Dewberry

Dewberry Engineers Inc.
280 Summer Street, 10th Floor
Boston, MA 02210

617.695.3400
617.695.3310 fax
www.dewberry.com

Structural Analysis Report and Design Calculations For a Wireless Telecommunications Upgrade

Site Name: CT1071 Winsted Winchester
Site No.: 10035017
Site Address: 15 Oakdale Ave
Winsted, CT 06098

Prepared for:
AT&T
500 Enterprise Drive Suite 3A
Rocky Hill, CT 06067

January 2, 2018

Prepared by:
Dewberry Engineers Inc.
280 Summer Street, 10th Floor
Boston, MA 02210
Dewberry Project Number: 50093734

1/2/18

STATE OF CONNECTICUT
DAVID YAT MING NG
32613
LICENSED
PROFESSIONAL ENGINEER

Prepared by:

Brandon Kelsey, E.I.T.
Project Engineer

Reviewed by:

David Ng, PE
Connecticut Professional Engineer
License No. 32613

TABLE OF CONTENTS

Section		Page Number
1.0	INTRODUCTION AND PROJECT SUMMARY	1
2.0	EXISTING & PROPOSED ANTENNAS & EQUIPMENT	1
3.0	CODES, STANDARDS, AND REFERENCES	2
4.0	LOADING AND PERFORMANCE CRITERIA	2
5.0	CALCULATIONS	2
6.0	CONCLUSIONS, COMMENTARY, AND RECOMMENDATIONS	3

APPENDIX A STRUCTURAL ANALYSIS

APPENDIX B REFERENCE MATERIAL

1.0 INTRODUCTION AND PROJECT SUMMARY

The objective of this report is to assess the relocation of existing equipment as well as the proposed installation of associated RF equipment on an existing co-location platform. This report is limited to the analysis of the co-location platform only.

The existing structure is a 180-ft tall monopole located in Winsted, CT. There are currently existing antennas and support equipment mounted to a steel co-location platform for sectors Alpha, Beta, & Gamma. The existing co-location platform is attached at approximately 180-ft above grade level and the antennas are currently at a centerline of approximately 182-ft above grade level. For the final configuration, this analysis assumes the antennas centerline will be lowered down to 180-ft above grade level.

2.0 EXISTING & PROPOSED ANTENNAS & EQUIPMENT

Currently, each sector has the following equipment:

- Sectors Alpha, Beta, & Gamma
  - Two (2) Powerwave 7770 antenna measuring 55”H x 11”W x 5”D (35 lb)*.
  - One (1) AM-X-CD-16-65-00T-RET antenna measuring 72”H x 11.8”W x 5.9”D (49 lb).
  - One (1) RRUS-11 measuring 19.7”H x 17”W x 7.2”D (50.7 lb).
  - One (1) RRUS-12 measuring 20.4”H x 18.5”W x 7.5”D (50 lb).
  - One (1) DC6-48-60-18-8F measuring 23.5”H x 9.7”W x 9.7”D (30 lb) (Alpha Sector only).
  - Miscellaneous equipment and cables negligible in weight and profile.

  *One antenna to be removed and replaced

The proposed equipment for each sector is as follows:

- Sectors Alpha, Beta, and Gamma
  - One (1) HPA-65R-BBU-H6 antennas measuring 72”H x 14.8”W x 9”D (51 lb).
  - One (1) B14 4478 measuring 15”H x 13.2”W x 7.4”D (59.9 lbs) (Alpha and Beta Sector only).
  - One (1) RRUS-32 measuring 27.2”H x 18.5”W x 7.5”D (60 lb).
  - One (1) DC6-48-60-18-8F measuring 23.5”H x 9.7”W x 9.7”D (30 lb) (Beta Sector only).

For the final configuration, refer to the table below:

Table 1: APPURTENANCE LOADING on TOWER

Elev.	Status	Carrier	Appurtenance Description
180’	**Final**	**AT&T**	**(3) – Powerwave 7770**
180’	**Final**	**AT&T**	**(3) – AM-X-CD-16-65-00T-RET**
180’	**Final**	**AT&T**	**(3) – HPA-65R-BBU-H6**
180’	**Final**	**AT&T**	**(3) – RRUS-11**
180’	**Final**	**AT&T**	**(3) – RRUS-12**
180’	**Final**	**AT&T**	**(3) – RRUS-32**
Ground	**Final**	**AT&T**	**(2) – B14 4478**
180’	**Final**	**AT&T**	**(2) – DC6-48-60-18-8F Squid**

3.0 CODES, STANDARDS, AND REFERENCES

The structure was analyzed and the proposed installation designed per the provisions of the following Codes and standards:

- *International Building Code (IBC) 2012,* International Code Council
- *Connecticut State Building Code – Amendments to IBC 2012*
- *TIA-222-G-4, Structural Standard for Antenna Supporting Structures and Antennas*
- *Steel Construction Manual 14th Ed,* American Institute of Steel Construction
- RFDS provided by AT&T dated 4/19/17

4.0 LOADING AND PERFORMANCE CRITERIA

The following Code-specified strength limit state (LRFD) load combinations were considered in the analysis of the antenna mounts *(TIA-222-G)*:

1. $1.2D + 1.6W$
2. $1.2D + 1.0D_i + 1.0W_i$

The following Code-specified serviceability load combination was considered in the deflection of the antenna mounts (TIA-222-G):

1. $1.0D + 1.0W_{service}$

Where:

D = dead load of structure, steel, and new equipment.
D_i = dead load of ice
W = design wind load
W_i = design ice wind load
$W_{service}$ = service wind load

The following site-specific design parameters were considered in this analysis per the provisions of *TIA-222-G:*

• Class: II	
• Exposure: C	
• Ultimate Wind Speed: 116 mph	ASCE7-10, ATC Windspeed
• Design Wind Speed: 89.9 mph	*sect. 1609.1.1, Eqn. 16-33, IBC 2012*
• Design Ice Wind Speed: 40 mph	*Annex B*
• Design Ice Thickness: 1.0 in	*Annex B*
• Serviceability Wind Speed: 60 mph	*Sect. 2.8.3*

5.0 CALCULATIONS

Calculations for this analysis and the design of the installation are included in the Appendices of this report.

6.0 CONCLUSIONS, COMMENTARY, AND RECOMMENDATIONS

The analysis concludes that the existing co-location mount, as described in the mount mapping report provided in Appendix B, **does have sufficient structural capacity** to support the proposed configuration. Under the proposed conditions, the maximum utilization of a single structural member is 51.4%. This analysis assumes the rad center of the existing and proposed antennas will be lowered to 180-ft above ground level. In addition, the provided mount mapping shows the presence of an additional Yagi antenna and whip antenna not described in the RFDS. Analysis assumes these additional antennas will remain.

Please note this analysis is limited to the existing co-location platform only. If actual field conditions vary from what was assumed in this analysis, the results and conclusions expressed herein are invalid and further evaluation is recommended for any proposed installation to continue.

Dewberry Engineers Inc. reserves the right to add to or modify this report if more information becomes available. The conclusions reached by Dewberry Engineers Inc. in this report are only applicable to the previously mentioned existing structural elements supporting the proposed wireless telecommunications installation. The results of this report are based on the assumption that existing structural elements have been installed per the original design documents, have been well maintained, and are uncompromised. This report does not imply that a thorough inspection of the existing structure has been performed. Any deviation of the support condition, loading, location, placement, equipment configuration, etc., will require Dewberry Engineers Inc. to generate an additional structural analysis. Further, no structural qualification is made or implied by this report of any existing structural elements.

APPENDIX A

Dewberry Engineers
Structural Calculation Summary Sheet

Job No:	50093723/50093734	**By:** BGK	**Date:** 01/02/18
Job Name:	CT1071 Winsted Winchester	**Chkd:** DYN	**Date: 01/01/18**

Location: 15 Oakdale Ave, Winsted, CT 06098
Client: AT&T

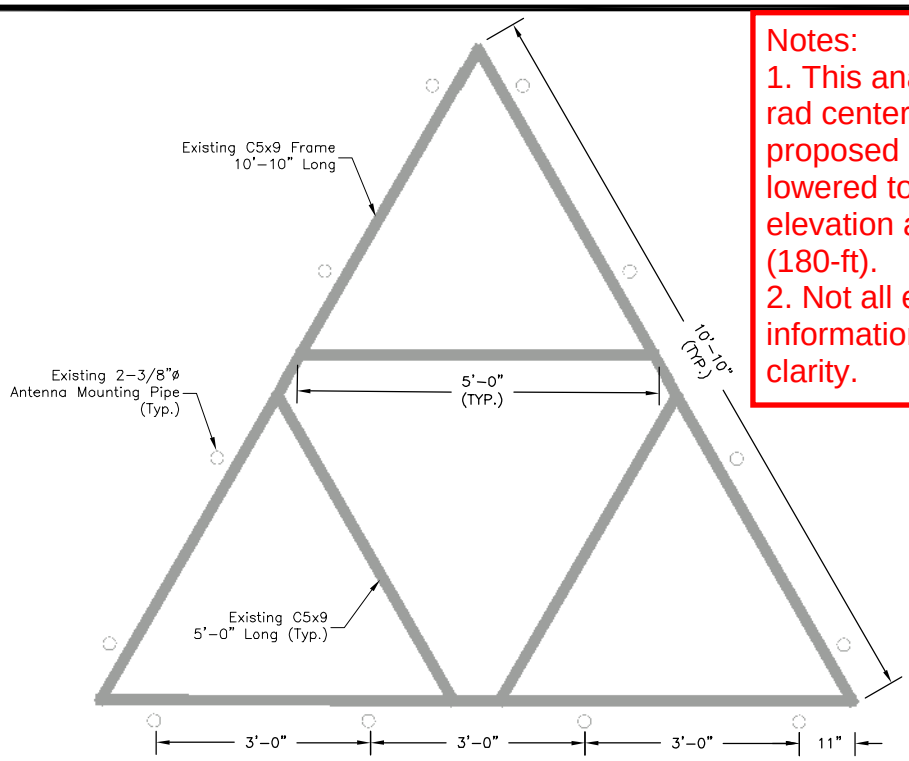
Site inspection/photos/other data provided by: Damian Schmalz
Mount mapping info/photos provided by: Centerline

Brief Description:
1. Proposed replacement of (3) existing antennas with (3) new antennas on an existing co-location mount.
2. Proposed installation of (5) new RRH units (2 on the ground), (1) Surge arrestor squid, and miscellaneous support equipment of negligible weight & profile on an existing co-location mount.
3. Existing structure is a 180-ft tall monopole.
4. AT&T co-location mount is at 180-ft above grade level.
5. Information for analysis from mount mapping on 08/27/17.

Basic Criteria:
1. IBC 2012
2. Connecticut State Building Code – Amendments to IBC 2012
3. TIA-222-G-4
4. AISC 14th Ed.

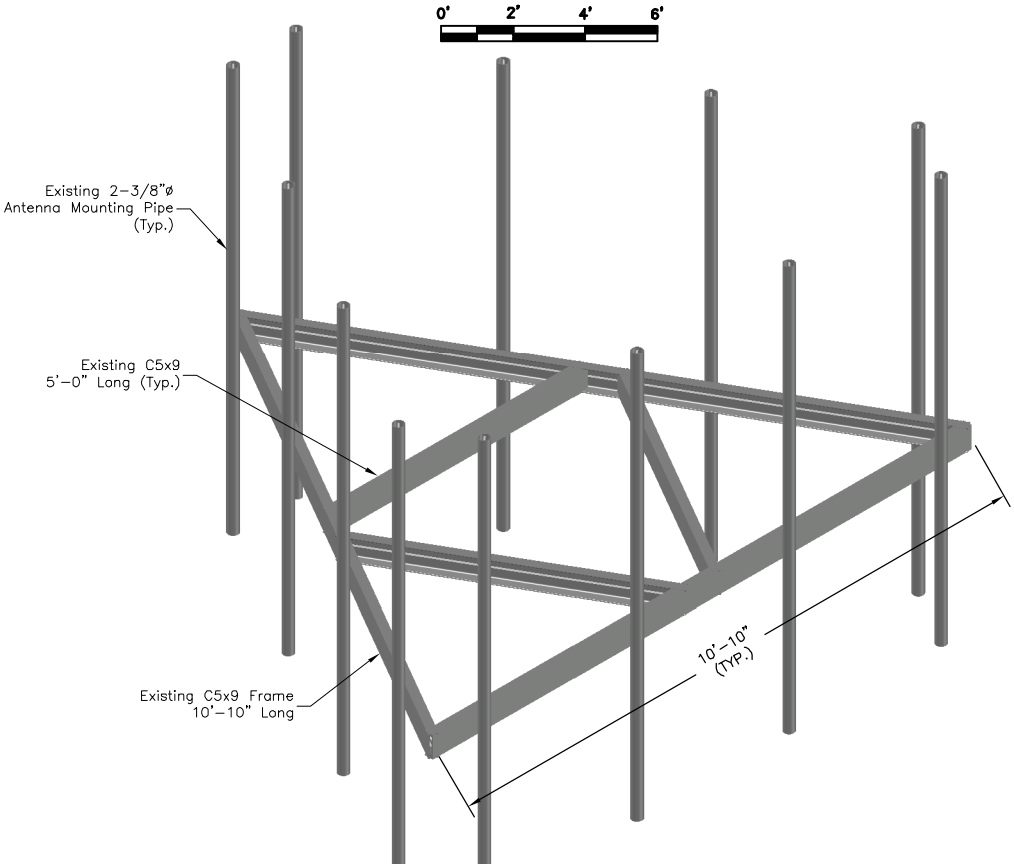
Design/Analysis Summary:
1. Proposed antennas and RRHs are to be installed on the existing co-location mount as shown in the latest associated ANTMO Drawings by Dewberry.
2. The existing mount has sufficient structural capacity to support the proposed loads. The maximum utilization of a single member is 51.4%.
3. Analysis is limited to the existing co-location mount only and assumes a final antenna centerline elevation of 180 ft. A.G.L.
4. The reconfiguration or addition of any new equipment not accounted for in this analysis will require further analysis and design.
5. Design and analysis based on dead load, wind load with ice, design checks for normal bending and shear stresses.

Notes:
1. This analysis assumes the rad center of the existing and proposed antennas will be lowered to the same elevation as the platform (180-ft).
2. Not all existing/proposed information is shown for clarity.



EXISTING ANTENNA MOUNT PLAN VIEW (1)

SCALE: 3/16"=1' FOR 11"x17"
3/8"=1' FOR 22"x34"



EXISTING ANTENNA MOUNT ISOMETRIC (2)

SCALE: N.T.S.

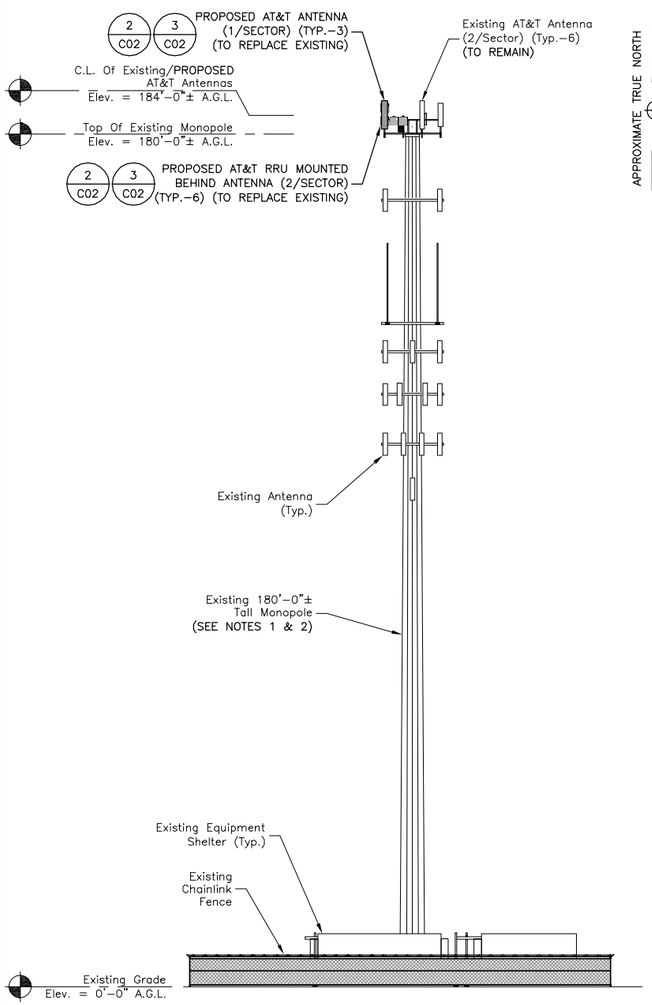
SITE NUMBER:
CT1071

SITE NAME::
WINSTED WINCHESTER

Dewberry®
Dewberry Engineers Inc.
280 SUMMER STREET
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE, SUITE 1
RAYNHAM, MA 02767

at&t Mobility
550 COCHITUATE ROAD
SUITES 13 & 14
FRAMINGHAM, MA 01701



PROPOSED ELEVATION

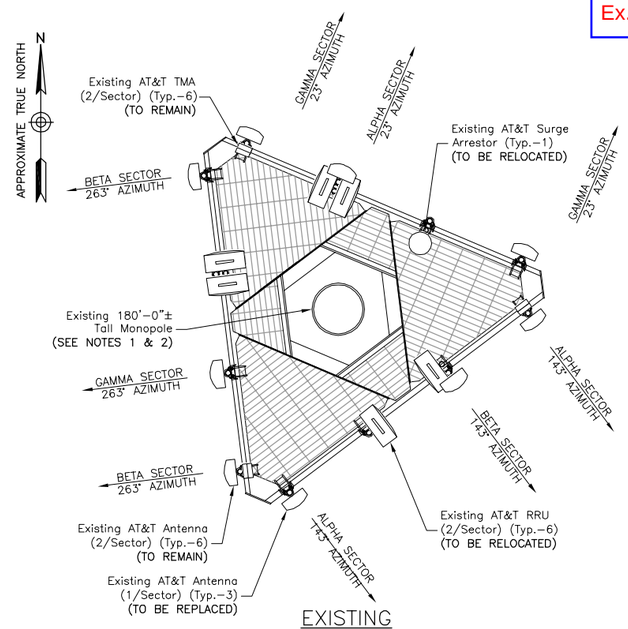
1

SCALE: 1/32"=1' FOR 11"x17"
1/16"=1' FOR 22"x34"

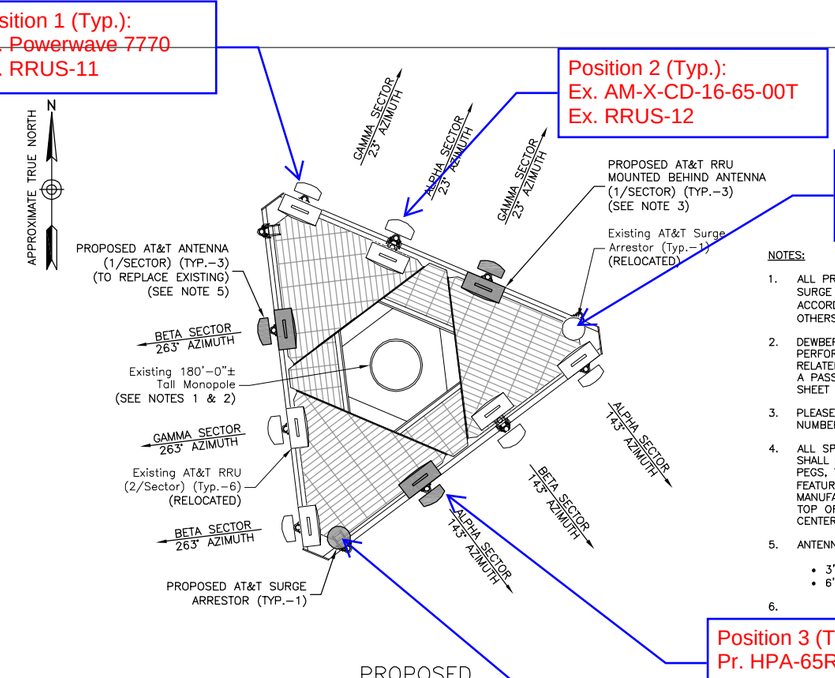
0' 8' 16' 32'

NOTES:

1. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS (BY OTHERS).
2. DEWBERRY WAS NOT PROVIDED WITH OR CONTRACTED TO PERFORM A STRUCTURAL ANALYSIS ON THIS TOWER. TOWER RELATED IMPROVEMENTS ARE NOT TO BE INSTALLED WITHOUT A PASSING STRUCTURAL ANALYSIS. SEE STRUCTURAL NOTE ON SHEET T01.
3. NOT ALL INFORMATION SHOWN FOR CLARITY.



EXISTING



PROPOSED

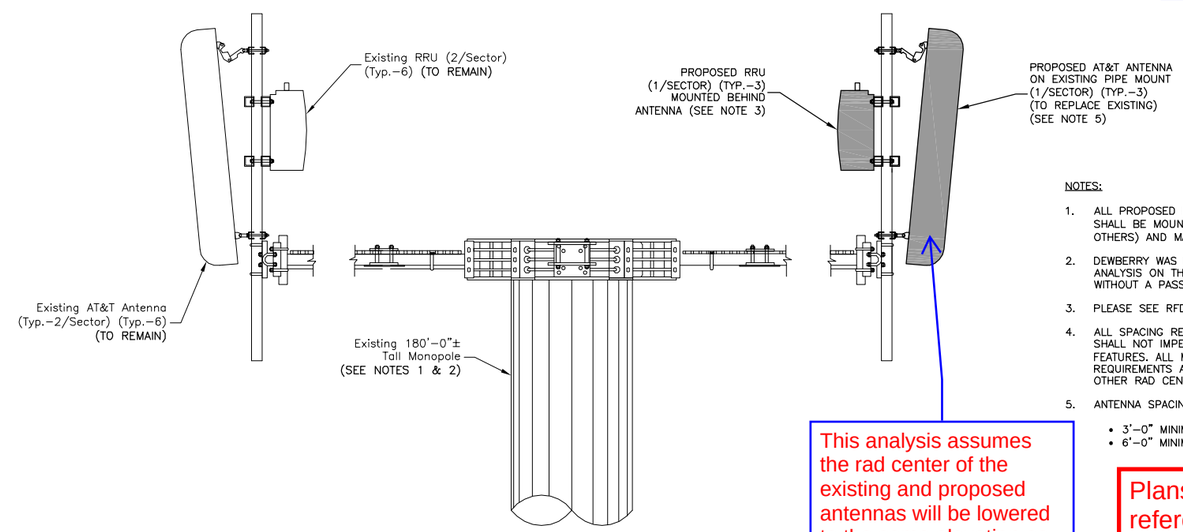
NOTES:

1. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS (BY OTHERS) AND MANUFACTURER SPECIFICATIONS.
2. DEWBERRY WAS NOT PROVIDED WITH OR CONTRACTED TO PERFORM A STRUCTURAL ANALYSIS ON THIS TOWER. TOWER RELATED IMPROVEMENTS ARE NOT TO BE INSTALLED WITHOUT A PASSING STRUCTURAL ANALYSIS. SEE STRUCTURAL NOTE ON SHEET T01.
3. PLEASE SEE RFDS FOR RRU FREQUENCY AND MODEL NUMBER.
4. ALL SPACING REQUIREMENTS FOR PROPOSED RRU MOUNTS SHALL BE CONFIRMED AND SHALL NOT IMPEDE CLIMBING PEGS, TIE OFF FEATURES, OR OTHER EXISTING SAFETY FEATURES. ALL MOUNTS SHALL MAINTAIN EXISTING/PROPOSED MANUFACTURER REQUIREMENTS AND SHALL NOT EXCEED THE TOP OF THE TOWER OR INTERFERE WITH OTHER RAD CENTERS.
5. ANTENNA SPACING REQUIREMENTS:
   - 3'–0" MINIMUM SEPARATION BETWEEN LTE ANTENNAS
   - 6'–0" MINIMUM SEPARATION BETWEEN 700BC & 700DE
6.

ANTENNA ORIENTATION PLAN

2

SCALE: N.T.S.



This analysis assumes the rad center of the existing and proposed antennas will be lowered to the same elevation as the platform. (180-ft)

NOTES:

1. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS (BY OTHERS) AND MANUFACTURER SPECIFICATIONS.
2. DEWBERRY WAS NOT PROVIDED WITH OR CONTRACTED TO PERFORM A STRUCTURAL ANALYSIS ON THIS TOWER. TOWER RELATED IMPROVEMENTS ARE NOT TO BE INSTALLED WITHOUT A PASSING STRUCTURAL ANALYSIS. SEE STRUCTURAL NOTE ON SHEET T01.
3. PLEASE SEE RFDS FOR RRU FREQUENCY AND MODEL NUMBER.
4. ALL SPACING REQUIREMENTS FOR PROPOSED RRU MOUNTS SHALL BE CONFIRMED AND SHALL NOT IMPEDE CLIMBING PEGS, TIE OFF FEATURES, OR OTHER EXISTING SAFETY FEATURES. ALL MOUNTS SHALL MAINTAIN EXISTING/PROPOSED MANUFACTURER REQUIREMENTS AND SHALL NOT EXCEED THE TOP OF THE TOWER OR INTERFERE WITH OTHER RAD CENTERS.
5. ANTENNA SPACING REQUIREMENTS:
   - 3'–0" MINIMUM SEPARATION BETWEEN LTE ANTENNAS
   - 6'–0" MINIMUM SEPARATION BETWEEN 700BC & 700DE

PROPOSED ANTENNA MOUNTING DETAIL

3

SCALE: N.T.S.

