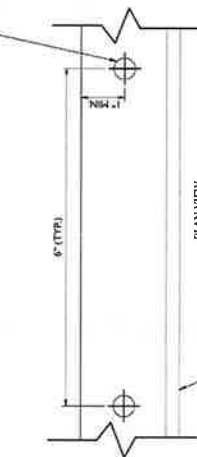
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MOUNT MODIFICATION SCHEDULE			NOTES	
NO.	ELEVATION	QUANTITY	DESCRIPTION	
1		1	PROPOSED SUPPORT RAIL KIT (PART # VZWSHART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1. RADIO AND/OR THE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
2		1	PROPOSED KICKER KIT (PART # VZWSHART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1. RADIO AND/OR THE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
3	156'-0"	1	PROPOSED 48" LONG, PIPE 2 SCH40 (PART # VZWSHART-48023BX068)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1. RADIO AND/OR THE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
4		6	76" LONG, L36X1/4	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1. RADIO AND/OR THE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
5		3	20" LONG, L36X1/4	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1. RADIO AND/OR THE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
6		6	6" LONG, HSS3X2 L26X1/4	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1. RADIO AND/OR THE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
7		6	6" LONG, 2 1/2X1/2 SHIM PLATE	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1. RADIO AND/OR THE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.

GENERAL NOTES:

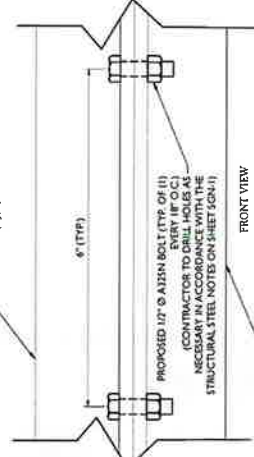
- CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR.
- THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT.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

PROPOSED 1/2" Ø A325N BOLT HOLE (TYP. OF 1) EVERY 6" O.C.) (CONTRACTOR TO DRILL HOLES AS SHOWN IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1)



PLAN VIEW

PROPOSED 1/2" Ø A325N BOLT (TYP. OF 1) EVERY 6" O.C. (CONTRACTOR TO DRILL HOLES AS SHOWN IN ACCORDANCE WITH THE STRUCTURAL STEEL NOTES ON SHEET SON-1)



FRONT VIEW

2

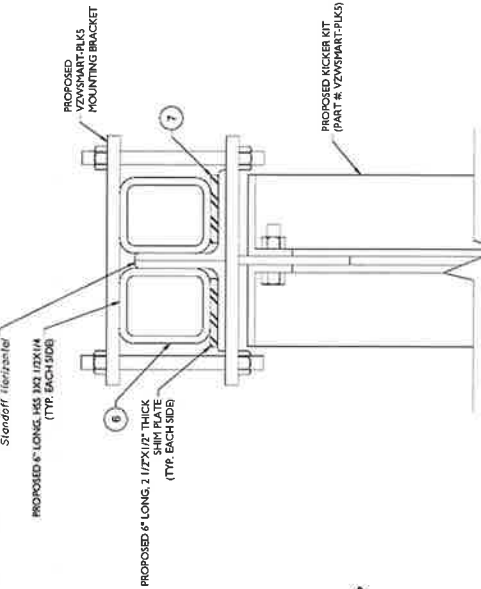
PROPOSED MODIFIED DOUBLE ANGLE (TYP.)

SCALE: N.T.S.

3

KICKER TO STANDOFF CONNECTION DETAIL

SCALE: N.T.S.



PROPOSED KICKER KIT (PART # VZWSHART-PLK5)

PROPOSED SHIM PLATE MOUNTING BRACKET

PROPOSED KICKER KIT (PART # VZWSHART-PLK5)



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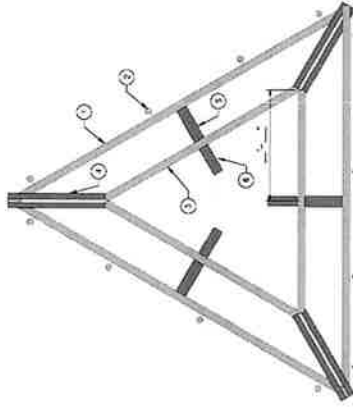
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EXISTING MEMBERS			
NO.	DESCRIPTION	SHAPE	NOTES
1	FACE HORIZONTAL		TYP. OF 3, 1 PER SECTOR
2	MOUNT PIPE		TYP. OF 12, 4 PER SECTOR
3	GRATING SUPPORT		TYP. OF 3, 1 PER SECTOR
4	CORNER GRATING ANGLE		TYP. OF 3, 1 PER SECTOR
5	OUTER STANDOFF HORIZONTAL		TYP. OF 3, 1 PER SECTOR
6	INNER STANDOFF HORIZONTAL		TYP. OF 3, 1 PER SECTOR

LIST ALL SHAPES:
 ANGLE (LEGH/LEGZ) H1 BX 1/2x1/4
 CHANNEL (DEPTH/LANGE WIDTH) BX C4x1.78"
 PIPE (OD) BX 1/2" SCH 40
 PLATE (THICKNESS) BX PLATE 1/2"x2"



1 EXISTING MOUNT GEOMETRY VERIFICATION PLAN VIEW
 SCALE: N.T.S.

NOTE:

CONTRACTOR SHALL RECORD ALL DIMENSIONS AND MEMBER SIZES SHOWN IN THIS SKETCH. DOCUMENT VIA PHOTOS AND SKETCHES AND PROVIDE TO THE EOR FOR EVALUATION.



Member of the Engineering & Design Group
 1800 South Main Street
 Middlesex, CT 06459
 Phone: 860.389.1100
 Fax: 860.389.1101
 Email: info@collinseng.com



NO.	AS SHOWN	AS NOTED	DATE
1	SPRINKLER	SPRINKLER	06/10/2014
2	SPRINKLER	SPRINKLER	06/10/2014
3	SPRINKLER	SPRINKLER	06/10/2014
4	SPRINKLER	SPRINKLER	06/10/2014
5	SPRINKLER	SPRINKLER	06/10/2014
6	SPRINKLER	SPRINKLER	06/10/2014



CONTRACTOR SHALL VERIFY THE EXISTENCE OF ALL MEMBERS SHOWN ON THIS SKETCH. UNLESS OTHERWISE NOTED, ALL MEMBERS SHALL BE VERIFIED BY THE CONTRACTOR. UNLESS OTHERWISE NOTED, ALL MEMBERS SHALL BE VERIFIED BY THE CONTRACTOR. UNLESS OTHERWISE NOTED, ALL MEMBERS SHALL BE VERIFIED BY THE CONTRACTOR.

SITE NAME:
 MIDDLETOWN 2 CT
 500023278
 1825 SOUTH MAIN STREET
 MIDDLETOWN, CT 06459
 MIDDLESEX COUNTY



Member of the Engineering & Design Group
 1800 South Main Street
 Middlesex, CT 06459
 Phone: 860.389.1100
 Fax: 860.389.1101
 Email: info@collinseng.com

GEOMETRY VERIFICATION SKETCHES

SS-3



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ally. If you are in a position to do a service, or have and wish to market it, let your boss and fellow employees know. It's a lot better to get the name of an employer who is interested in your services than to get the name of an employer who is not. In fact, you may even be able to get a job with the employer who is not interested in your services.

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811 PROJECT WORK HERE

JULIA SHERMAN WITH DR. GREGORY A. VAS

[illegible]

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C. E. R. S. 1963

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AGRICULTURAL MACHINERY

TRENITS, DOKTERIS (2009)

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1035 SOUTH MAIN STREET

1825 SOUTH MAIN STREET
MIDDLETOWN CT 06459

MIDDLESEX COUNTY
MIDDLETOWN, CT 06455

THE UNIVERSITY OF CHICAGO

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Calligraphy
2000 Milestones of Change

[illegible]

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& Design**

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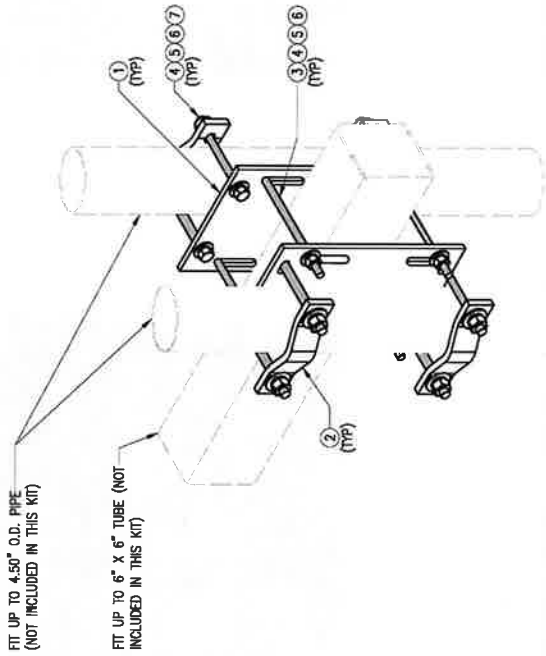
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MOUNT PHOTOS

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4-22

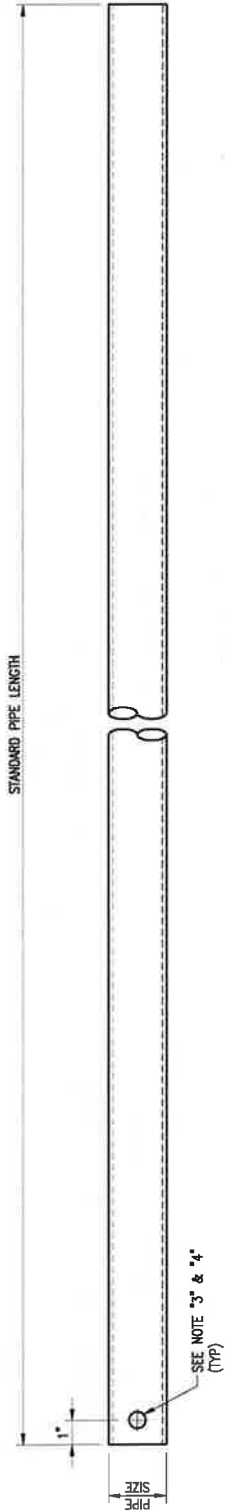




ISOMETRIC VIEW
BACK TO BACK CROSSOVER

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 HOG		
4	16	NUT-625	5/8" HOG HEX NUT		2
5	16	FW-625	5/8" HOG USS FLAT WASHER		
6	16	LW-625	5/8" HOG LOCK WASHER		
7	8		BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD		0
				GALVANIZED	WT 34

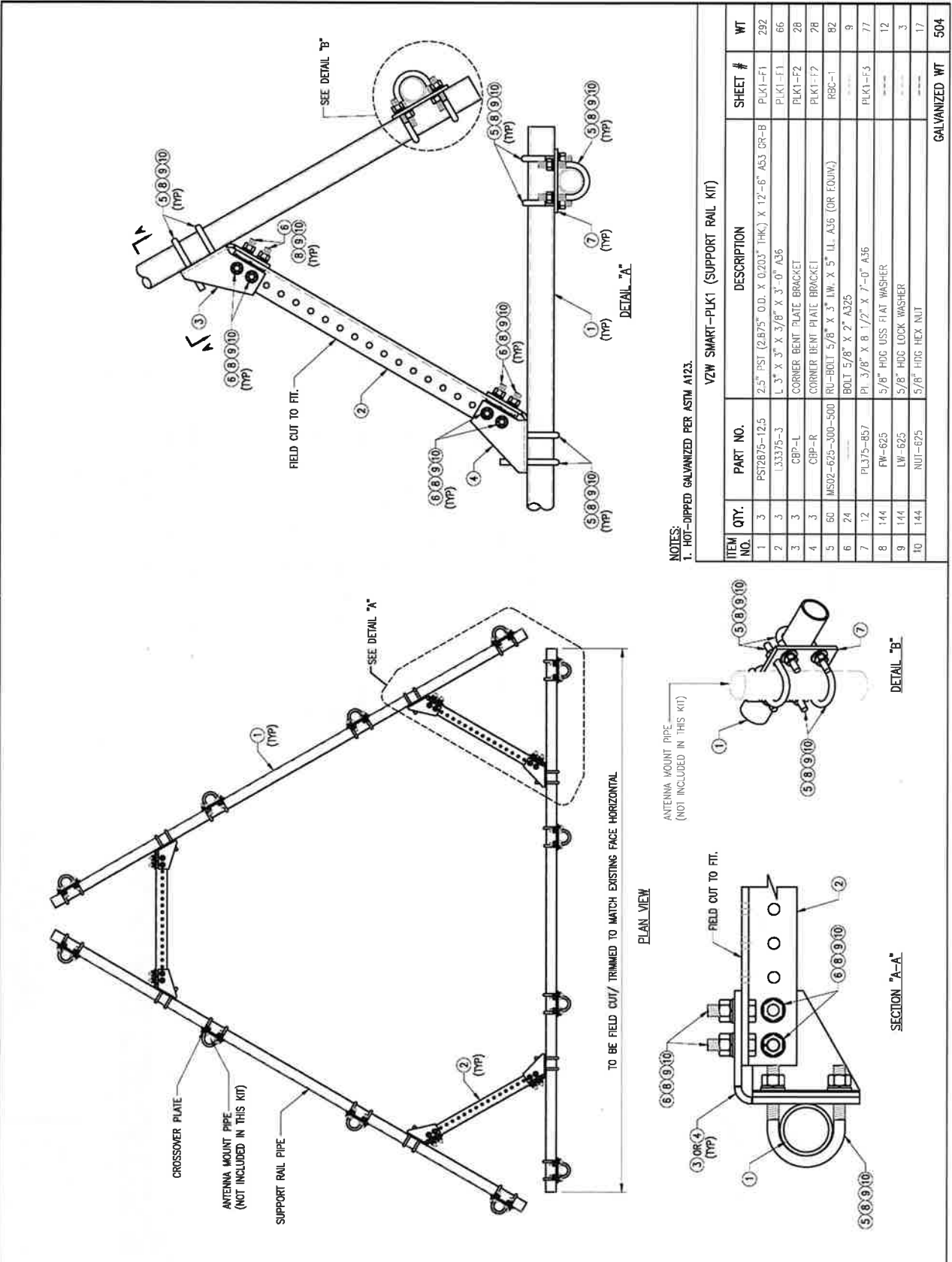
NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.



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

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

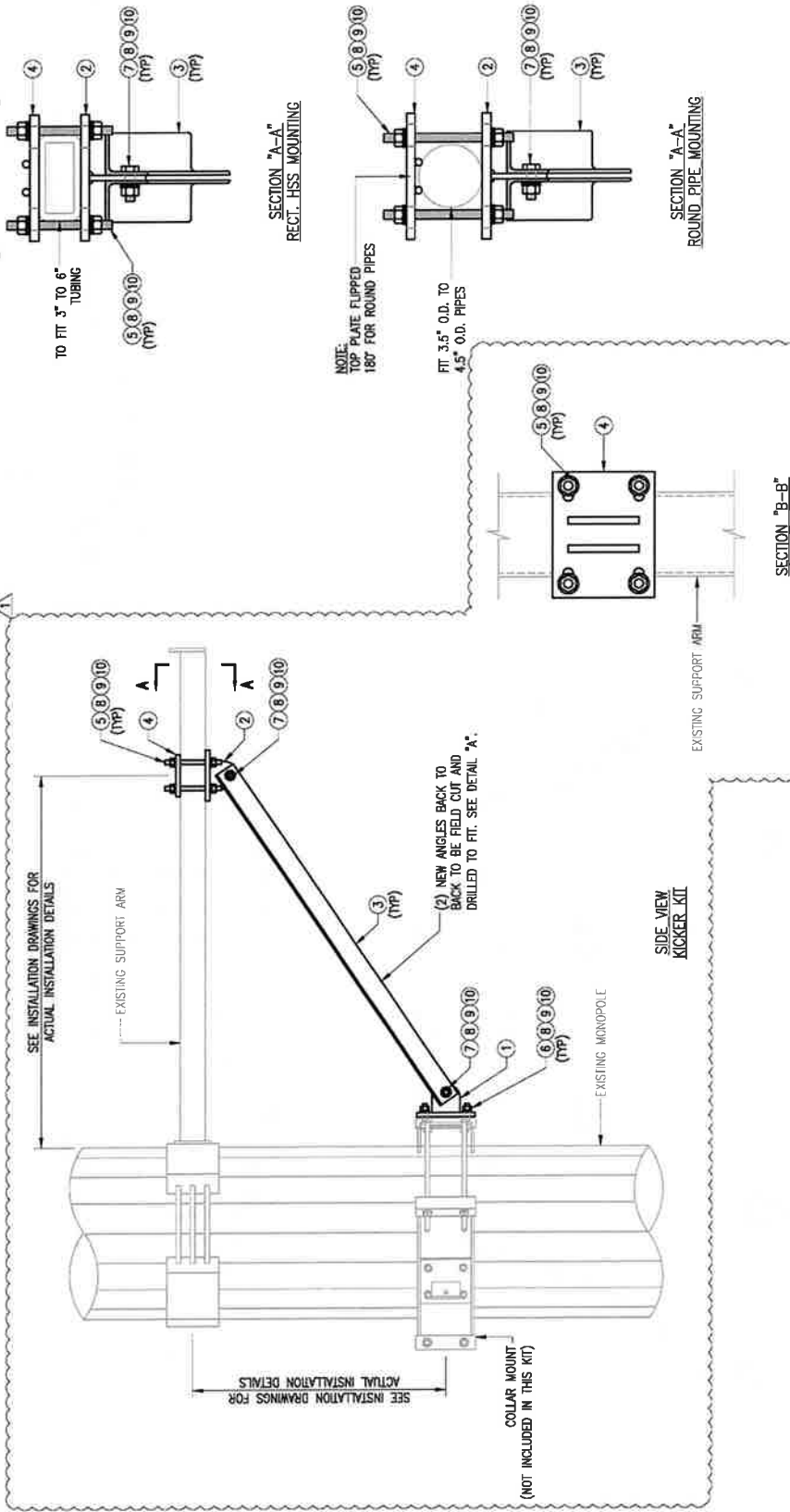
- NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.
 3. ALL HOLES ARE 11/16" DIA. UNO.
 4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
 5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINCA OR ZINC COTE PER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



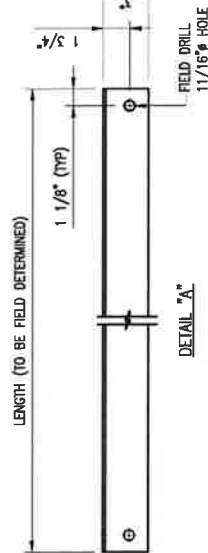
NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZW SMART-PLK1 (SUPPORT RAIL KIT)				
ITEM NO.	QTY.	PART NO.	DESCRIPTION	WT
1	3	PS2875-12.5	2.5" PST (2.675" O.D. X 0.203" THK.) X 12'-6" A36 CR-B	292
2	3	133375-3	L 3" X 3" X 3/8" X 3'-0" A36	66
3	3	CBP-L	CORNER BENT PLATE BRACKET	28
4	3	CBP-R	CORNER BENT PLATE BRACKET	28
5	60	MS02-625-300-500	RU-BOLT 5/8" X 3" LW. X 5" UL. A36 (OR FOUND.)	82
6	24		BOLT 5/8" X 2" A325	9
7	12	PL375-857	PI 3/8" X 8 1/2" X 7'-0" A36	77
8	144	FW-625	5/8" HDG USS FLAT WASHER	12
9	144	LW-625	5/8" HDG LOCK WASHER	3
10	144	NUT-625	5/8" HDG HEX NUT	17
GALVANIZED WT				504

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



ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	BRK-XXX	BRACKET WELDMENT A36	PLK5-F3	39.09
2	3	BRK-XXX	BRACKET WELDMENT A36	PLK5-F2	37.50
3	6	131165-B	1 3/8" X 3" X 3/16" X 8'-0" A36	PLK5-F1	182.8
4	3	PL-41	PL 5/8" X 7-1/4" X 9" A36	PLK5-F1	39.06
5	12		THREADED ROD 5/8" DIA. X 1'-0" F1554-36 F06		
6	6		BOLT 5/8" X 2 1/4" A325		
7	12		BOLT 5/8" X 2" A325		
8	42	FW-625	5/8" HDG USS FLAT WASHER		3
9	42	LW-625	5/8" HDG LOCK WASHER		
10	42	NUT-625	5/8" HDG HEX NUT		5
CALVANIZED WT					299



NOTES:
1. ALL HOLES ARE 11/16\"/>

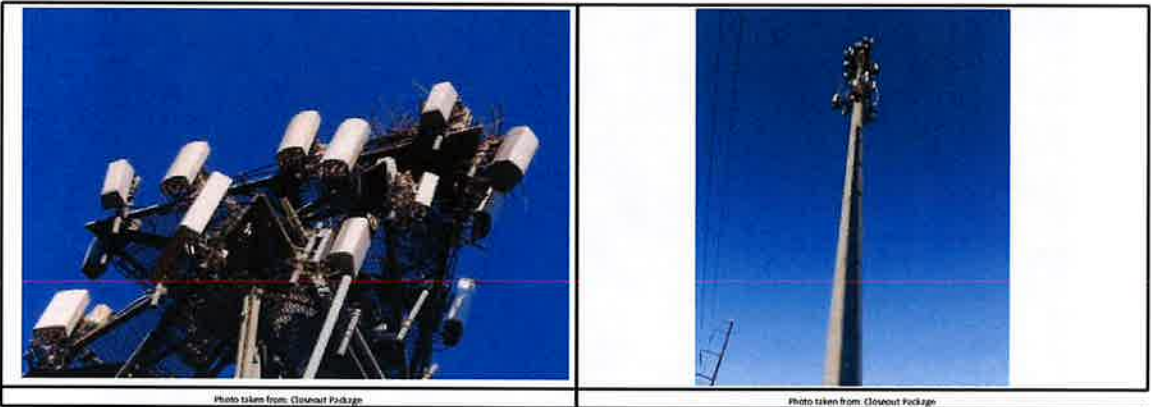


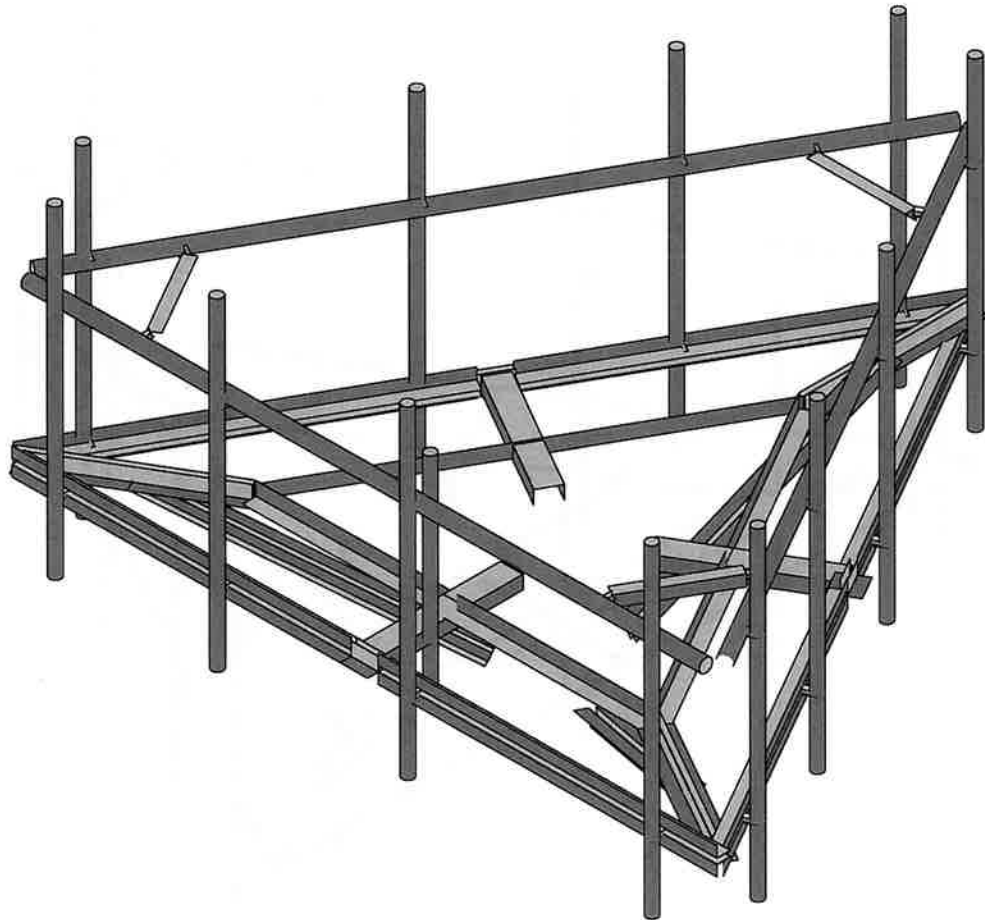
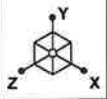
 Colliers Engineering & Design	Desktop Mount Mapping Form			
	Site Name:	MIDDLETOWN 2 CT	Tower Type:	Monopole
	Site ID:	468237	Tower Owner:	SBA
	FUZE Project ID:	16486546	Tower Height (FL):	160'
	Customer:	Verizon Wireless	Mount Elevation (FL):	158'
	Colliers Project No.	21781063	Date:	11/11/2021

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Document Type	Provided? (Yes/No)	Source Name	Project No.	Dated	Comments/Remarks
Previous Mount Mapping	No				
Previous Mapping Photos	No				
Previous Mount Analysis	No				
Previous Mount Modifications	No				
Previous Structural Analysis	Yes	TOWER ENGINEERING SOLUTIONS	17158	3/27/2015	Middletown 2 Structural Analysis .pdf (pass)
Construction Drawings	Yes	On Air Engineering, LLC		2/15/2016	Middletown 2 CT AWS-RET CD's 02-15-16 v0.pdf
Closeout Package	Yes	VERIZON		5/9/2016	Verizon Middletown 2 COP
Closeout Photos	No				
Handover Package	No				
Tower Manufacture Drawings	No				
Other	Yes	Hudson Design Group, LLC		11/5/2021	Photo Package
Previous PMI	Yes	Kaefus		4/4/2017	Middletown 2 PIM Report.pdf
PE Letter	No				

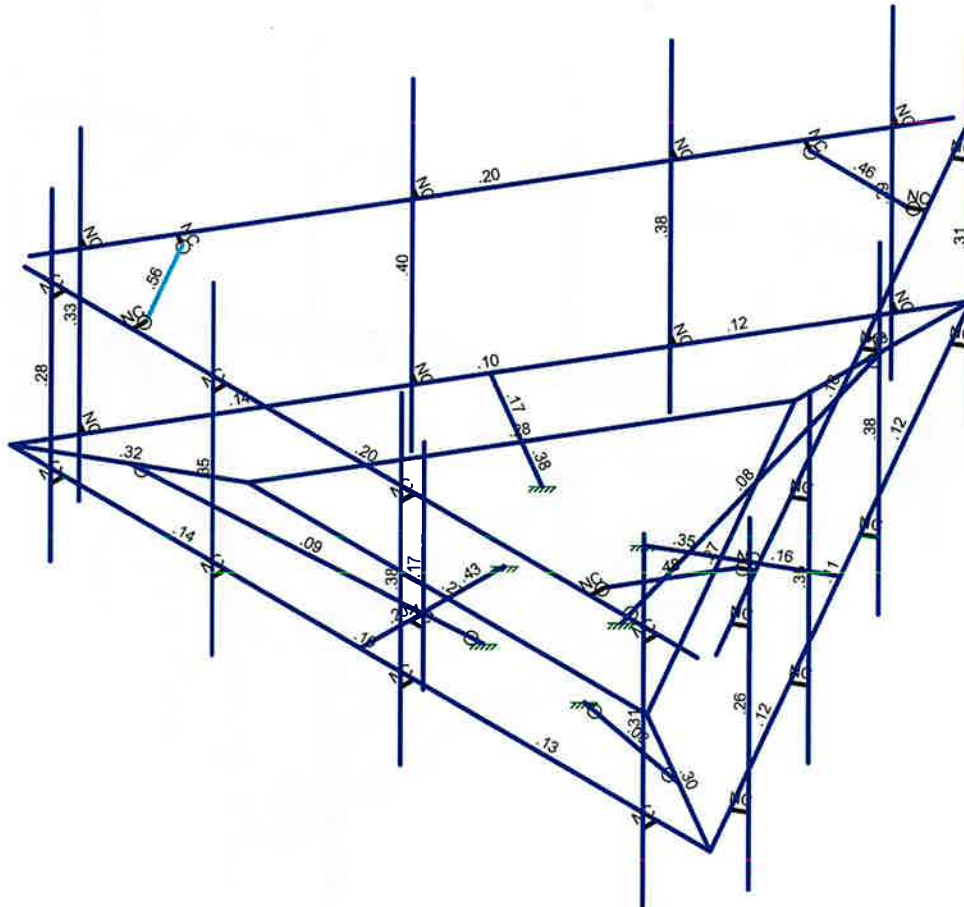
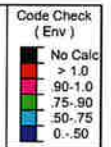
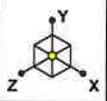
The desktop mount mapping is based on the engineering review of the available site documents in FUZE, as listed above, in place of a full mount mapping. It is assumed that the information provided in the documents listed above, provide an accurate representation of the existing mount. EOR reserves the right and will typically require additional clarification and verification as will be included in the PMI requirements. During the Post Modification Inspection (PMI) process, the GC on site will be required to confirm all questions, confirmations, and validations as posed by the EOR. The engineering review for this desktop mount mapping was performed in accordance to the ANSI/TIA-222-H requirements and Verizon's NSTD446 standard.





