0 Industrial Ave,
uite 3
Mahwah NJ 07430

hone: 201.684.0055
ax: 201.684.0066

Transcend Wireless

January 13, 2022

Members of the Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
230 Clover Mill Road, Mansfield, CT
Latitude: 41.77580556
Longitude: -72.2225
T-Mobile Site#: CTHA211A - Anchor

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 148-foot level 180-foot Monopole at the existing facility at 230 Clover Mill Road in Mansfield, CT. The property is owned by The Town of Mansfield. The tower is owned by American Tower. T-Mobile now intends to replace (3) antennas and add (3) antennas for a total of (9). The new antennas support 5G services and will be installed at the same 148-foot level of the monopole.

Planned Modifications:
Tower:
Install New:
(3) VV-65B-R1 Antennas
(3) AIR6419 B41 Antennas
(3) Radio 4460 B25 B86
(2) 6/24 Hybrid Cables

Existing to Remain:
(3) APXVAARR24_43-U-NA20 Antennas
(3) Radio 4449 B71 B85
(1) 6/24 Hybrid Cable

To Be Removed:
(3) APXV18-209014-C-A20 Antennas

This facility was originally approved by the Town of Mansfield Planning and Zoning Commission on September 15, 2003. There are no known conditions that would restrict exempt modifications. A copy of the original decision of the facility is attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Mayor Antonia Moran, Elected Official, and Jennifer Kaufman, Director of Planning and Development, as well as the property and tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

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

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

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

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Eric Breun
Transcend Wireless
Cell: 201-658-7728
Email: ebreun@transcendwireless.com

Attachments
cc: Antonia Moran - Mayor of Mansfield
Jennifer Kaufman - Director of Planning and Development
American Tower - Tower Owner

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
DIRECTOR OF PLANNING/ZONING
JENNIFER KAUFMAN
4 SOUTH EAGLEVILLE ROAD
MANSFIELD CT 06268

CT 063 0-01

UPS GROUND
TRACKING #: 1Z V25 742 03 9605 9591

BILLING: P/P

Reference #1: CTHA211A

XOL 22.11.01 NV45 45.0A 10/2022*

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
MAYOR ANTONIA MORAN
4 SOUTH EAGLEVILLE ROAD
MANSFIELD CT 06268

CT 063 0-01

UPS GROUND
TRACKING #: 1Z V25 742 03 9177 1927

BILLING: P/P

Reference #1: CTHA211A

XOL 22.11.01 NV45 45.0A 10/2022*

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS **1 OF 1**

SHIP TO:
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN MA 01801

MA 018 9-04

UPS GROUND
TRACKING #: 1Z V25 742 03 9526 9606

BILLING: P/P

Reference #1: CTHA211A

XOL 22.11.01 NV45 45.0A 10/2022*

Hello, your package has been delivered.

Delivery Date: Wednesday, 11/02/2022

Delivery Time: 10:33 AM

Signed by: SMITH

TRANSCEND WIRELESS

Tracking Number:	1ZV257420391771927
Ship To:	MAYOR ANTONIA MORAN 4 SOUTH EAGLEVILLE ROAD MANSFIELD, CT 06268 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CTHA211A

Hello, your package has been delivered.

Delivery Date: Wednesday, 11/02/2022

Delivery Time: 10:35 AM

Signed by: FORAN

TRANSCEND WIRELESS

Tracking Number:	1ZV257420396059591
Ship To:	JENNIFER KAUFMAN 4 SOUTH EAGLEVILLE ROAD MANSFIELD, CT 06268 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CTHA211A

Hello, your package has been delivered.

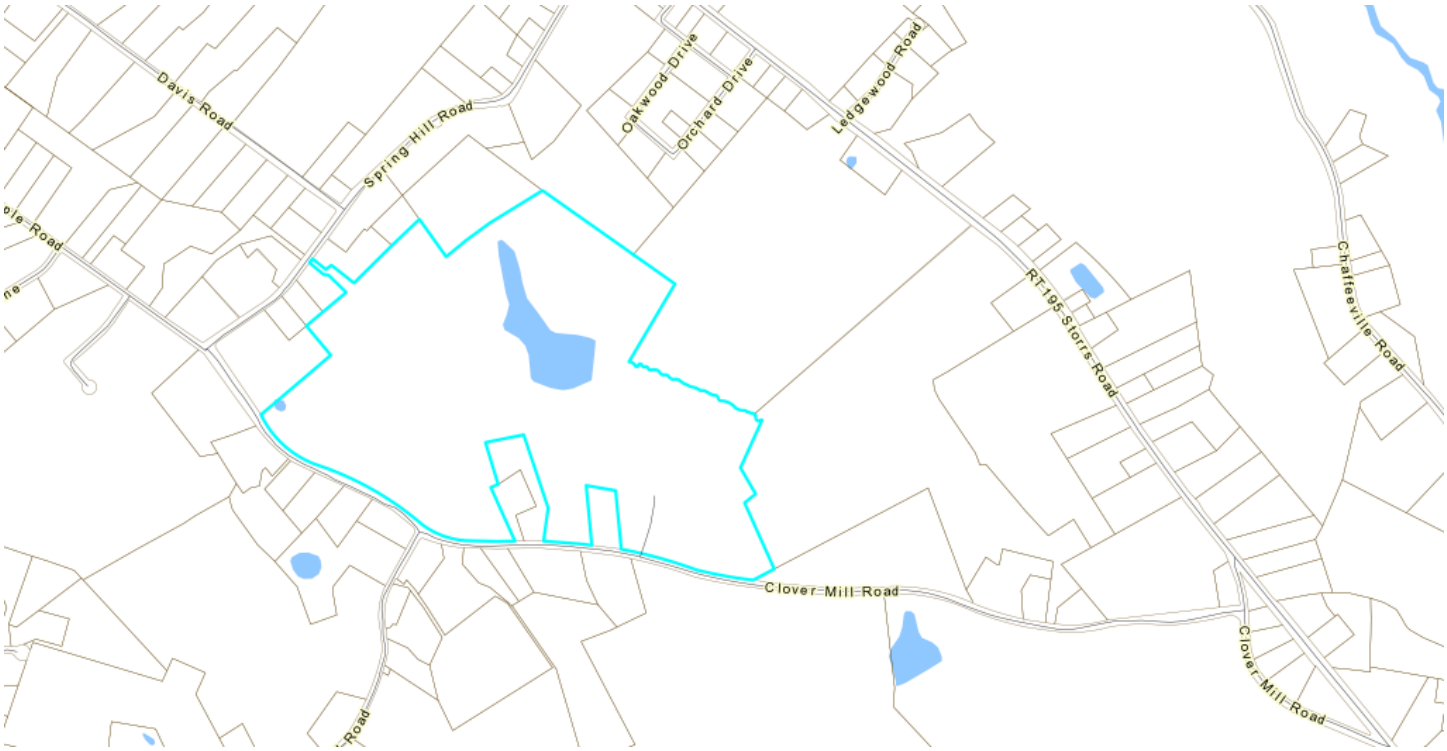
Delivery Date: Wednesday, 11/02/2022

Delivery Time: 11:47 AM

Signed by: LONG

TRANSCEND WIRELESS

Tracking Number:	1ZV257420395269606
Ship To:	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CTHA211A


Davis Road
Spring Hill Road
Oakwood Drive
Orchard Drive
Ledgewood Road
RT 195 Storrs Road
Chaffeeville Road
Clover Mill Road
Clover Mill Road

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 6 | Print Date 08-02-2022 12:59:32

CURRENT OWNER

MANSFIELD TOWN OF & BOARD OF
MANSFIELD MIDDLE SCHOOL
4 SOUTH EAGLEVILLE RD

STORRS CT 06268

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	1 Well	1 Paved	
	2 Septic		

SUPPLEMENTAL DATA

Alt Prcl ID
Census 8811
Devel. Lot

GIS ID 23.60.7 | Assoc Pid#

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
Ex C Land	21	1,700,800	1,190,600
Ex C Bldg	22	8,723,600	6,106,600
Ex Com OB	25	446,100	312,400
Ind Land	3-1	153,000	107,100
	Total	11,023,500	7,716,700

6078

MANSFIELD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
MANSFIELD TOWN OF & BOARD OF EDUCA	663	347	01-20-2009	U	V	0	25
REFERENCE	113	428	04-16-1971	U	I	0	
	106	136	12-13-1967	U	I	0	
MANSFIELD TOWN OF	83	413	05-10-1957	U	I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	21	1,190,600	2020	21	1,190,600	2019	21	1,190,600
	22	6,106,600		22	6,106,600		22	6,106,600
	25	312,400		25	312,400		25	312,400
	3-1	107,100		3-1	107,100		3-1	107,100
	Total	7,716,700		Total	7,716,700		Total	7,716,700

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

MANSFIELD MIDDLE SCHOOL SURVEY V7 P10
01/20/2009-7.33AC(23.60.4-3)MERGED PER
V663 P347NOW ALSO INCLUDES BICENTENNIAL
POND,ANIMAL CONTROL BUILDG,TOWN GARAGE,
GAS PUMPS,SAND STORAGE & CELL TOWER
08/26/2014-CERT APP#12-13-161 18X20GRNHS
09/11/2017-FISHING DK-BICENTENNIAL POND
02/08/2018-#17-18-256MMS LOCKER RM RENOV

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	8,723,600
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	446,100
Appraised Land Value (Bldg)	1,853,800
Special Land Value	0
Total Appraised Parcel Value	11,023,500
Valuation Method	C
Total Appraised Parcel Value	11,023,500

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
22-23-0055	08-01-2022	SP	Solar Panels	281,000		0		SOLAR PV ROOF SYSTEM
21-22-0810	06-30-2022	GN	Generator	50,000		0		GENERATOR FOR AMERICA
21-22-0751	06-16-2022	EL	Electric	6,800		100	06-30-2022	200AMP CIRCUIT FOR NEW
21-22-0691	05-24-2022	EL	Electric	800		100	05-25-2022	ELECTRICAL TO SHED
21-22-0628	04-27-2022	EL	Electric	150		100	05-23-2022	DEPT OF PUBLIC WORKS-E
21-22-0611	04-22-2022	CM	Commercial	50,000		100	05-23-2022	REMOVE (6)DIPLEXERS, (1)
21-22-0595	04-14-2022	SPLT	Split AC/Heat	6,000		100	05-23-2022	A/C 1 EXTERIOR UNIT, 3 INT

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result
08-02-2022	MT		7	36	Building Permit Data Entry
07-07-2022	MT		7	36	Building Permit Data Entry
06-23-2022	MT		7	36	Building Permit Data Entry
05-26-2022	MT		7	36	Building Permit Data Entry
05-25-2022	MT		7	36	Building Permit Data Entry
04-27-2022	MT		7	36	Building Permit Data Entry
04-25-2022	MT		7	36	Building Permit Data Entry

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nbhd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
1	901	Town MDL-Com	RAR		10.000	AC	135,000.00	1.00000	5	1.00	C100	1.000			0	135,000	1,350,000
1	901	Town MDL-Com			83.530	AC	6,000.00	1.00000	0	1.00		1.000			0	4,200	350,800
1	350	Cell Tower			1.000	BL	153,000.00	1.00000	0	1.00		1.000	CELL SITE		0	153,000	153,000
				Total Card Land Units	93.53	AC	Parcel Total Land Area:		93.53							Total Land Value	1,853,800

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 6 | Print Date 08-02-2022 12:59:33

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	49	Pubilc School
Model	94	Comm/Ind
Grade	07	C
Stories:	2	
Occupancy	1.00	
Exterior Wall 1	20	Brick
Exterior Wall 2		
Roof Structure	01	Flat
Roof Cover	04	Tar + Gravel
Interior Wall 1	05	Drywall
Interior Wall 2		
Interior Floor 1	06	Vnl Linolium
Interior Floor 2		
Heating Fuel	09	Typical
Heating Type	05	Hot Water
AC Type	01	None/partial
Bldg Use	901	Town MDL-Com
Heat/AC	00	HEAT ONLY
Frame Type	03	MASONRY
Baths/Plumbing	02	AVERAGE
Ceiling/Wall	06	CEIL & WALLS
Rooms/Prtns	02	AVERAGE
Wall Height	14.00	
1st Floor Use:		

CONSTRUCTION DETAIL (CONTINUED)

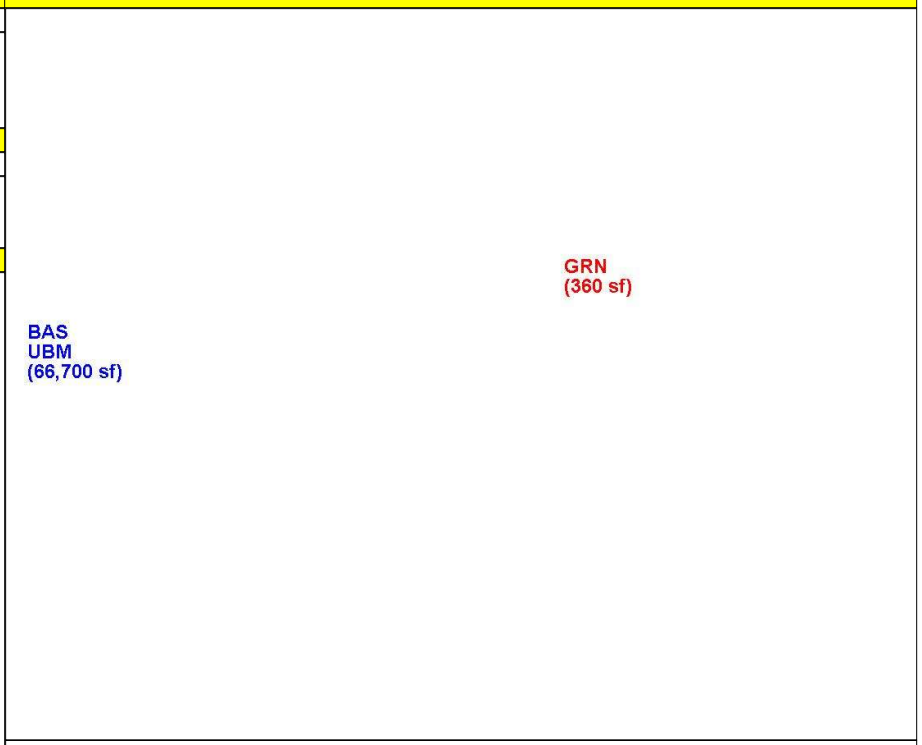
Element	Cd	Description

MIXED USE

Code	Description	Percentage
901	Town MDL-Com	100
		0
		0

COST / MARKET VALUATION

RCN	
Year Built	1969
Effective Year Built	
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	35
Functional Obsol	
Economic Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	65
RCNLD	7,156,400
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value
PAV1	Paving	L	112,40	1.80	1969	A	70		0	141,600
BTH1	Cabana	L	462	20.00	1980	A	70	C	1.00	6,500
TEN	Tennis Court	L	1	7200.00	1969	A	70	C	1.00	5,000
SHD1	Shed	L	800	12.00	1969	A	70	C	1.00	6,700
FNC	Fence	L	280	8.00	1969	A	70	C	1.00	1,600
SHD1	Shed	L	100	12.00	1969	A	70	C	1.00	800
LT5	Light 5	L	15	2700.00	1969	A	70	C	1.00	28,400
FGR4	Gar w/Loft	L	6,333	25.00	1969	A	70	C	1.00	110,800
FGR1	Garage	L	6,435	24.00	1969	A	70	C	1.00	108,100
WDK	Wood Deck	L	416	8.00	2017	A	70	C	1.00	2,300

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	66,700	66,700		137.40	9,164,580
GRN	Greenhouse	0	360		34.35	12,366
UBM	Basement	0	66,700		27.48	1,832,916
	Ttl Gross Liv / Lease Area	66,700	133,760			11,009,862

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 2 | Sec # 1 of 1 | Card # 2 of 6 | Print Date 08-02-2022 12:59:33

CURRENT OWNER

MANSFIELD TOWN OF & BOARD OF
MANSFIELD MIDDLE SCHOOL
4 SOUTH EAGLEVILLE RD

STORRS CT 06268

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	1 Well	1 Paved	
	2 Septic		

SUPPLEMENTAL DATA

Alt Prcl ID
Census 8811
Devel. Lot

GIS ID 23.60.7 Assoc Pid#

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
Ex C Land	21	1,700,800	1,190,600
Ex C Bldg	22	8,723,600	6,106,600
Ex Com OB	25	446,100	312,400
Ind Land	3-1	153,000	107,100
	Total	11,023,500	7,716,700

6078

MANSFIELD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
MANSFIELD TOWN OF & BOARD OF EDUCA	663	347	01-20-2009	U	V	0	25
REFERENCE	113	428	04-16-1971	U	I	0	
	106	136	12-13-1967	U	I	0	
MANSFIELD TOWN OF	83	413	05-10-1957	U	I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	21	1,190,600	2020	21	1,190,600	2019	21	1,190,600
	22	6,106,600		22	6,106,600		22	6,106,600
	25	312,400		25	312,400		25	312,400
	3-1	107,100		3-1	107,100		3-1	107,100
	Total	7,716,700		Total	7,716,700		Total	7,716,700

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

TOWN GARAGE

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	8,723,600
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	446,100
Appraised Land Value (Bldg)	1,853,800
Special Land Value	0
Total Appraised Parcel Value	11,023,500
Valuation Method	C
Total Appraised Parcel Value	11,023,500

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nhbd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
2	901	Town MDL-Com	21			SF	0.00	1.00000		1.00		1.000			0	0	0
		Total Card Land Units			0.00	AC	Parcel Total Land Area:			93.53						Total Land Value	1,853,800

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 2 | Sec # 1 of 1 | Card # 2 of 6 | Print Date 08-02-2022 12:59:33

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	20	Office Building
Model	94	Comm/Ind
Grade	07	C
Stories:	1	
Occupancy	1.00	
Exterior Wall 1	27	Pre-finsh Metl
Exterior Wall 2		
Roof Structure	03	Gable
Roof Cover	01	Metal/Tin
Interior Wall 1	01	Minimum
Interior Wall 2		
Interior Floor 1	04	Concr Abv Grad
Interior Floor 2		
Heating Fuel	09	Typical
Heating Type	04	Forced Air
AC Type	01	None/partial
Bldg Use	901	Town MDL-Com
Heat/AC	00	HEAT ONLY
Frame Type	05	STEEL
Baths/Plumbing	02	AVERAGE
Ceiling/Wall	02	CEILING ONLY
Rooms/Prtns	02	AVERAGE
Wall Height	10.00	
1st Floor Use:		

CONSTRUCTION DETAIL (CONTINUED)

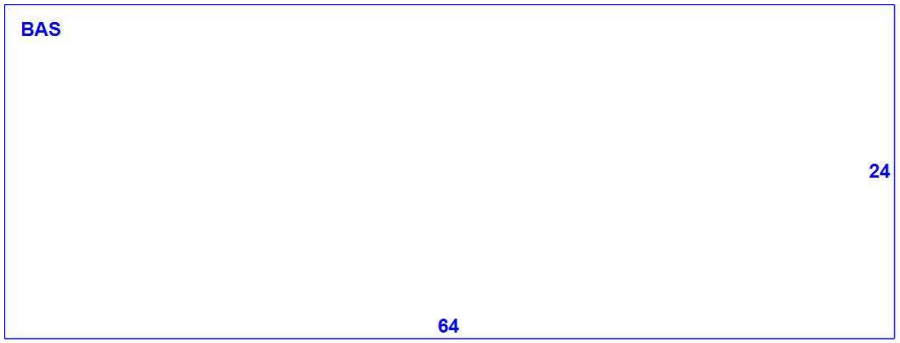
Element	Cd	Description

MIXED USE

Code	Description	Percentage
901	Town MDL-Com	100
		0
		0

COST / MARKET VALUATION

RCN	
Year Built	1986
Effective Year Built	
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	23
Functional Obsol	
Economic Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	77
RCNLD	161,800
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	1,536	1,536		136.80	210,125
	Ttl Gross Liv / Lease Area	1,536	1,536			210,125

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 3 | Sec # 1 of 1 | Card # 3 of 6 | Print Date 08-02-2022 12:59:34

CURRENT OWNER

MANSFIELD TOWN OF & BOARD OF
MANSFIELD MIDDLE SCHOOL
4 SOUTH EAGLEVILLE RD

STORRS CT 06268

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	1 Well	1 Paved	
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SUPPLEMENTAL DATA

Alt Prcl ID
Census 8811
Devel. Lot
GIS ID 23.60.7
Assoc Pid#

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
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Ex C Bldg	22	8,723,600	6,106,600
Ex Com OB	25	446,100	312,400
Ind Land	3-1	153,000	107,100
	Total	11,023,500	7,716,700

6078

MANSFIELD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
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REFERENCE	113	428	04-16-1971	U	I	0	
	106	136	12-13-1967	U	I	0	
MANSFIELD TOWN OF	83	413	05-10-1957	U	I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	21	1,190,600	2020	21	1,190,600	2019	21	1,190,600
	22	6,106,600		22	6,106,600		22	6,106,600
	25	312,400		25	312,400		25	312,400
	3-1	107,100		3-1	107,100		3-1	107,100
	Total	7,716,700		Total	7,716,700		Total	7,716,700

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

6BAY TOWN GARAGE-MAIN OFFICE COMM W/BLDG
OB=SALT SHED OPEN IN FRONT

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	8,723,600
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	446,100
Appraised Land Value (Bldg)	1,853,800
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Valuation Method	C
Total Appraised Parcel Value	11,023,500

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nhbd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
3	901	Town MDL-Com	21			SF	0.00	1.00000		1.00		1.000			0	0	0
		Total Card Land Units			0.00	AC	Parcel Total Land Area:			93.53						Total Land Value	1,853,800

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 3 | Sec # 1 of 1 | Card # 3 of 6 | Print Date 08-02-2022 12:59:34

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	56	Office/Garage
Model	94	Comm/Ind
Grade	07	C
Stories:	1	
Occupancy	1.00	
Exterior Wall 1	15	Concr/Cinder
Exterior Wall 2		
Roof Structure	03	Gable
Roof Cover	03	Asphalt Shingl
Interior Wall 1	01	Minimum
Interior Wall 2		
Interior Floor 1	04	Concr Abv Grad
Interior Floor 2		
Heating Fuel	09	Typical
Heating Type	04	Forced Air
AC Type	01	None/partial
Bldg Use	901	Town MDL-Com
Heat/AC	00	HEAT ONLY
Frame Type	03	MASONRY
Baths/Plumbing	02	AVERAGE
Ceiling/Wall	02	CEILING ONLY
Rooms/Prtns	02	AVERAGE
Wall Height	14.00	
1st Floor Use:		

CONSTRUCTION DETAIL (CONTINUED)

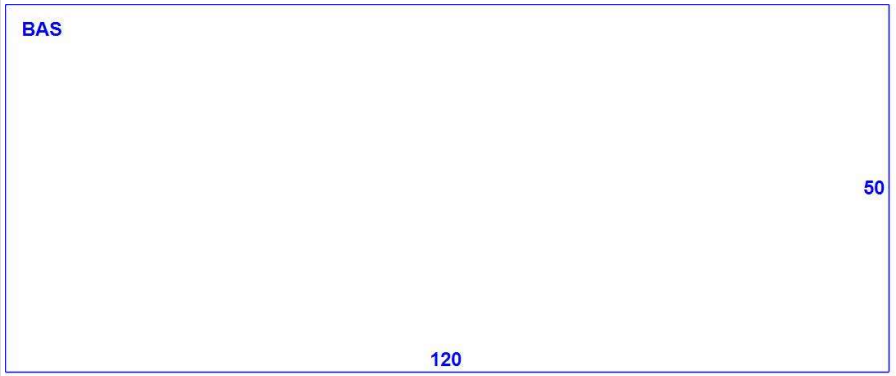
Element	Cd	Description

MIXED USE

Code	Description	Percentage
901	Town MDL-Com	100
		0
		0

COST / MARKET VALUATION

RCN	
Year Built	1980
Effective Year Built	
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	29
Functional Obsol	
Economic Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	71
RCNLD	275,600
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value
SHD1	Shed	L	3,600	12.00	2011	A	70	C	1.00	30,200
SHD1	Shed	L	120	12.00	2002	G	80	A	1.50	1,700

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	6,000	6,000		64.70	388,200
	Ttl Gross Liv / Lease Area	6,000	6,000			388,200

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 4 | Sec # 1 of 1 | Card # 4 of 6 | Print Date 08-02-2022 12:59:34

CURRENT OWNER

MANSFIELD TOWN OF & BOARD OF
MANSFIELD MIDDLE SCHOOL
4 SOUTH EAGLEVILLE RD

STORRS CT 06268

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	1 Well	1 Paved	
	2 Septic		

SUPPLEMENTAL DATA

Alt Prcl ID
Census 8811
Devel. Lot
GIS ID 23.60.7
Assoc Pid#

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
Ex C Land	21	1,700,800	1,190,600
Ex C Bldg	22	8,723,600	6,106,600
Ex Com OB	25	446,100	312,400
Ind Land	3-1	153,000	107,100
	Total	11,023,500	7,716,700

6078

MANSFIELD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
MANSFIELD TOWN OF & BOARD OF EDUCA	663	347	01-20-2009	U	V	0	25
REFERENCE	113	428	04-16-1971	U	I	0	
	106	136	12-13-1967	U	I	0	
MANSFIELD TOWN OF	83	413	05-10-1957	U	I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	21	1,190,600	2020	21	1,190,600	2019	21	1,190,600
	22	6,106,600		22	6,106,600		22	6,106,600
	25	312,400		25	312,400		25	312,400
	3-1	107,100		3-1	107,100		3-1	107,100
	Total	7,716,700		Total	7,716,700		Total	7,716,700

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

9 BAY TOWN GARAGE

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	8,723,600
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	446,100
Appraised Land Value (Bldg)	1,853,800
Special Land Value	0
Total Appraised Parcel Value	11,023,500
Valuation Method	C
Total Appraised Parcel Value	11,023,500

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nhbd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
4	901	Town MDL-Com	21			SF	0.00	1.00000		1.00		1.000			0	0	0
		Total Card Land Units			0.00	AC	Parcel Total Land Area:			93.53						Total Land Value	1,853,800

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 4 | Sec # 1 of 1 | Card # 4 of 6 | Print Date 08-02-2022 12:59:35

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	61	Commercial Garage
Model	94	Comm/Ind
Grade	07	C
Stories:	1	
Occupancy	1.00	
Exterior Wall 1	27	Pre-finsh Metl
Exterior Wall 2		
Roof Structure	03	Gable
Roof Cover	01	Metal/Tin
Interior Wall 1	01	Minimum
Interior Wall 2		
Interior Floor 1	04	Concr Abv Grad
Interior Floor 2		
Heating Fuel	09	Typical
Heating Type	04	Forced Air
AC Type	01	None/partial
Bldg Use	901	Town MDL-Com
Heat/AC	00	HEAT ONLY
Frame Type	05	STEEL
Baths/Plumbing	02	AVERAGE
Ceiling/Wall	02	CEILING ONLY
Rooms/Prtns	02	AVERAGE
Wall Height	14.00	
1st Floor Use:		

CONSTRUCTION DETAIL (CONTINUED)

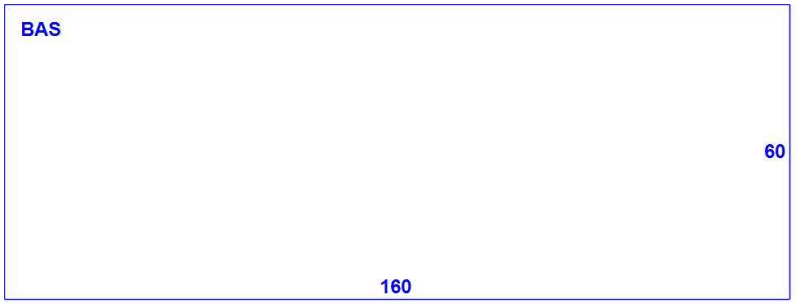
Element	Cd	Description

MIXED USE

Code	Description	Percentage
901	Town MDL-Com	100
		0
		0

COST / MARKET VALUATION

RCN	
Year Built	1980
Effective Year Built	
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	29
Functional Obsol	
Economic Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	71
RCNLD	296,400
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value
KEN2	Kennel-Good	L	150	12.00	1980	A	70	C	1.00	1,300

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	9,600	9,600		43.48	417,408
	Ttl Gross Liv / Lease Area	9,600	9,600			417,408

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 5 | Sec # 1 of 1 | Card # 5 of 6 | Print Date 08-02-2022 12:59:35

CURRENT OWNER

MANSFIELD TOWN OF & BOARD OF
MANSFIELD MIDDLE SCHOOL
4 SOUTH EAGLEVILLE RD

STORRS CT 06268

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	1 Well	1 Paved	
	2 Septic		

SUPPLEMENTAL DATA

Alt Prcl ID
Census 8811
Devel. Lot

GIS ID 23.60.7 Assoc Pid#

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
Ex C Land	21	1,700,800	1,190,600
Ex C Bldg	22	8,723,600	6,106,600
Ex Com OB	25	446,100	312,400
Ind Land	3-1	153,000	107,100
	Total	11,023,500	7,716,700

6078

MANSFIELD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
MANSFIELD TOWN OF & BOARD OF EDUCA	663	347	01-20-2009	U	V	0	25
REFERENCE	113	428	04-16-1971	U	I	0	
	106	136	12-13-1967	U	I	0	
MANSFIELD TOWN OF	83	413	05-10-1957	U	I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	21	1,190,600	2020	21	1,190,600	2019	21	1,190,600
	22	6,106,600		22	6,106,600		22	6,106,600
	25	312,400		25	312,400		25	312,400
	3-1	107,100		3-1	107,100		3-1	107,100
	Total	7,716,700		Total	7,716,700		Total	7,716,700

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

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ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

DOG POUND

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	8,723,600
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	446,100
Appraised Land Value (Bldg)	1,853,800
Special Land Value	0
Total Appraised Parcel Value	11,023,500
Valuation Method	C
Total Appraised Parcel Value	11,023,500

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nhbd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
5	901	Town MDL-Com	21			SF	0.00	1.00000		1.00		1.000			0	0	0
		Total Card Land Units			0.00	AC	Parcel Total Land Area:			93.53						Total Land Value	1,853,800

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 5 | Sec # 1 of 1 | Card # 5 of 6 | Print Date 08-02-2022 12:59:35

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	52	Other Municipal
Model	94	Comm/Ind
Grade	07	C
Stories:	1	
Occupancy	1.00	
Exterior Wall 1	15	Concr/Cinder
Exterior Wall 2		
Roof Structure	03	Gable
Roof Cover	01	Metal/Tin
Interior Wall 1	01	Minimum
Interior Wall 2		
Interior Floor 1	04	Concr Abv Grad
Interior Floor 2		
Heating Fuel	09	Typical
Heating Type	05	Hot Water
AC Type	01	None/partial
Bldg Use	901	Town MDL-Com
Heat/AC	00	HEAT ONLY
Frame Type	02	WOOD FRAME
Baths/Plumbing	02	AVERAGE
Ceiling/Wall	02	CEILING ONLY
Rooms/Prtns	02	AVERAGE
Wall Height	8.00	
1st Floor Use:		

CONSTRUCTION DETAIL (CONTINUED)

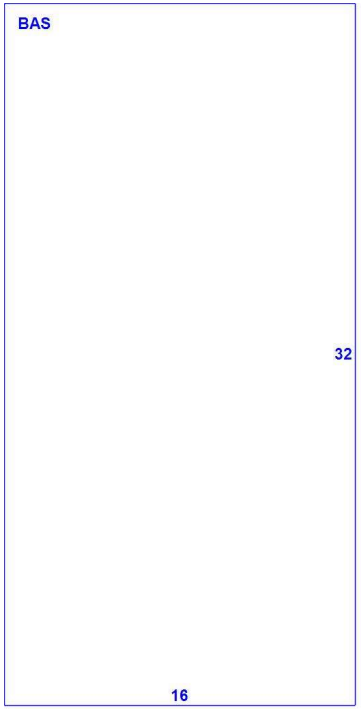
Element	Cd	Description

MIXED USE

Code	Description	Percentage
901	Town MDL-Com	100
		0
		0

COST / MARKET VALUATION

RCN	
Year Built	1975
Effective Year Built	
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	32
Functional Obsol	
Economic Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	68
RCNLD	68,500
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value
FNC	Fence	L	200	8.00	1975	A	70	C	1.00	1,100

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	512	512		196.68	100,700
	Ttl Gross Liv / Lease Area	512	512			100,700

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 6 | Sec # 1 of 1 | Card # 6 of 6 | Print Date 08-02-2022 12:59:36

CURRENT OWNER

MANSFIELD TOWN OF & BOARD OF
MANSFIELD MIDDLE SCHOOL
4 SOUTH EAGLEVILLE RD

STORRS CT 06268

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	1 Well	1 Paved	
	2 Septic		

SUPPLEMENTAL DATA

Alt Prcl ID
Census 8811
Devel. Lot
GIS ID 23.60.7
Assoc Pid#

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
Ex C Land	21	1,700,800	1,190,600
Ex C Bldg	22	8,723,600	6,106,600
Ex Com OB	25	446,100	312,400
Ind Land	3-1	153,000	107,100
	Total	11,023,500	7,716,700

6078

MANSFIELD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
MANSFIELD TOWN OF & BOARD OF EDUCA	663	347	01-20-2009	U	V	0	25
REFERENCE	113	428	04-16-1971	U	I	0	
	106	136	12-13-1967	U	I	0	
MANSFIELD TOWN OF	83	413	05-10-1957	U	I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	21	1,190,600	2020	21	1,190,600	2019	21	1,190,600
	22	6,106,600		22	6,106,600		22	6,106,600
	25	312,400		25	312,400		25	312,400
	3-1	107,100		3-1	107,100		3-1	107,100
	Total	7,716,700		Total	7,716,700		Total	7,716,700

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

1997-MODULAR CLASSRM BUILDING ADDED TO
REAR OF MANSFIELD MIDDLE SCHOOL

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	8,723,600
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	446,100
Appraised Land Value (Bldg)	1,853,800
Special Land Value	0
Total Appraised Parcel Value	11,023,500
Valuation Method	C
Total Appraised Parcel Value	11,023,500

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nhbd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
6	901	Town MDL-Com	21			SF	0.00	1.00000		1.00		1.000			0	0	0
		Total Card Land Units			0.00	AC	Parcel Total Land Area:			93.53						Total Land Value	1,853,800

Property Location 205 SPRING HILL RD | Map ID 23/ 60/ 7/ / | Bldg Name | State Use 901
Vision ID 2799 | Account # 23 60 7 | Bldg # 6 | Sec # 1 of 1 | Card # 6 of 6 | Print Date 08-02-2022 12:59:36