Plans are for reference only and are not the final construction drawings. Please see stamped construction drawings for final layout and detail

Dewberry®
Dewberry Engineers Inc.
280 SUMMER STREET
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE, SUITE 1
RAYNHAM, MA 02767

at&t Mobility
500 ENTERPRISE DRIVE
SUITE 3A
ROCKY HILL, CT 06067

WINSTED/WINCHESTER 3C/4C
SITE NO. CT1071

15 OAKDALE AVENUE
WINSTED, CT 06098

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	11/30/17	ISSUED FOR CONSTRUCTION	JCM	DAS	BBR
A	10/18/17	ISSUED FOR REVIEW	JCM	DAS	BBR

SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

AT&T MOBILITY
FRAMINGHAM, MA 01701

PROPOSED ELEVATION & CONSTRUCITON DETAILS

DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50093734	C02	0

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Design Wind Load

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

Wind Load Design Criteria

Site Name: Winsted

General Information & Design Input

Item	Value	Description	Reference
V_{ult} =	116.00	Ultimate Design Wind Speed	*ASCE 7-10, ATC Windspeed*
V_{max} =	89.90	$(\sqrt{0.6}) * V_{ult}$	*Except. #5, Sect. 1609.1.1, Eqn. 16-33, IBC 12*
Location =	CT	Litchfield County	*Annex B, TIA*
V_i =	40.00	Design Ice Wind Speed	
K_d =	0.95	Wind Direction Probability Factor	*Table 2-2, TIA*
Class	II	Structure Classification	*Table 2-1, TIA*
I =	1.00	Importance Factor (Without Ice)	*Table 2-3, TIA*
$I_{ice\ thick}$ =	1.00	Importance Factor (Ice Thickness)	*Table 2-3, TIA*
z = h =	180.00	ft. (A.G.L.)	*Max. Center of Appurtenance*
Exp. Cat.	C	Exposure Category	*Sect. 2.6.5.1, TIA*
z_g =	900.00	Exposure Category Coeff.	*Table 2-4, TIA*
a =	9.50	Exposure Category Coeff.	*Table 2-4, TIA*
$K_{z\ (min)}$ =	0.85	Exposure Category Coeff.	*Table 2-4, TIA*
K_e =	1.00	Exposure Category Coeff.	*Table 2-4, TIA*
K_t =	N/A	Topo. Cat. Coeff.	*Table 2-5, TIA ("N/A" if Topo. Cat. = 1)*
K_z =	1.43	$= 2.01(z/z_g)^{(2/a)}$	*Sect. 2.6.5.2, TIA*
Topo. Cat.	1.00	Topographic Category (1-5)	*Sect. 2.6.6.2, TIA*
e =	2.72	Natural Logarithmic base	
f =	N/A	Height Attenuation Factor	*Table 2-5, TIA ("N/A" if Topo. Cat. = 1)*
H =	N/A	ft. Height of crest above surrounding terrain	
K_h =	N/A	$e^{((f*z)/H)}$	*Sect. 2.6.6.4, TIA*
K_{zt} =	1.00	$= [1+((K_e*K_t)/K_h)]^2$	*Sect. 2.6.6.4, TIA*
K_{iz} =	1.18	$= (z/33)^{0.10} \leq 1.4$ (Height escalation factor)	*Sect. 2.6.8, TIA*
G_h =	1.00	Gust Effect Factor	*Sect. 2.6.8, TIA*
t_i =	1.00	Design Ice Thickness	*Annex B, TIA*
t_{iz} =	2.36	$= 2t_i(I_{ice\ thick})K_{iz}(K_{zt})^{0.35}$	*Sect. 2.6.8, TIA*
$q_{z\ design}$ =	28.2 psf	$= 0.00256(K_z)(K_{zt})(K_d)(V_{max}^2)(I)$	*Sect. 2.6.9.6, TIA*
$q_{z\ ice}$ =	5.6 psf	$= 0.00256(K_z)(K_{zt})(K_d)(V_i^2)$	*Sect. 2.6.9.6, TIA*

Design Wind Forces:

Section 2.6.9.2

$F_a = q_{z\ design}G_h(EPA)_a$ *(where $(EPA)_a$ = effective projected area of the appurtenance = $C_a A_a$)*

$F_{ai} = q_{z\ ice}G_h(EPA)_{ai}$

(see calculation table on next page)

Design Ice Weight:

Section 2.6.8

$F_i = H*[\pi(t_{iz})(D_c + t_{iz})]*56\ lb/ft^3$ *(where D_c = largest out to out dimension of member)*

(see calculation table on next page)

Dewberry®

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Design Wind Load

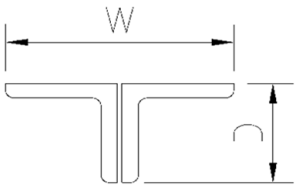
R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

Element Definition

	Description	Dimensions (in.)			Weight	Length /	
		W	D	H	(lb)	# Supports	
	Powerwave 7770	11.00	5.00	55.00	50.00	2.00	
	AM-X-CD-16-65-00T-RET	11.80	5.90	72.00	63.00	2.00	
	HPA-65R-BUU-H6	14.80	9.00	72.00	66.00	2.00	
	RRUS-11	17.00	7.20	19.70	50.70	1.00	
	RRUS-12	18.50	7.50	20.40	50.00	1.00	
	RRUS-32	12.10	7.00	27.20	60.00	1.00	
	DC6-48-60-18-8F	9.70	9.70	23.50	30.00	1.00	
	Yagi Antenna (50% open)	21.00	12.00	15.00	40.00	1.00	
	STRUCTURAL MEMBERS						
(Mounting Pipe)	2-3/8" OD Pipe	2.38	2.38	12.00	STAAD	*Pipe*	*(See Note 2)*
	C5x9	5.00	5.00	12.00	STAAD	*Tube*	

Note:

1) *For Double Angles assume the following:*



2) *For mounting pipes that* ***do not*** *support equipment or portions which are not shielded by equipment, create an additional entry below.*

Dewberry®

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Design Wind Load

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

Design Wind Load

Members	Dimensions (ft.)			Area $(A_a)_n$	Area $(A_a)_t$	Aspect Ratio	Aspect Ratio	C_{an}	C_{at}
	Width (Normal)	Depth (Tangent)	Height (or span)	(normal) (sf)	(tangent) (sf)	(normal)	(tangent)	(normal) Table 2-8	(tangent) Table 2-8
Powerwave 7770	0.92	0.42	4.58	4.21	1.92	4.98	10.90	1.31	1.53
AM-X-CD-16-65-00T-RET	0.98	0.49	6.00	5.88	2.94	6.12	12.24	1.36	1.57
HPA-65R-BUU-H6	1.23	0.75	6.00	7.38	4.50	4.88	8.00	1.31	1.43
RRUS-11	1.42	0.60	1.64	2.33	0.98	1.15	2.73	1.20	1.21
RRUS-12	1.54	0.63	1.70	2.62	1.07	1.10	2.70	1.20	1.21
RRUS-32	1.01	0.58	2.27	2.29	1.32	2.25	3.91	1.20	1.26
DC6-48-60-18-8F	0.81	0.81	1.96	1.59	1.59	2.42	2.42	1.20	1.20
Yagi Antenna (50% open)	1.75	1.00	1.25	2.19	1.25	0.71	1.25	1.20	1.20
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.20	0.20	1.00	0.20	0.20	5.00	5.00	0.76	0.76
C5x9	0.42	0.42	1.00	0.42	0.42	2.38	2.38	1.20	1.20

Design Effective Projected Area & Wind Loads

Members	EPA_a @ 0.0° (sf)	EPA_a @ 30.0° (sf)	EPA_a @ 60.0° (sf)	EPA_a @ 90.0° (sf)	F_a @ 0.0° (lb)	F_a @ 30.0° (lb)	F_a @ 60.0° (lb)	F_a @ 90.0° (lb)	Gravity Load @ Support (lb)
Powerwave 7770	5.52	4.87	3.58	2.94	77.8	68.7	50.5	41.4	25.0
AM-X-CD-16-65-00T-RET	8.00	7.15	5.46	4.62	112.8	100.8	77.0	65.1	31.5
HPA-65R-BUU-H6	9.67	8.86	7.24	6.44	136.3	124.9	102.1	90.7	33.0
RRUS-11	2.80	2.39	1.59	1.19	78.8	67.5	44.8	33.4	50.7
RRUS-12	3.14	2.68	1.76	1.29	88.7	75.6	49.5	36.5	50.0
RRUS-32	2.75	2.48	1.93	1.66	77.5	69.8	54.6	46.9	60.0
DC6-48-60-18-8F	1.91	1.91	1.91	1.91	53.8	53.8	53.8	53.8	30.0
Yagi Antenna (50% open)	2.63	2.35	1.78	1.50	74.1	66.2	50.3	42.3	40.0
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.15	-	-	-	4.3	-	-	-	-
C5x9	0.50	-	-	-	14.2	-	-	-	-

Dewberry®

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Design Wind Load

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

Design Ice Wind Load

- Design ice thickness included in tabulated dimensions below.

Members	Dimensions (ft.)			Area $(A_a)_{ni}$	Area $(A_a)_{ti}$	Aspect Ratio	Aspect Ratio	C_{ani}	C_{ati}
	Width (Normal)	Depth (Tangent)	Height (or span)	(normal) (sf)	(tangent) (sf)	(normal)	(tangent)	(normal) Table 2-8	(tangent) Table 2-8
Powerwave 7770	1.31	0.81	4.98	6.52	4.03	3.80	6.15	1.26	1.36
AM-X-CD-16-65-00T-RET	1.38	0.89	6.39	8.82	5.69	4.63	7.18	1.29	1.41
HPA-65R-BUU-H6	1.63	1.14	6.39	10.42	7.28	3.92	5.61	1.26	1.34
RRUS-11	1.81	0.99	2.04	3.69	2.02	1.13	2.06	1.20	1.20
RRUS-12	1.94	1.02	2.09	4.05	2.13	1.08	2.05	1.20	1.20
RRUS-32	1.40	0.98	2.66	3.72	2.61	1.90	2.71	1.20	1.21
DC6-48-60-18-8F	1.20	1.20	2.35	2.82	2.82	1.96	1.96	1.20	1.20
Yagi Antenna (50% open)	2.14	1.39	1.64	3.51	2.28	0.77	1.18	1.20	1.20
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.59	0.59	1.00	0.59	0.59	1.69	1.69	0.70	0.70
C5x9	0.81	0.81	1.00	0.81	0.81	1.23	1.23	1.20	1.20

Design Effective Projected Area & Wind Loads with Ice

Members	EPA_{ai} @ 0.0° (sf)	EPA_{ai} @ 30.0° (sf)	EPA_{ai} @ 60.0° (sf)	EPA_{ai} @ 90.0° (sf)	F_{ai} @ 0.0° (lb)	F_{ai} @ 30.0° (lb)	F_{ai} @ 60.0° (lb)	F_{ai} @ 90.0° (lb)	Ice Load F_i @ Support (lb)
Powerwave 7770	8.22	7.53	6.16	5.48	23.0	21.1	17.3	15.3	95.4
AM-X-CD-16-65-00T-RET	11.38	10.54	8.86	8.02	31.9	29.5	24.8	22.5	134.5
HPA-65R-BUU-H6	13.13	12.29	10.60	9.76	36.8	34.4	29.7	27.3	170.2
RRUS-11	4.43	3.93	2.93	2.42	24.8	22.0	16.4	13.6	98.6
RRUS-12	4.86	4.28	3.13	2.56	27.2	24.0	17.5	14.3	109.4
RRUS-32	4.46	4.14	3.48	3.16	25.0	23.2	19.5	17.7	106.8
DC6-48-60-18-8F	3.38	3.38	3.38	3.38	19.0	19.0	19.0	19.0	90.8
Yagi Antenna (50% open)	4.21	3.84	3.11	2.74	23.6	21.5	17.4	15.3	95.7
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.41	-	-	-	2.3	-	-	-	13.7
C5x9	0.97	-	-	-	5.4	-	-	-	27.2

Service Wind Load Design Criteria

General Information & Design Input

Item	Value	Description	Reference
V_{max} =	60.00	Service Wind Load	*Sect. 2.8.3, TIA*
K_d =	0.85	Wind Direction Probability Factor	*Sect. 2.8.3, TIA*
Class	II	Structure Classification	*Table 2-1, TIA*
I =	1.00	Importance Factor	*Table 2-3, TIA*
z = h =	180.00	ft. (A.G.L.)	*Max. Center of Appurtenance*
Exp. Cat.	C	Exposure Category	*Sect. 2.6.5.1, TIA*
z_g =	900.00	Exposure Category Coeff.	*Table 2-4, TIA*
a =	9.50	Exposure Category Coeff.	*Table 2-4, TIA*
$K_{z\,(min)}$ =	0.85	Exposure Category Coeff.	*Table 2-4, TIA*
K_e =	1.00	Exposure Category Coeff.	*Table 2-4, TIA*
K_t =	N/A	Topo. Cat. Coeff.	*Table 2-5, TIA ("N/A" if Topo. Cat. = 1)*
K_z =	1.43	$= 2.01(z/z_g)^{(2/a)}$	*Sect. 2.6.5.2, TIA*
Topo. Cat.	1.00	Topographic Category (1-5)	*Sect. 2.6.6.2, TIA*
e =	2.72	Natural Logarithmic base	
f =	N/A	Height Attenuation Factor	*Table 2-5, TIA ("N/A" if Topo. Cat. = 1)*
H =	N/A	ft. Height of crest above surrounding terrain	
K_h =	N/A	$e^{((f*z)/H)}$	*Sect. 2.6.6.4, TIA*
K_{zt} =	1.00	$= [1+((K_e*K_t)/K_h)]^2$	*Sect. 2.6.6.4, TIA*
G_h =	1.00	Gust Effect Factor	*Sect. 2.6.7, TIA*
$q_{z\,service}$ =	11.3 psf	$= 0.00256(K_z)(K_{zt})(K_d)(V_{max}^2)(I)$	*Sect. 2.6.9.6, TIA*

Design Service Wind Forces:

Section 2.6.9.2

$F_{as} = q_{z\,service} G_h (EPA)_{as}$ *(where $(EPA)_a$ = effective projected area of the appurtenance = $C_a A_a$)*

(see calculation table on next page)

Dewberry®

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Service Wind Load

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

Element Definition:

	Description	Dimensions (in.)			Weight	Length /
		W	D	H	(lb)	# Supports
	Powerwave 7770	11.00	5.00	55.00	50.00	2.00
	AM-X-CD-16-65-00T-RET	11.80	5.90	72.00	63.00	2.00
	HPA-65R-BUU-H6	14.80	9.00	72.00	66.00	2.00
	RRUS-11	17.00	7.20	19.70	50.70	1.00
	RRUS-12	18.50	7.50	20.40	50.00	1.00
	RRUS-32	12.10	7.00	27.20	60.00	1.00
	DC6-48-60-18-8F	9.70	9.70	23.50	30.00	1.00
	Yagi Antenna (50% open)	21.00	12.00	15.00	40.00	1.00
	STRUCTURAL MEMBERS					
(Mounting Pipe)	2-3/8" OD Pipe	2.38	2.38	12.00	STAAD	Pipe
	C5x9	5.00	5.00	12.00	STAAD	Tube

Dewberry®

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Service Wind Load

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

Service Wind Load

Members	Dimensions (ft.)			Area $(A_a)_{ns}$	Area $(A_a)_{ts}$	Aspect Ratio	Aspect Ratio	C_{ans}	C_{ats}
	Width (Normal)	Depth (Tangent)	Height (or span)	(normal) (sf)	(tangent) (sf)	(normal)	(tangent)	(normal) Table 2-8	(tangent) Table 2-8
Powerwave 7770	0.92	0.42	4.58	4.21	1.92	4.98	10.90	1.31	1.53
AM-X-CD-16-65-00T-RET	0.98	0.49	6.00	5.88	2.94	6.12	12.24	1.36	1.57
HPA-65R-BUU-H6	1.23	0.75	6.00	7.38	4.50	4.88	8.00	1.31	1.43
RRUS-11	1.42	0.60	1.64	2.33	0.98	1.15	2.73	1.20	1.21
RRUS-12	1.54	0.63	1.70	2.62	1.07	1.10	2.70	1.20	1.21
RRUS-32	1.01	0.58	2.27	2.29	1.32	2.25	3.91	1.20	1.26
DC6-48-60-18-8F	0.81	0.81	1.96	1.59	1.59	2.42	2.42	1.20	1.20
Yagi Antenna (50% open)	1.75	1.00	1.25	2.19	1.25	0.71	1.25	1.20	1.20
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.20	0.20	1.00	0.20	0.20	5.00	5.00	0.76	0.76
C5x9	0.42	0.42	1.00	0.42	0.42	2.38	2.38	1.20	1.20

Service Effective Projected Area & Wind Loads

Members	EPA_{as} @ 0.0° (sf)	EPA_{as} @ 30.0° (sf)	EPA_{as} @ 60.0° (sf)	EPA_{as} @ 90.0° (sf)	F_{as} @ 0.0° (lb)	F_{as} @ 30.0° (lb)	F_{as} @ 60.0° (lb)	F_{as} @ 90.0° (lb)
Powerwave 7770	5.52	4.87	3.58	2.94	31.2	27.5	20.2	16.6
AM-X-CD-16-65-00T-RET	8.00	7.15	5.46	4.62	45.2	40.4	30.9	26.1
HPA-65R-BUU-H6	9.67	8.86	7.24	6.44	54.6	50.1	40.9	36.4
RRUS-11	2.80	2.39	1.59	1.19	31.6	27.0	17.9	13.4
RRUS-12	3.14	2.68	1.76	1.29	35.5	30.3	19.9	14.6
RRUS-32	2.75	2.48	1.93	1.66	31.1	28.0	21.9	18.8
DC6-48-60-18-8F	1.91	1.91	1.91	1.91	21.6	21.6	21.6	21.6
Yagi Antenna (50% open)	2.63	2.35	1.78	1.50	29.7	26.5	20.1	17.0
STRUCTURAL MEMBERS								
2-3/8" OD Pipe	0.15	-	-	-	1.7	-	-	-
C5x9	0.50	-	-	-	5.7	-	-	-

Dewberry®

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Load Input for STAAD Model

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

STAAD Gravity Load Input

Equipment	Dead Load *(lb per support)*	Ice Load *(lb per support)*
Powerwave 7770	25.0	95.4
AM-X-CD-16-65-00T-RET	31.5	134.5
HPA-65R-BUU-H6	33.0	170.2
RRUS-11	50.7	98.6
RRUS-12	50.0	109.4
RRUS-32	60.0	106.8
DC6-48-60-18-8F	30.0	90.8
Yagi Antenna (50% open)	40.0	95.7

STAAD Wind Load Calculation

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°	Case #5 120°	Case #6 150°	Case #7 180°	Case #8 210°	Case #9 240°	Case #10 270°	Case #11 300°	Case #12 330°
Not Shielded (1 - 4)	z	$-F_0$	Same as Case #4	Same as Case #1	-	Same as Case #1	Same as Case #2	Same as Case #3	Same as Case #4	Same as Case #1	Same as Case #2	Same as Case #3	Same as Case #4
	x	-			F_{90}								
Shielded (1 - 4)	z	N/A			-								
	x	-			F_{90}								
Not Shielded (5 - 12)	z	$-F_{60}$			-								
	x	-			F_{30}								
Shielded (5 - 12)	z	$-F_{60}$			-								
	x	-			N/A								

Dewberry®

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Load Input for STAAD Model

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

STAAD Load Input (Design Wind Load)

Positions 1 - 4

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
Powerwave 7770	z	-77.8	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			41.4
AM-X-CD-16-65-00T-RET	z	-112.8			-
(Not Shielded)	x	-			65.1
HPA-65R-BUU-H6	z	-136.3			-
(Not Shielded)	x	-			90.7
RRUS-11	z	N/A			-
(Shielded)	x	-			33.4
RRUS-12	z	N/A			-
(Shielded)	x	-			36.5
RRUS-32	z	N/A			-
(Shielded)	x	-			46.9
DC6-48-60-18-8F	z	-53.8			-
(Not Shielded)	x	-			53.8

Positions 5 - 12

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
Powerwave 7770	z	-50.5	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			68.7
AM-X-CD-16-65-00T-RET	z	-77.0			-
(Not Shielded)	x	-			100.8
HPA-65R-BUU-H6	z	-102.1			-
(Not Shielded)	x	-			124.9
RRUS-11	z	-44.8			-
(Shielded)	x	-			N/A
RRUS-12	z	-49.5			-
(Shielded)	x	-			N/A
RRUS-32	z	-54.6			-
(Shielded)	x	-			N/A
DC6-48-60-18-8F	z	-53.8			-
(Not Shielded)	x	-			53.8
Yagi Antenna (50% open)	z	-50.3			-
(Not Shielded)	x	-			66.2

Dewberry

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Load Input for STAAD Model

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

STAAD Load Input (Design Wind on Ice Load)

Positions 1 - 4

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
Powerwave 7770	z	-23.0	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			15.3
AM-X-CD-16-65-00T-RET	z	-31.9			-
(Not Shielded)	x	-			22.5
HPA-65R-BUU-H6	z	-36.8			-
(Not Shielded)	x	-			27.3
RRUS-11	z	N/A			-
(Shielded)	x	-			13.6
RRUS-12	z	N/A			-
(Shielded)	x	-			14.3
RRUS-32	z	N/A			-
(Shielded)	x	-			17.7
DC6-48-60-18-8F	z	-19.0			-
(Not Shielded)	x	-			19.0

Positions 5 - 12

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
Powerwave 7770	z	-17.3	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			21.1
AM-X-CD-16-65-00T-RET	z	-24.8			-
(Not Shielded)	x	-			29.5
HPA-65R-BUU-H6	z	-29.7			-
(Not Shielded)	x	-			34.4
RRUS-11	z	-16.4			-
(Shielded)	x	-			N/A
RRUS-12	z	-17.5			-
(Shielded)	x	-			N/A
RRUS-32	z	-19.5			-
(Shielded)	x	-			N/A
DC6-48-60-18-8F	z	-19.0			-
(Not Shielded)	x	-			19.0
Yagi Antenna (50% open)	z	-17.4			-
(Not Shielded)	x	-			21.5

Dewberry®

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

(Winsted) - Load Input for STAAD Model

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 - Winsted Analysis Calc. (Co-Location Mount, IBC 12).xlsx

STAAD Load Input (Service Wind Load)

Positions 1 - 4

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
Powerwave 7770	z	-31.2	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			16.6
AM-X-CD-16-65-00T-RET	z	-45.2			-
(Not Shielded)	x	-			26.1
HPA-65R-BUU-H6	z	-54.6			-
(Not Shielded)	x	-			36.4
RRUS-11	z	N/A			-
(Shielded)	x	-			13.4
RRUS-12	z	N/A			-
(Shielded)	x	-			14.6
RRUS-32	z	N/A			-
(Shielded)	x	-			18.8
DC6-48-60-18-8F	z	-21.6			-
(Not Shielded)	x	-			21.6

Positions 5 - 12

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
Powerwave 7770	z	-20.2	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			27.5
AM-X-CD-16-65-00T-RET	z	-30.9			-
(Not Shielded)	x	-			40.4
HPA-65R-BUU-H6	z	-40.9			-
(Not Shielded)	x	-			50.1
RRUS-11	z	-17.9			-
(Shielded)	x	-			N/A
RRUS-12	z	-19.9			-
(Shielded)	x	-			N/A
RRUS-32	z	-21.9			-
(Shielded)	x	-			N/A
DC6-48-60-18-8F	z	-21.6			-
(Not Shielded)	x	-			21.6
Yagi Antenna (50% open)	z	-20.1			-
(Not Shielded)	x	-			26.5

Job Information

	Engineer	Checked	Approved
Name:	BGK	DYN	
Date:	12/27/17	12/27/17	

Project ID	
Project Name	

Structure Type	SPACE FRAME

Number of Nodes	97	Highest Node	100
Number of Elements	88	Highest Beam	95

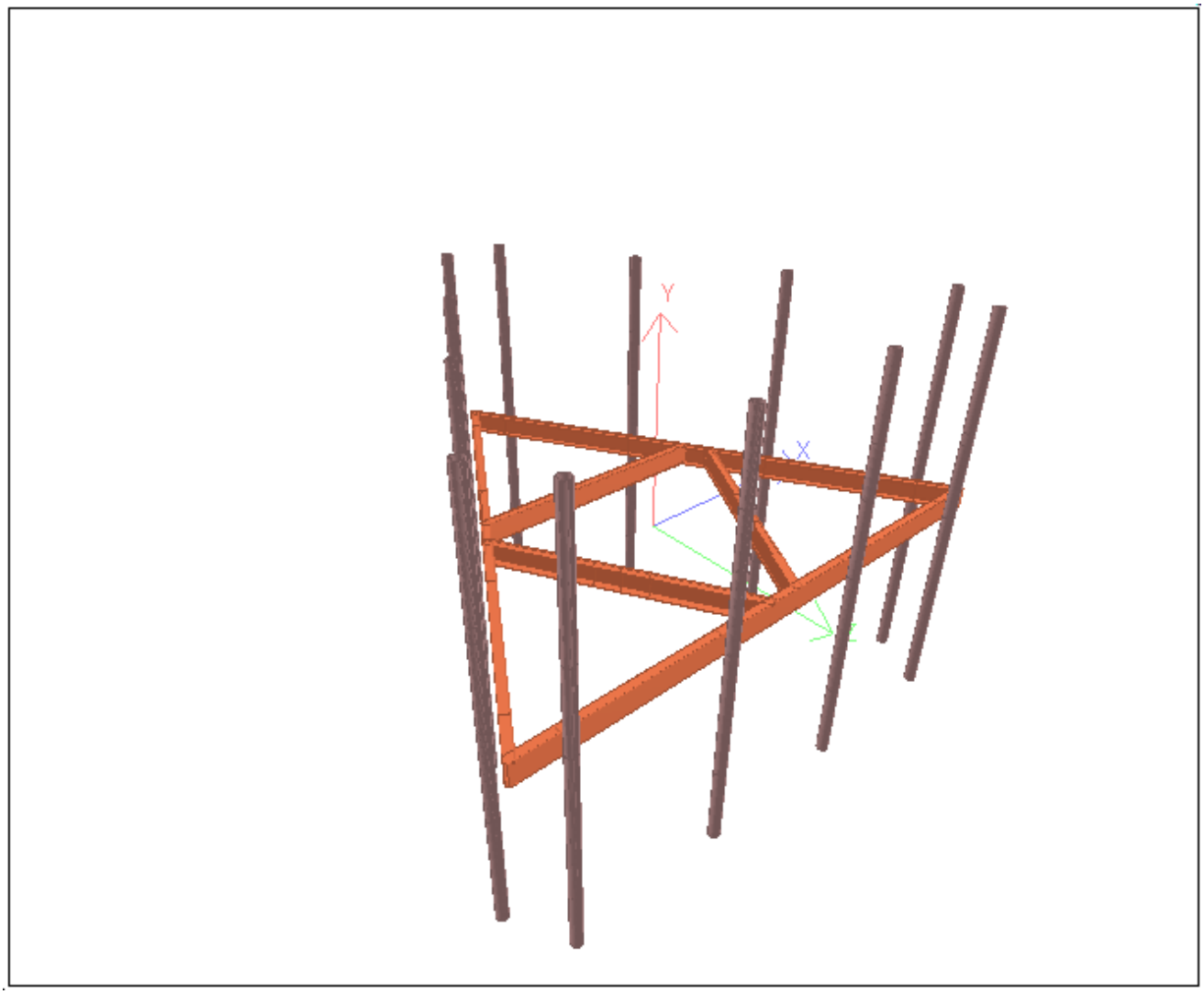
Number of Basic Load Cases	8
Number of Combination Load Cases	6