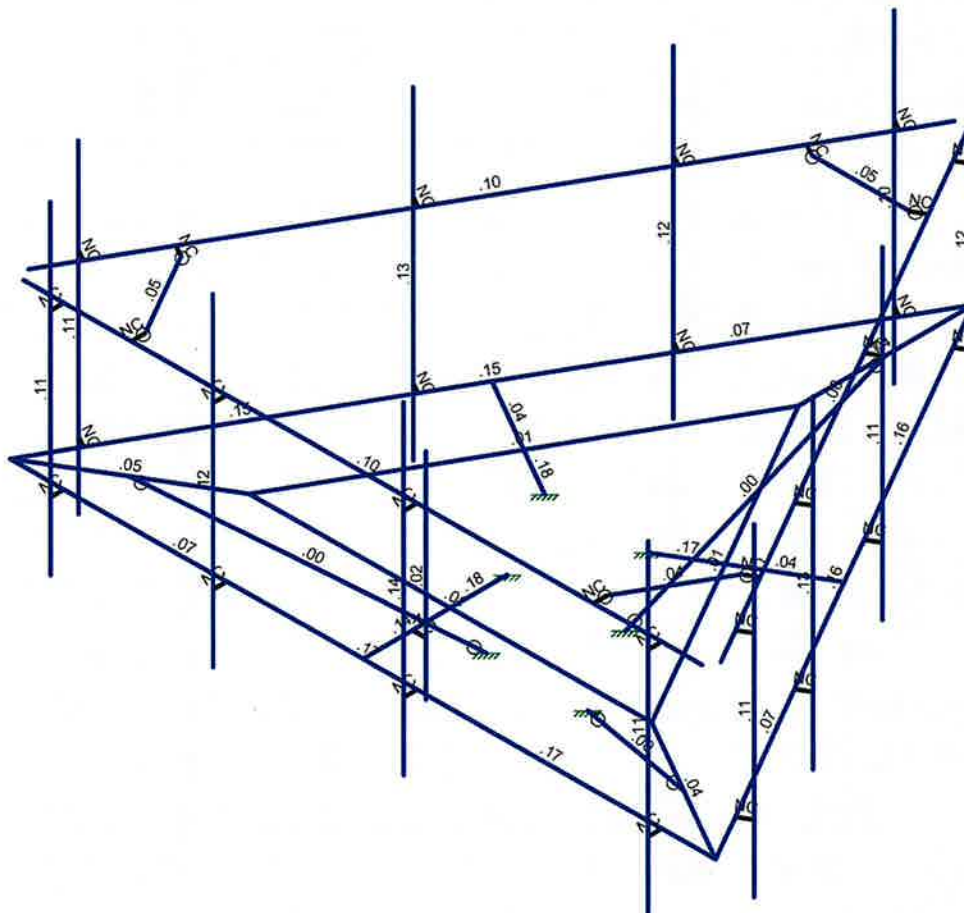
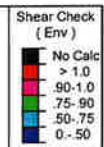
5000232378-VZW_MT_LO_H

SK - 1
July 11, 2024 at 11:00 AM
Base.r3d



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0Wo (0 Deg)

	5000232378-VZW_MT_LO_H	SK - 2
		July 11, 2024 at 11:00 AM
		Base.r3d



Base.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Antenna D	None								
2	Antenna Di	None					93			
3	Antenna Wo (0 Deg)	None					93			
4	Antenna Wo (30 Deg)	None					93			
5	Antenna Wo (60 Deg)	None					93			
6	Antenna Wo (90 Deg)	None					93			
7	Antenna Wo (120 Deg)	None					93			
8	Antenna Wo (150 Deg)	None					93			
9	Antenna Wo (180 Deg)	None					93			
10	Antenna Wo (210 Deg)	None					93			
11	Antenna Wo (240 Deg)	None					93			
12	Antenna Wo (270 Deg)	None					93			
13	Antenna Wo (300 Deg)	None					93			
14	Antenna Wo (330 Deg)	None					93			
15	Antenna Wi (0 Deg)	None					93			
16	Antenna Wi (30 Deg)	None					93			
17	Antenna Wi (60 Deg)	None					93			
18	Antenna Wi (90 Deg)	None					93			
19	Antenna Wi (120 Deg)	None					93			
20	Antenna Wi (150 Deg)	None					93			
21	Antenna Wi (180 Deg)	None					93			
22	Antenna Wi (210 Deg)	None					93			
23	Antenna Wi (240 Deg)	None					93			
24	Antenna Wi (270 Deg)	None					93			
25	Antenna Wi (300 Deg)	None					93			
26	Antenna Wi (330 Deg)	None					93			
27	Antenna Wm (0 Deg)	None					93			
28	Antenna Wm (30 Deg)	None					93			
29	Antenna Wm (60 Deg)	None					93			
30	Antenna Wm (90 Deg)	None					93			
31	Antenna Wm (120 Deg)	None					93			
32	Antenna Wm (150 Deg)	None					93			
33	Antenna Wm (180 Deg)	None					93			
34	Antenna Wm (210 Deg)	None					93			
35	Antenna Wm (240 Deg)	None					93			
36	Antenna Wm (270 Deg)	None					93			
37	Antenna Wm (300 Deg)	None					93			
38	Antenna Wm (330 Deg)	None					93			
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40	Structure Di	None						43	3	
41	Structure Wo (0 Deg)	None						86		
42	Structure Wo (30 Deg)	None						86		
43	Structure Wo (60 Deg)	None						86		
44	Structure Wo (90 Deg)	None						86		
45	Structure Wo (120 Deg)	None						86		
46	Structure Wo (150 Deg)	None						86		
47	Structure Wo (180 Deg)	None						86		
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50	Structure Wo (270 Deg)	None						86		
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52	Structure Wo (330 Deg)	None						86		
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54	Structure Wi (30 Deg)	None						86		
55	Structure Wi (60 Deg)	None						86		
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57	Structure Wi (120 Deg)	None						86		
58	Structure Wi (150 Deg)	None						86		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface...
59	Structure Wi (180 Deg)	None						86		
60	Structure Wi (210 Deg)	None						86		
61	Structure Wi (240 Deg)	None						86		
62	Structure Wi (270 Deg)	None						86		
63	Structure Wi (300 Deg)	None						86		
64	Structure Wi (330 Deg)	None						86		
65	Structure Wm (0 Deg)	None						86		
66	Structure Wm (30 Deg)	None						86		
67	Structure Wm (60 Deg)	None						86		
68	Structure Wm (90 Deg)	None						86		
69	Structure Wm (120 Deg)	None						86		
70	Structure Wm (150 Deg)	None						86		
71	Structure Wm (180 Deg)	None						86		
72	Structure Wm (210 Deg)	None						86		
73	Structure Wm (240 Deg)	None						86		
74	Structure Wm (270 Deg)	None						86		
75	Structure Wm (300 Deg)	None						86		
76	Structure Wm (330 Deg)	None						86		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					93			
82	Antenna Eh (0 Deg)	None					62			
83	Antenna Eh (90 Deg)	None					62			
84	Structure Ev	ELY		-.045					3	
85	Structure Eh (0 Deg)	ELZ			-.111				3	
86	Structure Eh (90 Deg)	ELX	.111						3	
87	BLC 39 Transient Area Loads	None						69		
88	BLC 40 Transient Area Loads	None						69		
89	BLC 84 Transient Area Loads	None						69		
90	BLC 85 Transient Area Loads	None						69		
91	BLC 86 Transient Area Loads	None						69		

Load Combinations

[illegible]

Load Combinations (Continued)

[illegible]

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Support Rail	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	Bottom Corner Plate	L15X6.5X6	Beam	Single Angle	A36 Gr.36	Typical	7.922	24.473	192.705	.363
4	Standoff 2	C5x3x0.25	Beam	Channel	A36 Gr.36	Typical	2.516	2.26	9.703	.052
5	Cross Members	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
6	Face Horizontal	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
7	Standoff 1	C5x3x0.25	Beam	Channel	A36 Gr.36	Typical	2.516	2.26	9.703	.052
8	Grating Angle	LL3x3x4x0	Beam	Double Ang..	A36 Gr.36	Typical	2.88	4.5	2.46	.063
9	Top Corner Plate	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
10	Double Angle Face Hor..	LL3x3x4x0	Beam	Single Angle	A36 Gr.36	Typical	2.88	4.5	2.46	.063
11	Kicker Kit	LL3x3x3x0	Beam	Double Ang..	A36 Gr.36	Typical	2.18	3.35	1.9	.027
12	TES ST2	HSS4X4X4	Beam	HSS Pipe	A36 Gr.36	Typical	3.37	7.8	7.8	12.8
13	TES ST1	HSS4.5X4.5X3	Beam	HSS Pipe	A36 Gr.36	Typical	2.93	9.02	9.02	14.4

Hot Rolled Steel Properties

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

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N15A		90	Standoff 2	Beam	Channel	A36 Gr.36	Typical
2	M2	N15A	N16A		90	Standoff 1	Beam	Channel	A36 Gr.36	Typical
3	M5	N27	N10		180	Grating Angle	Beam	Double Angle (..	A36 Gr.36	Typical
4	M6	N20A	N15		180	Grating Angle	Beam	Double Angle (..	A36 Gr.36	Typical
5	M7	N21	N17		180	Grating Angle	Beam	Double Angle (..	A36 Gr.36	Typical
6	M6A	N17	N15		270	Cross Members	Beam	Single Angle	A36 Gr.36	Typical
7	M23A	N10	N17		270	Cross Members	Beam	Single Angle	A36 Gr.36	Typical
8	M39A	N15	N10		270	Cross Members	Beam	Single Angle	A36 Gr.36	Typical
9	M16	N18	N19		90	Standoff 2	Beam	Channel	A36 Gr.36	Typical
10	M17	N19	N25		90	Standoff 1	Beam	Channel	A36 Gr.36	Typical
11	M20	N24	N25A		90	Standoff 2	Beam	Channel	A36 Gr.36	Typical
12	M21	N25A	N30		90	Standoff 1	Beam	Channel	A36 Gr.36	Typical
13	M24	N23A	N27B			RIGID	None	None	RIGID	Typical
14	L	N25B	N29			RIGID	None	None	RIGID	Typical
15	LL	N26	N30A			RIGID	None	None	RIGID	Typical
16	M27	N24A	N28A			RIGID	None	None	RIGID	Typical
17	MP1A	N31	N35			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
18	MP2A	N33A	N37			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
19	MP3A	N34	N38			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
20	MP4A	N32	N36			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
21	M32	N40	N44			RIGID	None	None	RIGID	Typical
22	M33	N42	N46			RIGID	None	None	RIGID	Typical
23	M34	N43	N47			RIGID	None	None	RIGID	Typical
24	M35	N41	N45			RIGID	None	None	RIGID	Typical
25	MP1B	N48	N52			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
26	MP2B	N50	N54			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
27	MP3B	N51	N55			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
28	MP4B	N49	N53			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
29	M40	N57	N61			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
30	M41	N59	N63			RIGID	None	None	RIGID	Typical
31	M42	N60	N64			RIGID	None	None	RIGID	Typical
32	M43	N58	N62			RIGID	None	None	RIGID	Typical
33	MP1C	N65	N69			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
34	MP2C	N67	N71			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
35	MP3C	N68	N72			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
36	MP4C	N66	N70			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
37	M48	N71A	N72A			Support Rail	Beam	Pipe	A53 Gr.B	Typical
38	M49	N74	N75			Support Rail	Beam	Pipe	A53 Gr.B	Typical
39	M50	N77	N78			Support Rail	Beam	Pipe	A53 Gr.B	Typical
40	M51	N78A	N80			RIGID	None	None	RIGID	Typical
41	M52	N77A	N79			RIGID	None	None	RIGID	Typical
42	M53	N83	N85			RIGID	None	None	RIGID	Typical
43	M54	N82	N84			RIGID	None	None	RIGID	Typical
44	M55	N88	N90			RIGID	None	None	RIGID	Typical
45	M56	N87	N89			RIGID	None	None	RIGID	Typical
46	M57	N79	N90		90	Top Corner Pl...	Beam	Single Angle	A36 Gr.36	Typical
47	M58	N84	N80		90	Top Corner Pl...	Beam	Single Angle	A36 Gr.36	Typical
48	M59	N89	N85		90	Top Corner Pl...	Beam	Single Angle	A36 Gr.36	Typical
49	M60	N89A	N93			RIGID	None	None	RIGID	Typical
50	M61	N91	N95			RIGID	None	None	RIGID	Typical
51	M62	N92	N96			RIGID	None	None	RIGID	Typical
52	M63	N90A	N94			RIGID	None	None	RIGID	Typical
53	M64	N97	N101			RIGID	None	None	RIGID	Typical
54	M65	N99	N103			RIGID	None	None	RIGID	Typical
55	M66	N100	N104			RIGID	None	None	RIGID	Typical
56	M67	N98	N102			RIGID	None	None	RIGID	Typical
57	M68	N105	N109			RIGID	None	None	RIGID	Typical
58	M69	N107	N111			RIGID	None	None	RIGID	Typical
59	M70	N108	N112			RIGID	None	None	RIGID	Typical
60	M71	N106	N110			RIGID	None	None	RIGID	Typical
61	FACE	N20A	N115		90	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
62	FACE1	N21	N114		270	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
63	F	N115	N114		180	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
64	M72	N21	N114A		90	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
65	M73	N27	N113A		270	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
66	M74	N114A	N113A		180	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
67	M75	N27	N119		90	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
68	M76	N20A	N118		270	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
69	M77	N119	N118		180	Double Angle ...	Beam	Single Angle	A36 Gr.36	Typical
70	M70B	N119A	N115A			Kicker Kit	Beam	Double Angle (...)	A36 Gr.36	Typical
71	M71A	N114B	N119B			Kicker Kit	Beam	Double Angle (...)	A36 Gr.36	Typical
72	M72A	N117	N122			Kicker Kit	Beam	Double Angle (...)	A36 Gr.36	Typical
73	OVP	N122A	N123			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
74	M74A	N120	N121			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset(in)	J Offset(in)	T/C Only	Physical Defl Rat.	Analysis ...	Inactive	Seismic...
1	M1						Yes			None
2	M2						Yes			None
3	M5						Yes			None
4	M6						Yes			None
5	M7						Yes			None
6	M6A						Yes			None
7	M23A						Yes			None
8	M39A						Yes			None
9	M16						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...
10	M17						Yes	Default			None
11	M20						Yes				None
12	M21						Yes	Default			None
13	M24						Yes	** NA **			None
14	L						Yes	** NA **			None
15	LL						Yes	** NA **			None
16	M27						Yes	** NA **			None
17	MP1A						Yes				None
18	MP2A						Yes				None
19	MP3A						Yes				None
20	MP4A						Yes				None
21	M32						Yes	** NA **			None
22	M33						Yes	** NA **			None
23	M34						Yes	** NA **			None
24	M35						Yes	** NA **			None
25	MP1B						Yes				None
26	MP2B						Yes				None
27	MP3B						Yes				None
28	MP4B						Yes				None
29	M40						Yes	** NA **			None
30	M41						Yes	** NA **			None
31	M42						Yes	** NA **			None
32	M43						Yes	** NA **			None
33	MP1C						Yes				None
34	MP2C						Yes				None
35	MP3C						Yes				None
36	MP4C						Yes				None
37	M48						Yes				None
38	M49						Yes				None
39	M50						Yes				None
40	M51	OOOOOX					Yes	** NA **			None
41	M52	OOOOOX					Yes	** NA **			None
42	M53	OOOOOX					Yes	** NA **			None
43	M54	OOOOOX					Yes	** NA **			None
44	M55	OOOOOX					Yes	** NA **			None
45	M56	OOOOOX					Yes	** NA **			None
46	M57						Yes				None
47	M58						Yes				None
48	M59						Yes				None
49	M60						Yes	** NA **			None
50	M61						Yes	** NA **			None
51	M62						Yes	** NA **			None
52	M63						Yes	** NA **			None
53	M64						Yes	** NA **			None
54	M65						Yes	** NA **			None
55	M66						Yes	** NA **			None
56	M67						Yes	** NA **			None
57	M68						Yes	** NA **			None
58	M69						Yes	** NA **			None
59	M70						Yes	** NA **			None
60	M71						Yes	** NA **			None
61	FACE						Yes				None
62	FACE1						Yes				None
63	F						Yes				None
64	M72						Yes				None
65	M73						Yes				None
66	M74						Yes				None
67	M75						Yes				None
68	M76						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...
69	M77						Yes				None
70	M70B	BenPIN	BenPIN				Yes				None
71	M71A	BenPIN	BenPIN				Yes				None
72	M72A	BenPIN	BenPIN				Yes				None
73	OVP						Yes				None
74	M74A						Yes	** NA **			None