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	49	Pubilc School
Model	94	Comm/Ind
Grade	09	B-
Stories:	1	
Occupancy	1.00	
Exterior Wall 1	08	Wood
Exterior Wall 2		
Roof Structure	01	Flat
Roof Cover	03	Asphalt Shingl
Interior Wall 1	05	Drywall
Interior Wall 2		
Interior Floor 1	14	Carpet
Interior Floor 2		
Heating Fuel	09	Typical
Heating Type	04	Forced Air
AC Type	01	None/partial
Bldg Use	901	Town MDL-Com
Heat/AC	00	HEAT ONLY
Frame Type	02	WOOD FRAME
Baths/Plumbing	02	AVERAGE
Ceiling/Wall	06	CEIL & WALLS
Rooms/Prtns	02	AVERAGE
Wall Height	10.00	
1st Floor Use:		

CONSTRUCTION DETAIL (CONTINUED)

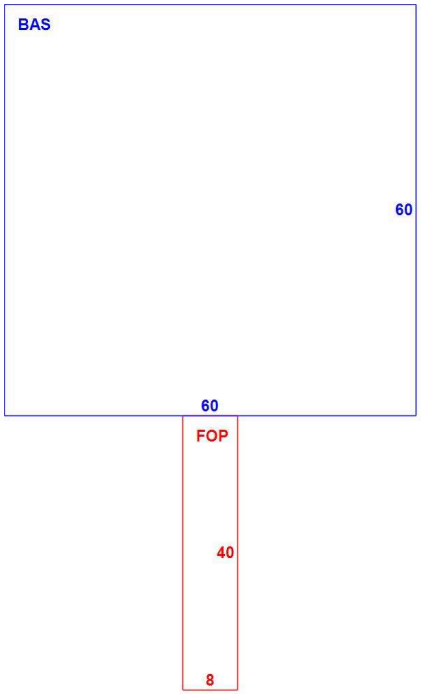
Element	Cd	Description

MIXED USE

Code	Description	Percentage
901	Town MDL-Com	100
		0
		0

COST / MARKET VALUATION

RCN	
Year Built	1997
Effective Year Built	
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	16
Functional Obsol	
Economic Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	84
RCNLD	764,900
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	3,600	3,600		247.46	890,846
FOP	Framed Open Porch	0	320		61.86	19,797
	Ttl Gross Liv / Lease Area	3,600	3,920			910,643

Exhibit A

Wendell Davis

TOWN OF MA

Planning and Zonin

Audrey P. Beck
Four South Eagle
Storrs, Connecticut 06268
Telephone (203) 429-3330

Memo to: Town Council
From: Planning and Zoning Commission
A. H. Barberet, Chairman

Date: 9/17/03

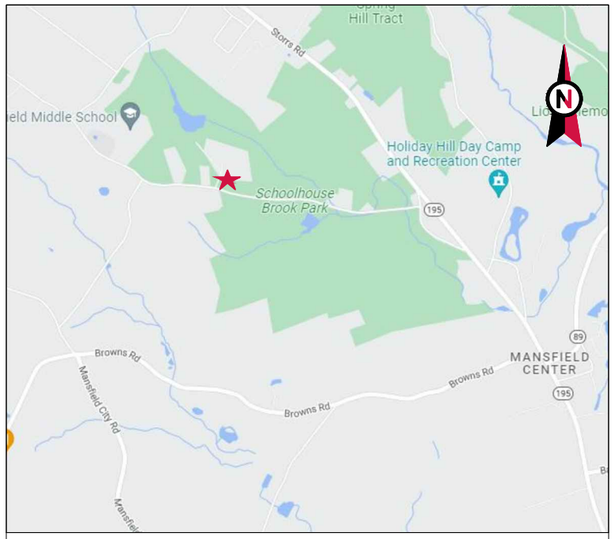
Re: PZC approval of proposed telecommunication tower and related facilities adjacent to Town Garage, PZC file 1209

At a meeting held on September 15, 2003, the Mansfield Planning and Zoning Commission unanimously adopted the following motion:

"to approve with conditions the special permit application (file 1209) of the Town of Mansfield and TCP Communications, Inc. for a 180-foot telecommunication tower and related facilities and site work to be located at 230 Clover Mill Road, in an RAR-90 zone, as submitted to the Commission and shown on plans revised through 6/5/03 and as presented at a Public Hearing on 8/4/03. This approval is granted because the application as hereby approved is considered to be in compliance with Article V, Section B, Article X, Section R, and other provisions of the Mansfield Zoning Regulations, and is granted with the following conditions:

1. This approval is based on submitted plans and project descriptions. Any change in plans or the proposed use of the site shall require further review and approval as per Mansfield's Zoning Regulations. The applicant shall be responsible for meeting Building Permit requirements and complying with all applicable State and Federal regulations pertaining to the subject telecommunication use.
2. Prior to any use of the telecommunication facilities and the issuance of a Certificate of Compliance, all site work shall be satisfactorily completed. Based on the provisions of Article V, Section B.7.c, a variation of this condition may be authorized by the Commission, provided that public health and safety components of the project have been satisfactorily completed.
3. To help ensure effective long-term screening of the equipment compound area and compliance with regulatory provisions, the plans shall be revised to incorporate a staggered row of evergreen trees of mixed species between the Town Garage/Bicentennial Pond access road and the compound area. The size, type and location of this required evergreen screen shall be approved by the PZC officers, with staff assistance. With this revision, the proposed eight (8) foot high wooden fence around the compound, and the retention of existing wooded areas around the compound, the proposal will be acceptably screened. The compound and tower are not expected to be readily visible from Clover Mill Road or nearby residences along Clover Mill Road.
4. Whereas abandonment/tower removal issues are addressed by Town ownership and the Town's contract with TCP Communications, Inc., a separate bond pursuant to Article X, Section R.6 of the Zoning Regulations shall not be required.
5. This permit shall not become valid until the applicant obtains the permit form from the Planning Office and files it on the Land Records."

If there are any questions regarding this action, the Planning Office may be contacted.



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: MANSFIELD CENTER 1 CT
ATC SITE NUMBER: 376046
T-MOBILE SITE NAME: CTHA211/TCP COMMUNICATION
T-MOBILE SITE NUMBER: CTHA211A
SITE ADDRESS: 230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826
SITE CLASS: MONOPOLE

LOCATION MAP

T-MOBILE ANCHOR AMENDMENT PLAN
67D5D998E ODE+6160 CONFIGURATION

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY:
PHONE:

TELEPHONE COMPANY:
PHONE:

811 Know what's below. Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826
COUNTY: TOLLAND

GEOGRAPHIC COORDINATES:

LATITUDE: 41.77577777
LONGITUDE: -72.2225
GROUND ELEVATION: 515' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

T-MOBILE

ENGINEER:

HUDSON DESIGN GROUP, LLC.
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845

PROPERTY OWNER:

TOWN OF MANSFIELD CT
230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:
TOWER WORK:
REMOVE (3) ANTENNA(s) AND (3) TMA(s)

INSTALL MOUNT MODIFICATION(s), (6) ANTENNA(s), (3) RRU(s) AND (2) 6/24 4AWG CABLE(s)

EXISTING (3) ANTENNA(s), (3) RRU(s), AND (1) 6/24 4AWG CABLE TO REMAIN

GROUND WORK:
REMOVE (1) CABINET AND (1) BBU CABINET

INSTALL (1) 6160 CABINET, (1) B160 BATTERY CABINET, (1) RP 6651, (1) PSU 4813, (1) CSR IXRE IN PROPOSED 6160 CABINET
EXISTING (1) 6201 ODE CABINET TO REMAIN
THE PROPOSED PROJECT DOES NOT INCLUDE ELECTRICAL SCOPE

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.
6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

PROJECT LOCATION DIRECTIONS

FROM DOWNTOWN HARTFORD CT START OUT GOING NORTH ON MAIN ST TOWARD ARCH ST. TURN RIGHT ONTO CENTRAL ROW. CENTRAL ROW BECOMES AMERICAN ROW. AMERICAN ROW BECOMES STATE ST STAY STRAIGHT TO GO ONTO RAMP. MERGE ONTO CT-2 E. MERGE ONTO I-84 E/US-6 E VIA EXIT 2 TOWARD E HARTFORD/BOSTON. KEEP RIGHT TO TAKE I-384 E VIA EXIT 59 TOWARD PROVIDENCE. I-384 E BECOMES US-44 E. TURN RIGHT ONTO DEPOT RD. TURN RIGHT ONTO STAFFORD RD/CT-32. TURN LEFT ONTO S EAGLEVILLE RD/CT-275. TURN RIGHT ONTO MAPLE RD. MAPLE RD BECOMES SPRING HILL RD. STAY STRAIGHT TO GO ONTO CLOVER MILL RD. 230 CLOVER MILL RD, STORRS MANSFIELD, CT 06268-2826, 230 CLOVER MILL RD IS ON THE LEFT.

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	TR	08/12/22
0	FINALS	TR	11/02/22

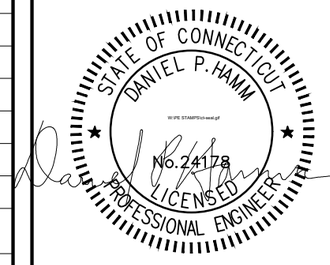
ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

T-MOBILE SITE NAME:
CTHA211/TCP COMMUNICATION

SITE ADDRESS:
230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826

SEAL:



T-Mobile

ATC JOB NO:	14132164_G3
CUSTOMER ID:	CTHA211/TCP COMMUNICATION
CUSTOMER #:	CTHA211A

TITLE SHEET

SHEET NUMBER: G-001

REVISION: 0

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
   - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
   - B. AC/TELCO INTERFACE BOX (PPC)
   - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
   - D. TOWERS, MONOPOLES
   - E. TOWER LIGHTING
   - F. GENERATORS & LIQUID PROPANE TANK
   - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
   - H. ANTENNAS (INSTALLED BY OTHERS)
   - I. TRANSMISSION LINE
   - J. TRANSMISSION LINE JUMPERS
   - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
   - L. TRANSMISSION LINE GROUND KITS
   - M. HANGERS
   - N. HOISTING GRIPS
   - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
   - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
   - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND T-MOBILE SPECIFICATIONS.
   - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
   - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
   - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
   - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
   - G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

ELECTRICAL NOTES:

1. ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTURAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

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

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	TR	08/12/22
0	FINALS	TR	11/02/22

ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

T-MOBILE SITE NAME:
CTHA211/TCP COMMUNICATION

SITE ADDRESS:
230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826

SEAL:

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED
PROFESSIONAL ENGINEER

T-Mobile

ATC JOB NO:	14132164_G3
CUSTOMER ID:	CTHA211/TCP COMMUNICATION
CUSTOMER #:	CTHA211A

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

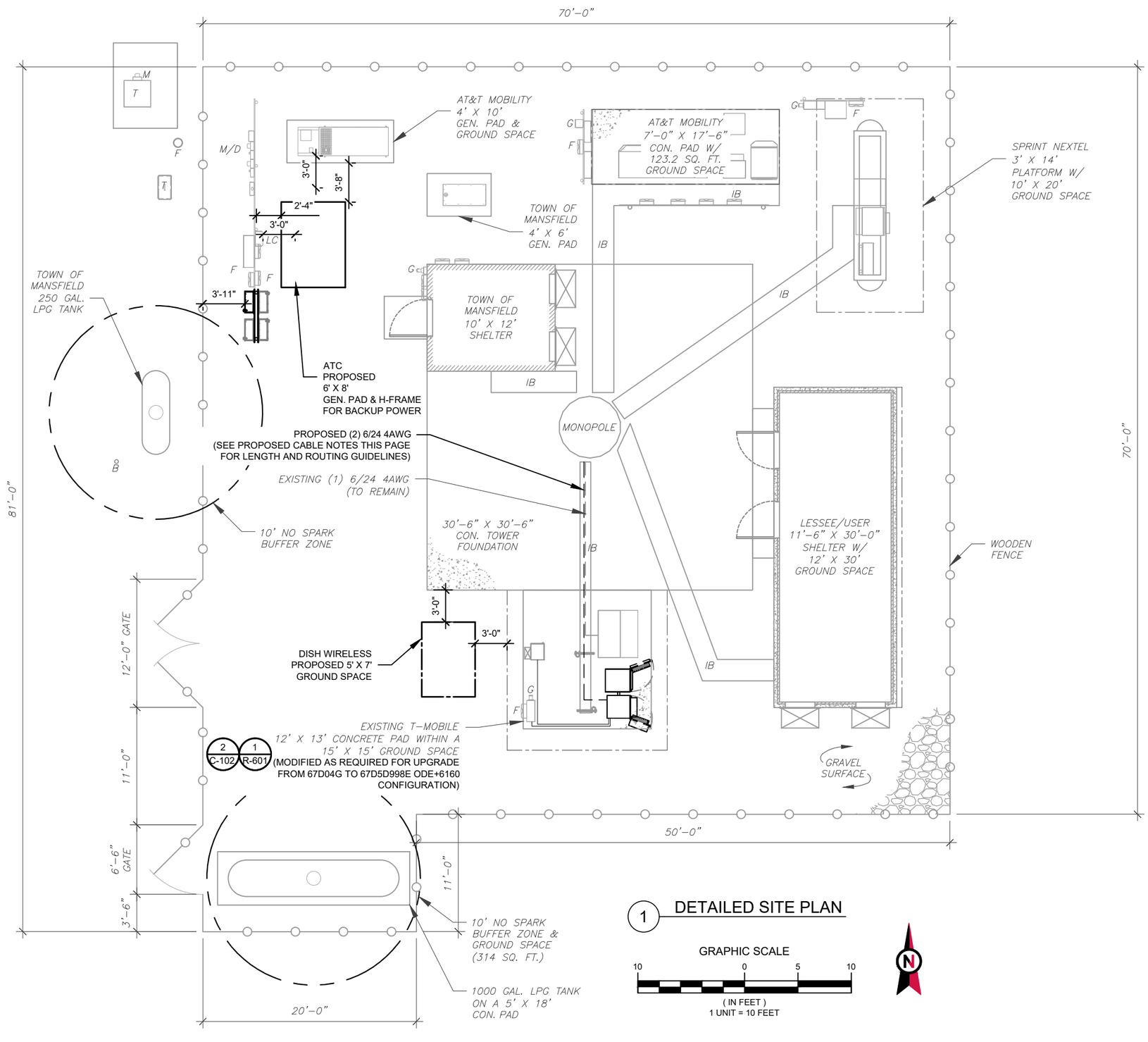
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.

3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.

LEGEND

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



1 DETAILED SITE PLAN

GRAPHIC SCALE

10 0 5 10

(IN FEET)
1 UNIT = 10 FEET

N

PROPOSED CABLE NOTES:

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

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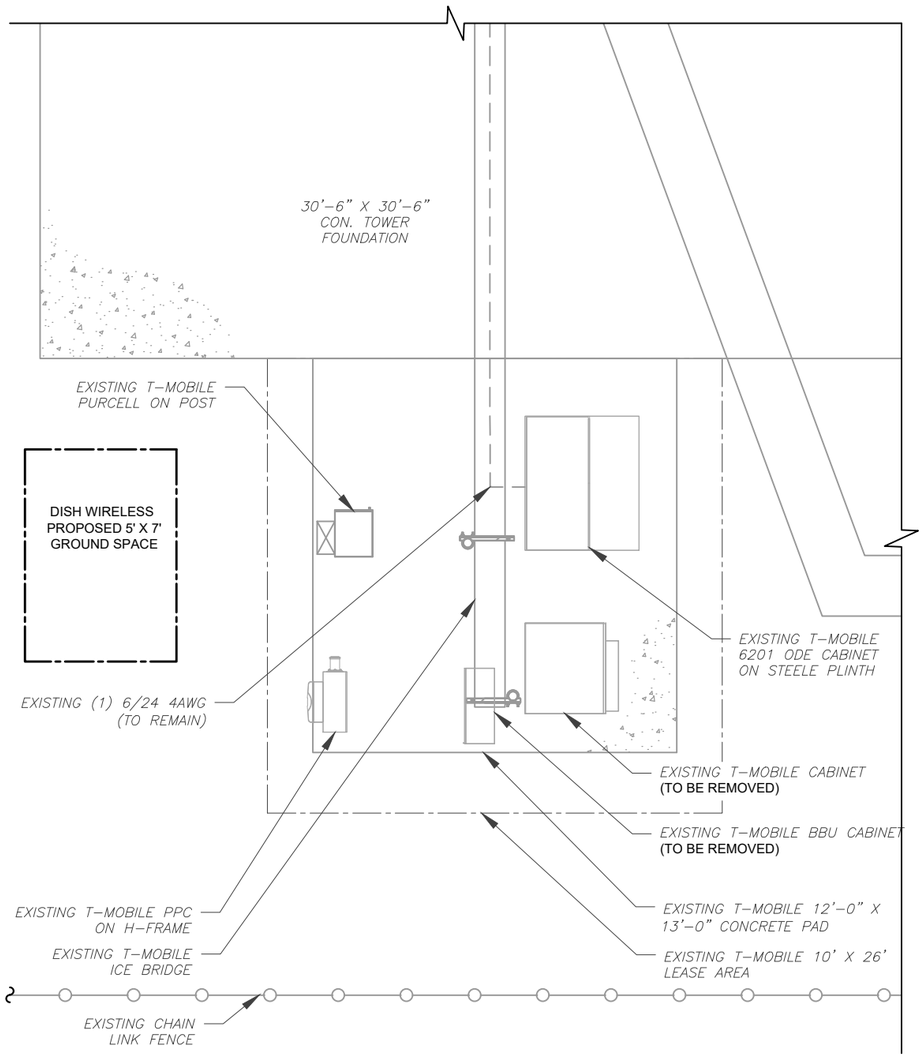
CUSTOMER #:	CTHA211A

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

SITE PLAN NOTES:

1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
3. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO BE REMOVED FROM EQUIPMENT AREA. DISPOSE OF MATERIALS PROPERLY OFF SITE.



1 EXISTING GROUND EQUIPMENT LAYOUT

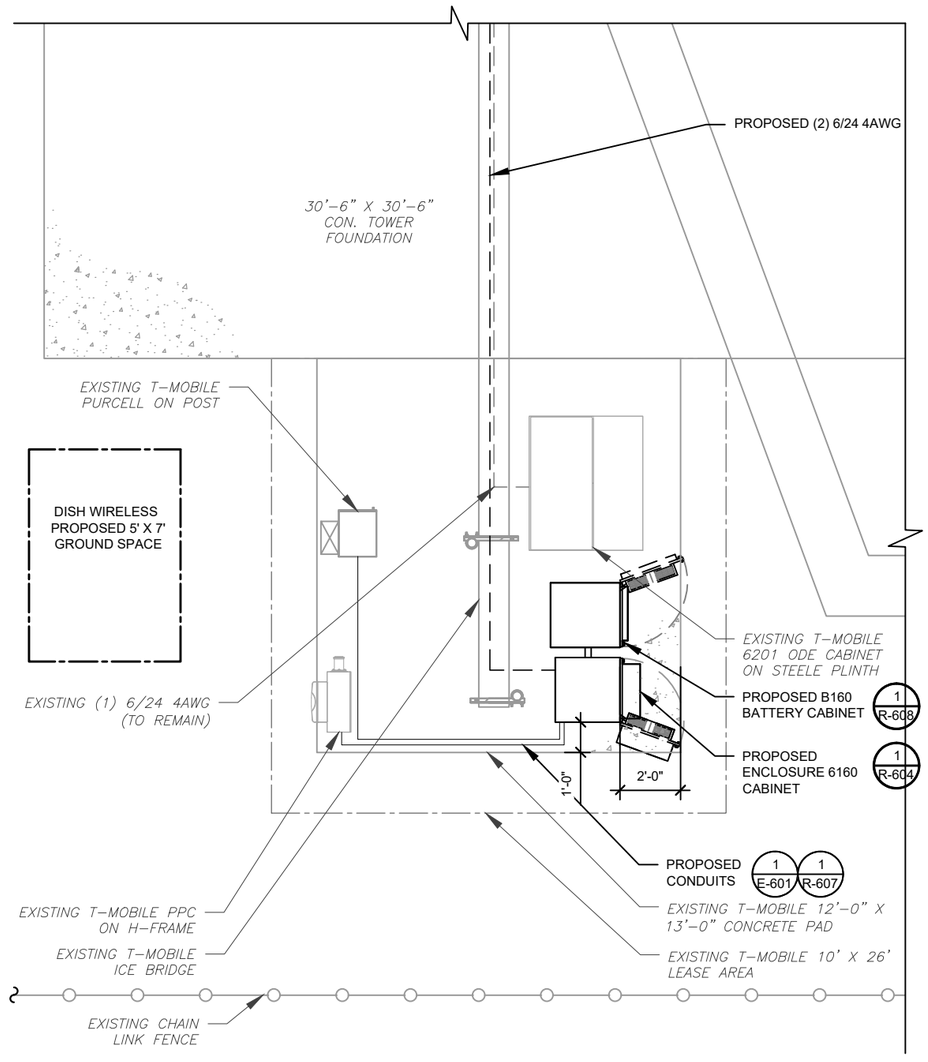
GRAPHIC SCALE

5 0 2.5 5

(IN FEET)
1 UNIT = 5 FEET

N

T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS.



2 PROPOSED GROUND EQUIPMENT LAYOUT

GRAPHIC SCALE

0 ###

(IN FEET)
1 UNIT = # FEET

N

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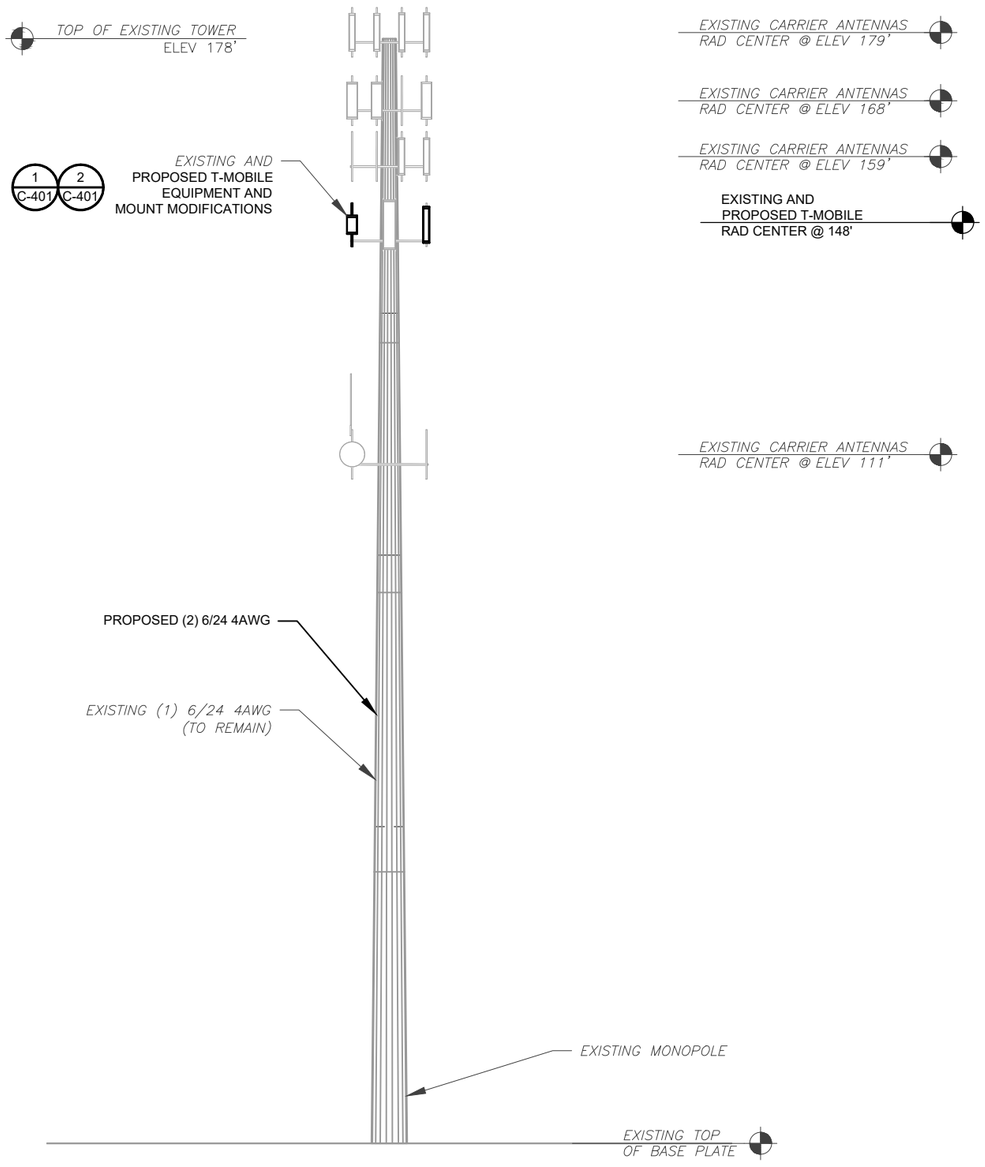
DETAILED EQUIPMENT PLAN

SHEET NUMBER:	REVISION:
C-102	0

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 08/12/2022, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



1 TOWER ELEVATION
SCALE: N.T.S.

TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
3. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)
5. TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

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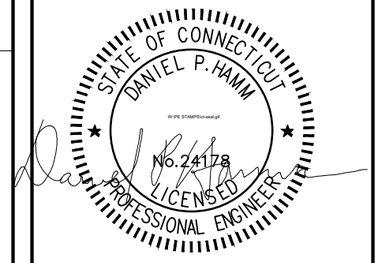
STORRS MANSFIELD, CT 06268-2826

SEAL:

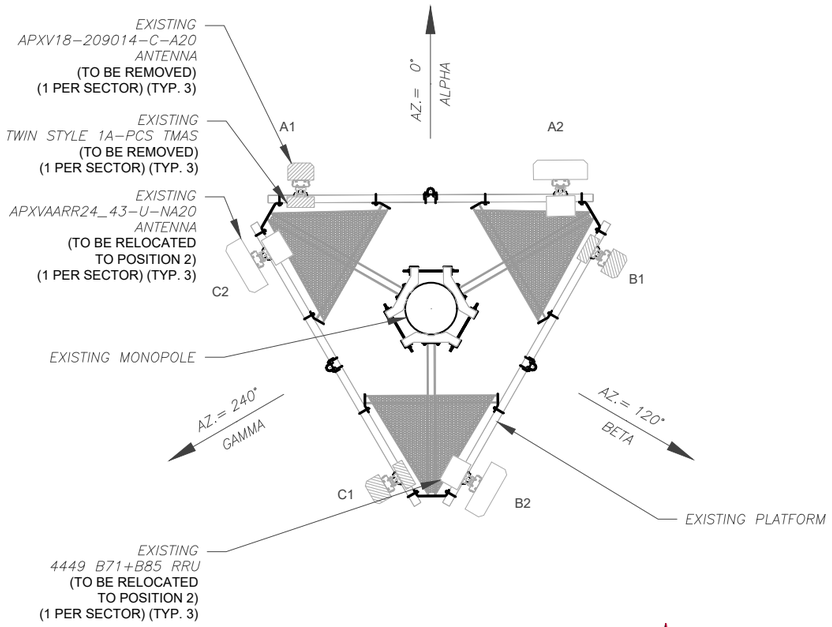


T-Mobile

ATC JOB NO:	14132164_G3
CUSTOMER ID:	CTHA211/TCP COMMUNICATION
CUSTOMER #:	CTHA211A

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	0

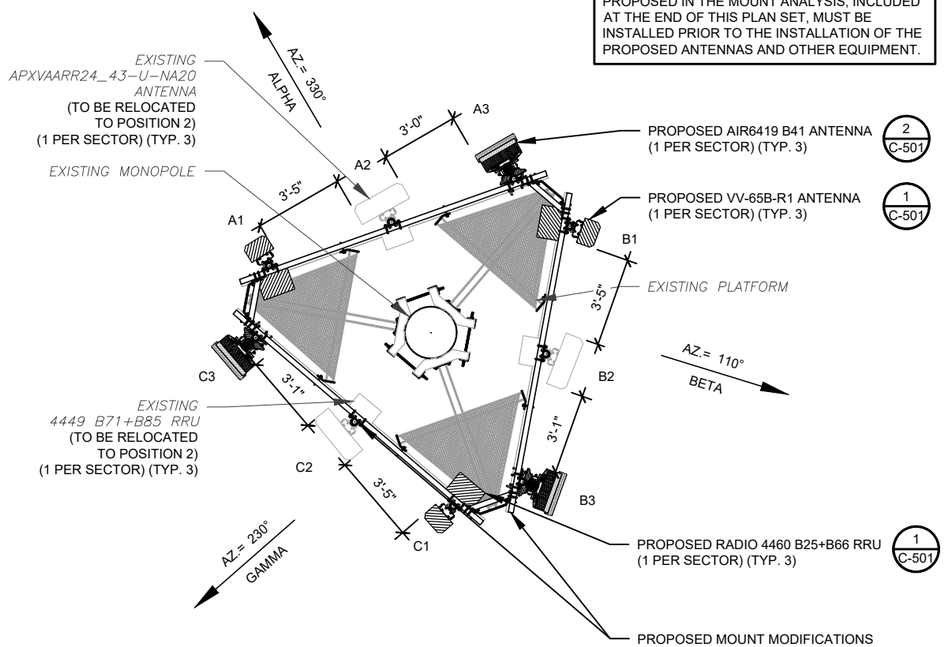


1 EXISTING ANTENNA PLAN

SCALE: N.T.S.

CONTRACTOR SHALL RE-ORIENT ANTENNA MOUNT(s) AS NECESSARY TO ACHIEVE PROPOSED ANTENNA AZIMUTHS

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 08/12/2022, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



2 FINAL ANTENNA PLAN

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	148'	0°	A1	APXV18-209014-C-A20	L1900/G1900	0/2	RMV	Twin Style 1A - PCS	RMV
			A2	APXVAARR24_43-U-NA20	L700/L600/N600	0/2,2	REL	4449 B71+B85	REL
BETA	148'	120°	B1	APXV18-209014-C-A20	L1900/G1900	0/2	RMV	Twin Style 1A - PCS	RMV
			B2	APXVAARR24_43-U-NA20	L700/L600/N600	0/2,2	REL	4449 B71+B85	REL
GAMMA	148'	240°	C1	APXV18-209014-C-A20	L1900/G1900	0/2	RMV	Twin Style 1A - PCS	RMV
			C2	APXVAARR24_43-U-NA20	L700/L600/N600	0/2,2	REL	4449 B71+B85	REL

NOTES

1. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

STATUS ABBREVIATIONS

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

CABLE LENGTHS FOR JUMPERS

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

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	148'	330°	A1	VV-65B-R1	G1900/ L2100/ L1900	0/2,2	ADD	RADIO 4460 B25,B66	ADD
			A2	APXVAARR24_43-U-NA20	N600/L700/L600	0/2,2	REL	4449 B71+B85	REL
			A3	AIR 6419 B41	L2500/ N2500	0/2,2	ADD	-	-
BETA	148'	110°	B1	VV-65B-R1	G1900/ L2100/ L1900	0/2,2	ADD	RADIO 4460 B25,B66	ADD
			B2	APXVAARR24_43-U-NA20	N600/L700/L600	0/2,2	REL	4449 B71+B85	REL
			B3	AIR 6419 B41	L2500/ N2500	0/2,2	ADD	-	-
GAMMA	148'	230°	C1	VV-65B-R1	G1900/ L2100/ L1900	0/2,2	ADD	RADIO 4460 B25,B66	ADD
			C2	APXVAARR24_43-U-NA20	N600/L700/L600	0/2,2	REL	4449 B71+B85	REL
			C3	AIR 6419 B41	L2500/ N2500	0/2,2	ADD	-	-

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
–	RMN	(1) 6/24 4AWG	RMN
–	RMV	–	RMV

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
–	RMN	(1) 6/24 4AWG	RMN
-	ADD	(2) 6/24 4AWG	ADD

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TEL: (978) 557-5553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	TR	08/12/22
0	FINALS	TR	11/02/22

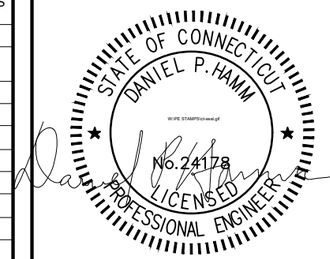
ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

T-MOBILE SITE NAME:
CTHA211/TCP COMMUNICATION

SITE ADDRESS:
230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826

SEAL:

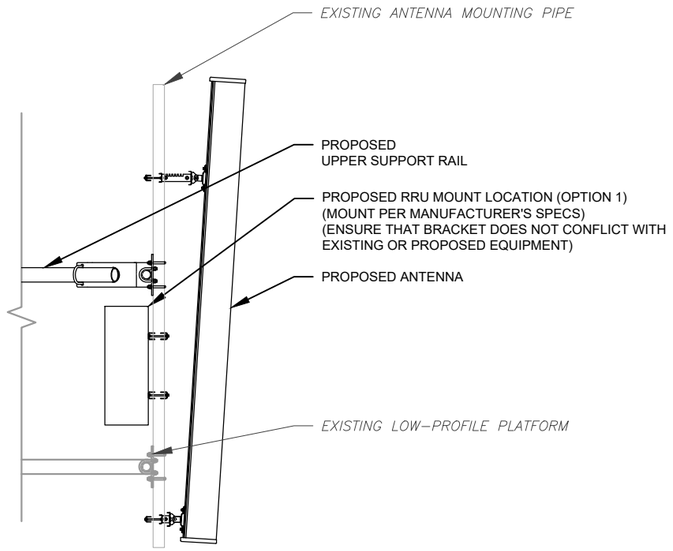


T-Mobile

ATC JOB NO:	14132164_G3
CUSTOMER ID:	CTHA211/TCP COMMUNICATION
CUSTOMER #:	CTHA211A

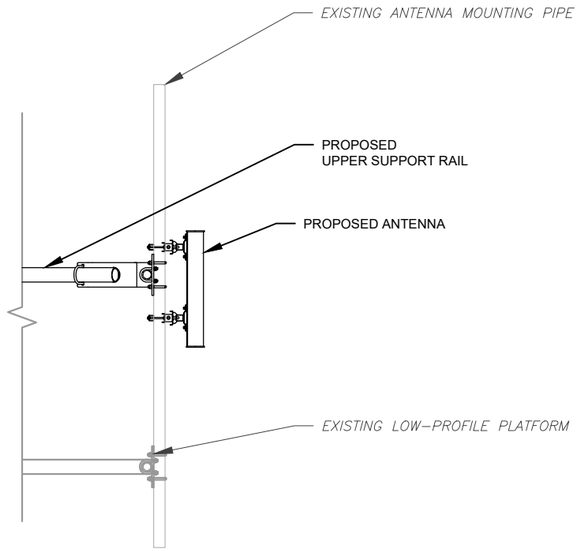
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-401	0



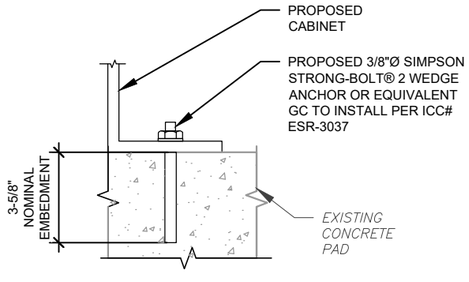
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



NOTE:

INSTALL SIMPSON STRONG-TIE® STRONG-BOLT® 2 WEDGE ANCHOR(S) STRICTLY PER INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR FOUND ONLINE AT WWW.STRONGTIE.COM. PROPER INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

3 CABINET ATTACHMENT DETAIL

SCALE: N.T.S.