Included in this printout are data for:

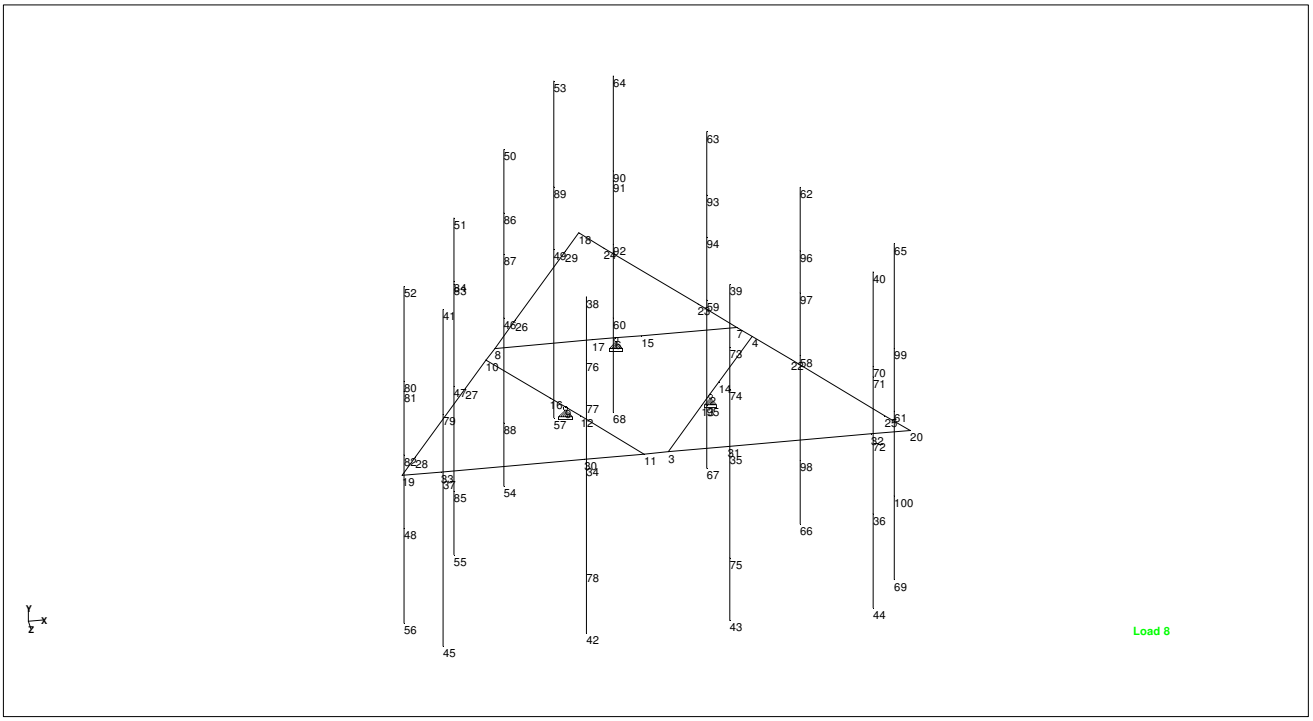
All	The Whole Structure

Included in this printout are results for load cases:

Type	L/C	Name
Primary	1	DEAD
Primary	2	WL#1
Primary	3	WL#4
Primary	4	DI
Primary	5	WLI#1
Primary	6	WLI#4
Primary	7	WLS#1
Primary	8	WLS#4
Combination	9	1.2D+1.6WL#1
Combination	10	1.2D+1.6WL#4
Combination	11	1.2D+1.0DI+1.0WI#1
Combination	12	1.2D+1.0DI+1.0WI#4
Combination	13	1.0D+1.0WLS#1
Combination	14	1.0D+1.0WLS#4



3D Rendered View



Node Numbers

Nodes

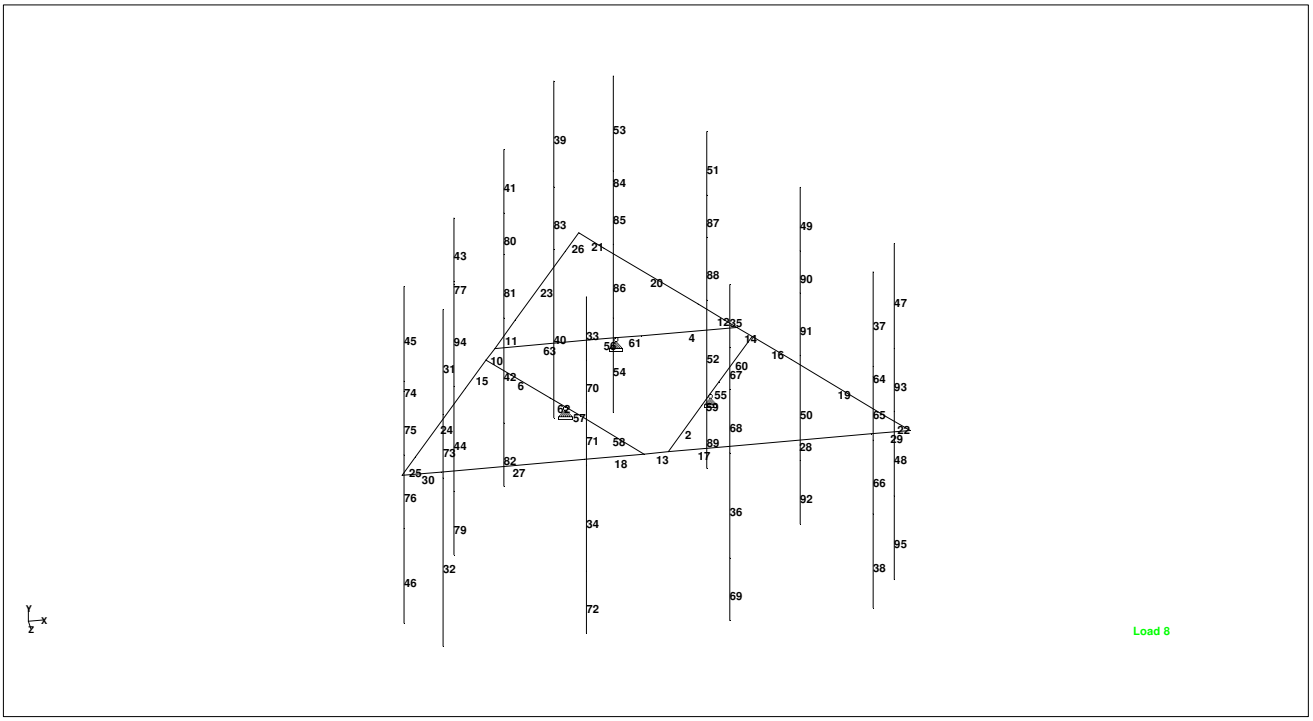
Node	X (ft)	Y (ft)	Z (ft)
2	1.516	0.000	0.875
3	0.250	0.000	3.067
4	2.781	0.000	-1.317
6	-0.000	0.000	-1.750
7	2.531	0.000	-1.750
8	-2.531	0.000	-1.750
9	-1.516	0.000	0.875
10	-2.781	0.000	-1.317
11	-0.250	0.000	3.067
12	-1.269	0.000	1.302
13	1.269	0.000	1.302
14	1.786	0.000	0.406
15	0.542	0.000	-1.750
16	-1.762	0.000	0.448
17	-0.494	0.000	-1.750
18	0.000	0.000	-6.134
19	-5.312	0.000	3.067
20	5.312	0.000	3.067
22	3.406	0.000	-0.234
23	1.906	0.000	-2.833
24	0.406	0.000	-5.431

Nodes Cont...

Node	X (ft)	Y (ft)	Z (ft)
25	4.906	0.000	2.364
26	-1.906	0.000	-2.833
27	-3.406	0.000	-0.234
28	-4.906	0.000	2.364
29	-0.406	0.000	-5.431
30	-1.500	0.000	3.067
31	1.500	0.000	3.067
32	4.500	0.000	3.067
33	-4.500	0.000	3.067
34	-1.500	0.000	3.317
35	1.500	0.000	3.317
36	4.500	-1.750	3.317
37	-4.500	0.000	3.317
38	-1.500	4.000	3.317
39	1.500	4.000	3.317
40	4.500	4.000	3.317
41	-4.500	4.000	3.317
42	-1.500	-4.000	3.317
43	1.500	-4.000	3.317
44	4.500	-4.000	3.317
45	-4.500	-4.000	3.317
46	-2.123	0.000	-2.958
47	-3.623	0.000	-0.359
48	-5.123	-1.750	2.239
49	-0.623	0.000	-5.556
50	-2.123	4.000	-2.958
51	-3.623	4.000	-0.359
52	-5.123	4.000	2.239
53	-0.623	4.000	-5.556
54	-2.123	-4.000	-2.958
55	-3.623	-4.000	-0.359
56	-5.123	-4.000	2.239
57	-0.623	-4.000	-5.556
58	3.623	0.000	-0.359
59	2.123	0.000	-2.958
60	0.623	-1.750	-5.556
61	5.123	0.000	2.239
62	3.623	4.000	-0.359
63	2.123	4.000	-2.958
64	0.623	4.000	-5.556
65	5.123	4.000	2.239
66	3.623	-4.000	-0.359
67	2.123	-4.000	-2.958
68	0.623	-4.000	-5.556
69	5.123	-4.000	2.239

Nodes Cont...

Node	X (ft)	Y (ft)	Z (ft)
70	4.500	1.750	3.317
71	4.500	1.500	3.317
72	4.500	0.000	3.317
73	1.500	2.500	3.317
74	1.500	1.500	3.317
75	1.500	-2.500	3.317
76	-1.500	2.500	3.317
77	-1.500	1.500	3.317
78	-1.500	-2.500	3.317
79	-4.500	1.500	3.317
80	-5.123	1.750	2.239
81	-5.123	1.500	2.239
82	-5.123	0.000	2.239
83	-3.623	2.420	-0.359
84	-3.623	2.500	-0.359
85	-3.623	-2.500	-0.359
86	-2.123	2.500	-2.958
87	-2.123	1.500	-2.958
88	-2.123	-2.500	-2.958
89	-0.623	1.500	-5.556
90	0.623	1.750	-5.556
91	0.623	1.500	-5.556
92	0.623	0.000	-5.556
93	2.123	2.500	-2.958
94	2.123	1.500	-2.958
95	2.123	-2.500	-2.958
96	3.623	2.500	-0.359
97	3.623	1.500	-0.359
98	3.623	-2.500	-0.359
99	5.123	1.500	2.239
100	5.123	-2.000	2.239



Beam Numbers

Beams

Beam	Node A	Node B	Length (ft)	Property	β (degrees)
2	3	13	2.038	1	0
4	7	15	1.989	1	0
6	10	16	2.038	1	0
10	10	8	0.500	1	0
11	8	26	1.250	1	0
12	23	7	1.250	1	0
13	3	11	0.500	1	0
14	7	4	0.500	1	0
15	27	10	1.250	1	0
16	4	22	1.250	1	0
17	31	3	1.250	1	0
18	11	30	1.250	1	0
19	22	25	3.000	1	0
20	24	23	3.000	1	0
21	18	24	0.812	1	0
22	25	20	0.812	1	0
23	26	29	3.000	1	0
24	28	27	3.000	1	0
25	19	28	0.812	1	0
26	29	18	0.812	1	0
27	30	33	3.000	1	0

Beams Cont...

Beam	Node A	Node B	Length (ft)	Property	β (degrees)
28	32	31	3.000	1	0
29	20	32	0.812	1	0
30	33	19	0.812	1	0
31	41	79	2.500	2	0
32	37	45	4.000	2	0
33	38	76	1.500	2	0
34	34	78	2.500	2	0
35	39	73	1.500	2	0
36	35	75	2.500	2	0
37	40	70	2.250	2	0
38	36	44	2.250	2	0
39	53	89	2.500	2	0
40	49	57	4.000	2	0
41	50	86	1.500	2	0
42	46	88	2.500	2	0
43	51	84	1.500	2	0
44	47	85	2.500	2	0
45	52	80	2.250	2	0
46	48	56	2.250	2	0
47	65	99	2.500	2	0
48	61	100	2.000	2	0
49	62	96	1.500	2	0
50	58	98	2.500	2	0
51	63	93	1.500	2	0
52	59	95	2.500	2	0
53	64	90	2.250	2	0
54	60	68	2.250	2	0
55	2	14	0.542	1	0
56	6	17	0.494	1	0
57	9	12	0.494	1	0
58	12	11	2.038	1	0
59	13	2	0.494	1	0
60	14	4	1.989	1	0
61	15	6	0.542	1	0
62	16	9	0.494	1	0
63	17	8	2.038	1	0
64	70	71	0.250	2	0
65	71	72	1.500	2	0
66	72	36	1.750	2	0
67	73	74	1.000	2	0
68	74	35	1.500	2	0
69	75	43	1.500	2	0
70	76	77	1.000	2	0
71	77	34	1.500	2	0
72	78	42	1.500	2	0

Beams Cont...

Beam	Node A	Node B	Length (ft)	Property	β (degrees)
73	79	37	1.500	2	0
74	80	81	0.250	2	0
75	81	82	1.500	2	0
76	82	48	1.750	2	0
77	83	84	0.080	2	0
79	85	55	1.500	2	0
80	86	87	1.000	2	0
81	87	46	1.500	2	0
82	88	54	1.500	2	0
83	89	49	1.500	2	0
84	90	91	0.250	2	0
85	91	92	1.500	2	0
86	92	60	1.750	2	0
87	93	94	1.000	2	0
88	94	59	1.500	2	0
89	95	67	1.500	2	0
90	96	97	1.000	2	0
91	97	58	1.500	2	0
92	98	66	1.500	2	0
93	99	61	1.500	2	0
94	83	47	2.420	2	0
95	100	69	2.000	2	0

Section Properties

Prop	Section	Area (in^2)	I_{yy} (in^4)	I_{zz} (in^4)	J (in^4)	Material
1	C5X9	2.640	0.624	8.890	0.095	STEEL
2	PIPS20	1.020	0.627	0.627	1.262	STEEL

Materials

Mat	Name	E (kip/in^2)	ν	Density (kip/in^3)	α (/°F)
1	STEEL	29E+3	0.300	0.000	6E -6
2	STAINLESSSTEEL	28E+3	0.300	0.000	10E -6
3	ALUMINUM	10E+3	0.330	0.000	13E -6
4	CONCRETE	3.15E+3	0.170	0.000	5E -6

Supports

Node	X (kip/in)	Y (kip/in)	Z (kip/in)	rX (kip-ft/deg)	rY (kip-ft/deg)	rZ (kip-ft/deg)
2	Fixed	Fixed	Fixed	-	-	-
6	Fixed	Fixed	Fixed	-	-	-
9	Fixed	Fixed	Fixed	-	-	-

Releases

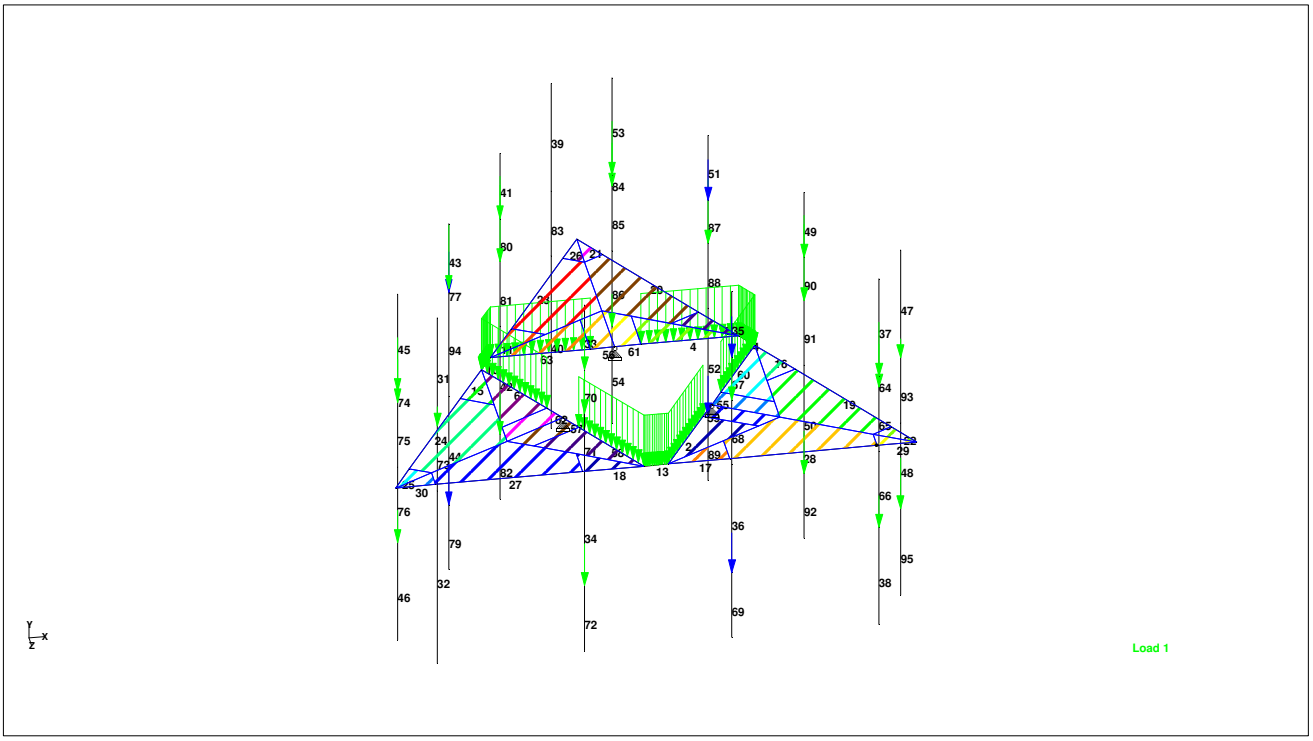
There is no data of this type.

Primary Load Cases

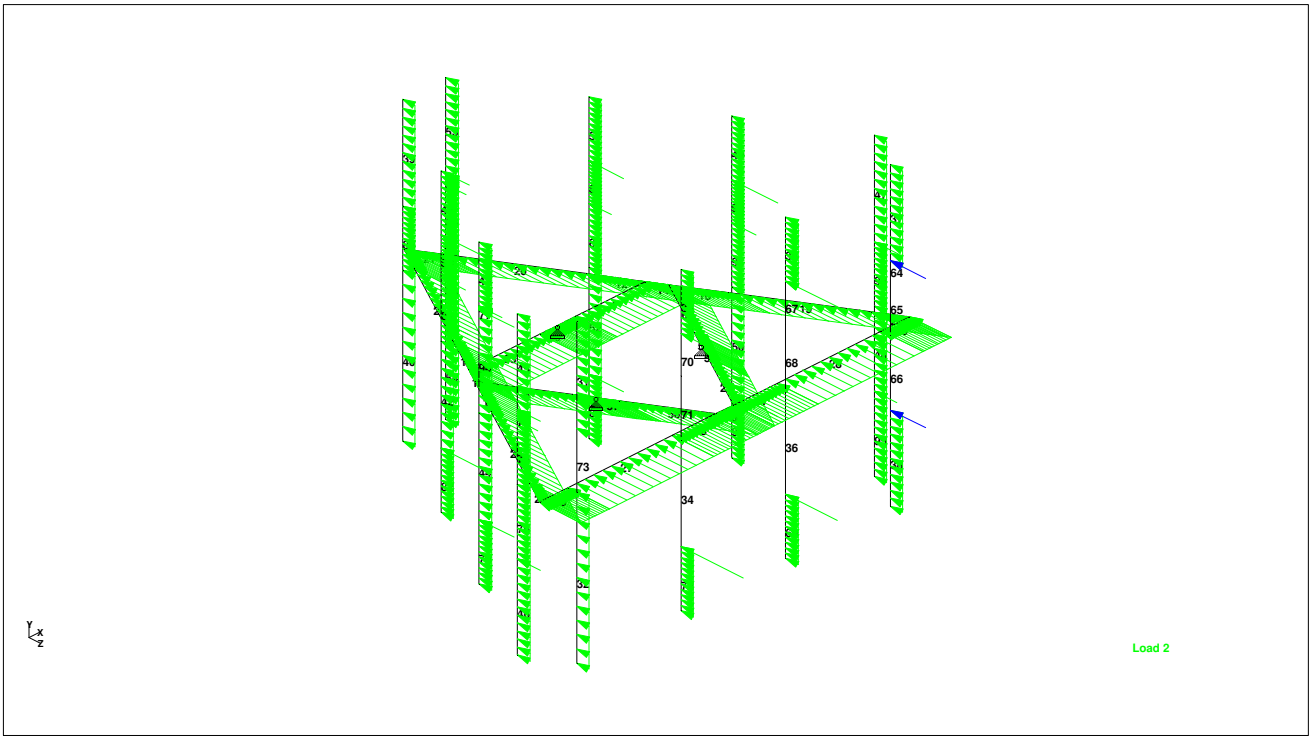
Number	Name	Type
1	DEAD	Dead
2	WL#1	Wind
3	WL#4	Wind
4	DI	Ice
5	WLI#1	Wind on Ice
6	WLI#4	Wind on Ice
7	WLS#1	Wind
8	WLS#4	Wind

Combination Load Cases

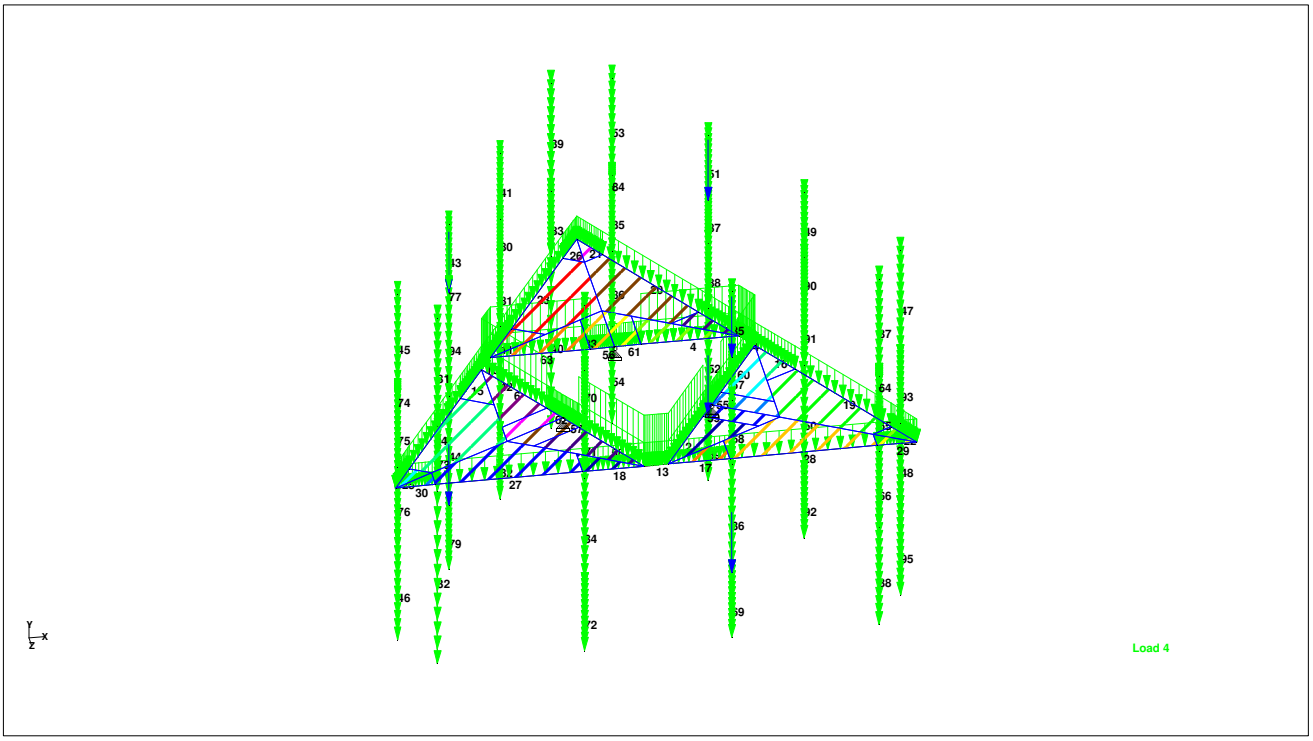
Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
9	1.2D+1.6WL#1	1	DEAD	1.20
		2	WL#1	1.60
10	1.2D+1.6WL#4	1	DEAD	1.20
		3	WL#4	1.60
11	1.2D+1.0DI+1.0WI#1	1	DEAD	1.20
		5	WLI#1	1.00
		4	DI	1.00
12	1.2D+1.0DI+1.0WI#4	1	DEAD	1.20
		6	WLI#4	1.00
		4	DI	1.00
13	1.0D+1.0WLS#1	1	DEAD	1.00
		7	WLS#1	1.00
14	1.0D+1.0WLS#4	1	DEAD	1.00
		8	WLS#4	1.00



Applied Dead Loads



Applied Typical Wind Loads (Input data was modified after picture taken)



Applied Ice Dead Loads

1 DEAD : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
36	-	-0.025	-	-	-	-
48	-	-0.025	-	-	-	-
60	-	-0.025	-	-	-	-
70	-	-0.025	-	-	-	-
71	-	-0.051	-	-	-	-
73	-	-0.032	-	-	-	-
74	-	-0.050	-	-	-	-
75	-	-0.032	-	-	-	-
76	-	-0.033	-	-	-	-
77	-	-0.060	-	-	-	-
78	-	-0.033	-	-	-	-
79	-	-0.030	-	-	-	-
80	-	-0.025	-	-	-	-
81	-	-0.051	-	-	-	-
83	-	-0.032	-	-	-	-
84	-	-0.050	-	-	-	-
85	-	-0.032	-	-	-	-
86	-	-0.033	-	-	-	-
87	-	-0.060	-	-	-	-
88	-	-0.033	-	-	-	-