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	Y	-61.883	.5
2	MP2A	My	-.031	.5
3	MP2A	Mz	-.036	.5
4	MP2A	Y	-61.883	4.5
5	MP2A	My	-.031	4.5
6	MP2A	Mz	-.036	4.5
7	MP2B	Y	-61.883	.5
8	MP2B	My	.047	.5
9	MP2B	Mz	-.009	.5
10	MP2B	Y	-61.883	4.5
11	MP2B	My	.047	4.5
12	MP2B	Mz	-.009	4.5
13	MP2C	Y	-61.883	.5
14	MP2C	My	-.016	.5
15	MP2C	Mz	.045	.5
16	MP2C	Y	-61.883	4.5
17	MP2C	My	-.016	4.5
18	MP2C	Mz	.045	4.5
19	MP2A	Y	-61.883	.5
20	MP2A	My	-.031	.5
21	MP2A	Mz	.036	.5
22	MP2A	Y	-61.883	4.5
23	MP2A	My	-.031	4.5
24	MP2A	Mz	.036	4.5
25	MP2B	Y	-61.883	.5
26	MP2B	My	-.016	.5
27	MP2B	Mz	-.045	.5
28	MP2B	Y	-61.883	4.5
29	MP2B	My	-.016	4.5
30	MP2B	Mz	-.045	4.5
31	MP2C	Y	-61.883	.5
32	MP2C	My	.047	.5
33	MP2C	Mz	.009	.5
34	MP2C	Y	-61.883	4.5
35	MP2C	My	.047	4.5
36	MP2C	Mz	.009	4.5
37	MP4A	Y	-90.715	.5
38	MP4A	My	-.045	.5
39	MP4A	Mz	0	.5
40	MP4A	Y	-90.715	4.5
41	MP4A	My	-.045	4.5
42	MP4A	Mz	0	4.5
43	MP4B	Y	-38.674	.5
44	MP4B	My	.01	.5
45	MP4B	Mz	-.017	.5
46	MP4B	Y	-38.674	4.5
47	MP4B	My	.01	4.5
48	MP4B	Mz	-.017	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
49	MP4C	Y	-38.674	.5
50	MP4C	My	.01	.5
51	MP4C	Mz	.017	.5
52	MP4C	Y	-38.674	4.5
53	MP4C	My	.01	4.5
54	MP4C	Mz	.017	4.5
55	OVP	Y	-89.086	1
56	OVP	My	0	1
57	OVP	Mz	0	1
58	MP2A	Y	-45.519	3
59	MP2A	My	.023	3
60	MP2A	Mz	0	3
61	MP2B	Y	-45.519	3
62	MP2B	My	-.011	3
63	MP2B	Mz	.02	3
64	MP2C	Y	-45.519	3
65	MP2C	My	-.011	3
66	MP2C	Mz	-.02	3
67	MP1A	Y	-46.001	3
68	MP1A	My	.023	3
69	MP1A	Mz	0	3
70	MP1B	Y	-46.001	3
71	MP1B	My	-.011	3
72	MP1B	Mz	.02	3
73	MP1C	Y	-46.001	3
74	MP1C	My	-.011	3
75	MP1C	Mz	-.02	3
76	MP3A	Y	-30.186	1.5
77	MP3A	My	-.02	1.5
78	MP3A	Mz	0	1.5
79	MP3A	Y	-30.186	3.5
80	MP3A	My	-.02	3.5
81	MP3A	Mz	0	3.5
82	MP3B	Y	-30.186	1.5
83	MP3B	My	.01	1.5
84	MP3B	Mz	-.017	1.5
85	MP3B	Y	-30.186	3.5
86	MP3B	My	.01	3.5
87	MP3B	Mz	-.017	3.5
88	MP3C	Y	-30.186	1.5
89	MP3C	My	.01	1.5
90	MP3C	Mz	.017	1.5
91	MP3C	Y	-30.186	3.5
92	MP3C	My	.01	3.5
93	MP3C	Mz	.017	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	0	.5
2	MP2A	Z	-119.311	.5
3	MP2A	Mx	.07	.5
4	MP2A	X	0	4.5
5	MP2A	Z	-119.311	4.5
6	MP2A	Mx	.07	4.5
7	MP2B	X	0	.5
8	MP2B	Z	-68.317	.5
9	MP2B	Mx	.01	.5
10	MP2B	X	0	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
11	MP2B	Z	-68.317	4.5
12	MP2B	Mx	.01	4.5
13	MP2C	X	0	.5
14	MP2C	Z	-68.317	.5
15	MP2C	Mx	-.05	.5
16	MP2C	X	0	4.5
17	MP2C	Z	-68.317	4.5
18	MP2C	Mx	-.05	4.5
19	MP2A	X	0	.5
20	MP2A	Z	-119.311	.5
21	MP2A	Mx	-.07	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-119.311	4.5
24	MP2A	Mx	-.07	4.5
25	MP2B	X	0	.5
26	MP2B	Z	-68.317	.5
27	MP2B	Mx	.05	.5
28	MP2B	X	0	4.5
29	MP2B	Z	-68.317	4.5
30	MP2B	Mx	.05	4.5
31	MP2C	X	0	.5
32	MP2C	Z	-68.317	.5
33	MP2C	Mx	-.01	.5
34	MP2C	X	0	4.5
35	MP2C	Z	-68.317	4.5
36	MP2C	Mx	-.01	4.5
37	MP4A	X	0	.5
38	MP4A	Z	-211.339	.5
39	MP4A	Mx	0	.5
40	MP4A	X	0	4.5
41	MP4A	Z	-211.339	4.5
42	MP4A	Mx	0	4.5
43	MP4B	X	0	.5
44	MP4B	Z	-80.629	.5
45	MP4B	Mx	.035	.5
46	MP4B	X	0	4.5
47	MP4B	Z	-80.629	4.5
48	MP4B	Mx	.035	4.5
49	MP4C	X	0	.5
50	MP4C	Z	-80.629	.5
51	MP4C	Mx	-.035	.5
52	MP4C	X	0	4.5
53	MP4C	Z	-80.629	4.5
54	MP4C	Mx	-.035	4.5
55	OVP	X	0	1
56	OVP	Z	-129.055	1
57	OVP	Mx	0	1
58	MP2A	X	0	3
59	MP2A	Z	-67.126	3
60	MP2A	Mx	0	3
61	MP2B	X	0	3
62	MP2B	Z	-50.561	3
63	MP2B	Mx	-.022	3
64	MP2C	X	0	3
65	MP2C	Z	-50.561	3
66	MP2C	Mx	.022	3
67	MP1A	X	0	3
68	MP1A	Z	-80.984	3
69	MP1A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
70	MP1B	X	0	3
71	MP1B	Z	-61.659	3
72	MP1B	Mx	-.027	3
73	MP1C	X	0	3
74	MP1C	Z	-61.659	3
75	MP1C	Mx	.027	3
76	MP3A	X	0	1.5
77	MP3A	Z	-68.425	1.5
78	MP3A	Mx	0	1.5
79	MP3A	X	0	3.5
80	MP3A	Z	-68.425	3.5
81	MP3A	Mx	0	3.5
82	MP3B	X	0	1.5
83	MP3B	Z	-35.133	1.5
84	MP3B	Mx	.02	1.5
85	MP3B	X	0	3.5
86	MP3B	Z	-35.133	3.5
87	MP3B	Mx	.02	3.5
88	MP3C	X	0	1.5
89	MP3C	Z	-35.133	1.5
90	MP3C	Mx	-.02	1.5
91	MP3C	X	0	3.5
92	MP3C	Z	-35.133	3.5
93	MP3C	Mx	-.02	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	51.157	.5
2	MP2A	Z	-88.606	.5
3	MP2A	Mx	.026	.5
4	MP2A	X	51.157	4.5
5	MP2A	Z	-88.606	4.5
6	MP2A	Mx	.026	4.5
7	MP2B	X	25.659	.5
8	MP2B	Z	-44.443	.5
9	MP2B	Mx	.026	.5
10	MP2B	X	25.659	4.5
11	MP2B	Z	-44.443	4.5
12	MP2B	Mx	.026	4.5
13	MP2C	X	51.157	.5
14	MP2C	Z	-88.606	.5
15	MP2C	Mx	-.077	.5
16	MP2C	X	51.157	4.5
17	MP2C	Z	-88.606	4.5
18	MP2C	Mx	-.077	4.5
19	MP2A	X	51.157	.5
20	MP2A	Z	-88.606	.5
21	MP2A	Mx	-.077	.5
22	MP2A	X	51.157	4.5
23	MP2A	Z	-88.606	4.5
24	MP2A	Mx	-.077	4.5
25	MP2B	X	25.659	.5
26	MP2B	Z	-44.443	.5
27	MP2B	Mx	.026	.5
28	MP2B	X	25.659	4.5
29	MP2B	Z	-44.443	4.5
30	MP2B	Mx	.026	4.5
31	MP2C	X	51.157	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
32	MP2C	Z	-88.606	.5
33	MP2C	Mx	.026	.5
34	MP2C	X	51.157	4.5
35	MP2C	Z	-88.606	4.5
36	MP2C	Mx	.026	4.5
37	MP4A	X	102.539	.5
38	MP4A	Z	-177.602	.5
39	MP4A	Mx	-.051	.5
40	MP4A	X	102.539	4.5
41	MP4A	Z	-177.602	4.5
42	MP4A	Mx	-.051	4.5
43	MP4B	X	39.137	.5
44	MP4B	Z	-67.787	.5
45	MP4B	Mx	.039	.5
46	MP4B	X	39.137	4.5
47	MP4B	Z	-67.787	4.5
48	MP4B	Mx	.039	4.5
49	MP4C	X	42.671	.5
50	MP4C	Z	-73.908	.5
51	MP4C	Mx	-.021	.5
52	MP4C	X	42.671	4.5
53	MP4C	Z	-73.908	4.5
54	MP4C	Mx	-.021	4.5
55	OVP	X	56.299	1
56	OVP	Z	-97.513	1
57	OVP	Mx	0	1
58	MP2A	X	30.802	3
59	MP2A	Z	-53.351	3
60	MP2A	Mx	.015	3
61	MP2B	X	22.52	3
62	MP2B	Z	-39.005	3
63	MP2B	Mx	-.023	3
64	MP2C	X	30.802	3
65	MP2C	Z	-53.351	3
66	MP2C	Mx	.015	3
67	MP1A	X	37.271	3
68	MP1A	Z	-64.556	3
69	MP1A	Mx	.019	3
70	MP1B	X	27.608	3
71	MP1B	Z	-47.819	3
72	MP1B	Mx	-.028	3
73	MP1C	X	37.271	3
74	MP1C	Z	-64.556	3
75	MP1C	Mx	.019	3
76	MP3A	X	28.664	1.5
77	MP3A	Z	-49.647	1.5
78	MP3A	Mx	-.019	1.5
79	MP3A	X	28.664	3.5
80	MP3A	Z	-49.647	3.5
81	MP3A	Mx	-.019	3.5
82	MP3B	X	12.018	1.5
83	MP3B	Z	-20.815	1.5
84	MP3B	Mx	.016	1.5
85	MP3B	X	12.018	3.5
86	MP3B	Z	-20.815	3.5
87	MP3B	Mx	.016	3.5
88	MP3C	X	28.664	1.5
89	MP3C	Z	-49.647	1.5
90	MP3C	Mx	-.019	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
91	MP3C	X	28.664	3.5
92	MP3C	Z	-49.647	3.5
93	MP3C	Mx	-.019	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	59.164	.5
2	MP2A	Z	-34.158	.5
3	MP2A	Mx	-.01	.5
4	MP2A	X	59.164	4.5
5	MP2A	Z	-34.158	4.5
6	MP2A	Mx	-.01	4.5
7	MP2B	X	59.164	.5
8	MP2B	Z	-34.158	.5
9	MP2B	Mx	.05	.5
10	MP2B	X	59.164	4.5
11	MP2B	Z	-34.158	4.5
12	MP2B	Mx	.05	4.5
13	MP2C	X	103.326	.5
14	MP2C	Z	-59.656	.5
15	MP2C	Mx	-.07	.5
16	MP2C	X	103.326	4.5
17	MP2C	Z	-59.656	4.5
18	MP2C	Mx	-.07	4.5
19	MP2A	X	59.164	.5
20	MP2A	Z	-34.158	.5
21	MP2A	Mx	-.05	.5
22	MP2A	X	59.164	4.5
23	MP2A	Z	-34.158	4.5
24	MP2A	Mx	-.05	4.5
25	MP2B	X	59.164	.5
26	MP2B	Z	-34.158	.5
27	MP2B	Mx	.01	.5
28	MP2B	X	59.164	4.5
29	MP2B	Z	-34.158	4.5
30	MP2B	Mx	.01	4.5
31	MP2C	X	103.326	.5
32	MP2C	Z	-59.656	.5
33	MP2C	Mx	.07	.5
34	MP2C	X	103.326	4.5
35	MP2C	Z	-59.656	4.5
36	MP2C	Mx	.07	4.5
37	MP4A	X	166.757	.5
38	MP4A	Z	-96.277	.5
39	MP4A	Mx	-.083	.5
40	MP4A	X	166.757	4.5
41	MP4A	Z	-96.277	4.5
42	MP4A	Mx	-.083	4.5
43	MP4B	X	69.827	.5
44	MP4B	Z	-40.315	.5
45	MP4B	Mx	.035	.5
46	MP4B	X	69.827	4.5
47	MP4B	Z	-40.315	4.5
48	MP4B	Mx	.035	4.5
49	MP4C	X	75.948	.5
50	MP4C	Z	-43.848	.5
51	MP4C	Mx	0	.5
52	MP4C	X	75.948	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
53	MP4C	Z	-43.848	4.5
54	MP4C	Mx	0	4.5
55	OVP	X	90.387	1
56	OVP	Z	-52.185	1
57	OVP	Mx	0	1
58	MP2A	X	43.787	3
59	MP2A	Z	-25.281	3
60	MP2A	Mx	.022	3
61	MP2B	X	43.787	3
62	MP2B	Z	-25.281	3
63	MP2B	Mx	-.022	3
64	MP2C	X	58.133	3
65	MP2C	Z	-33.563	3
66	MP2C	Mx	0	3
67	MP1A	X	53.398	3
68	MP1A	Z	-30.829	3
69	MP1A	Mx	.027	3
70	MP1B	X	53.398	3
71	MP1B	Z	-30.829	3
72	MP1B	Mx	-.027	3
73	MP1C	X	70.134	3
74	MP1C	Z	-40.492	3
75	MP1C	Mx	0	3
76	MP3A	X	30.426	1.5
77	MP3A	Z	-17.566	1.5
78	MP3A	Mx	-.02	1.5
79	MP3A	X	30.426	3.5
80	MP3A	Z	-17.566	3.5
81	MP3A	Mx	-.02	3.5
82	MP3B	X	30.426	1.5
83	MP3B	Z	-17.566	1.5
84	MP3B	Mx	.02	1.5
85	MP3B	X	30.426	3.5
86	MP3B	Z	-17.566	3.5
87	MP3B	Mx	.02	3.5
88	MP3C	X	59.258	1.5
89	MP3C	Z	-34.213	1.5
90	MP3C	Mx	0	1.5
91	MP3C	X	59.258	3.5
92	MP3C	Z	-34.213	3.5
93	MP3C	Mx	0	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	51.319	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	-.026	.5
4	MP2A	X	51.319	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	-.026	4.5
7	MP2B	X	102.313	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	.077	.5
10	MP2B	X	102.313	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	.077	4.5
13	MP2C	X	102.313	.5
14	MP2C	Z	0	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP2C	Mx	-.026	.5
16	MP2C	X	102.313	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	-.026	4.5
19	MP2A	X	51.319	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.026	.5
22	MP2A	X	51.319	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.026	4.5
25	MP2B	X	102.313	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	-.026	.5
28	MP2B	X	102.313	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	-.026	4.5
31	MP2C	X	102.313	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	.077	.5
34	MP2C	X	102.313	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	.077	4.5
37	MP4A	X	186.292	.5
38	MP4A	Z	0	.5
39	MP4A	Mx	-.093	.5
40	MP4A	X	186.292	4.5
41	MP4A	Z	0	4.5
42	MP4A	Mx	-.093	4.5
43	MP4B	X	85.341	.5
44	MP4B	Z	0	.5
45	MP4B	Mx	.021	.5
46	MP4B	X	85.341	4.5
47	MP4B	Z	0	4.5
48	MP4B	Mx	.021	4.5
49	MP4C	X	85.341	.5
50	MP4C	Z	0	.5
51	MP4C	Mx	.021	.5
52	MP4C	X	85.341	4.5
53	MP4C	Z	0	4.5
54	MP4C	Mx	.021	4.5
55	OVP	X	112.598	1
56	OVP	Z	0	1
57	OVP	Mx	0	1
58	MP2A	X	45.039	3
59	MP2A	Z	0	3
60	MP2A	Mx	.023	3
61	MP2B	X	61.604	3
62	MP2B	Z	0	3
63	MP2B	Mx	-.015	3
64	MP2C	X	61.604	3
65	MP2C	Z	0	3
66	MP2C	Mx	-.015	3
67	MP1A	X	55.217	3
68	MP1A	Z	0	3
69	MP1A	Mx	.028	3
70	MP1B	X	74.542	3
71	MP1B	Z	0	3
72	MP1B	Mx	-.019	3
73	MP1C	X	74.542	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	MP1C	Z	0	3
75	MP1C	Mx	-.019	3
76	MP3A	X	24.035	1.5
77	MP3A	Z	0	1.5
78	MP3A	Mx	-.016	1.5
79	MP3A	X	24.035	3.5
80	MP3A	Z	0	3.5
81	MP3A	Mx	-.016	3.5
82	MP3B	X	57.328	1.5
83	MP3B	Z	0	1.5
84	MP3B	Mx	.019	1.5
85	MP3B	X	57.328	3.5
86	MP3B	Z	0	3.5
87	MP3B	Mx	.019	3.5
88	MP3C	X	57.328	1.5
89	MP3C	Z	0	1.5
90	MP3C	Mx	.019	1.5
91	MP3C	X	57.328	3.5
92	MP3C	Z	0	3.5
93	MP3C	Mx	.019	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	59.164	.5
2	MP2A	Z	34.158	.5
3	MP2A	Mx	-.05	.5
4	MP2A	X	59.164	4.5
5	MP2A	Z	34.158	4.5
6	MP2A	Mx	-.05	4.5
7	MP2B	X	103.326	.5
8	MP2B	Z	59.656	.5
9	MP2B	Mx	.07	.5
10	MP2B	X	103.326	4.5
11	MP2B	Z	59.656	4.5
12	MP2B	Mx	.07	4.5
13	MP2C	X	59.164	.5
14	MP2C	Z	34.158	.5
15	MP2C	Mx	.01	.5
16	MP2C	X	59.164	4.5
17	MP2C	Z	34.158	4.5
18	MP2C	Mx	.01	4.5
19	MP2A	X	59.164	.5
20	MP2A	Z	34.158	.5
21	MP2A	Mx	-.01	.5
22	MP2A	X	59.164	4.5
23	MP2A	Z	34.158	4.5
24	MP2A	Mx	-.01	4.5
25	MP2B	X	103.326	.5
26	MP2B	Z	59.656	.5
27	MP2B	Mx	-.07	.5
28	MP2B	X	103.326	4.5
29	MP2B	Z	59.656	4.5
30	MP2B	Mx	-.07	4.5
31	MP2C	X	59.164	.5
32	MP2C	Z	34.158	.5
33	MP2C	Mx	.05	.5
34	MP2C	X	59.164	4.5
35	MP2C	Z	34.158	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
36	MP2C	Mx	.05	4.5
37	MP4A	X	166.757	.5
38	MP4A	Z	96.277	.5
39	MP4A	Mx	-.083	.5
40	MP4A	X	166.757	4.5
41	MP4A	Z	96.277	4.5
42	MP4A	Mx	-.083	4.5
43	MP4B	X	75.948	.5
44	MP4B	Z	43.848	.5
45	MP4B	Mx	0	.5
46	MP4B	X	75.948	4.5
47	MP4B	Z	43.848	4.5
48	MP4B	Mx	0	4.5
49	MP4C	X	69.827	.5
50	MP4C	Z	40.315	.5
51	MP4C	Mx	.035	.5
52	MP4C	X	69.827	4.5
53	MP4C	Z	40.315	4.5
54	MP4C	Mx	.035	4.5
55	OVP	X	111.765	1
56	OVP	Z	64.528	1
57	OVP	Mx	0	1
58	MP2A	X	43.787	3
59	MP2A	Z	25.281	3
60	MP2A	Mx	.022	3
61	MP2B	X	58.133	3
62	MP2B	Z	33.563	3
63	MP2B	Mx	0	3
64	MP2C	X	43.787	3
65	MP2C	Z	25.281	3
66	MP2C	Mx	-.022	3
67	MP1A	X	53.398	3
68	MP1A	Z	30.829	3
69	MP1A	Mx	.027	3
70	MP1B	X	70.134	3
71	MP1B	Z	40.492	3
72	MP1B	Mx	0	3
73	MP1C	X	53.398	3
74	MP1C	Z	30.829	3
75	MP1C	Mx	-.027	3
76	MP3A	X	30.426	1.5
77	MP3A	Z	17.566	1.5
78	MP3A	Mx	-.02	1.5
79	MP3A	X	30.426	3.5
80	MP3A	Z	17.566	3.5
81	MP3A	Mx	-.02	3.5
82	MP3B	X	59.258	1.5
83	MP3B	Z	34.213	1.5
84	MP3B	Mx	0	1.5
85	MP3B	X	59.258	3.5
86	MP3B	Z	34.213	3.5
87	MP3B	Mx	0	3.5
88	MP3C	X	30.426	1.5
89	MP3C	Z	17.566	1.5
90	MP3C	Mx	.02	1.5
91	MP3C	X	30.426	3.5
92	MP3C	Z	17.566	3.5
93	MP3C	Mx	.02	3.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP2A	X	51.157	.5
2	MP2A	Z	88.606	.5
3	MP2A	Mx	-.077	.5
4	MP2A	X	51.157	4.5
5	MP2A	Z	88.606	4.5
6	MP2A	Mx	-.077	4.5
7	MP2B	X	51.157	.5
8	MP2B	Z	88.606	.5
9	MP2B	Mx	.026	.5
10	MP2B	X	51.157	4.5
11	MP2B	Z	88.606	4.5
12	MP2B	Mx	.026	4.5
13	MP2C	X	25.659	.5
14	MP2C	Z	44.443	.5
15	MP2C	Mx	.026	.5
16	MP2C	X	25.659	4.5
17	MP2C	Z	44.443	4.5
18	MP2C	Mx	.026	4.5
19	MP2A	X	51.157	.5
20	MP2A	Z	88.606	.5
21	MP2A	Mx	.026	.5
22	MP2A	X	51.157	4.5
23	MP2A	Z	88.606	4.5
24	MP2A	Mx	.026	4.5
25	MP2B	X	51.157	.5
26	MP2B	Z	88.606	.5
27	MP2B	Mx	-.077	.5
28	MP2B	X	51.157	4.5
29	MP2B	Z	88.606	4.5
30	MP2B	Mx	-.077	4.5
31	MP2C	X	25.659	.5
32	MP2C	Z	44.443	.5
33	MP2C	Mx	.026	.5
34	MP2C	X	25.659	4.5
35	MP2C	Z	44.443	4.5
36	MP2C	Mx	.026	4.5
37	MP4A	X	102.539	.5
38	MP4A	Z	177.602	.5
39	MP4A	Mx	-.051	.5
40	MP4A	X	102.539	4.5
41	MP4A	Z	177.602	4.5
42	MP4A	Mx	-.051	4.5
43	MP4B	X	42.671	.5
44	MP4B	Z	73.908	.5
45	MP4B	Mx	-.021	.5
46	MP4B	X	42.671	4.5
47	MP4B	Z	73.908	4.5
48	MP4B	Mx	-.021	4.5
49	MP4C	X	39.137	.5
50	MP4C	Z	67.787	.5
51	MP4C	Mx	.039	.5
52	MP4C	X	39.137	4.5
53	MP4C	Z	67.787	4.5
54	MP4C	Mx	.039	4.5
55	OVP	X	68.642	1
56	OVP	Z	118.891	1
57	OVP	Mx	0	1
58	MP2A	X	30.802	3
59	MP2A	Z	53.351	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
60	MP2A	Mx	.015	3
61	MP2B	X	30.802	3
62	MP2B	Z	53.351	3
63	MP2B	Mx	.015	3
64	MP2C	X	22.52	3
65	MP2C	Z	39.005	3
66	MP2C	Mx	-.023	3
67	MP1A	X	37.271	3
68	MP1A	Z	64.556	3
69	MP1A	Mx	.019	3
70	MP1B	X	37.271	3
71	MP1B	Z	64.556	3
72	MP1B	Mx	.019	3
73	MP1C	X	27.608	3
74	MP1C	Z	47.819	3
75	MP1C	Mx	-.028	3
76	MP3A	X	28.664	1.5
77	MP3A	Z	49.647	1.5
78	MP3A	Mx	-.019	1.5
79	MP3A	X	28.664	3.5
80	MP3A	Z	49.647	3.5
81	MP3A	Mx	-.019	3.5
82	MP3B	X	28.664	1.5
83	MP3B	Z	49.647	1.5
84	MP3B	Mx	-.019	1.5
85	MP3B	X	28.664	3.5
86	MP3B	Z	49.647	3.5
87	MP3B	Mx	-.019	3.5
88	MP3C	X	12.018	1.5
89	MP3C	Z	20.815	1.5
90	MP3C	Mx	.016	1.5
91	MP3C	X	12.018	3.5
92	MP3C	Z	20.815	3.5
93	MP3C	Mx	.016	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	0	.5
2	MP2A	Z	119.311	.5
3	MP2A	Mx	-.07	.5
4	MP2A	X	0	4.5
5	MP2A	Z	119.311	4.5
6	MP2A	Mx	-.07	4.5
7	MP2B	X	0	.5
8	MP2B	Z	68.317	.5
9	MP2B	Mx	-.01	.5
10	MP2B	X	0	4.5
11	MP2B	Z	68.317	4.5
12	MP2B	Mx	-.01	4.5
13	MP2C	X	0	.5
14	MP2C	Z	68.317	.5
15	MP2C	Mx	.05	.5
16	MP2C	X	0	4.5
17	MP2C	Z	68.317	4.5
18	MP2C	Mx	.05	4.5
19	MP2A	X	0	.5
20	MP2A	Z	119.311	.5
21	MP2A	Mx	.07	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
22	MP2A	X	0	4.5
23	MP2A	Z	119.311	4.5
24	MP2A	Mx	.07	4.5
25	MP2B	X	0	.5
26	MP2B	Z	68.317	.5
27	MP2B	Mx	-.05	.5
28	MP2B	X	0	4.5
29	MP2B	Z	68.317	4.5
30	MP2B	Mx	-.05	4.5
31	MP2C	X	0	.5
32	MP2C	Z	68.317	.5
33	MP2C	Mx	.01	.5
34	MP2C	X	0	4.5
35	MP2C	Z	68.317	4.5
36	MP2C	Mx	.01	4.5
37	MP4A	X	0	.5
38	MP4A	Z	211.339	.5
39	MP4A	Mx	0	.5
40	MP4A	X	0	4.5
41	MP4A	Z	211.339	4.5
42	MP4A	Mx	0	4.5
43	MP4B	X	0	.5
44	MP4B	Z	80.629	.5
45	MP4B	Mx	-.035	.5
46	MP4B	X	0	4.5
47	MP4B	Z	80.629	4.5
48	MP4B	Mx	-.035	4.5
49	MP4C	X	0	.5
50	MP4C	Z	80.629	.5
51	MP4C	Mx	.035	.5
52	MP4C	X	0	4.5
53	MP4C	Z	80.629	4.5
54	MP4C	Mx	.035	4.5
55	OVP	X	0	1
56	OVP	Z	129.055	1
57	OVP	Mx	0	1
58	MP2A	X	0	3
59	MP2A	Z	67.126	3
60	MP2A	Mx	0	3
61	MP2B	X	0	3
62	MP2B	Z	50.561	3
63	MP2B	Mx	.022	3
64	MP2C	X	0	3
65	MP2C	Z	50.561	3
66	MP2C	Mx	-.022	3
67	MP1A	X	0	3
68	MP1A	Z	80.984	3
69	MP1A	Mx	0	3
70	MP1B	X	0	3
71	MP1B	Z	61.659	3
72	MP1B	Mx	.027	3
73	MP1C	X	0	3
74	MP1C	Z	61.659	3
75	MP1C	Mx	-.027	3
76	MP3A	X	0	1.5
77	MP3A	Z	68.425	1.5
78	MP3A	Mx	0	1.5
79	MP3A	X	0	3.5
80	MP3A	Z	68.425	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
81	MP3A	Mx	0	3.5
82	MP3B	X	0	1.5
83	MP3B	Z	35.133	1.5
84	MP3B	Mx	-.02	1.5
85	MP3B	X	0	3.5
86	MP3B	Z	35.133	3.5
87	MP3B	Mx	-.02	3.5
88	MP3C	X	0	1.5
89	MP3C	Z	35.133	1.5
90	MP3C	Mx	.02	1.5
91	MP3C	X	0	3.5
92	MP3C	Z	35.133	3.5
93	MP3C	Mx	.02	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	MP2A	X	-51.157	.5
2	MP2A	Z	88.606	.5
3	MP2A	Mx	-.026	.5
4	MP2A	X	-51.157	4.5
5	MP2A	Z	88.606	4.5
6	MP2A	Mx	-.026	4.5
7	MP2B	X	-25.659	.5
8	MP2B	Z	44.443	.5
9	MP2B	Mx	-.026	.5
10	MP2B	X	-25.659	4.5
11	MP2B	Z	44.443	4.5
12	MP2B	Mx	-.026	4.5
13	MP2C	X	-51.157	.5
14	MP2C	Z	88.606	.5
15	MP2C	Mx	.077	.5
16	MP2C	X	-51.157	4.5
17	MP2C	Z	88.606	4.5
18	MP2C	Mx	.077	4.5
19	MP2A	X	-51.157	.5
20	MP2A	Z	88.606	.5
21	MP2A	Mx	.077	.5
22	MP2A	X	-51.157	4.5
23	MP2A	Z	88.606	4.5
24	MP2A	Mx	.077	4.5
25	MP2B	X	-25.659	.5
26	MP2B	Z	44.443	.5
27	MP2B	Mx	-.026	.5
28	MP2B	X	-25.659	4.5
29	MP2B	Z	44.443	4.5
30	MP2B	Mx	-.026	4.5
31	MP2C	X	-51.157	.5
32	MP2C	Z	88.606	.5
33	MP2C	Mx	-.026	.5
34	MP2C	X	-51.157	4.5
35	MP2C	Z	88.606	4.5
36	MP2C	Mx	-.026	4.5
37	MP4A	X	-102.539	.5
38	MP4A	Z	177.602	.5
39	MP4A	Mx	.051	.5
40	MP4A	X	-102.539	4.5
41	MP4A	Z	177.602	4.5
42	MP4A	Mx	.051	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
43	MP4B	X	-39.137	.5
44	MP4B	Z	67.787	.5
45	MP4B	Mx	-.039	.5
46	MP4B	X	-39.137	4.5
47	MP4B	Z	67.787	4.5
48	MP4B	Mx	-.039	4.5
49	MP4C	X	-42.671	.5
50	MP4C	Z	73.908	.5
51	MP4C	Mx	.021	.5
52	MP4C	X	-42.671	4.5
53	MP4C	Z	73.908	4.5
54	MP4C	Mx	.021	4.5
55	OVP	X	-56.299	1
56	OVP	Z	97.513	1
57	OVP	Mx	0	1
58	MP2A	X	-30.802	3
59	MP2A	Z	53.351	3
60	MP2A	Mx	-.015	3
61	MP2B	X	-22.52	3
62	MP2B	Z	39.005	3
63	MP2B	Mx	.023	3
64	MP2C	X	-30.802	3
65	MP2C	Z	53.351	3
66	MP2C	Mx	-.015	3
67	MP1A	X	-37.271	3
68	MP1A	Z	64.556	3
69	MP1A	Mx	-.019	3
70	MP1B	X	-27.608	3
71	MP1B	Z	47.819	3
72	MP1B	Mx	.028	3
73	MP1C	X	-37.271	3
74	MP1C	Z	64.556	3
75	MP1C	Mx	-.019	3
76	MP3A	X	-28.664	1.5
77	MP3A	Z	49.647	1.5
78	MP3A	Mx	.019	1.5
79	MP3A	X	-28.664	3.5
80	MP3A	Z	49.647	3.5
81	MP3A	Mx	.019	3.5
82	MP3B	X	-12.018	1.5
83	MP3B	Z	20.815	1.5
84	MP3B	Mx	-.016	1.5
85	MP3B	X	-12.018	3.5
86	MP3B	Z	20.815	3.5
87	MP3B	Mx	-.016	3.5
88	MP3C	X	-28.664	1.5
89	MP3C	Z	49.647	1.5
90	MP3C	Mx	.019	1.5
91	MP3C	X	-28.664	3.5
92	MP3C	Z	49.647	3.5
93	MP3C	Mx	.019	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	-59.164	.5
2	MP2A	Z	34.158	.5
3	MP2A	Mx	.01	.5
4	MP2A	X	-59.164	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
5	MP2A	Z	34.158	4.5
6	MP2A	Mx	.01	4.5
7	MP2B	X	-59.164	.5
8	MP2B	Z	34.158	.5
9	MP2B	Mx	-.05	.5
10	MP2B	X	-59.164	4.5
11	MP2B	Z	34.158	4.5
12	MP2B	Mx	-.05	4.5
13	MP2C	X	-103.326	.5
14	MP2C	Z	59.656	.5
15	MP2C	Mx	.07	.5
16	MP2C	X	-103.326	4.5
17	MP2C	Z	59.656	4.5
18	MP2C	Mx	.07	4.5
19	MP2A	X	-59.164	.5
20	MP2A	Z	34.158	.5
21	MP2A	Mx	.05	.5
22	MP2A	X	-59.164	4.5
23	MP2A	Z	34.158	4.5
24	MP2A	Mx	.05	4.5
25	MP2B	X	-59.164	.5
26	MP2B	Z	34.158	.5
27	MP2B	Mx	-.01	.5
28	MP2B	X	-59.164	4.5
29	MP2B	Z	34.158	4.5
30	MP2B	Mx	-.01	4.5
31	MP2C	X	-103.326	.5
32	MP2C	Z	59.656	.5
33	MP2C	Mx	-.07	.5
34	MP2C	X	-103.326	4.5
35	MP2C	Z	59.656	4.5
36	MP2C	Mx	-.07	4.5
37	MP4A	X	-166.757	.5
38	MP4A	Z	96.277	.5
39	MP4A	Mx	.083	.5
40	MP4A	X	-166.757	4.5
41	MP4A	Z	96.277	4.5
42	MP4A	Mx	.083	4.5
43	MP4B	X	-69.827	.5
44	MP4B	Z	40.315	.5
45	MP4B	Mx	-.035	.5
46	MP4B	X	-69.827	4.5
47	MP4B	Z	40.315	4.5
48	MP4B	Mx	-.035	4.5
49	MP4C	X	-75.948	.5
50	MP4C	Z	43.848	.5
51	MP4C	Mx	0	.5
52	MP4C	X	-75.948	4.5
53	MP4C	Z	43.848	4.5
54	MP4C	Mx	0	4.5
55	OVP	X	-90.387	1
56	OVP	Z	52.185	1
57	OVP	Mx	0	1
58	MP2A	X	-43.787	3
59	MP2A	Z	25.281	3
60	MP2A	Mx	-.022	3
61	MP2B	X	-43.787	3
62	MP2B	Z	25.281	3
63	MP2B	Mx	.022	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
64	MP2C	X	-58.133	3
65	MP2C	Z	33.563	3
66	MP2C	Mx	0	3
67	MP1A	X	-53.398	3
68	MP1A	Z	30.829	3
69	MP1A	Mx	-.027	3
70	MP1B	X	-53.398	3
71	MP1B	Z	30.829	3
72	MP1B	Mx	.027	3
73	MP1C	X	-70.134	3
74	MP1C	Z	40.492	3
75	MP1C	Mx	0	3
76	MP3A	X	-30.426	1.5
77	MP3A	Z	17.566	1.5
78	MP3A	Mx	.02	1.5
79	MP3A	X	-30.426	3.5
80	MP3A	Z	17.566	3.5
81	MP3A	Mx	.02	3.5
82	MP3B	X	-30.426	1.5
83	MP3B	Z	17.566	1.5
84	MP3B	Mx	-.02	1.5
85	MP3B	X	-30.426	3.5
86	MP3B	Z	17.566	3.5
87	MP3B	Mx	-.02	3.5
88	MP3C	X	-59.258	1.5
89	MP3C	Z	34.213	1.5
90	MP3C	Mx	0	1.5
91	MP3C	X	-59.258	3.5
92	MP3C	Z	34.213	3.5
93	MP3C	Mx	0	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	-51.319	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	.026	.5