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TEL: (978) 557-5553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	TR	08/12/22
0	FINALS	TR	11/02/22

ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

T-MOBILE SITE NAME:
CTHA211/TCP COMMUNICATION

SITE ADDRESS:
230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826

SEAL:

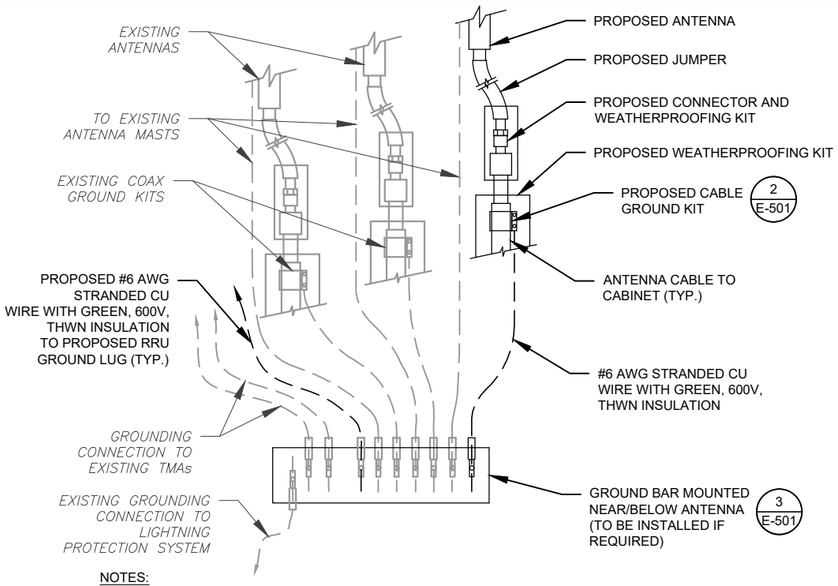
STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

T-Mobile

ATC JOB NO:	14132164_G3
CUSTOMER ID:	CTHA211/TCP COMMUNICATION
CUSTOMER #:	CTHA211A

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	0

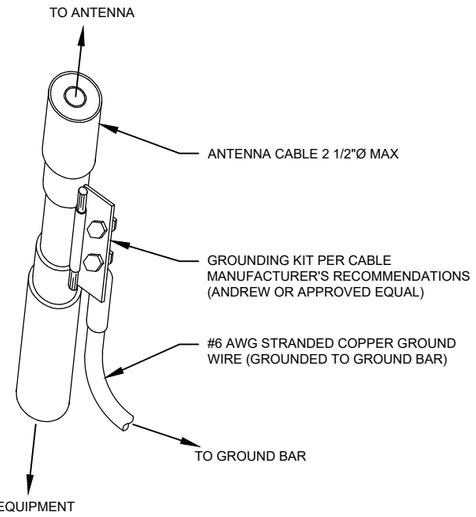


NOTES:

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

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: N.T.S.

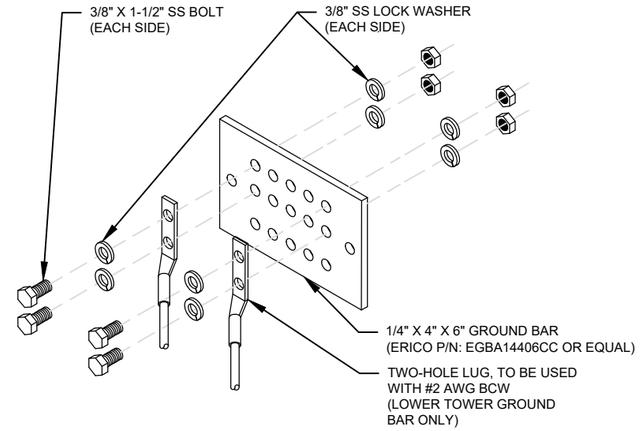


GROUND KIT NOTES:

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

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: N.T.S.



GROUND BAR NOTES:

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

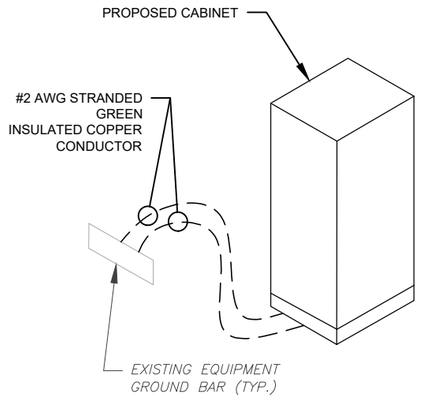
3 TOWER GROUND BAR DETAIL

SCALE: N.T.S.

STANDARD CONDUIT USE TABLE			
CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
RMC (METALLIC)	AC, DC COMM	ABOVE GROUND	ABOVE GROUND PPC TO SSC
PVC	AC POWER	UNDERGROUND	UNDERGROUND PPC TO SSC OR BACKHAUL TRANSPORT HUB TO SSC
LFMC	AC, DC, COMM	MAX 6' PER CONDUIT RUN, ABOVE GROUND ONLY	TIGHT LOCATIONS BETWEEN HUB AND CONDUIT BUT NOT TO BE USED WHERE IT CAN BE STEPPED ON
EMT	INDOOR AC, DC COMM	INDOOR NOT EXPOSED TO THE OUTDOOR ENVIRONMENT (MUST BE DRY)	CIRCUIT PANEL TO JUNCTION BOX
LFNC	GROUND WIRE	CONCEALING AND PROTECTING BTCW RISERS ONLY	GROUND RING TO MGB OR SSC

EXCEPTION CONDUIT USE TABLE			
CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
EMT (NOT PREFERRED)	OUTDOOR DC, COMM	OUTDOOR WHEN USED WITH WATERTIGHT HUBS ONLY	BETWEEN EQUIPMENT AND BATTERY CABINET OR EQUIPMENT TO EQUIPMENT CABINETS FOR INTER CABINET CONNECTION
RMC NONMETALLIC (ALUMINUM)	OUTDOOR/INDOOR PER NEC GUIDLINES	ABOVE GROUND	MAT BE USED AS A LOWER COST ALTERNATIVE TO METALLIC RMC, MUST MEET OR EXCEED FEDERAL SPEC: WW-C-540C, UL-6A, ANSI C80.5, NEC 344.10 (A) ALLOWS THE USE OF EITHER ALUMINUM OR GALVANIZED FITTINGS

4 CONDUIT USE TABLES



5 CABINET GROUNDING DETAIL

SCALE: N.T.S.

ELECTRICAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
2. ATC HAS NOT VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER. PROPOSED CABLE AND CONDUIT SHALL BE MINIMUM SIZE PER BELOW IN CHART.
3. FOR SPECIFIC CABINET / ANCILLARY EQUIPMENT WIRING REQUIREMENTS, THE T-MOBILE CONTRACTOR SHOULD REFERENCE DESIGN DOCUMENTS PROVIDED BY T-MOBILE FOR THIS CURRENT PROJECT CONFIGURATION, IN ACCORDANCE WITH LOCAL JURISDICTION REQUIREMENTS & NEC STANDARDS & PRACTICES.

VOLTS	OCPD SIZE	WIRE SIZE	GROUND	CONDUIT
120/240V OR 120/208V	80A/2P	3-#3 AWG	#8 AWG	1-1/4"
	100/2P	3-#2 AWG	#8 AWG	1-1/4"
	125A/2P	3-#3/0 AWG	#6 AWG	2"
	150A/2P	3-#3/0 AWG	#6 AWG	2"
	200A/2P	3-#3/0 AWG	#6 AWG	2"
240V OR 208V	80A/2P	2-#3 AWG	#8 AWG	1-1/4"
	100/2P	2-#2 AWG	#8 AWG	1-1/4"
	125A/2P	2-#3/0 AWG	#6 AWG	2"
	150A/2P	2-#3/0 AWG	#6 AWG	2"
	200A/2P	2-#3/0 AWG	#6 AWG	2"

6 ELECTRICAL NOTES

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TEL: (978) 557-5553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	TR	08/12/22
0	FINALS	TR	11/02/22

ATC SITE NUMBER:
376046

ATC SITE NAME:
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T-MOBILE SITE NAME:
CTHA211/TCP COMMUNICATION

SITE ADDRESS:
230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826

SEAL:

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED
PROFESSIONAL ENGINEER

T-Mobile

ATC JOB NO:	14132164_G3
CUSTOMER ID:	CTHA211/TCP COMMUNICATION
CUSTOMER #:	CTHA211A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

PANEL DESIGNATION: **TMO**

TYPE: LIGHTING & APPLIANCE
MOUNTING: SURFACE
ENCLOSURE: NEMA 3R

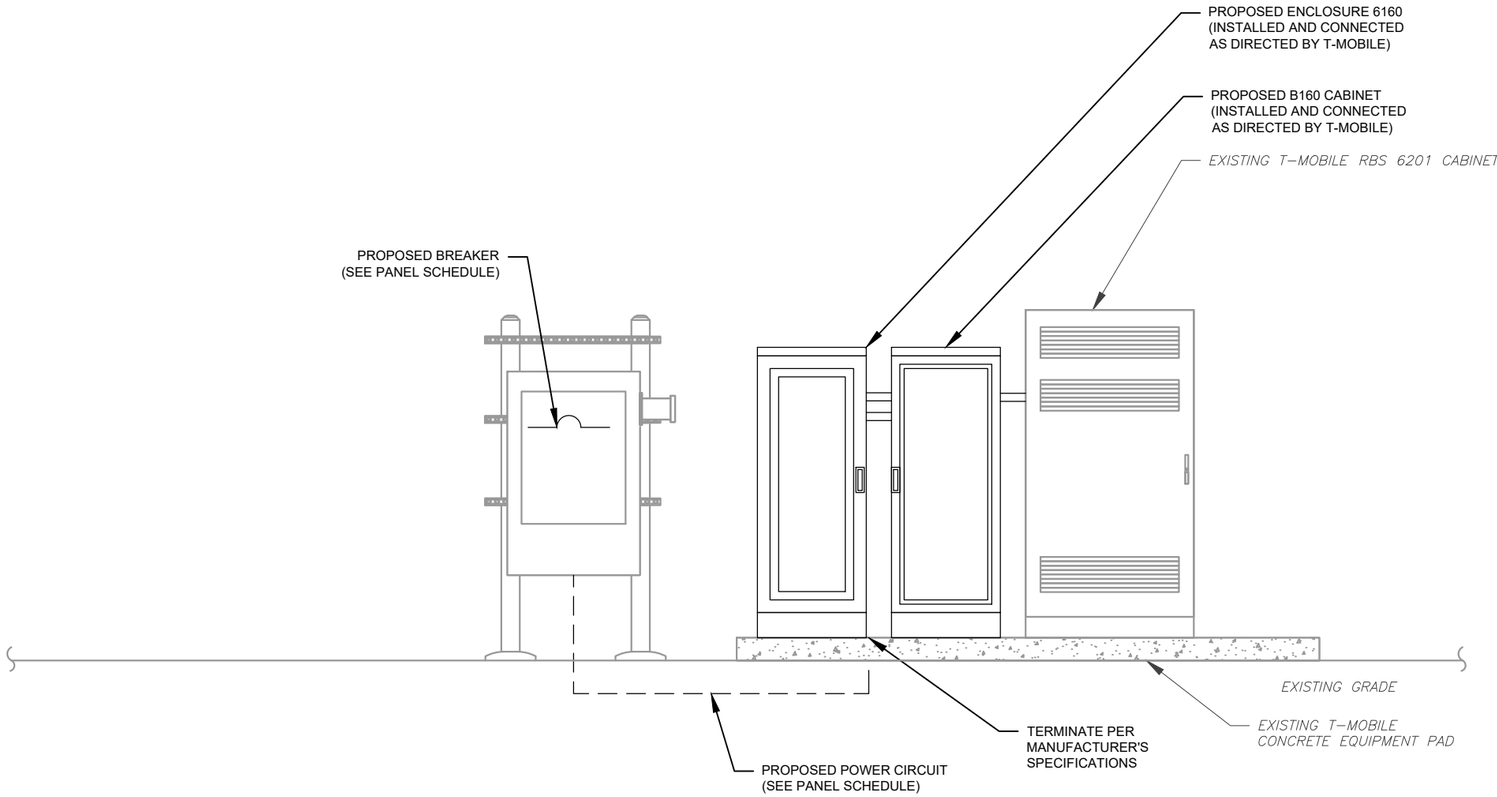
SYSTEM: 120/240V, 1Ø, 3W, 24 CKT
MAIN BREAKER (MB): 200A
MAIN BUS RATING: 200A
MIN. A.I.C. RATING: N/A

LOCATION: TMO LEASE EQUIPMENT AREA
PANEL NOTES: PROPOSED

CONNECTED LOAD (kVA)		BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT					POLE NO.	CIRC. NOTES		CIRC. NOTES	POLE NO.	FEEDER OR BRANCH CIRCUIT					BRIEF DESCRIPTION	CONNECTED LOAD (kVA)	
			BREAKER		CIRCUIT								CIRCUIT			BREAKER				
A	B		AMPS	POLES	WIRE	GND	COND.						COND.	GND	WIRE	POLES	AMPS		A	B
0.01		SURGE	60	2	3-#6	#10	1"	1				2	1/2"	#12	2-#12	1	20	GFI	0.18	
	0.01							3				4	1/2"	#12	2-#12	1	20	LIGHT		0.50
7.50		ENCLOSURE 6160	150	2	2-#3/0	#6	2"	5				6	1/2"	#12	2-#12	1	20	AAV GFI	0.15	
	7.50							7				8								0.00
0.18		6160 GFI	20	1	2-#12	#12		9				10							0.00	
	0.00							11				12								0.00
0.00								13				14							0.00	
	0.00							15				16								0.00
0.00								17				18							0.00	
	0.00							19				20								0.00
0.00								21				22							0.00	
	0.00							23				24								0.00
7.7	7.5								A	B	TOTAL								0.3	0.5
									8.0	8.0	16.0	CONNECTED LOAD (kVA)								
									8.0	8.0	16.0	DEMAND LOAD (kVA)								

DERATING FACTOR (80%)
DEMANDLOAD SIZING: *83 AMPS*

1 PANEL SCHEDULE



2 ELECTRICAL SCHEMATIC

SCALE: N.T.S.

ELECTRICAL NOTES:

1. THIS DIAGRAM REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
3. ATC HAS NOT YET VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER.

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45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

REV.	DESCRIPTION	BY	DATE
A	PRELIM	TR	08/12/22
0	FINALS	TR	11/02/22

ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

T-MOBILE SITE NAME:
CTHA211/TCP COMMUNICATION

SITE ADDRESS:
230 CLOVER MILL ROAD
STORRS MANSFIELD, CT 06268-2826

SEAL:

T-Mobile

ATC JOB NO:	14132164_G3
CUSTOMER ID:	CTHA211/TCP COMMUNICATION
CUSTOMER #:	CTHA211A

PANEL SCHEDULE & ELECTRICAL SCHEMATIC

SHEET NUMBER:	REVISION:
E-601	0

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 1 - Site Information

Site ID: CTHA211A
Status: Final
Version: 4
Project Type: Anchor
Approved: 5/26/2022 3:2:27 PM
Approved By: Pratik.Pati530@T-Mobile.com
Last Modified: 5/26/2022 3:2:27 PM
Last Modified By: Pratik.Pati530@T-Mobile.com

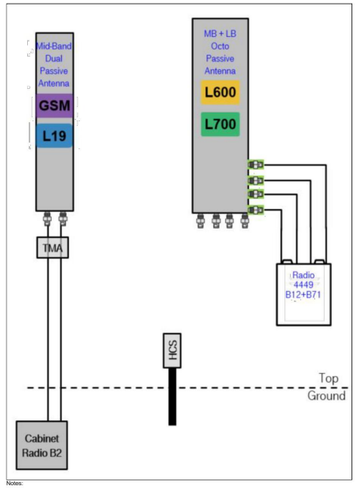
Site Name: CTHA211/TCP Communication
Site Class: Monopole
Site Type: Structure Non Building
Plan Year: 2022
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: TCP Communications

Latitude: 41.77579159
Longitude: -72.22257620
Address: 230 Clover Mill Road
City, State: Mansfield, CT
Region: NORTHEAST

RAN Template: 67D5D998E ODE+6160		AL Template: 67D5998E_1xAIR+1OP+1QP		
Sector Count: 3	**Antenna Count:** 9	**Coax Line Count:** 0	**TMA Count:** 0	**RRU Count:** 6

Section 2 - Existing Template Images

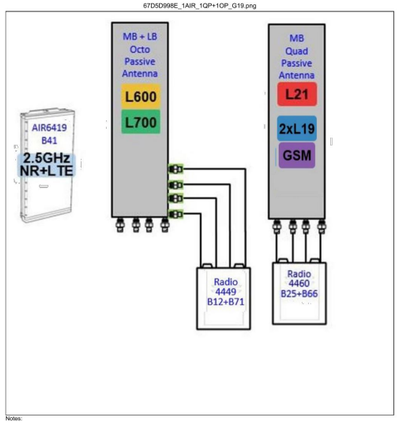
Capture.JPG



Notes:

Section 3 - Proposed Template Images

67D5D998E_1AIR_1QP+1OP_G19.png



Notes:

Section 4 - Siteplan Images

----- This section is intentionally blank. -----

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 5 - RAN Equipment

Existing RAN Equipment
Template: 67D04G

Enclosure	1
Enclosure Type	RBS 6201 ODE
Baseband	DUG20 (G1900) BB 6630 (L1900) BB 6648 (L700 L600 N600)
Hybrid Cable System	Hybrid Trunk 6/24 4AWG 60m
Radio	RUS01 B2 (x 6) L1900 G1900
Transport System	CSR IXRe V2 (Gen2)

Proposed RAN Equipment
Template: 67D5D998E ODE+6160

Enclosure	1	2	3
Enclosure Type	RBS 6201 ODE	Enclosure 6160 AC V1	B160
Baseband	DUG20 (G1900) BB 6630 (L1900 L2100) BB 6648 (L700 L600 N600)	RP 6651 (N2500 L2500)	
Hybrid Cable System	Hybrid Trunk 6/24 4AWG 60m	PSU 4813 vR4A (KKI) Hybrid Trunk 6/24 4AWG 60m (x 2)	
Transport System	CSR IXRe V2 (Gen2)	CSR IXRe V2 (Gen2)	

RAN Scope of Work:

Remove and return all cabinet radios from existing base station cabinet.

Add (1) Enclosure 6160.

Move the (1) IXRe Router to new Enclosure 6160.

Add (1) RP 6651 for L2500/ N2500 to new Enclosure 6160.

Add (1) PSU4813 Voltage Booster to new Enclosure 6160.

Add (1) Battery Cabinet B160.

Existing : (1) 6x24

Remove all Coax,

Add (2) 6X24 HCS. Connect DC for the AIR6419 B41 to the PSU4813 Voltage Booster.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 6 - A&L Equipment

Existing Template: 67D04G_1OP+1QP
Proposed Template: 67D5998E_1xAIR+1OP+1QP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro				
Antenna	1	2			
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	0	0			
M. Tilt	0	0			
Height	148	148			
Ports	P1	P2	P3	P4	P5
Active Tech.	L1900 G1900	L700 L600 N600	L700 L600 N600		
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2		
Cables	1-5/8" Coax - 180 ft. (x2)	Coax Jumper (x4)	SHARED Coax Jumper (x4)		
TMAs	Generic Twin Style 1A - PCS (AtAntenna)				
Diplexers / Combiners					
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment					

Unconnected Equipment:

Scope of Work:

Remove coaxial lines for LB Dual in Position 2.
Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B85 to Position 2 for 600/700.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

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

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Commscope_VV-65B-R1 (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	330		330				330	
M. Tilt	0		0				0	
Height	148		148				148	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L1900 L2100 G1900	L1900 L2100 G1900	N600 L700 L600	N600 L700 L600			L2500 N2500	L2500 N2500
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2			2	2
Cables	Coax Jumper (x2) Fiber Jumper (x2)	SHARED Fiber Jumper (x2) Coax Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2)	SHARED Fiber Jumper (x2) Coax Jumper (x2)			Fiber Jumper (x4)	SHARED Fiber Jumper (x4)
TMAs								
Diplexers / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

New azimuths at 330/110/230.

Remove all TMAs.

Remove all Coaxial Lines.

Replace APXV18 with (1) VV-65B-R1 at Position 1 and add (1) radio 4460 for L2100, L1900 (Both carriers), and GSM to Position 1 at antenna.

Keep existing Octo at Position 2.

Add (1) AIR6419 for L2500/N2500 at Position 3.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 2 (Existing) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1	2				
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	RFS - APXVAARR24_43-U-NA20 (Octo)				
Azimuth	120	120				
M. Tilt	0	0				
Height	148	148				
Ports	P1	P2	P3	P4	P5	
Active Tech.	L1900 G1900	L700 L600 N600	L700 L600 N600			
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2	2			
Cables	1-5/8" Coax - 190 ft. (x2)	Coax Jumper (x4)	SHARED Coax Jumper (x4)			
TMAs	Generic Twin Style 1A - PCS (AIAntenna)					
Diplexers / Combiners						
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)			
Sector Equipment						

Unconnected Equipment:

Scope of Work:

Remove coaxial lines for LB Dual in Position 2.
Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B85 to Position 2 for 600700.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Commscope_VV-65B-R1 (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	110		110				110	
M. Tilt	0		0				0	
Height	148		148				148	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L1900 L2100 G1900	L1900 L2100 G1900	N600 L700 L600	N600 L700 L600			L2500 N2500	L2500 N2500
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2			2	2
Cables	Coax Jumper (x2) Fiber Jumper (x2)	SHARED Fiber Jumper (x2) Coax Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2)	SHARED Fiber Jumper (x2) Coax Jumper (x2)			Fiber Jumper (x4)	SHARED Fiber Jumper (x4)
TMAs								
Diplexers / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

New azimuths at 330/110/230.

Remove all TMAs.

Remove all Coaxial Lines.

Replace APXV18 with (1) VV-65B-R1 at Position 1 and add (1) radio 4460 for L2100, L1900 (Both carriers), and GSM to Position 1 at antenna.

Keep existing Octo at Position 2.

Add (1) AIR6419 for L2500/N2500 at Position 3.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 3 (Existing) view from behind

Coverage Type	A - Outdoor Macro				
Antenna	1	2			
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	240	240			
M. Tilt	0	0			
Height	148	148			
Ports	P1	P2	P3	P4	P5
Active Tech.	L1900 G1900	L700 L600 N600	L700 L600 N600		
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2		
Cables	1-5/8" Coax - 180 ft. (x2)	Coax Jumper (x4)	SHARED Coax Jumper (x4)		
TMAs	Generic Twin Style 1A - PCS (AIAntenna)				
Diplexers / Combiners					
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment					

Unconnected Equipment:

Scope of Work:

Remove coaxial lines for LB Dual in Position 2.
Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B85 to Position 2 for 600700.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 3 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Commscope_VV-65B-R1 (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	230		230				230	
M. Tilt	0		0				0	
Height	148		148				148	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	G1900 L2100 L1900	G1900 L2100 L1900	L700 N600 L600	L700 N600 L600			L2500 N2500	L2500 N2500
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2			2	2
Cables	Coax Jumper (x2) Fiber Jumper (x2)	SHARED Fiber Jumper (x2) Coax Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2)	SHARED Fiber Jumper (x2) Coax Jumper (x2)			Fiber Jumper (x4)	SHARED Fiber Jumper (x4)
TMAs								
Diplexers / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

New azimuths at 330/110/230.

Remove all TMAs.

Remove all Coaxial Lines.

Replace APXV18 with (1) VV-65B-R1 at Position 1 and add (1) radio 4460 for L2100, L1900 (Both carriers), and GSM to Position 1 at antenna.

Keep existing Octo at Position 2.

Add (1) AIR6419 for L2500/N2500 at Position 3.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 7 - Power Systems Equipment

Existing Power Systems Equipment
----- This section is intentionally blank. -----

	Proposed Power Systems Equipment
	1
Enclosure	
Enclosure Type	Enclosure 6160 AC V1

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

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	0

NSB 190FT *Red Battery*®

Long float life at elevated temperatures

Red Star Technology® uses pure lead plates to deliver **exceptionally long float life even at elevated temperatures.**

- Pure lead AGM technology delivers long float life for telecom applications even at elevated temperatures
- 15 year float life at 20°C (68°F)
- EUROBAT design life definition: Long Life (12+ years)
- High energy density
- Operating temperature range: -40°C to +65°C (-40°F to 149°F)
- State-of-the-art automated manufacturing ensures consistency and reliability
- Advanced 3 stage terminal design to ensure leak-free operation - female M8 brass terminals provide maximum performance
- 2 year shelf life at 25°C (77°F)
- High modulus Polyphenylene Oxide (PPO) plastic materials designed to withstand extended elevated operating temperatures and maintain high battery compression essential for reliable operation
  - Non-halogenated, thermally sealed plastic casing
  - Flame retardant (UL 94 V0) and LOI of at least 28%
- Integral handles and front access terminals ensure ease of installation and maintenance
- Approved as non-hazardous cargo for ground, sea, and air transport - DOT 49CFR173.159(d), (i) and (ii)

Visit our website to find out more **www.northstarbattery.com**

NorthStar®

Form: SES-546-08-02 Issued: 11-11-13 ECO: 2383-S13

NSB 190FT *Red Battery*®

Nominal Technical Specifications

Electrical

	International Standard 20°C (68°F)	North American Standard 25°C (77°F)
8 hour capacity to 1.75 VPC	188 Ah	191 Ah
10 hour capacity to 1.80 VPC	190 Ah	192 Ah
Float Voltage	2.29 +/- 0.02 VPC	2.27 +/- 0.02 VPC
Nominal Voltage	12 V	
Impedance (1kHz)	2.2 mΩ @ 25°C (77°F)	
Conductance	2,400 S	
Short Circuit Current	6,000 A	

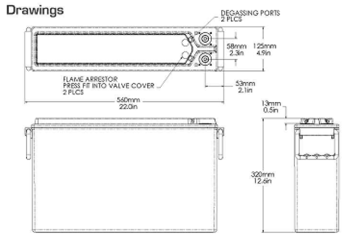
Dimensions

Height	320 mm (12.6 in)	Weight	60 kg (132 lbs)
Width	125 mm (4.9 in)	Terminal	Female M8 x 1.25
Depth	560 mm (22.0 in)	Terminal Torque	8.0 Nm (71 in-lbs)

Ah Capacity Ratings @ 25°C (77°F)

Capacity Discharge / hours	1	2	4	8	10
Capacity @ 25°C / Ah	150	167	181	191	192
End of Discharge / VPC	1.70	1.75	1.75	1.75	1.80

Drawings



All NorthStar batteries are compliant with: Telcordia SR4228, IEC 60896; Bellcore GR-63-Core, Issue 1; British, German, and Russian telecom standards; UL approved. NorthStar is registered to ISO 9001 and ISO 14001.

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NorthStar®

Form: SES-546-08-02 Issued: 11-11-13 ECO: 2383-S13

BATTERY SCHEDULE					
MODEL	CURRENT CAPACITY	NOMINAL VOLTAGE	WEIGHT (LBS)	QUANTITY	**ELECTROLYTE (H2SO4/H2O)**
NORTHSTAR NSB 190FT	190A	12V	132	12	**269.28**

NorthStar®

Industrial Lead Acid Battery Safety Data Sheet

3. **COMPOSITION / INFORMATION ON INGREDIENTS*

INGREDIENTS (Chemical/Common Names):	CAS No.:	% by Wt:
Lead and Lead Compounds (inorganic)	7439-92-1	**50**
Electrolyte (H2SO4/H2O)	7664-93-9	**17**
Lead Oxide	1309-60-0	**20**
Tin	7440-31-5	**0.2**

4. *FIRST AID MEASURES*

INHALATION:
Sulfuric Acid: Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.
Lead: Remove from exposure, gargle, wash nose and lips; consult physician.

INGESTION:
Sulfuric Acid: Give large quantities of water; Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death. Consult a physician.
Lead: Consult a physician immediately.

SKIN:
Sulfuric Acid: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely, including shoes. If symptoms persist, seek medical attention. Wash contaminated clothing before reuse. Discard contaminated shoes.
Lead: Wash immediately with soap and water.

EYES:
Sulfuric Acid and Lead: Flush immediately with large amounts of water for at least 15 minutes while lifting lids; Seek immediate medical attention if eyes have been exposed directly to acid.

5. *FIRE FIGHTING MEASURES*

Flash Point: Not Applicable
Flammable Limits: LEL = 4.1% (Hydrogen Gas in air); UEL = 74.2%
Extinguishing media: CO2; foam; dry chemical. Do not use carbon dioxide directly on cells. Avoid breathing vapors. Use appropriate media for surrounding fire.

Fire Fighting Procedures:
Use positive pressure, self-contained breathing apparatus. Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection. If batteries are on charge, shut off power to the charging equipment, but note that strings of series connected batteries may still pose risk of electric shock even when charging equipment is shut down.

NorthStar®

Industrial Lead Acid Battery Safety Data Sheet

1. *IDENTIFICATION*

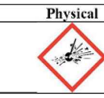
REVISION DATE: 01-31-18

Product Name: Lead Acid Battery, Non-Spillable Wet **Synonyms:** Industrial Battery, Traction Battery, Stationary Battery, Deep Cycle Battery	**Product Use:** Electric Storage Battery **Manufacturer/Supplier:** NorthStar Battery, Co., LLC **Address:** 4000 E. Continental Way, Springfield, MO 65803
General Information Number: 417.575.8200	**CAS Number:** Not Applicable CHEMTREC: 800-424-9300

2. *GHS HAZARDS IDENTIFICATION*

Health	Environmental	Physical
Acute Toxicity (Oral/Dermal/Inhalation) - Category 4 Skin Corrosion/Irritation - Category 1A Eye Damage - Category 1 Reproductive - Category 1A Carcinogenicity (lead) - Category 1B Carcinogenicity (arsenic) - Category 1A Carcinogenicity (acid mist) - Category 1A Specific Target Organ Toxicity (repeated exposure) - Category 2	Aquatic Chronic - 1 Aquatic Acute - 1	Explosive Chemical, Division 1.3

GHS Label:

Health	Environmental	Physical
		
Hazard Statements **DANGER!** Causes severe skin burns and eye damage. Causes serious eye damage. May damage fertility or the unborn child if ingested or inhaled. May cause cancer if ingested or inhaled. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure. May form explosive air/gas mixture during charging. Extremely flammable gas (hydrogen). Explosive, fire, blast or projection hazard.	***Precautionary Statements*** Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing, eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Causes skin irritation, serious eye damage. Contact with internal components may cause irritation or severe burns. Avoid contact with internal acid. Irritating to eyes, respiratory system, and skin.	

1 BATTERY SPECIFICATIONS

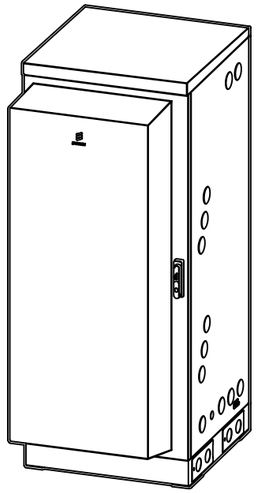
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

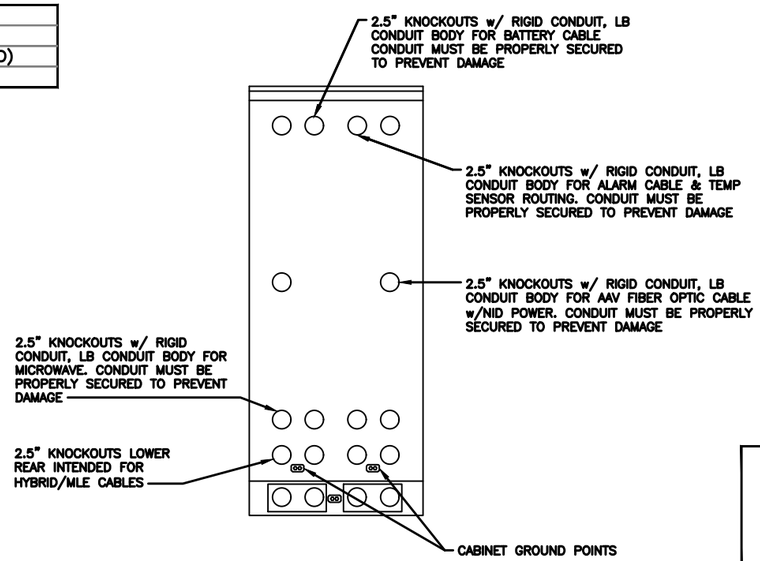
SUPPLEMENTAL

SHEET NUMBER: R-603

REVISION: 0

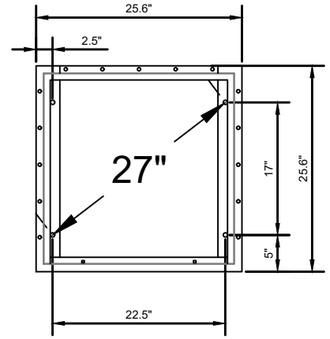
MANUFACTURER:	ERICSSON
MODEL:	6160 SITE SUPPORT CABINET
DIMENSIONS:	63" x 25.6" x 33.6" (H x W x D)
WEIGHT:	373 LBS





REAR VIEW

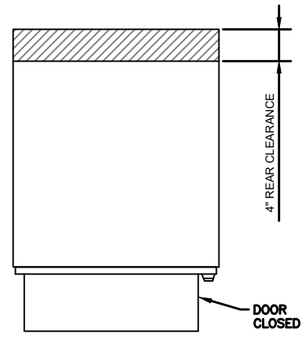
NOTE:
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

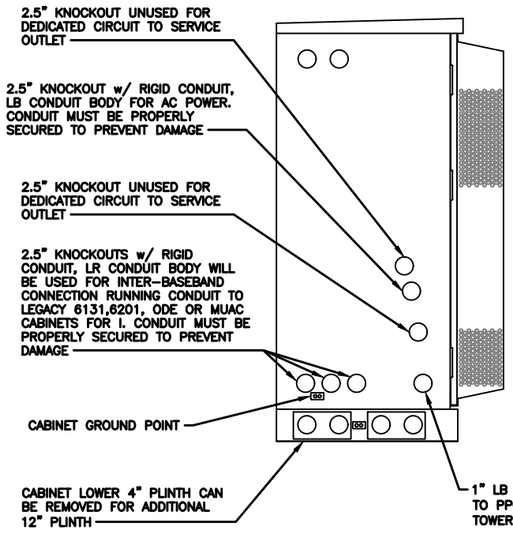


BOLT DOWN PATTERN

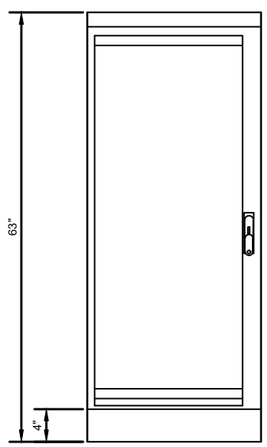
GROUNDING NOTE:

"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."