1 DEAD : Node Loads Cont...

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
90	-	-0.025	-	-	-	-
91	-	-0.051	-	-	-	-
93	-	-0.032	-	-	-	-
94	-	-0.050	-	-	-	-
95	-	-0.032	-	-	-	-
96	-	-0.033	-	-	-	-
97	-	-0.060	-	-	-	-
98	-	-0.033	-	-	-	-
99	-	-0.030	-	-	-	-
100	-	-0.040	-	-	-	-

1 DEAD : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
2	UNI	lbf/ft	GY	-30.000	-	-	-	-
4	UNI	lbf/ft	GY	-30.000	-	-	-	-
6	UNI	lbf/ft	GY	-30.000	-	-	-	-
10	UNI	lbf/ft	GY	-30.000	-	-	-	-
13	UNI	lbf/ft	GY	-30.000	-	-	-	-
14	UNI	lbf/ft	GY	-30.000	-	-	-	-
58	UNI	lbf/ft	GY	-30.000	-	-	-	-
60	UNI	lbf/ft	GY	-30.000	-	-	-	-
63	UNI	lbf/ft	GY	-30.000	-	-	-	-

1 DEAD : Selfweight

Direction	Factor	Assigned Geometry
Y	-1.000	ALL

2 WL#1 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
36	-	-	-0.078	-	-	-
48	-	-	-0.051	-	-	-
60	-	-	-0.051	-	-	-
70	-	-	-0.078	-	-	-
73	-	-	-0.113	-	-	-
75	-	-	-0.113	-	-	-
76	-	-	-0.137	-	-	-
78	-	-	-0.137	-	-	-
79	-	-	-0.054	-	-	-
80	-	-	-0.051	-	-	-
81	-	-	-0.045	-	-	-
83	-	-	-0.077	-	-	-
84	-	-	-0.050	-	-	-
85	-	-	-0.077	-	-	-
86	-	-	-0.102	-	-	-
87	-	-	-0.055	-	-	-
88	-	-	-0.102	-	-	-
90	-	-	-0.051	-	-	-
91	-	-	-0.045	-	-	-
93	-	-	-0.077	-	-	-
94	-	-	-0.050	-	-	-
95	-	-	-0.077	-	-	-
96	-	-	-0.102	-	-	-
97	-	-	-0.055	-	-	-
98	-	-	-0.102	-	-	-
99	-	-	-0.054	-	-	-
100	-	-	-0.050	-	-	-

2 WL#1 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
2	UNI	lbf/ft	GZ	-14.300	-	-	-	-
4	UNI	lbf/ft	GZ	-14.300	-	-	-	-
6	UNI	lbf/ft	GZ	-14.300	-	-	-	-
10	UNI	lbf/ft	GZ	-14.300	-	-	-	-
11	UNI	lbf/ft	GZ	-14.300	-	-	-	-
12	UNI	lbf/ft	GZ	-14.300	-	-	-	-
13	UNI	lbf/ft	GZ	-14.300	-	-	-	-
14	UNI	lbf/ft	GZ	-14.300	-	-	-	-
15	UNI	lbf/ft	GZ	-14.300	-	-	-	-
16	UNI	lbf/ft	GZ	-14.300	-	-	-	-
17	UNI	lbf/ft	GZ	-14.300	-	-	-	-
18	UNI	lbf/ft	GZ	-14.300	-	-	-	-

2 WL#1 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
19	UNI	lbf/ft	GZ	-14.300	-	-	-	-
20	UNI	lbf/ft	GZ	-14.300	-	-	-	-
21	UNI	lbf/ft	GZ	-14.300	-	-	-	-
22	UNI	lbf/ft	GZ	-14.300	-	-	-	-
23	UNI	lbf/ft	GZ	-14.300	-	-	-	-
24	UNI	lbf/ft	GZ	-14.300	-	-	-	-
25	UNI	lbf/ft	GZ	-14.300	-	-	-	-
26	UNI	lbf/ft	GZ	-14.300	-	-	-	-
27	UNI	lbf/ft	GZ	-14.300	-	-	-	-
28	UNI	lbf/ft	GZ	-14.300	-	-	-	-
29	UNI	lbf/ft	GZ	-14.300	-	-	-	-
30	UNI	lbf/ft	GZ	-14.300	-	-	-	-
31	UNI	lbf/ft	GZ	-4.300	-	-	-	-
32	UNI	lbf/ft	GZ	-4.300	-	-	-	-
33	UNI	lbf/ft	GZ	-4.300	-	-	-	-
35	UNI	lbf/ft	GZ	-4.300	-	-	-	-
37	UNI	lbf/ft	GZ	-4.300	-	-	-	-
38	UNI	lbf/ft	GZ	-4.300	-	-	-	-
39	UNI	lbf/ft	GZ	-4.300	-	-	-	-
40	UNI	lbf/ft	GZ	-4.300	-	-	-	-
41	UNI	lbf/ft	GZ	-4.300	-	-	-	-
42	UNI	lbf/ft	GZ	-4.300	-	-	-	-
43	UNI	lbf/ft	GZ	-4.300	-	-	-	-
44	UNI	lbf/ft	GZ	-4.300	-	-	-	-
45	UNI	lbf/ft	GZ	-4.300	-	-	-	-
46	UNI	lbf/ft	GZ	-4.300	-	-	-	-
47	UNI	lbf/ft	GZ	-4.300	-	-	-	-
48	UNI	lbf/ft	GZ	-4.300	-	-	-	-
49	UNI	lbf/ft	GZ	-4.300	-	-	-	-
50	UNI	lbf/ft	GZ	-4.300	-	-	-	-
51	UNI	lbf/ft	GZ	-4.300	-	-	-	-
52	UNI	lbf/ft	GZ	-4.300	-	-	-	-
53	UNI	lbf/ft	GZ	-4.300	-	-	-	-
54	UNI	lbf/ft	GZ	-4.300	-	-	-	-
55	UNI	lbf/ft	GZ	-14.300	-	-	-	-
56	UNI	lbf/ft	GZ	-14.300	-	-	-	-
57	UNI	lbf/ft	GZ	-14.300	-	-	-	-
58	UNI	lbf/ft	GZ	-14.300	-	-	-	-
59	UNI	lbf/ft	GZ	-14.300	-	-	-	-
60	UNI	lbf/ft	GZ	-14.300	-	-	-	-
61	UNI	lbf/ft	GZ	-14.300	-	-	-	-
62	UNI	lbf/ft	GZ	-14.300	-	-	-	-
63	UNI	lbf/ft	GZ	-14.300	-	-	-	-
69	UNI	lbf/ft	GZ	-4.300	-	-	-	-
72	UNI	lbf/ft	GZ	-4.300	-	-	-	-

2 WL#1 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
74	UNI	lbf/ft	GZ	-4.300	-	-	-	-
75	UNI	lbf/ft	GZ	-4.300	-	-	-	-
76	UNI	lbf/ft	GZ	-4.300	-	-	-	-
77	UNI	lbf/ft	GZ	-4.300	-	-	-	-
79	UNI	lbf/ft	GZ	-4.300	-	-	-	-
80	UNI	lbf/ft	GZ	-4.300	-	-	-	-
81	UNI	lbf/ft	GZ	-4.300	-	-	-	-
82	UNI	lbf/ft	GZ	-4.300	-	-	-	-
83	UNI	lbf/ft	GZ	-4.300	-	-	-	-
84	UNI	lbf/ft	GZ	-4.300	-	-	-	-
85	UNI	lbf/ft	GZ	-4.300	-	-	-	-
86	UNI	lbf/ft	GZ	-4.300	-	-	-	-
87	UNI	lbf/ft	GZ	-4.300	-	-	-	-
88	UNI	lbf/ft	GZ	-4.300	-	-	-	-
89	UNI	lbf/ft	GZ	-4.300	-	-	-	-
90	UNI	lbf/ft	GZ	-4.300	-	-	-	-
91	UNI	lbf/ft	GZ	-4.300	-	-	-	-
92	UNI	lbf/ft	GZ	-4.300	-	-	-	-
93	UNI	lbf/ft	GZ	-4.300	-	-	-	-
94	UNI	lbf/ft	GZ	-4.300	-	-	-	-
95	UNI	lbf/ft	GZ	-4.300	-	-	-	-

3 WL#4 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
36	0.042	-	-	-	-	-
48	0.069	-	-	-	-	-
60	0.069	-	-	-	-	-
70	0.042	-	-	-	-	-
71	0.034	-	-	-	-	-
73	0.065	-	-	-	-	-
74	0.037	-	-	-	-	-
75	0.065	-	-	-	-	-
76	0.091	-	-	-	-	-
77	0.047	-	-	-	-	-
78	0.091	-	-	-	-	-
79	0.054	-	-	-	-	-
80	0.069	-	-	-	-	-
83	0.101	-	-	-	-	-
85	0.101	-	-	-	-	-
86	0.125	-	-	-	-	-
88	0.125	-	-	-	-	-
90	0.069	-	-	-	-	-

3 WL#4 : Node Loads Cont...

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
93	0.101	-	-	-	-	-
95	0.101	-	-	-	-	-
96	0.125	-	-	-	-	-
98	0.125	-	-	-	-	-
99	0.054	-	-	-	-	-
100	0.066	-	-	-	-	-

3 WL#4 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
2	UNI	lbf/ft	GX	14.300	-	-	-	-
4	UNI	lbf/ft	GX	14.300	-	-	-	-
6	UNI	lbf/ft	GX	14.300	-	-	-	-
10	UNI	lbf/ft	GX	14.300	-	-	-	-
11	UNI	lbf/ft	GX	14.300	-	-	-	-
12	UNI	lbf/ft	GX	14.300	-	-	-	-
13	UNI	lbf/ft	GX	14.300	-	-	-	-
14	UNI	lbf/ft	GX	14.300	-	-	-	-
15	UNI	lbf/ft	GX	14.300	-	-	-	-
16	UNI	lbf/ft	GX	14.300	-	-	-	-
17	UNI	lbf/ft	GX	14.300	-	-	-	-
18	UNI	lbf/ft	GX	14.300	-	-	-	-
19	UNI	lbf/ft	GX	14.300	-	-	-	-
20	UNI	lbf/ft	GX	14.300	-	-	-	-
21	UNI	lbf/ft	GX	14.300	-	-	-	-
22	UNI	lbf/ft	GX	14.300	-	-	-	-
23	UNI	lbf/ft	GX	14.300	-	-	-	-
24	UNI	lbf/ft	GX	14.300	-	-	-	-
25	UNI	lbf/ft	GX	14.300	-	-	-	-
26	UNI	lbf/ft	GX	14.300	-	-	-	-
27	UNI	lbf/ft	GX	14.300	-	-	-	-
28	UNI	lbf/ft	GX	14.300	-	-	-	-
29	UNI	lbf/ft	GX	14.300	-	-	-	-
30	UNI	lbf/ft	GX	14.300	-	-	-	-
31	UNI	lbf/ft	GX	4.300	-	-	-	-
32	UNI	lbf/ft	GX	4.300	-	-	-	-
33	UNI	lbf/ft	GX	4.300	-	-	-	-
34	UNI	lbf/ft	GX	4.300	-	-	-	-
35	UNI	lbf/ft	GX	4.300	-	-	-	-
36	UNI	lbf/ft	GX	4.300	-	-	-	-
37	UNI	lbf/ft	GX	4.300	-	-	-	-
38	UNI	lbf/ft	GX	4.300	-	-	-	-
39	UNI	lbf/ft	GX	4.300	-	-	-	-

3 WL#4 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
40	UNI	lbf/ft	GX	4.300	-	-	-	-
41	UNI	lbf/ft	GX	4.300	-	-	-	-
43	UNI	lbf/ft	GX	4.300	-	-	-	-
45	UNI	lbf/ft	GX	4.300	-	-	-	-
46	UNI	lbf/ft	GX	4.300	-	-	-	-
47	UNI	lbf/ft	GX	4.300	-	-	-	-
49	UNI	lbf/ft	GX	4.300	-	-	-	-
51	UNI	lbf/ft	GX	4.300	-	-	-	-
53	UNI	lbf/ft	GX	4.300	-	-	-	-
54	UNI	lbf/ft	GX	4.300	-	-	-	-
55	UNI	lbf/ft	GX	14.300	-	-	-	-
56	UNI	lbf/ft	GX	14.300	-	-	-	-
57	UNI	lbf/ft	GX	14.300	-	-	-	-
58	UNI	lbf/ft	GX	14.300	-	-	-	-
59	UNI	lbf/ft	GX	14.300	-	-	-	-
60	UNI	lbf/ft	GX	14.300	-	-	-	-
61	UNI	lbf/ft	GX	14.300	-	-	-	-
62	UNI	lbf/ft	GX	14.300	-	-	-	-
63	UNI	lbf/ft	GX	14.300	-	-	-	-
65	UNI	lbf/ft	GX	4.300	-	-	-	-
66	UNI	lbf/ft	GX	4.300	-	-	-	-
67	UNI	lbf/ft	GX	4.300	-	-	-	-
68	UNI	lbf/ft	GX	4.300	-	-	-	-
69	UNI	lbf/ft	GX	4.300	-	-	-	-
70	UNI	lbf/ft	GX	4.300	-	-	-	-
71	UNI	lbf/ft	GX	4.300	-	-	-	-
72	UNI	lbf/ft	GX	4.300	-	-	-	-
73	UNI	lbf/ft	GX	4.300	-	-	-	-
79	UNI	lbf/ft	GX	4.300	-	-	-	-
82	UNI	lbf/ft	GX	4.300	-	-	-	-
89	UNI	lbf/ft	GX	4.300	-	-	-	-
92	UNI	lbf/ft	GX	4.300	-	-	-	-
95	UNI	lbf/ft	GX	4.300	-	-	-	-

4 DI : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
36	-	-0.096	-	-	-	-
48	-	-0.096	-	-	-	-
60	-	-0.096	-	-	-	-
70	-	-0.096	-	-	-	-
71	-	-0.100	-	-	-	-
73	-	-0.136	-	-	-	-
74	-	-0.110	-	-	-	-
75	-	-0.136	-	-	-	-
76	-	-0.172	-	-	-	-
77	-	-0.108	-	-	-	-
78	-	-0.172	-	-	-	-
79	-	-0.091	-	-	-	-
80	-	-0.096	-	-	-	-
81	-	-0.100	-	-	-	-
83	-	-0.136	-	-	-	-
84	-	-0.110	-	-	-	-
85	-	-0.136	-	-	-	-
86	-	-0.172	-	-	-	-
87	-	-0.108	-	-	-	-
88	-	-0.172	-	-	-	-
90	-	-0.096	-	-	-	-
91	-	-0.100	-	-	-	-
93	-	-0.136	-	-	-	-
94	-	-0.110	-	-	-	-
95	-	-0.136	-	-	-	-
96	-	-0.172	-	-	-	-
97	-	-0.108	-	-	-	-
98	-	-0.172	-	-	-	-
99	-	-0.091	-	-	-	-
100	-	-0.097	-	-	-	-

4 DI : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
2	UNI	lbf/ft	GY	-27.500	-	-	-	-
	UNI	lbf/ft	GY	-60.000	-	-	-	-
4	UNI	lbf/ft	GY	-27.500	-	-	-	-
	UNI	lbf/ft	GY	-60.000	-	-	-	-
6	UNI	lbf/ft	GY	-60.000	-	-	-	-
	UNI	lbf/ft	GY	-27.500	-	-	-	-
10	UNI	lbf/ft	GY	-27.500	-	-	-	-
	UNI	lbf/ft	GY	-60.000	-	-	-	-
11	UNI	lbf/ft	GY	-27.500	-	-	-	-
12	UNI	lbf/ft	GY	-27.500	-	-	-	-
13	UNI	lbf/ft	GY	-27.500	-	-	-	-
	UNI	lbf/ft	GY	-60.000	-	-	-	-
14	UNI	lbf/ft	GY	-27.500	-	-	-	-
	UNI	lbf/ft	GY	-60.000	-	-	-	-
15	UNI	lbf/ft	GY	-27.500	-	-	-	-
16	UNI	lbf/ft	GY	-27.500	-	-	-	-
17	UNI	lbf/ft	GY	-27.500	-	-	-	-
18	UNI	lbf/ft	GY	-27.500	-	-	-	-
19	UNI	lbf/ft	GY	-27.500	-	-	-	-
20	UNI	lbf/ft	GY	-27.500	-	-	-	-
21	UNI	lbf/ft	GY	-27.500	-	-	-	-
22	UNI	lbf/ft	GY	-27.500	-	-	-	-
23	UNI	lbf/ft	GY	-27.500	-	-	-	-
24	UNI	lbf/ft	GY	-27.500	-	-	-	-
25	UNI	lbf/ft	GY	-27.500	-	-	-	-
26	UNI	lbf/ft	GY	-27.500	-	-	-	-
27	UNI	lbf/ft	GY	-27.500	-	-	-	-
28	UNI	lbf/ft	GY	-27.500	-	-	-	-
29	UNI	lbf/ft	GY	-27.500	-	-	-	-
30	UNI	lbf/ft	GY	-27.500	-	-	-	-
31	UNI	lbf/ft	GY	-13.800	-	-	-	-
32	UNI	lbf/ft	GY	-13.800	-	-	-	-
33	UNI	lbf/ft	GY	-13.800	-	-	-	-
34	UNI	lbf/ft	GY	-13.800	-	-	-	-
35	UNI	lbf/ft	GY	-13.800	-	-	-	-
36	UNI	lbf/ft	GY	-13.800	-	-	-	-
37	UNI	lbf/ft	GY	-13.800	-	-	-	-
38	UNI	lbf/ft	GY	-13.800	-	-	-	-
39	UNI	lbf/ft	GY	-13.800	-	-	-	-
40	UNI	lbf/ft	GY	-13.800	-	-	-	-
41	UNI	lbf/ft	GY	-13.800	-	-	-	-
42	UNI	lbf/ft	GY	-13.800	-	-	-	-
43	UNI	lbf/ft	GY	-13.800	-	-	-	-
44	UNI	lbf/ft	GY	-13.800	-	-	-	-
45	UNI	lbf/ft	GY	-13.800	-	-	-	-

4 DI : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
46	UNI	lbf/ft	GY	-13.800	-	-	-	-
47	UNI	lbf/ft	GY	-13.800	-	-	-	-
48	UNI	lbf/ft	GY	-13.800	-	-	-	-
49	UNI	lbf/ft	GY	-13.800	-	-	-	-
50	UNI	lbf/ft	GY	-13.800	-	-	-	-
51	UNI	lbf/ft	GY	-13.800	-	-	-	-
52	UNI	lbf/ft	GY	-13.800	-	-	-	-
53	UNI	lbf/ft	GY	-13.800	-	-	-	-
54	UNI	lbf/ft	GY	-13.800	-	-	-	-
55	UNI	lbf/ft	GY	-27.500	-	-	-	-
56	UNI	lbf/ft	GY	-27.500	-	-	-	-
57	UNI	lbf/ft	GY	-27.500	-	-	-	-
58	UNI	lbf/ft	GY	-60.000	-	-	-	-
	UNI	lbf/ft	GY	-27.500	-	-	-	-
59	UNI	lbf/ft	GY	-27.500	-	-	-	-
60	UNI	lbf/ft	GY	-60.000	-	-	-	-
	UNI	lbf/ft	GY	-27.500	-	-	-	-
61	UNI	lbf/ft	GY	-27.500	-	-	-	-
62	UNI	lbf/ft	GY	-27.500	-	-	-	-
63	UNI	lbf/ft	GY	-60.000	-	-	-	-
	UNI	lbf/ft	GY	-27.500	-	-	-	-
64	UNI	lbf/ft	GY	-13.800	-	-	-	-
65	UNI	lbf/ft	GY	-13.800	-	-	-	-
66	UNI	lbf/ft	GY	-13.800	-	-	-	-
67	UNI	lbf/ft	GY	-13.800	-	-	-	-
68	UNI	lbf/ft	GY	-13.800	-	-	-	-
69	UNI	lbf/ft	GY	-13.800	-	-	-	-
70	UNI	lbf/ft	GY	-13.800	-	-	-	-
71	UNI	lbf/ft	GY	-13.800	-	-	-	-
72	UNI	lbf/ft	GY	-13.800	-	-	-	-
73	UNI	lbf/ft	GY	-13.800	-	-	-	-
74	UNI	lbf/ft	GY	-13.800	-	-	-	-
75	UNI	lbf/ft	GY	-13.800	-	-	-	-
76	UNI	lbf/ft	GY	-13.800	-	-	-	-
77	UNI	lbf/ft	GY	-13.800	-	-	-	-
79	UNI	lbf/ft	GY	-13.800	-	-	-	-
80	UNI	lbf/ft	GY	-13.800	-	-	-	-
81	UNI	lbf/ft	GY	-13.800	-	-	-	-
82	UNI	lbf/ft	GY	-13.800	-	-	-	-
83	UNI	lbf/ft	GY	-13.800	-	-	-	-
84	UNI	lbf/ft	GY	-13.800	-	-	-	-
85	UNI	lbf/ft	GY	-13.800	-	-	-	-
86	UNI	lbf/ft	GY	-13.800	-	-	-	-
87	UNI	lbf/ft	GY	-13.800	-	-	-	-
88	UNI	lbf/ft	GY	-13.800	-	-	-	-

4 DI : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
89	UNI	lbf/ft	GY	-13.800	-	-	-	-
90	UNI	lbf/ft	GY	-13.800	-	-	-	-
91	UNI	lbf/ft	GY	-13.800	-	-	-	-
92	UNI	lbf/ft	GY	-13.800	-	-	-	-
93	UNI	lbf/ft	GY	-13.800	-	-	-	-
94	UNI	lbf/ft	GY	-13.800	-	-	-	-
95	UNI	lbf/ft	GY	-13.800	-	-	-	-

5 WLI#1 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
36	-	-	-0.023	-	-	-
48	-	-	-0.017	-	-	-
60	-	-	-0.017	-	-	-
70	-	-	-0.023	-	-	-
73	-	-	-0.032	-	-	-
75	-	-	-0.032	-	-	-
76	-	-	-0.037	-	-	-
78	-	-	-0.037	-	-	-
79	-	-	-0.019	-	-	-
80	-	-	-0.017	-	-	-
81	-	-	-0.016	-	-	-
83	-	-	-0.025	-	-	-
84	-	-	-0.018	-	-	-
85	-	-	-0.025	-	-	-
86	-	-	-0.030	-	-	-
87	-	-	-0.020	-	-	-
88	-	-	-0.030	-	-	-
90	-	-	-0.017	-	-	-
91	-	-	-0.016	-	-	-
93	-	-	-0.025	-	-	-
94	-	-	-0.018	-	-	-
95	-	-	-0.025	-	-	-
96	-	-	-0.030	-	-	-
97	-	-	-0.020	-	-	-
98	-	-	-0.030	-	-	-
99	-	-	-0.019	-	-	-
100	-	-	-0.018	-	-	-

5 WLI#1 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
2	UNI	lbf/ft	GZ	-5.400	-	-	-	-
4	UNI	lbf/ft	GZ	-5.400	-	-	-	-
6	UNI	lbf/ft	GZ	-5.400	-	-	-	-
10	UNI	lbf/ft	GZ	-5.400	-	-	-	-
11	UNI	lbf/ft	GZ	-5.400	-	-	-	-
12	UNI	lbf/ft	GZ	-5.400	-	-	-	-
13	UNI	lbf/ft	GZ	-5.400	-	-	-	-
14	UNI	lbf/ft	GZ	-5.400	-	-	-	-
15	UNI	lbf/ft	GZ	-5.400	-	-	-	-
16	UNI	lbf/ft	GZ	-5.400	-	-	-	-
17	UNI	lbf/ft	GZ	-5.400	-	-	-	-
18	UNI	lbf/ft	GZ	-5.400	-	-	-	-
19	UNI	lbf/ft	GZ	-5.400	-	-	-	-
20	UNI	lbf/ft	GZ	-5.400	-	-	-	-
21	UNI	lbf/ft	GZ	-5.400	-	-	-	-
22	UNI	lbf/ft	GZ	-5.400	-	-	-	-
23	UNI	lbf/ft	GZ	-5.400	-	-	-	-
24	UNI	lbf/ft	GZ	-5.400	-	-	-	-
25	UNI	lbf/ft	GZ	-5.400	-	-	-	-
26	UNI	lbf/ft	GZ	-5.400	-	-	-	-
27	UNI	lbf/ft	GZ	-5.400	-	-	-	-
28	UNI	lbf/ft	GZ	-5.400	-	-	-	-
29	UNI	lbf/ft	GZ	-5.400	-	-	-	-
30	UNI	lbf/ft	GZ	-5.400	-	-	-	-
31	UNI	lbf/ft	GZ	-2.400	-	-	-	-
32	UNI	lbf/ft	GZ	-2.400	-	-	-	-
33	UNI	lbf/ft	GZ	-2.400	-	-	-	-
35	UNI	lbf/ft	GZ	-2.400	-	-	-	-
37	UNI	lbf/ft	GZ	-2.400	-	-	-	-
38	UNI	lbf/ft	GZ	-2.400	-	-	-	-
39	UNI	lbf/ft	GZ	-2.400	-	-	-	-
40	UNI	lbf/ft	GZ	-2.400	-	-	-	-
41	UNI	lbf/ft	GZ	-2.400	-	-	-	-
42	UNI	lbf/ft	GZ	-2.400	-	-	-	-
43	UNI	lbf/ft	GZ	-2.400	-	-	-	-
44	UNI	lbf/ft	GZ	-2.400	-	-	-	-
45	UNI	lbf/ft	GZ	-2.400	-	-	-	-
46	UNI	lbf/ft	GZ	-2.400	-	-	-	-
47	UNI	lbf/ft	GZ	-2.400	-	-	-	-
48	UNI	lbf/ft	GZ	-2.400	-	-	-	-
49	UNI	lbf/ft	GZ	-2.400	-	-	-	-
50	UNI	lbf/ft	GZ	-2.400	-	-	-	-
51	UNI	lbf/ft	GZ	-2.400	-	-	-	-
52	UNI	lbf/ft	GZ	-2.400	-	-	-	-
53	UNI	lbf/ft	GZ	-2.400	-	-	-	-