4	MP2A	X	-51.319	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	.026	4.5
7	MP2B	X	-102.313	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	-.077	.5
10	MP2B	X	-102.313	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	-.077	4.5
13	MP2C	X	-102.313	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	.026	.5
16	MP2C	X	-102.313	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	.026	4.5
19	MP2A	X	-51.319	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.026	.5
22	MP2A	X	-51.319	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.026	4.5
25	MP2B	X	-102.313	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
26	MP2B	Z	0	.5
27	MP2B	Mx	.026	.5
28	MP2B	X	-102.313	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	.026	4.5
31	MP2C	X	-102.313	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	-.077	.5
34	MP2C	X	-102.313	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	-.077	4.5
37	MP4A	X	-186.292	.5
38	MP4A	Z	0	.5
39	MP4A	Mx	.093	.5
40	MP4A	X	-186.292	4.5
41	MP4A	Z	0	4.5
42	MP4A	Mx	.093	4.5
43	MP4B	X	-85.341	.5
44	MP4B	Z	0	.5
45	MP4B	Mx	-.021	.5
46	MP4B	X	-85.341	4.5
47	MP4B	Z	0	4.5
48	MP4B	Mx	-.021	4.5
49	MP4C	X	-85.341	.5
50	MP4C	Z	0	.5
51	MP4C	Mx	-.021	.5
52	MP4C	X	-85.341	4.5
53	MP4C	Z	0	4.5
54	MP4C	Mx	-.021	4.5
55	OVP	X	-112.598	1
56	OVP	Z	0	1
57	OVP	Mx	0	1
58	MP2A	X	-45.039	3
59	MP2A	Z	0	3
60	MP2A	Mx	-.023	3
61	MP2B	X	-61.604	3
62	MP2B	Z	0	3
63	MP2B	Mx	.015	3
64	MP2C	X	-61.604	3
65	MP2C	Z	0	3
66	MP2C	Mx	.015	3
67	MP1A	X	-55.217	3
68	MP1A	Z	0	3
69	MP1A	Mx	-.028	3
70	MP1B	X	-74.542	3
71	MP1B	Z	0	3
72	MP1B	Mx	.019	3
73	MP1C	X	-74.542	3
74	MP1C	Z	0	3
75	MP1C	Mx	.019	3
76	MP3A	X	-24.035	1.5
77	MP3A	Z	0	1.5
78	MP3A	Mx	.016	1.5
79	MP3A	X	-24.035	3.5
80	MP3A	Z	0	3.5
81	MP3A	Mx	.016	3.5
82	MP3B	X	-57.328	1.5
83	MP3B	Z	0	1.5
84	MP3B	Mx	-.019	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
85	MP3B	X	-57.328	3.5
86	MP3B	Z	0	3.5
87	MP3B	Mx	-.019	3.5
88	MP3C	X	-57.328	1.5
89	MP3C	Z	0	1.5
90	MP3C	Mx	-.019	1.5
91	MP3C	X	-57.328	3.5
92	MP3C	Z	0	3.5
93	MP3C	Mx	-.019	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	-59.164	.5
2	MP2A	Z	-34.158	.5
3	MP2A	Mx	.05	.5
4	MP2A	X	-59.164	4.5
5	MP2A	Z	-34.158	4.5
6	MP2A	Mx	.05	4.5
7	MP2B	X	-103.326	.5
8	MP2B	Z	-59.656	.5
9	MP2B	Mx	-.07	.5
10	MP2B	X	-103.326	4.5
11	MP2B	Z	-59.656	4.5
12	MP2B	Mx	-.07	4.5
13	MP2C	X	-59.164	.5
14	MP2C	Z	-34.158	.5
15	MP2C	Mx	-.01	.5
16	MP2C	X	-59.164	4.5
17	MP2C	Z	-34.158	4.5
18	MP2C	Mx	-.01	4.5
19	MP2A	X	-59.164	.5
20	MP2A	Z	-34.158	.5
21	MP2A	Mx	.01	.5
22	MP2A	X	-59.164	4.5
23	MP2A	Z	-34.158	4.5
24	MP2A	Mx	.01	4.5
25	MP2B	X	-103.326	.5
26	MP2B	Z	-59.656	.5
27	MP2B	Mx	.07	.5
28	MP2B	X	-103.326	4.5
29	MP2B	Z	-59.656	4.5
30	MP2B	Mx	.07	4.5
31	MP2C	X	-59.164	.5
32	MP2C	Z	-34.158	.5
33	MP2C	Mx	-.05	.5
34	MP2C	X	-59.164	4.5
35	MP2C	Z	-34.158	4.5
36	MP2C	Mx	-.05	4.5
37	MP4A	X	-166.757	.5
38	MP4A	Z	-96.277	.5
39	MP4A	Mx	.083	.5
40	MP4A	X	-166.757	4.5
41	MP4A	Z	-96.277	4.5
42	MP4A	Mx	.083	4.5
43	MP4B	X	-75.948	.5
44	MP4B	Z	-43.848	.5
45	MP4B	Mx	0	.5
46	MP4B	X	-75.948	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
47	MP4B	Z	-43.848	4.5
48	MP4B	Mx	0	4.5
49	MP4C	X	-69.827	.5
50	MP4C	Z	-40.315	.5
51	MP4C	Mx	-.035	.5
52	MP4C	X	-69.827	4.5
53	MP4C	Z	-40.315	4.5
54	MP4C	Mx	-.035	4.5
55	OVP	X	-111.765	1
56	OVP	Z	-64.528	1
57	OVP	Mx	0	1
58	MP2A	X	-43.787	3
59	MP2A	Z	-25.281	3
60	MP2A	Mx	-.022	3
61	MP2B	X	-58.133	3
62	MP2B	Z	-33.563	3
63	MP2B	Mx	0	3
64	MP2C	X	-43.787	3
65	MP2C	Z	-25.281	3
66	MP2C	Mx	.022	3
67	MP1A	X	-53.398	3
68	MP1A	Z	-30.829	3
69	MP1A	Mx	-.027	3
70	MP1B	X	-70.134	3
71	MP1B	Z	-40.492	3
72	MP1B	Mx	0	3
73	MP1C	X	-53.398	3
74	MP1C	Z	-30.829	3
75	MP1C	Mx	.027	3
76	MP3A	X	-30.426	1.5
77	MP3A	Z	-17.566	1.5
78	MP3A	Mx	.02	1.5
79	MP3A	X	-30.426	3.5
80	MP3A	Z	-17.566	3.5
81	MP3A	Mx	.02	3.5
82	MP3B	X	-59.258	1.5
83	MP3B	Z	-34.213	1.5
84	MP3B	Mx	0	1.5
85	MP3B	X	-59.258	3.5
86	MP3B	Z	-34.213	3.5
87	MP3B	Mx	0	3.5
88	MP3C	X	-30.426	1.5
89	MP3C	Z	-17.566	1.5
90	MP3C	Mx	-.02	1.5
91	MP3C	X	-30.426	3.5
92	MP3C	Z	-17.566	3.5
93	MP3C	Mx	-.02	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	-51.157	.5
2	MP2A	Z	-88.606	.5
3	MP2A	Mx	.077	.5
4	MP2A	X	-51.157	4.5
5	MP2A	Z	-88.606	4.5
6	MP2A	Mx	.077	4.5
7	MP2B	X	-51.157	.5
8	MP2B	Z	-88.606	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
9	MP2B	Mx	-.026	.5
10	MP2B	X	-51.157	4.5
11	MP2B	Z	-88.606	4.5
12	MP2B	Mx	-.026	4.5
13	MP2C	X	-25.659	.5
14	MP2C	Z	-44.443	.5
15	MP2C	Mx	-.026	.5
16	MP2C	X	-25.659	4.5
17	MP2C	Z	-44.443	4.5
18	MP2C	Mx	-.026	4.5
19	MP2A	X	-51.157	.5
20	MP2A	Z	-88.606	.5
21	MP2A	Mx	-.026	.5
22	MP2A	X	-51.157	4.5
23	MP2A	Z	-88.606	4.5
24	MP2A	Mx	-.026	4.5
25	MP2B	X	-51.157	.5
26	MP2B	Z	-88.606	.5
27	MP2B	Mx	.077	.5
28	MP2B	X	-51.157	4.5
29	MP2B	Z	-88.606	4.5
30	MP2B	Mx	.077	4.5
31	MP2C	X	-25.659	.5
32	MP2C	Z	-44.443	.5
33	MP2C	Mx	-.026	.5
34	MP2C	X	-25.659	4.5
35	MP2C	Z	-44.443	4.5
36	MP2C	Mx	-.026	4.5
37	MP4A	X	-102.539	.5
38	MP4A	Z	-177.602	.5
39	MP4A	Mx	.051	.5
40	MP4A	X	-102.539	4.5
41	MP4A	Z	-177.602	4.5
42	MP4A	Mx	.051	4.5
43	MP4B	X	-42.671	.5
44	MP4B	Z	-73.908	.5
45	MP4B	Mx	.021	.5
46	MP4B	X	-42.671	4.5
47	MP4B	Z	-73.908	4.5
48	MP4B	Mx	.021	4.5
49	MP4C	X	-39.137	.5
50	MP4C	Z	-67.787	.5
51	MP4C	Mx	-.039	.5
52	MP4C	X	-39.137	4.5
53	MP4C	Z	-67.787	4.5
54	MP4C	Mx	-.039	4.5
55	OVP	X	-68.642	1
56	OVP	Z	-118.891	1
57	OVP	Mx	0	1
58	MP2A	X	-30.802	3
59	MP2A	Z	-53.351	3
60	MP2A	Mx	-.015	3
61	MP2B	X	-30.802	3
62	MP2B	Z	-53.351	3
63	MP2B	Mx	-.015	3
64	MP2C	X	-22.52	3
65	MP2C	Z	-39.005	3
66	MP2C	Mx	.023	3
67	MP1A	X	-37.271	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
68	MP1A	Z	-64.556	3
69	MP1A	Mx	-.019	3
70	MP1B	X	-37.271	3
71	MP1B	Z	-64.556	3
72	MP1B	Mx	-.019	3
73	MP1C	X	-27.608	3
74	MP1C	Z	-47.819	3
75	MP1C	Mx	.028	3
76	MP3A	X	-28.664	1.5
77	MP3A	Z	-49.647	1.5
78	MP3A	Mx	.019	1.5
79	MP3A	X	-28.664	3.5
80	MP3A	Z	-49.647	3.5
81	MP3A	Mx	.019	3.5
82	MP3B	X	-28.664	1.5
83	MP3B	Z	-49.647	1.5
84	MP3B	Mx	.019	1.5
85	MP3B	X	-28.664	3.5
86	MP3B	Z	-49.647	3.5
87	MP3B	Mx	.019	3.5
88	MP3C	X	-12.018	1.5
89	MP3C	Z	-20.815	1.5
90	MP3C	Mx	-.016	1.5
91	MP3C	X	-12.018	3.5
92	MP3C	Z	-20.815	3.5
93	MP3C	Mx	-.016	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	0	.5
2	MP2A	Z	-33.868	.5
3	MP2A	Mx	.02	.5
4	MP2A	X	0	4.5
5	MP2A	Z	-33.868	4.5
6	MP2A	Mx	.02	4.5
7	MP2B	X	0	.5
8	MP2B	Z	-25.994	.5
9	MP2B	Mx	.004	.5
10	MP2B	X	0	4.5
11	MP2B	Z	-25.994	4.5
12	MP2B	Mx	.004	4.5
13	MP2C	X	0	.5
14	MP2C	Z	-25.994	.5
15	MP2C	Mx	-.019	.5
16	MP2C	X	0	4.5
17	MP2C	Z	-25.994	4.5
18	MP2C	Mx	-.019	4.5
19	MP2A	X	0	.5
20	MP2A	Z	-33.868	.5
21	MP2A	Mx	-.02	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-33.868	4.5
24	MP2A	Mx	-.02	4.5
25	MP2B	X	0	.5
26	MP2B	Z	-25.994	.5
27	MP2B	Mx	.019	.5
28	MP2B	X	0	4.5
29	MP2B	Z	-25.994	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
30	MP2B	Mx	.019	4.5
31	MP2C	X	0	.5
32	MP2C	Z	-25.994	.5
33	MP2C	Mx	-.004	.5
34	MP2C	X	0	4.5
35	MP2C	Z	-25.994	4.5
36	MP2C	Mx	-.004	4.5
37	MP4A	X	0	.5
38	MP4A	Z	-39.959	.5
39	MP4A	Mx	0	.5
40	MP4A	X	0	4.5
41	MP4A	Z	-39.959	4.5
42	MP4A	Mx	0	4.5
43	MP4B	X	0	.5
44	MP4B	Z	-16.193	.5
45	MP4B	Mx	.007	.5
46	MP4B	X	0	4.5
47	MP4B	Z	-16.193	4.5
48	MP4B	Mx	.007	4.5
49	MP4C	X	0	.5
50	MP4C	Z	-16.193	.5
51	MP4C	Mx	-.007	.5
52	MP4C	X	0	4.5
53	MP4C	Z	-16.193	4.5
54	MP4C	Mx	-.007	4.5
55	OVP	X	0	1
56	OVP	Z	-32.739	1
57	OVP	Mx	0	1
58	MP2A	X	0	3
59	MP2A	Z	-16.858	3
60	MP2A	Mx	0	3
61	MP2B	X	0	3
62	MP2B	Z	-13.014	3
63	MP2B	Mx	-.006	3
64	MP2C	X	0	3
65	MP2C	Z	-13.014	3
66	MP2C	Mx	.006	3
67	MP1A	X	0	3
68	MP1A	Z	-16.858	3
69	MP1A	Mx	0	3
70	MP1B	X	0	3
71	MP1B	Z	-13.168	3
72	MP1B	Mx	-.006	3
73	MP1C	X	0	3
74	MP1C	Z	-13.168	3
75	MP1C	Mx	.006	3
76	MP3A	X	0	1.5
77	MP3A	Z	-16.313	1.5
78	MP3A	Mx	0	1.5
79	MP3A	X	0	3.5
80	MP3A	Z	-16.313	3.5
81	MP3A	Mx	0	3.5
82	MP3B	X	0	1.5
83	MP3B	Z	-9.25	1.5
84	MP3B	Mx	.005	1.5
85	MP3B	X	0	3.5
86	MP3B	Z	-9.25	3.5
87	MP3B	Mx	.005	3.5
88	MP3C	X	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
89	MP3C	Z	-9.25	1.5
90	MP3C	Mx	-.005	1.5
91	MP3C	X	0	3.5
92	MP3C	Z	-9.25	3.5
93	MP3C	Mx	-.005	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	15.622	.5
2	MP2A	Z	-27.057	.5
3	MP2A	Mx	.008	.5
4	MP2A	X	15.622	4.5
5	MP2A	Z	-27.057	4.5
6	MP2A	Mx	.008	4.5
7	MP2B	X	11.684	.5
8	MP2B	Z	-20.238	.5
9	MP2B	Mx	.012	.5
10	MP2B	X	11.684	4.5
11	MP2B	Z	-20.238	4.5
12	MP2B	Mx	.012	4.5
13	MP2C	X	15.622	.5
14	MP2C	Z	-27.057	.5
15	MP2C	Mx	-.024	.5
16	MP2C	X	15.622	4.5
17	MP2C	Z	-27.057	4.5
18	MP2C	Mx	-.024	4.5
19	MP2A	X	15.622	.5
20	MP2A	Z	-27.057	.5
21	MP2A	Mx	-.024	.5
22	MP2A	X	15.622	4.5
23	MP2A	Z	-27.057	4.5
24	MP2A	Mx	-.024	4.5
25	MP2B	X	11.684	.5
26	MP2B	Z	-20.238	.5
27	MP2B	Mx	.012	.5
28	MP2B	X	11.684	4.5
29	MP2B	Z	-20.238	4.5
30	MP2B	Mx	.012	4.5
31	MP2C	X	15.622	.5
32	MP2C	Z	-27.057	.5
33	MP2C	Mx	.008	.5
34	MP2C	X	15.622	4.5
35	MP2C	Z	-27.057	4.5
36	MP2C	Mx	.008	4.5
37	MP4A	X	19.432	.5
38	MP4A	Z	-33.657	.5
39	MP4A	Mx	-.01	.5
40	MP4A	X	19.432	4.5
41	MP4A	Z	-33.657	4.5
42	MP4A	Mx	-.01	4.5
43	MP4B	X	7.882	.5
44	MP4B	Z	-13.652	.5
45	MP4B	Mx	.008	.5
46	MP4B	X	7.882	4.5
47	MP4B	Z	-13.652	4.5
48	MP4B	Mx	.008	4.5
49	MP4C	X	8.526	.5
50	MP4C	Z	-14.767	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
51	MP4C	Mx	-.004	.5
52	MP4C	X	8.526	4.5
53	MP4C	Z	-14.767	4.5
54	MP4C	Mx	-.004	4.5
55	OVP	X	14.484	1
56	OVP	Z	-25.087	1
57	OVP	Mx	0	1
58	MP2A	X	7.788	3
59	MP2A	Z	-13.49	3
60	MP2A	Mx	.004	3
61	MP2B	X	5.866	3
62	MP2B	Z	-10.16	3
63	MP2B	Mx	-.006	3
64	MP2C	X	7.788	3
65	MP2C	Z	-13.49	3
66	MP2C	Mx	.004	3
67	MP1A	X	7.814	3
68	MP1A	Z	-13.534	3
69	MP1A	Mx	.004	3
70	MP1B	X	5.969	3
71	MP1B	Z	-10.338	3
72	MP1B	Mx	-.006	3
73	MP1C	X	7.814	3
74	MP1C	Z	-13.534	3
75	MP1C	Mx	.004	3
76	MP3A	X	6.979	1.5
77	MP3A	Z	-12.088	1.5
78	MP3A	Mx	-.005	1.5
79	MP3A	X	6.979	3.5
80	MP3A	Z	-12.088	3.5
81	MP3A	Mx	-.005	3.5
82	MP3B	X	3.448	1.5
83	MP3B	Z	-5.972	1.5
84	MP3B	Mx	.005	1.5
85	MP3B	X	3.448	3.5
86	MP3B	Z	-5.972	3.5
87	MP3B	Mx	.005	3.5
88	MP3C	X	6.979	1.5
89	MP3C	Z	-12.088	1.5
90	MP3C	Mx	-.005	1.5
91	MP3C	X	6.979	3.5
92	MP3C	Z	-12.088	3.5
93	MP3C	Mx	-.005	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	22.511	.5
2	MP2A	Z	-12.997	.5
3	MP2A	Mx	-.004	.5
4	MP2A	X	22.511	4.5
5	MP2A	Z	-12.997	4.5
6	MP2A	Mx	-.004	4.5
7	MP2B	X	22.511	.5
8	MP2B	Z	-12.997	.5
9	MP2B	Mx	.019	.5
10	MP2B	X	22.511	4.5
11	MP2B	Z	-12.997	4.5
12	MP2B	Mx	.019	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP2C	X	29.33	.5
14	MP2C	Z	-16.934	.5
15	MP2C	Mx	-.02	.5
16	MP2C	X	29.33	4.5
17	MP2C	Z	-16.934	4.5
18	MP2C	Mx	-.02	4.5
19	MP2A	X	22.511	.5
20	MP2A	Z	-12.997	.5
21	MP2A	Mx	-.019	.5
22	MP2A	X	22.511	4.5
23	MP2A	Z	-12.997	4.5
24	MP2A	Mx	-.019	4.5
25	MP2B	X	22.511	.5
26	MP2B	Z	-12.997	.5
27	MP2B	Mx	.004	.5
28	MP2B	X	22.511	4.5
29	MP2B	Z	-12.997	4.5
30	MP2B	Mx	.004	4.5
31	MP2C	X	29.33	.5
32	MP2C	Z	-16.934	.5
33	MP2C	Mx	.02	.5
34	MP2C	X	29.33	4.5
35	MP2C	Z	-16.934	4.5
36	MP2C	Mx	.02	4.5
37	MP4A	X	31.76	.5
38	MP4A	Z	-18.336	.5
39	MP4A	Mx	-.016	.5
40	MP4A	X	31.76	4.5
41	MP4A	Z	-18.336	4.5
42	MP4A	Mx	-.016	4.5
43	MP4B	X	14.023	.5
44	MP4B	Z	-8.096	.5
45	MP4B	Mx	.007	.5
46	MP4B	X	14.023	4.5
47	MP4B	Z	-8.096	4.5
48	MP4B	Mx	.007	4.5
49	MP4C	X	15.139	.5
50	MP4C	Z	-8.74	.5
51	MP4C	Mx	0	.5
52	MP4C	X	15.139	4.5
53	MP4C	Z	-8.74	4.5
54	MP4C	Mx	0	4.5
55	OVP	X	23.454	1
56	OVP	Z	-13.541	1
57	OVP	Mx	0	1
58	MP2A	X	11.27	3
59	MP2A	Z	-6.507	3
60	MP2A	Mx	.006	3
61	MP2B	X	11.27	3
62	MP2B	Z	-6.507	3
63	MP2B	Mx	-.006	3
64	MP2C	X	14.6	3
65	MP2C	Z	-8.429	3
66	MP2C	Mx	0	3
67	MP1A	X	11.403	3
68	MP1A	Z	-6.584	3
69	MP1A	Mx	.006	3
70	MP1B	X	11.403	3
71	MP1B	Z	-6.584	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
72	MP1B	Mx	-.006	3
73	MP1C	X	14.6	3
74	MP1C	Z	-8.429	3
75	MP1C	Mx	0	3
76	MP3A	X	8.011	1.5
77	MP3A	Z	-4.625	1.5
78	MP3A	Mx	-.005	1.5
79	MP3A	X	8.011	3.5
80	MP3A	Z	-4.625	3.5
81	MP3A	Mx	-.005	3.5
82	MP3B	X	8.011	1.5
83	MP3B	Z	-4.625	1.5
84	MP3B	Mx	.005	1.5
85	MP3B	X	8.011	3.5
86	MP3B	Z	-4.625	3.5
87	MP3B	Mx	.005	3.5
88	MP3C	X	14.127	1.5
89	MP3C	Z	-8.156	1.5
90	MP3C	Mx	0	1.5
91	MP3C	X	14.127	3.5
92	MP3C	Z	-8.156	3.5
93	MP3C	Mx	0	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	23.369	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	-.012	.5
4	MP2A	X	23.369	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	-.012	4.5
7	MP2B	X	31.243	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	.024	.5
10	MP2B	X	31.243	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	.024	4.5
13	MP2C	X	31.243	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	-.008	.5
16	MP2C	X	31.243	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	-.008	4.5
19	MP2A	X	23.369	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.012	.5
22	MP2A	X	23.369	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.012	4.5
25	MP2B	X	31.243	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	-.008	.5
28	MP2B	X	31.243	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	-.008	4.5
31	MP2C	X	31.243	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	.024	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
34	MP2C	X	31.243	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	.024	4.5
37	MP4A	X	35.577	.5
38	MP4A	Z	0	.5
39	MP4A	Mx	-.018	.5
40	MP4A	X	35.577	4.5
41	MP4A	Z	0	4.5
42	MP4A	Mx	-.018	4.5
43	MP4B	X	17.052	.5
44	MP4B	Z	0	.5
45	MP4B	Mx	.004	.5
46	MP4B	X	17.052	4.5
47	MP4B	Z	0	4.5
48	MP4B	Mx	.004	4.5
49	MP4C	X	17.052	.5
50	MP4C	Z	0	.5
51	MP4C	Mx	.004	.5
52	MP4C	X	17.052	4.5
53	MP4C	Z	0	4.5
54	MP4C	Mx	.004	4.5
55	OVP	X	28.968	1
56	OVP	Z	0	1
57	OVP	Mx	0	1
58	MP2A	X	11.732	3
59	MP2A	Z	0	3
60	MP2A	Mx	.006	3
61	MP2B	X	15.577	3
62	MP2B	Z	0	3
63	MP2B	Mx	-.004	3
64	MP2C	X	15.577	3
65	MP2C	Z	0	3
66	MP2C	Mx	-.004	3
67	MP1A	X	11.937	3
68	MP1A	Z	0	3
69	MP1A	Mx	.006	3
70	MP1B	X	15.628	3
71	MP1B	Z	0	3
72	MP1B	Mx	-.004	3
73	MP1C	X	15.628	3
74	MP1C	Z	0	3
75	MP1C	Mx	-.004	3
76	MP3A	X	6.896	1.5
77	MP3A	Z	0	1.5
78	MP3A	Mx	-.005	1.5
79	MP3A	X	6.896	3.5
80	MP3A	Z	0	3.5
81	MP3A	Mx	-.005	3.5
82	MP3B	X	13.959	1.5
83	MP3B	Z	0	1.5
84	MP3B	Mx	.005	1.5
85	MP3B	X	13.959	3.5
86	MP3B	Z	0	3.5
87	MP3B	Mx	.005	3.5
88	MP3C	X	13.959	1.5
89	MP3C	Z	0	1.5
90	MP3C	Mx	.005	1.5
91	MP3C	X	13.959	3.5
92	MP3C	Z	0	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
93	MP3C	Mx	.005	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	22.511	.5
2	MP2A	Z	12.997	.5
3	MP2A	Mx	-.019	.5
4	MP2A	X	22.511	4.5
5	MP2A	Z	12.997	4.5
6	MP2A	Mx	-.019	4.5
7	MP2B	X	29.33	.5
8	MP2B	Z	16.934	.5
9	MP2B	Mx	.02	.5
10	MP2B	X	29.33	4.5
11	MP2B	Z	16.934	4.5
12	MP2B	Mx	.02	4.5
13	MP2C	X	22.511	.5
14	MP2C	Z	12.997	.5
15	MP2C	Mx	.004	.5
16	MP2C	X	22.511	4.5
17	MP2C	Z	12.997	4.5
18	MP2C	Mx	.004	4.5
19	MP2A	X	22.511	.5
20	MP2A	Z	12.997	.5
21	MP2A	Mx	-.004	.5
22	MP2A	X	22.511	4.5
23	MP2A	Z	12.997	4.5
24	MP2A	Mx	-.004	4.5
25	MP2B	X	29.33	.5
26	MP2B	Z	16.934	.5
27	MP2B	Mx	-.02	.5
28	MP2B	X	29.33	4.5
29	MP2B	Z	16.934	4.5
30	MP2B	Mx	-.02	4.5
31	MP2C	X	22.511	.5
32	MP2C	Z	12.997	.5
33	MP2C	Mx	.019	.5
34	MP2C	X	22.511	4.5
35	MP2C	Z	12.997	4.5
36	MP2C	Mx	.019	4.5
37	MP4A	X	31.76	.5
38	MP4A	Z	18.336	.5
39	MP4A	Mx	-.016	.5
40	MP4A	X	31.76	4.5
41	MP4A	Z	18.336	4.5
42	MP4A	Mx	-.016	4.5
43	MP4B	X	15.139	.5
44	MP4B	Z	8.74	.5
45	MP4B	Mx	0	.5
46	MP4B	X	15.139	4.5
47	MP4B	Z	8.74	4.5
48	MP4B	Mx	0	4.5
49	MP4C	X	14.023	.5
50	MP4C	Z	8.096	.5
51	MP4C	Mx	.007	.5
52	MP4C	X	14.023	4.5
53	MP4C	Z	8.096	4.5
54	MP4C	Mx	.007	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
55	OVP	X	28.353	1
56	OVP	Z	16.369	1
57	OVP	Mx	0	1
58	MP2A	X	11.27	3
59	MP2A	Z	6.507	3
60	MP2A	Mx	.006	3
61	MP2B	X	14.6	3
62	MP2B	Z	8.429	3
63	MP2B	Mx	0	3
64	MP2C	X	11.27	3
65	MP2C	Z	6.507	3
66	MP2C	Mx	-.006	3
67	MP1A	X	11.403	3
68	MP1A	Z	6.584	3
69	MP1A	Mx	.006	3
70	MP1B	X	14.6	3
71	MP1B	Z	8.429	3
72	MP1B	Mx	0	3
73	MP1C	X	11.403	3
74	MP1C	Z	6.584	3
75	MP1C	Mx	-.006	3
76	MP3A	X	8.011	1.5
77	MP3A	Z	4.625	1.5
78	MP3A	Mx	-.005	1.5
79	MP3A	X	8.011	3.5
80	MP3A	Z	4.625	3.5
81	MP3A	Mx	-.005	3.5
82	MP3B	X	14.127	1.5
83	MP3B	Z	8.156	1.5
84	MP3B	Mx	0	1.5
85	MP3B	X	14.127	3.5
86	MP3B	Z	8.156	3.5
87	MP3B	Mx	0	3.5
88	MP3C	X	8.011	1.5
89	MP3C	Z	4.625	1.5
90	MP3C	Mx	.005	1.5
91	MP3C	X	8.011	3.5
92	MP3C	Z	4.625	3.5
93	MP3C	Mx	.005	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	15.622	.5
2	MP2A	Z	27.057	.5
3	MP2A	Mx	-.024	.5
4	MP2A	X	15.622	4.5
5	MP2A	Z	27.057	4.5
6	MP2A	Mx	-.024	4.5
7	MP2B	X	15.622	.5
8	MP2B	Z	27.057	.5
9	MP2B	Mx	.008	.5
10	MP2B	X	15.622	4.5
11	MP2B	Z	27.057	4.5
12	MP2B	Mx	.008	4.5
13	MP2C	X	11.684	.5
14	MP2C	Z	20.238	.5
15	MP2C	Mx	.012	.5
16	MP2C	X	11.684	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP2C	Z	20.238	4.5
18	MP2C	Mx	.012	4.5
19	MP2A	X	15.622	.5
20	MP2A	Z	27.057	.5
21	MP2A	Mx	.008	.5
22	MP2A	X	15.622	4.5
23	MP2A	Z	27.057	4.5
24	MP2A	Mx	.008	4.5
25	MP2B	X	15.622	.5
26	MP2B	Z	27.057	.5
27	MP2B	Mx	-.024	.5
28	MP2B	X	15.622	4.5
29	MP2B	Z	27.057	4.5
30	MP2B	Mx	-.024	4.5
31	MP2C	X	11.684	.5
32	MP2C	Z	20.238	.5
33	MP2C	Mx	.012	.5
34	MP2C	X	11.684	4.5
35	MP2C	Z	20.238	4.5
36	MP2C	Mx	.012	4.5
37	MP4A	X	19.432	.5
38	MP4A	Z	33.657	.5
39	MP4A	Mx	-.01	.5
40	MP4A	X	19.432	4.5
41	MP4A	Z	33.657	4.5
42	MP4A	Mx	-.01	4.5
43	MP4B	X	8.526	.5
44	MP4B	Z	14.767	.5
45	MP4B	Mx	-.004	.5
46	MP4B	X	8.526	4.5
47	MP4B	Z	14.767	4.5
48	MP4B	Mx	-.004	4.5
49	MP4C	X	7.882	.5
50	MP4C	Z	13.652	.5
51	MP4C	Mx	.008	.5
52	MP4C	X	7.882	4.5
53	MP4C	Z	13.652	4.5
54	MP4C	Mx	.008	4.5
55	OVP	X	17.312	1
56	OVP	Z	29.986	1
57	OVP	Mx	0	1
58	MP2A	X	7.788	3
59	MP2A	Z	13.49	3
60	MP2A	Mx	.004	3
61	MP2B	X	7.788	3
62	MP2B	Z	13.49	3
63	MP2B	Mx	.004	3
64	MP2C	X	5.866	3
65	MP2C	Z	10.16	3
66	MP2C	Mx	-.006	3
67	MP1A	X	7.814	3
68	MP1A	Z	13.534	3
69	MP1A	Mx	.004	3
70	MP1B	X	7.814	3
71	MP1B	Z	13.534	3
72	MP1B	Mx	.004	3
73	MP1C	X	5.969	3
74	MP1C	Z	10.338	3
75	MP1C	Mx	-.006	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
76	MP3A	X	6.979	1.5
77	MP3A	Z	12.088	1.5
78	MP3A	Mx	-.005	1.5
79	MP3A	X	6.979	3.5
80	MP3A	Z	12.088	3.5
81	MP3A	Mx	-.005	3.5
82	MP3B	X	6.979	1.5
83	MP3B	Z	12.088	1.5
84	MP3B	Mx	-.005	1.5
85	MP3B	X	6.979	3.5
86	MP3B	Z	12.088	3.5
87	MP3B	Mx	-.005	3.5
88	MP3C	X	3.448	1.5
89	MP3C	Z	5.972	1.5
90	MP3C	Mx	.005	1.5
91	MP3C	X	3.448	3.5
92	MP3C	Z	5.972	3.5
93	MP3C	Mx	.005	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	0	.5
2	MP2A	Z	33.868	.5
3	MP2A	Mx	-.02	.5
4	MP2A	X	0	4.5
5	MP2A	Z	33.868	4.5
6	MP2A	Mx	-.02	4.5
7	MP2B	X	0	.5
8	MP2B	Z	25.994	.5
9	MP2B	Mx	-.004	.5
10	MP2B	X	0	4.5
11	MP2B	Z	25.994	4.5
12	MP2B	Mx	-.004	4.5
13	MP2C	X	0	.5
14	MP2C	Z	25.994	.5
15	MP2C	Mx	.019	.5
16	MP2C	X	0	4.5
17	MP2C	Z	25.994	4.5
18	MP2C	Mx	.019	4.5
19	MP2A	X	0	.5
20	MP2A	Z	33.868	.5
21	MP2A	Mx	.02	.5
22	MP2A	X	0	4.5
23	MP2A	Z	33.868	4.5
24	MP2A	Mx	.02	4.5
25	MP2B	X	0	.5
26	MP2B	Z	25.994	.5
27	MP2B	Mx	-.019	.5
28	MP2B	X	0	4.5
29	MP2B	Z	25.994	4.5
30	MP2B	Mx	-.019	4.5
31	MP2C	X	0	.5
32	MP2C	Z	25.994	.5
33	MP2C	Mx	.004	.5
34	MP2C	X	0	4.5
35	MP2C	Z	25.994	4.5
36	MP2C	Mx	.004	4.5
37	MP4A	X	0	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
38	MP4A	Z	39.959	.5
39	MP4A	Mx	0	.5
40	MP4A	X	0	4.5
41	MP4A	Z	39.959	4.5
42	MP4A	Mx	0	4.5
43	MP4B	X	0	.5
44	MP4B	Z	16.193	.5
45	MP4B	Mx	-.007	.5
46	MP4B	X	0	4.5
47	MP4B	Z	16.193	4.5
48	MP4B	Mx	-.007	4.5
49	MP4C	X	0	.5
50	MP4C	Z	16.193	.5
51	MP4C	Mx	.007	.5
52	MP4C	X	0	4.5
53	MP4C	Z	16.193	4.5
54	MP4C	Mx	.007	4.5
55	OVP	X	0	1
56	OVP	Z	32.739	1
57	OVP	Mx	0	1
58	MP2A	X	0	3
59	MP2A	Z	16.858	3
60	MP2A	Mx	0	3
61	MP2B	X	0	3
62	MP2B	Z	13.014	3
63	MP2B	Mx	.006	3
64	MP2C	X	0	3
65	MP2C	Z	13.014	3
66	MP2C	Mx	-.006	3
67	MP1A	X	0	3
68	MP1A	Z	16.858	3
69	MP1A	Mx	0	3
70	MP1B	X	0	3
71	MP1B	Z	13.168	3
72	MP1B	Mx	.006	3
73	MP1C	X	0	3
74	MP1C	Z	13.168	3
75	MP1C	Mx	-.006	3
76	MP3A	X	0	1.5
77	MP3A	Z	16.313	1.5
78	MP3A	Mx	0	1.5
79	MP3A	X	0	3.5
80	MP3A	Z	16.313	3.5
81	MP3A	Mx	0	3.5
82	MP3B	X	0	1.5
83	MP3B	Z	9.25	1.5
84	MP3B	Mx	-.005	1.5
85	MP3B	X	0	3.5
86	MP3B	Z	9.25	3.5
87	MP3B	Mx	-.005	3.5
88	MP3C	X	0	1.5
89	MP3C	Z	9.25	1.5
90	MP3C	Mx	.005	1.5
91	MP3C	X	0	3.5
92	MP3C	Z	9.25	3.5
93	MP3C	Mx	.005	3.5