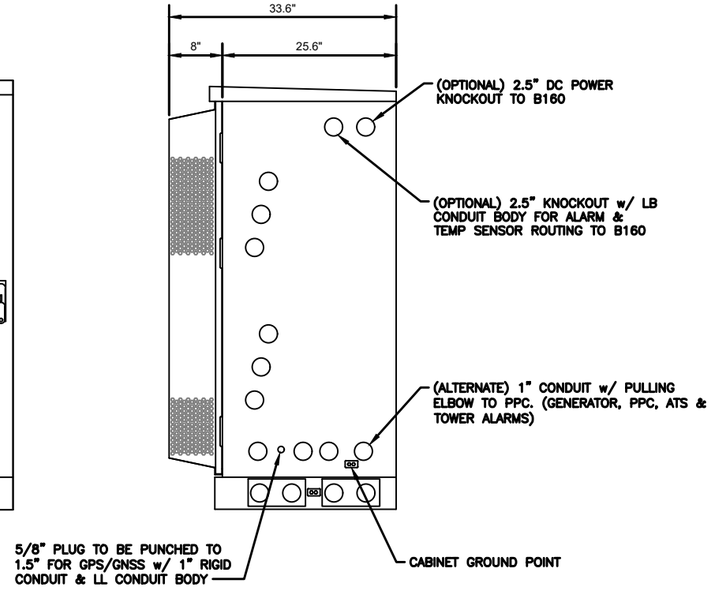




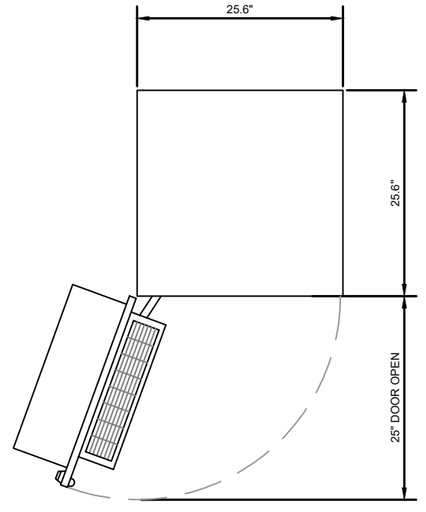
LEFT VIEW



FRONT VIEW



RIGHT VIEW



PLAN VIEW

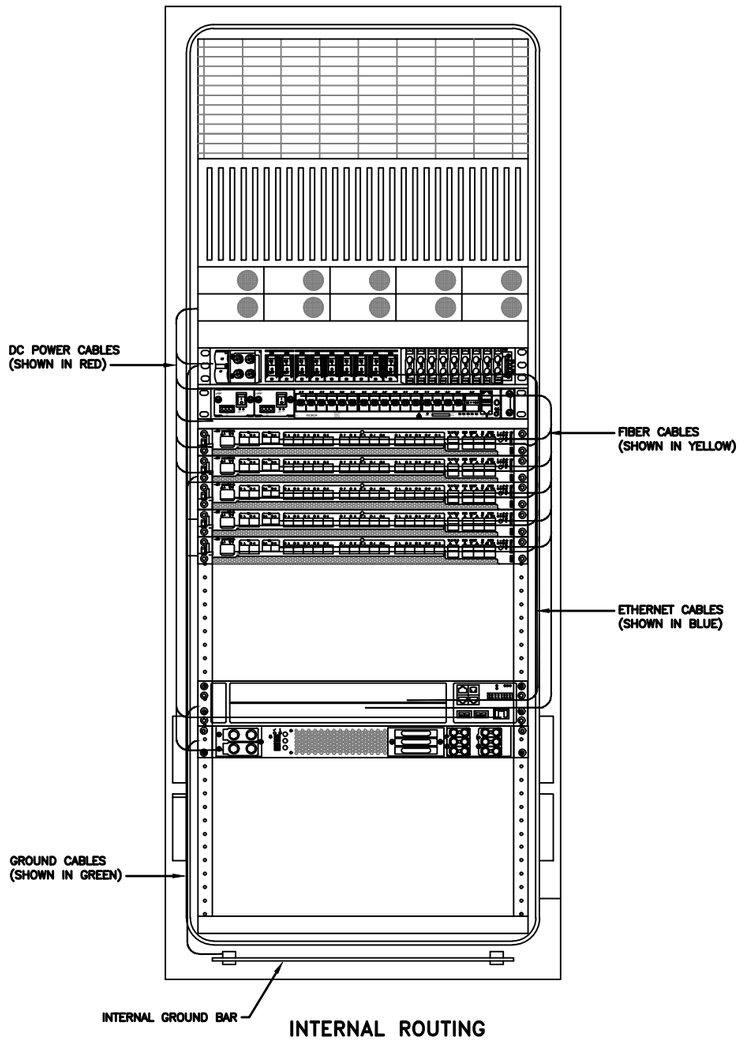
1 ERICSSON 6160 SITE SUPPORT CABINET SPECIFICATIONS

SCALE: N.T.S.

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

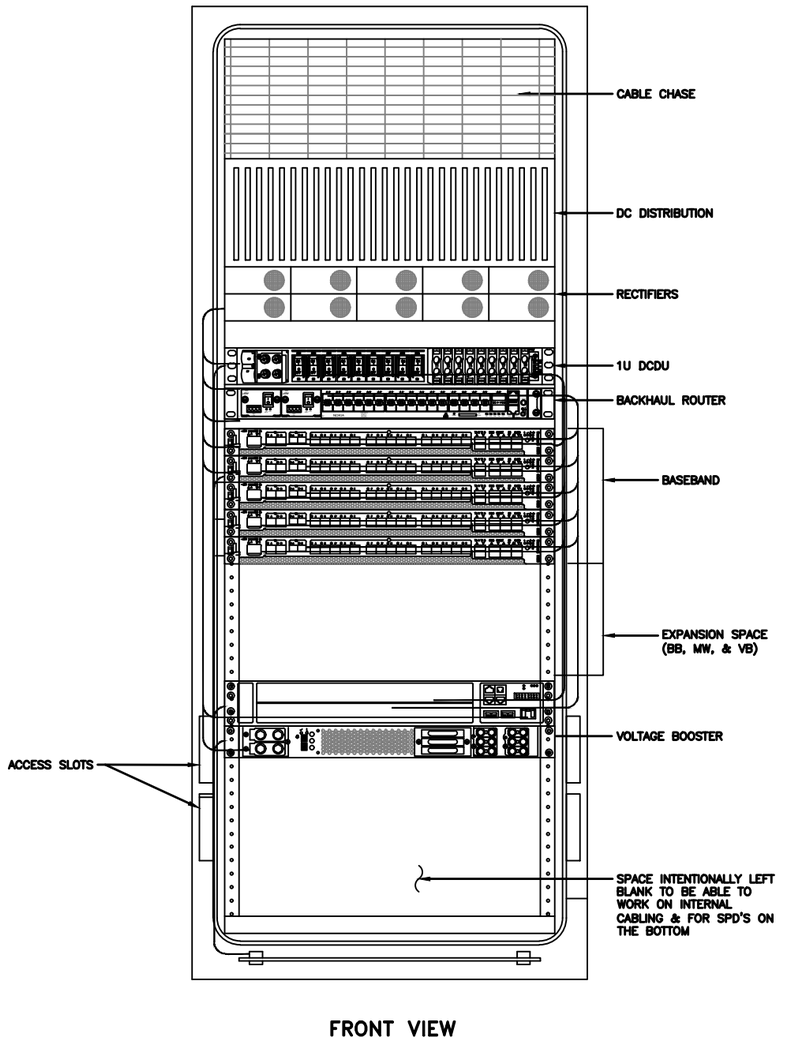
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-604	0



INTERNAL ROUTING
(DOOR OPEN)

RACK ASSIGNMENTS	
RU SLOTS	DESCRIPTION
1	DC DISTRIBUTION
2	
3	
4	
5	RECTIFIER SHELF
6	
7	FIBER BOX
8	DCDU
9	BACKHAUL ROUTER
10	
11	1ST BASEBAND
12	2ND BASEBAND
13	3RD BASEBAND
14	4TH BASEBAND
15	5TH BASEBAND
16	EXPANSION
17	
18	
19	
20	EXPANSION / LEGACY BASEBAND / VOLTAGE BOOSTER
21	
22	VOLTAGE BOOSTER
23	OPEN SPACE FOR SPD ACCESS
24	
25	



FRONT VIEW
(DOOR OPEN)

1 ERICSSON 6160 CABINET DETAILS

SCALE: N.T.S.

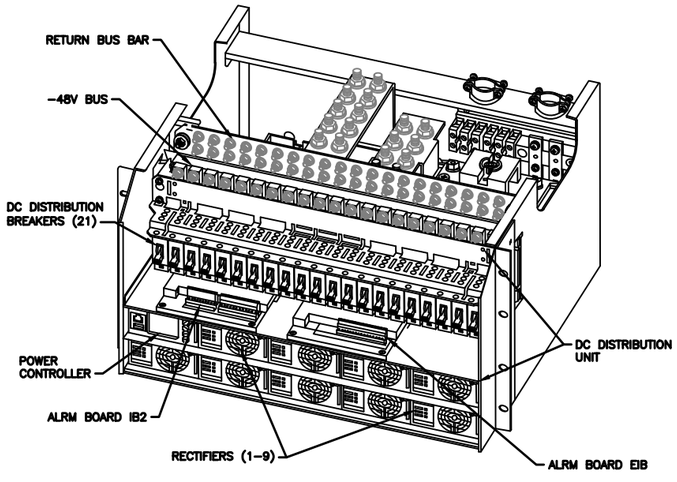
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

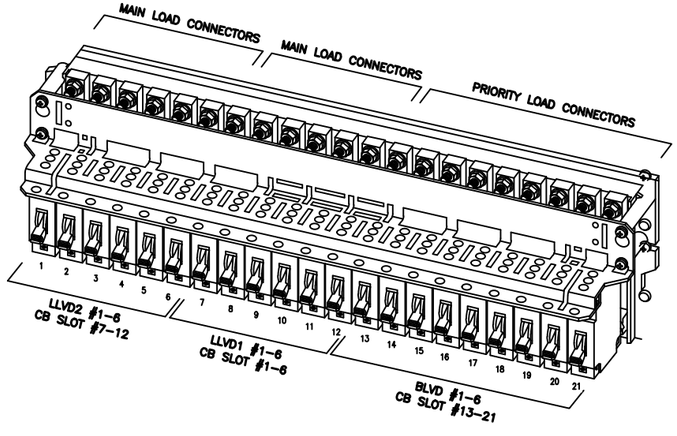
SHEET NUMBER:	REVISION:
R-605	0

NOTE:
THIS IS FOR REFERENCE ONLY, CHECK FOR SPECIFIC DETAIL IN T–MOBILE CABINET SPECIFIC INSTALLATION GUIDES

Breaker Allocation for E6160					
CB SLOT	Ckt #		w/ DCDU Prior to availability of the 4460 and 4480	w/ DCDU Later Design Post-4460 and Post-4480	w/ DCDU 4 and 6 Sector designs
1	LVD1 47.0V	1	Router PS-2*/Future		Radio 4460 B25/66 ζ-1
2		2	Future		Radio 4460 B25/66 ζ-2
3		3	PSU 4813 feeding B25/66 α, β and γ (AIR 1641s)		PSU 4813 feeding B41-δ & B71/12-δ (Air 6449s and Radio 4480s)
4		4			
5		5	PSU 4813 feeding B41 α, β and γ (Air 6449s)		
6		6			
7	LVD2 45.1V	1	PSU 4813 feeding B71/12 α, β and γ (Radio 4449s)	PSU 4813 feeding B71/12 α, β and γ (Radio 4480s)	
8		2			
9		3	Future		Radio 4460 B25/66 δ-1
10		4	Future		Radio 4460 B25/66 δ-2
11		5	Future		Radio 4460 B25/66 ε-1
12		6	Future		Radio 4460 B25/66 ε-2
13	BLVD 43.2V	1	Router PS-1		
14		2	Radio 4415 B25/66 α	Radio 4460 B25/66 α-1	
15		3	Radio 4415 B25/66 β	Radio 4460 B25/66 α-2	
16		4	Radio 4415 B25/66 γ	Radio 4460 B25/66 β-1	
17		5	PSU 4813 feeding B2/25 α, β and γ (Radio 4424s)	Radio 4460 B25/66 β-2	
18		6		Radio 4460 B25/66 γ-1	
19		7	Future	Radio 4460 B25/66 γ-2	
20		8	DCDU		
21		9	AAV		
Sector Identification α = Alpha, β = Beta, γ = Gamma, δ = Delta, ε = Epsilon, ζ = Zeta					



POWER SUBRACK



DC DISTRIBUTION

1 ERICSSON 6160 ELECTRICAL DETAILS

SCALE: N.T.S.

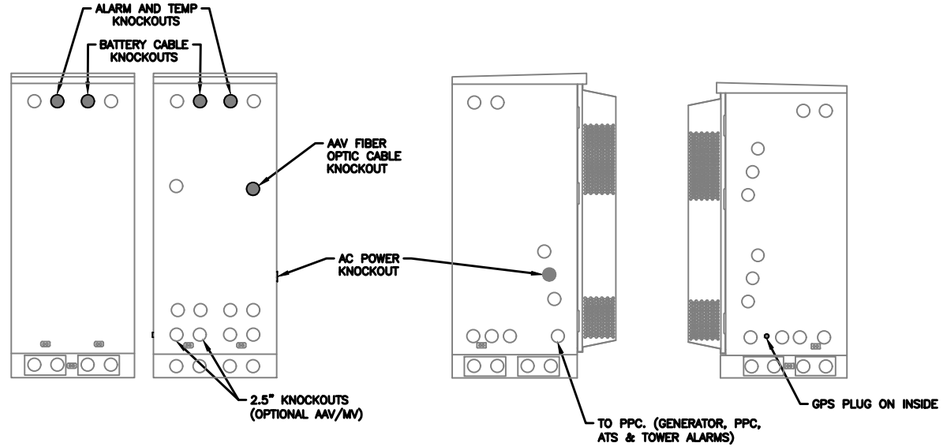
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

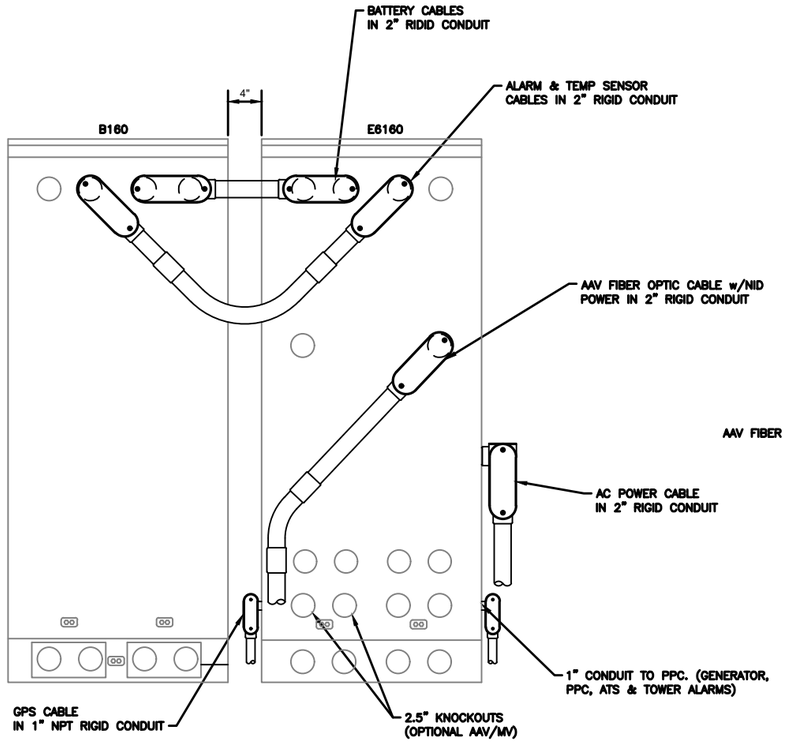
SHEET NUMBER:	REVISION:
R-606	0

NOTE:

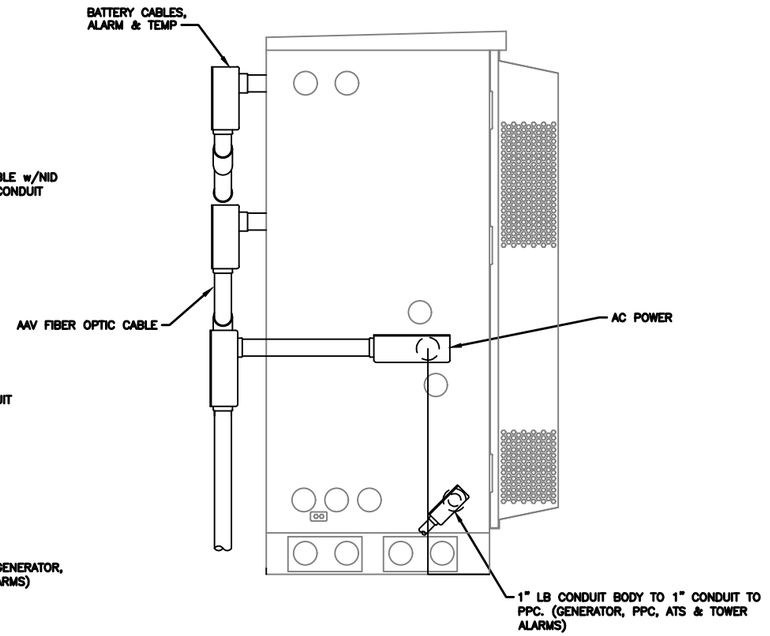
1. ALL CONDUIT AND FITTING ENTRANCES INTO CABINETS AND ENCLOSURES MUST UTILIZE MYERS OR EQUIVALENT HUBS OR SEALING WASHERS TO PREVENT WATER ENTRY/SEEPAGE INTO CABINETS AND ENCLOSURES.
2. (LIQUIDFLEX) FLEXIBLE METALLIC CONDUIT (LFMC) & ASSOCIATED FITTINGS CAN BE USED AS NEEDED BUT ONLY FOR TIGHT CONDUIT BENDS AND RUNS SUBJECT TO UL AND NEC LIMITATIONS. 6' MAX PER CONDUIT RUN.
3. POWER CONDUIT BODY ATTACHED WITH SHORT NIPPLE AND SEALING WASHER INSIDE & OUT. (FOR DOOR HOOD CLEARANCE)
4. PULLING ELBOWS MAY BE USED IN LIEU OF A CONDUIT BODIES WHEN CLEARANCE IS LIMITED.
5. ALL EXTERNAL ALARM CONDUITS ARE TOO TERMINATE AT THE PPC WITH A SINGLE 1" ALARM CONDUIT TO THE 6160.
6. (DO NOT USE CHASE NIPPLES) CONDUIT SHOULD HAVE SEALING WASHERS INSIDE AND OUT w/ LOCK NUT AND CAP.



CONDUIT LOCATIONS



REAR VIEW



SIDE VIEW

1 ERICSSON 6160/B160 CONDUIT ROUTING DETAILS

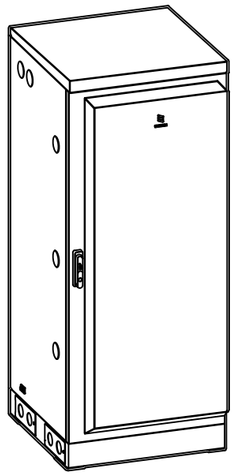
SCALE: N.T.S.

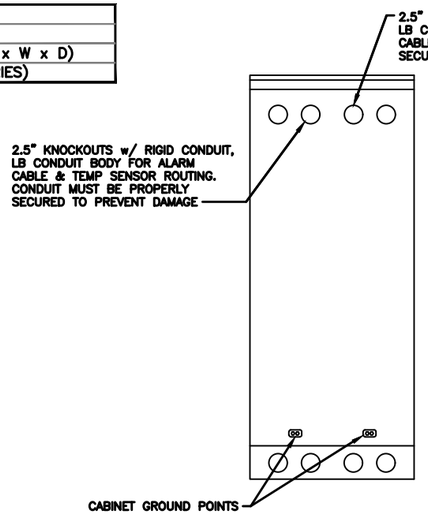
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

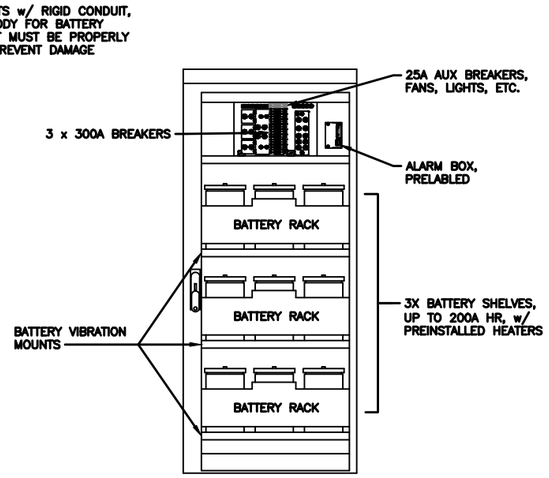
SHEET NUMBER:	REVISION:
R-607	0

MANUFACTURER:	ERICSSON
MODEL:	B160 BATTERY CABINET
DIMENSIONS:	63" x 25.6" x 29.5" (H x W x D)
WEIGHT:	295 LBS (WITHOUT BATTERIES)



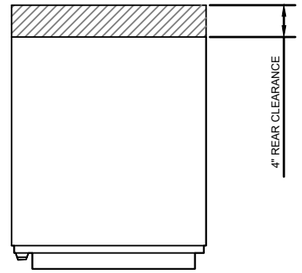


REAR VIEW



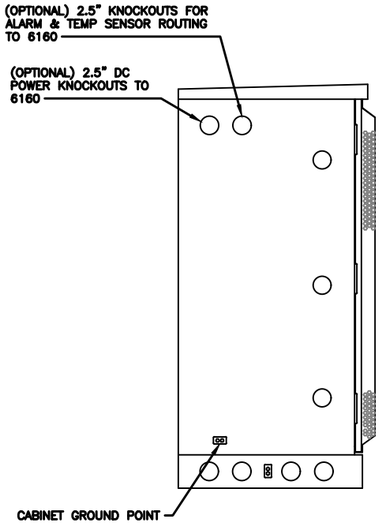
FRONT VIEW
(DOOR OPEN)

NOTE:
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

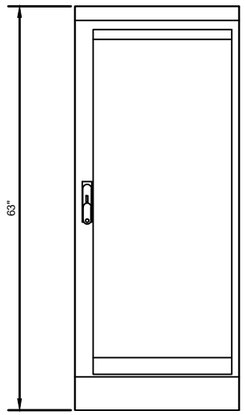


GROUNDING NOTE:

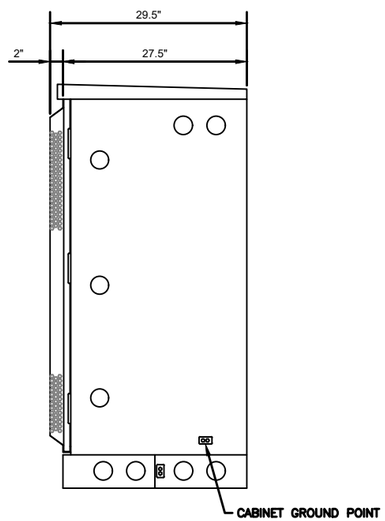
"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."



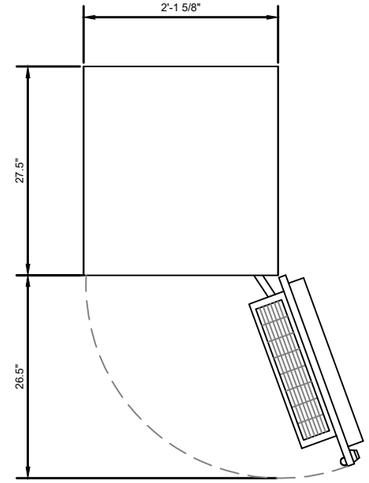
LEFT VIEW



FRONT VIEW



RIGHT VIEW



PLAN VIEW

B160 ERICSSON SITE SUPPORT BATTERY CABINET

1 ERICSSON B160 BATTERY CABINET SPECIFICATIONS
SCALE: N.T.S.

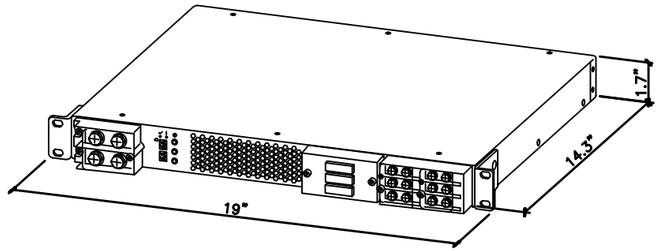
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

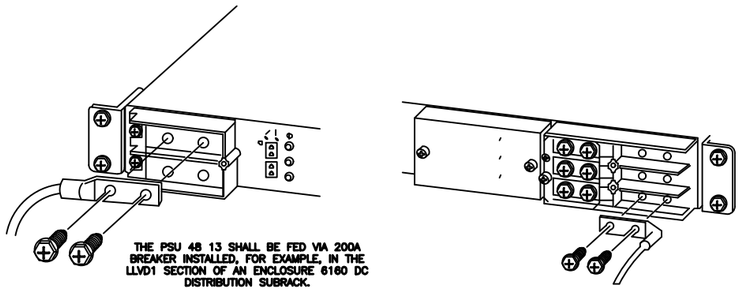
SUPPLEMENTAL

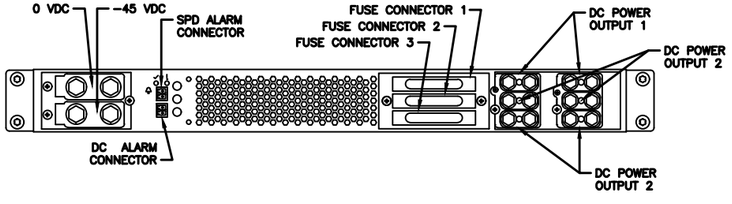
SHEET NUMBER:	REVISION:
R-608	0

MANUFACTURER:	ERICSSON
MODEL:	PSU 48 13
WEIGHT:	17.1 LBS
DIMENSIONS:	19"x 1.7"x 14.3"

NEEDED INSTALL KIT (PICK 1)
34133 PSU4813 INSTALL KIT FOR RBS61XX
34134 PSU4813 INSTALL KIT FOR PBC6200
34135 PSU4813 INSTALL KIT FOR 6X60/RBS6230



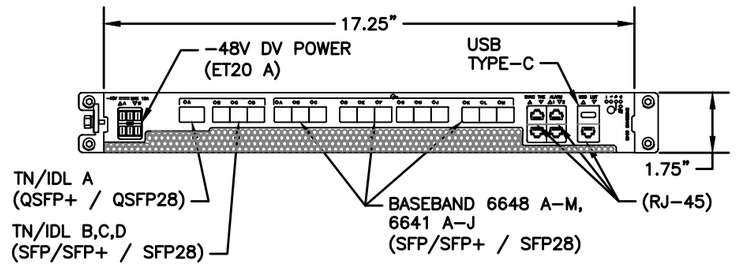


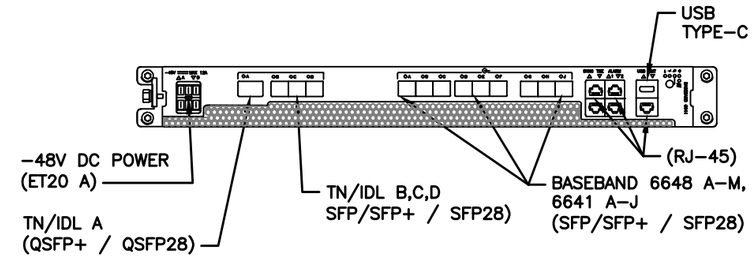


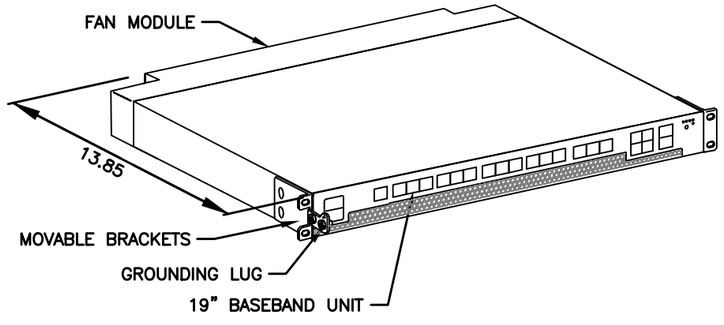
1 SKU# 34132 - PSU 48 13

SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	BASEBAND 6648
DIMENSIONS:	1.75" x 17.25" x 13.85" (H" x W" x D")
WEIGHT:	16.54 LBS







2 34111 - ERICSSON BASEBAND 6648 (WITH FAN)

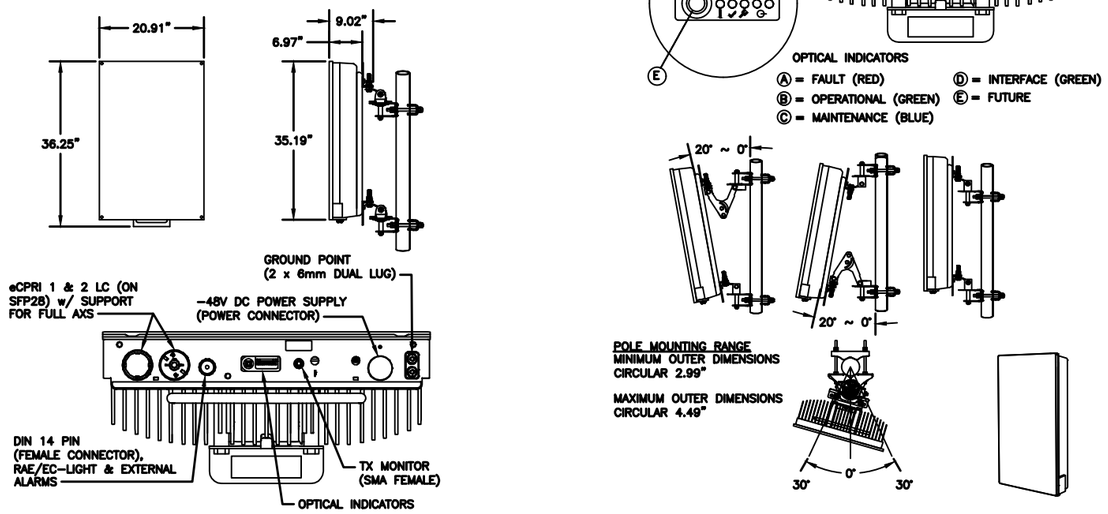
SCALE: N.T.S.

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

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-609	0

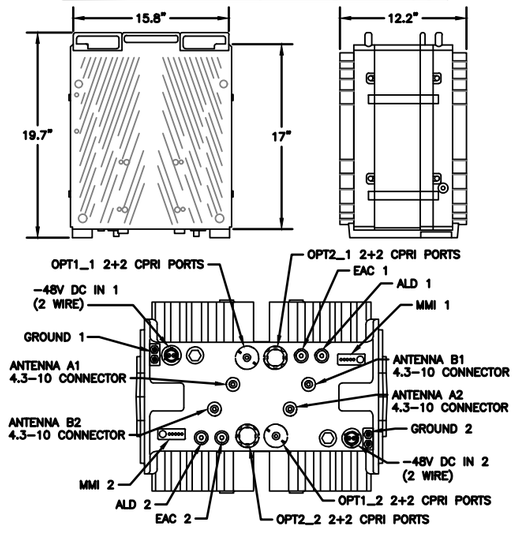
MANUFACTURER:	ERICSSON
MODEL:	AIR 6419 B41 (2.5GHz M-MIMO)
DIMENSIONS:	36.25" x 20.91" x 9.02" NOT TO EXCEED (H x W x D)
WEIGHT:	83 LBS (EXCLUDING MOUNTING KIT)
MOUNT WEIGHT:	13.5 LBS (SXK109 2016/1)



1 34552 - ERICSSON AIR 6419 BAND 41

SCALE: N.T.S.

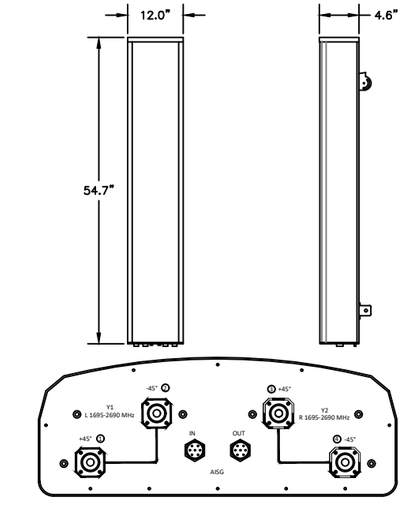
MANUFACTURER:	ERICSSON
MODEL:	4460 RADIO B2/25 B66 (KRC 161 912/3)
DIMENSIONS:	19.7" x 15.8" x 12.2" (H" x W" x D")
WEIGHT:	109 LBS
BRACKET WEIGHT:	4.8 LBS (ERS HEAVY #SXK1255993/1)



3 34373 - ERICSSON 4460 RADIO B2/25 B66

SCALE: N.T.S.