5 WLI#1 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
54	UNI	lbf/ft	GZ	-2.400	-	-	-	-
55	UNI	lbf/ft	GZ	-5.400	-	-	-	-
56	UNI	lbf/ft	GZ	-5.400	-	-	-	-
57	UNI	lbf/ft	GZ	-5.400	-	-	-	-
58	UNI	lbf/ft	GZ	-5.400	-	-	-	-
59	UNI	lbf/ft	GZ	-5.400	-	-	-	-
60	UNI	lbf/ft	GZ	-5.400	-	-	-	-
61	UNI	lbf/ft	GZ	-5.400	-	-	-	-
62	UNI	lbf/ft	GZ	-5.400	-	-	-	-
63	UNI	lbf/ft	GZ	-5.400	-	-	-	-
69	UNI	lbf/ft	GZ	-2.400	-	-	-	-
72	UNI	lbf/ft	GZ	-2.400	-	-	-	-
74	UNI	lbf/ft	GZ	-2.400	-	-	-	-
75	UNI	lbf/ft	GZ	-2.400	-	-	-	-
76	UNI	lbf/ft	GZ	-2.400	-	-	-	-
77	UNI	lbf/ft	GZ	-2.400	-	-	-	-
79	UNI	lbf/ft	GZ	-2.400	-	-	-	-
80	UNI	lbf/ft	GZ	-2.400	-	-	-	-
81	UNI	lbf/ft	GZ	-2.400	-	-	-	-
82	UNI	lbf/ft	GZ	-2.400	-	-	-	-
83	UNI	lbf/ft	GZ	-2.400	-	-	-	-
84	UNI	lbf/ft	GZ	-2.400	-	-	-	-
85	UNI	lbf/ft	GZ	-2.400	-	-	-	-
86	UNI	lbf/ft	GZ	-2.400	-	-	-	-
87	UNI	lbf/ft	GZ	-2.400	-	-	-	-
88	UNI	lbf/ft	GZ	-2.400	-	-	-	-
89	UNI	lbf/ft	GZ	-2.400	-	-	-	-
90	UNI	lbf/ft	GZ	-2.400	-	-	-	-
91	UNI	lbf/ft	GZ	-2.400	-	-	-	-
92	UNI	lbf/ft	GZ	-2.400	-	-	-	-
93	UNI	lbf/ft	GZ	-2.400	-	-	-	-
94	UNI	lbf/ft	GZ	-2.400	-	-	-	-
95	UNI	lbf/ft	GZ	-2.400	-	-	-	-

6 WLI#4 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
36	0.015	-	-	-	-	-
48	0.021	-	-	-	-	-
60	0.021	-	-	-	-	-
70	0.015	-	-	-	-	-
71	0.014	-	-	-	-	-
73	0.023	-	-	-	-	-
74	0.014	-	-	-	-	-
75	0.023	-	-	-	-	-
76	0.028	-	-	-	-	-
77	0.018	-	-	-	-	-
78	0.028	-	-	-	-	-
79	0.019	-	-	-	-	-
80	0.021	-	-	-	-	-
83	0.030	-	-	-	-	-
85	0.030	-	-	-	-	-
86	0.034	-	-	-	-	-
88	0.034	-	-	-	-	-
90	0.021	-	-	-	-	-
93	0.030	-	-	-	-	-
95	0.030	-	-	-	-	-
96	0.034	-	-	-	-	-
98	0.034	-	-	-	-	-
99	0.019	-	-	-	-	-
100	0.022	-	-	-	-	-

6 WLI#4 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
2	UNI	lbf/ft	GX	5.400	-	-	-	-
4	UNI	lbf/ft	GX	5.400	-	-	-	-
6	UNI	lbf/ft	GX	5.400	-	-	-	-
10	UNI	lbf/ft	GX	5.400	-	-	-	-
11	UNI	lbf/ft	GX	5.400	-	-	-	-
12	UNI	lbf/ft	GX	5.400	-	-	-	-
13	UNI	lbf/ft	GX	5.400	-	-	-	-
14	UNI	lbf/ft	GX	5.400	-	-	-	-
15	UNI	lbf/ft	GX	5.400	-	-	-	-
16	UNI	lbf/ft	GX	5.400	-	-	-	-
17	UNI	lbf/ft	GX	5.400	-	-	-	-
18	UNI	lbf/ft	GX	5.400	-	-	-	-
19	UNI	lbf/ft	GX	5.400	-	-	-	-
20	UNI	lbf/ft	GX	5.400	-	-	-	-
21	UNI	lbf/ft	GX	5.400	-	-	-	-

6 WLI#4 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
22	UNI	lbf/ft	GX	5.400	-	-	-	-
23	UNI	lbf/ft	GX	5.400	-	-	-	-
24	UNI	lbf/ft	GX	5.400	-	-	-	-
25	UNI	lbf/ft	GX	5.400	-	-	-	-
26	UNI	lbf/ft	GX	5.400	-	-	-	-
27	UNI	lbf/ft	GX	5.400	-	-	-	-
28	UNI	lbf/ft	GX	5.400	-	-	-	-
29	UNI	lbf/ft	GX	5.400	-	-	-	-
30	UNI	lbf/ft	GX	5.400	-	-	-	-
31	UNI	lbf/ft	GX	2.400	-	-	-	-
32	UNI	lbf/ft	GX	2.400	-	-	-	-
33	UNI	lbf/ft	GX	2.400	-	-	-	-
34	UNI	lbf/ft	GX	2.400	-	-	-	-
35	UNI	lbf/ft	GX	2.400	-	-	-	-
36	UNI	lbf/ft	GX	2.400	-	-	-	-
37	UNI	lbf/ft	GX	2.400	-	-	-	-
38	UNI	lbf/ft	GX	2.400	-	-	-	-
39	UNI	lbf/ft	GX	2.400	-	-	-	-
40	UNI	lbf/ft	GX	2.400	-	-	-	-
41	UNI	lbf/ft	GX	2.400	-	-	-	-
43	UNI	lbf/ft	GX	2.400	-	-	-	-
45	UNI	lbf/ft	GX	2.400	-	-	-	-
46	UNI	lbf/ft	GX	2.400	-	-	-	-
47	UNI	lbf/ft	GX	2.400	-	-	-	-
49	UNI	lbf/ft	GX	2.400	-	-	-	-
51	UNI	lbf/ft	GX	2.400	-	-	-	-
53	UNI	lbf/ft	GX	2.400	-	-	-	-
54	UNI	lbf/ft	GX	2.400	-	-	-	-
55	UNI	lbf/ft	GX	5.400	-	-	-	-
56	UNI	lbf/ft	GX	5.400	-	-	-	-
57	UNI	lbf/ft	GX	5.400	-	-	-	-
58	UNI	lbf/ft	GX	5.400	-	-	-	-
59	UNI	lbf/ft	GX	5.400	-	-	-	-
60	UNI	lbf/ft	GX	5.400	-	-	-	-
61	UNI	lbf/ft	GX	5.400	-	-	-	-
62	UNI	lbf/ft	GX	5.400	-	-	-	-
63	UNI	lbf/ft	GX	5.400	-	-	-	-
65	UNI	lbf/ft	GX	2.400	-	-	-	-
66	UNI	lbf/ft	GX	2.400	-	-	-	-
67	UNI	lbf/ft	GX	2.400	-	-	-	-
68	UNI	lbf/ft	GX	2.400	-	-	-	-
69	UNI	lbf/ft	GX	2.400	-	-	-	-
70	UNI	lbf/ft	GX	2.400	-	-	-	-
71	UNI	lbf/ft	GX	2.400	-	-	-	-
72	UNI	lbf/ft	GX	2.400	-	-	-	-

6 WLI#4 : Beam Loads Cont...

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
73	UNI lbf/ft	GX	2.400	-	-	-	-
79	UNI lbf/ft	GX	2.400	-	-	-	-
82	UNI lbf/ft	GX	2.400	-	-	-	-
89	UNI lbf/ft	GX	2.400	-	-	-	-
92	UNI lbf/ft	GX	2.400	-	-	-	-
95	UNI lbf/ft	GX	2.400	-	-	-	-

7 WLS#1 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
36	-	-	-0.031	-	-	-
48	-	-	-0.020	-	-	-
60	-	-	-0.020	-	-	-
70	-	-	-0.031	-	-	-
73	-	-	-0.045	-	-	-
75	-	-	-0.045	-	-	-
76	-	-	-0.055	-	-	-
78	-	-	-0.055	-	-	-
79	-	-	-0.022	-	-	-
80	-	-	-0.020	-	-	-
81	-	-	-0.018	-	-	-
83	-	-	-0.031	-	-	-
84	-	-	-0.020	-	-	-
85	-	-	-0.031	-	-	-
86	-	-	-0.041	-	-	-
87	-	-	-0.022	-	-	-
88	-	-	-0.041	-	-	-
90	-	-	-0.020	-	-	-
91	-	-	-0.018	-	-	-
93	-	-	-0.031	-	-	-
94	-	-	-0.020	-	-	-
95	-	-	-0.031	-	-	-
96	-	-	-0.041	-	-	-
97	-	-	-0.022	-	-	-
98	-	-	-0.041	-	-	-
99	-	-	-0.022	-	-	-
100	-	-	-0.020	-	-	-

7 WLS#1 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
2	UNI	lbf/ft	GZ	-5.700	-	-	-	-
4	UNI	lbf/ft	GZ	-5.700	-	-	-	-
6	UNI	lbf/ft	GZ	-5.700	-	-	-	-
10	UNI	lbf/ft	GZ	-5.700	-	-	-	-
11	UNI	lbf/ft	GZ	-5.700	-	-	-	-
12	UNI	lbf/ft	GZ	-5.700	-	-	-	-
13	UNI	lbf/ft	GZ	-5.700	-	-	-	-
14	UNI	lbf/ft	GZ	-5.700	-	-	-	-
15	UNI	lbf/ft	GZ	-5.700	-	-	-	-
16	UNI	lbf/ft	GZ	-5.700	-	-	-	-
17	UNI	lbf/ft	GZ	-5.700	-	-	-	-
18	UNI	lbf/ft	GZ	-5.700	-	-	-	-
19	UNI	lbf/ft	GZ	-5.700	-	-	-	-
20	UNI	lbf/ft	GZ	-5.700	-	-	-	-
21	UNI	lbf/ft	GZ	-5.700	-	-	-	-
22	UNI	lbf/ft	GZ	-5.700	-	-	-	-
23	UNI	lbf/ft	GZ	-5.700	-	-	-	-
24	UNI	lbf/ft	GZ	-5.700	-	-	-	-
25	UNI	lbf/ft	GZ	-5.700	-	-	-	-
26	UNI	lbf/ft	GZ	-5.700	-	-	-	-
27	UNI	lbf/ft	GZ	-5.700	-	-	-	-
28	UNI	lbf/ft	GZ	-5.700	-	-	-	-
29	UNI	lbf/ft	GZ	-5.700	-	-	-	-
30	UNI	lbf/ft	GZ	-5.700	-	-	-	-
31	UNI	lbf/ft	GZ	-1.700	-	-	-	-
32	UNI	lbf/ft	GZ	-1.700	-	-	-	-
33	UNI	lbf/ft	GZ	-1.700	-	-	-	-
35	UNI	lbf/ft	GZ	-1.700	-	-	-	-
37	UNI	lbf/ft	GZ	-1.700	-	-	-	-
38	UNI	lbf/ft	GZ	-1.700	-	-	-	-
39	UNI	lbf/ft	GZ	-1.700	-	-	-	-
40	UNI	lbf/ft	GZ	-1.700	-	-	-	-
41	UNI	lbf/ft	GZ	-1.700	-	-	-	-
42	UNI	lbf/ft	GZ	-1.700	-	-	-	-
43	UNI	lbf/ft	GZ	-1.700	-	-	-	-
44	UNI	lbf/ft	GZ	-1.700	-	-	-	-
45	UNI	lbf/ft	GZ	-1.700	-	-	-	-
46	UNI	lbf/ft	GZ	-1.700	-	-	-	-
47	UNI	lbf/ft	GZ	-1.700	-	-	-	-
48	UNI	lbf/ft	GZ	-1.700	-	-	-	-
49	UNI	lbf/ft	GZ	-1.700	-	-	-	-
50	UNI	lbf/ft	GZ	-1.700	-	-	-	-
51	UNI	lbf/ft	GZ	-1.700	-	-	-	-
52	UNI	lbf/ft	GZ	-1.700	-	-	-	-
53	UNI	lbf/ft	GZ	-1.700	-	-	-	-

7 WLS#1 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
54	UNI	lbf/ft	GZ	-1.700	-	-	-	-
55	UNI	lbf/ft	GZ	-5.700	-	-	-	-
56	UNI	lbf/ft	GZ	-5.700	-	-	-	-
57	UNI	lbf/ft	GZ	-5.700	-	-	-	-
58	UNI	lbf/ft	GZ	-5.700	-	-	-	-
59	UNI	lbf/ft	GZ	-5.700	-	-	-	-
60	UNI	lbf/ft	GZ	-5.700	-	-	-	-
61	UNI	lbf/ft	GZ	-5.700	-	-	-	-
62	UNI	lbf/ft	GZ	-5.700	-	-	-	-
63	UNI	lbf/ft	GZ	-5.700	-	-	-	-
69	UNI	lbf/ft	GZ	-1.700	-	-	-	-
72	UNI	lbf/ft	GZ	-1.700	-	-	-	-
74	UNI	lbf/ft	GZ	-1.700	-	-	-	-
75	UNI	lbf/ft	GZ	-1.700	-	-	-	-
76	UNI	lbf/ft	GZ	-1.700	-	-	-	-
77	UNI	lbf/ft	GZ	-1.700	-	-	-	-
79	UNI	lbf/ft	GZ	-1.700	-	-	-	-
80	UNI	lbf/ft	GZ	-1.700	-	-	-	-
81	UNI	lbf/ft	GZ	-1.700	-	-	-	-
82	UNI	lbf/ft	GZ	-1.700	-	-	-	-
83	UNI	lbf/ft	GZ	-1.700	-	-	-	-
84	UNI	lbf/ft	GZ	-1.700	-	-	-	-
85	UNI	lbf/ft	GZ	-1.700	-	-	-	-
86	UNI	lbf/ft	GZ	-1.700	-	-	-	-
87	UNI	lbf/ft	GZ	-1.700	-	-	-	-
88	UNI	lbf/ft	GZ	-1.700	-	-	-	-
89	UNI	lbf/ft	GZ	-1.700	-	-	-	-
90	UNI	lbf/ft	GZ	-1.700	-	-	-	-
91	UNI	lbf/ft	GZ	-1.700	-	-	-	-
92	UNI	lbf/ft	GZ	-1.700	-	-	-	-
93	UNI	lbf/ft	GZ	-1.700	-	-	-	-
94	UNI	lbf/ft	GZ	-1.700	-	-	-	-
95	UNI	lbf/ft	GZ	-1.700	-	-	-	-

8 WLS#4 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
36	0.017	-	-	-	-	-
48	0.027	-	-	-	-	-
60	0.027	-	-	-	-	-
70	0.017	-	-	-	-	-
71	0.013	-	-	-	-	-
73	0.026	-	-	-	-	-
74	0.015	-	-	-	-	-
75	0.026	-	-	-	-	-
76	0.036	-	-	-	-	-
77	0.019	-	-	-	-	-
78	0.036	-	-	-	-	-
79	0.022	-	-	-	-	-
80	0.027	-	-	-	-	-
83	0.040	-	-	-	-	-
85	0.040	-	-	-	-	-
86	0.050	-	-	-	-	-
88	0.050	-	-	-	-	-
90	0.027	-	-	-	-	-
93	0.040	-	-	-	-	-
95	0.040	-	-	-	-	-
96	0.050	-	-	-	-	-
98	0.050	-	-	-	-	-
99	0.022	-	-	-	-	-
100	0.026	-	-	-	-	-

8 WLS#4 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
2	UNI	lbf/ft	GX	5.700	-	-	-	-
4	UNI	lbf/ft	GX	5.700	-	-	-	-
6	UNI	lbf/ft	GX	5.700	-	-	-	-
10	UNI	lbf/ft	GX	5.700	-	-	-	-
11	UNI	lbf/ft	GX	5.700	-	-	-	-
12	UNI	lbf/ft	GX	5.700	-	-	-	-
13	UNI	lbf/ft	GX	5.700	-	-	-	-
14	UNI	lbf/ft	GX	5.700	-	-	-	-
15	UNI	lbf/ft	GX	5.700	-	-	-	-
16	UNI	lbf/ft	GX	5.700	-	-	-	-
17	UNI	lbf/ft	GX	5.700	-	-	-	-
18	UNI	lbf/ft	GX	5.700	-	-	-	-
19	UNI	lbf/ft	GX	5.700	-	-	-	-
20	UNI	lbf/ft	GX	5.700	-	-	-	-
21	UNI	lbf/ft	GX	5.700	-	-	-	-

8 WLS#4 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
22	UNI	lbf/ft	GX	5.700	-	-	-	-
23	UNI	lbf/ft	GX	5.700	-	-	-	-
24	UNI	lbf/ft	GX	5.700	-	-	-	-
25	UNI	lbf/ft	GX	5.700	-	-	-	-
26	UNI	lbf/ft	GX	5.700	-	-	-	-
27	UNI	lbf/ft	GX	5.700	-	-	-	-
28	UNI	lbf/ft	GX	5.700	-	-	-	-
29	UNI	lbf/ft	GX	5.700	-	-	-	-
30	UNI	lbf/ft	GX	5.700	-	-	-	-
31	UNI	lbf/ft	GX	1.700	-	-	-	-
32	UNI	lbf/ft	GX	1.700	-	-	-	-
33	UNI	lbf/ft	GX	1.700	-	-	-	-
34	UNI	lbf/ft	GX	1.700	-	-	-	-
35	UNI	lbf/ft	GX	1.700	-	-	-	-
36	UNI	lbf/ft	GX	1.700	-	-	-	-
37	UNI	lbf/ft	GX	1.700	-	-	-	-
38	UNI	lbf/ft	GX	1.700	-	-	-	-
39	UNI	lbf/ft	GX	1.700	-	-	-	-
40	UNI	lbf/ft	GX	1.700	-	-	-	-
41	UNI	lbf/ft	GX	1.700	-	-	-	-
43	UNI	lbf/ft	GX	1.700	-	-	-	-
45	UNI	lbf/ft	GX	1.700	-	-	-	-
46	UNI	lbf/ft	GX	1.700	-	-	-	-
47	UNI	lbf/ft	GX	1.700	-	-	-	-
49	UNI	lbf/ft	GX	1.700	-	-	-	-
51	UNI	lbf/ft	GX	1.700	-	-	-	-
53	UNI	lbf/ft	GX	1.700	-	-	-	-
54	UNI	lbf/ft	GX	1.700	-	-	-	-
55	UNI	lbf/ft	GX	5.700	-	-	-	-
56	UNI	lbf/ft	GX	5.700	-	-	-	-
57	UNI	lbf/ft	GX	5.700	-	-	-	-
58	UNI	lbf/ft	GX	5.700	-	-	-	-
59	UNI	lbf/ft	GX	5.700	-	-	-	-
60	UNI	lbf/ft	GX	5.700	-	-	-	-
61	UNI	lbf/ft	GX	5.700	-	-	-	-
62	UNI	lbf/ft	GX	5.700	-	-	-	-
63	UNI	lbf/ft	GX	5.700	-	-	-	-
65	UNI	lbf/ft	GX	1.700	-	-	-	-
66	UNI	lbf/ft	GX	1.700	-	-	-	-
67	UNI	lbf/ft	GX	1.700	-	-	-	-
68	UNI	lbf/ft	GX	1.700	-	-	-	-
69	UNI	lbf/ft	GX	1.700	-	-	-	-
70	UNI	lbf/ft	GX	1.700	-	-	-	-
71	UNI	lbf/ft	GX	1.700	-	-	-	-
72	UNI	lbf/ft	GX	1.700	-	-	-	-

8 WLS#4 : Beam Loads Cont...

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
73	UNI lbf/ft	GX	1.700	-	-	-	-
79	UNI lbf/ft	GX	1.700	-	-	-	-
82	UNI lbf/ft	GX	1.700	-	-	-	-
89	UNI lbf/ft	GX	1.700	-	-	-	-
92	UNI lbf/ft	GX	1.700	-	-	-	-
95	UNI lbf/ft	GX	1.700	-	-	-	-

Utilization Ratio

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
2	C5X9	C5X9	0.371	1.000	0.371	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
4	C5X9	C5X9	0.299	1.000	0.299	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
6	C5X9	C5X9	0.320	1.000	0.320	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
10	C5X9	C5X9	0.364	1.000	0.364	LRFD-H1-1B-	9	2.640	8.890	0.624	0.096
11	C5X9	C5X9	0.329	1.000	0.329	LRFD-H1-1B-	10	2.640	8.890	0.624	0.096
12	C5X9	C5X9	0.370	1.000	0.370	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
13	C5X9	C5X9	0.425	1.000	0.425	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
14	C5X9	C5X9	0.424	1.000	0.424	LRFD-H1-1B-	9	2.640	8.890	0.624	0.096
15	C5X9	C5X9	0.330	1.000	0.330	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
16	C5X9	C5X9	0.384	1.000	0.384	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
17	C5X9	C5X9	0.415	1.000	0.415	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
18	C5X9	C5X9	0.408	1.000	0.408	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
19	C5X9	C5X9	0.189	1.000	0.189	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
20	C5X9	C5X9	0.181	1.000	0.181	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
21	C5X9	C5X9	0.094	1.000	0.094	LRFD-H1-1B-	10	2.640	8.890	0.624	0.096
22	C5X9	C5X9	0.113	1.000	0.113	LRFD-H1-1B-	9	2.640	8.890	0.624	0.096
23	C5X9	C5X9	0.151	1.000	0.151	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
24	C5X9	C5X9	0.150	1.000	0.150	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
25	C5X9	C5X9	0.116	1.000	0.116	LRFD-H1-1B-	9	2.640	8.890	0.624	0.096
26	C5X9	C5X9	0.098	1.000	0.098	LRFD-H1-1B-	9	2.640	8.890	0.624	0.096
27	C5X9	C5X9	0.215	1.000	0.215	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
28	C5X9	C5X9	0.218	1.000	0.218	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
29	C5X9	C5X9	0.094	1.000	0.094	LRFD-H1-1B-	10	2.640	8.890	0.624	0.096
30	C5X9	C5X9	0.087	1.000	0.087	LRFD-H1-1B-	10	2.640	8.890	0.624	0.096
31	PIPS20	PIPS20	0.011	1.000	0.011	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
32	PIPS20	PIPS20	0.029	1.000	0.029	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
33	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
34	PIPS20	PIPS20	0.303	1.000	0.303	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
35	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
36	PIPS20	PIPS20	0.253	1.000	0.253	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
37	PIPS20	PIPS20	0.009	1.000	0.009	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
38	PIPS20	PIPS20	0.009	1.000	0.009	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
39	PIPS20	PIPS20	0.011	1.000	0.011	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254

Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
40	PIPS20	PIPS20	0.029	1.000	0.029	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
41	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
42	PIPS20	PIPS20	0.279	1.000	0.279	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
43	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
44	PIPS20	PIPS20	0.229	1.000	0.229	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
45	PIPS20	PIPS20	0.009	1.000	0.009	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
46	PIPS20	PIPS20	0.009	1.000	0.009	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
47	PIPS20	PIPS20	0.011	1.000	0.011	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
48	PIPS20	PIPS20	0.133	1.000	0.133	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
49	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
50	PIPS20	PIPS20	0.279	1.000	0.279	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
51	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
52	PIPS20	PIPS20	0.229	1.000	0.229	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
53	PIPS20	PIPS20	0.009	1.000	0.009	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
54	PIPS20	PIPS20	0.009	1.000	0.009	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
55	C5X9	C5X9	0.472	1.000	0.472	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
56	C5X9	C5X9	0.397	1.000	0.397	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
57	C5X9	C5X9	0.413	1.000	0.413	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
58	C5X9	C5X9	0.322	1.000	0.322	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
59	C5X9	C5X9	0.474	1.000	0.474	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
60	C5X9	C5X9	0.359	1.000	0.359	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
61	C5X9	C5X9	0.397	1.000	0.397	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
62	C5X9	C5X9	0.411	1.000	0.411	LRFD-H1-1B-	12	2.640	8.890	0.624	0.096
63	C5X9	C5X9	0.308	1.000	0.308	LRFD-H1-1B-	11	2.640	8.890	0.624	0.096
64	PIPS20	PIPS20	0.028	1.000	0.028	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
65	PIPS20	PIPS20	0.138	1.000	0.138	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
66	PIPS20	PIPS20	0.137	1.000	0.137	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
67	PIPS20	PIPS20	0.104	1.000	0.104	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
68	PIPS20	PIPS20	0.255	1.000	0.255	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
69	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
70	PIPS20	PIPS20	0.124	1.000	0.124	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
71	PIPS20	PIPS20	0.304	1.000	0.304	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
72	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
73	PIPS20	PIPS20	0.097	1.000	0.097	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
74	PIPS20	PIPS20	0.026	1.000	0.026	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
75	PIPS20	PIPS20	0.160	1.000	0.160	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
76	PIPS20	PIPS20	0.124	1.000	0.124	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
77	PIPS20	PIPS20	0.009	1.000	0.009	SHEAR-Z	9	1.020	0.627	0.627	1.254
79	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
80	PIPS20	PIPS20	0.114	1.000	0.114	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
81	PIPS20	PIPS20	0.312	1.000	0.312	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
82	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
83	PIPS20	PIPS20	0.029	1.000	0.029	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
84	PIPS20	PIPS20	0.026	1.000	0.026	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
85	PIPS20	PIPS20	0.160	1.000	0.160	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254

Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
86	PIPS20	PIPS20	0.124	1.000	0.124	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
87	PIPS20	PIPS20	0.094	1.000	0.094	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
88	PIPS20	PIPS20	0.253	1.000	0.253	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
89	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
90	PIPS20	PIPS20	0.114	1.000	0.114	LRFD-H1-1B-	10	1.020	0.627	0.627	1.254
91	PIPS20	PIPS20	0.312	1.000	0.312	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
92	PIPS20	PIPS20	0.004	1.000	0.004	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
93	PIPS20	PIPS20	0.097	1.000	0.097	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
94	PIPS20	PIPS20	0.289	1.000	0.289	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254
95	PIPS20	PIPS20	0.007	1.000	0.007	LRFD-H1-1B-	9	1.020	0.627	0.627	1.254

Failed Members

There is no data of this type.