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

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	-15.622	.5
2	MP2A	Z	27.057	.5
3	MP2A	Mx	-.008	.5
4	MP2A	X	-15.622	4.5
5	MP2A	Z	27.057	4.5
6	MP2A	Mx	-.008	4.5
7	MP2B	X	-11.684	.5
8	MP2B	Z	20.238	.5
9	MP2B	Mx	-.012	.5
10	MP2B	X	-11.684	4.5
11	MP2B	Z	20.238	4.5
12	MP2B	Mx	-.012	4.5
13	MP2C	X	-15.622	.5
14	MP2C	Z	27.057	.5
15	MP2C	Mx	.024	.5
16	MP2C	X	-15.622	4.5
17	MP2C	Z	27.057	4.5
18	MP2C	Mx	.024	4.5
19	MP2A	X	-15.622	.5
20	MP2A	Z	27.057	.5
21	MP2A	Mx	.024	.5
22	MP2A	X	-15.622	4.5
23	MP2A	Z	27.057	4.5
24	MP2A	Mx	.024	4.5
25	MP2B	X	-11.684	.5
26	MP2B	Z	20.238	.5
27	MP2B	Mx	-.012	.5
28	MP2B	X	-11.684	4.5
29	MP2B	Z	20.238	4.5
30	MP2B	Mx	-.012	4.5
31	MP2C	X	-15.622	.5
32	MP2C	Z	27.057	.5
33	MP2C	Mx	-.008	.5
34	MP2C	X	-15.622	4.5
35	MP2C	Z	27.057	4.5
36	MP2C	Mx	-.008	4.5
37	MP4A	X	-19.432	.5
38	MP4A	Z	33.657	.5
39	MP4A	Mx	.01	.5
40	MP4A	X	-19.432	4.5
41	MP4A	Z	33.657	4.5
42	MP4A	Mx	.01	4.5
43	MP4B	X	-7.882	.5
44	MP4B	Z	13.652	.5
45	MP4B	Mx	-.008	.5
46	MP4B	X	-7.882	4.5
47	MP4B	Z	13.652	4.5
48	MP4B	Mx	-.008	4.5
49	MP4C	X	-8.526	.5
50	MP4C	Z	14.767	.5
51	MP4C	Mx	.004	.5
52	MP4C	X	-8.526	4.5
53	MP4C	Z	14.767	4.5
54	MP4C	Mx	.004	4.5
55	OVP	X	-14.484	1
56	OVP	Z	25.087	1
57	OVP	Mx	0	1
58	MP2A	X	-7.788	3
59	MP2A	Z	13.49	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
60	MP2A	Mx	-.004	3
61	MP2B	X	-5.866	3
62	MP2B	Z	10.16	3
63	MP2B	Mx	.006	3
64	MP2C	X	-7.788	3
65	MP2C	Z	13.49	3
66	MP2C	Mx	-.004	3
67	MP1A	X	-7.814	3
68	MP1A	Z	13.534	3
69	MP1A	Mx	-.004	3
70	MP1B	X	-5.969	3
71	MP1B	Z	10.338	3
72	MP1B	Mx	.006	3
73	MP1C	X	-7.814	3
74	MP1C	Z	13.534	3
75	MP1C	Mx	-.004	3
76	MP3A	X	-6.979	1.5
77	MP3A	Z	12.088	1.5
78	MP3A	Mx	.005	1.5
79	MP3A	X	-6.979	3.5
80	MP3A	Z	12.088	3.5
81	MP3A	Mx	.005	3.5
82	MP3B	X	-3.448	1.5
83	MP3B	Z	5.972	1.5
84	MP3B	Mx	-.005	1.5
85	MP3B	X	-3.448	3.5
86	MP3B	Z	5.972	3.5
87	MP3B	Mx	-.005	3.5
88	MP3C	X	-6.979	1.5
89	MP3C	Z	12.088	1.5
90	MP3C	Mx	.005	1.5
91	MP3C	X	-6.979	3.5
92	MP3C	Z	12.088	3.5
93	MP3C	Mx	.005	3.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP2A	X	-22.511	.5
2	MP2A	Z	12.997	.5
3	MP2A	Mx	.004	.5
4	MP2A	X	-22.511	4.5
5	MP2A	Z	12.997	4.5
6	MP2A	Mx	.004	4.5
7	MP2B	X	-22.511	.5
8	MP2B	Z	12.997	.5
9	MP2B	Mx	-.019	.5
10	MP2B	X	-22.511	4.5
11	MP2B	Z	12.997	4.5
12	MP2B	Mx	-.019	4.5
13	MP2C	X	-29.33	.5
14	MP2C	Z	16.934	.5
15	MP2C	Mx	.02	.5
16	MP2C	X	-29.33	4.5
17	MP2C	Z	16.934	4.5
18	MP2C	Mx	.02	4.5
19	MP2A	X	-22.511	.5
20	MP2A	Z	12.997	.5
21	MP2A	Mx	.019	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
22	MP2A	X	-22.511	4.5
23	MP2A	Z	12.997	4.5
24	MP2A	Mx	.019	4.5
25	MP2B	X	-22.511	.5
26	MP2B	Z	12.997	.5
27	MP2B	Mx	-.004	.5
28	MP2B	X	-22.511	4.5
29	MP2B	Z	12.997	4.5
30	MP2B	Mx	-.004	4.5
31	MP2C	X	-29.33	.5
32	MP2C	Z	16.934	.5
33	MP2C	Mx	-.02	.5
34	MP2C	X	-29.33	4.5
35	MP2C	Z	16.934	4.5
36	MP2C	Mx	-.02	4.5
37	MP4A	X	-31.76	.5
38	MP4A	Z	18.336	.5
39	MP4A	Mx	.016	.5
40	MP4A	X	-31.76	4.5
41	MP4A	Z	18.336	4.5
42	MP4A	Mx	.016	4.5
43	MP4B	X	-14.023	.5
44	MP4B	Z	8.096	.5
45	MP4B	Mx	-.007	.5
46	MP4B	X	-14.023	4.5
47	MP4B	Z	8.096	4.5
48	MP4B	Mx	-.007	4.5
49	MP4C	X	-15.139	.5
50	MP4C	Z	8.74	.5
51	MP4C	Mx	0	.5
52	MP4C	X	-15.139	4.5
53	MP4C	Z	8.74	4.5
54	MP4C	Mx	0	4.5
55	OVP	X	-23.454	1
56	OVP	Z	13.541	1
57	OVP	Mx	0	1
58	MP2A	X	-11.27	3
59	MP2A	Z	6.507	3
60	MP2A	Mx	-.006	3
61	MP2B	X	-11.27	3
62	MP2B	Z	6.507	3
63	MP2B	Mx	.006	3
64	MP2C	X	-14.6	3
65	MP2C	Z	8.429	3
66	MP2C	Mx	0	3
67	MP1A	X	-11.403	3
68	MP1A	Z	6.584	3
69	MP1A	Mx	-.006	3
70	MP1B	X	-11.403	3
71	MP1B	Z	6.584	3
72	MP1B	Mx	.006	3
73	MP1C	X	-14.6	3
74	MP1C	Z	8.429	3
75	MP1C	Mx	0	3
76	MP3A	X	-8.011	1.5
77	MP3A	Z	4.625	1.5
78	MP3A	Mx	.005	1.5
79	MP3A	X	-8.011	3.5
80	MP3A	Z	4.625	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
81	MP3A	Mx	.005	3.5
82	MP3B	X	-8.011	1.5
83	MP3B	Z	4.625	1.5
84	MP3B	Mx	-.005	1.5
85	MP3B	X	-8.011	3.5
86	MP3B	Z	4.625	3.5
87	MP3B	Mx	-.005	3.5
88	MP3C	X	-14.127	1.5
89	MP3C	Z	8.156	1.5
90	MP3C	Mx	0	1.5
91	MP3C	X	-14.127	3.5
92	MP3C	Z	8.156	3.5
93	MP3C	Mx	0	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	-23.369	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	.012	.5
4	MP2A	X	-23.369	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	.012	4.5
7	MP2B	X	-31.243	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	-.024	.5
10	MP2B	X	-31.243	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	-.024	4.5
13	MP2C	X	-31.243	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	.008	.5
16	MP2C	X	-31.243	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	.008	4.5
19	MP2A	X	-23.369	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.012	.5
22	MP2A	X	-23.369	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.012	4.5
25	MP2B	X	-31.243	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	.008	.5
28	MP2B	X	-31.243	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	.008	4.5
31	MP2C	X	-31.243	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	-.024	.5
34	MP2C	X	-31.243	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	-.024	4.5
37	MP4A	X	-35.577	.5
38	MP4A	Z	0	.5
39	MP4A	Mx	.018	.5
40	MP4A	X	-35.577	4.5
41	MP4A	Z	0	4.5
42	MP4A	Mx	.018	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
43	MP4B	X	-17.052	.5
44	MP4B	Z	0	.5
45	MP4B	Mx	-.004	.5
46	MP4B	X	-17.052	4.5
47	MP4B	Z	0	4.5
48	MP4B	Mx	-.004	4.5
49	MP4C	X	-17.052	.5
50	MP4C	Z	0	.5
51	MP4C	Mx	-.004	.5
52	MP4C	X	-17.052	4.5
53	MP4C	Z	0	4.5
54	MP4C	Mx	-.004	4.5
55	OVP	X	-28.968	1
56	OVP	Z	0	1
57	OVP	Mx	0	1
58	MP2A	X	-11.732	3
59	MP2A	Z	0	3
60	MP2A	Mx	-.006	3
61	MP2B	X	-15.577	3
62	MP2B	Z	0	3
63	MP2B	Mx	.004	3
64	MP2C	X	-15.577	3
65	MP2C	Z	0	3
66	MP2C	Mx	.004	3
67	MP1A	X	-11.937	3
68	MP1A	Z	0	3
69	MP1A	Mx	-.006	3
70	MP1B	X	-15.628	3
71	MP1B	Z	0	3
72	MP1B	Mx	.004	3
73	MP1C	X	-15.628	3
74	MP1C	Z	0	3
75	MP1C	Mx	.004	3
76	MP3A	X	-6.896	1.5
77	MP3A	Z	0	1.5
78	MP3A	Mx	.005	1.5
79	MP3A	X	-6.896	3.5
80	MP3A	Z	0	3.5
81	MP3A	Mx	.005	3.5
82	MP3B	X	-13.959	1.5
83	MP3B	Z	0	1.5
84	MP3B	Mx	-.005	1.5
85	MP3B	X	-13.959	3.5
86	MP3B	Z	0	3.5
87	MP3B	Mx	-.005	3.5
88	MP3C	X	-13.959	1.5
89	MP3C	Z	0	1.5
90	MP3C	Mx	-.005	1.5
91	MP3C	X	-13.959	3.5
92	MP3C	Z	0	3.5
93	MP3C	Mx	-.005	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	-22.511	.5
2	MP2A	Z	-12.997	.5
3	MP2A	Mx	.019	.5
4	MP2A	X	-22.511	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
5	MP2A	Z	-12.997	4.5
6	MP2A	Mx	.019	4.5
7	MP2B	X	-29.33	.5
8	MP2B	Z	-16.934	.5
9	MP2B	Mx	-.02	.5
10	MP2B	X	-29.33	4.5
11	MP2B	Z	-16.934	4.5
12	MP2B	Mx	-.02	4.5
13	MP2C	X	-22.511	.5
14	MP2C	Z	-12.997	.5
15	MP2C	Mx	-.004	.5
16	MP2C	X	-22.511	4.5
17	MP2C	Z	-12.997	4.5
18	MP2C	Mx	-.004	4.5
19	MP2A	X	-22.511	.5
20	MP2A	Z	-12.997	.5
21	MP2A	Mx	.004	.5
22	MP2A	X	-22.511	4.5
23	MP2A	Z	-12.997	4.5
24	MP2A	Mx	.004	4.5
25	MP2B	X	-29.33	.5
26	MP2B	Z	-16.934	.5
27	MP2B	Mx	.02	.5
28	MP2B	X	-29.33	4.5
29	MP2B	Z	-16.934	4.5
30	MP2B	Mx	.02	4.5
31	MP2C	X	-22.511	.5
32	MP2C	Z	-12.997	.5
33	MP2C	Mx	-.019	.5
34	MP2C	X	-22.511	4.5
35	MP2C	Z	-12.997	4.5
36	MP2C	Mx	-.019	4.5
37	MP4A	X	-31.76	.5
38	MP4A	Z	-18.336	.5
39	MP4A	Mx	.016	.5
40	MP4A	X	-31.76	4.5
41	MP4A	Z	-18.336	4.5
42	MP4A	Mx	.016	4.5
43	MP4B	X	-15.139	.5
44	MP4B	Z	-8.74	.5
45	MP4B	Mx	0	.5
46	MP4B	X	-15.139	4.5
47	MP4B	Z	-8.74	4.5
48	MP4B	Mx	0	4.5
49	MP4C	X	-14.023	.5
50	MP4C	Z	-8.096	.5
51	MP4C	Mx	-.007	.5
52	MP4C	X	-14.023	4.5
53	MP4C	Z	-8.096	4.5
54	MP4C	Mx	-.007	4.5
55	OVP	X	-28.353	1
56	OVP	Z	-16.369	1
57	OVP	Mx	0	1
58	MP2A	X	-11.27	3
59	MP2A	Z	-6.507	3
60	MP2A	Mx	-.006	3
61	MP2B	X	-14.6	3
62	MP2B	Z	-8.429	3
63	MP2B	Mx	0	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
64	MP2C	X	-11.27	3
65	MP2C	Z	-6.507	3
66	MP2C	Mx	.006	3
67	MP1A	X	-11.403	3
68	MP1A	Z	-6.584	3
69	MP1A	Mx	-.006	3
70	MP1B	X	-14.6	3
71	MP1B	Z	-8.429	3
72	MP1B	Mx	0	3
73	MP1C	X	-11.403	3
74	MP1C	Z	-6.584	3
75	MP1C	Mx	.006	3
76	MP3A	X	-8.011	1.5
77	MP3A	Z	-4.625	1.5
78	MP3A	Mx	.005	1.5
79	MP3A	X	-8.011	3.5
80	MP3A	Z	-4.625	3.5
81	MP3A	Mx	.005	3.5
82	MP3B	X	-14.127	1.5
83	MP3B	Z	-8.156	1.5
84	MP3B	Mx	0	1.5
85	MP3B	X	-14.127	3.5
86	MP3B	Z	-8.156	3.5
87	MP3B	Mx	0	3.5
88	MP3C	X	-8.011	1.5
89	MP3C	Z	-4.625	1.5
90	MP3C	Mx	-.005	1.5
91	MP3C	X	-8.011	3.5
92	MP3C	Z	-4.625	3.5
93	MP3C	Mx	-.005	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	-15.622	.5
2	MP2A	Z	-27.057	.5
3	MP2A	Mx	.024	.5
4	MP2A	X	-15.622	4.5
5	MP2A	Z	-27.057	4.5
6	MP2A	Mx	.024	4.5
7	MP2B	X	-15.622	.5
8	MP2B	Z	-27.057	.5
9	MP2B	Mx	-.008	.5
10	MP2B	X	-15.622	4.5
11	MP2B	Z	-27.057	4.5
12	MP2B	Mx	-.008	4.5
13	MP2C	X	-11.684	.5
14	MP2C	Z	-20.238	.5
15	MP2C	Mx	-.012	.5
16	MP2C	X	-11.684	4.5
17	MP2C	Z	-20.238	4.5
18	MP2C	Mx	-.012	4.5
19	MP2A	X	-15.622	.5
20	MP2A	Z	-27.057	.5
21	MP2A	Mx	-.008	.5
22	MP2A	X	-15.622	4.5
23	MP2A	Z	-27.057	4.5
24	MP2A	Mx	-.008	4.5
25	MP2B	X	-15.622	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
26	MP2B	Z	-27.057	.5
27	MP2B	Mx	.024	.5
28	MP2B	X	-15.622	4.5
29	MP2B	Z	-27.057	4.5
30	MP2B	Mx	.024	4.5
31	MP2C	X	-11.684	.5
32	MP2C	Z	-20.238	.5
33	MP2C	Mx	-.012	.5
34	MP2C	X	-11.684	4.5
35	MP2C	Z	-20.238	4.5
36	MP2C	Mx	-.012	4.5
37	MP4A	X	-19.432	.5
38	MP4A	Z	-33.657	.5
39	MP4A	Mx	.01	.5
40	MP4A	X	-19.432	4.5
41	MP4A	Z	-33.657	4.5
42	MP4A	Mx	.01	4.5
43	MP4B	X	-8.526	.5
44	MP4B	Z	-14.767	.5
45	MP4B	Mx	.004	.5
46	MP4B	X	-8.526	4.5
47	MP4B	Z	-14.767	4.5
48	MP4B	Mx	.004	4.5
49	MP4C	X	-7.882	.5
50	MP4C	Z	-13.652	.5
51	MP4C	Mx	-.008	.5
52	MP4C	X	-7.882	4.5
53	MP4C	Z	-13.652	4.5
54	MP4C	Mx	-.008	4.5
55	OVP	X	-17.312	1
56	OVP	Z	-29.986	1
57	OVP	Mx	0	1
58	MP2A	X	-7.788	3
59	MP2A	Z	-13.49	3
60	MP2A	Mx	-.004	3
61	MP2B	X	-7.788	3
62	MP2B	Z	-13.49	3
63	MP2B	Mx	-.004	3
64	MP2C	X	-5.866	3
65	MP2C	Z	-10.16	3
66	MP2C	Mx	.006	3
67	MP1A	X	-7.814	3
68	MP1A	Z	-13.534	3
69	MP1A	Mx	-.004	3
70	MP1B	X	-7.814	3
71	MP1B	Z	-13.534	3
72	MP1B	Mx	-.004	3
73	MP1C	X	-5.969	3
74	MP1C	Z	-10.338	3
75	MP1C	Mx	.006	3
76	MP3A	X	-6.979	1.5
77	MP3A	Z	-12.088	1.5
78	MP3A	Mx	.005	1.5
79	MP3A	X	-6.979	3.5
80	MP3A	Z	-12.088	3.5
81	MP3A	Mx	.005	3.5
82	MP3B	X	-6.979	1.5
83	MP3B	Z	-12.088	1.5
84	MP3B	Mx	.005	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
85	MP3B	X	-6.979	3.5
86	MP3B	Z	-12.088	3.5
87	MP3B	Mx	.005	3.5
88	MP3C	X	-3.448	1.5
89	MP3C	Z	-5.972	1.5
90	MP3C	Mx	-.005	1.5
91	MP3C	X	-3.448	3.5
92	MP3C	Z	-5.972	3.5
93	MP3C	Mx	-.005	3.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP2A	X	0	.5
2	MP2A	Z	-7.457	.5
3	MP2A	Mx	.004	.5
4	MP2A	X	0	4.5
5	MP2A	Z	-7.457	4.5
6	MP2A	Mx	.004	4.5
7	MP2B	X	0	.5
8	MP2B	Z	-4.27	.5
9	MP2B	Mx	.000604	.5
10	MP2B	X	0	4.5
11	MP2B	Z	-4.27	4.5
12	MP2B	Mx	.000604	4.5
13	MP2C	X	0	.5
14	MP2C	Z	-4.27	.5
15	MP2C	Mx	-.003	.5
16	MP2C	X	0	4.5
17	MP2C	Z	-4.27	4.5
18	MP2C	Mx	-.003	4.5
19	MP2A	X	0	.5
20	MP2A	Z	-7.457	.5
21	MP2A	Mx	-.004	.5
22	MP2A	X	0	4.5
23	MP2A	Z	-7.457	4.5
24	MP2A	Mx	-.004	4.5
25	MP2B	X	0	.5
26	MP2B	Z	-4.27	.5
27	MP2B	Mx	.003	.5
28	MP2B	X	0	4.5
29	MP2B	Z	-4.27	4.5
30	MP2B	Mx	.003	4.5
31	MP2C	X	0	.5
32	MP2C	Z	-4.27	.5
33	MP2C	Mx	-.000604	.5
34	MP2C	X	0	4.5
35	MP2C	Z	-4.27	4.5
36	MP2C	Mx	-.000604	4.5
37	MP4A	X	0	.5
38	MP4A	Z	-13.209	.5
39	MP4A	Mx	0	.5
40	MP4A	X	0	4.5
41	MP4A	Z	-13.209	4.5
42	MP4A	Mx	0	4.5
43	MP4B	X	0	.5
44	MP4B	Z	-5.039	.5
45	MP4B	Mx	.002	.5
46	MP4B	X	0	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
47	MP4B	Z	-5.039	4.5
48	MP4B	Mx	.002	4.5
49	MP4C	X	0	.5
50	MP4C	Z	-5.039	.5
51	MP4C	Mx	-.002	.5
52	MP4C	X	0	4.5
53	MP4C	Z	-5.039	4.5
54	MP4C	Mx	-.002	4.5
55	OVP	X	0	1
56	OVP	Z	-8.066	1
57	OVP	Mx	0	1
58	MP2A	X	0	3
59	MP2A	Z	-4.195	3
60	MP2A	Mx	0	3
61	MP2B	X	0	3
62	MP2B	Z	-3.16	3
63	MP2B	Mx	-.001	3
64	MP2C	X	0	3
65	MP2C	Z	-3.16	3
66	MP2C	Mx	.001	3
67	MP1A	X	0	3
68	MP1A	Z	-5.062	3
69	MP1A	Mx	0	3
70	MP1B	X	0	3
71	MP1B	Z	-3.854	3
72	MP1B	Mx	-.002	3
73	MP1C	X	0	3
74	MP1C	Z	-3.854	3
75	MP1C	Mx	.002	3
76	MP3A	X	0	1.5
77	MP3A	Z	-4.277	1.5
78	MP3A	Mx	0	1.5
79	MP3A	X	0	3.5
80	MP3A	Z	-4.277	3.5
81	MP3A	Mx	0	3.5
82	MP3B	X	0	1.5
83	MP3B	Z	-2.196	1.5
84	MP3B	Mx	.001	1.5
85	MP3B	X	0	3.5
86	MP3B	Z	-2.196	3.5
87	MP3B	Mx	.001	3.5
88	MP3C	X	0	1.5
89	MP3C	Z	-2.196	1.5
90	MP3C	Mx	-.001	1.5
91	MP3C	X	0	3.5
92	MP3C	Z	-2.196	3.5
93	MP3C	Mx	-.001	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	3.197	.5
2	MP2A	Z	-5.538	.5
3	MP2A	Mx	.002	.5
4	MP2A	X	3.197	4.5
5	MP2A	Z	-5.538	4.5
6	MP2A	Mx	.002	4.5
7	MP2B	X	1.604	.5
8	MP2B	Z	-2.778	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
9	MP2B	Mx	.002	.5
10	MP2B	X	1.604	4.5
11	MP2B	Z	-2.778	4.5
12	MP2B	Mx	.002	4.5
13	MP2C	X	3.197	.5
14	MP2C	Z	-5.538	.5
15	MP2C	Mx	-.005	.5
16	MP2C	X	3.197	4.5
17	MP2C	Z	-5.538	4.5
18	MP2C	Mx	-.005	4.5
19	MP2A	X	3.197	.5
20	MP2A	Z	-5.538	.5
21	MP2A	Mx	-.005	.5
22	MP2A	X	3.197	4.5
23	MP2A	Z	-5.538	4.5
24	MP2A	Mx	-.005	4.5
25	MP2B	X	1.604	.5
26	MP2B	Z	-2.778	.5
27	MP2B	Mx	.002	.5
28	MP2B	X	1.604	4.5
29	MP2B	Z	-2.778	4.5
30	MP2B	Mx	.002	4.5
31	MP2C	X	3.197	.5
32	MP2C	Z	-5.538	.5
33	MP2C	Mx	.002	.5
34	MP2C	X	3.197	4.5
35	MP2C	Z	-5.538	4.5
36	MP2C	Mx	.002	4.5
37	MP4A	X	6.409	.5
38	MP4A	Z	-11.1	.5
39	MP4A	Mx	-.003	.5
40	MP4A	X	6.409	4.5
41	MP4A	Z	-11.1	4.5
42	MP4A	Mx	-.003	4.5
43	MP4B	X	2.446	.5
44	MP4B	Z	-4.237	.5
45	MP4B	Mx	.002	.5
46	MP4B	X	2.446	4.5
47	MP4B	Z	-4.237	4.5
48	MP4B	Mx	.002	4.5
49	MP4C	X	2.667	.5
50	MP4C	Z	-4.619	.5
51	MP4C	Mx	-.001	.5
52	MP4C	X	2.667	4.5
53	MP4C	Z	-4.619	4.5
54	MP4C	Mx	-.001	4.5
55	OVP	X	3.519	1
56	OVP	Z	-6.095	1
57	OVP	Mx	0	1
58	MP2A	X	1.925	3
59	MP2A	Z	-3.334	3
60	MP2A	Mx	.000962	3
61	MP2B	X	1.407	3
62	MP2B	Z	-2.438	3
63	MP2B	Mx	-.001	3
64	MP2C	X	1.925	3
65	MP2C	Z	-3.334	3
66	MP2C	Mx	.000962	3
67	MP1A	X	2.329	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
68	MP1A	Z	-4.035	3
69	MP1A	Mx	.001	3
70	MP1B	X	1.726	3
71	MP1B	Z	-2.989	3
72	MP1B	Mx	-.002	3
73	MP1C	X	2.329	3
74	MP1C	Z	-4.035	3
75	MP1C	Mx	.001	3
76	MP3A	X	1.791	1.5
77	MP3A	Z	-3.103	1.5
78	MP3A	Mx	-.001	1.5
79	MP3A	X	1.791	3.5
80	MP3A	Z	-3.103	3.5
81	MP3A	Mx	-.001	3.5
82	MP3B	X	.751	1.5
83	MP3B	Z	-1.301	1.5
84	MP3B	Mx	.001	1.5
85	MP3B	X	.751	3.5
86	MP3B	Z	-1.301	3.5
87	MP3B	Mx	.001	3.5
88	MP3C	X	1.791	1.5
89	MP3C	Z	-3.103	1.5
90	MP3C	Mx	-.001	1.5
91	MP3C	X	1.791	3.5
92	MP3C	Z	-3.103	3.5
93	MP3C	Mx	-.001	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	3.698	.5
2	MP2A	Z	-2.135	.5
3	MP2A	Mx	-.000604	.5
4	MP2A	X	3.698	4.5
5	MP2A	Z	-2.135	4.5
6	MP2A	Mx	-.000604	4.5
7	MP2B	X	3.698	.5
8	MP2B	Z	-2.135	.5
9	MP2B	Mx	.003	.5
10	MP2B	X	3.698	4.5
11	MP2B	Z	-2.135	4.5
12	MP2B	Mx	.003	4.5
13	MP2C	X	6.458	.5
14	MP2C	Z	-3.728	.5
15	MP2C	Mx	-.004	.5
16	MP2C	X	6.458	4.5
17	MP2C	Z	-3.728	4.5
18	MP2C	Mx	-.004	4.5
19	MP2A	X	3.698	.5
20	MP2A	Z	-2.135	.5
21	MP2A	Mx	-.003	.5
22	MP2A	X	3.698	4.5
23	MP2A	Z	-2.135	4.5
24	MP2A	Mx	-.003	4.5
25	MP2B	X	3.698	.5
26	MP2B	Z	-2.135	.5
27	MP2B	Mx	.000604	.5
28	MP2B	X	3.698	4.5
29	MP2B	Z	-2.135	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
30	MP2B	Mx	.000604	4.5
31	MP2C	X	6.458	.5
32	MP2C	Z	-3.728	.5
33	MP2C	Mx	.004	.5
34	MP2C	X	6.458	4.5
35	MP2C	Z	-3.728	4.5
36	MP2C	Mx	.004	4.5
37	MP4A	X	10.422	.5
38	MP4A	Z	-6.017	.5
39	MP4A	Mx	-.005	.5
40	MP4A	X	10.422	4.5
41	MP4A	Z	-6.017	4.5
42	MP4A	Mx	-.005	4.5
43	MP4B	X	4.364	.5
44	MP4B	Z	-2.52	.5
45	MP4B	Mx	.002	.5
46	MP4B	X	4.364	4.5
47	MP4B	Z	-2.52	4.5
48	MP4B	Mx	.002	4.5
49	MP4C	X	4.747	.5
50	MP4C	Z	-2.741	.5
51	MP4C	Mx	0	.5
52	MP4C	X	4.747	4.5
53	MP4C	Z	-2.741	4.5
54	MP4C	Mx	0	4.5
55	OVP	X	5.649	1
56	OVP	Z	-3.262	1
57	OVP	Mx	0	1
58	MP2A	X	2.737	3
59	MP2A	Z	-1.58	3
60	MP2A	Mx	.001	3
61	MP2B	X	2.737	3
62	MP2B	Z	-1.58	3
63	MP2B	Mx	-.001	3
64	MP2C	X	3.633	3
65	MP2C	Z	-2.098	3
66	MP2C	Mx	0	3
67	MP1A	X	3.337	3
68	MP1A	Z	-1.927	3
69	MP1A	Mx	.002	3
70	MP1B	X	3.337	3
71	MP1B	Z	-1.927	3
72	MP1B	Mx	-.002	3
73	MP1C	X	4.383	3
74	MP1C	Z	-2.531	3
75	MP1C	Mx	0	3
76	MP3A	X	1.902	1.5
77	MP3A	Z	-1.098	1.5
78	MP3A	Mx	-.001	1.5
79	MP3A	X	1.902	3.5
80	MP3A	Z	-1.098	3.5
81	MP3A	Mx	-.001	3.5
82	MP3B	X	1.902	1.5
83	MP3B	Z	-1.098	1.5
84	MP3B	Mx	.001	1.5
85	MP3B	X	1.902	3.5
86	MP3B	Z	-1.098	3.5
87	MP3B	Mx	.001	3.5
88	MP3C	X	3.704	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
89	MP3C	Z	-2.138	1.5
90	MP3C	Mx	0	1.5
91	MP3C	X	3.704	3.5
92	MP3C	Z	-2.138	3.5
93	MP3C	Mx	0	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	3.207	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	-.002	.5
4	MP2A	X	3.207	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	-.002	4.5
7	MP2B	X	6.395	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	.005	.5
10	MP2B	X	6.395	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	.005	4.5
13	MP2C	X	6.395	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	-.002	.5
16	MP2C	X	6.395	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	-.002	4.5
19	MP2A	X	3.207	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	-.002	.5
22	MP2A	X	3.207	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	-.002	4.5
25	MP2B	X	6.395	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	-.002	.5