MANUFACTURER:	COMMSCOPE
MODEL:	VV-65A-R1
DIMENSIONS:	54.7" x 12.1" x 4.6" (H x W x D)
WEIGHT:	24.7 LB
INTERFACE:	4-PORT 4.3-10 FEMALE
MOUNTING KIT:	600899A-2 (INCLUDED) WEIGHT: 8.6 LB



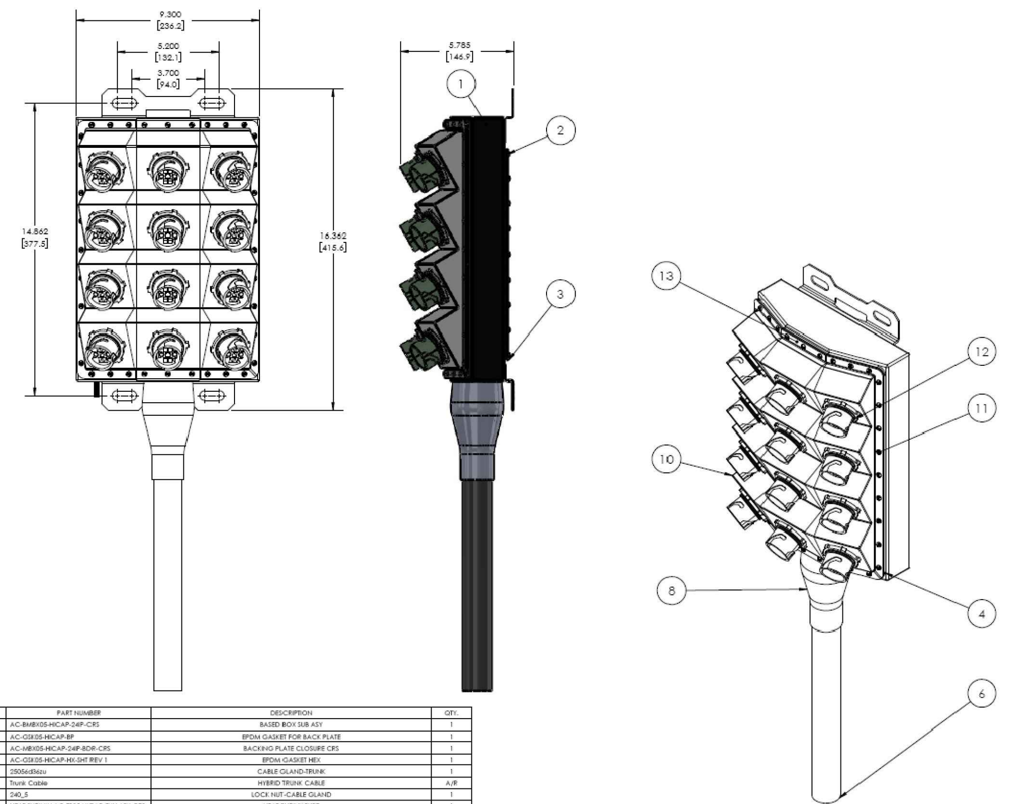
1 34401 - COMMSCOPE VV-65A-R1

SCALE: N.T.S.

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

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-610	0



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	AC-BMBX05-HICAP-24IP-CRS	BASED BOX SUB ASY	1
2	AC-GSK05-HICAP-BP	EPDM GASKET FOR BACK PLATE	1
3	AC-MBX05-HICAP-24IP-BDR-CRS	BACKING PLATE CLOSURE CRS	1
4	AC-GSK05-HICAP-HX-SHT REV 1	EPDM GASKET HEX	1
5	25056d36zu	CABLE GLAND-TRUNK	1
6	Trunk Cable	HYBRID TRUNK CABLE	A/R
7	240_5	LOCK NUT-CABLE GLAND	1
8	HEAT SHRINK^AC-FB05-HICAP-FULLASY-CRS	HEAT SHRINK TUBE	1
10	AC-FB05-HICAP-HEXSHELL-SENK	POLYCARBONATE HEX SHELL-UV STABILIZED-SENKO CUTOUT	1
11	3GMRB06058	TAMPERED PROOF #6-32 SCREW	64
12	IP25-LC4-AS-D	U HYBRID 25, 4 X LC & 2 X 8AWG ADAPTER ASSEMBLY	12
13	AC-STR05-HICAP-HX-GALV	GALV O-RING HEX	1
14	WASHER	WASHER	A/R

CUSTOMER APPROVAL

NAME:

SIGNATURE:

DATE:

REV.	DESCRIPTION	DATE
1	RELEASED FOR PRODUCTION.	20180530

REVISIONS

ALLIANCE™ CORPORATION
THE POWER OF BEING CONNECTED.

SIGNATURE CYCLE		DATE
DRAWN:	MLE	20180525
CHECKED:	DOB	20180529
APPROVED:	DOB	20180530

DIM: ALL DIMEMSIONS ARE IN INCHES, UNLESS OTHERWISE SPECIFIED.

DESCRIPTION:
HICAP HYBRID BREAKOUT CRS BOX (FULL ASSEMBLY)

MATERIAL: CR STEEL A1008 CS

WEIGHT 8.76

FINISH: POWDER COATED

COLOUR: BLACK

SHEET NO: 1 OF 1

DWG NO: AC-FB05-HICAP-FULLASY-CRS

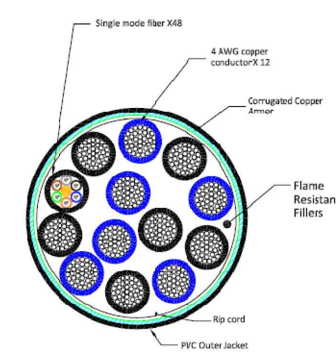
SCALE:

TOLERANCE: X.X ± 0.020" X.XX ± 0.010" X.XXX ± 0.005"

DISCLAIMER

EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESEDRAWINGS AND SPECIFICATIONS ARE PROPRIETARY AND SHALL REMAIN THE PROPERTY OF ALLIANCE CORPORATION.
THIS INFORMATION IS BEING ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WITHOUT WRITTEN PERMISSION OF ALLIANCE CORPORATION.

MECHANICAL	JACKET COLOR	BLACK
	OUTER DIAMETER (IN)	1.8
	MIN BENDING RADIUS(IN), MULTIPLE BENDS, LOADED	36
	MIN BENDING RADIUS(IN), MULTIPLE BENDS, UNLOADED	18
	MIN BENDING RADIUS(IN), SINGLE BEND, UNLOADED	12.6
	MIN BENDING RADIUS(IN), FURCATION	1.2
	ARMOR	CORRUGATED COPPER
	WEIGHT(lb/kft)	2480
	COMPRESSION(lb/IN)	250
	TENSILE LOAD, LONG TERM(lbf)	180
	TENSILE LOAD, SHORT TERM(lbf)	600
ELECTRICAL	CONDUCTOR MATERIAL	COPPER
	CONDUCTOR CONSTRUCTION	STRAND
	CONDUCTOR COLOR	BLUE/BLACK
	RESISTIVITY(nΩ @20°C)	16.78 nohm-M
	CONDUCTORS, QTY	12
	CONDUCTOR SIZE(AWG)	4
	EMI SHIELD	YES
	UL RATING	UL TC-OF-ER
OPTICAL	FIBER TYPE	SINGLE MODE (G.657.A2)
	FIBERS, QTY	48
	ATTENUATION(dB/km), MAX, 1550/1285-1330 nm	0.5
	DISPERSION, MAX, 1550/1285-1330 nm	18 ps/3.5 ps
	RETURN LOSS(dB)	>50
	INSERTION LOSS(dB), POST ENVIRONMENTAL	REDUCTION <0.65
	RETURN LOSS(dB), POST ENVIRONMENTAL	REDUCTION < 5
	CUTOFF WAVELENGTH(nm)	1260
	PIGTAIL TERMINATION	LC PAIR, STRAIGHT
ENVIRON	OPERATING TEMP(°F)	-40 TO +167
	STORAGE TEMP(°F)	-40 TO +167
	UV	IEC 60068-2-5
	THERMAL CYCLE	IEC 60068-2-14
	VIBRATION	IEC 60068-2-64
	IMPACT(ft lb)	4.4 NM PER ICEA696



NOTE: CABLE CROSS-SECTION NOT DRAWN TO SCALE

PROJ/WORK NO.

PROJECT NAME:

PROJECT LOCATION

REV	DESCRIPTION	DATE
1	INIT. DWG	06/09/17

ALLIANCE™ CORPORATION
THE POWER OF BEING CONNECTED.

CUSTOMER:

T-MOBILE

SIGNATURE CYCLE	DATE
DRAWN: H.SHIN	20170602
CHECKED: D.O'BRIEN	20170602
APPROVED:	

ARMORED TRUNK HYBRID CABLE HIGH-CAPACITY w/ #4 AWG CONDUCTORS

SHEET NO: 3 OF 3

DWG NO: AC-HTC05-24DLC-12C

HORIZONTAL SCALE: VERTICAL SCALE: N.T.S.

DISCLAIMER

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1 6X24 HCS 4AWG W/ PENDANT

SCALE: N.T.S.

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

SUPPLEMENTAL

SHEET NUMBER: R-611

REVISION: 0

AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name	:	MANSFIELD CENTER 1 CT, CT
ATC Site Number	:	376046
Engineering Number	:	14132164_C8_01
Mount Elevation	:	148.5 ft
Carrier	:	T-Mobile
Carrier Site Name	:	CTHA211/TCP Communication
Carrier Site Number	:	CTHA211A
Site Location	:	230 Clover Mill Road STORRS MANSFIELD, CT 06268-2826 41.77577777 , -72.2225
County	:	Tolland
Date	:	August 12, 2022
Max Usage	:	68%
Result	:	Contingent Pass

Prepared By:
Brittany Hollowell
Structural Engineer

Brittany Hollowell

Reviewed By:

STATE OF CONNECTICUT · ESHA KAUSHAL MODI · 32593 · LICENSED PROFESSIONAL ENGINEER

Authorized by "EOR"
12 Aug 2022 02:10:51 cosign

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 148.5 ft.

Supporting Documents

Previous Analysis	Tower Engineering Professionals Project #13660476_C8_02, dated May 13, 2021
Radio Frequency Data Sheet	RFDS ID #CTHA211A, dated May 26, 2022
Reference Photos	Site photos from 2021

Analysis

This mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.187, S1 = 0.055
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs

* Based on experience, it has been determined that the Lv load cases will not control over Lm load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- Install RMQP-HK handrail reinforcement kit (or similar) and crossover plates for mount pipe attachments 42" above main platform horizontals as requested by T-MOBILE.
- Install 3 P2 (2.375" x 126") antenna mounting pipes (Mount Pipe B, E, H) with Site Pro 1 SCX7-U (or approved equivalent) crossover plate kits.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

A.T. Engineering Service, PLLC - 3500 Regency Parkway, Suite 100 - Cary, NC 27518 - 919.468.0112 Office - 919.466.5414 Fax - www.americantower.com

1 MOUNT ANALYSIS

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

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-612	0

AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name	:	**MANSFIELD CENTER 1 CT, CT**
ATC Site Number	:	**376046**
Engineering Number	:	**14132164_C8_01**
Mount Elevation	:	**148.5 ft**
Carrier	:	**T-Mobile**
Carrier Site Name	:	**CTHA211/TCP Communication**
Carrier Site Number	:	**CTHA211A**
Site Location	:	**230 Clover Mill Road** **STORRS MANSFIELD, CT 06268-2826** **41.77577777 , -72.2225**
County	:	**Tolland**
Date	:	**August 12, 2022**
Max Usage	:	**68%**
Result	:	**Contingent Pass**

Prepared By:
Brittany Hollowell
Structural Engineer

Brittany Hollowell

Reviewed By:

Authorized by "EOR"
12 Aug 2022 02:10:51 cosign

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 148.5 ft.

Supporting Documents

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Reference Photos	Site photos from 2021

Analysis

This mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00'' radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.187, S1 = 0.055
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs

*** Based on experience, it has been determined that the Lv load cases will not control over Lm load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.**

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- Install RMQP-HK handrail reinforcement kit (or similar) and crossover plates for mount pipe attachments 42" above main platform horizontals as requested by T-MOBILE.
- Install 3 P2 (2.375" x 126") antenna mounting pipes (Mount Pipe B, E, H) with Site Pro 1 SCX7-U (or approved equivalent) crossover plate kits.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

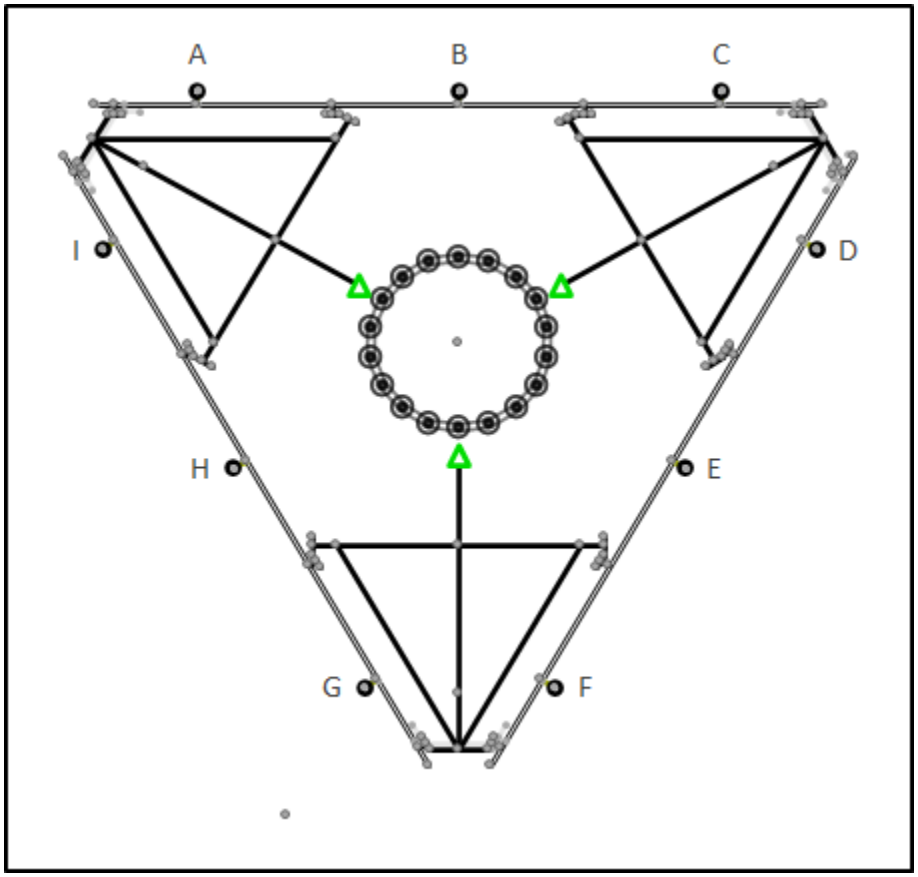
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
148.5	148.0	3	Commscope VV-65B-R1B
		3	RFS APXVAARR24_43-U-NA20
		3	Ericsson AIR 6419 B41
		3	Ericsson Radio 4460 B25+B66
		3	Ericsson Radio 4449 B71 B85A

Structure Usages

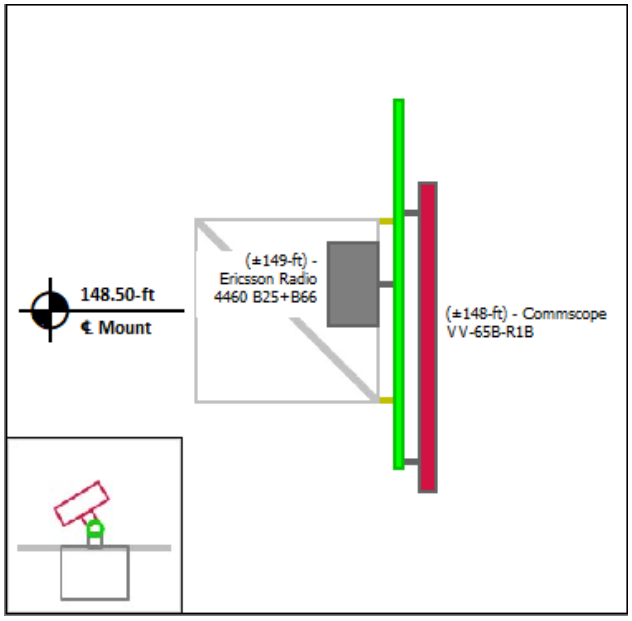
Structural Component	Controlling Usage	Pass/Fail
Horizontals	68%	Pass
Mount Pipes	61%	Pass

Mount Layout

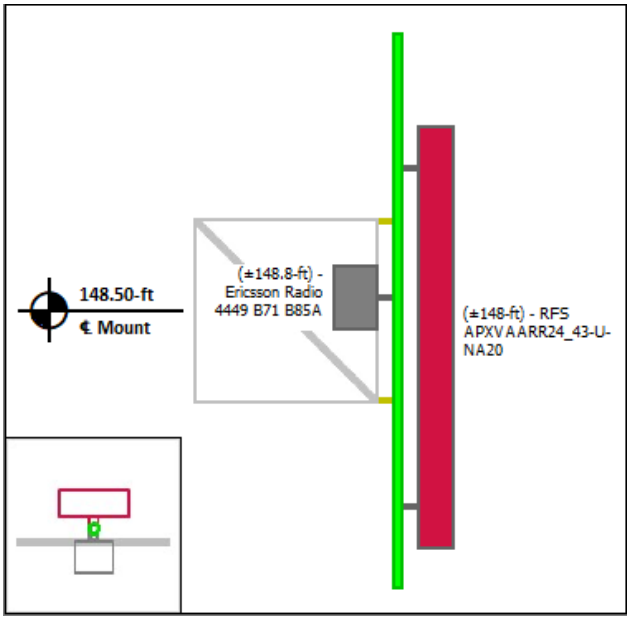


Equipment Layout

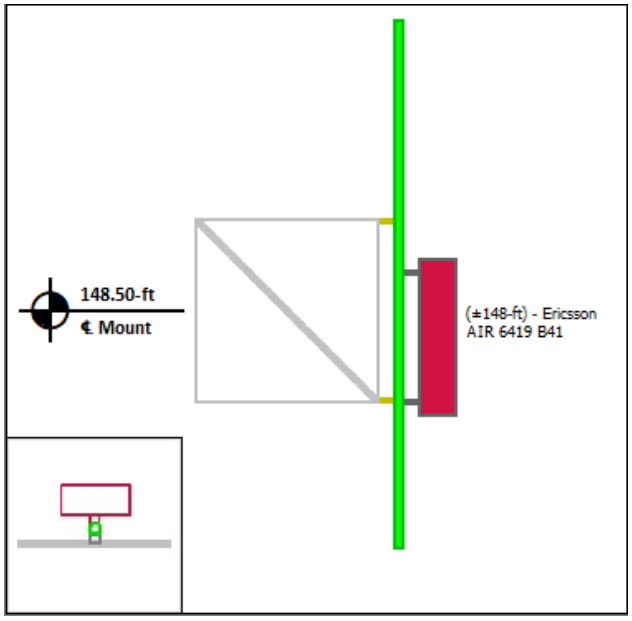
Mount Pipe A



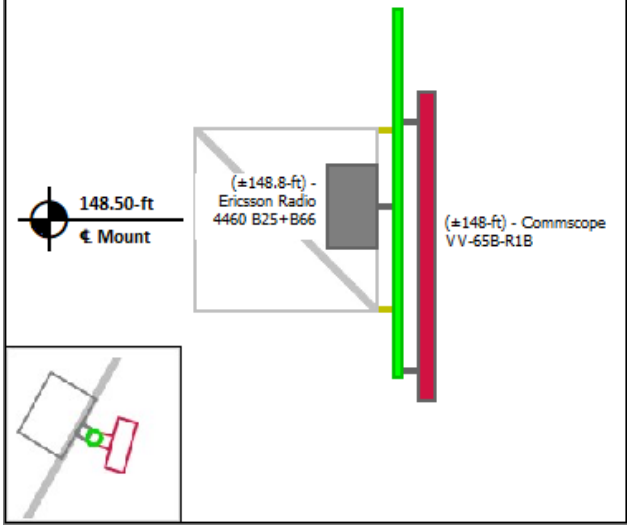
Mount Pipe B



Mount Pipe C

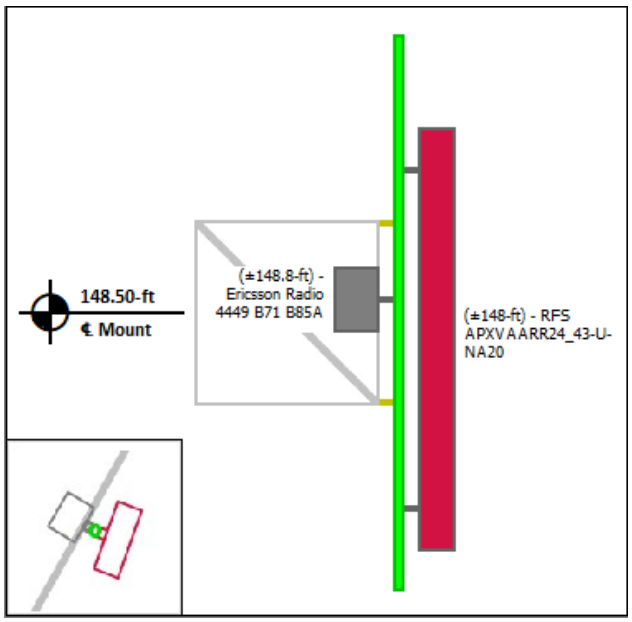


Mount Pipe D

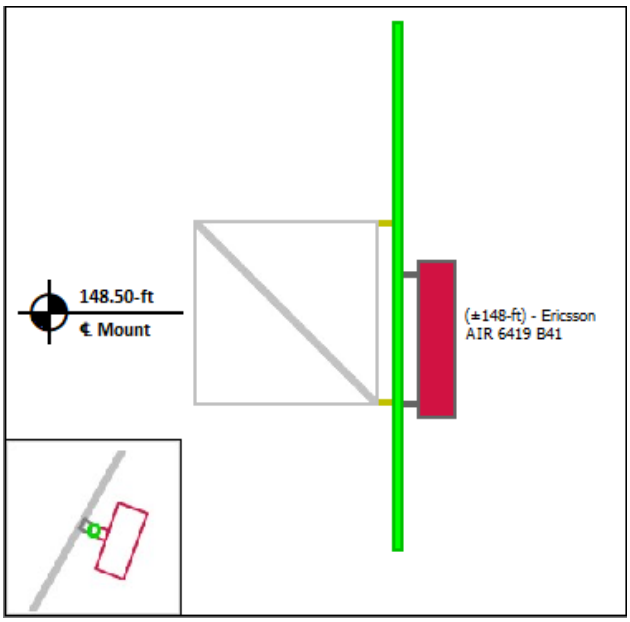


Equipment Layout Cont'd.

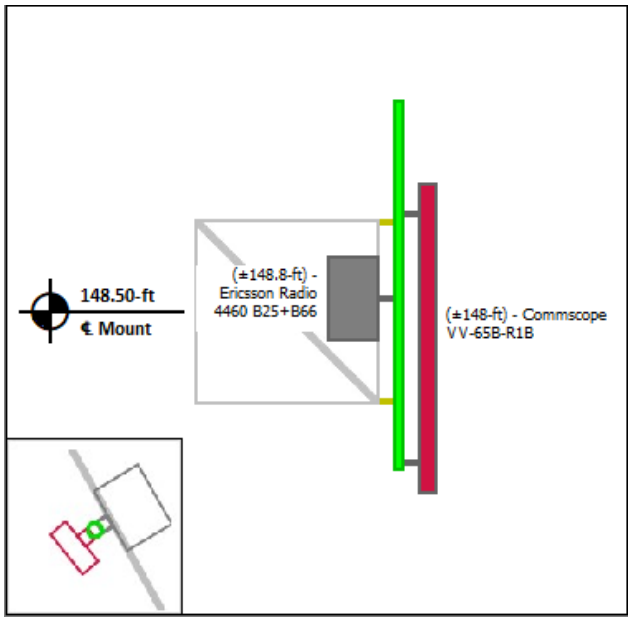
Mount Pipe E



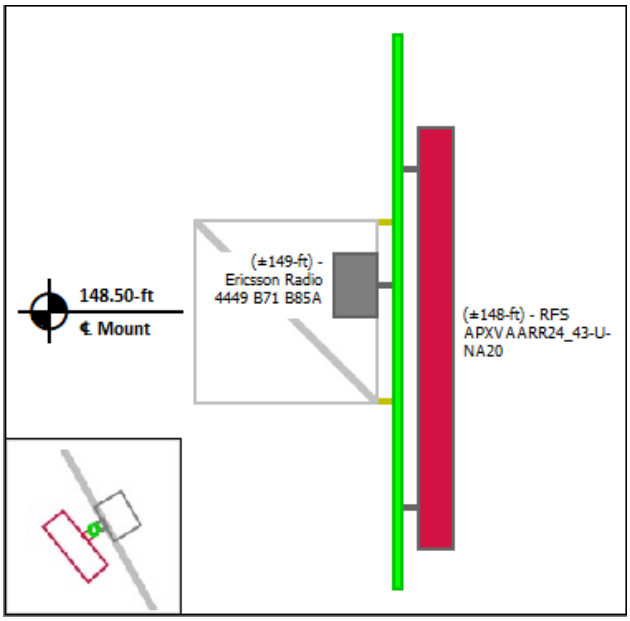
Mount Pipe F



Mount Pipe G

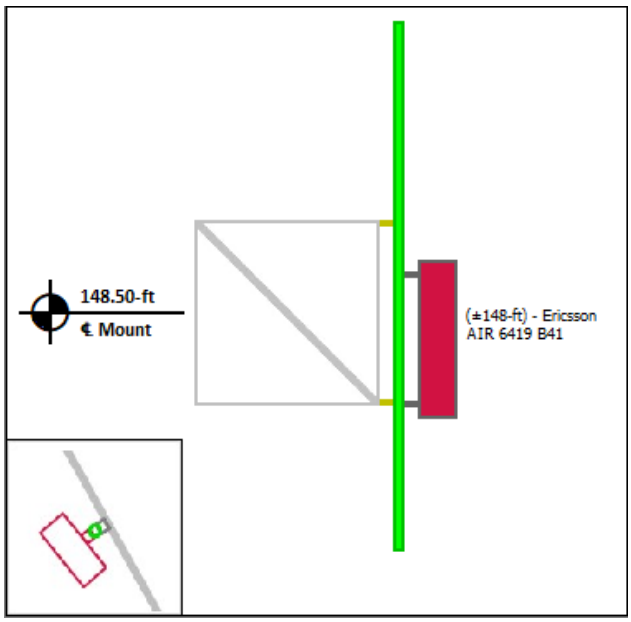


Mount Pipe H



Equipment Layout Cont'd.

Mount Pipe I



Standard Conditions

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

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

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

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

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

Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

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

AMERICAN TOWER®
CORPORATION

Site Number:	*376046*
Project Number:	*14132164_C8_01*
Carrier:	*T-Mobile*
Mount Elevation:	*148.5 ft*
Date:	8/12/2022

Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.11	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	0.98	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	120	mph
Velocity Pressure	q_z	38.0	psf
Height Escalation Factor	K_{iz}	1.16	
Thickness of Radial Glaze Ice	T_{iz}	1.16	in

Seismic Load Calculations			
Short Period DSRAP	S_{DS}	0.199	
1 Second DSRAP	S_{D1}	0.088	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_S	0.100	
Amplification Factor	A	1.0	
Total Weight	W	2662.5	lbs
Total Shear Force	V_S	265.5	lbs
Horizontal Seismic Load	Eh	265.5	lbs
Vertical Seismic Load	Ev	106.2	lbs

Antenna Calculations (Elevations per Application/RFDS)*

Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
Commscope VV-65B-R1B	70.3	12.0	4.6	29.5	7.90	1.90	9.75	2.95
RFS APXVAARR24_43-U-NA20	95.9	24.0	8.7	127.9	20.24	3.48	22.74	4.51
Ericsson AIR 6419 B41	36.3	20.9	9.0	83.3	6.32	1.82	7.48	2.44
Ericsson Radio 4460 B25+B66	19.6	15.7	12.1	109.0	2.56	1.98	3.29	2.64
Ericsson Radio 4449 B71 B85A	15.0	13.2	10.5	75.0	1.65	1.31	2.24	1.85

**** Equipment with EPA values N/A were not considered in the mount analysis***

AMERICAN TOWER®
CORPORATION

Site Number:	*376046*
Project Number:	*14132164_C8_01*
Carrier:	*T-Mobile*
Mount Elevation:	*148.5 ft*
Date:	8/12/2022

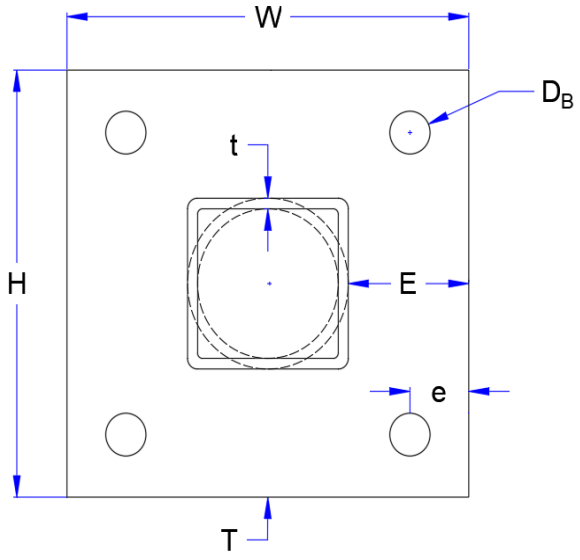
Mount-to-Tower Connection Analysis

Applied Loads from RISA 3D			
Controlling Load Combination		7	
Node Label		N007	
Force in X	Fx	849.2	lbs
Force in Y	Fy	1025.5	lbs
Force in Z	Fz	-1532.5	lbs
Moment about X	Mx	-2031.4	lb-ft
Moment about Y	My	2112.6	lb-ft
Moment about Z	Mz	1402.1	lb-ft

Bolt Shear and Tensile Capacity			
Bolt Quantity	n	4	
Bolt Diameter	D_B	5/8	in
Bolt Edge Distance	e	1	in
Bolt Grade		A325	
Bolt Fy	Fy_B	92	ksi
Bolt Fu	Fu_B	120	ksi
Applied Shear	Vu	0.55	k
Applied Tension	Tu	3.17	k
Tensile Strength	ϕTn	20.3	k
Interaction Capacity	(Tu+Vu)/ϕTn	18%	Pass

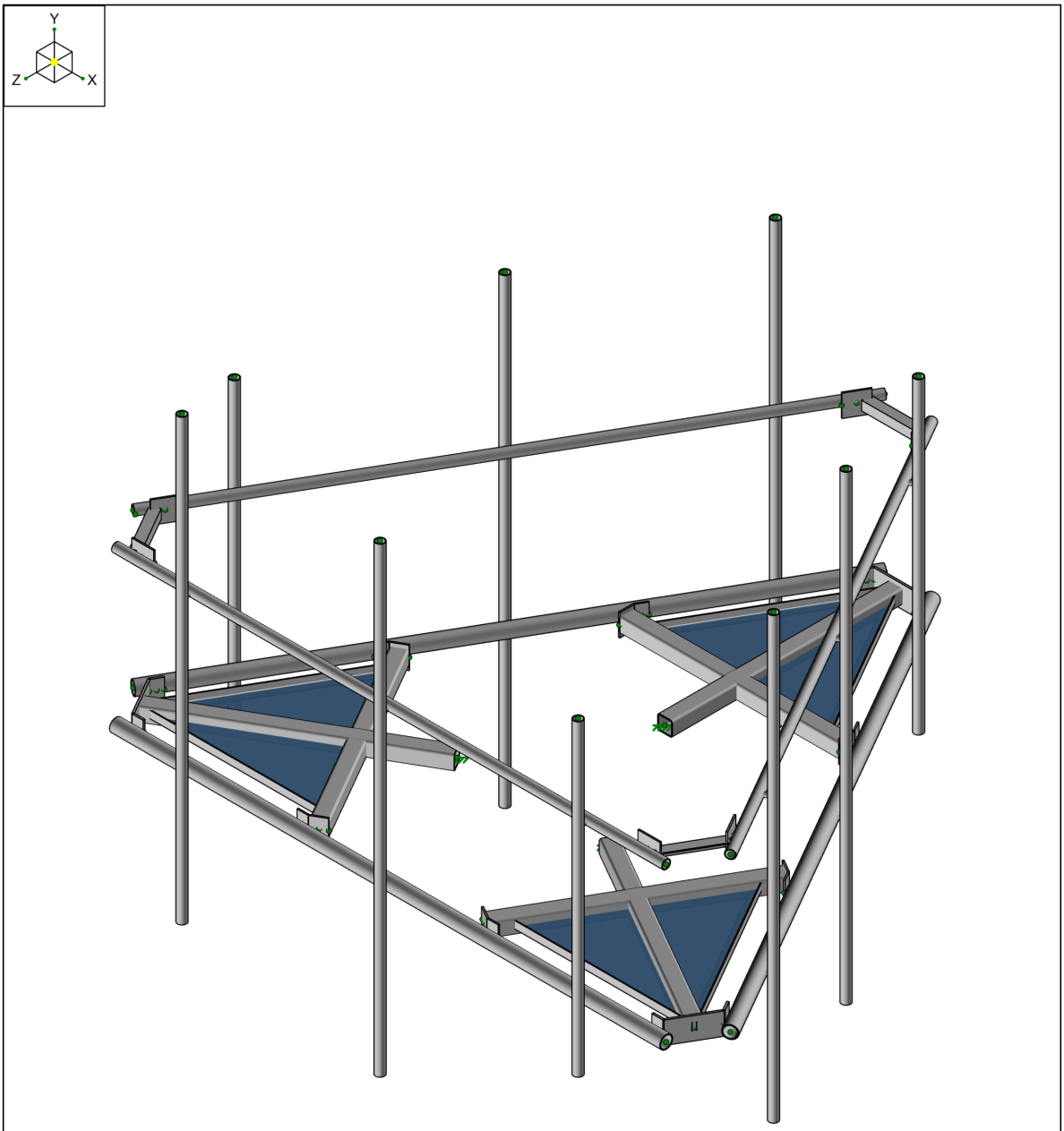
Plate Flexural Capacity			
Plate Height	H	9	in
Plate Width	W	9	in
Plate Thickness	T	3/8	in
Plate Grade		A36	
Plate Fy	Fy_P	36	ksi
Plate Fu	Fu_P	58	ksi
Shear Capacity	ϕVn	28.8	k
Applied Moment	Mu	9.5	k-in
Flexural Strength	ϕMn	16.5	k-in
Flexural Capacity	Mu/ϕMn	58%	Pass

Base Metal Checks		
Minimum Base Metal Thickness	0.155	in
Controlling Base Metal Thickness	0.250	in
Base Metal Result	Acceptable	