Reaction Summary

	Node	L/C	Horizontal FX (kip)	Vertical FY (kip)	Horizontal FZ (kip)	Moment MX (kip-in)	MY (kip-in)	MZ (kip-in)
Max FX	9	9:1.2D+1.6WL	**1.014**	1.383	2.171	0.000	0.000	0.000
Min FX	6	10:1.2D+1.6Wl	**-2.510**	1.461	-0.019	0.000	0.000	0.000
Max FY	2	12:1.2D+1.0Dl-	-0.236	**4.555**	0.257	0.000	0.000	0.000
Min FY	9	2:WL#1	0.634	**-0.105**	1.357	0.000	0.000	0.000
Max FZ	2	9:1.2D+1.6WL	-1.116	1.558	**2.318**	0.000	0.000	0.000
Min FZ	9	10:1.2D+1.6Wl	-0.980	1.448	**-1.065**	0.000	0.000	0.000
Max MX	2	1:DEAD	-0.000	1.437	0.000	**0.000**	0.000	0.000
Min MX	2	1:DEAD	-0.000	1.437	0.000	**0.000**	0.000	0.000
Max MY	2	1:DEAD	-0.000	1.437	0.000	0.000	**0.000**	0.000
Min MY	2	1:DEAD	-0.000	1.437	0.000	0.000	**0.000**	0.000
Max MZ	2	1:DEAD	-0.000	1.437	0.000	0.000	0.000	**0.000**
Min MZ	2	1:DEAD	-0.000	1.437	0.000	0.000	0.000	**0.000**

Node Displacement Summary

	Node	L/C	X (in)	Y (in)	Z (in)	Resultant (in)	rX (rad)	rY (rad)	rZ (rad)
Max X	55	13:1.0D+1.0Wl	**0.424**	-0.057	0.169	0.460	-0.003	-0.000	0.009
Min X	51	13:1.0D+1.0Wl	**-0.425**	-0.057	-0.261	0.502	-0.006	-0.000	0.009
Max Y	2	13:1.0D+1.0Wl	0.000	**0.000**	0.000	0.000	0.001	0.000	-0.001
Min Y	20	14:1.0D+1.0Wl	0.002	**-0.108**	-0.000	0.108	0.001	-0.000	-0.002
Max Z	39	14:1.0D+1.0Wl	0.093	-0.057	**0.326**	0.344	0.007	0.000	-0.002
Min Z	43	13:1.0D+1.0Wl	-0.051	-0.054	**-0.372**	0.380	0.008	0.000	-0.001
Max rX	43	13:1.0D+1.0Wl	-0.051	-0.054	-0.372	0.380	**0.008**	0.000	-0.001
Min rX	50	13:1.0D+1.0Wl	-0.327	-0.052	-0.282	0.435	**-0.006**	0.000	0.007
Max rY	31	13:1.0D+1.0Wl	0.000	-0.034	-0.007	0.035	0.007	**0.000**	-0.001
Min rY	20	13:1.0D+1.0Wl	0.000	-0.101	-0.002	0.101	0.001	**-0.001**	-0.002
Max rZ	27	13:1.0D+1.0Wl	-0.001	-0.027	-0.002	0.028	-0.004	-0.000	**0.009**
Min rZ	22	13:1.0D+1.0Wl	0.001	-0.035	-0.003	0.035	-0.004	0.000	**-0.008**
Max Rst	51	13:1.0D+1.0Wl	-0.425	-0.057	-0.261	**0.502**	-0.006	-0.000	0.009

Allowable deflection = 4 ft x 12 inches x 0.015 = 0.72" > 0.502" OK

Dewberry

Job Number	50093734
Made by:	BGK
Date:	12/27/17
Checked by:	DYN
Date:	12/27/17

CT1071 Winsted Winchester - Platform Base Plate Check

R:\50093723\50093734-CT1071 Winsted_Winchester\Tech\Report\50093734 platform base plate check.xlsx

Check Platform Base Plate (LRFD):

- use maximum downward load of 5 kips from STAAD model

Base Plate Moment = 5 kips X 10.0 in moment arm = **50 kip-in**

Plate Thickness, t = 1 in Plate Width, w = 12 in

Fy = 36 ksi Φ = 0.9

Plate Plastic Modulus, Z = $(wt^2)/4$

= (12 lb * 1 lb^2) / 4 = 3 ci

M_{allow} = $\Phi * z * F_y$

0.9 * 3 ci * 36 ksi = **97.20 kip-in**

Unity Check = 51.4% < 100%, OK

APPENDIX B

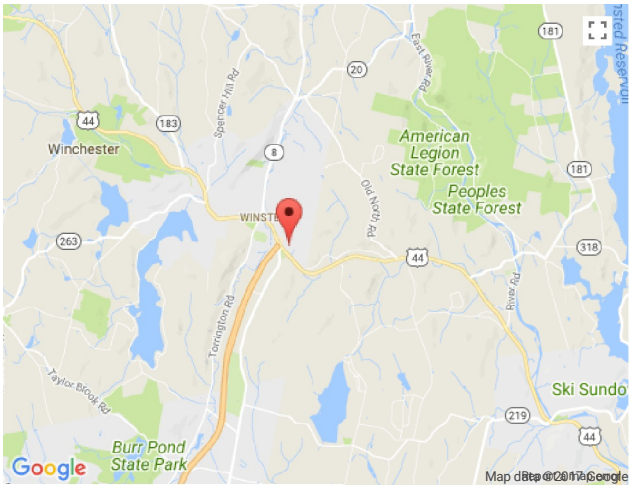
Search Results

Query Date: Fri Nov 03 2017
Latitude: 41.9149
Longitude: -73.0527

ASCE 7-10 Windspeeds
(3-sec peak gust in mph*):

Risk Category I: 105
Risk Category II: 116
Risk Category III-IV: 124
MRI 10-Year:** 76
MRI 25-Year:** 85
MRI 50-Year:** 90
MRI 100-Year:** 96

ASCE 7-05 Windspeed:
94 (3-sec peak gust in mph)
ASCE 7-93 Windspeed:
76 (fastest mile in mph)



*Miles per hour
**Mean Recurrence Interval

Users should consult with local building officials to determine if there are community-specific wind speed requirements that govern.

Print your results

WINDSPEED WEBSITE DISCLAIMER

While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the windspeed report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed load report.

Sponsored by the ATC Endowment Fund • Applied Technology Council • 201 Redwood Shores Parkway, Suite 240 • Redwood City, California 94065 • (650) 595-1542

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CTV1071	DATE:	04/19/2017	RF DESIGN ENG:	Mazhar Bhatti
ISSUE:	Bronze Standard	Approved? (Y/N):	Yes	RF DESIGN PHONE:	510-896-0786
REVISION:	Preliminary	RF MANAGER:	Benedetto, John	RF DESIGN EMAIL:	mb497j@att.com
INITIATIVE /PROJECT:	LTE 3C,LTE 4C, // WCS, 700 UPPER D,				

RF PERF ENG:		RFDS PROGRAM TYPE:	2018 LTE Next Carrier		
RF PERF PHONE:		RFDS TECHNOLOGY:	LTE		
RF PERF EMAIL:		STATE/STATUS:	Preliminary/Approved		
RFDS VERSION:	1.00	RFDS ID:	1734970		
GSM FREQUENCY:		Created By:	mb497j	Updated By:	mr673a
UMTS FREQUENCY:	850, 1900	Date Created:	4/19/2017 5:48:25 PM	Date Updated:	9/6/2017 4:35:06 PM
LTE FREQUENCY:	700, 1900, WCS				
I-PLAN JOB # 1:	NER-RCTB-17-01379	IPLAN PRD GRP || SUB GRP #1:	LTE Next Carrier || LTE 3C		
I-PLAN JOB # 2:	NER-RCTB-17-01599	IPLAN PRD GRP || SUB GRP #2:	LTE Next Carrier || LTE 4C		
I-PLAN JOB # 3:		IPLAN PRD GRP || SUB GRP #3:			
I-PLAN JOB # 4:		IPLAN PRD GRP || SUB GRP #4:			
I-PLAN JOB # 5:		IPLAN PRD GRP || SUB GRP #5:			
I-PLAN JOB # 6:		IPLAN PRD GRP || SUB GRP #6:			
I-PLAN JOB # 7:		IPLAN PRD GRP || SUB GRP #7:			
I-PLAN JOB # 8:		IPLAN PRD GRP || SUB GRP #8:			

Section 2 - LOCATION INFORMATION

USID:	4573	FA LOCATION CODE:	10035017	LOCATION NAME:	WINSTED/WINCHESTER
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CONNECTICUT
ADDRESS:	15 OAKDALE AVENUE	CITY:	WINSTED	STATE:	CT
ZIP CODE:	06098	COUNTY:	LITCHFIELD	LONG (DEC. DEG.):	-73.0494989
LATITUDE (D-M-S):	41d 55m 18.06996s	LONGITUDE (D-M-S):	-73d -2m -58.19604s	LAT (DEC. DEG.):	41.9216861
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	LEGACY ORANGE1071 WINCHESTER RT 8 TO END TURN LEFT ONTO RT 44 AT 1ST LIGHT TURN LEFT OLD NEW HARTFORD ROAD 2ND LEFT OAKDALE AVE FOLLOW TO ENDAC METER#: 89-194-780-2LEGACY BLUEUPDATED 8/04RL05-WINSTED, CTTAKE THE GARDEN STATE PARKWAY NORTH TO THE TAPPAN ZEE BRIDGE. AFTER THE BRIDGE TAKE EXIT 8 (I-287) TO EXIT 1 WHICH IS THE SAW MILL RIVER PARKWAY NORTH. TAKE THE SAW MILL RIVER PARKWAY TO THE END WHERE IT WILL MERGE WITH I-684 NORTH. TAKE I-684 NORTH TO I-84 EAST (DANBURY). TAKE THIS TO EXIT 20, RT. 8 NORTH(TORINGTON). TAKE RT. 8 NORTH UNTILL IT ENDS, @ THE TRAFFIC GO LEFT, AT THE NEXT TRAFFIC LIGHT WHICH IS OLD NEW HARTFORD RD GO LEFT.TAKE YOUR 2ND LEFT ONTO OAKDALE AVE.AND FOLLOW TO THE END OF THE ROAD. WE ARE THE BUILDING ON THE LEFT, BEHIND VERIZON WIRELESS.NOTE: POWER COMPANY IS NORTHEAST UTILITIES1-800-286-2000ADDRESS:15 OAKDALE AVE. WALLENS HILLWINCHESTER CTMONOPOLE ON TOP OF THE HILLACCESS:OUTSIDE GATE SESAMEE COMBO0043INSIDE GATE SESAMEE COMBO0043STANDARD MEDECO KEYCONTACT:RON CLARK SNET REAL ESTATE MANAGER203-553-75958AM - 5 PMPOWER COMPANY:NORTHEAST UTILITIESMETER:# 88-692-725/\\GSM T1'S:GSM T1#1: HCGS 774149 ET-55GSM T1#2: HCGS 774150 ET-63GSM T1#3: HCGS 714874 ET-126\\UMTS T1'S:UMTS T1#1: HCGS 766124UMTS T1#2: HCGS 766125UMTS T1#3: HCGS 766126UMTS T1#4: HCGS 766127				

ORACLE PTN # 1:	2051A0B8WR	PACE JOB # 1:	MRCTB023531		
ORACLE PTN # 2:	2051A0B8T1	PACE JOB # 2:	MRCTB023674		
ORACLE PTN # 3:		PACE JOB # 3:			
ORACLE PTN # 4:		PACE JOB # 4:			
ORACLE PTN # 5:		PACE JOB # 5:			
ORACLE PTN # 6:		PACE JOB # 6:			
ORACLE PTN # 7:		PACE JOB # 7:			
ORACLE PTN # 8:		PACE JOB # 8:			
BORDER CELL WITH CONTOUR COORD:		SEARCH RING NAME:			
AM STUDY REQ'D (Y/N):	No	SEARCH_RING_ID:			
FREQ COORD:		BTA:		MSA / RSA:	
OPS DISTRICT:	CT-South	LAC(GSM):	05004		
OPS ZONE:	NE_CT_N_LCFD_N_CS	LAC(UMTS):	05994		
RF DISTRICT:	NPO Triage	BSC(GSM):	BCT04		
RF ZONE:	Hotseat	RNC(UMTS):	MDTWCTNICR0R03		
PARENT NAME(GSM):	MIDDLETOWN-GSM MTSO-BSC-4	MME POOL ID(LTE):	FF01		
PARENT NAME(UMTS):	MIDDLETOWN RNC03				

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:	
CGSA - MINOR FILING NEEDED (Yes/No)::	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:	
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:			

CGSA CALL SIGNS:	KNKN589,KNKN589,KNKN589

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	Yes	GROUND ELEVATION (ft):		STRUCTURE TYPE:	MONOPOLE
ADDITIONAL REGULATORY?:	Yes	HEIGHT OVERALL (ft):	186.00	FCC ASR NUMBER:	NR
SUB-LEASE RIGHTS?:	Yes	STRUCTURE HEIGHT (ft):	186.00		
LIGHTING TYPE:	NOT REQUIRED				

MARKET LOCATION 700 MHz Band:			
MARKET LOCATION 850 MHz Band:			
MARKET LOCATION 1900 MHz Band:			
MARKET LOCATION AWS Band:			
MARKET LOCATION WCS Band:			
MARKET LOCATION Future Band:			

Section 5 - E-911 INFORMATION - existing

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:		
SECTOR A E-911				INTRADO_MIAMI		0				
SECTOR B				INTRADO_MIAMI		0				
SECTOR C				INTRADO_MIAMI		0				
SECTOR D										
SECTOR E										
SECTOR F										
OMNI										

Section 5 - E-911 INFORMATION - final

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:		
SECTOR A E-911				INTRADO_MIAMI		0				
SECTOR B				INTRADO_MIAMI		0				
SECTOR C				INTRADO_MIAMI		0				
SECTOR D										
SECTOR E										
SECTOR F										
OMNI										

Section 6 - RBS GENERAL INFORMATION - existing

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS							
RBS ID:	128715	128716	272884	330086	413890							
CTS COMMON ID:	357D1071	318D1071	CTV1071	CTU1071	CTL01071							
CELL ID / BCF:	357D1071	357D1071	CTV1071	CTV1071	CTL01071							
BTA/TID:	357G	357P	318U	318W	318L							
4-9 DIGIT SITE ID:	1071	1071	1071	1071	01071							
COW OR TOY?:	No	No	No	No	No							
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED	SECTORIZED	SECTORIZED							
SITE TYPE:	BTS-CONVENTIONAL	BTS-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL							
BTS LOCATION ID:	GROUND	GROUND	INTERNAL	INTERNAL	INTERNAL							
BASE STATION TYPE:	BASE	BASE	OVERLAY	OVERLAY	BASE							
EQUIPMENT NAME:	WINSTED/WINCHESTER	WINCHESTER	ERICSSON NODEB	WINSTED/WINCHESTER	WINCHESTER LTE							
DISASTER PRIORITY:	0	1	3	3	0							

Section 6 - RBS GENERAL INFORMATION - final

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS							
RBS ID:			272884		413890							
CTS COMMON ID:			CTV1071		CTL01071							
CELL ID / BCF:			CTV1071		CTL01071							
BTA/TID:			318U		318L							
4-9 DIGIT SITE ID:			1071		01071							
COW OR TOY?:			No		No							
CELL SITE TYPE:			SECTORIZED		SECTORIZED							
SITE TYPE:			MACRO-CONVENTIONAL		MACRO-CONVENTIONAL							
BTS LOCATION ID:			INTERNAL		INTERNAL							
BASE STATION TYPE:			OVERLAY		BASE							
EQUIPMENT NAME:			ERICSSON NODEB		WINCHESTER LTE							
DISASTER PRIORITY:			3		0							

Section 7 - RBS SPECIFIC INFORMATION - existing

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS							
RAC:												
EQUIPMENT VENDOR:	NOKIA	NOKIA	ERICSSON	ERICSSON	ERICSSON							
EQUIPMENT TYPE:	ULTRASITE	ULTRASITE	3206 INDOOR	3206 INDOOR	6601 INDOOR MU							
BASEBAND CONFIGURATION:												
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:					CT							
AGPS:	Yes	Yes	Yes	Yes	Yes							
NODE B NUMBER:	0	0	0	0	1071							

Section 7 - RBS SPECIFIC INFORMATION - final

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS							
RAC:												
EQUIPMENT VENDOR:			ERICSSON		ERICSSON							
EQUIPMENT TYPE:			3206 INDOOR		6601 INDOOR MU							
BASEBAND CONFIGURATION:					1x6601 / 1x5216 / 1xXMU03							
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:					CT							
AGPS:			Yes		Yes							
NODE B NUMBER:			0		1071							

Section 8 - RBS/SECTOR ASSOCIATION - existing

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS															
CTS Common ID	357D1071	318D1071	CTV1071	CTU1071	CTL01071															
Soft Sector IDs	318G10711	318P10711	CTV10711	CTU10717	CTL01071_2A_1															
	318G10712	318P10712	CTV10712	CTU10718	CTL01071_2B_1															
	318G10713	318P10713	CTV10713	CTU10719	CTL01071_2C_1															
			CTV1071A		CTL01071_7A_1															
			CTV1071B		CTL01071_7B_1															
			CTV1071C		CTL01071_7C_1															
					CTL01071_9A_1															
					CTL01071_9A_2															
					CTL01071_9B_1															
					CTL01071_9B_2															
					CTL01071_9C_1															
					CTL01071_9C_2															

Section 8 - RBS/SECTOR ASSOCIATION - final

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS															
CTS Common ID			CTV1071		CTL01071															
Soft Sector IDs			CTV10711		CTL01071_3A_1															
			CTV10712		CTL01071_3B_1															
			CTV10713		CTL01071_3C_1															
			CTV1071A		CTL01071_7A_1															
			CTV1071B		CTL01071_7A_3_F															
			CTV1071C		CTL01071_7B_1															
					CTL01071_7B_3_F															
					CTL01071_7C_1															
					CTL01071_7C_3_F															
					CTL01071_9A_1															
					CTL01071_9A_2															
					CTL01071_9B_1															
					CTL01071_9B_2															
					CTL01071_9C_1															
					CTL01071_9C_2															

Section 9 - SOFT SECTOR ID - existing

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH 1900	LTE 5TH 700														
USEID (excluding Hard Sector)	4573.850.25G.2	4573.1900.25G.2	4573.850.3G.1	4573.1900.3G.2	4573.850.3G.2																					
SECTOR A SOFT SECTOR ID	318G10711	318P10711	CTV10711	CTU10717	CTV1071A	CTL01071_7A_1	CTL01071_9A_1	CTL01071_2A_1		CTL01071_9A_2																
SECTOR B	318G10712	318P10712	CTV10712	CTU10718	CTV1071B	CTL01071_7B_1	CTL01071_9B_1	CTL01071_2B_1		CTL01071_9B_2																
SECTOR C	318G10713	318P10713	CTV10713	CTU10719	CTV1071C	CTL01071_7C_1	CTL01071_9C_1	CTL01071_2C_1		CTL01071_9C_2																
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - SOFT SECTOR ID - final

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH 1900	LTE 5TH 700														
USEID (excluding Hard Sector)			4573.850.3G.1		4573.850.3G.2																					
SECTOR A SOFT SECTOR ID			CTV10711		CTV1071A	CTL01071_7A_1	CTL01071_9A_1		CTL01071_3A_1	CTL01071_9A_2	CTL01071_9A_2	CTL01071_7A_3_F														
SECTOR B			CTV10712		CTV1071B	CTL01071_7B_1	CTL01071_9B_1		CTL01071_3B_1	CTL01071_9B_2	CTL01071_9B_2	CTL01071_7B_3_F														
SECTOR C			CTV10713		CTV1071C	CTL01071_7C_1	CTL01071_9C_1		CTL01071_3C_1	CTL01071_9C_2	CTL01071_9C_2	CTL01071_7C_3_F														
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - Cell Number - existing

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH 1900	LTE 5TH 700														
USEID (excluding Hard Sector)	4573.850.25G.2	4573.1900.25G.2	4573.850.3G.1	4573.1900.3G.2	4573.850.3G.2																					
SECTOR A CELL NUMBER						15	8	22		178																
SECTOR B						16	9	23		179																
SECTOR C						17	10	24		180																
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - Cell Number - final

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH 1900	LTE 5TH 700														
USEID (excluding Hard Sector)			4573.850.3G.1		4573.850.3G.2																					
SECTOR A CELL NUMBER						15	8		149	178	178	171														
SECTOR B						16	9		150	179	179	172														
SECTOR C						17	10		151	180	180	173														
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 10 - CID/SAC - existing

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH 1900	LTE 5TH 700															
SECTOR A CID/SAC	10711	10711	10711	10717	00711																						
SECTOR B	10712	10712	10712	10718	00712																						
SECTOR C	10713	10713	10713	10719	00713																						
SECTOR D																											
SECTOR E																											
SECTOR F																											
OMNI																											

Section 10 - CID/SAC - final

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH 1900	LTE 5TH 700															
SECTOR A CID/SAC			10711		00711																						
SECTOR B			10712		00712																						
SECTOR C			10713		00713																						
SECTOR D																											
SECTOR E																											
SECTOR F																											
OMNI																											

Section 15A - CURRENT TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		AM-X-CD-16-65-00T-RET				7770							
ANTENNA VENDOR	Powerwave		KMW				Powerwave							
ANTENNA SIZE (H x W x D)	55X11X5		72X11.8X5.9				55X11X5							
ANTENNA WEIGHT	35		48.5				35							
AZIMUTH	143		23				143							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	184		184.05				184.05							
ANTENNA TIP HEIGHT	186		187.05				186.05							
MECHANICAL DOWNTILT	0		0				0							
FEEDER AMOUNT	2						2							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		BUILT-IN			2	Powerwave 7020						
SURGE ARRESTOR (QTY/MODEL)			1	DC/Fiber Squid			1	Andrew/ABT-DFDM-ADBH						
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901					2	Powerwave LGP 21901						
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				LTE RRH			1	Powerwave 7070						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)					1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Andrew ABT-DFDM-ADBH					1	KATHREIN 782-10253 12V						
PDU FOR TMAS (QTY/MODEL)	1	Powerwave LGP12104												
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-11										
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)			1	RRUS-12										
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		4573.A.850.3G.1	CTV10711	CTV10711		UMTS 850	7770.00.850.04	13.5	143	4	None	Andrew 1-5/8 (850)	235.06						289.07			
	PORT 2		4573.A.850.3G.2	CTV10711	CTV10711		UMTS 850	7770.00.850.04	13.5	143	4	Bottom	Andrew 1-5/8 (850)	235.06						289.07			
	PORT 3		4573.A.1900.3G.2	CTU10717	CTU10717		UMTS 1900	7770.00.1900.04	15.5	143	4	none	Andrew 1-5/8 (1900)	235.06						340.41			
ANTENNA POSITION 2	PORT 1		4573.A.700.4G.1	CTL01071_7A_1	CTL01071_7A_1		LTE 700	AM-X-CD-16-65-00T-RET_725MHz_04DT	15.6	23	4	Top	FIBER	0						1475.7065			
	PORT 3		4573.A.1900.4G.1	CTL01071_9A_1	CTL01071_9A_1		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_02DT	17.3	23	2	Top	FIBER	0						3664.3757			
	PORT 4			CTL01071_9A_2	CTL01071_9A_2		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_02DT	17.3	23	2	Top	FIBER	0						3664.3757			

ANTENNA POSITION 4	**PORT 1**		4573.A.850.25G.2	318G10711	318G10711		GSM 850	7770.00.850.04	13.5	143	4	None	Andrew 1-5/8 (850)	235.06					12.58	136.45			

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		AM-X-CD-16-65-00T-RET				7770							
ANTENNA VENDOR	Powerwave		KMW				Powerwave							
ANTENNA SIZE (H x W x D)	55X11X5		72X11.8X5.9				55X11X5							
ANTENNA WEIGHT	35		48.5				35							
AZIMUTH	263		143				263							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	184		184.05				184.05							
ANTENNA TIP HEIGHT	186		187.05				186.05							
MECHANICAL DOWNTILT	0		0				0							
FEEDER AMOUNT	2						2							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		BUILT-IN			2	Powerwave 7020						
SURGE ARRESTOR (QTY/MODEL)							1	Andrew/ABT-DFDM-ADBH						
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901					2	Powerwave LGP 21901						
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				LTE RRH										
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)					1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Andrew ABT-DFDM-ADBH					1	KATHREIN 782-10253 12V						
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-11										
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)			1	RRUS-12										
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		4573.B.850.3G.1	CTV10712	CTV10712		UMTS 850	7770.00.850.04	13.5	263	4	None	Andrew 1-5/8 (850)	235.06						289.07			
	PORT 2		4573.B.850.3G.2	CTV10712	CTV10712		UMTS 850	7770.00.850.04	13.5	263	4	Bottom	Andrew 1-5/8 (850)	235.06						289.07			
	PORT 3		4573.B.1900.3G.2	CTU10718	CTU10718		UMTS 1900	7770.00.1900.04	15.5	263	4	none	Andrew 1-5/8 (1900)	235.06						340.41			
ANTENNA POSITION 2	PORT 1		4573.B.700.4G.1	CTL01071_7B_1	CTL01071_7B_1		LTE 700	AM-X-CD-16-65-00T-RET_725MHz_02DT	15.6	143	2	Top	FIBER	0						1475.7065			
	PORT 3		4573.B.1900.4G.1	CTL01071_9B_1	CTL01071_9B_1		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_02DT	17.3	143	2	Top	FIBER	0						3664.3757			
	PORT 4			CTL01071_9B_2	CTL01071_9B_2		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_02DT	17.3	143	2	Top	FIBER	0						3664.3757			

ANTENNA POSITION 4	**PORT 1**		4573.B.850.25G.2	318G10712	318G10712		GSM 850	7770.00.850.04	13.5	263	4	None	Andrew 1-5/8 (850)	235.06					5.62	60.95			