28	MP2B	X	6.395	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	-.002	4.5
31	MP2C	X	6.395	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	.005	.5
34	MP2C	X	6.395	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	.005	4.5
37	MP4A	X	11.643	.5
38	MP4A	Z	0	.5
39	MP4A	Mx	-.006	.5
40	MP4A	X	11.643	4.5
41	MP4A	Z	0	4.5
42	MP4A	Mx	-.006	4.5
43	MP4B	X	5.334	.5
44	MP4B	Z	0	.5
45	MP4B	Mx	.001	.5
46	MP4B	X	5.334	4.5
47	MP4B	Z	0	4.5
48	MP4B	Mx	.001	4.5
49	MP4C	X	5.334	.5
50	MP4C	Z	0	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
51	MP4C	Mx	.001	.5
52	MP4C	X	5.334	4.5
53	MP4C	Z	0	4.5
54	MP4C	Mx	.001	4.5
55	OVP	X	7.037	1
56	OVP	Z	0	1
57	OVP	Mx	0	1
58	MP2A	X	2.815	3
59	MP2A	Z	0	3
60	MP2A	Mx	.001	3
61	MP2B	X	3.85	3
62	MP2B	Z	0	3
63	MP2B	Mx	-.000962	3
64	MP2C	X	3.85	3
65	MP2C	Z	0	3
66	MP2C	Mx	-.000962	3
67	MP1A	X	3.451	3
68	MP1A	Z	0	3
69	MP1A	Mx	.002	3
70	MP1B	X	4.659	3
71	MP1B	Z	0	3
72	MP1B	Mx	-.001	3
73	MP1C	X	4.659	3
74	MP1C	Z	0	3
75	MP1C	Mx	-.001	3
76	MP3A	X	1.502	1.5
77	MP3A	Z	0	1.5
78	MP3A	Mx	-.001	1.5
79	MP3A	X	1.502	3.5
80	MP3A	Z	0	3.5
81	MP3A	Mx	-.001	3.5
82	MP3B	X	3.583	1.5
83	MP3B	Z	0	1.5
84	MP3B	Mx	.001	1.5
85	MP3B	X	3.583	3.5
86	MP3B	Z	0	3.5
87	MP3B	Mx	.001	3.5
88	MP3C	X	3.583	1.5
89	MP3C	Z	0	1.5
90	MP3C	Mx	.001	1.5
91	MP3C	X	3.583	3.5
92	MP3C	Z	0	3.5
93	MP3C	Mx	.001	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	3.698	.5
2	MP2A	Z	2.135	.5
3	MP2A	Mx	-.003	.5
4	MP2A	X	3.698	4.5
5	MP2A	Z	2.135	4.5
6	MP2A	Mx	-.003	4.5
7	MP2B	X	6.458	.5
8	MP2B	Z	3.728	.5
9	MP2B	Mx	.004	.5
10	MP2B	X	6.458	4.5
11	MP2B	Z	3.728	4.5
12	MP2B	Mx	.004	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP2C	X	3.698	.5
14	MP2C	Z	2.135	.5
15	MP2C	Mx	.000604	.5
16	MP2C	X	3.698	4.5
17	MP2C	Z	2.135	4.5
18	MP2C	Mx	.000604	4.5
19	MP2A	X	3.698	.5
20	MP2A	Z	2.135	.5
21	MP2A	Mx	-.000604	.5
22	MP2A	X	3.698	4.5
23	MP2A	Z	2.135	4.5
24	MP2A	Mx	-.000604	4.5
25	MP2B	X	6.458	.5
26	MP2B	Z	3.728	.5
27	MP2B	Mx	-.004	.5
28	MP2B	X	6.458	4.5
29	MP2B	Z	3.728	4.5
30	MP2B	Mx	-.004	4.5
31	MP2C	X	3.698	.5
32	MP2C	Z	2.135	.5
33	MP2C	Mx	.003	.5
34	MP2C	X	3.698	4.5
35	MP2C	Z	2.135	4.5
36	MP2C	Mx	.003	4.5
37	MP4A	X	10.422	.5
38	MP4A	Z	6.017	.5
39	MP4A	Mx	-.005	.5
40	MP4A	X	10.422	4.5
41	MP4A	Z	6.017	4.5
42	MP4A	Mx	-.005	4.5
43	MP4B	X	4.747	.5
44	MP4B	Z	2.741	.5
45	MP4B	Mx	0	.5
46	MP4B	X	4.747	4.5
47	MP4B	Z	2.741	4.5
48	MP4B	Mx	0	4.5
49	MP4C	X	4.364	.5
50	MP4C	Z	2.52	.5
51	MP4C	Mx	.002	.5
52	MP4C	X	4.364	4.5
53	MP4C	Z	2.52	4.5
54	MP4C	Mx	.002	4.5
55	OVP	X	6.985	1
56	OVP	Z	4.033	1
57	OVP	Mx	0	1
58	MP2A	X	2.737	3
59	MP2A	Z	1.58	3
60	MP2A	Mx	.001	3
61	MP2B	X	3.633	3
62	MP2B	Z	2.098	3
63	MP2B	Mx	0	3
64	MP2C	X	2.737	3
65	MP2C	Z	1.58	3
66	MP2C	Mx	-.001	3
67	MP1A	X	3.337	3
68	MP1A	Z	1.927	3
69	MP1A	Mx	.002	3
70	MP1B	X	4.383	3
71	MP1B	Z	2.531	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
72	MP1B	Mx	0	3
73	MP1C	X	3.337	3
74	MP1C	Z	1.927	3
75	MP1C	Mx	-.002	3
76	MP3A	X	1.902	1.5
77	MP3A	Z	1.098	1.5
78	MP3A	Mx	-.001	1.5
79	MP3A	X	1.902	3.5
80	MP3A	Z	1.098	3.5
81	MP3A	Mx	-.001	3.5
82	MP3B	X	3.704	1.5
83	MP3B	Z	2.138	1.5
84	MP3B	Mx	0	1.5
85	MP3B	X	3.704	3.5
86	MP3B	Z	2.138	3.5
87	MP3B	Mx	0	3.5
88	MP3C	X	1.902	1.5
89	MP3C	Z	1.098	1.5
90	MP3C	Mx	.001	1.5
91	MP3C	X	1.902	3.5
92	MP3C	Z	1.098	3.5
93	MP3C	Mx	.001	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	3.197	.5
2	MP2A	Z	5.538	.5
3	MP2A	Mx	-.005	.5
4	MP2A	X	3.197	4.5
5	MP2A	Z	5.538	4.5
6	MP2A	Mx	-.005	4.5
7	MP2B	X	3.197	.5
8	MP2B	Z	5.538	.5
9	MP2B	Mx	.002	.5
10	MP2B	X	3.197	4.5
11	MP2B	Z	5.538	4.5
12	MP2B	Mx	.002	4.5
13	MP2C	X	1.604	.5
14	MP2C	Z	2.778	.5
15	MP2C	Mx	.002	.5
16	MP2C	X	1.604	4.5
17	MP2C	Z	2.778	4.5
18	MP2C	Mx	.002	4.5
19	MP2A	X	3.197	.5
20	MP2A	Z	5.538	.5
21	MP2A	Mx	.002	.5
22	MP2A	X	3.197	4.5
23	MP2A	Z	5.538	4.5
24	MP2A	Mx	.002	4.5
25	MP2B	X	3.197	.5
26	MP2B	Z	5.538	.5
27	MP2B	Mx	-.005	.5
28	MP2B	X	3.197	4.5
29	MP2B	Z	5.538	4.5
30	MP2B	Mx	-.005	4.5
31	MP2C	X	1.604	.5
32	MP2C	Z	2.778	.5
33	MP2C	Mx	.002	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
34	MP2C	X	1.604	4.5
35	MP2C	Z	2.778	4.5
36	MP2C	Mx	.002	4.5
37	MP4A	X	6.409	.5
38	MP4A	Z	11.1	.5
39	MP4A	Mx	-.003	.5
40	MP4A	X	6.409	4.5
41	MP4A	Z	11.1	4.5
42	MP4A	Mx	-.003	4.5
43	MP4B	X	2.667	.5
44	MP4B	Z	4.619	.5
45	MP4B	Mx	-.001	.5
46	MP4B	X	2.667	4.5
47	MP4B	Z	4.619	4.5
48	MP4B	Mx	-.001	4.5
49	MP4C	X	2.446	.5
50	MP4C	Z	4.237	.5
51	MP4C	Mx	.002	.5
52	MP4C	X	2.446	4.5
53	MP4C	Z	4.237	4.5
54	MP4C	Mx	.002	4.5
55	OVP	X	4.29	1
56	OVP	Z	7.431	1
57	OVP	Mx	0	1
58	MP2A	X	1.925	3
59	MP2A	Z	3.334	3
60	MP2A	Mx	.000962	3
61	MP2B	X	1.925	3
62	MP2B	Z	3.334	3
63	MP2B	Mx	.000962	3
64	MP2C	X	1.407	3
65	MP2C	Z	2.438	3
66	MP2C	Mx	-.001	3
67	MP1A	X	2.329	3
68	MP1A	Z	4.035	3
69	MP1A	Mx	.001	3
70	MP1B	X	2.329	3
71	MP1B	Z	4.035	3
72	MP1B	Mx	.001	3
73	MP1C	X	1.726	3
74	MP1C	Z	2.989	3
75	MP1C	Mx	-.002	3
76	MP3A	X	1.791	1.5
77	MP3A	Z	3.103	1.5
78	MP3A	Mx	-.001	1.5
79	MP3A	X	1.791	3.5
80	MP3A	Z	3.103	3.5
81	MP3A	Mx	-.001	3.5
82	MP3B	X	1.791	1.5
83	MP3B	Z	3.103	1.5
84	MP3B	Mx	-.001	1.5
85	MP3B	X	1.791	3.5
86	MP3B	Z	3.103	3.5
87	MP3B	Mx	-.001	3.5
88	MP3C	X	.751	1.5
89	MP3C	Z	1.301	1.5
90	MP3C	Mx	.001	1.5
91	MP3C	X	.751	3.5
92	MP3C	Z	1.301	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
93	MP3C	Mx	.001	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	0	.5
2	MP2A	Z	7.457	.5
3	MP2A	Mx	-.004	.5
4	MP2A	X	0	4.5
5	MP2A	Z	7.457	4.5
6	MP2A	Mx	-.004	4.5
7	MP2B	X	0	.5
8	MP2B	Z	4.27	.5
9	MP2B	Mx	-.000604	.5
10	MP2B	X	0	4.5
11	MP2B	Z	4.27	4.5
12	MP2B	Mx	-.000604	4.5
13	MP2C	X	0	.5
14	MP2C	Z	4.27	.5
15	MP2C	Mx	.003	.5
16	MP2C	X	0	4.5
17	MP2C	Z	4.27	4.5
18	MP2C	Mx	.003	4.5
19	MP2A	X	0	.5
20	MP2A	Z	7.457	.5
21	MP2A	Mx	.004	.5
22	MP2A	X	0	4.5
23	MP2A	Z	7.457	4.5
24	MP2A	Mx	.004	4.5
25	MP2B	X	0	.5
26	MP2B	Z	4.27	.5
27	MP2B	Mx	-.003	.5
28	MP2B	X	0	4.5
29	MP2B	Z	4.27	4.5
30	MP2B	Mx	-.003	4.5
31	MP2C	X	0	.5
32	MP2C	Z	4.27	.5
33	MP2C	Mx	.000604	.5
34	MP2C	X	0	4.5
35	MP2C	Z	4.27	4.5
36	MP2C	Mx	.000604	4.5
37	MP4A	X	0	.5
38	MP4A	Z	13.209	.5
39	MP4A	Mx	0	.5
40	MP4A	X	0	4.5
41	MP4A	Z	13.209	4.5
42	MP4A	Mx	0	4.5
43	MP4B	X	0	.5
44	MP4B	Z	5.039	.5
45	MP4B	Mx	-.002	.5
46	MP4B	X	0	4.5
47	MP4B	Z	5.039	4.5
48	MP4B	Mx	-.002	4.5
49	MP4C	X	0	.5
50	MP4C	Z	5.039	.5
51	MP4C	Mx	.002	.5
52	MP4C	X	0	4.5
53	MP4C	Z	5.039	4.5
54	MP4C	Mx	.002	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
55	OVP	X	0	1
56	OVP	Z	8.066	1
57	OVP	Mx	0	1
58	MP2A	X	0	3
59	MP2A	Z	4.195	3
60	MP2A	Mx	0	3
61	MP2B	X	0	3
62	MP2B	Z	3.16	3
63	MP2B	Mx	.001	3
64	MP2C	X	0	3
65	MP2C	Z	3.16	3
66	MP2C	Mx	-.001	3
67	MP1A	X	0	3
68	MP1A	Z	5.062	3
69	MP1A	Mx	0	3
70	MP1B	X	0	3
71	MP1B	Z	3.854	3
72	MP1B	Mx	.002	3
73	MP1C	X	0	3
74	MP1C	Z	3.854	3
75	MP1C	Mx	-.002	3
76	MP3A	X	0	1.5
77	MP3A	Z	4.277	1.5
78	MP3A	Mx	0	1.5
79	MP3A	X	0	3.5
80	MP3A	Z	4.277	3.5
81	MP3A	Mx	0	3.5
82	MP3B	X	0	1.5
83	MP3B	Z	2.196	1.5
84	MP3B	Mx	-.001	1.5
85	MP3B	X	0	3.5
86	MP3B	Z	2.196	3.5
87	MP3B	Mx	-.001	3.5
88	MP3C	X	0	1.5
89	MP3C	Z	2.196	1.5
90	MP3C	Mx	.001	1.5
91	MP3C	X	0	3.5
92	MP3C	Z	2.196	3.5
93	MP3C	Mx	.001	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	-3.197	.5
2	MP2A	Z	5.538	.5
3	MP2A	Mx	-.002	.5
4	MP2A	X	-3.197	4.5
5	MP2A	Z	5.538	4.5
6	MP2A	Mx	-.002	4.5
7	MP2B	X	-1.604	.5
8	MP2B	Z	2.778	.5
9	MP2B	Mx	-.002	.5
10	MP2B	X	-1.604	4.5
11	MP2B	Z	2.778	4.5
12	MP2B	Mx	-.002	4.5
13	MP2C	X	-3.197	.5
14	MP2C	Z	5.538	.5
15	MP2C	Mx	.005	.5
16	MP2C	X	-3.197	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP2C	Z	5.538	4.5
18	MP2C	Mx	.005	4.5
19	MP2A	X	-3.197	.5
20	MP2A	Z	5.538	.5
21	MP2A	Mx	.005	.5
22	MP2A	X	-3.197	4.5
23	MP2A	Z	5.538	4.5
24	MP2A	Mx	.005	4.5
25	MP2B	X	-1.604	.5
26	MP2B	Z	2.778	.5
27	MP2B	Mx	-.002	.5
28	MP2B	X	-1.604	4.5
29	MP2B	Z	2.778	4.5
30	MP2B	Mx	-.002	4.5
31	MP2C	X	-3.197	.5
32	MP2C	Z	5.538	.5
33	MP2C	Mx	-.002	.5
34	MP2C	X	-3.197	4.5
35	MP2C	Z	5.538	4.5
36	MP2C	Mx	-.002	4.5
37	MP4A	X	-6.409	.5
38	MP4A	Z	11.1	.5
39	MP4A	Mx	.003	.5
40	MP4A	X	-6.409	4.5
41	MP4A	Z	11.1	4.5
42	MP4A	Mx	.003	4.5
43	MP4B	X	-2.446	.5
44	MP4B	Z	4.237	.5
45	MP4B	Mx	-.002	.5
46	MP4B	X	-2.446	4.5
47	MP4B	Z	4.237	4.5
48	MP4B	Mx	-.002	4.5
49	MP4C	X	-2.667	.5
50	MP4C	Z	4.619	.5
51	MP4C	Mx	.001	.5
52	MP4C	X	-2.667	4.5
53	MP4C	Z	4.619	4.5
54	MP4C	Mx	.001	4.5
55	OVP	X	-3.519	1
56	OVP	Z	6.095	1
57	OVP	Mx	0	1
58	MP2A	X	-1.925	3
59	MP2A	Z	3.334	3
60	MP2A	Mx	-.000962	3
61	MP2B	X	-1.407	3
62	MP2B	Z	2.438	3
63	MP2B	Mx	.001	3
64	MP2C	X	-1.925	3
65	MP2C	Z	3.334	3
66	MP2C	Mx	-.000962	3
67	MP1A	X	-2.329	3
68	MP1A	Z	4.035	3
69	MP1A	Mx	-.001	3
70	MP1B	X	-1.726	3
71	MP1B	Z	2.989	3
72	MP1B	Mx	.002	3
73	MP1C	X	-2.329	3
74	MP1C	Z	4.035	3
75	MP1C	Mx	-.001	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
76	MP3A	X	-1.791	1.5
77	MP3A	Z	3.103	1.5
78	MP3A	Mx	.001	1.5
79	MP3A	X	-1.791	3.5
80	MP3A	Z	3.103	3.5
81	MP3A	Mx	.001	3.5
82	MP3B	X	-.751	1.5
83	MP3B	Z	1.301	1.5
84	MP3B	Mx	-.001	1.5
85	MP3B	X	-.751	3.5
86	MP3B	Z	1.301	3.5
87	MP3B	Mx	-.001	3.5
88	MP3C	X	-1.791	1.5
89	MP3C	Z	3.103	1.5
90	MP3C	Mx	.001	1.5
91	MP3C	X	-1.791	3.5
92	MP3C	Z	3.103	3.5
93	MP3C	Mx	.001	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	-3.698	.5
2	MP2A	Z	2.135	.5
3	MP2A	Mx	.000604	.5
4	MP2A	X	-3.698	4.5
5	MP2A	Z	2.135	4.5
6	MP2A	Mx	.000604	4.5
7	MP2B	X	-3.698	.5
8	MP2B	Z	2.135	.5
9	MP2B	Mx	-.003	.5
10	MP2B	X	-3.698	4.5
11	MP2B	Z	2.135	4.5
12	MP2B	Mx	-.003	4.5
13	MP2C	X	-6.458	.5
14	MP2C	Z	3.728	.5
15	MP2C	Mx	.004	.5
16	MP2C	X	-6.458	4.5
17	MP2C	Z	3.728	4.5
18	MP2C	Mx	.004	4.5
19	MP2A	X	-3.698	.5
20	MP2A	Z	2.135	.5
21	MP2A	Mx	.003	.5
22	MP2A	X	-3.698	4.5
23	MP2A	Z	2.135	4.5
24	MP2A	Mx	.003	4.5
25	MP2B	X	-3.698	.5
26	MP2B	Z	2.135	.5
27	MP2B	Mx	-.000604	.5
28	MP2B	X	-3.698	4.5
29	MP2B	Z	2.135	4.5
30	MP2B	Mx	-.000604	4.5
31	MP2C	X	-6.458	.5
32	MP2C	Z	3.728	.5
33	MP2C	Mx	-.004	.5
34	MP2C	X	-6.458	4.5
35	MP2C	Z	3.728	4.5
36	MP2C	Mx	-.004	4.5
37	MP4A	X	-10.422	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
38	MP4A	Z	6.017	.5
39	MP4A	Mx	.005	.5
40	MP4A	X	-10.422	4.5
41	MP4A	Z	6.017	4.5
42	MP4A	Mx	.005	4.5
43	MP4B	X	-4.364	.5
44	MP4B	Z	2.52	.5
45	MP4B	Mx	-.002	.5
46	MP4B	X	-4.364	4.5
47	MP4B	Z	2.52	4.5
48	MP4B	Mx	-.002	4.5
49	MP4C	X	-4.747	.5
50	MP4C	Z	2.741	.5
51	MP4C	Mx	0	.5
52	MP4C	X	-4.747	4.5
53	MP4C	Z	2.741	4.5
54	MP4C	Mx	0	4.5
55	OVP	X	-5.649	1
56	OVP	Z	3.262	1
57	OVP	Mx	0	1
58	MP2A	X	-2.737	3
59	MP2A	Z	1.58	3
60	MP2A	Mx	-.001	3
61	MP2B	X	-2.737	3
62	MP2B	Z	1.58	3
63	MP2B	Mx	.001	3
64	MP2C	X	-3.633	3
65	MP2C	Z	2.098	3
66	MP2C	Mx	0	3
67	MP1A	X	-3.337	3
68	MP1A	Z	1.927	3
69	MP1A	Mx	-.002	3
70	MP1B	X	-3.337	3
71	MP1B	Z	1.927	3
72	MP1B	Mx	.002	3
73	MP1C	X	-4.383	3
74	MP1C	Z	2.531	3
75	MP1C	Mx	0	3
76	MP3A	X	-1.902	1.5
77	MP3A	Z	1.098	1.5
78	MP3A	Mx	.001	1.5
79	MP3A	X	-1.902	3.5
80	MP3A	Z	1.098	3.5
81	MP3A	Mx	.001	3.5
82	MP3B	X	-1.902	1.5
83	MP3B	Z	1.098	1.5
84	MP3B	Mx	-.001	1.5
85	MP3B	X	-1.902	3.5
86	MP3B	Z	1.098	3.5
87	MP3B	Mx	-.001	3.5
88	MP3C	X	-3.704	1.5
89	MP3C	Z	2.138	1.5
90	MP3C	Mx	0	1.5
91	MP3C	X	-3.704	3.5
92	MP3C	Z	2.138	3.5
93	MP3C	Mx	0	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	-3.207	.5
2	MP2A	Z	0	.5
3	MP2A	Mx	.002	.5
4	MP2A	X	-3.207	4.5
5	MP2A	Z	0	4.5
6	MP2A	Mx	.002	4.5
7	MP2B	X	-6.395	.5
8	MP2B	Z	0	.5
9	MP2B	Mx	-.005	.5
10	MP2B	X	-6.395	4.5
11	MP2B	Z	0	4.5
12	MP2B	Mx	-.005	4.5
13	MP2C	X	-6.395	.5
14	MP2C	Z	0	.5
15	MP2C	Mx	.002	.5
16	MP2C	X	-6.395	4.5
17	MP2C	Z	0	4.5
18	MP2C	Mx	.002	4.5
19	MP2A	X	-3.207	.5
20	MP2A	Z	0	.5
21	MP2A	Mx	.002	.5
22	MP2A	X	-3.207	4.5
23	MP2A	Z	0	4.5
24	MP2A	Mx	.002	4.5
25	MP2B	X	-6.395	.5
26	MP2B	Z	0	.5
27	MP2B	Mx	.002	.5
28	MP2B	X	-6.395	4.5
29	MP2B	Z	0	4.5
30	MP2B	Mx	.002	4.5
31	MP2C	X	-6.395	.5
32	MP2C	Z	0	.5
33	MP2C	Mx	-.005	.5
34	MP2C	X	-6.395	4.5
35	MP2C	Z	0	4.5
36	MP2C	Mx	-.005	4.5
37	MP4A	X	-11.643	.5
38	MP4A	Z	0	.5
39	MP4A	Mx	.006	.5
40	MP4A	X	-11.643	4.5
41	MP4A	Z	0	4.5
42	MP4A	Mx	.006	4.5
43	MP4B	X	-5.334	.5
44	MP4B	Z	0	.5
45	MP4B	Mx	-.001	.5
46	MP4B	X	-5.334	4.5
47	MP4B	Z	0	4.5
48	MP4B	Mx	-.001	4.5
49	MP4C	X	-5.334	.5
50	MP4C	Z	0	.5
51	MP4C	Mx	-.001	.5
52	MP4C	X	-5.334	4.5
53	MP4C	Z	0	4.5
54	MP4C	Mx	-.001	4.5
55	OVP	X	-7.037	1
56	OVP	Z	0	1
57	OVP	Mx	0	1
58	MP2A	X	-2.815	3
59	MP2A	Z	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
60	MP2A	Mx	-.001	3
61	MP2B	X	-3.85	3
62	MP2B	Z	0	3
63	MP2B	Mx	.000962	3
64	MP2C	X	-3.85	3
65	MP2C	Z	0	3
66	MP2C	Mx	.000962	3
67	MP1A	X	-3.451	3
68	MP1A	Z	0	3
69	MP1A	Mx	-.002	3
70	MP1B	X	-4.659	3
71	MP1B	Z	0	3
72	MP1B	Mx	.001	3
73	MP1C	X	-4.659	3
74	MP1C	Z	0	3
75	MP1C	Mx	.001	3
76	MP3A	X	-1.502	1.5
77	MP3A	Z	0	1.5
78	MP3A	Mx	.001	1.5
79	MP3A	X	-1.502	3.5
80	MP3A	Z	0	3.5
81	MP3A	Mx	.001	3.5
82	MP3B	X	-3.583	1.5
83	MP3B	Z	0	1.5
84	MP3B	Mx	-.001	1.5
85	MP3B	X	-3.583	3.5
86	MP3B	Z	0	3.5
87	MP3B	Mx	-.001	3.5
88	MP3C	X	-3.583	1.5
89	MP3C	Z	0	1.5
90	MP3C	Mx	-.001	1.5
91	MP3C	X	-3.583	3.5
92	MP3C	Z	0	3.5
93	MP3C	Mx	-.001	3.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP2A	X	-3.698	.5
2	MP2A	Z	-2.135	.5
3	MP2A	Mx	.003	.5
4	MP2A	X	-3.698	4.5
5	MP2A	Z	-2.135	4.5
6	MP2A	Mx	.003	4.5
7	MP2B	X	-6.458	.5
8	MP2B	Z	-3.728	.5
9	MP2B	Mx	-.004	.5
10	MP2B	X	-6.458	4.5
11	MP2B	Z	-3.728	4.5
12	MP2B	Mx	-.004	4.5
13	MP2C	X	-3.698	.5
14	MP2C	Z	-2.135	.5
15	MP2C	Mx	-.000604	.5
16	MP2C	X	-3.698	4.5
17	MP2C	Z	-2.135	4.5
18	MP2C	Mx	-.000604	4.5
19	MP2A	X	-3.698	.5
20	MP2A	Z	-2.135	.5
21	MP2A	Mx	.000604	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
22	MP2A	X	-3.698	4.5
23	MP2A	Z	-2.135	4.5
24	MP2A	Mx	.000604	4.5
25	MP2B	X	-6.458	.5
26	MP2B	Z	-3.728	.5
27	MP2B	Mx	.004	.5
28	MP2B	X	-6.458	4.5
29	MP2B	Z	-3.728	4.5
30	MP2B	Mx	.004	4.5
31	MP2C	X	-3.698	.5
32	MP2C	Z	-2.135	.5
33	MP2C	Mx	-.003	.5
34	MP2C	X	-3.698	4.5
35	MP2C	Z	-2.135	4.5
36	MP2C	Mx	-.003	4.5
37	MP4A	X	-10.422	.5
38	MP4A	Z	-6.017	.5
39	MP4A	Mx	.005	.5
40	MP4A	X	-10.422	4.5
41	MP4A	Z	-6.017	4.5
42	MP4A	Mx	.005	4.5
43	MP4B	X	-4.747	.5
44	MP4B	Z	-2.741	.5
45	MP4B	Mx	0	.5
46	MP4B	X	-4.747	4.5
47	MP4B	Z	-2.741	4.5
48	MP4B	Mx	0	4.5
49	MP4C	X	-4.364	.5
50	MP4C	Z	-2.52	.5
51	MP4C	Mx	-.002	.5
52	MP4C	X	-4.364	4.5
53	MP4C	Z	-2.52	4.5
54	MP4C	Mx	-.002	4.5
55	OVP	X	-6.985	1
56	OVP	Z	-4.033	1
57	OVP	Mx	0	1
58	MP2A	X	-2.737	3
59	MP2A	Z	-1.58	3
60	MP2A	Mx	-.001	3
61	MP2B	X	-3.633	3
62	MP2B	Z	-2.098	3
63	MP2B	Mx	0	3
64	MP2C	X	-2.737	3
65	MP2C	Z	-1.58	3
66	MP2C	Mx	.001	3
67	MP1A	X	-3.337	3
68	MP1A	Z	-1.927	3
69	MP1A	Mx	-.002	3
70	MP1B	X	-4.383	3
71	MP1B	Z	-2.531	3
72	MP1B	Mx	0	3
73	MP1C	X	-3.337	3
74	MP1C	Z	-1.927	3
75	MP1C	Mx	.002	3
76	MP3A	X	-1.902	1.5
77	MP3A	Z	-1.098	1.5
78	MP3A	Mx	.001	1.5
79	MP3A	X	-1.902	3.5
80	MP3A	Z	-1.098	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
81	MP3A	Mx	.001	3.5
82	MP3B	X	-3.704	1.5
83	MP3B	Z	-2.138	1.5
84	MP3B	Mx	0	1.5
85	MP3B	X	-3.704	3.5
86	MP3B	Z	-2.138	3.5
87	MP3B	Mx	0	3.5
88	MP3C	X	-1.902	1.5
89	MP3C	Z	-1.098	1.5
90	MP3C	Mx	-.001	1.5
91	MP3C	X	-1.902	3.5
92	MP3C	Z	-1.098	3.5
93	MP3C	Mx	-.001	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP2A	X	-3.197	.5
2	MP2A	Z	-5.538	.5
3	MP2A	Mx	.005	.5
4	MP2A	X	-3.197	4.5
5	MP2A	Z	-5.538	4.5
6	MP2A	Mx	.005	4.5
7	MP2B	X	-3.197	.5
8	MP2B	Z	-5.538	.5
9	MP2B	Mx	-.002	.5
10	MP2B	X	-3.197	4.5
11	MP2B	Z	-5.538	4.5
12	MP2B	Mx	-.002	4.5
13	MP2C	X	-1.604	.5
14	MP2C	Z	-2.778	.5
15	MP2C	Mx	-.002	.5
16	MP2C	X	-1.604	4.5
17	MP2C	Z	-2.778	4.5
18	MP2C	Mx	-.002	4.5
19	MP2A	X	-3.197	.5
20	MP2A	Z	-5.538	.5
21	MP2A	Mx	-.002	.5
22	MP2A	X	-3.197	4.5
23	MP2A	Z	-5.538	4.5
24	MP2A	Mx	-.002	4.5
25	MP2B	X	-3.197	.5
26	MP2B	Z	-5.538	.5
27	MP2B	Mx	.005	.5
28	MP2B	X	-3.197	4.5
29	MP2B	Z	-5.538	4.5
30	MP2B	Mx	.005	4.5
31	MP2C	X	-1.604	.5
32	MP2C	Z	-2.778	.5
33	MP2C	Mx	-.002	.5
34	MP2C	X	-1.604	4.5
35	MP2C	Z	-2.778	4.5
36	MP2C	Mx	-.002	4.5
37	MP4A	X	-6.409	.5
38	MP4A	Z	-11.1	.5
39	MP4A	Mx	.003	.5
40	MP4A	X	-6.409	4.5
41	MP4A	Z	-11.1	4.5
42	MP4A	Mx	.003	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
43	MP4B	X	-2.667	.5
44	MP4B	Z	-4.619	.5
45	MP4B	Mx	.001	.5
46	MP4B	X	-2.667	4.5
47	MP4B	Z	-4.619	4.5
48	MP4B	Mx	.001	4.5
49	MP4C	X	-2.446	.5
50	MP4C	Z	-4.237	.5
51	MP4C	Mx	-.002	.5
52	MP4C	X	-2.446	4.5
53	MP4C	Z	-4.237	4.5
54	MP4C	Mx	-.002	4.5
55	OVP	X	-4.29	1
56	OVP	Z	-7.431	1
57	OVP	Mx	0	1
58	MP2A	X	-1.925	3
59	MP2A	Z	-3.334	3
60	MP2A	Mx	-.000962	3
61	MP2B	X	-1.925	3
62	MP2B	Z	-3.334	3
63	MP2B	Mx	-.000962	3
64	MP2C	X	-1.407	3
65	MP2C	Z	-2.438	3
66	MP2C	Mx	.001	3
67	MP1A	X	-2.329	3
68	MP1A	Z	-4.035	3
69	MP1A	Mx	-.001	3
70	MP1B	X	-2.329	3
71	MP1B	Z	-4.035	3
72	MP1B	Mx	-.001	3
73	MP1C	X	-1.726	3
74	MP1C	Z	-2.989	3
75	MP1C	Mx	.002	3
76	MP3A	X	-1.791	1.5
77	MP3A	Z	-3.103	1.5
78	MP3A	Mx	.001	1.5
79	MP3A	X	-1.791	3.5
80	MP3A	Z	-3.103	3.5
81	MP3A	Mx	.001	3.5
82	MP3B	X	-1.791	1.5
83	MP3B	Z	-3.103	1.5
84	MP3B	Mx	.001	1.5
85	MP3B	X	-1.791	3.5
86	MP3B	Z	-3.103	3.5
87	MP3B	Mx	.001	3.5
88	MP3C	X	-.751	1.5
89	MP3C	Z	-1.301	1.5
90	MP3C	Mx	-.001	1.5
91	MP3C	X	-.751	3.5
92	MP3C	Z	-1.301	3.5
93	MP3C	Mx	-.001	3.5