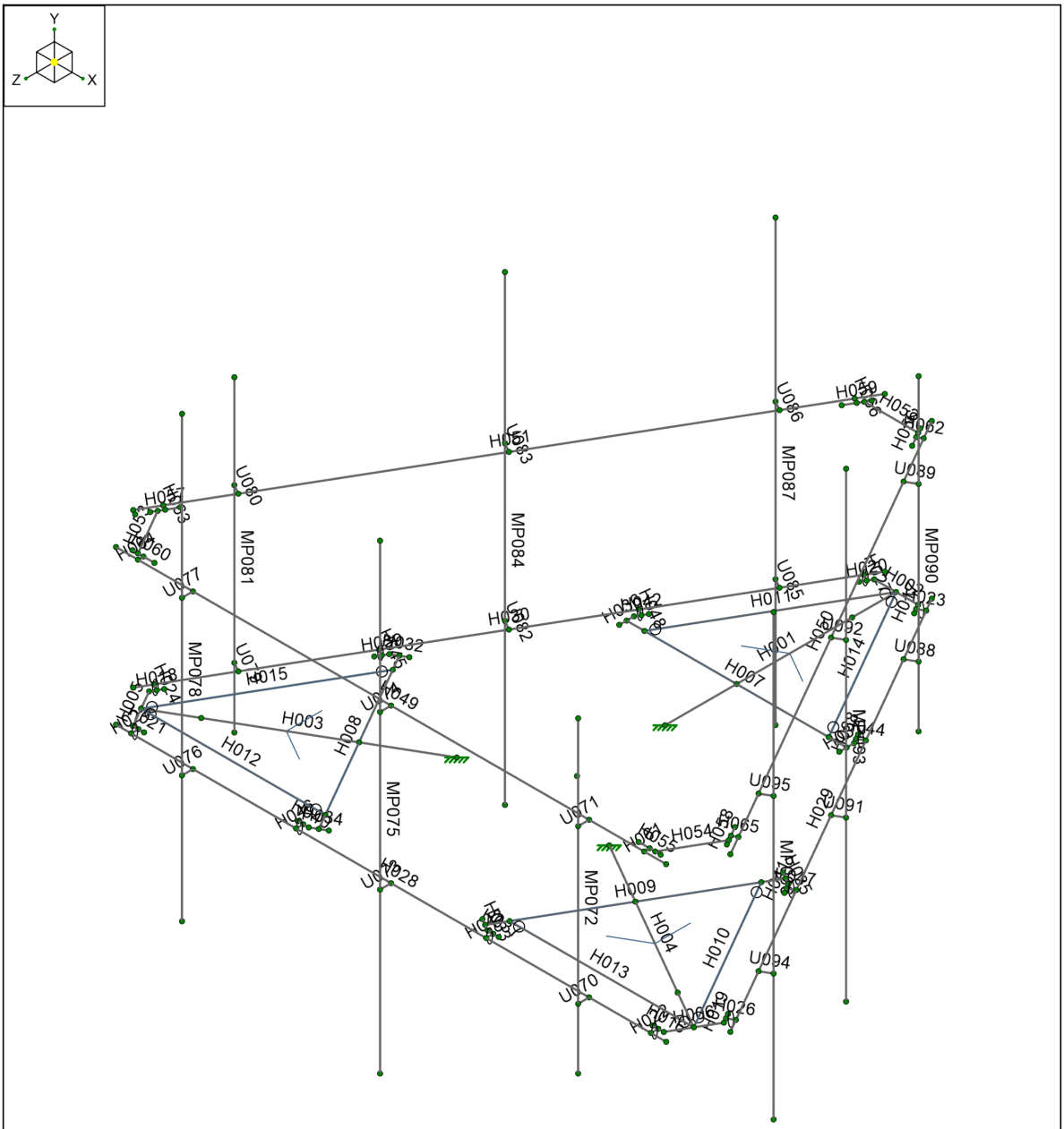


Weld and Base Metal Capacity			
Standoff Type		Tube	
Standoff Member		HSS4x4x4	
Member Edge Distance	E	2.5	in
Member Width	w	4	in
Member Thickness	t	0.250	in
Member Grade		A53 Gr. B	
Member Fy	Fy_M	35	ksi
Member Fu	Fu_M	60	ksi
Weld Size	a	3/16	in
Weld Length	l	16.0	in
Applied Load	Pu	6.3	k
Weld Strength	ϕRn	33.4	k
Weld Capacity	Pu/ϕRn	19%	Pass

Prying Action Considerations			
Moment Arm	b	1.50	in
Effective Moment Arm	b'	1.19	in
Tributary Length	p	3.63	in
Effective Edge Distance	a'	1.31	in
Minimum Thickness	t_{min}	0.21	in
No Prying Thickness	t_{np}	0.28	in
Min Bolt Strength Thickness	t_c	0.71	k-in
Prying Action Bolt Tension	T_{up}	0.00	k



American Tower Corp.	376046, MANSFIELD CENTER 1 CT	SK-1
Brittany.Hollowell		Aug 12, 2022
14132164_C8_01		R3D. T-MOBILE @ 376046, MAN…



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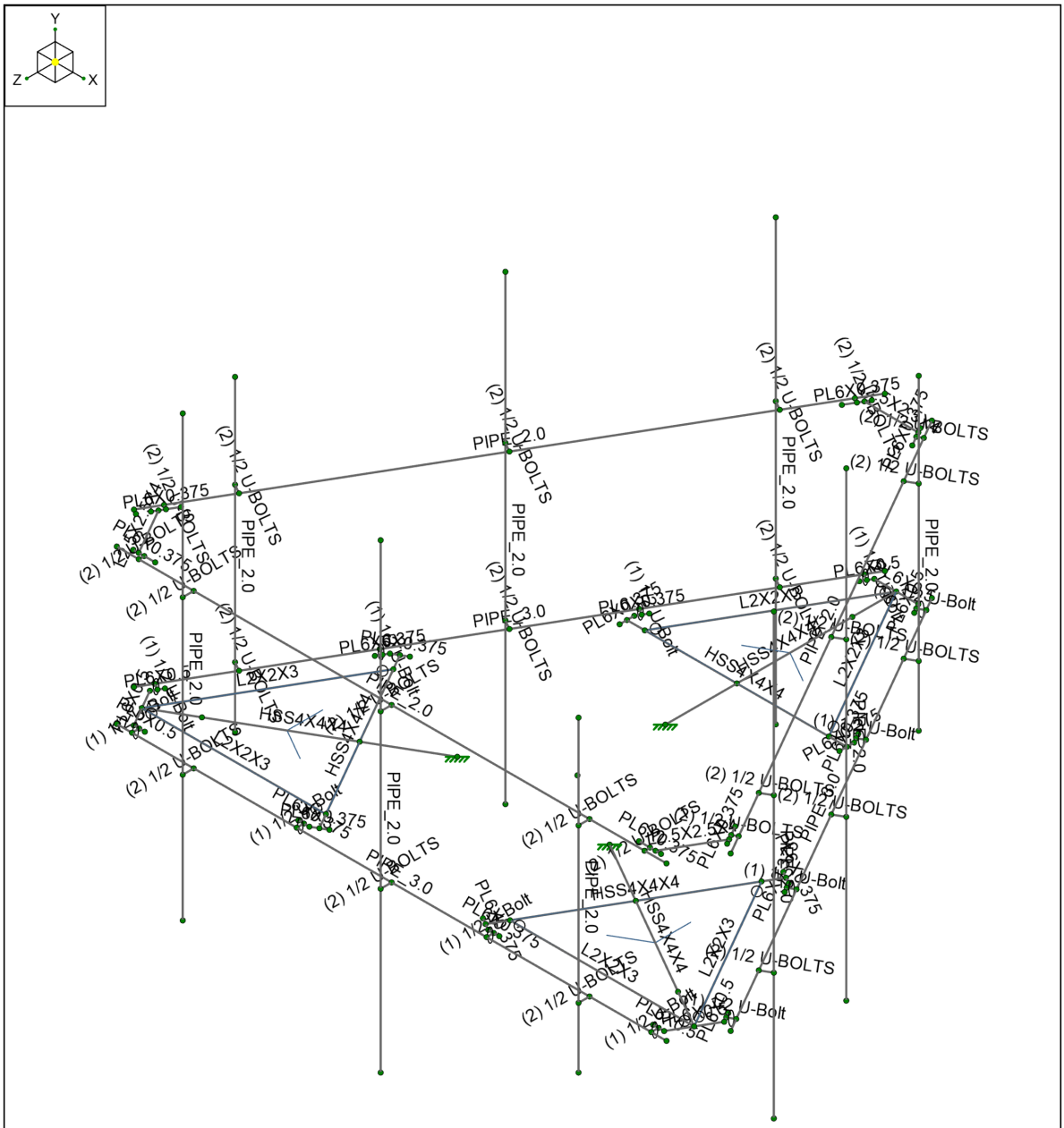

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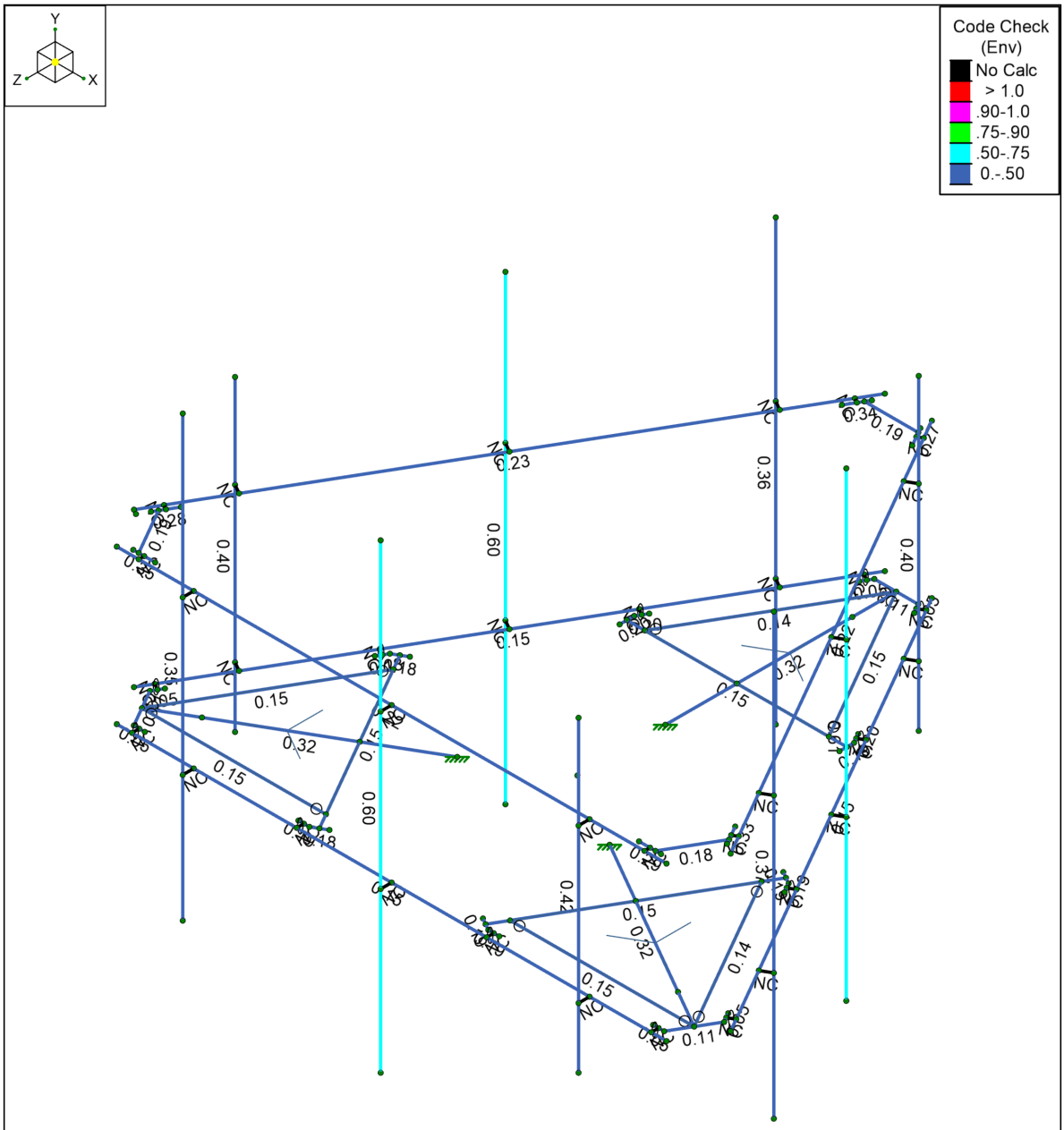
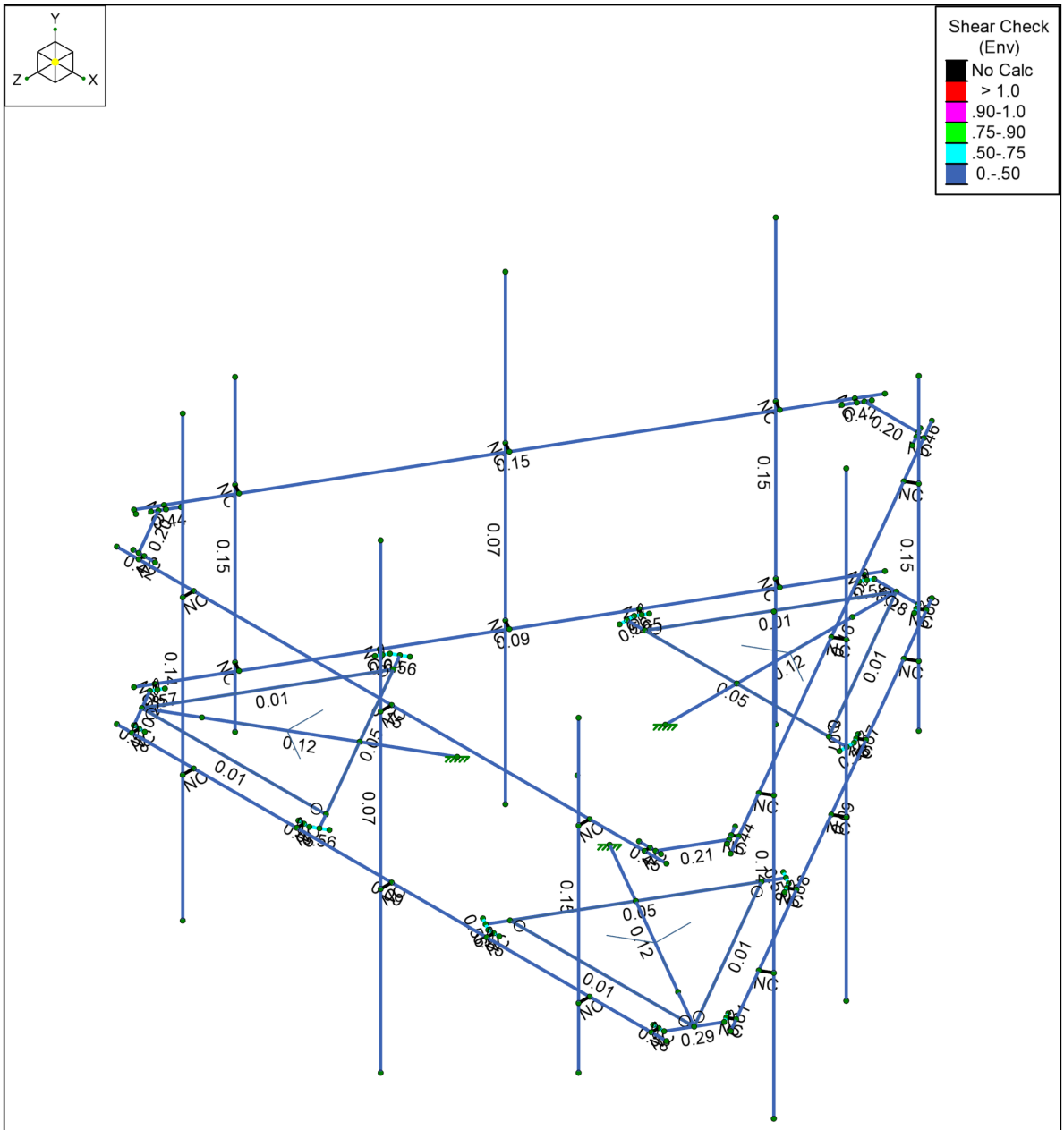


Member Code Checks Displayed (Enveloped)

American Tower Corp.	376046, MANSFIELD CENTER 1 CT	SK-4
Brittany.Hollowell		Aug 12, 2022
14132164_C8_01		R3D. T-MOBILE @ 376046, MAN…



Member Shear Checks Displayed (Enveloped)

American Tower Corp.	376046, MANSFIELD CENTER 1 CT	SK-5
Brittany.Hollowell		Aug 12, 2022
14132164_C8_01		R3D. T-MOBILE @ 376046, MAN…

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Surface(Plate/Wall)
1	D	DL	-1		24		
2	Di	IL			24	57	3
3	W 0	WL			24	93	
4	W 30	WL			48	186	
5	W 60	WL			48	186	
6	W 90	WL			24	93	
7	W 120	WL			48	186	
8	W 150	WL			48	186	
9	W 180	WL			24	93	
10	W 210	WL			48	186	
11	W 240	WL			48	186	
12	W 270	WL			24	93	
13	W 300	WL			48	186	
14	W 330	WL			48	186	
15	Wi 0	WL			24	93	
16	Wi 30	WL			48	186	
17	Wi 60	WL			48	186	
18	Wi 90	WL			24	93	
19	Wi 120	WL			48	186	
20	Wi 150	WL			48	186	
21	Wi 180	WL			24	93	
22	Wi 210	WL			48	186	
23	Wi 240	WL			48	186	
24	Wi 270	WL			24	93	
25	Wi 300	WL			48	186	
26	Wi 330	WL			48	186	
27	Ws 0	WL			24	93	
28	Ws 30	WL			48	186	
29	Ws 60	WL			48	186	
30	Ws 90	WL			24	93	
31	Ws 120	WL			48	186	
32	Ws 150	WL			48	186	
33	Ws 180	WL			24	93	
34	Ws 210	WL			48	186	
35	Ws 240	WL			48	186	
36	Ws 270	WL			24	93	
37	Ws 300	WL			48	186	
38	Ws 330	WL			48	186	
39	Ev -Y	ELY				57	
40	Eh -Z	ELZ				57	
41	Eh -X	ELX				57	
42	Lm (1)	LL		1			
43	Lm (2)	LL		1			
44	Lm (3)	LL		1			
45	Lm (4)	LL		1			
46	Lm (5)	LL		1			
47	Lm (6)	LL		1			
48	Lm (7)	LL		1			
49	Lm (8)	LL		1			
50	Lm (9)	LL		1			

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4D	Yes	Y	DL	1.4						
2	1.2D + 1.0W [0°]	Yes	Y	DL	1.2	3	1				
3	1.2D + 1.0W [30°]	Yes	Y	DL	1.2	4	1				
4	1.2D + 1.0W [60°]	Yes	Y	DL	1.2	5	1				
5	1.2D + 1.0W [90°]	Yes	Y	DL	1.2	6	1				
6	1.2D + 1.0W [120°]	Yes	Y	DL	1.2	7	1				
7	1.2D + 1.0W [150°]	Yes	Y	DL	1.2	8	1				
8	1.2D + 1.0W [180°]	Yes	Y	DL	1.2	9	1				
9	1.2D + 1.0W [210°]	Yes	Y	DL	1.2	10	1				
10	1.2D + 1.0W [240°]	Yes	Y	DL	1.2	11	1				
11	1.2D + 1.0W [270°]	Yes	Y	DL	1.2	12	1				
12	1.2D + 1.0W [300°]	Yes	Y	DL	1.2	13	1				
13	1.2D + 1.0W [330°]	Yes	Y	DL	1.2	14	1				
14	0.9D + 1.0W [0°]	Yes	Y	DL	0.9	3	1				
15	0.9D + 1.0W [30°]	Yes	Y	DL	0.9	4	1				
16	0.9D + 1.0W [60°]	Yes	Y	DL	0.9	5	1				
17	0.9D + 1.0W [90°]	Yes	Y	DL	0.9	6	1				
18	0.9D + 1.0W [120°]	Yes	Y	DL	0.9	7	1				
19	0.9D + 1.0W [150°]	Yes	Y	DL	0.9	8	1				
20	0.9D + 1.0W [180°]	Yes	Y	DL	0.9	9	1				
21	0.9D + 1.0W [210°]	Yes	Y	DL	0.9	10	1				
22	0.9D + 1.0W [240°]	Yes	Y	DL	0.9	11	1				
23	0.9D + 1.0W [270°]	Yes	Y	DL	0.9	12	1				
24	0.9D + 1.0W [300°]	Yes	Y	DL	0.9	13	1				
25	0.9D + 1.0W [330°]	Yes	Y	DL	0.9	14	1				
26	1.2D + 1.0Di + 1.0Wi [0°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	15	1		
27	1.2D + 1.0Di + 1.0Wi [30°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	16	1		
28	1.2D + 1.0Di + 1.0Wi [60°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	17	1		
29	1.2D + 1.0Di + 1.0Wi [90°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	18	1		
30	1.2D + 1.0Di + 1.0Wi [120°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	19	1		
31	1.2D + 1.0Di + 1.0Wi [150°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	20	1		
32	1.2D + 1.0Di + 1.0Wi [180°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	21	1		
33	1.2D + 1.0Di + 1.0Wi [210°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	22	1		
34	1.2D + 1.0Di + 1.0Wi [240°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	23	1		
35	1.2D + 1.0Di + 1.0Wi [270°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	24	1		
36	1.2D + 1.0Di + 1.0Wi [300°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	25	1		
37	1.2D + 1.0Di + 1.0Wi [330°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	26	1		
38	1.2D + 1.0Ev + 1.0Eh [0°]	Yes	Y	DL	1.2	ELY	1	ELZ	1	ELX	0.001
39	1.2D + 1.0Ev + 1.0Eh [30°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.866	ELX	0.5
40	1.2D + 1.0Ev + 1.0Eh [60°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.5	ELX	0.866
41	1.2D + 1.0Ev + 1.0Eh [90°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.001	ELX	1
42	1.2D + 1.0Ev + 1.0Eh [120°]	Yes	Y	DL	1.2	ELY	1	ELZ	-0.5	ELX	0.866
43	1.2D + 1.0Ev + 1.0Eh [150°]	Yes	Y	DL	1.2	ELY	1	ELZ	-0.866	ELX	0.5
44	1.2D + 1.0Ev + 1.0Eh [180°]	Yes	Y	DL	1.2	ELY	1	ELZ	-1	ELX	0.001
45	1.2D + 1.0Ev + 1.0Eh [210°]	Yes	Y	DL	1.2	ELY	1	ELZ	-0.866	ELX	-0.5
46	1.2D + 1.0Ev + 1.0Eh [240°]	Yes	Y	DL	1.2	ELY	1	ELZ	-0.5	ELX	-0.866
47	1.2D + 1.0Ev + 1.0Eh [270°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.001	ELX	-1
48	1.2D + 1.0Ev + 1.0Eh [300°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.5	ELX	-0.866
49	1.2D + 1.0Ev + 1.0Eh [330°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.866	ELX	-0.5
50	0.9D + 1.0Ev + 1.0Eh [0°]	Yes	Y	DL	0.9	ELY	1	ELZ	1	ELX	0.001
51	0.9D + 1.0Ev + 1.0Eh [30°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.866	ELX	0.5
52	0.9D + 1.0Ev + 1.0Eh [60°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.5	ELX	0.866
53	0.9D + 1.0Ev + 1.0Eh [90°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.001	ELX	1
54	0.9D + 1.0Ev + 1.0Eh [120°]	Yes	Y	DL	0.9	ELY	1	ELZ	-0.5	ELX	0.866
55	0.9D + 1.0Ev + 1.0Eh [150°]	Yes	Y	DL	0.9	ELY	1	ELZ	-0.866	ELX	0.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
56	0.9D + 1.0Ev + 1.0Eh [180°]	Yes	Y	DL	0.9	ELY	1	ELZ	-1	ELX	0.001
57	0.9D + 1.0Ev + 1.0Eh [210°]	Yes	Y	DL	0.9	ELY	1	ELZ	-0.866	ELX	-0.5
58	0.9D + 1.0Ev + 1.0Eh [240°]	Yes	Y	DL	0.9	ELY	1	ELZ	-0.5	ELX	-0.866
59	0.9D + 1.0Ev + 1.0Eh [270°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.001	ELX	-1
60	0.9D + 1.0Ev + 1.0Eh [300°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.5	ELX	-0.866
61	0.9D + 1.0Ev + 1.0Eh [330°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.866	ELX	-0.5
62	1.2D + 1.5Lm(1) + 1.0Wm [0°]	Yes	Y	DL	1.2	42	1.5	27	1		
63	1.2D + 1.5Lm(1) + 1.0Wm [30°]	Yes	Y	DL	1.2	42	1.5	28	1		
64	1.2D + 1.5Lm(1) + 1.0Wm [60°]	Yes	Y	DL	1.2	42	1.5	29	1		
65	1.2D + 1.5Lm(1) + 1.0Wm [90°]	Yes	Y	DL	1.2	42	1.5	30	1		
66	1.2D + 1.5Lm(1) + 1.0Wm [120°]	Yes	Y	DL	1.2	42	1.5	31	1		
67	1.2D + 1.5Lm(1) + 1.0Wm [150°]	Yes	Y	DL	1.2	42	1.5	32	1		
68	1.2D + 1.5Lm(1) + 1.0Wm [180°]	Yes	Y	DL	1.2	42	1.5	33	1		
69	1.2D + 1.5Lm(1) + 1.0Wm [210°]	Yes	Y	DL	1.2	42	1.5	34	1		
70	1.2D + 1.5Lm(1) + 1.0Wm [240°]	Yes	Y	DL	1.2	42	1.5	35	1		
71	1.2D + 1.5Lm(1) + 1.0Wm [270°]	Yes	Y	DL	1.2	42	1.5	36	1		
72	1.2D + 1.5Lm(1) + 1.0Wm [300°]	Yes	Y	DL	1.2	42	1.5	37	1		
73	1.2D + 1.5Lm(1) + 1.0Wm [330°]	Yes	Y	DL	1.2	42	1.5	38	1		
74	1.2D + 1.5Lm(2) + 1.0Wm [0°]	Yes	Y	DL	1.2	43	1.5	27	1		
75	1.2D + 1.5Lm(2) + 1.0Wm [30°]	Yes	Y	DL	1.2	43	1.5	28	1		
76	1.2D + 1.5Lm(2) + 1.0Wm [60°]	Yes	Y	DL	1.2	43	1.5	29	1		
77	1.2D + 1.5Lm(2) + 1.0Wm [90°]	Yes	Y	DL	1.2	43	1.5	30	1		
78	1.2D + 1.5Lm(2) + 1.0Wm [120°]	Yes	Y	DL	1.2	43	1.5	31	1		
79	1.2D + 1.5Lm(2) + 1.0Wm [150°]	Yes	Y	DL	1.2	43	1.5	32	1		
80	1.2D + 1.5Lm(2) + 1.0Wm [180°]	Yes	Y	DL	1.2	43	1.5	33	1		
81	1.2D + 1.5Lm(2) + 1.0Wm [210°]	Yes	Y	DL	1.2	43	1.5	34	1		
82	1.2D + 1.5Lm(2) + 1.0Wm [240°]	Yes	Y	DL	1.2	43	1.5	35	1		
83	1.2D + 1.5Lm(2) + 1.0Wm [270°]	Yes	Y	DL	1.2	43	1.5	36	1		
84	1.2D + 1.5Lm(2) + 1.0Wm [300°]	Yes	Y	DL	1.2	43	1.5	37	1		
85	1.2D + 1.5Lm(2) + 1.0Wm [330°]	Yes	Y	DL	1.2	43	1.5	38	1		
86	1.2D + 1.5Lm(3) + 1.0Wm [0°]	Yes	Y	DL	1.2	44	1.5	27	1		
87	1.2D + 1.5Lm(3) + 1.0Wm [30°]	Yes	Y	DL	1.2	44	1.5	28	1		
88	1.2D + 1.5Lm(3) + 1.0Wm [60°]	Yes	Y	DL	1.2	44	1.5	29	1		
89	1.2D + 1.5Lm(3) + 1.0Wm [90°]	Yes	Y	DL	1.2	44	1.5	30	1		
90	1.2D + 1.5Lm(3) + 1.0Wm [120°]	Yes	Y	DL	1.2	44	1.5	31	1		
91	1.2D + 1.5Lm(3) + 1.0Wm [150°]	Yes	Y	DL	1.2	44	1.5	32	1		
92	1.2D + 1.5Lm(3) + 1.0Wm [180°]	Yes	Y	DL	1.2	44	1.5	33	1		
93	1.2D + 1.5Lm(3) + 1.0Wm [210°]	Yes	Y	DL	1.2	44	1.5	34	1		
94	1.2D + 1.5Lm(3) + 1.0Wm [240°]	Yes	Y	DL	1.2	44	1.5	35	1		
95	1.2D + 1.5Lm(3) + 1.0Wm [270°]	Yes	Y	DL	1.2	44	1.5	36	1		
96	1.2D + 1.5Lm(3) + 1.0Wm [300°]	Yes	Y	DL	1.2	44	1.5	37	1		
97	1.2D + 1.5Lm(3) + 1.0Wm [330°]	Yes	Y	DL	1.2	44	1.5	38	1		
98	1.2D + 1.5Lm(4) + 1.0Wm [0°]	Yes	Y	DL	1.2	45	1.5	27	1		
99	1.2D + 1.5Lm(4) + 1.0Wm [30°]	Yes	Y	DL	1.2	45	1.5	28	1		
100	1.2D + 1.5Lm(4) + 1.0Wm [60°]	Yes	Y	DL	1.2	45	1.5	29	1		
101	1.2D + 1.5Lm(4) + 1.0Wm [90°]	Yes	Y	DL	1.2	45	1.5	30	1		
102	1.2D + 1.5Lm(4) + 1.0Wm [120°]	Yes	Y	DL	1.2	45	1.5	31	1		
103	1.2D + 1.5Lm(4) + 1.0Wm [150°]	Yes	Y	DL	1.2	45	1.5	32	1		
104	1.2D + 1.5Lm(4) + 1.0Wm [180°]	Yes	Y	DL	1.2	45	1.5	33	1		
105	1.2D + 1.5Lm(4) + 1.0Wm [210°]	Yes	Y	DL	1.2	45	1.5	34	1		
106	1.2D + 1.5Lm(4) + 1.0Wm [240°]	Yes	Y	DL	1.2	45	1.5	35	1		
107	1.2D + 1.5Lm(4) + 1.0Wm [270°]	Yes	Y	DL	1.2	45	1.5	36	1		
108	1.2D + 1.5Lm(4) + 1.0Wm [300°]	Yes	Y	DL	1.2	45	1.5	37	1		
109	1.2D + 1.5Lm(4) + 1.0Wm [330°]	Yes	Y	DL	1.2	45	1.5	38	1		
110	1.2D + 1.5Lm(5) + 1.0Wm [0°]	Yes	Y	DL	1.2	46	1.5	27	1		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
111	1.2D + 1.5Lm(5) + 1.0Wm [30°]	Yes	Y	DL	1.2	46	1.5	28	1		
112	1.2D + 1.5Lm(5) + 1.0Wm [60°]	Yes	Y	DL	1.2	46	1.5	29	1		
113	1.2D + 1.5Lm(5) + 1.0Wm [90°]	Yes	Y	DL	1.2	46	1.5	30	1		
114	1.2D + 1.5Lm(5) + 1.0Wm [120°]	Yes	Y	DL	1.2	46	1.5	31	1		
115	1.2D + 1.5Lm(5) + 1.0Wm [150°]	Yes	Y	DL	1.2	46	1.5	32	1		
116	1.2D + 1.5Lm(5) + 1.0Wm [180°]	Yes	Y	DL	1.2	46	1.5	33	1		
117	1.2D + 1.5Lm(5) + 1.0Wm [210°]	Yes	Y	DL	1.2	46	1.5	34	1		
118	1.2D + 1.5Lm(5) + 1.0Wm [240°]	Yes	Y	DL	1.2	46	1.5	35	1		
119	1.2D + 1.5Lm(5) + 1.0Wm [270°]	Yes	Y	DL	1.2	46	1.5	36	1		
120	1.2D + 1.5Lm(5) + 1.0Wm [300°]	Yes	Y	DL	1.2	46	1.5	37	1		
121	1.2D + 1.5Lm(5) + 1.0Wm [330°]	Yes	Y	DL	1.2	46	1.5	38	1		
122	1.2D + 1.5Lm(6) + 1.0Wm [0°]	Yes	Y	DL	1.2	47	1.5	27	1		
123	1.2D + 1.5Lm(6) + 1.0Wm [30°]	Yes	Y	DL	1.2	47	1.5	28	1		
124	1.2D + 1.5Lm(6) + 1.0Wm [60°]	Yes	Y	DL	1.2	47	1.5	29	1		
125	1.2D + 1.5Lm(6) + 1.0Wm [90°]	Yes	Y	DL	1.2	47	1.5	30	1		
126	1.2D + 1.5Lm(6) + 1.0Wm [120°]	Yes	Y	DL	1.2	47	1.5	31	1		
127	1.2D + 1.5Lm(6) + 1.0Wm [150°]	Yes	Y	DL	1.2	47	1.5	32	1		
128	1.2D + 1.5Lm(6) + 1.0Wm [180°]	Yes	Y	DL	1.2	47	1.5	33	1		
129	1.2D + 1.5Lm(6) + 1.0Wm [210°]	Yes	Y	DL	1.2	47	1.5	34	1		
130	1.2D + 1.5Lm(6) + 1.0Wm [240°]	Yes	Y	DL	1.2	47	1.5	35	1		
131	1.2D + 1.5Lm(6) + 1.0Wm [270°]	Yes	Y	DL	1.2	47	1.5	36	1		
132	1.2D + 1.5Lm(6) + 1.0Wm [300°]	Yes	Y	DL	1.2	47	1.5	37	1		
133	1.2D + 1.5Lm(6) + 1.0Wm [330°]	Yes	Y	DL	1.2	47	1.5	38	1		
134	1.2D + 1.5Lm(7) + 1.0Wm [0°]	Yes	Y	DL	1.2	48	1.5	27	1		
135	1.2D + 1.5Lm(7) + 1.0Wm [30°]	Yes	Y	DL	1.2	48	1.5	28	1		
136	1.2D + 1.5Lm(7) + 1.0Wm [60°]	Yes	Y	DL	1.2	48	1.5	29	1		
137	1.2D + 1.5Lm(7) + 1.0Wm [90°]	Yes	Y	DL	1.2	48	1.5	30	1		
138	1.2D + 1.5Lm(7) + 1.0Wm [120°]	Yes	Y	DL	1.2	48	1.5	31	1		
139	1.2D + 1.5Lm(7) + 1.0Wm [150°]	Yes	Y	DL	1.2	48	1.5	32	1		
140	1.2D + 1.5Lm(7) + 1.0Wm [180°]	Yes	Y	DL	1.2	48	1.5	33	1		
141	1.2D + 1.5Lm(7) + 1.0Wm [210°]	Yes	Y	DL	1.2	48	1.5	34	1		
142	1.2D + 1.5Lm(7) + 1.0Wm [240°]	Yes	Y	DL	1.2	48	1.5	35	1		
143	1.2D + 1.5Lm(7) + 1.0Wm [270°]	Yes	Y	DL	1.2	48	1.5	36	1		
144	1.2D + 1.5Lm(7) + 1.0Wm [300°]	Yes	Y	DL	1.2	48	1.5	37	1		
145	1.2D + 1.5Lm(7) + 1.0Wm [330°]	Yes	Y	DL	1.2	48	1.5	38	1		
146	1.2D + 1.5Lm(8) + 1.0Wm [0°]	Yes	Y	DL	1.2	49	1.5	27	1		
147	1.2D + 1.5Lm(8) + 1.0Wm [30°]	Yes	Y	DL	1.2	49	1.5	28	1		
148	1.2D + 1.5Lm(8) + 1.0Wm [60°]	Yes	Y	DL	1.2	49	1.5	29	1		
149	1.2D + 1.5Lm(8) + 1.0Wm [90°]	Yes	Y	DL	1.2	49	1.5	30	1		
150	1.2D + 1.5Lm(8) + 1.0Wm [120°]	Yes	Y	DL	1.2	49	1.5	31	1		
151	1.2D + 1.5Lm(8) + 1.0Wm [150°]	Yes	Y	DL	1.2	49	1.5	32	1		
152	1.2D + 1.5Lm(8) + 1.0Wm [180°]	Yes	Y	DL	1.2	49	1.5	33	1		
153	1.2D + 1.5Lm(8) + 1.0Wm [210°]	Yes	Y	DL	1.2	49	1.5	34	1		
154	1.2D + 1.5Lm(8) + 1.0Wm [240°]	Yes	Y	DL	1.2	49	1.5	35	1		
155	1.2D + 1.5Lm(8) + 1.0Wm [270°]	Yes	Y	DL	1.2	49	1.5	36	1		
156	1.2D + 1.5Lm(8) + 1.0Wm [300°]	Yes	Y	DL	1.2	49	1.5	37	1		
157	1.2D + 1.5Lm(8) + 1.0Wm [330°]	Yes	Y	DL	1.2	49	1.5	38	1		
158	1.2D + 1.5Lm(9) + 1.0Wm [0°]	Yes	Y	DL	1.2	50	1.5	27	1		
159	1.2D + 1.5Lm(9) + 1.0Wm [30°]	Yes	Y	DL	1.2	50	1.5	28	1		
160	1.2D + 1.5Lm(9) + 1.0Wm [60°]	Yes	Y	DL	1.2	50	1.5	29	1		
161	1.2D + 1.5Lm(9) + 1.0Wm [90°]	Yes	Y	DL	1.2	50	1.5	30	1		
162	1.2D + 1.5Lm(9) + 1.0Wm [120°]	Yes	Y	DL	1.2	50	1.5	31	1		
163	1.2D + 1.5Lm(9) + 1.0Wm [150°]	Yes	Y	DL	1.2	50	1.5	32	1		
164	1.2D + 1.5Lm(9) + 1.0Wm [180°]	Yes	Y	DL	1.2	50	1.5	33	1		
165	1.2D + 1.5Lm(9) + 1.0Wm [210°]	Yes	Y	DL	1.2	50	1.5	34	1		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
166	1.2D + 1.5Lm(9) + 1.0Wm [240°]	Yes	Y	DL	1.2	50	1.5	35	1		
167	1.2D + 1.5Lm(9) + 1.0Wm [270°]	Yes	Y	DL	1.2	50	1.5	36	1		
168	1.2D + 1.5Lm(9) + 1.0Wm [300°]	Yes	Y	DL	1.2	50	1.5	37	1		
169	1.2D + 1.5Lm(9) + 1.0Wm [330°]	Yes	Y	DL	1.2	50	1.5	38	1		