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		AM-X-CD-16-65-00T-RET				7770							
ANTENNA VENDOR	Powerwave		KMW				Powerwave							
ANTENNA SIZE (H x W x D)	55X11X5		72X11.8X5.9				55X11X5							
ANTENNA WEIGHT	35		48.5				35							
AZIMUTH	23		263				23							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	184		184.05				184.05							
ANTENNA TIP HEIGHT	186		187.05				186.05							
MECHANICAL DOWNTILT	0		0				0							
FEEDER AMOUNT	2						2							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		BUILT-IN			2	Powerwave 7020						
SURGE ARRESTOR (QTY/MODEL)							1	Andrew/ABT-DFDM-ADBH						
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901						Powerwave LGP 21901						
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				LTE RRH										
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)					1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Andrew ABT-DFDM-ADBH					1	KATHREIN 782-10253 12V						
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-11										
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)			1	RRUS-12										
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		4573.C.850.3G.1	CTV10713	CTV10713		UMTS 850	7770.00.850.04	13.5	23	4	None	Andrew 1-5/8 (850)	235.06						289.07			
	PORT 2		4573.C.850.3G.2	CTV10713	CTV10713		UMTS 850	7770.00.850.04	13.5	23	4	Bottom	Andrew 1-5/8 (850)	235.06						289.07			
	PORT 3		4573.C.1900.3G.2	CTU10719	CTU10719		UMTS 1900	7770.00.1900.04	15.5	23	4	none	Andrew 1-5/8 (1900)	235.06						340.41			
ANTENNA POSITION 2	PORT 1		4573.C.700.4G.1	CTL01071_7C_1	CTL01071_7C_1		LTE 700	AM-X-CD-16-65-00T-RET_725MHz_06DT	15.6	263	6	Top	FIBER	0						1475.7065			
	PORT 3		4573.C.1900.4G.1	CTL01071_9C_1	CTL01071_9C_1		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_03DT	17.3	263	3	Top	FIBER	0						3664.3757			
	PORT 4			CTL01071_9C_2	CTL01071_9C_2		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_03DT	17.3	263	3	Top	FIBER	0						3664.3757			

ANTENNA POSITION 4	**PORT 1**		4573.C.850.25G.2	318G10713	318G10713		GSM 850	7770.00.850.04	13.5	23	4	None	Andrew 1-5/8 (850)	235.06					12.58	136.45			

Section 16A - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
Existing Antenna?														
ANTENNA MAKE - MODEL					HPA-65R-BUU-H6									
ANTENNA VENDOR					CCI Products									
ANTENNA SIZE (H x W x D)					72X14.8X9									
ANTENNA WEIGHT					51									
AZIMUTH					23									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)					184.05									
ANTENNA TIP HEIGHT					187.05									
MECHANICAL DOWNTILT					0									
FEEDER AMOUNT														
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)						BUILT-IN								
SURGE ARRESTOR (QTY/MODEL)					5	DC/Fiber Squid + APTDC-BDFDM-DB (4)								
DIPLEXER (QTY/MODEL)					2	DBC0061F1V51-2								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)						LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)					1	B14 4478								
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)														
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	LTE 3C,LTE 4C, // WCS, 700 UPPER D// Replace & Move GSM Antenna with Hex port to pos 3.// Add LTE 700 RRUS-B14 4478 with surge arresters at bottom.// Sector A and Sector B will share the same LTE 700 B14 RRUS// Add LTE RRUS 32 WCS.// Replace Diplexer with Low Band Combiner.// Add 1 DC Fiber Squid.// Replace DUS with 5216.// Add 1 XMU// Decom GSM// Decmo UMTS 1900													
Local Market Note 2														
Local Market Note 3	1x6601 1x5216 / 1xXMU03													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 3	PORT 1		4573.A.700.4G.5	CTL01071_7A_3_F	CTL01071_7A_3_F		LTE 700	OPA-65R-LCUU-H6_719MHz_02DT	14	23	2	Top	FIBER	0						1475.7065		5	
	PORT 3		4573.A.WCS.4G.1	CTL01071_3A_1	CTL01071_3A_1		LTE WCS	OPA-65R-LCUU-H6_2350MHz_02DT	17.7	23	2	Top	FIBER	0						1285.2866		6	

Section 16B - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL			HPA-65R-BUU-H6				
ANTENNA VENDOR			CCI Products				
ANTENNA SIZE (H x W x D)			72X14.8X9				
ANTENNA WEIGHT			51				
AZIMUTH			143				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)			184.05				
ANTENNA TIP HEIGHT			187.05				
MECHANICAL DOWNTILT			0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)				BUILT-IN			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)			2	DBC0061F1V51-2			
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)				LTE RRH			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				RRH is shared with another sector			
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)			1	RRUS-32			
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 3C,LTE 4C, // WCS, 700 UPPER D// Replace & Move GSM Antenna with Hex port to pos 3.// Add LTE 700 RRUS-B14 4478 with surge arresters at bottom.// Sector A and Sector B will share the same LTE 700 B14 RRUS// Add LTE RRUS 32 WCS.// Replace Diplexer with Low Band Combiner.// Add 1 DC Fiber Squid.// Replace DUS with 5216.// Add 1 XMU// Decom GSM// Decmo UMTS 1900						
Local Market Note 2							
Local Market Note 3	1x6601 1x5216 / 1xXMU03						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 3	PORT 1		4573.B.700.4G.5	CTL01071_7B_3_F	CTL01071_7B_3_F		LTE 700	OPA-65R-LCUU-H6_719MHz_02DT	14	143	2	Top	FIBER	0						1475.7065		13	
	PORT 3		4573.B.WCS.4G.1	CTL01071_3B_1	CTL01071_3B_1		LTE WCS	OPA-65R-LCUU-H6_2350MHz_02DT	17.7	143	2	Top	FIBER	0						1285.2866		14	

Section 16C - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL			HPA-65R-BUU-H6				
ANTENNA VENDOR			CCI Products				
ANTENNA SIZE (H x W x D)			72X14.8X9				
ANTENNA WEIGHT			51				
AZIMUTH			263				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)			184.05				
ANTENNA TIP HEIGHT			187.05				
MECHANICAL DOWNTILT			0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)			BUILT-IN				
SURGE ARRESTOR (QTY/MODEL)			4 APTDC-BDFDM-DB				
DIPLEXER (QTY/MODEL)			2 DBC0061F1V51-2				
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 B14 4478				
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)			1 RRUS-32				
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 3C,LTE 4C, // WCS, 700 UPPER D// Replace & Move GSM Antenna with Hex port to pos 3.// Add LTE 700 RRUS-B14 4478 with surge arresters at bottom.// Sector A and Sector B will share the same LTE 700 B14 RRUS// Add LTE RRUS 32 WCS.// Replace Diplexer with Low Band Combiner.// Add 1 DC Fiber Squid.// Replace DUS with 5216.// Add 1 XMU// Decom GSM// Decmo UMTS 1900						
Local Market Note 2							
Local Market Note 3	1x6601 1x5216 / 1xXMU03						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 3	PORT 1		4573.C.700.4G.5	CTL01071_7C_3_F	CTL01071_7C_3_F		LTE 700	OPA-65R-LCUU-H6_719MHz_02DT	14	263	2	Top	FIBER	0						1475.7065		21	
	PORT 3		4573.C.WCS.4G.1	CTL01071_3C_1	CTL01071_3C_1		LTE WCS	OPA-65R-LCUU-H6_2350MHz_02DT	17.7	263	2	Top	FIBER	0						1285.2866		22	

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		AM-X-CD-16-65-00T-RET		HPA-65R-BUU-H6									
ANTENNA VENDOR	Powerwave		KMW		CCI Products									
ANTENNA SIZE (H x W x D)	55X11X5		72X11.8X5.9		72X14.8X9									
ANTENNA WEIGHT	35		48.5		51									
AZIMUTH	143		23		23									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	184		184.05		184.05									
ANTENNA TIP HEIGHT	186		187.05		187.05									
MECHANICAL DOWNTILT	0		0		0									
FEEDER AMOUNT	2				Fiber + 2 Coax									
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		BUILT-IN		BUILT-IN								
SURGE ARRESTOR (QTY/MODEL)	1	APTDC-BDFDM-DB	1	DC / Fiber Squid	5	DC/Fiber Squid + APTDC-BDFDM-DB (4)								
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901			2	DBC0061F1V51-2								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Powerwave 7070		LTE RRH		LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	1	KATHREIN 782-10253 12V												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-11	1	B14 4478								
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)			1	RRUS-12										
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	LTE 3C,LTE 4C, // WCS, 700 UPPER D // Replace & Move GSM Antenna with Hex port to pos 3. // Add LTE 700 RRUS-B14 4478 with surge arresters at bottom. // Sector A and Sector B will share the same LTE 700 B14 RRUS // Add LTE RRUS 32 WCS. // Replace Diplexer with Low Band Combiner. // Add 1 DC Fiber Squid. // Replace DUS with 5216. // Add 1 XMU // Decom GSM // Decmo UMTS 1900													
Local Market Note 2														
Local Market Note 3	1x6601 1x5216 / 1xXMU03													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	4573.A.850.3G.1	4573.A.850.3G.1	CTV10711	CTV10711		UMTS 850	7770.00.850.04	13.5	143	4	None	Andrew 1-5/8 (850)	235.06						289.07		1	
	PORT 2	4573.A.850.3G.1,4573.A.850.	4573.A.850.3G.2	CTV10711	CTV10711		UMTS 850	7770.00.850.04	13.5	143	4	Bottom	Andrew 1-5/8 (850)	235.06						289.07		1	

		3G.2																					
ANTENNA POSITION 2	**PORT 1**	4573.A.700.4G.1	4573.A.700.4G.1	CTL01071_7A_1	CTL01071_7A_1		LTE 700	AM-X-CD-16-65-00T-RET_725MHz_03DT	15.6	23	3	Top	FIBER	0						1475.7065		3	
	PORT 3	4573.A.1900.4G.1	4573.A.1900.4G.1	CTL01071_9A_1	CTL01071_9A_1		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_04DT	17.3	23	4	Top	FIBER	0						3664.3757		4	
	PORT 4	4573.A.1900.4G.2,4573.A.1900.4G.tmp4	4573.A.1900.4G.4	CTL01071_9A_2	CTL01071_9A_2		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_04DT	17.3	23	4	Top	FIBER	0						3664.3757		4	
ANTENNA POSITION 3	**PORT 1**	4573.A.700.4G.tmp5	4573.A.700.4G.5	CTL01071_7A_3_F	CTL01071_7A_3_F		LTE 700	HPA-65R-BUU-H6_776MHz_03DT	14.64	23	3	Top	FIBER	0						2951.413		5	
	PORT 3	4573.A.WCS.4G.tmp1	4573.A.WCS.4G.1	CTL01071_3A_1	CTL01071_3A_1		LTE WCS	HPA-65R-BUU-H6_2360MHz_04DT	17.54	23	4	Top	FIBER	0						1285.2866		6	

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		AM-X-CD-16-65-00T-RET		HPA-65R-BUU-H6									
ANTENNA VENDOR	Powerwave		KMW		CCI Products									
ANTENNA SIZE (H x W x D)	55X11X5		72X11.8X5.9		72X14.8X9									
ANTENNA WEIGHT	35		48.5		51									
AZIMUTH	263		143		143									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	184		184.05		184.05									
ANTENNA TIP HEIGHT	186		187.05		187.05									
MECHANICAL DOWNTILT	0		0		0									
FEEDER AMOUNT	2				Fiber + 2 Coax									
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		BUILT-IN		BUILT-IN								
SURGE ARRESTOR (QTY/MODEL)	1	APTDC-BDFDM-DB												
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901			2	DBC0061F1V51-2								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				LTE RRH		LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	1	KATHREIN 782-10253 12V												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-11		RRH is shared with another sector								
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)			1	RRUS-12										
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	LTE 3C,LTE 4C, // WCS, 700 UPPER D // Replace & Move GSM Antenna with Hex port to pos 3. // Add LTE 700 RRUS-B14 4478 with surge arresters at bottom. // Sector A and Sector B will share the same LTE 700 B14 RRUS // Add LTE RRUS 32 WCS. // Replace Diplexer with Low Band Combiner. // Add 1 DC Fiber Squid. // Replace DUS with 5216. // Add 1 XMU // Decom GSM // Decmo UMTS 1900													
Local Market Note 2														
Local Market Note 3	1x6601 1x5216 / 1xXMU03													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	4573.B.850.3G.1	4573.B.850.3G.1	CTV10712	CTV10712		UMTS 850	7770.00.850.04	13.5	263	4	None	Andrew 1-5/8 (850)	235.06						289.07		9	
	PORT 2	4573.B.850.3G.1,4573.B.850.	4573.B.850.3G.2	CTV10712	CTV10712		UMTS 850	7770.00.850.04	13.5	263	4	Bottom	Andrew 1-5/8 (850)	235.06						289.07		9	

		3G.2																					
ANTENNA POSITION 2	**PORT 1**	4573.B.700.4G.1	4573.B.700.4G.1	CTL01071_7B_1	CTL01071_7B_1		LTE 700	AM-X-CD-16-65-00T-RET_725MHz_02DT	15.6	143	2	Top	FIBER	0						1475.7065		11	
	PORT 3	4573.B.1900.4G.1	4573.B.1900.4G.1	CTL01071_9B_1	CTL01071_9B_1		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_02DT	17.3	143	2	Top	FIBER	0						3664.3757		12	
	PORT 4	4573.B.1900.4G.2,4573.B.1900.4G.tmp4	4573.B.1900.4G.4	CTL01071_9B_2	CTL01071_9B_2		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_02DT	17.3	143	2	Top	FIBER	0						3664.3757		12	
ANTENNA POSITION 3	**PORT 1**	4573.B.700.4G.tmp5	4573.B.700.4G.5	CTL01071_7B_3_F	CTL01071_7B_3_F		LTE 700	HPA-65R-BUU-H6_776MHz_02DT	14.65	143	2	Top	FIBER	0						2951.413		13	
	PORT 3	4573.B.WCS.4G.tmp1	4573.B.WCS.4G.1	CTL01071_3B_1	CTL01071_3B_1		LTE WCS	HPA-65R-BUU-H6_2360MHz_02DT	17.36	143	2	Top	FIBER	0						1285.2866		14	

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		AM-X-CD-16-65-00T-RET		HPA-65R-BUU-H6									
ANTENNA VENDOR	Powerwave		KMW		CCI Products									
ANTENNA SIZE (H x W x D)	55X11X5		72X11.8X5.9		72X14.8X9									
ANTENNA WEIGHT	35		48.5		51									
AZIMUTH	23		263		263									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	184		184.05		184.05									
ANTENNA TIP HEIGHT	186		187.05		187.05									
MECHANICAL DOWNTILT	0		0		0									
FEEDER AMOUNT	2				Fiber + 2 Coax									
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		BUILT-IN		BUILT-IN								
SURGE ARRESTOR (QTY/MODEL)	1	APTDC-BDFDM-DB			4	APTDC-BDFDM-DB								
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901			2	DBC0061F1V51-2								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				LTE RRH		LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	Pwav TT19-08BP111-001 Twin 1900 w/ 850BP (850)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	1	KATHREIN 782-10253 12V												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-11	1	B14 4478								
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)			1	RRUS-12										
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	LTE 3C,LTE 4C, // WCS, 700 UPPER D // Replace & Move GSM Antenna with Hex port to pos 3. // Add LTE 700 RRUS-B14 4478 with surge arresters at bottom. // Sector A and Sector B will share the same LTE 700 B14 RRUS // Add LTE RRUS 32 WCS. // Replace Diplexer with Low Band Combiner. // Add 1 DC Fiber Squid. // Replace DUS with 5216. // Add 1 XMU // Decom GSM // Decmo UMTS 1900													
Local Market Note 2														
Local Market Note 3	1x6601 1x5216 / 1xXMU03													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	4573.C.850.3G.1	4573.C.850.3G.1	CTV10713	CTV10713		UMTS 850	7770.00.850.04	13.5	23	4	None	Andrew 1-5/8 (850)	235.06						289.07		17	
	PORT 2	4573.C.850.3G.1,4573.C.850.3G.2	4573.C.850.3G.2	CTV10713	CTV10713		UMTS 850	7770.00.850.04	13.5	23	4	Bottom	Andrew 1-5/8 (850)	235.06						289.07		17	

ANTENNA POSITION 2	**PORT 1**	4573.C.700.4G.1	4573.C.700.4G.1	CTL01071_7C_1	CTL01071_7C_1		LTE 700	AM-X-CD-16-65-00T-RET_725MHz_05DT	15.6	263	5	Top	FIBER	0						1475.7065		19	
	PORT 3	4573.C.1900.4G.1	4573.C.1900.4G.1	CTL01071_9C_1	CTL01071_9C_1		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_06DT	17.3	263	6	Top	FIBER	0						3664.3757		20	
	PORT 4	4573.C.1900.4G.2,4573.C.1900.4G.tmp4	4573.C.1900.4G.4	CTL01071_9C_2	CTL01071_9C_2		LTE 1900	AM-X-CD-16-65-00T-RET_1930MHz_06DT	17.3	263	6	Top	FIBER	0						3664.3757		20	
ANTENNA POSITION 3	**PORT 1**	4573.C.700.4G.tmp5	4573.C.700.4G.5	CTL01071_7C_3_F	CTL01071_7C_3_F		LTE 700	HPA-65R-BUU-H6_776MHz_10DT	14.64	263	10	Top	FIBER	0						2951.413		21	
	PORT 3	4573.C.WCS.4G.tmp1	4573.C.WCS.4G.1	CTL01071_3C_1	CTL01071_3C_1		LTE WCS	HPA-65R-BUU-H6_2360MHz_06DT	17.64	263	6	Top	FIBER	0						1285.2866		22	

Diagram - Sector A/1 Diagram File Name - CT1071_A_B_C_WCS_700B14_d1.vsd

Atoll Site Name - CTV1071 Location Name - WINSTED/WINCHESTER Market - CONNECTICUT Market Cluster - NEW ENGLAND

Comments:

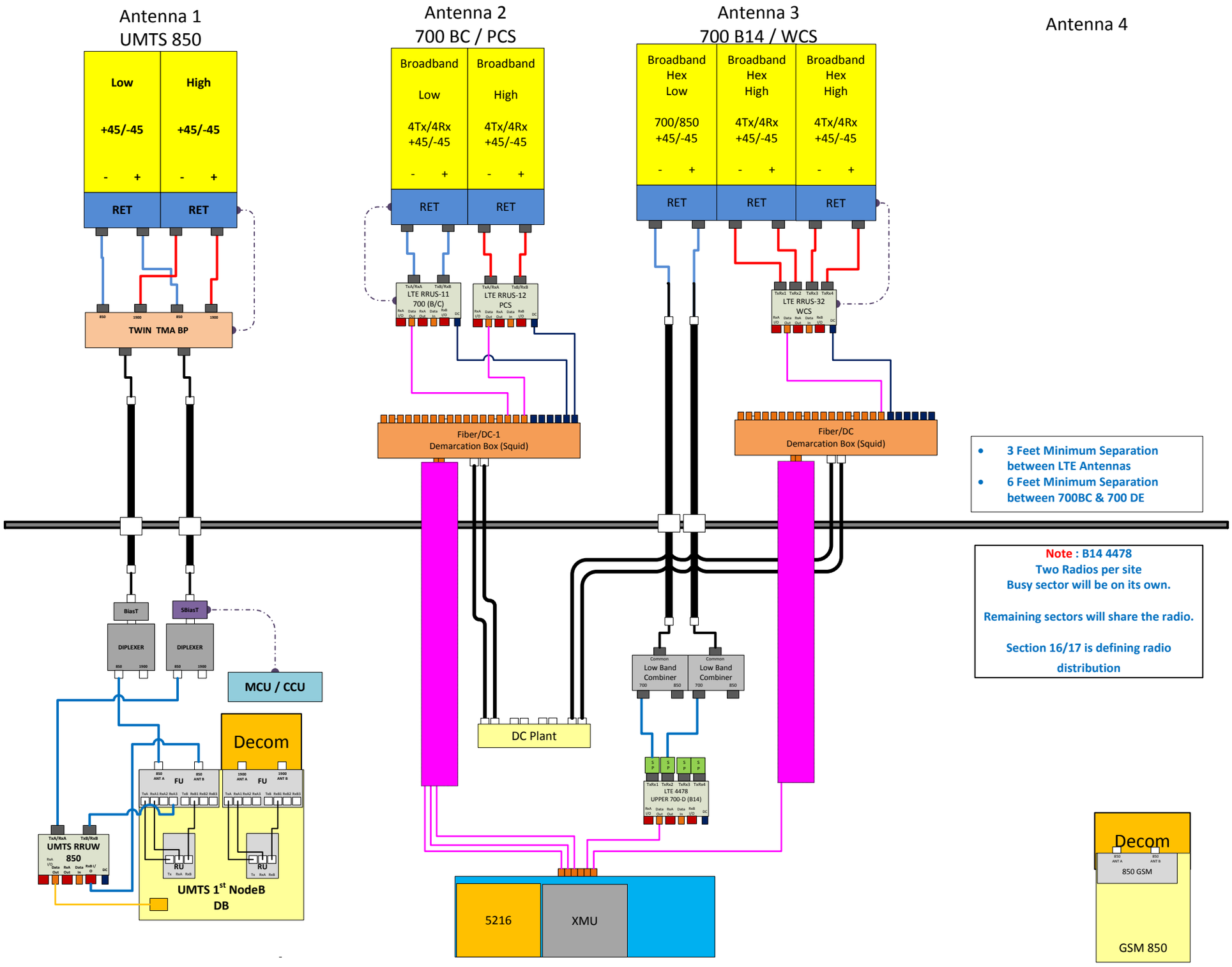


Diagram - Sector B/2 Diagram File Name - CT1071_A_B_C_WCS_700B14_d1.vsd

Atoll Site Name - CTV1071 Location Name - WINSTED/WINCHESTER Market - CONNECTICUT Market Cluster - NEW ENGLAND

Comments:

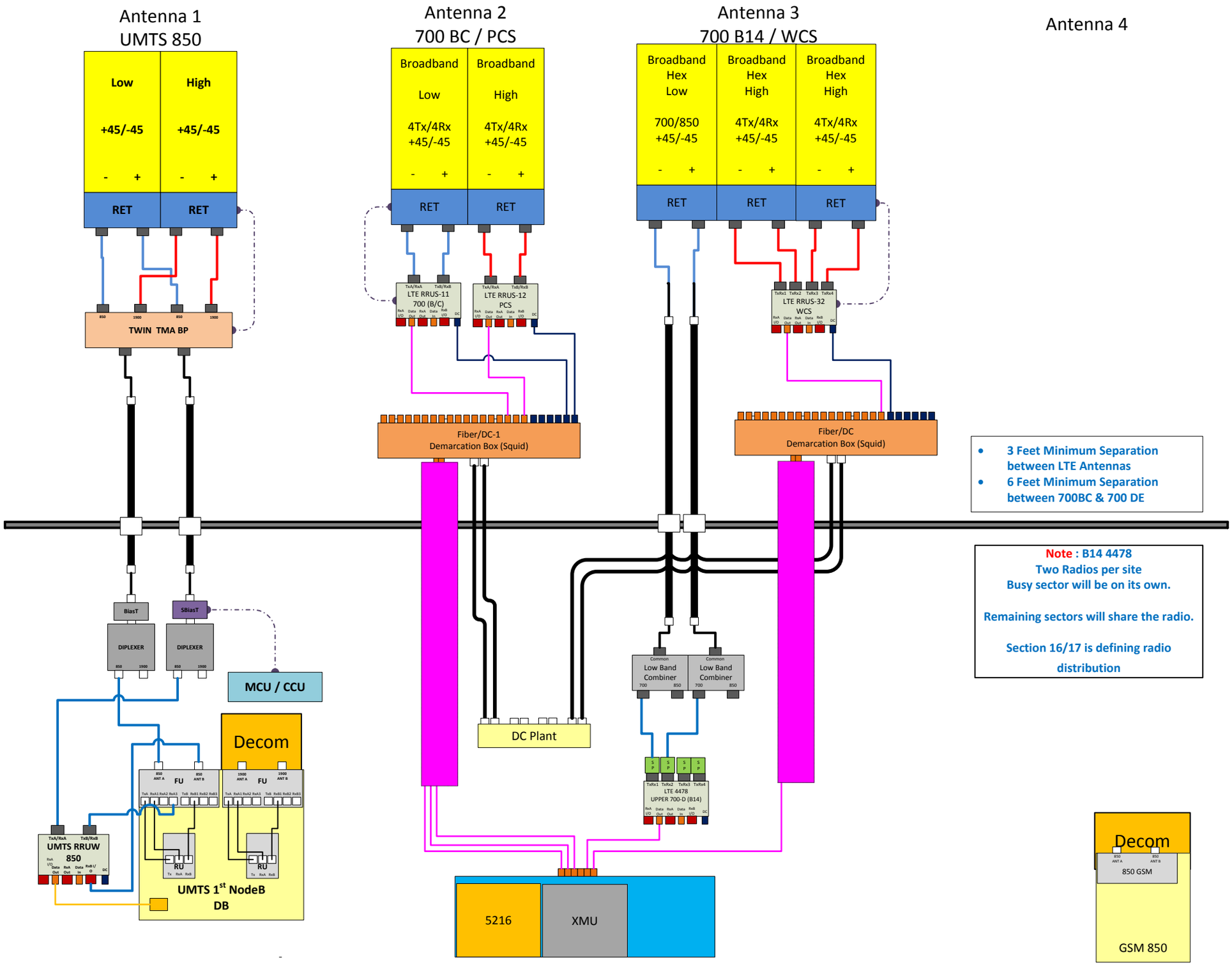
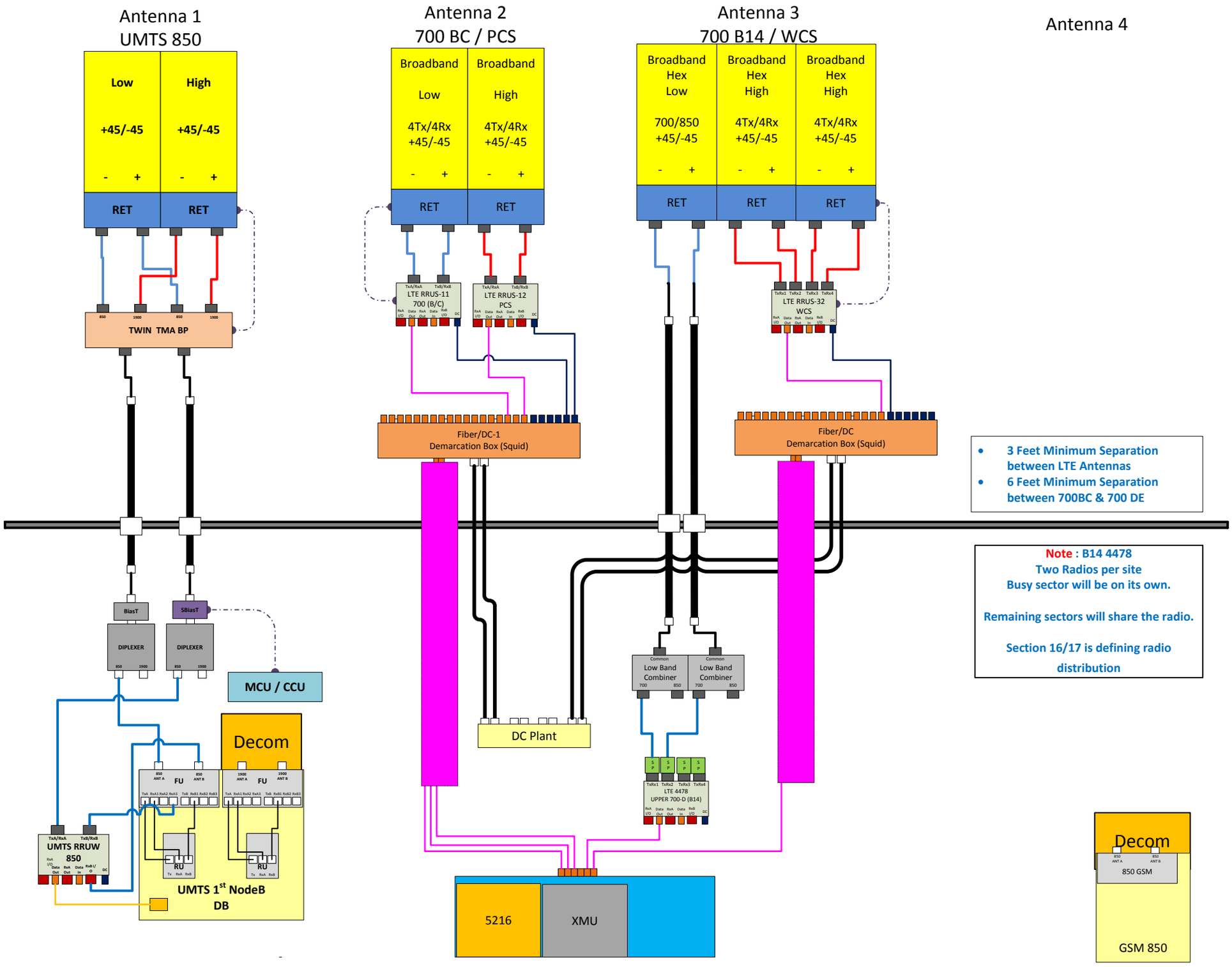