Member Point Loads (BLC 77 : Lm1)

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

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
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Member Point Loads (BLC 78 : Lm2) (Continued)

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

Member Point Loads (BLC 79 : Lv1)

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

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	FACE1	Y	-250	0

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	Y	-.892	.5
2	MP2A	My	-.000446	.5
3	MP2A	Mz	-.00052	.5
4	MP2A	Y	-.892	4.5
5	MP2A	My	-.000446	4.5
6	MP2A	Mz	-.00052	4.5
7	MP2B	Y	-.892	.5
8	MP2B	My	.000673	.5
9	MP2B	Mz	-.000126	.5
10	MP2B	Y	-.892	4.5
11	MP2B	My	.000673	4.5
12	MP2B	Mz	-.000126	4.5
13	MP2C	Y	-.892	.5
14	MP2C	My	-.000228	.5
15	MP2C	Mz	.000646	.5
16	MP2C	Y	-.892	4.5
17	MP2C	My	-.000228	4.5
18	MP2C	Mz	.000646	4.5
19	MP2A	Y	-.892	.5
20	MP2A	My	-.000446	.5
21	MP2A	Mz	.00052	.5
22	MP2A	Y	-.892	4.5
23	MP2A	My	-.000446	4.5
24	MP2A	Mz	.00052	4.5
25	MP2B	Y	-.892	.5
26	MP2B	My	-.000228	.5
27	MP2B	Mz	-.000646	.5
28	MP2B	Y	-.892	4.5
29	MP2B	My	-.000228	4.5
30	MP2B	Mz	-.000646	4.5
31	MP2C	Y	-.892	.5
32	MP2C	My	.000673	.5
33	MP2C	Mz	.000126	.5
34	MP2C	Y	-.892	4.5
35	MP2C	My	.000673	4.5
36	MP2C	Mz	.000126	4.5
37	MP4A	Y	-.602	.5
38	MP4A	My	-.000301	.5
39	MP4A	Mz	0	.5
40	MP4A	Y	-.602	4.5
41	MP4A	My	-.000301	4.5
42	MP4A	Mz	0	4.5
43	MP4B	Y	-.35	.5
44	MP4B	My	8.8e-5	.5
45	MP4B	Mz	-.000152	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
46	MP4B	Y	-.35	4.5
47	MP4B	My	8.8e-5	4.5
48	MP4B	Mz	-.000152	4.5
49	MP4C	Y	-.35	.5
50	MP4C	My	8.8e-5	.5
51	MP4C	Mz	.000152	.5
52	MP4C	Y	-.35	4.5
53	MP4C	My	8.8e-5	4.5
54	MP4C	Mz	.000152	4.5
55	OVP	Y	-1.427	1
56	OVP	My	0	1
57	OVP	Mz	0	1
58	MP2A	Y	-3.331	3
59	MP2A	My	.002	3
60	MP2A	Mz	0	3
61	MP2B	Y	-3.331	3
62	MP2B	My	-.000833	3
63	MP2B	Mz	.001	3
64	MP2C	Y	-3.331	3
65	MP2C	My	-.000833	3
66	MP2C	Mz	-.001	3
67	MP1A	Y	-3.527	3
68	MP1A	My	.002	3
69	MP1A	Mz	0	3
70	MP1B	Y	-3.527	3
71	MP1B	My	-.000882	3
72	MP1B	Mz	.002	3
73	MP1C	Y	-3.527	3
74	MP1C	My	-.000882	3
75	MP1C	Mz	-.002	3
76	MP3A	Y	-1.277	1.5
77	MP3A	My	-.000852	1.5
78	MP3A	Mz	0	1.5
79	MP3A	Y	-1.277	3.5
80	MP3A	My	-.000852	3.5
81	MP3A	Mz	0	3.5
82	MP3B	Y	-1.277	1.5
83	MP3B	My	.000426	1.5
84	MP3B	Mz	-.000738	1.5
85	MP3B	Y	-1.277	3.5
86	MP3B	My	.000426	3.5
87	MP3B	Mz	-.000738	3.5
88	MP3C	Y	-1.277	1.5
89	MP3C	My	.000426	1.5
90	MP3C	Mz	.000738	1.5
91	MP3C	Y	-1.277	3.5
92	MP3C	My	.000426	3.5
93	MP3C	Mz	.000738	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	Z	-2.229	.5
2	MP2A	Mx	.001	.5
3	MP2A	Z	-2.229	4.5
4	MP2A	Mx	.001	4.5
5	MP2B	Z	-2.229	.5
6	MP2B	Mx	.000315	.5
7	MP2B	Z	-2.229	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP2B	Mx	.000315	4.5
9	MP2C	Z	-2.229	.5
10	MP2C	Mx	-.002	.5
11	MP2C	Z	-2.229	4.5
12	MP2C	Mx	-.002	4.5
13	MP2A	Z	-2.229	.5
14	MP2A	Mx	-.001	.5
15	MP2A	Z	-2.229	4.5
16	MP2A	Mx	-.001	4.5
17	MP2B	Z	-2.229	.5
18	MP2B	Mx	.002	.5
19	MP2B	Z	-2.229	4.5
20	MP2B	Mx	.002	4.5
21	MP2C	Z	-2.229	.5
22	MP2C	Mx	-.000315	.5
23	MP2C	Z	-2.229	4.5
24	MP2C	Mx	-.000315	4.5
25	MP4A	Z	-1.505	.5
26	MP4A	Mx	0	.5
27	MP4A	Z	-1.505	4.5
28	MP4A	Mx	0	4.5
29	MP4B	Z	-.875	.5
30	MP4B	Mx	.000379	.5
31	MP4B	Z	-.875	4.5
32	MP4B	Mx	.000379	4.5
33	MP4C	Z	-.875	.5
34	MP4C	Mx	-.000379	.5
35	MP4C	Z	-.875	4.5
36	MP4C	Mx	-.000379	4.5
37	OVP	Z	-3.567	1
38	OVP	Mx	0	1
39	MP2A	Z	-8.327	3
40	MP2A	Mx	0	3
41	MP2B	Z	-8.327	3
42	MP2B	Mx	-.004	3
43	MP2C	Z	-8.327	3
44	MP2C	Mx	.004	3
45	MP1A	Z	-8.817	3
46	MP1A	Mx	0	3
47	MP1B	Z	-8.817	3
48	MP1B	Mx	-.004	3
49	MP1C	Z	-8.817	3
50	MP1C	Mx	.004	3
51	MP3A	Z	-3.194	1.5
52	MP3A	Mx	0	1.5
53	MP3A	Z	-3.194	3.5
54	MP3A	Mx	0	3.5
55	MP3B	Z	-3.194	1.5
56	MP3B	Mx	.002	1.5
57	MP3B	Z	-3.194	3.5
58	MP3B	Mx	.002	3.5
59	MP3C	Z	-3.194	1.5
60	MP3C	Mx	-.002	1.5
61	MP3C	Z	-3.194	3.5
62	MP3C	Mx	-.002	3.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
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Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP2A	X	2.229	.5
2	MP2A	Mx	-.001	.5
3	MP2A	X	2.229	4.5
4	MP2A	Mx	-.001	4.5
5	MP2B	X	2.229	.5
6	MP2B	Mx	.002	.5
7	MP2B	X	2.229	4.5
8	MP2B	Mx	.002	4.5
9	MP2C	X	2.229	.5
10	MP2C	Mx	-.000569	.5
11	MP2C	X	2.229	4.5
12	MP2C	Mx	-.000569	4.5
13	MP2A	X	2.229	.5
14	MP2A	Mx	-.001	.5
15	MP2A	X	2.229	4.5
16	MP2A	Mx	-.001	4.5
17	MP2B	X	2.229	.5
18	MP2B	Mx	-.000569	.5
19	MP2B	X	2.229	4.5
20	MP2B	Mx	-.000569	4.5
21	MP2C	X	2.229	.5
22	MP2C	Mx	.002	.5
23	MP2C	X	2.229	4.5
24	MP2C	Mx	.002	4.5
25	MP4A	X	1.505	.5
26	MP4A	Mx	-.000752	.5
27	MP4A	X	1.505	4.5
28	MP4A	Mx	-.000752	4.5
29	MP4B	X	.875	.5
30	MP4B	Mx	.000219	.5
31	MP4B	X	.875	4.5
32	MP4B	Mx	.000219	4.5
33	MP4C	X	.875	.5
34	MP4C	Mx	.000219	.5
35	MP4C	X	.875	4.5
36	MP4C	Mx	.000219	4.5
37	OVP	X	3.567	1
38	OVP	Mx	0	1
39	MP2A	X	8.327	3
40	MP2A	Mx	.004	3
41	MP2B	X	8.327	3
42	MP2B	Mx	-.002	3
43	MP2C	X	8.327	3
44	MP2C	Mx	-.002	3
45	MP1A	X	8.817	3
46	MP1A	Mx	.004	3
47	MP1B	X	8.817	3
48	MP1B	Mx	-.002	3
49	MP1C	X	8.817	3
50	MP1C	Mx	-.002	3
51	MP3A	X	3.194	1.5
52	MP3A	Mx	-.002	1.5
53	MP3A	X	3.194	3.5
54	MP3A	Mx	-.002	3.5
55	MP3B	X	3.194	1.5
56	MP3B	Mx	.001	1.5
57	MP3B	X	3.194	3.5
58	MP3B	Mx	.001	3.5
59	MP3C	X	3.194	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP3C	Mx	.001	1.5
61	MP3C	X	3.194	3.5
62	MP3C	Mx	.001	3.5

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N20A	N27	N10	N15	Y	Two Way	-.005
2	N21	N17	N15	N20A	Y	Two Way	-.005
3	N21	N17	N10	N27	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N21	N17	N15	N20A	Y	Two Way	-.01
2	N27	N10	N15	N20A	Y	Two Way	-.01
3	N21	N17	N10	N27	Y	Two Way	-.01

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N20A	N27	N10	N15	Y	Two Way	-.000232
2	N21	N17	N15	N20A	Y	Two Way	-.000232
3	N21	N17	N10	N27	Y	Two Way	-.000232

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N20A	N27	N10	N15	Z	Two Way	-.00058
2	N21	N17	N15	N20A	Z	Two Way	-.00058
3	N21	N17	N10	N27	Z	Two Way	-.00058

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N20A	N27	N10	N15	X	Two Way	.00058
2	N21	N17	N15	N20A	X	Two Way	.00058
3	N21	N17	N10	N27	X	Two Way	.00058

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	N2	max	4145.065	10	590.984	14	1041.414	1	-.066	12	3.292	11	.017	5
2		min	-4147.535	4	60.426	8	-1024.711	7	-1.317	18	-3.295	5	-.016	11
3	N18	max	2206.584	11	476.145	23	3478.557	12	.561	14	2.949	5	.97	14
4		min	-2196.656	5	103.279	5	-3491.915	6	.066	8	-2.946	11	.117	8
5	N24	max	2253.152	9	480.066	19	3716.264	2	.568	21	3.233	1	-.13	3
6		min	-2266.405	3	98.032	2	-3724.642	8	.08	4	-3.237	7	-.986	21
7	N115A	max	52.184	10	1511.146	13	943.466	7	0	75	0	8	0	2
8		min	-52.095	4	-374.031	7	-3525.83	13	0	1	0	2	0	8
9	N119B	max	873.618	3	1663.763	21	1948.21	21	0	1	0	43	0	43
10		min	-3373.23	21	-401.219	3	-504.508	3	0	43	0	1	0	1
11	N122	max	3159.378	17	1561.505	17	1823.462	17	0	12	0	12	0	12
12		min	-855.758	11	-392.605	11	-493.964	11	0	30	0	30	0	30
13	Totals:	max	4950.7	10	5503.216	18	4998.088	1						
14		min	-4950.7	4	1258.69	75	-4998.088	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	N2	225.557	271.946	1041.414	-.14	.284	0
2	1	N18	1640.846	195.206	3340.922	.257	-2.813	.439
3	1	N24	-1746.162	99.415	3583.148	.139	3.233	-.229
4	1	N115A	.238	1264.858	-2990.191	0	0	0
5	1	N119B	-6.095	26.163	46.15	0	0	0
6	1	N122	-114.407	-31.578	-23.355	0	0	0
7	1	Totals:	-.024	1826.009	4998.088			
8	1	COG (ft):	X: .003	Y: .67	Z: .025			
9	2	N2	-2485.778	279.317	801.126	-.253	-2.123	.011
10	2	N18	762.062	180.982	2400.478	.263	-2.076	.451
11	2	N24	-2114.907	98.032	3716.264	.096	3.221	-.158
12	2	N115A	-11.103	1165.776	-2742.72	0	0	0
13	2	N119B	630.177	-284.482	-350.858	0	0	0
14	2	N122	732.623	386.388	483.184	0	0	0
15	2	Totals:	-2486.925	1826.013	4307.475			
16	2	COG (ft):	X: .003	Y: .67	Z: .025			
17	3	N2	-3826.194	262.829	359.68	-.38	-3.004	.015
18	3	N18	-661.968	145.869	368.073	.227	.051	.397
19	3	N24	-2266.405	120.812	3311.524	.081	3.19	-.13
20	3	N115A	-36.242	877.679	-2042.61	0	0	0
21	3	N119B	873.618	-401.219	-504.508	0	0	0
22	3	N122	1630.258	820.047	982.941	0	0	0
23	3	Totals:	-4286.934	1826.018	2475.101			
24	3	COG (ft):	X: .003	Y: .67	Z: .025			
25	4	N2	-4147.535	238.637	54.126	-.515	-3.083	.016
26	4	N18	-1848.674	110.778	-1859.234	.172	2.214	.31
27	4	N24	-1880.643	143.996	1943.015	.08	2.281	-.131
28	4	N115A	-52.095	483.218	-1109.697	0	0	0
29	4	N119B	646.968	-297.972	-386.701	0	0	0
30	4	N122	2331.279	1147.365	1358.522	0	0	0
31	4	Totals:	-4950.7	1826.022	.03			
32	4	COG (ft):	X: .003	Y: .67	Z: .025			
33	5	N2	-4062.59	190.561	-274.565	-.615	-3.295	.017
34	5	N18	-2196.656	103.279	-3142.85	.13	2.949	.237
35	5	N24	-644.97	161.76	-407.734	.092	-.087	-.162
36	5	N115A	-36.889	74.617	-145.101	0	0	0
37	5	N119B	-5.312	8.085	-39.596	0	0	0
38	5	N122	2637.975	1287.724	1522.369	0	0	0
39	5	Totals:	-4308.442	1826.026	-2487.477			
40	5	COG (ft):	X: .003	Y: .67	Z: .025			
41	6	N2	-2883.914	119.332	-757.723	-.625	-2.621	.013
42	6	N18	-2013.511	113.434	-3491.915	.1	2.847	.18
43	6	N24	830.283	187.826	-2575.162	.133	-2.408	-.24
44	6	N115A	-11.25	-244.118	624.052	0	0	0
45	6	N119B	-895.311	439.378	456.946	0	0	0
46	6	N122	2474.387	1210.176	1414.831	0	0	0
47	6	Totals:	-2499.315	1826.027	-4328.971			
48	6	COG (ft):	X: .003	Y: .67	Z: .025			
49	7	N2	-229.237	67.044	-1024.711	-.551	-.29	0
50	7	N18	-1631.195	119.588	-3355.496	.072	2.817	.129
51	7	N24	1733.978	215.275	-3592.717	.19	-3.237	-.339
52	7	N115A	.077	-374.031	943.466	0	0	0
53	7	N119B	-1768.633	868.998	979.717	0	0	0
54	7	N122	1895.034	929.151	1051.653	0	0	0
55	7	Totals:	.024	1826.025	-4998.088			
56	7	COG (ft):	X: .003	Y: .67	Z: .025			
57	8	N2	2480.198	60.426	-784.571	-.439	2.115	-.011
58	8	N18	-751.231	131.621	-2416.886	.066	2.082	.117

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
59	8	N24	2102.517	217.97	-3724.642	.232	-3.223	-.411
60	8	N115A	11.347	-274.408	696.942	0	0	0
61	8	N119B	-2405.176	1177.464	1376.265	0	0	0
62	8	N122	1049.27	512.949	545.418	0	0	0
63	8	Totals:	2486.925	1826.022	-4307.474			
64	8	COG (ft):	X: .003	Y: .67	Z: .025			
65	9	N2	3821.246	78.535	-343.913	-.313	2.996	-.015
66	9	N18	673.205	165.628	-384.132	.101	-.047	.171
67	9	N24	2253.152	194.272	-3321.396	.247	-3.193	-.439
68	9	N115A	36.936	15.13	-1.777	0	0	0
69	9	N119B	-2650.119	1293.81	1530.677	0	0	0
70	9	N122	152.515	78.643	45.442	0	0	0
71	9	Totals:	4286.934	1826.017	-2475.1			
72	9	COG (ft):	X: .003	Y: .67	Z: .025			
73	10	N2	4145.065	103.557	-38.946	-.178	3.078	-.015
74	10	N18	1859.442	201.85	1844.552	.156	-2.211	.259
75	10	N24	1867.165	168.844	-1954.983	.248	-2.285	-.438
76	10	N115A	52.184	410.494	-934.19	0	0	0
77	10	N119B	-2424.473	1192.029	1413.26	0	0	0
78	10	N122	-548.683	-250.761	-329.722	0	0	0
79	10	Totals:	4950.7	1826.012	-.029			
80	10	COG (ft):	X: .003	Y: .67	Z: .025			
81	11	N2	4061.819	150.956	291.035	-.078	3.292	-.016
82	11	N18	2206.584	211.623	3129.211	.198	-2.946	.332
83	11	N24	631.941	149.758	394.425	.235	.081	-.405
84	11	N115A	36.418	818.171	-1898.773	0	0	0
85	11	N119B	-1772.561	888.105	1065.545	0	0	0
86	11	N122	-855.758	-392.605	-493.964	0	0	0
87	11	Totals:	4308.442	1826.009	2487.478			
88	11	COG (ft):	X: .003	Y: .67	Z: .025			
89	12	N2	2882.582	220.576	775.107	-.066	2.618	-.012
90	12	N18	2022.789	202.533	3478.557	.228	-2.844	.389
91	12	N24	-842.963	124.639	2562.551	.196	2.402	-.328
92	12	N115A	11.461	1135.409	-2669.244	0	0	0
93	12	N119B	-881.351	457.556	569.115	0	0	0
94	12	N122	-693.202	-314.707	-387.114	0	0	0
95	12	Totals:	2499.315	1826.008	4328.972			
96	12	COG (ft):	X: .003	Y: .67	Z: .025			
97	13	N2	196.433	589.12	362.102	-1.191	.162	.002
98	13	N18	461.343	470.294	849.502	.56	-.749	.968
99	13	N24	-413.185	448.762	768.764	.539	.699	-.931
100	13	N115A	.003	1511.146	-3525.83	0	0	0
101	13	N119B	-2613.134	1300.453	1519.876	0	0	0
102	13	N122	2368.534	1183.436	1377.86	0	0	0
103	13	Totals:	-.006	5503.211	1352.274			
104	13	COG (ft):	X: -.098	Y: 1.085	Z: .14			
105	14	N2	-537.956	590.984	303.899	-1.22	-.482	.005
106	14	N18	209.752	465.119	577.37	.561	-.525	.97
107	14	N24	-526.74	449.441	810.879	.529	.713	-.913
108	14	N115A	-2.772	1482.881	-3455.298	0	0	0
109	14	N119B	-2429.143	1211.436	1406.101	0	0	0
110	14	N122	2613.275	1303.352	1523.731	0	0	0
111	14	Totals:	-673.583	5503.212	1166.682			
112	14	COG (ft):	X: -.098	Y: 1.085	Z: .14			
113	15	N2	-926.755	585.702	190.968	-1.253	-.747	.006
114	15	N18	-176.491	456.087	12.684	.551	.055	.956
115	15	N24	-562.274	455.436	691.301	.524	.69	-.905
116	15	N115A	-9.301	1400.166	-3254.076	0	0	0
117	15	N119B	-2359.207	1178.227	1362.537	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]
118	15	N122	2871.267	1427.596	1667.923	0	0	0
119	15	Totals:	-1162.761	5503.213	671.338			
120	15	COG (ft):	X: -.098	Y: 1.085	Z: .14			
121	16	N2	-1029.594	577.022	97.984	-1.286	-.786	.006
122	16	N18	-498.406	447.918	-601.249	.538	.644	.934
123	16	N24	-448.996	462.397	311.666	.524	.429	-.905
124	16	N115A	-13.379	1285.864	-2982.6	0	0	0
125	16	N119B	-2425.454	1208.361	1397.626	0	0	0
126	16	N122	3072.594	1521.653	1776.588	0	0	0
127	16	Totals:	-1343.235	5503.215	.014			
128	16	COG (ft):	X: -.098	Y: 1.085	Z: .14			
129	17	N2	-978.263	563.016	.522	-1.312	-.808	.006
130	17	N18	-607.274	446.116	-968.639	.526	.876	.914
131	17	N24	-119.28	468.538	-324.882	.528	-.197	-.915
132	17	N115A	-9.377	1168.112	-2702.985	0	0	0
133	17	N119B	-2612.872	1295.928	1498.362	0	0	0
134	17	N122	3159.378	1561.505	1823.462	0	0	0
135	17	Totals:	-1167.688	5503.216	-674.159			
136	17	COG (ft):	X: -.098	Y: 1.085	Z: .14			
137	18	N2	-622.78	545.072	-119.76	-1.317	-.583	.005
138	18	N18	-569.419	448.83	-1083.123	.518	.88	.898
139	18	N24	277.246	475.022	-917.27	.539	-.815	-.935
140	18	N115A	-2.838	1077.753	-2483.688	0	0	0
141	18	N119B	-2867.768	1418.766	1640.984	0	0	0
142	18	N122	3109.139	1537.772	1791.262	0	0	0
143	18	Totals:	-676.42	5503.216	-1171.595			
144	18	COG (ft):	X: -.098	Y: 1.085	Z: .14			
145	19	N2	100.934	532.277	-181.277	-1.299	.047	.002
146	19	N18	-457.393	451.963	-1045.346	.511	.863	.886
147	19	N24	536.385	480.066	-1208.184	.552	-1.061	-.959
148	19	N115A	-.07	1041.497	-2394.048	0	0	0
149	19	N119B	-3119.153	1541.74	1790.845	0	0	0
150	19	N122	2939.305	1455.673	1685.746	0	0	0
151	19	Totals:	.008	5503.216	-1352.265			
152	19	COG (ft):	X: -.098	Y: 1.085	Z: .14			
153	20	N2	835.218	530.472	-123.089	-1.27	.69	-.001
154	20	N18	-205.711	456.973	-773.319	.51	.639	.884
155	20	N24	649.917	479.483	-1250.207	.563	-1.075	-.978
156	20	N115A	2.706	1069.816	-2464.528	0	0	0
157	20	N119B	-3303.18	1630.59	1904.596	0	0	0
158	20	N122	2694.634	1335.88	1539.875	0	0	0
159	20	Totals:	673.585	5503.215	-1166.672			
160	20	COG (ft):	X: -.098	Y: 1.085	Z: .14			
161	21	N2	1224.065	535.882	-10.213	-1.237	.955	-.002
162	21	N18	180.567	465.922	-208.597	.519	.058	.898
163	21	N24	685.396	473.417	-1130.724	.568	-1.051	-.986
164	21	N115A	9.268	1152.656	-2665.658	0	0	0
165	21	N119B	-3373.23	1663.763	1948.21	0	0	0
166	21	N122	2436.696	1211.574	1395.654	0	0	0
167	21	Totals:	1162.763	5503.213	-671.328			
168	21	COG (ft):	X: -.098	Y: 1.085	Z: .14			
169	22	N2	1327.074	544.627	82.733	-1.204	.994	-.002
170	22	N18	502.446	474.174	405.423	.533	-.53	.92
171	22	N24	572.096	466.29	-751.233	.568	-.791	-.986
172	22	N115A	13.3	1267.029	-2937.091	0	0	0
173	22	N119B	-3307.048	1633.739	1913.141	0	0	0
174	22	N122	2235.369	1117.353	1287.023	0	0	0
175	22	Totals:	1343.237	5503.212	-.004			
176	22	COG (ft):	X: -.098	Y: 1.085	Z: .14			

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
177	23	N2	1275.84	558.579	180.276	-1.178	1.016	-.003
178	23	N18	611.247	476.145	772.877	.544	-.762	.94
179	23	N24	242.415	460.051	-114.782	.564	-.165	-.976
180	23	N115A	9.254	1384.704	-3216.701	0	0	0
181	23	N119B	-3119.64	1546.337	1812.359	0	0	0
182	23	N122	2148.573	1077.396	1240.14	0	0	0
183	23	Totals:	1167.689	5503.211	674.169			
184	23	COG (ft):	X: -.098	Y: 1.085	Z: .14			
185	24	N2	920.291	576.398	300.62	-1.174	.792	-.001
186	24	N18	573.344	473.512	887.372	.553	-.766	.956
187	24	N24	-154.075	453.638	477.651	.553	.453	-.955
188	24	N115A	2.759	1474.936	-3436.088	0	0	0
189	24	N119B	-2864.645	1423.557	1669.742	0	0	0
190	24	N122	2198.746	1101.17	1272.308	0	0	0
191	24	Totals:	676.421	5503.211	1171.605			
192	24	COG (ft):	X: -.098	Y: 1.085	Z: .14			
193	25	N2	-189.997	503.605	79.75	-1.24	-.144	0
194	25	N18	-112.505	135.576	-193.289	.147	.173	.257
195	25	N24	-.862	134.452	-2.018	.141	.01	-.246
196	25	N115A	.019	484.282	-1111.421	0	0	0
197	25	N119B	-1176.883	586.586	682.364	0	0	0
198	25	N122	1480.229	731.513	856.997	0	0	0
199	25	Totals:	0	2576.016	312.385			
200	25	COG (ft):	X: .293	Y: .475	Z: 1.113			
201	26	N2	-359.387	504.079	64.709	-1.247	-.295	.002
202	26	N18	-167.441	134.778	-251.934	.147	.219	.258
203	26	N24	-23.914	134.321	6.279	.138	.009	-.241
204	26	N115A	-.688	478.078	-1095.995	0	0	0
205	26	N119B	-1137.079	567.234	657.555	0	0	0
206	26	N122	1533.082	757.525	888.607	0	0	0
207	26	Totals:	-155.427	2576.016	269.221			
208	26	COG (ft):	X: .293	Y: .475	Z: 1.113			
209	27	N2	-443.178	503.056	37.085	-1.255	-.35	.002
210	27	N18	-256.415	132.649	-378.863	.145	.352	.255
211	27	N24	-33.386	135.775	-18.92	.137	.007	-.24
212	27	N115A	-2.274	460.038	-1052.308	0	0	0
213	27	N119B	-1121.755	559.923	647.893	0	0	0
214	27	N122	1589.073	784.576	919.809	0	0	0
215	27	Totals:	-267.935	2576.016	154.695			
216	27	COG (ft):	X: .293	Y: .475	Z: 1.113			
217	28	N2	-463.326	501.569	17.946	-1.263	-.355	.002
218	28	N18	-330.543	130.45	-518.03	.142	.487	.249
219	28	N24	-9.291	137.301	-104.333	.137	-.05	-.24
220	28	N115A	-3.248	435.36	-994.034	0	0	0
221	28	N119B	-1135.829	566.299	655.21	0	0	0
222	28	N122	1632.818	805.037	943.243	0	0	0
223	28	Totals:	-309.418	2576.016	.002			
224	28	COG (ft):	X: .293	Y: .475	Z: 1.113			
225	29	N2	-458.09	498.629	-2.691	-1.27	-.368	.002
226	29	N18	-352.247	129.929	-598.218	.139	.533	.245
227	29	N24	67.893	138.467	-251.141	.138	-.198	-.242
228	29	N115A	-2.281	409.853	-933.77	0	0	0
229	29	N119B	-1176.505	585.318	676.886	0	0	0
230	29	N122	1651.95	813.82	953.467	0	0	0
231	29	Totals:	-269.279	2576.017	-155.467			
232	29	COG (ft):	X: .293	Y: .475	Z: 1.113			
233	30	N2	-384.423	494.262	-32.969	-1.27	-.326	.002
234	30	N18	-340.749	130.535	-619.978	.137	.527	.241
235	30	N24	160.043	140.089	-386.534	.14	-.343	-.246

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
236	30	N115A	-.699	389.986	-885.695	0	0	0
237	30	N119B	-1232.081	612.198	707.877	0	0	0
238	30	N122	1641.708	808.947	946.736	0	0	0
239	30	Totals:	-156.201	2576.017	-270.563			
240	30	COG (ft):	X: .293	Y: .475	Z: 1.113			
241	31	N2	-218.458	491.029	-49.66	-1.266	-.18	0
242	31	N18	-316.849	130.941	-611.408	.136	.525	.238
243	31	N24	216.484	141.755	-450.159	.144	-.394	-.253
244	31	N115A	.006	381.888	-865.709	0	0	0
245	31	N119B	-1286.677	639.064	740.527	0	0	0
246	31	N122	1605.497	791.34	924.025	0	0	0
247	31	Totals:	.003	2576.017	-312.383			
248	31	COG (ft):	X: .293	Y: .475	Z: 1.113			
249	32	N2	-49.076	490.558	-34.62	-1.259	-.03	0
250	32	N18	-261.908	131.731	-552.77	.135	.479	.237
251	32	N24	239.536	141.891	-458.451	.147	-.394	-.257
252	32	N115A	.713	388.094	-881.13	0	0	0
253	32	N119B	-1326.482	658.407	765.334	0	0	0
254	32	N122	1552.649	765.335	892.417	0	0	0
255	32	Totals:	155.431	2576.016	-269.22			
256	32	COG (ft):	X: .293	Y: .475	Z: 1.113			
257	33	N2	34.718	491.587	-6.998	-1.251	.025	0
258	33	N18	-172.932	133.856	-425.84	.137	.346	.24
259	33	N24	249.004	140.433	-433.257	.148	-.392	-.259
260	33	N115A	2.3	406.14	-924.813	0	0	0
261	33	N119B	-1341.812	665.717	775	0	0	0
262	33	N122	1496.662	738.282	861.214	0	0	0
263	33	Totals:	267.938	2576.016	-154.694			
264	33	COG (ft):	X: .293	Y: .475	Z: 1.113			
265	34	N2	54.875	493.077	12.138	-1.242	.03	0
266	34	N18	-98.807	136.059	-286.667	.141	.211	.246
267	34	N24	224.908	138.899	-347.853	.148	-.335	-.259
268	34	N115A	3.272	430.822	-983.084	0	0	0
269	34	N119B	-1327.742	659.346	767.684	0	0	0
270	34	N122	1452.916	717.812	837.781	0	0	0
271	34	Totals:	309.421	2576.016	-.001			
272	34	COG (ft):	X: .293	Y: .475	Z: 1.113			
273	35	N2	49.646	496.015	32.78	-1.236	.044	0
274	35	N18	-77.106	136.589	-206.475	.143	.165	.25
275	35	N24	147.726	137.727	-201.049	.147	-.187	-.257
276	35	N115A	2.303	456.325	-1043.349	0	0	0
277	35	N119B	-1287.068	640.336	746.005	0	0	0
278	35	N122	1433.782	709.024	827.556	0	0	0
279	35	Totals:	269.282	2576.015	155.469			
280	35	COG (ft):	X: .293	Y: .475	Z: 1.113			
281	36	N2	-24.023	500.376	63.062	-1.235	.002	0
282	36	N18	-88.607	135.987	-184.714	.145	.171	.254
283	36	N24	55.578	136.109	-65.654	.144	-.042	-.252
284	36	N115A	.723	476.186	-1091.429	0	0	0
285	36	N119B	-1231.487	613.459	715.015	0	0	0
286	36	N122	1444.02	713.898	834.285	0	0	0
287	36	Totals:	156.205	2576.015	270.564			
288	36	COG (ft):	X: .293	Y: .475	Z: 1.113			
289	37	N2	524.411	422.512	81.297	-1.036	.414	0
290	37	N18	41.313	140.314	53.448	.147	-.052	.257
291	37	N24	214.035	123.692	-368.851	.14	-.321	-.244
292	37	N115A	-.031	480.665	-1102.655	0	0	0
293	37	N119B	-1813.323	890.845	1049.895	0	0	0
294	37	N122	1033.592	517.988	599.25	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]
295	37	Totals:	-0.003	2576.016	312.384			
296	37	COG (ft):	X: -.73	Y: .475	Z: 1.113			
297	38	N2	355.025	422.938	66.281	-1.043	.263	0
298	38	N18	-13.627	139.501	-5.235	.148	-.006	.258
299	38	N24	190.984	123.551	-360.581	.138	-.322	-.239
300	38	N115A	-.737	474.463	-1087.234	0	0	0
301	38	N119B	-1773.533	871.53	1025.112	0	0	0
302	38	N122	1086.457	544.034	630.878	0	0	0
303	38	Totals:	-155.43	2576.017	269.22			
304	38	COG (ft):	X: -.73	Y: .475	Z: 1.113			
305	39	N2	271.233	421.879	38.686	-1.05	.208	0
306	39	N18	-102.609	137.353	-132.208	.146	.127	.254
307	39	N24	181.521	125.003	-385.787	.137	-.323	-.238
308	39	N115A	-2.321	456.422	-1043.548	0	0	0
309	39	N119B	-1758.231	864.239	1015.464	0	0	0
310	39	N122	1142.469	571.121	662.088	0	0	0
311	39	Totals:	-267.938	2576.017	154.695			
312	39	COG (ft):	X: -.73	Y: .475	Z: 1.113			
313	40	N2	251.084	420.376	19.564	-1.059	.203	0
314	40	N18	-176.742	135.141	-271.405	.142	.262	.249
315	40	N24	205.63	126.536	-471.199	.137	-.38	-.238
316	40	N115A	-3.292	431.743	-985.274	0	0	0
317	40	N119B	-1772.326	870.617	1022.795	0	0	0
318	40	N122	1186.225	591.605	685.519	0	0	0
319	40	Totals:	-309.421	2576.017	.002			
320	40	COG (ft):	X: -.73	Y: .475	Z: 1.113			
321	41	N2	256.32	417.435	-1.069	-1.065	.19	0
322	41	N18	-198.453	134.614	-351.626	.139	.308	.244
323	41	N24	282.831	127.72	-618.013	.137	-.528	-.24
324	41	N115A	-2.323	406.231	-925.002	0	0	0
325	41	N119B	-1813.015	889.62	1044.496	0	0	0
326	41	N122	1205.358	600.397	695.745	0	0	0
327	41	Totals:	-269.282	2576.017	-155.468			
328	41	COG (ft):	X: -.73	Y: .475	Z: 1.113			
329	42	N2	329.984	413.085	-31.349	-1.066	.232	0
330	42	N18	-186.971	135.221	-373.422	.138	.301	.241
331	42	N24	374.998	129.362	-753.402	.14	-.673	-.245
332	42	N115A	-.738	386.358	-876.912	0	0	0
333	42	N119B	-1868.598	916.471	1075.503	0	0	0
334	42	N122	1195.12	595.521	689.018	0	0	0
335	42	Totals:	-156.204	2576.017	-270.564			
336	42	COG (ft):	X: -.73	Y: .475	Z: 1.113			
337	43	N2	495.945	409.89	-48.05	-1.061	.378	0
338	43	N18	-163.082	135.636	-364.857	.136	.299	.238
339	43	N24	431.449	131.046	-817	.144	-.725	-.251
340	43	N115A	-.032	378.254	-856.915	0	0	0
341	43	N119B	-1923.193	943.296	1108.14	0	0	0
342	43	N122	1158.913	577.894	666.297	0	0	0
343	43	Totals:	0	2576.017	-312.384			
344	43	COG (ft):	X: -.73	Y: .475	Z: 1.113			
345	44	N2	665.323	409.467	-33.035	-1.054	.528	-.001
346	44	N18	-108.138	136.441	-306.181	.135	.253	.237
347	44	N24	454.499	131.192	-825.266	.146	-.724	-.255
348	44	N115A	.674	384.459	-872.332	0	0	0
349	44	N119B	-1962.984	962.603	1132.922	0	0	0
350	44	N122	1106.053	551.855	634.671	0	0	0
351	44	Totals:	155.428	2576.017	-269.22			
352	44	COG (ft):	X: -.73	Y: .475	Z: 1.113			
353	45	N2	749.118	410.533	-5.442	-1.046	.583	-.002