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	H001	N002	N003		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
2	H002	N004	N005		PL6X0.5	Beam	None	A36	Typical
3	H003	N006	N012		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
4	H004	N007	N013		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
5	H005	N008	N010		PL6X0.5	Beam	None	A36	Typical
6	H006	N009	N011		PL6X0.5	Beam	None	A36	Typical
7	H007	N015	N016		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
8	H008	N021	N023		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
9	H009	N022	N024		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
10	H010	N033	N013		L2X2X3	Beam	None	A36	Typical
11	H011	N034	N003		L2X2X3	Beam	None	A36	Typical
12	H012	N029	N012		L2X2X3	Beam	None	A36	Typical
13	H013	N030	N013	270	L2X2X3	Beam	None	A36	Typical
14	H014	N031	N003	270	L2X2X3	Beam	None	A36	Typical
15	H015	N032	N012	270	L2X2X3	Beam	None	A36	Typical
16	H016	N009	N036		PL6X0.5	Beam	None	A36	Typical
17	H017	N004	N042		PL6X0.5	Beam	None	A36	Typical
18	H018	N008	N043		PL6X0.5	Beam	None	A36	Typical
19	H019	N011	N048		PL6X0.5	Beam	None	A36	Typical
20	H020	N005	N049		PL6X0.5	Beam	None	A36	Typical
21	H021	N010	N037		PL6X0.5	Beam	None	A36	Typical
22	H022	N038	N040		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
23	H023	N044	N050		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
24	H024	N045	N051		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
25	H025	N039	N041		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
26	H026	N046	N052		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
27	H027	N047	N053		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
28	H028	N017	N018		PIPE_3.0	Beam	None	A53 Gr. B	Typical
29	H029	N025	N027		PIPE_3.0	Beam	None	A53 Gr. B	Typical
30	H030	N026	N028		PIPE_3.0	Beam	None	A53 Gr. B	Typical
31	H031	N054	N055		PL6X0.375	Beam	None	A36	Typical
32	H032	N056	N058		PL6X0.375	Beam	None	A36	Typical
33	H033	N057	N059		PL6X0.375	Beam	None	A36	Typical
34	H034	N060	N062		PL6X0.375	Beam	None	A36	Typical
35	H035	N061	N063		PL6X0.375	Beam	None	A36	Typical
36	H036	N064	N035		PL6X0.375	Beam	None	A36	Typical
37	H037	N059	N065		PL6X0.375	Beam	None	A36	Typical
38	H038	N055	N071		PL6X0.375	Beam	None	A36	Typical
39	H039	N058	N072		PL6X0.375	Beam	None	A36	Typical
40	H040	N062	N066		PL6X0.375	Beam	None	A36	Typical
41	H041	N063	N073		PL6X0.375	Beam	None	A36	Typical
42	H042	N035	N074		PL6X0.375	Beam	None	A36	Typical
43	H043	N067	N069		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
44	H044	N075	N079		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
45	H045	N076	N080		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
46	H046	N068	N070		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
47	H047	N077	N081		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
48	H048	N078	N082		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
49	H049	N083	N084		PIPE_2.0	Beam	None	A53 Gr. B	Typical
50	H050	N085	N087		PIPE_2.0	Beam	None	A53 Gr. B	Typical
51	H051	N086	N088		PIPE_2.0	Beam	None	A53 Gr. B	Typical
52	H052	N094	N095	90	L2.5X2.5X4	Beam	None	A36	Typical
53	H053	N091	N092	90	L2.5X2.5X4	Beam	None	A36	Typical
54	H054	N090	N093	90	L2.5X2.5X4	Beam	None	A36	Typical
55	H055	N096	N099		PL6X0.375	Beam	None	A36	Typical
56	H056	N097	N100		PL6X0.375	Beam	None	A36	Typical
57	H057	N098	N101		PL6X0.375	Beam	None	A36	Typical
58	H058	N103	N106		PL6X0.375	Beam	None	A36	Typical
59	H059	N104	N107		PL6X0.375	Beam	None	A36	Typical
60	H060	N102	N105		PL6X0.375	Beam	None	A36	Typical
61	H061	N108	N114		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
62	H062	N109	N115		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
63	H063	N110	N116		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
64	H064	N111	N117		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
65	H065	N112	N118		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
66	H066	N113	N119		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
67	U070	N128	N129		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
68	U071	N130	N131		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
69	MP072	N132	N133		PIPE_2.0	Column	None	A53 Gr. B	Typical
70	U073	N126	N134		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
71	U074	N135	N136		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
72	MP075	N137	N138		PIPE_2.0	Column	None	A53 Gr. B	Typical
73	U076	N127	N139		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
74	U077	N140	N141		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
75	MP078	N142	N143		PIPE_2.0	Column	None	A53 Gr. B	Typical
76	U079	N146	N151		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
77	U080	N152	N153		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
78	MP081	N154	N155		PIPE_2.0	Column	None	A53 Gr. B	Typical
79	U082	N148	N156		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
80	U083	N157	N158		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
81	MP084	N159	N160		PIPE_2.0	Column	None	A53 Gr. B	Typical
82	U085	N150	N161		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
83	U086	N162	N163		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
84	MP087	N164	N165		PIPE_2.0	Column	None	A53 Gr. B	Typical
85	U088	N145	N166		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
86	U089	N167	N168		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
87	MP090	N169	N170		PIPE_2.0	Column	None	A53 Gr. B	Typical
88	U091	N147	N171		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
89	U092	N172	N173		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
90	MP093	N174	N175		PIPE_2.0	Column	None	A53 Gr. B	Typical
91	U094	N149	N176		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
92	U095	N177	N178		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
93	MP096	N179	N180		PIPE_2.0	Column	None	A53 Gr. B	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
1	H001	HSS4X4X4	63			Lbyy		1	1	Lateral
2	H002	PL6X0.5	12			Lbyy		0.65	0.65	Lateral
3	H003	HSS4X4X4	63			Lbyy		1	1	Lateral
4	H004	HSS4X4X4	63			Lbyy		1	1	Lateral
5	H005	PL6X0.5	12			Lbyy		0.65	0.65	Lateral
6	H006	PL6X0.5	12			Lbyy		0.65	0.65	Lateral
7	H007	HSS4X4X4	60			Lbyy		0.65	0.65	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
8	H008	HSS4X4X4	60			Lbyy		0.65	0.65	Lateral
9	H009	HSS4X4X4	60			Lbyy		0.65	0.65	Lateral
10	H010	L2X2X3	50.229			Lbyy		1	1	Lateral
11	H011	L2X2X3	50.229			Lbyy		1	1	Lateral
12	H012	L2X2X3	50.229			Lbyy		1	1	Lateral
13	H013	L2X2X3	50.229			Lbyy		1	1	Lateral
14	H014	L2X2X3	50.229			Lbyy		1	1	Lateral
15	H015	L2X2X3	50.229			Lbyy		1	1	Lateral
16	H016	PL6X0.5	3			Lbyy		1	1	Lateral
17	H017	PL6X0.5	3			Lbyy		1	1	Lateral
18	H018	PL6X0.5	3			Lbyy		1	1	Lateral
19	H019	PL6X0.5	3			Lbyy		1	1	Lateral
20	H020	PL6X0.5	3			Lbyy		1	1	Lateral
21	H021	PL6X0.5	3			Lbyy		1	1	Lateral
22	H022	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
23	H023	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
24	H024	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
25	H025	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
26	H026	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
27	H027	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
28	H028	PIPE_3.0	150			Lbyy		1	1	Lateral
29	H029	PIPE_3.0	150			Lbyy		1	1	Lateral
30	H030	PIPE_3.0	150			Lbyy		1	1	Lateral
31	H031	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
32	H032	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
33	H033	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
34	H034	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
35	H035	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
36	H036	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
37	H037	PL6X0.375	3			Lbyy		1	1	Lateral
38	H038	PL6X0.375	3			Lbyy		1	1	Lateral
39	H039	PL6X0.375	3			Lbyy		1	1	Lateral
40	H040	PL6X0.375	3			Lbyy		1	1	Lateral
41	H041	PL6X0.375	3			Lbyy		1	1	Lateral
42	H042	PL6X0.375	3			Lbyy		1	1	Lateral
43	H043	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
44	H044	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
45	H045	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
46	H046	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
47	H047	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
48	H048	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
49	H049	PIPE_2.0	150			Lbyy		0.65	0.65	Lateral
50	H050	PIPE_2.0	150			Lbyy		0.65	0.65	Lateral
51	H051	PIPE_2.0	150			Lbyy		0.65	0.65	Lateral
52	H052	L2.5X2.5X4	14.71			Lbyy		0.65	0.65	Lateral
53	H053	L2.5X2.5X4	14.71			Lbyy		0.65	0.65	Lateral
54	H054	L2.5X2.5X4	14.71			Lbyy		0.65	0.65	Lateral
55	H055	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
56	H056	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
57	H057	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
58	H058	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
59	H059	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
60	H060	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
61	H061	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
62	H062	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
63	H063	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
64	H064	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
65	H065	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
66	H066	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
67	U070	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
68	U071	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
69	MP072	PIPE_2.0	84	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
70	U073	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
71	U074	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
72	MP075	PIPE_2.0	126	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
73	U076	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
74	U077	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
75	MP078	PIPE_2.0	120	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
76	U079	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
77	U080	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
78	MP081	PIPE_2.0	84	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
79	U082	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
80	U083	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
81	MP084	PIPE_2.0	126	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
82	U085	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
83	U086	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
84	MP087	PIPE_2.0	120	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
85	U088	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
86	U089	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
87	MP090	PIPE_2.0	84	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
88	U091	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
89	U092	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
90	MP093	PIPE_2.0	126	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
91	U094	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
92	U095	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
93	MP096	PIPE_2.0	120	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral

Node Boundary Conditions

	Node Label	X [lb/in]	Y [lb/in]	Z [lb/in]	X Rot [k-in/rad]	Y Rot [k-in/rad]	Z Rot [k-in/rad]
1	N002	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N006	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N007	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
1	H001			Yes	N/A		None
2	H002			Yes	N/A		None
3	H003			Yes	N/A		None
4	H004			Yes	N/A		None
5	H005			Yes	N/A		None
6	H006			Yes	N/A		None
7	H007			Yes	N/A		None
8	H008			Yes	N/A		None
9	H009			Yes	N/A		None
10	H010	BenPIN	BenPIN	Yes	N/A		None
11	H011	BenPIN	BenPIN	Yes	N/A		None
12	H012	BenPIN	BenPIN	Yes	N/A		None
13	H013	BenPIN	BenPIN	Yes	N/A		None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
14	H014	BenPIN	BenPIN	Yes	N/A		None
15	H015	BenPIN	BenPIN	Yes	N/A		None
16	H016			Yes	N/A		None
17	H017			Yes	N/A		None
18	H018			Yes	N/A		None
19	H019			Yes	N/A		None
20	H020			Yes	N/A		None
21	H021			Yes	N/A		None
22	H022	OOOXOO		Yes	Default	Exclude	None
23	H023	OOOXOO		Yes	Default	Exclude	None
24	H024	OOOXOO		Yes	Default	Exclude	None
25	H025	OOOXOO		Yes	Default	Exclude	None
26	H026	OOOXOO		Yes	Default	Exclude	None
27	H027	OOOXOO		Yes	Default	Exclude	None
28	H028			Yes	N/A		None
29	H029			Yes	N/A		None
30	H030			Yes	N/A		None
31	H031			Yes	N/A		None
32	H032			Yes	N/A		None
33	H033			Yes	N/A		None
34	H034			Yes	N/A		None
35	H035			Yes	N/A		None
36	H036			Yes	N/A		None
37	H037			Yes	N/A		None
38	H038			Yes	N/A		None
39	H039			Yes	N/A		None
40	H040			Yes	N/A		None
41	H041			Yes	N/A		None
42	H042			Yes	N/A		None
43	H043	OOOXOO		Yes	Default	Exclude	None
44	H044	OOOXOO		Yes	Default	Exclude	None
45	H045	OOOXOO		Yes	Default	Exclude	None
46	H046	OOOXOO		Yes	Default	Exclude	None
47	H047	OOOXOO		Yes	Default	Exclude	None
48	H048	OOOXOO		Yes	Default	Exclude	None
49	H049			Yes	N/A		None
50	H050			Yes	N/A		None
51	H051			Yes	N/A		None
52	H052			Yes	N/A		None
53	H053			Yes	N/A		None
54	H054			Yes	N/A		None
55	H055			Yes	N/A		None
56	H056			Yes	N/A		None
57	H057			Yes	N/A		None
58	H058			Yes	N/A		None
59	H059			Yes	N/A		None
60	H060			Yes	N/A		None
61	H061			Yes	N/A	Exclude	None
62	H062			Yes	N/A	Exclude	None
63	H063			Yes	N/A	Exclude	None
64	H064			Yes	N/A	Exclude	None
65	H065			Yes	N/A	Exclude	None
66	H066			Yes	N/A	Exclude	None
67	U070			Yes	N/A	Exclude	None
68	U071			Yes	N/A	Exclude	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
69	MP072			Yes	** NA **		None
70	U073			Yes	N/A	Exclude	None
71	U074			Yes	N/A	Exclude	None
72	MP075			Yes	** NA **		None
73	U076			Yes	N/A	Exclude	None
74	U077			Yes	N/A	Exclude	None
75	MP078			Yes	** NA **		None
76	U079			Yes	N/A	Exclude	None
77	U080			Yes	N/A	Exclude	None
78	MP081			Yes	** NA **		None
79	U082			Yes	N/A	Exclude	None
80	U083			Yes	N/A	Exclude	None
81	MP084			Yes	** NA **		None
82	U085			Yes	N/A	Exclude	None
83	U086			Yes	N/A	Exclude	None
84	MP087			Yes	** NA **		None
85	U088			Yes	N/A	Exclude	None
86	U089			Yes	N/A	Exclude	None
87	MP090			Yes	** NA **		None
88	U091			Yes	N/A	Exclude	None
89	U092			Yes	N/A	Exclude	None
90	MP093			Yes	** NA **		None
91	U094			Yes	N/A	Exclude	None
92	U095			Yes	N/A	Exclude	None
93	MP096			Yes	** NA **		None

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [lb/ft³]	Yield [psi]	Ry	Fu [psi]	Rt
1	A500 Gr. B [SQR]	2.9e+07	1.115e+07	0.3	0.65	490	46000	1.4	58000	1.3
2	A36	2.9e+07	1.115e+07	0.3	0.65	490	36000	1.5	58000	1.2
3	SAE J429 Gr. 2	2.9e+07	1.115e+07	0.3	0.65	490	57000	1.1	74000	1.1
4	A53 Gr. B	2.9e+07	1.115e+07	0.3	0.65	490	35000	1.6	60000	1.2

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N002	max	1778.381	17	2296.884	26	2160.568	14	5124.194	26	2208.884	23	1018.445	11
2		min	-1778.252	23	110.999	20	-2177.948	8	-507.71	20	-2207.36	17	-969.086	17
3	N006	max	1977.796	18	2301.948	30	1438.599	3	480.045	25	2020.569	15	527.284	24
4		min	-1993.024	12	84.2	24	-1431.227	21	-2898.73	91	-2019.122	21	-4481.5	30
5	N007	max	1829.406	4	2295.303	34	1749.167	2	465.258	14	2112.85	19	4419.671	166
6		min	-1814.588	22	121.324	16	-1740.462	20	-2945.665	68	-2111.364	25	-401.926	16
7	Totals:	max	4951.984	5	6412.724	34	5313.859	2						
8		min	-4951.984	23	2298.841	16	-5313.859	8						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	H001	HSS4X4X4	0.32	0	26	0.121	0	z	11	124317.885	139518	16180.5	16180.5	2.819	H1-1b
2	H002	PL6X0.5	0.109	6	2	0.28	6	y	12	83348.625	97200	1012.5	12150	1.102	H1-1b
3	H003	HSS4X4X4	0.32	0	30	0.118	0	z	3	124317.885	139518	16180.5	16180.5	2.815	H1-1b
4	H004	HSS4X4X4	0.32	0	32	0.123	0	z	7	124317.885	139518	16180.5	16180.5	2.873	H1-1b
5	H005	PL6X0.5	0.113	6	6	0.279	6	y	8	83348.625	97200	1012.5	12150	1.091	H1-1b
6	H006	PL6X0.5	0.105	6	10	0.291	6	y	12	83348.625	97200	1012.5	12150	1.095	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
7	H007	HSS4X4X4	0.153	30	37	0.046	30	y	37	133484.923	139518	16180.5	16180.5	1.331	H1-1b
8	H008	HSS4X4X4	0.153	30	29	0.047	30	y	31	133484.923	139518	16180.5	16180.5	1.331	H1-1b
9	H009	HSS4X4X4	0.153	30	33	0.046	30	y	33	133484.923	139518	16180.5	16180.5	1.331	H1-1b
10	H010	L2X2X3	0.141	25.638	11	0.008	50.229	z	6	9724.796	23392.8	557.717	1072.365	1.136	H2-1
11	H011	L2X2X3	0.144	25.638	3	0.008	50.229	z	10	9724.796	23392.8	557.717	1072.365	1.136	H2-1
12	H012	L2X2X3	0.147	25.638	7	0.008	50.229	z	2	9724.796	23392.8	557.717	1072.365	1.136	H2-1
13	H013	L2X2X3	0.151	25.638	9	0.008	50.229	y	2	9724.796	23392.8	557.717	1072.365	1.136	H2-1
14	H014	L2X2X3	0.154	25.638	13	0.008	50.229	y	6	9724.796	23392.8	557.717	1072.365	1.136	H2-1
15	H015	L2X2X3	0.149	25.638	5	0.008	50.229	y	10	9724.796	23392.8	557.717	1072.365	1.136	H2-1
16	H016	PL6X0.5	0.048	0	10	0.585	0	y	8	95014.386	97200	1012.5	12150	3	H1-1b
17	H017	PL6X0.5	0.048	0	2	0.599	0	y	12	95014.386	97200	1012.5	12150	3	H1-1b
18	H018	PL6X0.5	0.052	0	6	0.573	0	y	4	95014.386	97200	1012.5	12150	3	H1-1b
19	H019	PL6X0.5	0.051	0	10	0.61	0	y	12	95014.386	97200	1012.5	12150	3	H1-1b
20	H020	PL6X0.5	0.053	0	2	0.582	0	y	4	95014.386	97200	1012.5	12150	3	H1-1b
21	H021	PL6X0.5	0.055	0	6	0.583	0	y	8	95014.386	97200	1012.5	12150	3	H1-1b
22	H028	PIPE_3.0	0.147	100	30	0.09	4.688		8	28250.554	65205	5748.75	5748.75	2.104	H1-1b
23	H029	PIPE_3.0	0.146	101.562	34	0.093	145.312		12	28250.554	65205	5748.75	5748.75	2.096	H1-1b
24	H030	PIPE_3.0	0.147	101.562	26	0.089	145.312		4	28250.554	65205	5748.75	5748.75	2.098	H1-1b
25	H031	PL6X0.375	0.188	2	11	0.579	2	y	6	70719.442	72900	569.531	9112.5	1.373	H1-1b
26	H032	PL6X0.375	0.179	2	3	0.556	2	y	10	70719.442	72900	569.531	9112.5	1.373	H1-1b
27	H033	PL6X0.375	0.189	2	7	0.564	2	y	2	70719.442	72900	569.531	9112.5	1.372	H1-1b
28	H034	PL6X0.375	0.182	2	9	0.563	2	y	2	70719.442	72900	569.531	9112.5	1.372	H1-1b
29	H035	PL6X0.375	0.189	2	13	0.583	2	y	6	70719.442	72900	569.531	9112.5	1.371	H1-1b
30	H036	PL6X0.375	0.196	2	5	0.559	2	y	10	70719.442	72900	569.531	9112.5	1.372	H1-1b
31	H037	PL6X0.375	0.194	1.5	13	0.651	0	y	8	70011.374	72900	569.531	9112.5	3	H1-1b
32	H038	PL6X0.375	0.195	1.5	5	0.67	0	y	12	70011.374	72900	569.531	9112.5	3	H1-1b
33	H039	PL6X0.375	0.183	1.5	9	0.641	0	y	4	70011.374	72900	569.531	9112.5	3	H1-1b
34	H040	PL6X0.375	0.187	1.5	3	0.653	0	y	8	70011.374	72900	569.531	9112.5	3	H1-1b
35	H041	PL6X0.375	0.194	1.5	7	0.677	0	y	12	70011.374	72900	569.531	9112.5	3	H1-1b
36	H042	PL6X0.375	0.203	1.5	11	0.648	0	y	4	70011.374	72900	569.531	9112.5	3	H1-1b
37	H049	PIPE_2.0	0.224	20.312	7	0.154	6.25		2	14559.939	32130	1871.625	1871.625	1.84	H1-1b
38	H050	PIPE_2.0	0.221	21.875	8	0.157	6.25		6	14559.939	32130	1871.625	1871.625	1.585	H1-1b
39	H051	PIPE_2.0	0.226	21.875	12	0.152	6.25		10	14559.939	32130	1871.625	1871.625	1.588	H1-1b
40	H052	L2.5X2.5X4	0.187	14.71	13	0.201	14.71	z	5	37765.457	38556	1113.554	2537.388	1.5	H2-1
41	H053	L2.5X2.5X4	0.193	14.71	5	0.199	14.71	z	9	37765.457	38556	1113.554	2537.388	1.5	H2-1
42	H054	L2.5X2.5X4	0.183	14.71	9	0.209	14.71	z	13	37765.457	38556	1113.554	2537.388	1.5	H2-1
43	H055	PL6X0.375	0.286	1.5	11	0.45	1.5	y	2	68085.235	72900	569.531	9112.5	1.617	H1-1b
44	H056	PL6X0.375	0.267	1.5	3	0.458	1.5	y	6	68085.235	72900	569.531	9112.5	1.65	H1-1b
45	H057	PL6X0.375	0.282	1.5	7	0.444	1.5	y	10	68085.235	72900	569.531	9112.5	1.638	H1-1b
46	H058	PL6X0.375	0.332	1.5	9	0.438	1.5	y	6	68085.235	72900	569.531	9112.5	1.644	H1-1b
47	H059	PL6X0.375	0.339	1.5	13	0.42	1.5	y	10	68085.235	72900	569.531	9112.5	1.63	H1-1b
48	H060	PL6X0.375	0.351	1.5	5	0.42	1.5	y	2	68085.235	72900	569.531	9112.5	1.622	H1-1b
49	MP072	PIPE_2.0	0.418	67.375	13	0.147	67.375		8	16811.605	32130	1871.625	1871.625	1.999	H1-1b
50	MP075	PIPE_2.0	0.596	81.375	2	0.069	81.375		13	16811.605	32130	1871.625	1871.625	1.674	H1-1b
51	MP078	PIPE_2.0	0.353	85	3	0.145	85		8	16811.605	32130	1871.625	1871.625	1.998	H1-1b
52	MP081	PIPE_2.0	0.399	67.375	9	0.154	67.375		5	16811.605	32130	1871.625	1871.625	1.868	H1-1b
53	MP084	PIPE_2.0	0.599	81.375	10	0.065	81.375		9	16811.605	32130	1871.625	1871.625	2.161	H1-1b
54	MP087	PIPE_2.0	0.358	85	11	0.145	85		4	16811.605	32130	1871.625	1871.625	3	H1-1b
55	MP090	PIPE_2.0	0.404	67.375	5	0.152	67.375		13	16811.605	32130	1871.625	1871.625	2.34	H1-1b
56	MP093	PIPE_2.0	0.606	81.375	6	0.069	81.375		5	16811.605	32130	1871.625	1871.625	1.76	H1-1b
57	MP096	PIPE_2.0	0.368	85	7	0.144	85		12	16811.605	32130	1871.625	1871.625	1.581	H1-1b

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**178 ft Monopole**
ATC Site Name	:	**MANSFIELD CENTER 1 CT,CT**
ATC Site Number	:	**376046**
Engineering Number	:	**14132164_C3_03**
Proposed Carrier	:	**T-MOBILE**
Carrier Site Name	:	**CTHA211/TCP Communication**
Carrier Site Number	:	**CTHA211A**
Site Location	:	**230 Clover Mill Road** **STORRS MANSFIELD, CT 06268-2826** **41.7758, -72.2225**
County	:	**Tolland**
Date	:	**August 26, 2022**
Max Usage	:	**66%**
Result	:	**Pass**

Prepared By:

Sammie Brown
Structural Engineer I

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
09 Nov 2022 07:45:09 cosign

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 178 ft Monopole to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	PJF Job #29203-0151, Revision 1, dated December 23, 2003
Foundation Drawing	PJF Job #29203-0151, Revision 1, dated December 23, 2003
Geotechnical Report	JGI Project #01133G, dated May 14, 2001
Mount Analysis:	ATC Project #14132164_C8_01, dated August 12, 2022

Analysis

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

Basic Wind Speed:	120 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.19, S_1 = 0.06
Site Class:	D - Stiff Soil - Default

Conclusion

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

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
192.0	1	Generic 20' Omni	Triangular Platform with Handrails	(3) 7/8" Coax	OTHER
191.0	2	Generic 18' Dipole			
186.0	1	Generic 8' Yagi		(1) 7/8" Coax	
180.0	1	Generic 2' x 4' Rectangular Grid Dish		(1) 7/8" Coax	
178.0	3	Samsung MT6407-77A		(6) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	6	Commscope NHH-65B-R2B			
	3	Commscope LNX-8513DS-VTM (39.2 lb)			
	3	Samsung B5/B13 RRH-BR04C			
	1	Raycap RCMDC-6627-PF-48			
	3	Samsung B2/B66A RRH-BR049			
168.0	3	Ericsson RRUS 4449 B5, B12	Triangular Platform with Handrails	(2) 0.39" (10mm) Fiber Trunk (6) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax (3) 3" conduit (1) 3/8" Coax	AT&T MOBILITY
	3	Powerwave Allgon 7770.00			
	3	Commscope NNH4-65B-R6			
	3	CCI DMP65R-BU6DA			
	3	Ericsson RRUS 8843 B2, B66A			
	3	Ericsson RRUS 4478 B14			
	3	Raycap DC6-48-60-18-8F			
	6	Powerwave Allgon LGP21401			
158.0	3	RFS APXVSPP18-C-A20	Triangular Low Profile Platform	(4) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
	3	Commscope DT465B-2XR			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 800 MHz RRH w/ Notch Filter			
	3	Alcatel-Lucent 1900MHz RRH (65MHz)			
	3	Alcatel-Lucent 2X50W RRH w/o Filter			
148.0	3	Ericsson Radio 4449 B71 B85A	Triangular Platform with Handrails	-	T-MOBILE
137.0	1	Raycap RDIDC-9181-PF-48	Triangular Platform with Handrails	(1) 1.41" (35.8mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605			
	3	Fujitsu TA08025-B604			
	3	JMA Wireless MX08FRO665-21			
120.0	2	Generic 18' Dipole	T-Arm	(7) 7/8" Coax	OTHER
116.0	1	Generic 8' Yagi			
113.0	1	Generic 9' Omni			
	1	Generic 8' Yagi			
111.0	1	Generic 2' x 4' Rectangular Grid Dish			
	1	Generic 22' Dipole			
76.0	1	Generic GPS	Stand-Off	(1) 1/2" Coax	SPRINT NEXTEL

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
148.0	3	Ericsson KRY 112 489/2	-	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	T-MOBILE
	3	RFS APXVAALL24 43-U-NA20			
	3	RFS APXV18-209014-C-A20			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
148.0	3	Ericsson Radio 4460 B25+B66	Triangular Platform with Handrails	(3) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Ericsson AIR 6419 B41			
	3	Commscope VV-65B-R1B			
	3	RFS APXVAARR24_43-U-NA20			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	26%	Pass
Shaft	66%	Pass
Base Plate	53%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	6250.0	8437.5	5167.3	61%
Shear (Kips)	48.0	64.8	39.4	61%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
180.0	Generic 2' x 4' Rectangular Grid Dish	Other	1.875	1.140
148.0	Ericsson Radio 4460 B25+B66	T-MOBILE	1.300	1.030
	RFS APXVAARR24_43-U-NA20			
	Ericsson AIR 6419 B41			
	Commscope VV-65B-R1B			
111.0	Generic 2' x 4' Rectangular Grid Dish	Other	0.715	0.780

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

Standard Conditions

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

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

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

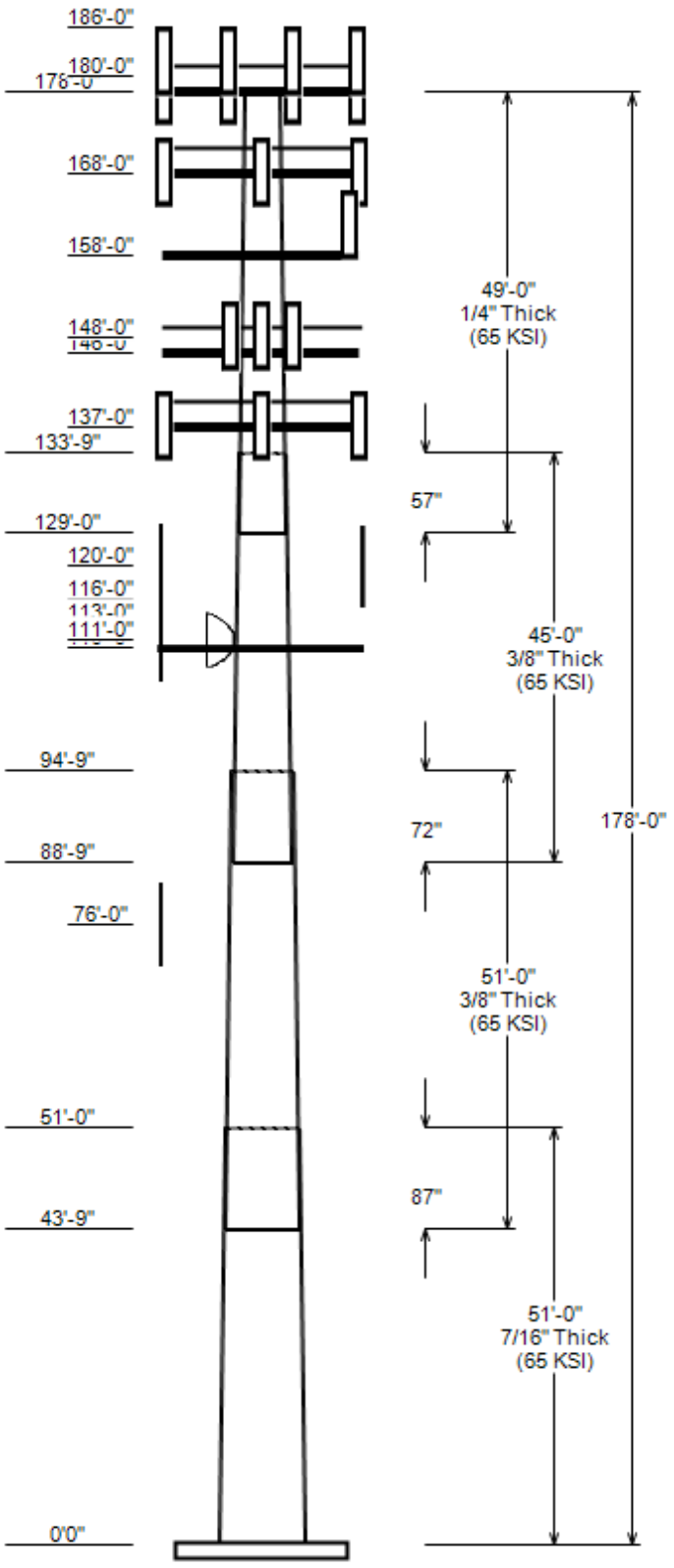
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