Diagram - Sector C/3 Diagram File Name - CT1071_A_B_C_WCS_700B14_d1.vsd

Atoll Site Name - CTV1071 Location Name - WINSTED/WINCHESTER Market - CONNECTICUT Market Cluster - NEW ENGLAND

Comments:



NOTES			
Date Time (Central)	Version	ATTUID	Note
4/20/2017 12:26:32 PM	1.00	mb497j	LTE PRELIMINARY RFDS
5/3/2017 4:44:04 PM	1.00	mb497j	LTE PRELIMINARY RFDS
5/3/2017 7:02:04 PM	1.00	mb497j	LTE PRELIMINARY RFDS

WORKFLOW SUMMARY							
Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
06/07/2017	Preliminary In Progress	mb497j	Preliminary Submitted for Approval	RC475S	Promote	LTE Preliminary RFDS	NER-RCTB-17-01379 MRCTB023531 SUCCESS 06/07/2017 2:49:13 PM NER-RCTB-17-01599 MRCTB023674 SUCCESS 06/07/2017 2:49:13 PM
06/26/2017	Preliminary Submitted for Approval	RC475S	Preliminary Approved	LW826K	Promote		
08/22/2017	Preliminary Approved	LW826K	Preliminary In Progress	mr673a	Pull Back	Pullback to pre-scope verification	
09/06/2017	Preliminary In Progress	mr673a	Preliminary Submitted for Approval	RC475S	Promote	LTE Preliminary RFDS	NER-RCTB-17-01379 FAILURE 09/06/2017 4:35:51 PM NER-RCTB-17-01599 FAILURE 09/06/2017 4:35:51 PM
09/07/2017	Preliminary Submitted for Approval	RC475S	Preliminary Approved	LW826K	Promote		

Centerline Communications AT&T LTE 2C Tower Top Audit Form v1.1

Site Name: Winsted/Winchester Con

Site ID: CT1071

FAA LOC#: **Gate Combo: 2370**

Shelter Key: **Special Access Info: N/A**

<u>Note: Photos are required for every item, and every sector!</u>

<u>Shelter</u>

1. Type of power plant -48 / -24 / -48 & -24: **-48**
2. Number of rectifiers: **5**
3. If -24 is -48 DC/DC Converter Present? **Yes**
4. # of open -48 DC Breaker positions: **50**
5. Hatch Plate Size (# of ports ie: 4x4): **4x3 + 1x3**
6. Current Load(Amps): **Meter on "Set" reads 53.4A**
7. # of Open Ports: **2 Partial**
8. # of open positions on cable ladder: **0**
9. If structure is other than tower is there room in cable tray or conduit for additional lines? **N/A**

<u>Tower Top</u>

10. Type of Structure: **Monopole 180'**
11. Rad. Center: **182'**
12. Head Room above existing equipment to top of tower or next carrier: **0**

13. If guyed tower how much head room to guy wire or torque arm:

N/A

14. Length of Standoff:

Flange mount 1” thick plate bolted to top of tower 13” long

15. Standoff Mounting(U-bolt, pipe to pipe, etc.):

1” x 31.5 “ bolts to top of tower

16. Number of stiff arms and size: **0**

17. How is stiff arm mounted (L bracket, crossover plate, etc): **N/A**

18. Type of sector frame / boom(welded angle, welded pipe, stamped steel kit, angle kit, etc.):

Welded 2 x 5” x ¼” channel

¼” seal welds, stampled steel kit

19. Width and height of sector frame / boom: **130” x 5”**

20. If Rooftop, type of mount(sled, wall, structural steel roof penetration, etc.) **N/A**

21. # of Antenna pipes, length, diameter, and wall thickness: **(12);**

8’ long, 2 3/8 x 3/16”

22. Antenna pipe mounting (eared piped, crossover plates, pipe to pipes, etc.): **Angle clips bolted to the channel w/ ½” hardware and ½” u-bolts**

23. Number of Squids/FC-12’s: **1**

24. Available space in current Squid / FC-12:

See photo

25. Current fiber trunk count: **1**

26. Unused fibers Trunk1: **12** Trunk2:

27. DC Trunk count: **2**

28. Unused DC trunk pairs Trunk 1: **0** Trunk 2: **0** Trunk 3:

Trunk 4:

29. Current location of Squid(Alpha leg, Beta Standoff, etc.):

Alpha face #3 position on own antenna pipe

30. Current RRU count and type:

3 – RRUS 11B12

3- RRUS 12B2

31. Current RRU mounting location:

Behind antenna's

32. Alpha Antennas & Equipment

1: p/w 7770.0 panel w/ TMA on back

2: AM-X-CD-16-65-00T-RET panel with RRUS11B12 on back

3: DC6 Squid

4: P/W 7770.00 panel with TMA on back

5: RRUS12b12

33. Beta Antennas & Equipment

1: P/W 7770.00 panel with TMA on back

2: AM-X-CD-16-65-00T-RET Panel with RRUS 11B12 on back

3: 7770.00 panel with TMA on back

34. Gamma Antennas & Equipment

1: P/W 7770.00 panel with TMA on back

2: AM-X-CD-16-65-00T-RET Panel with RRUS 11B12 on back

3: 7770.00 panel with TMA on back

35. Room for additional squid(yes / no where?):

Yes on pipe; squid is mounted to or on face

36. Room for additional RRU's(yes / no where?): **Yes on, back of Antenna's**

37. Distance to nearest appurtenance or carrier below rad. center:

10'

38. Size of Standoff structural members(ie: 4" Pipe Verticals 2" Pipe Horizontals):

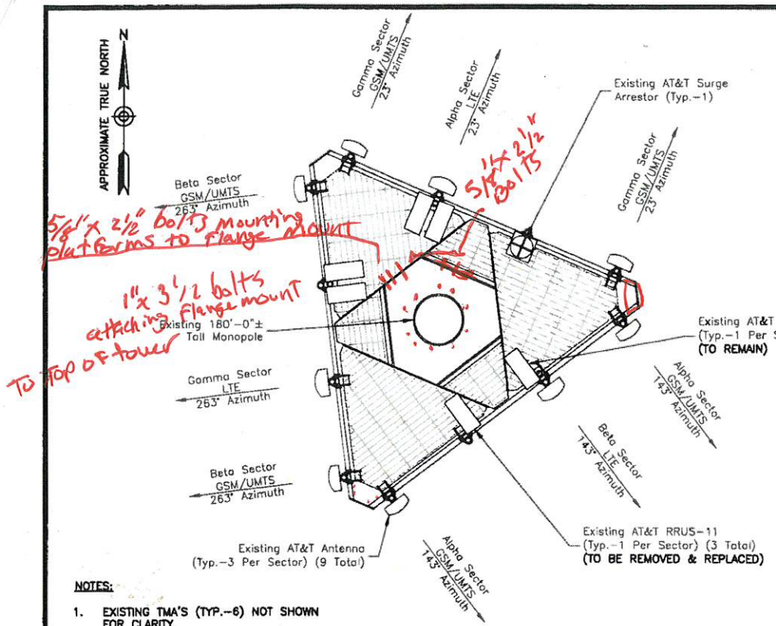
2 x 5 x ¼" channel seal welded with ¼" welds

Attached to 1" flange plate with 5/8" hardware

Flange plate is attached to tower flange with 1" bolts

39. Size of Boom structural members(ie: 2x1/4" Angle, 2" pipe, etc.):

2 x 5 x ¼" channel

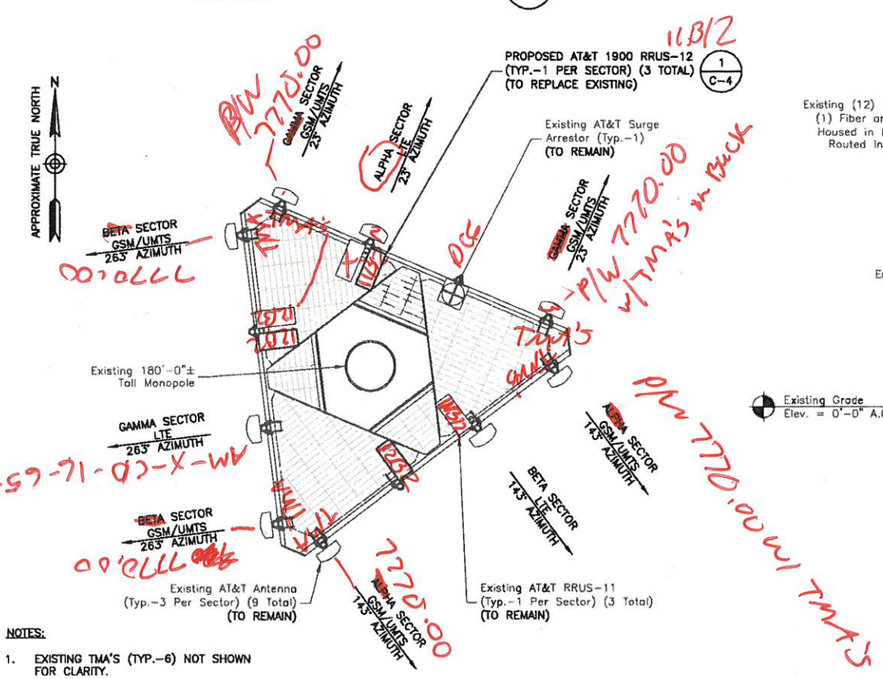


NOTES:

1. EXISTING TMA'S (TYP.-6) NOT SHOWN FOR CLARITY.
2. ALL EXISTING TMA'S ARE TO REMAIN.

EXISTING ANTENNA LAYOUT (1)

SCALE: N.T.S.

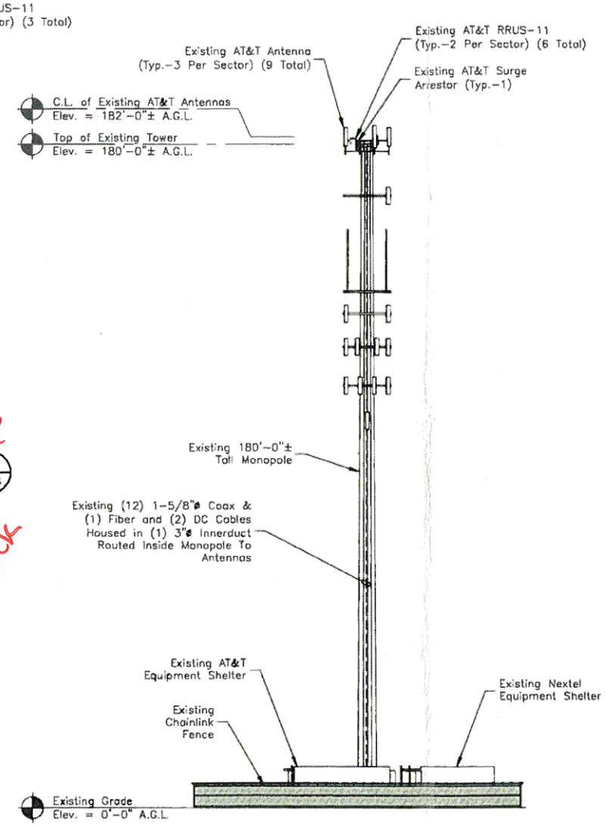


NOTES:

1. EXISTING TMA'S (TYP.-6) NOT SHOWN FOR CLARITY.
2. ALL EXISTING TMA'S ARE TO REMAIN.

PROPOSED ANTENNA LAYOUT (2)

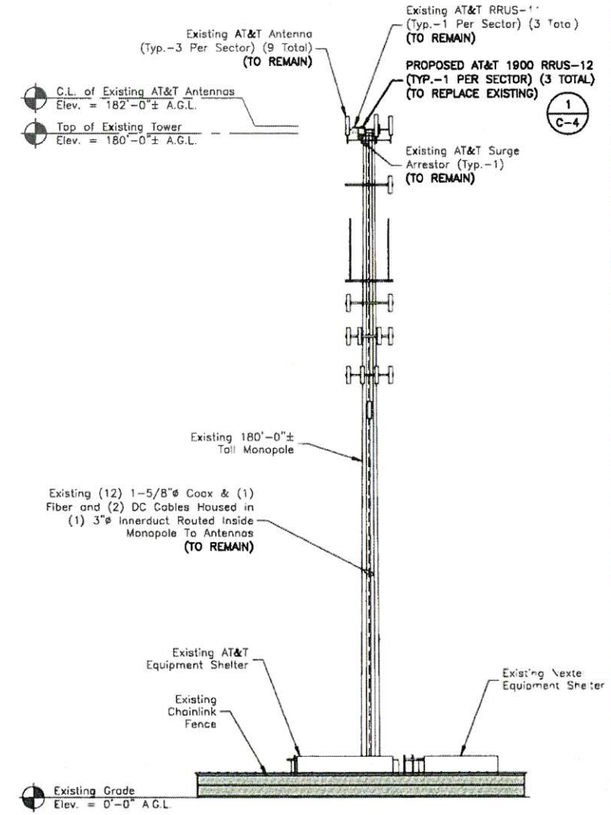
SCALE: N.T.S.



EXISTING WEST ELEVATION (3)

SCALE: 1"=40' FOR 11"x17"
1"=20' FOR 22"x34"

0' 20' 40'



PROPOSED WEST ELEVATION (4)

SCALE: 1"=40' FOR 11"x17"
1"=20' FOR 22"x34"

0' 20' 40'

NOTES:

1. PRIOR TO START OF ANY WORK, A PASSING STRUCTURAL ANALYSIS SHALL BE PROVIDED BY A CONNECTICUT LICENSED P.E. CONTRACTOR TO OBTAIN A COPY BEFORE STARTING ANY WORK.
2. ALL ANTENNAS, COAX, SURGE ARRESTORS, RRUS, ETC. TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS AND FINAL AT&T RF DATA SHEET.

at&t
500 ENTERPRISE DRIVE SUITE 3A
ROCKY HILL, CT 06067

SAI
27 NORTHWESTERN DRIVE
SALEM, NH 03079

CT1071
WINSTED/
WINCHESTER

CONSTRUCTION DRAWINGS

1	01/10/17	ISSUED FOR CONSTRUCTION
A	01/03/17	ISSUED FOR REVIEW

Dewberry®
Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710

STATE OF CONNECTICUT ★ JIANG YU ★ No. 23222 LICENSED PROFESSIONAL ENGINEER

JIANG YU, P.E.
CONNECTICUT LICENSE NO. 0023222

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

DRAWN BY:	JG
REVIEWED BY:	DER
CHECKED BY:	GHN
PROJECT NUMBER:	50055106
JOB NUMBER:	50065681
SITE ADDRESS:	

15 OAKDALE AVENUE
WINSTED, CT 06098
LITCHFIELD COUNTY

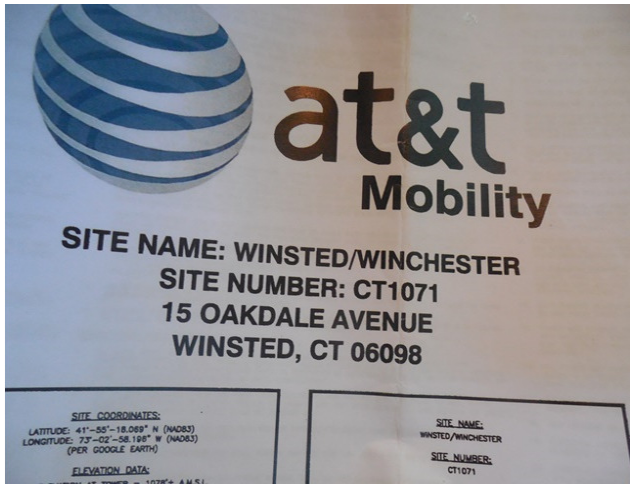
SHEET TITLE

ANTENNA LAYOUTS & ELEVATIONS

SHEET NUMBER

C-3

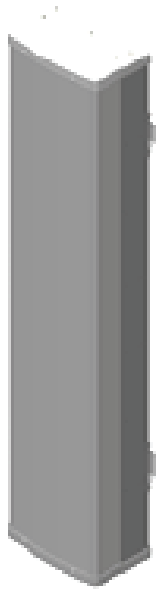
MANAGED BY:
AMERICAN TOWER™
CORPORATION
SITE NAME: WINCHESTER CT
SITE NUMBER: 302506
FOR LEASING INFORMATION:
877-282-7483
877-ATC-SITE
FOR OPERATIONS & ACCESS:
877-518-6937
877-51-TOWER
NO TRESPASSING
www.americantower.com


at&t
Mobility
SITE NAME: WINSTED/WINCHESTER
SITE NUMBER: CT1071
15 OAKDALE AVENUE
WINSTED, CT 06098
SITE COORDINATES:
LATITUDE: 41°-55'-18.069" N (NAD83)
LONGITUDE: 73°-02'-58.198" W (NAD83)
(PER GOOGLE EARTH)
ELEVATION DATA:
SITE NAME:
WINSTED/WINCHESTER
SITE NUMBER:
CT1071

RRUS 12 B2
ETL LISTED
ALPHA 1900 RRU
FCC ID: TA8AKRC161299-2
IC: 287AB-A51612992
IC MODEL NO: A51612992
This device complies with Part 15 of the FCC rules Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) This device accepts any interference recieved including interference that may cause undesired operation.
This class B apparatus complies with Canadian ICES-003
ALD
RXB I/O

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H6



Hexport Multi-Band Antenna Array

The CCI Hexport Multi-Band Antenna Array is an industry first 6-port antenna with full WCS Band Coverage. With four high band ports and two low band ports, our hexport antenna is ready for 4X4 high band MIMO.

Modern networks demand high performance, consequently CCI has incorporated several new and innovative design techniques to provide an antenna with excellent side-lobe performance, sharp elevation beams, and high front to back ratio.

Multiple networks can now be connected to a single antenna, reducing tower loading and leasing expense, while decreasing deployment time and installation cost.

Full band capability for 700 MHz , Cellular 850 MHz, PCS 1900 MHz, AWS 1710/2170 MHz and WCS 2300 MHz coverage in a single enclosure.

Benefits

- **Includes WCS Band**
- **Reduces tower loading**
- **Frees up space for tower mounted E-nodes**
- **Single radome with six ports**
- **All Band design simplifies radio assignments**
- **Sharp elevation beam eases network planning**

Features

- High Band Ports include WCS Band
- Four High Band ports with two Low Band ports in one antenna
- Sharp elevation beam
- Excellent elevation side-lobe performance
- Excellent MIMO performance due to array spacing
- Excellent PIM Performance
- A multi-network solution in one radome

Applications

- 4x4 MIMO on High Band and 2x2 MIMO on Low Band
- Adding additional capacity without adding additional antennas
- Adding WCS Band without increasing antenna count

ISO 9001:2008
Quality Management Systems
Système de Qualité
www.ca.sgs.com

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H6

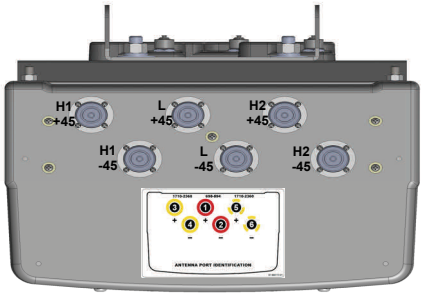
HPA-65R Multi-Band Antenna

Electrical Specifications

Frequency Range	2 X Low Band Ports which cover the full range from 698-894 MHz		4 X High Band Ports which cover the full range from 1710-2360 MHz			
	698-806 MHz	824-894 MHz	1850-1990 MHz	1710-1755/2110-2170 MHz		2305-2360 MHz
Gain	14.1 dBi	14.8 dBi	16.9 dBi	16.3 dBi	17.2 dBi	17.4 dBi
Azimuth Beamwidth (-3dB)	66°	65°	61°	66°	62°	57°
Elevation Beamwidth (-3dB)	12.5°	10.5°	5.7°	6.3°	5.1°	4.5°
Electrical Downtilt	0° to 10°	0° to 10°	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	< -17 dB	< -19 dB	< -19 dB	< -18 dB	< -18 dB	< -17 dB
Front-to-Back Ratio @180°	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Front-to-Back Ratio over ± 20°	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Cross-Polar Discrimination (at Peak)	> 25 dB	> 20 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Cross-Polar Discrimination (at ± 60°)	> 17 dB	> 14 dB	> 17 dB	> 17 dB	> 17 dB	> 17 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 26 dB	> 25 dB	> 26 dB	> 26 dB
VSWR	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc
Input Power	500 Watts CW	500 Watts CW	300 Watts CW	300 Watts CW	300 Watts CW	300 Watts CW
Polarization	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°
Input Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground

Mechanical Specifications

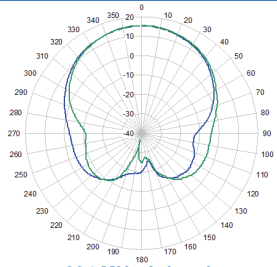
Dimensions (LxWxD)	72.0 x 14.8 x 9.0 inches (1828 x 376 x 229 mm)
Survival Wind Speed	> 150 mph
Front Wind Load	247 lbs (1099 N) @ 100 mph (161 kph)
Side Wind Load	165 lbs (735 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	9.7 ft^2 (0.90 m^2)
Weight (without Mounting)	51 lbs (23 kg)
RET System Weight	5.0 lbs (2.3 kg)
Connector	6; 7-16 DIN female long neck
Mounting Pole	2-5 inches (5-12 cm)



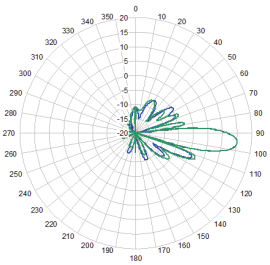
Bottom View

Rear View

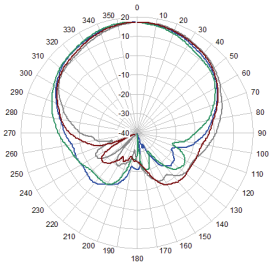
Antenna Patterns*



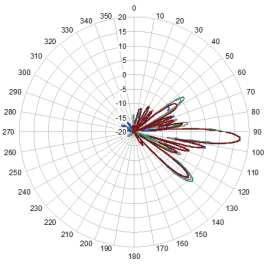
894 MHz Azimuth



Elevation 5°



1920 MHz Azimuth



Elevation 4°

*Typical antenna patterns. For detail information on antenna pattern, please contact us at info@cciproducts.com. All specifications are subject to change without notice.

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H6

RET [Remote Electrical Tilt] System

General Specification

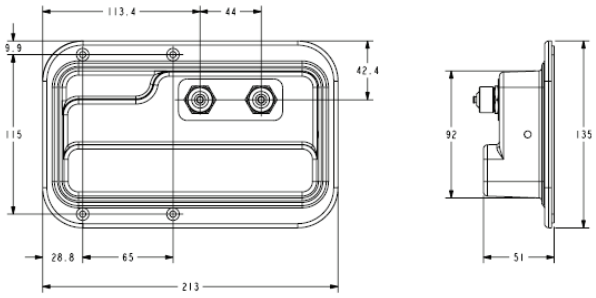
Part Number	BSA-RET200
Protocols	AISG 2.0
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	±0.1°
Temperature Range	-40°C to +70°C

Electrical Specification

Interface Signal	Data | dc
Input Voltage Range	10-30 Vdc, Specifications at +24 VDC
Current consumption during tilting	120mA at Vin = 24V
Current consumption idle	55mA at Vin=24V
Hardware Interface	AISG - RS 485 A/B
Input Connector	1x8-pin Daisy Chain In Male
Output Connector	1x8-pin Daisy Chain Out Female

Mechanical Specification and Dimensions

Housing Material	ASA / ABS / Aluminum
Dimensions (H x W x D)	8 x 5 x 2 inches (213 x 135 x 51 mm)
Weight	1.5 lbs (0.68 kg)



Standards Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC 60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-2-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN60529 IP24

Regulatory Certification

AISG, FCC Part 15 Class B, CE, CSA US

RRUS 32 B30

- WCS A+B blocks
  - TX = 2350 – 2360 MHz
  - RX = 2305 – 2315 MHz
- CPRI 2 ports x 10 Gbps
- 6 external alarm inputs
- Dimensions (incl. handles, feet and sunshield)
  - Height: 27.2” (690 mm)
  - Width: 12.1” (306 mm)
  - Depth: 7.0” (178 mm)
- Weight, excl. mounting hardware
  - 60 lbs (23 kg)