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
354	45	N18	-19.153	138.584	-179.207	.138	.12	.24
355	45	N24	463.959	129.737	-800.066	.147	-.722	-.257
356	45	N115A	2.259	402.505	-916.013	0	0	0
357	45	N119B	-1978.292	969.892	1142.572	0	0	0
358	45	N122	1050.045	524.766	603.461	0	0	0
359	45	Totals:	267.935	2576.017	-154.695			
360	45	COG (ft):	X: -.73	Y: .475	Z: 1.113			
361	46	N2	769.276	412.04	13.677	-1.038	.588	-.002
362	46	N18	54.977	140.801	-40.005	.141	-.015	.246
363	46	N24	439.849	128.194	-714.662	.147	-.665	-.257
364	46	N115A	3.228	427.188	-974.285	0	0	0
365	46	N119B	-1964.201	963.52	1135.243	0	0	0
366	46	N122	1006.288	504.273	580.03	0	0	0
367	46	Totals:	309.418	2576.017	-.002			
368	46	COG (ft):	X: -.73	Y: .475	Z: 1.113			
369	47	N2	764.047	414.977	34.316	-1.032	.601	-.002
370	47	N18	76.685	141.337	40.22	.144	-.061	.25
371	47	N24	362.65	127.006	-567.853	.146	-.518	-.255
372	47	N115A	2.257	452.696	-1034.557	0	0	0
373	47	N119B	-1923.513	944.525	1113.539	0	0	0
374	47	N122	987.154	495.476	569.803	0	0	0
375	47	Totals:	269.279	2576.016	155.468			
376	47	COG (ft):	X: -.73	Y: .475	Z: 1.113			
377	48	N2	690.381	419.321	64.599	-1.031	.559	-.001
378	48	N18	65.2	140.734	62.017	.146	-.054	.254
379	48	N24	270.484	125.367	-432.462	.144	-.373	-.25
380	48	N115A	.674	472.563	-1082.651	0	0	0
381	48	N119B	-1867.925	917.678	1082.533	0	0	0
382	48	N122	997.387	500.354	576.528	0	0	0
383	48	Totals:	156.202	2576.016	270.563			
384	48	COG (ft):	X: -.73	Y: .475	Z: 1.113			
385	49	N2	-1.171	342.144	12.74	-.825	-.003	0
386	49	N18	-73.956	145.784	-155.135	.154	.13	.267
387	49	N24	72.701	146.034	-153.373	.154	-.131	-.267
388	49	N115A	0	440.684	-1006.967	0	0	0
389	49	N119B	-1126.964	562.649	650.88	0	0	0
390	49	N122	1129.39	563.721	651.855	0	0	0
391	49	Totals:	0	2201.017	0			
392	49	COG (ft):	X: .002	Y: .556	Z: .662			
393	50	N2	-660.366	151.287	26.482	-.365	-.515	-.002
394	50	N18	-308.473	138.149	-587.016	.176	.514	.299
395	50	N24	-19.745	146.821	-14.302	.15	-.003	-.259
396	50	N115A	.04	429.561	-980.047	0	0	0
397	50	N119B	-852.416	431.36	492.35	0	0	0
398	50	N122	1840.964	903.842	1062.534	0	0	0
399	50	Totals:	.004	2201.019	.001			
400	50	COG (ft):	X: 1.112	Y: .556	Z: .662			
401	51	N2	-1.406	196.257	11.908	-.404	-.003	0
402	51	N18	7.902	180.933	-10.09	.192	.002	.332
403	51	N24	-9.086	180.965	-8.33	.192	-.003	-.332
404	51	N115A	0	522.268	-1194.567	0	0	0
405	51	N119B	-1038.87	524.387	599.988	0	0	0
406	51	N122	1041.46	525.544	601.091	0	0	0
407	51	Totals:	0	2130.354	0			
408	51	COG (ft):	X: .003	Y: .67	Z: .025			
409	52	N2	4.252	181.262	55.218	-.362	.002	0
410	52	N18	90.057	165.464	172.753	.18	-.154	.311
411	52	N24	-91.495	162.458	170.665	.176	.151	-.303
412	52	N115A	0	511.208	-1173.106	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]
413	52	N119B	-908.347	458.932	526.746	0	0	0
414	52	N122	905.532	457.515	524.78	0	0	0
415	52	Totals:	0	1936.839	277.055			
416	52	COG (ft):	X: .002	Y: .699	Z: .028			
417	53	N2	-113.638	182.088	49.954	-.366	-.092	0
418	53	N18	36.536	164.625	108.445	.18	-.09	.311
419	53	N24	-123.534	162.197	188.483	.173	.175	-.3
420	53	N115A	-1.07	507.023	-1163.28	0	0	0
421	53	N119B	-880.018	444.876	509.481	0	0	0
422	53	N122	943.197	476.03	546.848	0	0	0
423	53	Totals:	-138.527	1936.84	239.931			
424	53	COG (ft):	X: .002	Y: .699	Z: .028			
425	54	N2	-201.237	182.004	34.542	-.372	-.162	0
426	54	N18	-24.729	163.598	12.366	.179	-.001	.31
427	54	N24	-124.778	162.462	153.351	.172	.151	-.297
428	54	N115A	-1.854	494.177	-1133.026	0	0	0
429	54	N119B	-869.601	439.521	502.229	0	0	0
430	54	N122	982.27	495.079	569.066	0	0	0
431	54	Totals:	-239.928	1936.84	138.529			
432	54	COG (ft):	X: .002	Y: .699	Z: .028			
433	55	N2	-235.089	181.028	13.108	-.377	-.189	0
434	55	N18	-77.335	162.658	-89.758	.177	.088	.307
435	55	N24	-94.892	163.182	74.677	.171	.085	-.297
436	55	N115A	-2.141	476.109	-1090.445	0	0	0
437	55	N119B	-879.885	444.301	506.933	0	0	0
438	55	N122	1012.289	509.562	585.487	0	0	0
439	55	Totals:	-277.053	1936.84	.002			
440	55	COG (ft):	X: .002	Y: .699	Z: .028			
441	56	N2	-206.104	179.422	-8.603	-.381	-.166	0
442	56	N18	-107.176	162.058	-170.553	.174	.155	.303
443	56	N24	-41.877	164.166	-26.462	.172	-.004	-.298
444	56	N115A	-1.855	457.659	-1046.949	0	0	0
445	56	N119B	-908.119	457.938	522.335	0	0	0
446	56	N122	1025.203	515.597	591.706	0	0	0
447	56	Totals:	-239.928	1936.84	-138.526			
448	56	COG (ft):	X: .002	Y: .699	Z: .028			
449	57	N2	-122.072	177.617	-24.773	-.383	-.099	0
450	57	N18	-106.261	161.955	-208.372	.172	.181	.299
451	57	N24	20.05	165.153	-122.95	.174	-.094	-.301
452	57	N115A	-1.072	443.774	-1014.196	0	0	0
453	57	N119B	-946.729	476.772	544.303	0	0	0
454	57	N122	1017.558	511.571	586.06	0	0	0
455	57	Totals:	-138.526	1936.84	-239.928			
456	57	COG (ft):	X: .002	Y: .699	Z: .028			
457	58	N2	-5.493	176.097	-31.074	-.381	-.006	0
458	58	N18	-74.834	162.376	-193.089	.171	.159	.297
459	58	N24	74.307	165.876	-188.952	.176	-.159	-.305
460	58	N115A	0	438.172	-1000.956	0	0	0
461	58	N119B	-985.379	495.758	566.956	0	0	0
462	58	N122	991.4	498.56	570.06	0	0	0
463	58	Totals:	0	1936.84	-277.055			
464	58	COG (ft):	X: .002	Y: .699	Z: .028			
465	59	N2	112.393	175.273	-25.813	-.376	.088	0
466	59	N18	-21.31	163.21	-128.781	.171	.095	.297
467	59	N24	106.345	166.14	-206.764	.178	-.183	-.309
468	59	N115A	1.07	442.36	-1010.784	0	0	0
469	59	N119B	-1013.708	509.81	584.221	0	0	0
470	59	N122	953.736	480.049	547.991	0	0	0
471	59	Totals:	138.527	1936.84	-239.93			

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
472	59	COG (ft):	X: .002	Y: .699	Z: .028			
473	60	N2	199.993	175.362	-10.403	-.371	.158	0
474	60	N18	39.959	164.234	-32.699	.172	.007	.298
475	60	N24	107.586	165.873	-171.631	.18	-.159	-.312
476	60	N115A	1.854	455.21	-1041.038	0	0	0
477	60	N119B	-1024.126	515.163	591.472	0	0	0
478	60	N122	914.663	460.998	525.77	0	0	0
479	60	Totals:	239.928	1936.84	-138.528			
480	60	COG (ft):	X: .002	Y: .699	Z: .028			
481	61	N2	233.851	176.341	11.031	-.365	.185	0
482	61	N18	92.565	165.176	69.43	.174	-.083	.301
483	61	N24	77.698	165.148	-92.961	.18	-.093	-.312
484	61	N115A	2.14	473.281	-1083.618	0	0	0
485	61	N119B	-1013.845	510.386	586.768	0	0	0
486	61	N122	884.644	446.509	509.349	0	0	0
487	61	Totals:	277.053	1936.84	-.001			
488	61	COG (ft):	X: .002	Y: .699	Z: .028			
489	62	N2	204.87	177.945	32.744	-.361	.162	0
490	62	N18	122.403	165.782	150.225	.176	-.15	.305
491	62	N24	24.685	164.16	8.173	.179	-.004	-.311
492	62	N115A	1.853	491.728	-1127.112	0	0	0
493	62	N119B	-985.612	496.754	571.367	0	0	0
494	62	N122	871.729	440.471	503.131	0	0	0
495	62	Totals:	239.927	1936.839	138.527			
496	62	COG (ft):	X: .002	Y: .699	Z: .028			
497	63	N2	120.837	179.745	48.916	-.36	.095	0
498	63	N18	121.485	165.888	188.041	.178	-.176	.308
499	63	N24	-37.239	163.176	104.66	.178	.086	-.307
500	63	N115A	1.069	505.608	-1159.865	0	0	0
501	63	N119B	-947	477.922	549.399	0	0	0
502	63	N122	879.374	444.5	508.779	0	0	0
503	63	Totals:	138.526	1936.839	239.929			
504	63	COG (ft):	X: .002	Y: .699	Z: .028			
505	64	N2	3.386	118.346	48.921	-.226	.002	0
506	64	N18	86.66	109.063	177.933	.116	-.155	.201
507	64	N24	-87.913	105.61	176.443	.112	.154	-.193
508	64	N115A	0	345.192	-790.672	0	0	0
509	64	N119B	-572.761	290.772	332.939	0	0	0
510	64	N122	570.627	289.707	331.492	0	0	0
511	64	Totals:	0	1258.69	277.055			
512	64	COG (ft):	X: .005	Y: .624	Z: .021			
513	65	N2	-114.488	119.171	43.658	-.23	-.092	0
514	65	N18	33.146	108.218	113.633	.117	-.092	.202
515	65	N24	-119.949	105.357	194.258	.11	.178	-.189
516	65	N115A	-1.073	341.006	-780.849	0	0	0
517	65	N119B	-544.443	276.712	315.677	0	0	0
518	65	N122	608.279	308.227	353.553	0	0	0
519	65	Totals:	-138.527	1258.69	239.931			
520	65	COG (ft):	X: .005	Y: .624	Z: .021			
521	66	N2	-202.075	119.081	28.247	-.236	-.162	0
522	66	N18	-28.11	107.188	17.568	.115	-.003	.2
523	66	N24	-121.193	105.629	159.131	.108	.154	-.187
524	66	N115A	-1.859	328.156	-750.605	0	0	0
525	66	N119B	-534.031	271.355	308.424	0	0	0
526	66	N122	647.339	327.281	375.764	0	0	0
527	66	Totals:	-239.928	1258.69	138.529			
528	66	COG (ft):	X: .005	Y: .624	Z: .021			
529	67	N2	-235.923	118.098	6.816	-.241	-.189	0
530	67	N18	-80.708	106.25	-84.542	.114	.087	.197

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
531	67	N24	-91.311	106.355	80.467	.108	.088	-.186
532	67	N115A	-2.147	310.083	-708.039	0	0	0
533	67	N119B	-544.313	276.136	313.122	0	0	0
534	67	N122	677.349	341.768	392.177	0	0	0
535	67	Totals:	-277.053	1258.691	.002			
536	67	COG (ft):	X: .005	Y: .624	Z: .021			
537	68	N2	-206.942	116.485	-14.893	-.245	-.166	0
538	68	N18	-110.545	105.655	-165.327	.111	.154	.193
539	68	N24	-38.303	107.341	-20.657	.108	-.001	-.188
540	68	N115A	-1.86	291.627	-664.557	0	0	0
541	68	N119B	-572.539	289.777	328.517	0	0	0
542	68	N122	690.261	347.805	398.391	0	0	0
543	68	Totals:	-239.928	1258.691	-138.526			
544	68	COG (ft):	X: .005	Y: .624	Z: .021			
545	69	N2	-122.922	114.674	-31.061	-.246	-.099	0
546	69	N18	-109.63	105.56	-203.141	.109	.179	.19
547	69	N24	23.616	108.325	-117.132	.11	-.091	-.191
548	69	N115A	-1.074	277.738	-631.815	0	0	0
549	69	N119B	-611.137	308.616	350.477	0	0	0
550	69	N122	682.621	343.778	392.744	0	0	0
551	69	Totals:	-138.526	1258.691	-239.929			
552	69	COG (ft):	X: .005	Y: .624	Z: .021			
553	70	N2	-6.359	113.152	-37.361	-.245	-.006	0
554	70	N18	-78.206	105.989	-187.86	.108	.158	.188
555	70	N24	77.866	109.043	-183.124	.112	-.156	-.195
556	70	N115A	0	272.135	-618.579	0	0	0
557	70	N119B	-649.773	327.609	373.123	0	0	0
558	70	N122	656.474	330.763	376.746	0	0	0
559	70	Totals:	0	1258.691	-277.055			
560	70	COG (ft):	X: .005	Y: .624	Z: .021			
561	71	N2	111.511	112.33	-32.1	-.24	.088	0
562	71	N18	-24.69	106.829	-123.561	.108	.094	.187
563	71	N24	109.9	109.299	-200.934	.114	-.18	-.199
564	71	N115A	1.074	276.324	-628.404	0	0	0
565	71	N119B	-678.091	341.664	390.385	0	0	0
566	71	N122	618.823	312.246	354.684	0	0	0
567	71	Totals:	138.527	1258.691	-239.93			
568	71	COG (ft):	X: .005	Y: .624	Z: .021			
569	72	N2	199.099	112.425	-16.691	-.235	.158	0
570	72	N18	36.57	107.855	-27.491	.109	.005	.189
571	72	N24	111.14	109.024	-165.806	.116	-.156	-.201
572	72	N115A	1.86	289.178	-658.648	0	0	0
573	72	N119B	-688.504	347.019	397.637	0	0	0
574	72	N122	579.763	293.189	332.471	0	0	0
575	72	Totals:	239.928	1258.69	-138.529			
576	72	COG (ft):	X: .005	Y: .624	Z: .021			
577	73	N2	232.953	113.411	4.74	-.229	.185	0
578	73	N18	89.169	108.795	74.623	.111	-.085	.192
579	73	N24	81.257	108.293	-87.146	.116	-.09	-.202
580	73	N115A	2.147	307.254	-701.214	0	0	0
581	73	N119B	-678.225	342.241	392.938	0	0	0
582	73	N122	549.752	278.696	316.057	0	0	0
583	73	Totals:	277.053	1258.69	-.001			
584	73	COG (ft):	X: .005	Y: .624	Z: .021			
585	74	N2	203.977	115.022	26.45	-.225	.162	0
586	74	N18	119.002	109.396	155.407	.113	-.151	.195
587	74	N24	28.252	107.304	13.973	.116	0	-.2
588	74	N115A	1.859	325.707	-744.693	0	0	0
589	74	N119B	-650	328.605	377.545	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]
590	74	N122	536.839	272.657	309.844	0	0	0
591	74	Totals:	239.927	1258.69	138.526			
592	74	COG (ft):	X: .005	Y: .624	Z: .021			
593	75	N2	119.955	116.828	42.621	-.224	.095	0
594	75	N18	118.083	109.494	193.218	.115	-.177	.199
595	75	N24	-33.664	106.322	110.447	.114	.089	-.197
596	75	N115A	1.073	339.591	-777.435	0	0	0
597	75	N119B	-611.4	309.768	355.585	0	0	0
598	75	N122	544.479	276.687	315.494	0	0	0
599	75	Totals:	138.526	1258.69	239.929			
600	75	COG (ft):	X: .005	Y: .624	Z: .021			

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

	Member	Shape	Code C...	Loc(ft)	LC	Shear ...	Loc(ft)	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M1	C5x3x0.25	.429	0	5	.179	1.05	y	4	79832.349	81509.004	4.575	12.308	2...	H1-1b
2	M2	C5x3x0.25	.203	0	5	.144	.286	z	4	77752.81	81509.004	4.575	12.308	1...	H1-1b
3	M5	LL3x3x4x0	.291	0	13	.040	1.615	y	13	76940.499	93312	6.48	4.389	2...	H1-1b
4	M6	LL3x3x4x0	.323	0	21	.045	1.615	y	21	76940.499	93312	6.48	4.389	1...	H1-1b
5	M7	LL3x3x4x0	.300	0	17	.041	1.615	y	17	76940.499	93312	6.48	4.389	1...	H1-1b
6	M6A	L3X3X4	.271	0	11	.014	0	z	18	13991.953	46656	1.688	3.44	1...	H2-1
7	M23A	L3X3X4	.271	7.433	11	.013	7.433	z	16	13991.953	46656	1.688	3.098	1...	H2-1
8	M39A	L3X3X4	.279	0	3	.013	0	z	22	13991.953	46656	1.688	3.061	1...	H2-1
9	M16	C5x3x0.25	.346	0	1	.167	1.05	y	6	79832.351	81509.004	4.575	12.308	2...	H1-1b
10	M17	C5x3x0.25	.162	0	24	.043	.354	y	6	77752.808	81509.004	4.575	12.308	1...	H1-1b
11	M20	C5x3x0.25	.379	0	9	.178	1.05	y	8	79832.349	81509.004	4.575	12.308	2...	H1-1b
12	M21	C5x3x0.25	.169	0	20	.037	.354	y	2	77752.81	81509.004	4.575	12.308	1...	H1-1b
13	MP1A	PIPE 2.0	.315	4.75	4	.114	4.75	2	20866.733	32130	1.872	1.872	2...	H1-1b	
14	MP2A	PIPE 2.0	.378	4.75	4	.136	4.75	5	20866.733	32130	1.872	1.872	2...	H1-1b	
15	MP3A	PIPE 2.0	.350	4.75	10	.117	4.75	8	20866.733	32130	1.872	1.872	2...	H1-1b	
16	MP4A	PIPE 2.0	.275	4.75	10	.105	4.75	9	20866.733	32130	1.872	1.872	2...	H1-1b	
17	MP1B	PIPE 2.0	.315	4.75	12	.123	4.75	10	20866.733	32130	1.872	1.872	2...	H1-1b	
18	MP2B	PIPE 2.0	.380	4.75	12	.110	4.438	1	20866.733	32130	1.872	1.872	1...	H1-1b	
19	MP3B	PIPE 2.0	.350	4.75	6	.130	4.75	4	20866.733	32130	1.872	1.872	2...	H1-1b	
20	MP4B	PIPE 2.0	.265	4.75	6	.113	4.75	7	20866.733	32130	1.872	1.872	1...	H1-1b	
21	MP1C	PIPE 2.0	.326	4.75	8	.111	2.938	7	20866.733	32130	1.872	1.872	2...	H1-1b	
22	MP2C	PIPE 2.0	.402	4.75	8	.134	4.75	10	20866.733	32130	1.872	1.872	2...	H1-1b	
23	MP3C	PIPE 2.0	.376	4.75	2	.116	3.438	1	20866.733	32130	1.872	1.872	2...	H1-1b	
24	MP4C	PIPE 2.0	.293	4.75	2	.097	4.438	4	20866.733	32130	1.872	1.872	2...	H1-1b	
25	M48	PIPE 2.5	.198	7.308	7	.103	10.44	7	14493.197	50715	3.596	3.596	2...	H1-1b	
26	M49	PIPE 2.5	.184	7.308	4	.077	2.088	4	14493.197	50715	3.596	3.596	2...	H1-1b	
27	M50	PIPE 2.5	.205	10.44	1	.098	10.44	10	14493.197	50715	3.596	3.596	2...	H1-1b	
28	M57	L2.5x2.5x4	.562	1.82	1	.053	1.82	y	1	34607.23	38556	1.114	2.537	2...	H2-1
29	M58	L2.5x2.5x4	.480	0	1	.039	0	y	2	34607.23	38556	1.114	2.537	2...	H2-1
30	M59	L2.5x2.5x4	.463	0	10	.045	.019	y	10	34607.23	38556	1.114	2.537	2...	H2-1
31	FACE	LL3x3x4x0	.140	0	21	.072	0	z	12	65870.903	93312	6.48	4.249	2...	H1-1b
32	FACE1	LL3x3x4x0	.126	0	17	.169	6.264	y	1	65870.903	93312	6.48	4.249	2...	H1-1b
33	F	LL3x3x4x0	.102	.25	1	.170	.25	z	1	77789.501	93312	6.48	4.457	1...	H1-1b
34	M72	LL3x3x4x0	.124	0	17	.068	0	z	8	65860.963	93312	6.48	4.249	2...	H1-1b
35	M73	LL3x3x4x0	.120	1.044	1	.156	6.264	y	10	65870.903	93312	6.48	4.249	1...	H1-1b
36	M74	LL3x3x4x0	.109	.25	9	.156	.25	z	10	77789.501	93312	6.48	4.457	1...	H1-1b
37	M75	LL3x3x4x0	.124	0	1	.075	0	z	4	65860.963	93312	6.48	4.249	2...	H1-1b
38	M76	LL3x3x4x0	.138	0	21	.149	6.265	y	5	65860.956	93312	6.48	4.249	2...	H1-1b
39	M77	LL3x3x4x0	.104	.25	4	.149	.25	z	5	77789.501	93312	6.48	4.457	1...	H1-1b
40	M70B	LL3x3x3x0	.077	5.222	13	.002	5.222	z	4	49710.873	70632	4.823	3.749	1	H1-1b*
41	M71A	LL3x3x3x0	.085	5.222	21	.003	5.222	y	43	49710.873	70632	4.823	3.749	1	H1-1b*
42	M72A	LL3x3x3x0	.080	5.222	17	.003	5.222	z	2	49710.873	70632	4.823	3.749	1	H1-1b*
43	OVP	PIPE 2.0	.170	3	6	.017	3	6	26521.424	32130	1.872	1.872	1...	H1-1b	

VzW
SMART Tool®
Vendor

Client:	Verizon Wireless	Date:	7/11/2024
Site Name:	MIDDLETOWN 2 CT		
MDG #:	5000246826		
Fuze ID #:	16272064	Page:	2

Version 2.00

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)

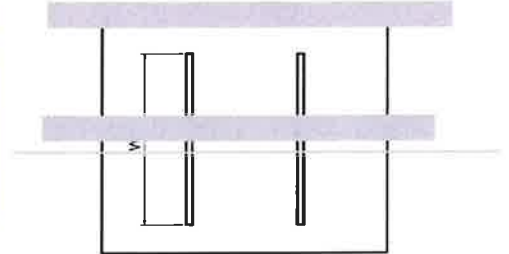
c_y (in)

Required combined strength (kip/in):

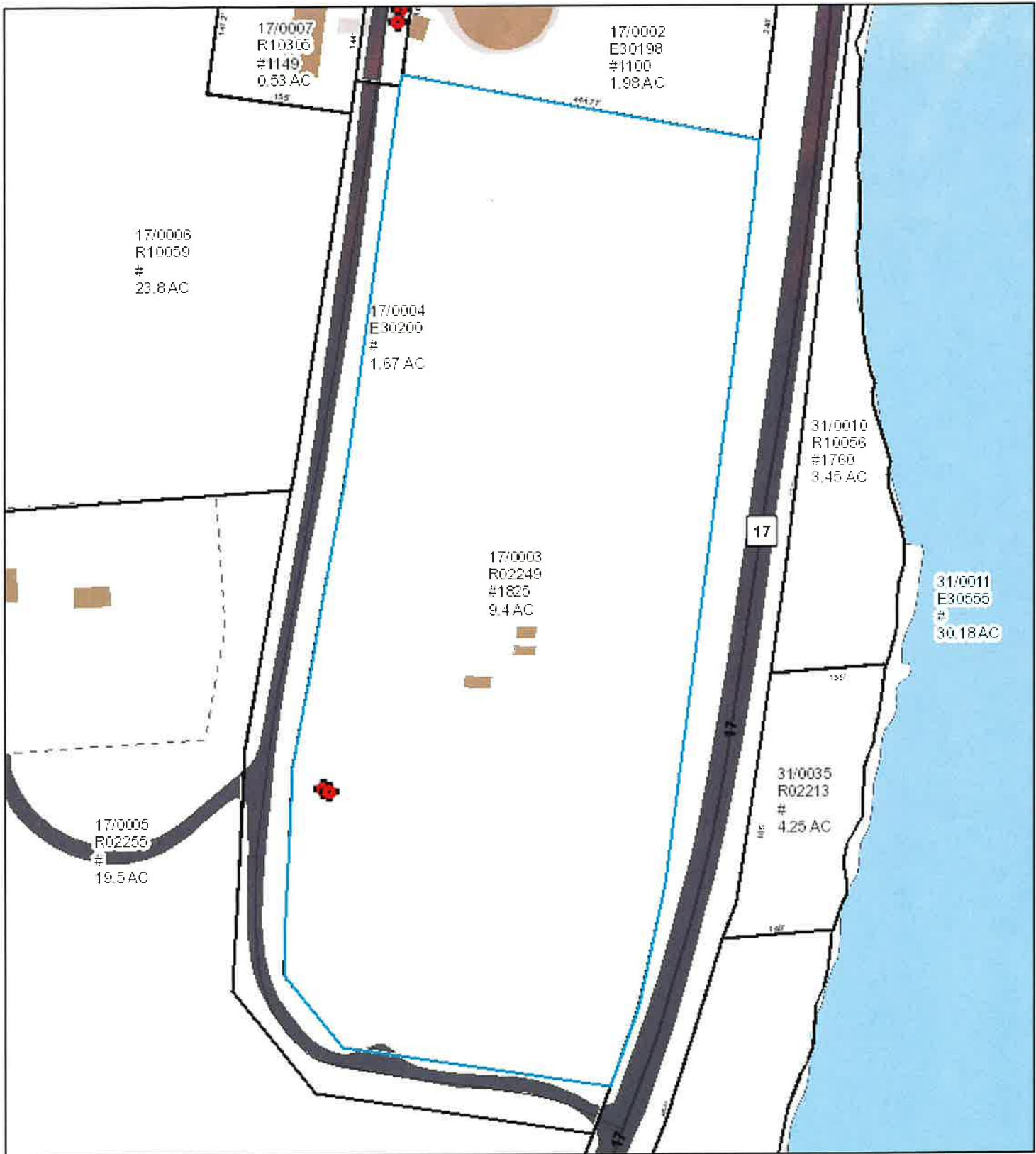
Weld Capacity (kip/in):

Weld Utilization:

Yes
Two Vertical Fillet Welds
None
4
4
6
12.00
12.00
24.00
84.00
2
3
1.67
5.57
30.0%



ATTACHMENT 5



middletown prop map

Map generated 4/24/2024

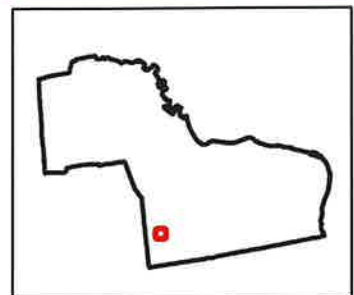
Map Legend: <http://gis.cityofmiddletown.com/middletownct/legend.pdf>
<vision link>

0 0.0125 0.025 0.05 0.075 0.1 mi

1 in = 200 ft

MAP FOR REFERENCE ONLY - NOT A LEGAL DOCUMENT

Because of different update schedules, current property assessments may not reflect recent changes to property boundaries. Check with the Board of Assessors to confirm boundaries uses at the time of assessment.



1825 SOUTH MAIN ST

Location 1825 SOUTH MAIN ST

Map-Lot 17 / 0003 /

Acct# R02249

Owner SBA PROPERTIES INC

Municipality

Assessment \$276,470

Appraisal \$394,960

PID 3758

Building Count 1

Assessing District

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$49,460	\$345,500	\$394,960
Assessment			
Valuation Year	Improvements	Land	Total
2018	\$34,620	\$241,850	\$276,470

Parcel Addresses

Additional Addresses
No Additional Addresses available for this parcel

Owner of Record

Owner SBA PROPERTIES INC

Sale Price \$0

Co-Owner

Certificate

Address 8051 CONGRESS AVE
BOCA RATON, FL 33487

Book & Page 1289/0876

Sale Date 12/21/2001

Instrument 29

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
SBA PROPERTIES INC	\$0		1289/0876	29	12/21/2001
SBA TOWERS INC	\$275,000		1289/0872	25	12/21/2001
CONN LIGHT & POWER CO	\$0		0624/0211	29	07/02/1982

ATTACHMENT 6



Certificate of Mailing — Firm

Name and Address of Sender		TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt.		
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103		3	3			
Postmaster, per (name of receiving employee)						
USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift	
1.	Benjamin Florsheim, Mayor City of Middletown 245 deKoven Drive Middletown, CT 06457					
2.	Marek Kozilowski, Director of Land Use City of Middletown 245 deKoven Drive Middletown, CT 06457					
3.	SBA Properties Inc. 8051 Congress Avenue Boca Raton, FL 33487					
4.						
5.						
6.						