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

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

JOB INFORMATION

Asset :	376046, MANSFIELD CENTER 1 CT	Height :	178 ft
Client :	T-MOBILE	Base Width :	68.36
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Nominal Wind: 120 mph wind with no ice **Topo Category:** 1

Ice Wind: 50 mph wind with 1" radial **Topo Method:** Method 1

Base Elev (ft): 0.00 **Taper :** 0.25200(In/ft) **Topo Feature:**

Structure Class: II **Exposure :** B **S_s :** 0.187 **S_1** : 0.055

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	51.000	55.51	68.36	0.438		0.000	18 Sides	65
2	51.000	45.23	58.08	0.375	Slip Joint	87.000	18 Sides	65
3	45.000	36.15	47.49	0.375	Slip Joint	72.000	18 Sides	65
4	49.000	25.50	37.85	0.250	Slip Joint	57.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
192.0	192.0	1	Generic 20' Omni
191.0	191.0	2	Generic 18' Dipole
186.0	186.0	1	Generic 8' Yagi
180.0	180.0	1	Generic 2' x 4' Rectangular Gr
178.0	178.0	3	Samsung B5/B13 RRH-BR04C
178.0	178.0	3	Samsung B2/B66A RRH-BR049
178.0	178.0	1	Raycap RCMDC-6627-PF-48
178.0	178.0	3	Samsung MT6407-77A
178.0	178.0	6	Commscope NHH-65B-R2B
178.0	179.0	3	Commscope LNX-8513DS-VTM (39.2
178.0	178.0	1	Generic Flat Platform with Han
168.0	168.0	6	Powerwave Allgon LGP21401
168.0	168.0	3	Raycap DC6-48-60-18-8F
168.0	168.0	3	Ericsson RRUS 8843 B2, B66A
168.0	168.0	3	Ericsson RRUS 4478 B14
168.0	168.0	3	Ericsson RRUS 4449 B5, B12
168.0	168.0	3	Powerwave Allgon 7770.00
168.0	168.0	1	Generic Mount Reinforcement
168.0	168.0	3	Commscope NNH4-65B-R6
168.0	168.0	3	CCI DMP65R-BU6DA
168.0	168.0	1	Site Pro1 RMQP-496-HK
158.0	158.0	3	Alcatel-Lucent 2X50W RRH w/o F
158.0	158.0	3	Alcatel-Lucent 1900MHz RRH (65
158.0	158.0	3	Alcatel-Lucent 800 MHz RRH w/
158.0	158.0	3	Alcatel-Lucent TD-RRH8x20-25 w
158.0	159.0	3	RFS APXVSPP18-C-A20
158.0	159.0	3	Commscope DT465B-2XR
158.0	158.0	1	Generic Round Low Profile Plat
148.0	148.0	3	Ericsson Radio 4449 B71 B85A
148.0	148.0	3	Ericsson Radio 4460 B25+B66
148.0	148.0	3	Ericsson AIR 6419 B41
148.0	148.0	3	Commscope VV-65B-R1B
148.0	148.0	3	RFS APXVAARR24_43-U-NA20
146.0	146.0	1	Generic Flat Platform with Han
137.0	137.0	1	Raycap RDIDC-9181-PF-48
137.0	137.0	3	Fujitsu TA08025-B605
137.0	137.0	3	Fujitsu TA08025-B604
137.0	137.0	3	JMA Wireless MX08FRO665-21
137.0	137.0	1	Generic Flat Platform with Han
120.0	120.0	2	Generic 18' Dipole
116.0	116.0	1	Generic 8' Yagi
113.0	113.0	1	Generic 9' Omni
113.0	113.0	1	Generic 8' Yagi

JOB INFORMATION

Asset :	376046, MANSFIELD CENTER 1 CT	Height :	178 ft
Client :	T-MOBILE	Base Width :	68.36
Code :	ANSI/TIA-222-H	Shape :	18 Sides

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
111.0	111.0	1	Generic 2' x 4' Rectangular Gr
111.0	111.0	1	Generic 22' Dipole
110.0	110.0	3	Generic Flat T-Arm
76.0	76.0	1	Generic GPS

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	192.0	7/8" Coax	No
0.0	191.0	7/8" Coax	No
0.0	186.0	7/8" Coax	No
0.0	180.0	7/8" Coax	No
0.0	178.0	1 5/8" Hybriflex	No
0.0	178.0	1 5/8" Coax	No
0.0	168.0	3/8" Coax	No
0.0	168.0	3" conduit	No
0.0	168.0	1 5/8" Coax	No
0.0	168.0	0.78" (19.7mm) 8 AWG 6	No
0.0	168.0	0.39" (10mm) Fiber Trunk	No
0.0	158.0	1 1/4" Hybriflex Cable	No
0.0	148.0	1.99" (50.7mm) Hybrid	No
0.0	137.0	1.41" (35.8mm) Hybrid	No
0.0	120.0	7/8" Coax	No
0.0	116.0	7/8" Coax	No
0.0	113.0	7/8" Coax	No
0.0	111.0	7/8" Coax	No
0.0	76.0	1/2" Coax	No

LOAD CASES

1.2D + 1.0W Normal	120 mph wind with no ice
0.9D + 1.0W Normal	120 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	5167.30	39.44	78.00
0.9D + 1.0W Normal	5099.54	39.41	58.49
1.2D + 1.0Di + 1.0Wi Normal	1483.84	11.26	101.00
1.2D + 1.0Ev + 1.0Eh Normal	291.85	1.96	78.33
0.9D - 1.0Ev + 1.0Eh Normal	287.02	1.95	54.34
1.0D + 1.0W Service Normal	1146.79	8.82	65.04

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W Service Normal	111.00	8.584	0.779
1.0D + 1.0W Service Normal	178.00	22.504	1.136

ANALYSIS PARAMETERS

Location:	Tolland County,CT	**Height:**	178 ft
Type and Shape:	Taper, 18 Sides	**Base Diameter:**	68.36 in
Manufacturer:	Undetermined	**Top Diameter:**	25.50 in
K_d (non-service):	0.95	**Taper:**	0.2520 in/ft
K_e:	0.98	**Rotation:**	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	**Design Wind Speed w/o Ice:**	120 mph
Risk Category:	II	**Design Wind Speed w/Ice:**	50 mph
Topo Factor Procedure:	Method 1	**Operational Wind Speed:**	60 mph
Topographic Category:	1	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	515.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	2.72
T_L (sec):	6	**P:**	1	**C_s:**	0.030
S_s:	0.187	**S_1:**	0.055	**C_s Max:**	0.030
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.199	**S_{d1}:**	0.088		

LOAD CASES

1.2D + 1.0W Normal	120 mph wind with no ice
0.9D + 1.0W Normal	120 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	51.00	0.4375	65		0.00	14,819	68.36	0.000	94.32	54,974.8	25.79	156.25	55.51	51.00	76.47	29,298.9	20.61	126.87	0.2520
2-18	51.00	0.3750	65	Slip	87.00	10,592	58.08	43.750	68.69	28,900.5	25.55	154.89	45.23	94.75	53.39	13,571.6	19.50	120.62	0.2520
3-18	45.00	0.3750	65	Slip	72.00	7,554	47.49	88.750	56.08	15,730.2	20.57	126.65	36.15	133.75	42.58	6,886.3	15.24	96.41	0.2520
								129.00								1,613.8			
4-18	49.00	0.2500	65	Slip	57.00	4,157	37.85	0	29.83	5,328.6	24.93	151.40	25.50	178.00	20.04		16.22	102.00	0.2520
				Shaft Weight		37,122													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
192.00	Generic 20' Omni	1	1.00	0.000	55.00	6.000	1.00	157.09	10.808	1.00
191.00	Generic 18' Dipole	2	1.00	0.000	55.00	6.770	1.00	190.34	14.027	1.00
186.00	Generic 8' Yagi	1	1.00	0.000	30.00	12.000	1.00	259.96	34.677	1.00
180.00	Generic 2' x 4' Rectangular Gr	1	1.00	0.000	40.00	7.460	1.00	192.56	41.347	1.00
178.00	Raycap RCMDC-6627-PF-48	1	0.75	0.000	32.00	4.056	1.00	118.29	4.983	1.00
178.00	Samsung B2/B66A RRH-BR049	3	0.75	0.000	84.40	1.875	0.50	127.72	2.488	0.50
178.00	Samsung MT6407-77A	3	0.75	0.000	81.60	4.709	0.61	150.81	5.740	0.61
178.00	Commscope NHH-65B-R2B	6	0.75	0.000	43.70	8.079	0.69	162.08	9.971	0.69
178.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3706.21	56.640	1.00
178.00	Commscope LNX-8513DS-VTM (39.2	3	0.75	1.000	39.20	8.173	0.69	158.26	10.094	0.69
178.00	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.875	0.50	109.14	2.488	0.50
168.00	Site Pro1 RMQP-496-HK	1	1.00	0.000	2500.00	27.200	1.00	3593.38	43.701	1.00
168.00	CCI DMP65R-BU6DA	3	0.75	0.000	79.40	12.709	0.63	253.29	14.592	0.63
168.00	Commscope NNH4-65B-R6	3	0.75	0.000	89.70	12.271	0.64	259.32	14.164	0.64
168.00	Generic Mount Reinforcement	1	1.00	0.000	200.00	7.500	1.00	330.64	12.554	1.00
168.00	Ericsson RRUS 8843 B2, B66A	3	0.75	0.000	72.00	1.639	0.50	113.38	2.209	0.50
168.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	114.51	2.599	0.50
168.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.90	1.842	0.50	97.22	2.448	0.50
168.00	Powerwave Allgon LGP21401	6	0.75	0.000	14.10	1.104	0.50	30.94	1.586	0.50
168.00	Raycap DC6-48-60-18-8F	3	0.75	0.000	20.00	1.260	1.00	55.54	1.704	1.00
168.00	Powerwave Allgon 7770.00	3	0.75	0.000	35.00	5.508	0.65	111.73	6.943	0.65
158.00	Generic Round Low Profile Plat	1	1.00	0.000	1875.00	21.700	1.00	2418.32	34.580	1.00
158.00	RFS APXVSPP18-C-A20	3	0.80	1.000	57.00	8.024	0.69	172.72	9.895	0.69
158.00	Alcatel-Lucent TD-RRH8x20-25 w	3	0.80	0.000	70.00	4.046	0.50	133.40	4.937	0.50
158.00	Alcatel-Lucent 800 MHz RRH w/	3	0.80	0.000	61.80	2.495	0.50	122.46	3.193	0.50
158.00	Alcatel-Lucent 1900MHz RRH (65	3	0.80	0.000	60.00	2.375	0.50	115.86	3.103	0.50
158.00	Alcatel-Lucent 2X50W RRH w/o F	3	0.80	0.000	53.00	2.058	0.50	95.70	2.701	0.50
158.00	Commscope DT465B-2XR	3	0.80	1.000	58.00	9.098	0.69	193.54	10.956	0.69
148.00	Ericsson AIR 6419 B41	3	0.75	0.000	83.30	6.322	0.63	184.20	7.450	0.63
148.00	Commscope VV-65B-R1B	3	0.75	0.000	29.50	7.904	0.64	128.09	9.717	0.64
148.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	389.63	22.716	0.63
148.00	Ericsson Radio 4460 B25+B66	3	0.75	0.000	109.00	2.564	0.67	167.93	3.267	0.67
148.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	115.09	2.216	0.50
146.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3683.14	56.368	1.00
137.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	102.48	2.571	0.50
137.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	234.53	14.348	0.64
137.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3675.18	56.274	1.00
137.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	116.44	2.571	0.50
137.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	59.55	2.462	1.00
120.00	Generic 18' Dipole	2	1.00	0.000	55.00	6.770	1.00	185.00	13.740	1.00
116.00	Generic 8' Yagi	1	1.00	0.000	30.00	12.000	1.00	250.41	33.735	1.00
113.00	Generic 8' Yagi	1	1.00	0.000	30.00	12.000	1.00	249.74	33.668	1.00
113.00	Generic 9' Omni	1	1.00	0.000	25.00	2.700	1.00	69.41	4.809	1.00
111.00	Generic 22' Dipole	1	1.00	0.000	66.00	8.270	1.00	223.63	16.714	1.00
111.00	Generic 2' x 4' Rectangular Gr	1	1.00	0.000	40.00	7.460	1.00	185.58	39.796	1.00
110.00	Generic Flat T-Arm	3	0.75	0.000	312.50	12.900	0.67	481.30	18.184	0.67
76.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	28.25	1.299	1.00
Totals	Num Loadings: 47	111			19,030.40			34,023.01		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From	Elev To	Qty	Description	Coax Dia	Coax Wt	Flat	Max Coax/	Dist Between	Dist Between	Azimuth (deg)	Dist From	Exposed To Wind	Carrier

(ft)	(ft)			(in)	(lb/ft)		Row	Rows(in)	Cols(in)		Face (in)		
0.00	192.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	191.00	2	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	186.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	180.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	178.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	178.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
0.00	168.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	168.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	168.00	3	3" conduit	3.5	7.58	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	168.00	2	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	168.00	1	3/8" Coax	0.44	0.08	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	158.00	4	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	148.00	3	1.99" (50.7mm) Hybrid	1.99	1.9	N	0	0	0	0	0	N	T-MOBILE
0.00	137.00	1	1.41" (35.8mm) Hybrid	1.41	1.66	N	0	0	0	0	0	N	DISH WIRELESS
0.00	120.00	2	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	116.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	113.00	2	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	111.00	2	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	76.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	SPRINT NEXTEL

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.4375	68.360	94.315	54,974.80	25.79	156.25	71.1	1584.0	0.0	0.0
5.00		0.4375	67.100	92.566	51,971.50	25.28	153.37	71.7	1525.5	0.0	1,589.8
10.00		0.4375	65.840	90.816	49,079.60	24.77	150.49	72.3	1468.2	0.0	1,560.0
15.00		0.4375	64.580	89.066	46,297.00	24.26	147.61	72.9	1412.0	0.0	1,530.2
20.00		0.4375	63.320	87.316	43,621.70	23.76	144.73	73.5	1356.9	0.0	1,500.5
25.00		0.4375	62.059	85.567	41,051.40	23.25	141.85	74.1	1302.9	0.0	1,470.7
30.00		0.4375	60.799	83.817	38,584.20	22.74	138.97	74.7	1249.9	0.0	1,440.9
35.00		0.4375	59.539	82.067	36,217.80	22.23	136.09	75.3	1198.1	0.0	1,411.2
40.00		0.4375	58.279	80.317	33,950.20	21.73	133.21	75.8	1147.4	0.0	1,381.4
43.75	Bot - Section 2	0.4375	57.334	79.005	32,313.10	21.34	131.05	76.3	1110.1	0.0	1,016.5
45.00		0.4375	57.019	78.568	31,779.30	21.22	130.33	76.4	1097.8	0.0	626.5
50.00		0.4375	55.759	76.818	29,703.00	20.71	127.45	77	1049.2	0.0	2,471.3
51.00	Top - Section 1	0.3750	56.257	66.511	26,241.40	24.69	150.02	72.4	918.7	0.0	487.6
55.00		0.3750	55.249	65.311	24,846.70	24.21	147.33	72.9	885.8	0.0	897.1
60.00		0.3750	53.989	63.811	23,174.00	23.62	143.97	73.6	845.4	0.0	1,098.4
65.00		0.3750	52.728	62.312	21,578.10	23.03	140.61	74.3	806.0	0.0	1,072.9
70.00		0.3750	51.468	60.812	20,057.20	22.44	137.25	75	767.6	0.0	1,047.4
75.00		0.3750	50.208	59.312	18,609.50	21.84	133.89	75.7	730.0	0.0	1,021.9
76.00		0.3750	49.956	59.012	18,328.50	21.73	133.22	75.8	722.6	0.0	201.3
80.00		0.3750	48.948	57.812	17,233.10	21.25	130.53	76.4	693.4	0.0	795.1
85.00		0.3750	47.688	56.312	15,926.40	20.66	127.17	77.1	657.8	0.0	970.9
88.75	Bot - Section 3	0.3750	46.743	55.187	14,991.00	20.22	124.65	77.6	631.7	0.0	711.4
90.00		0.3750	46.428	54.813	14,687.50	20.07	123.81	77.8	623.1	0.0	471.7
94.75	Top - Section 2	0.3750	45.981	54.280	14,263.80	19.86	122.62	78	611.0	0.0	1,763.3
95.00		0.3750	45.918	54.205	14,204.80	19.83	122.45	78.1	609.3	0.0	46.1
100.00		0.3750	44.658	52.706	13,058.00	19.24	119.09	78.8	575.9	0.0	909.5
105.00		0.3750	43.398	51.206	11,974.70	18.64	115.73	79.5	543.5	0.0	884.0
110.00		0.3750	42.137	49.706	10,953.00	18.05	112.37	80.2	512.0	0.0	858.5
111.00		0.3750	41.885	49.406	10,755.90	17.93	111.69	80.3	505.8	0.0	168.6
113.00		0.3750	41.381	48.806	10,368.80	17.69	110.35	80.6	493.5	0.0	334.2
115.00		0.3750	40.877	48.206	9,991.20	17.46	109.01	80.9	481.4	0.0	330.1
116.00		0.3750	40.625	47.906	9,805.80	17.34	108.33	81	475.4	0.0	163.5
120.00		0.3750	39.617	46.706	9,087.30	16.86	105.65	81.6	451.8	0.0	643.9
125.00		0.3750	38.357	45.207	8,239.70	16.27	102.29	82.3	423.1	0.0	781.9
129.00	Bot - Section 4	0.3750	37.349	44.007	7,600.90	15.80	99.60	82.6	400.8	0.0	607.1
130.00		0.3750	37.097	43.707	7,446.50	15.68	98.93	82.6	395.4	0.0	250.4
133.75	Top - Section 3	0.2500	36.652	28.884	4,835.70	24.09	146.61	73.1	259.9	0.0	923.9
135.00		0.2500	36.337	28.634	4,711.20	23.87	145.35	73.3	255.4	0.0	122.3
137.00		0.2500	35.833	28.234	4,516.50	23.51	143.33	73.7	248.3	0.0	193.5
140.00		0.2500	35.077	27.634	4,234.70	22.98	140.31	74.4	237.8	0.0	285.2
145.00		0.2500	33.817	26.634	3,791.50	22.09	135.27	75.4	220.8	0.0	461.7
146.00		0.2500	33.565	26.434	3,706.70	21.91	134.26	75.6	217.5	0.0	90.3
148.00		0.2500	33.061	26.034	3,541.00	21.55	132.24	76	211.0	0.0	178.5
150.00		0.2500	32.557	25.634	3,380.30	21.20	130.23	76.5	204.5	0.0	175.8
155.00		0.2500	31.296	24.634	3,000.00	20.31	125.19	77.5	188.8	0.0	427.6
158.00		0.2500	30.540	24.035	2,786.10	19.78	122.16	78.1	179.7	0.0	248.4
160.00		0.2500	30.036	23.635	2,649.30	19.42	120.15	78.6	173.7	0.0	162.2
165.00		0.2500	28.776	22.635	2,327.10	18.53	115.10	79.6	159.3	0.0	393.6
168.00		0.2500	28.020	22.035	2,146.90	18.00	112.08	80.2	150.9	0.0	228.0
170.00		0.2500	27.516	21.635	2,032.10	17.64	110.06	80.6	145.5	0.0	148.6
175.00		0.2500	26.256	20.635	1,763.20	16.76	105.02	81.7	132.3	0.0	359.6
178.00		0.2500	25.500	20.035	1,613.80	16.22	102.00	82.3	124.7	0.0	207.6
								Totals:			37,122.6

Load Case: 1.2D + 1.0W Normal 120 mph wind with no ice 24 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-78.00	-39.44	0.00	-5,167.3	0.00	5,167.30	6,032.65	1,655.24	10,154.34	8,442.81	0	0	0.626
5.00	-75.68	-39.06	0.00	-4,970.1	0.00	4,970.13	5,970.50	1,624.53	9,781.10	8,199.81	0.07	-0.13	0.619
10.00	-73.39	-38.69	0.00	-4,774.8	0.00	4,774.83	5,906.46	1,593.82	9,414.84	7,957.52	0.28	-0.26	0.613
15.00	-71.14	-38.32	0.00	-4,581.4	0.00	4,581.41	5,840.54	1,563.11	9,055.58	7,716.10	0.63	-0.4	0.607
20.00	-68.93	-37.95	0.00	-4,389.8	0.00	4,389.83	5,772.74	1,532.40	8,703.31	7,475.68	1.12	-0.54	0.600
25.00	-66.75	-37.58	0.00	-4,200.1	0.00	4,200.10	5,703.06	1,501.69	8,358.02	7,236.42	1.76	-0.68	0.593
30.00	-64.61	-37.22	0.00	-4,012.2	0.00	4,012.18	5,631.49	1,470.99	8,019.72	6,998.46	2.55	-0.82	0.585
35.00	-62.50	-36.83	0.00	-3,826.1	0.00	3,826.11	5,558.05	1,440.28	7,688.41	6,761.96	3.49	-0.96	0.578
40.00	-60.44	-36.48	0.00	-3,642.0	0.00	3,641.95	5,482.72	1,409.57	7,364.09	6,527.05	4.58	-1.11	0.570
43.75	-58.94	-36.27	0.00	-3,505.1	0.00	3,505.14	5,424.99	1,386.54	7,125.44	6,352.01	5.49	-1.22	0.563
45.00	-58.05	-36.01	0.00	-3,459.8	0.00	3,459.81	5,405.52	1,378.86	7,046.76	6,293.90	5.82	-1.26	0.561
50.00	-54.71	-35.70	0.00	-3,279.7	0.00	3,279.74	5,326.43	1,348.15	6,736.42	6,062.63	7.22	-1.41	0.552
51.00	-54.02	-35.49	0.00	-3,244.0	0.00	3,244.04	4,331.59	1,167.27	5,891.45	4,986.16	7.52	-1.44	0.664
55.00	-52.60	-35.11	0.00	-3,102.1	0.00	3,102.07	4,286.21	1,146.21	5,680.83	4,844.33	8.79	-1.57	0.654
60.00	-50.87	-34.68	0.00	-2,926.5	0.00	2,926.52	4,227.81	1,119.89	5,422.94	4,667.85	10.52	-1.74	0.640
65.00	-49.17	-34.24	0.00	-2,753.1	0.00	2,753.13	4,167.52	1,093.57	5,171.04	4,492.39	12.44	-1.91	0.626
70.00	-47.50	-33.80	0.00	-2,581.9	0.00	2,581.94	4,105.35	1,067.25	4,925.14	4,318.10	14.54	-2.09	0.611
75.00	-45.90	-33.50	0.00	-2,413.0	0.00	2,412.96	4,041.30	1,040.92	4,685.22	4,145.13	16.82	-2.27	0.595
76.00	-45.54	-33.26	0.00	-2,379.5	0.00	2,379.47	4,028.27	1,035.66	4,637.96	4,110.71	17.3	-2.3	0.591
80.00	-44.26	-32.86	0.00	-2,246.4	0.00	2,246.42	3,975.37	1,014.60	4,451.30	3,973.63	19.29	-2.45	0.578
85.00	-42.70	-32.45	0.00	-2,082.1	0.00	2,082.11	3,907.56	988.28	4,223.36	3,803.74	21.95	-2.63	0.559
88.75	-41.57	-32.20	0.00	-1,960.4	0.00	1,960.42	3,855.46	968.54	4,056.34	3,677.47	24.07	-2.76	0.545
90.00	-40.87	-31.94	0.00	-1,920.2	0.00	1,920.16	3,837.86	961.96	4,001.42	3,635.62	24.8	-2.81	0.540
94.75	-38.42	-31.61	0.00	-1,768.5	0.00	1,768.47	3,812.68	952.62	3,924.11	3,576.41	27.68	-2.98	0.506
95.00	-38.31	-31.39	0.00	-1,760.6	0.00	1,760.57	3,809.12	951.30	3,913.28	3,568.09	27.83	-2.99	0.505
100.00	-36.83	-30.91	0.00	-1,603.6	0.00	1,603.61	3,736.78	924.98	3,699.75	3,402.69	31.05	-3.15	0.482
105.00	-35.39	-30.43	0.00	-1,449.0	0.00	1,449.05	3,662.56	898.66	3,492.21	3,239.41	34.44	-3.32	0.458
110.00	-32.93	-29.29	0.00	-1,296.9	0.00	1,296.92	3,586.46	872.34	3,290.66	3,078.39	38.01	-3.48	0.432
111.00	-32.55	-28.54	0.00	-1,267.6	0.00	1,267.63	3,571.01	867.08	3,251.07	3,046.47	38.74	-3.52	0.426
113.00	-31.98	-27.77	0.00	-1,210.6	0.00	1,210.55	3,539.90	856.55	3,172.61	2,982.92	40.23	-3.58	0.416
115.00	-31.44	-27.62	0.00	-1,155.0	0.00	1,155.00	3,508.48	846.02	3,095.10	2,919.78	41.74	-3.65	0.406
116.00	-31.15	-26.94	0.00	-1,127.4	0.00	1,127.38	3,492.66	840.75	3,056.71	2,888.36	42.51	-3.68	0.400
120.00	-30.00	-25.97	0.00	-1,019.6	0.00	1,019.64	3,428.62	819.70	2,905.53	2,763.73	45.65	-3.81	0.379
125.00	-28.72	-25.53	0.00	-889.8	0.00	889.80	3,346.87	793.38	2,721.95	2,610.39	49.71	-3.95	0.350
129.00	-27.73	-25.26	0.00	-787.7	0.00	787.69	3,269.48	772.32	2,579.40	2,481.68	53.07	-4.07	0.327
130.00	-27.36	-25.04	0.00	-762.4	0.00	762.43	3,247.19	767.05	2,544.37	2,447.80	53.93	-4.1	0.321
133.75	-26.00	-24.75	0.00	-668.5	0.00	668.52	1,899.47	506.91	1,666.63	1,424.09	57.19	-4.2	0.486
135.00	-25.77	-24.61	0.00	-637.6	0.00	637.59	1,889.77	502.52	1,637.91	1,404.47	58.29	-4.24	0.470
137.00	-21.85	-21.41	0.00	-588.4	0.00	588.37	1,874.00	495.51	1,592.48	1,373.17	60.08	-4.31	0.442
140.00	-21.31	-21.07	0.00	-524.1	0.00	524.14	1,849.78	484.98	1,525.53	1,326.42	62.82	-4.41	0.409
145.00	-20.44	-20.77	0.00	-418.8	0.00	418.80	1,807.91	467.43	1,417.15	1,249.15	67.53	-4.57	0.349
146.00	-17.42	-18.64	0.00	-398.0	0.00	398.03	1,799.31	463.92	1,395.95	1,233.81	68.49	-4.6	0.334
148.00	-15.74	-16.06	0.00	-360.8	0.00	360.75	1,781.88	456.90	1,354.03	1,203.23	70.43	-4.66	0.310
150.00	-15.43	-15.76	0.00	-328.6	0.00	328.63	1,764.15	449.88	1,312.76	1,172.82	72.39	-4.72	0.290
155.00	-14.65	-15.39	0.00	-249.8	0.00	249.82	1,718.52	432.33	1,212.36	1,097.58	77.4	-4.84	0.237
158.00	-10.90	-12.18	0.00	-202.4	0.00	202.43	1,690.24	421.81	1,154.03	1,053.02	80.46	-4.9	0.200
160.00	-10.62	-11.89	0.00	-178.1	0.00	178.08	1,671.00	414.79	1,115.95	1,023.57	82.52	-4.94	0.181
165.00	-9.92	-11.53	0.00	-118.6	0.00	118.63	1,621.61	397.24	1,023.54	950.94	87.73	-5.02	0.132
168.00	-5.00	-7.00	0.00	-84.0	0.00	84.04	1,591.06	386.71	970.01	908.08	90.9	-5.06	0.096
170.00	-4.82	-6.73	0.00	-70.0	0.00	70.05	1,570.33	379.69	935.12	879.84	93.02	-5.08	0.083
175.00	-4.35	-6.40	0.00	-36.4	0.00	36.40	1,517.17	362.14	850.69	810.41	98.36	-5.12	0.048
178.00	0.00	-5.99	0.00	-17.2	0.00	17.20	1,484.37	351.62	801.96	769.62	101.57	-5.13	0.023

Load Case: 0.9D + 1.0W Normal 120 mph wind with no ice 24 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-58.49	-39.41	0.00	-5,099.5	0.00	5,099.54	6,032.65	1,655.24	10,154.34	8,442.81	0	0	0.614
5.00	-56.73	-38.99	0.00	-4,902.5	0.00	4,902.48	5,970.50	1,624.53	9,781.10	8,199.81	0.07	-0.13	0.608
10.00	-54.99	-38.57	0.00	-4,707.5	0.00	4,707.53	5,906.46	1,593.82	9,414.84	7,957.52	0.28	-0.26	0.601
15.00	-53.28	-38.16	0.00	-4,514.7	0.00	4,514.66	5,840.54	1,563.11	9,055.58	7,716.10	0.62	-0.39	0.595
20.00	-51.60	-37.76	0.00	-4,323.8	0.00	4,323.85	5,772.74	1,532.40	8,703.31	7,475.68	1.11	-0.53	0.588
25.00	-49.95	-37.35	0.00	-4,135.1	0.00	4,135.07	5,703.06	1,501.69	8,358.02	7,236.42	1.74	-0.67	0.581
30.00	-48.32	-36.95	0.00	-3,948.3	0.00	3,948.31	5,631.49	1,470.99	8,019.72	6,998.46	2.51	-0.81	0.573
35.00	-46.72	-36.53	0.00	-3,763.6	0.00	3,763.56	5,558.05	1,440.28	7,688.41	6,761.96	3.44	-0.95	0.566
40.00	-45.16	-36.16	0.00	-3,580.9	0.00	3,580.89	5,482.72	1,409.57	7,364.09	6,527.05	4.51	-1.09	0.558
43.75	-44.02	-35.93	0.00	-3,445.3	0.00	3,445.31	5,424.99	1,386.54	7,125.44	6,352.01	5.42	-1.21	0.551
45.00	-43.35	-35.65	0.00	-3,400.4	0.00	3,400.40	5,405.52	1,378.86	7,046.76	6,293.90	5.74	-1.24	0.549
50.00	-40.83	-35.34	0.00	-3,222.1	0.00	3,222.13	5,326.43	1,348.15	6,736.42	6,062.63	7.12	-1.39	0.540
51.00	-40.31	-35.11	0.00	-3,186.8	0.00	3,186.79	4,331.59	1,167.27	5,891.45	4,986.16	7.41	-1.42	0.649
55.00	-39.23	-34.71	0.00	-3,046.3	0.00	3,046.33	4,286.21	1,146.21	5,680.83	4,844.33	8.66	-1.54	0.639
60.00	-37.91	-34.24	0.00	-2,872.8	0.00	2,872.81	4,227.81	1,119.89	5,422.94	4,667.85	10.36	-1.71	0.625
65.00	-36.61	-33.78	0.00	-2,701.6	0.00	2,701.59	4,167.52	1,093.57	5,171.04	4,492.39	12.25	-1.88	0.611
70.00	-35.35	-33.31	0.00	-2,532.7	0.00	2,532.70	4,105.35	1,067.25	4,925.14	4,318.10	14.31	-2.06	0.596
75.00	-34.13	-33.01	0.00	-2,366.2	0.00	2,366.15	4,041.30	1,040.92	4,685.22	4,145.13	16.56	-2.23	0.580
76.00	-33.86	-32.75	0.00	-2,333.2	0.00	2,333.15	4,028.27	1,035.66	4,637.96	4,110.71	17.03	-2.27	0.577
80.00	-32.88	-32.33	0.00	-2,202.1	0.00	2,202.14	3,975.37	1,014.60	4,451.30	3,973.63	18.99	-2.41	0.563
85.00	-31.69	-31.91	0.00	-2,040.5	0.00	2,040.48	3,907.56	988.28	4,223.36	3,803.74	21.6	-2.58	0.546
88.75	-30.83	-31.66	0.00	-1,920.8	0.00	1,920.83	3,855.46	968.54	4,056.34	3,677.47	23.69	-2.71	0.531
90.00	-30.31	-31.37	0.00	-1,881.3	0.00	1,881.26	3,837.86	961.96	4,001.42	3,635.62	24.4	-2.76	0.526
94.75	-28.46	-31.06	0.00	-1,732.2	0.00	1,732.25	3,812.68	952.62	3,924.11	3,576.41	27.23	-2.93	0.493
95.00	-28.37	-30.83	0.00	-1,724.5	0.00	1,724.48	3,809.12	951.30	3,913.28	3,568.09	27.39	-2.93	0.492
100.00	-27.25	-30.34	0.00	-1,570.3	0.00	1,570.32	3,736.78	924.98	3,699.75	3,402.69	30.55	-3.1	0.470
105.00	-26.15	-29.85	0.00	-1,418.6	0.00	1,418.63	3,662.56	898.66	3,492.21	3,239.41	33.88	-3.26	0.446
110.00	-24.31	-28.73	0.00	-1,269.4	0.00	1,269.39	3,586.46	872.34	3,290.66	3,078.39	37.38	-3.42	0.420
111.00	-24.04	-27.98	0.00	-1,240.6	0.00	1,240.65	3,571.01	867.08	3,251.07	3,046.47	38.1	-3.45	0.415
113.00	-23.61	-27.22	0.00	-1,184.7	0.00	1,184.69	3,539.90	856.55	3,172.61	2,982.92	39.56	-3.52	0.405
115.00	-23.20	-27.06	0.00	-1,130.2	0.00	1,130.25	3,508.48	846.02	3,095.10	2,919.78	41.05	-3.58	0.395
116.00	-22.99	-26.37	0.00	-1,103.2	0.00	1,103.19	3,492.66	840.75	3,056.71	2,888.36	41.8	-3.61	0.390
120.00	-22.13	-25.41	0.00	-997.7	0.00	997.70	3,428.62	819.70	2,905.53	2,763.73	44.88	-3.74	0.368
125.00	-21.16	-24.97	0.00	-870.7	0.00	870.68	3,346.87	793.38	2,721.95	2,610.39	48.87	-3.88	0.341
129.00	-20.42	-24.71	0.00	-770.8	0.00	770.82	3,269.48	772.32	2,579.40	2,481.68	52.17	-4	0.318
130.00	-20.13	-24.49	0.00	-746.1	0.00	746.11	3,247.19	767.05	2,544.37	2,447.80	53.01	-4.02	0.312
133.75	-19.12	-24.21	0.00	-654.3	0.00	654.27	1,899.47	506.91	1,666.63	1,424.09	56.21	-4.12	0.472
135.00	-18.94	-24.07	0.00	-624.0	0.00	624.01	1,889.77	502.52	1,637.91	1,404.47	57.29	-4.16	0.457
137.00	-16.04	-20.94	0.00	-575.9	0.00	575.87	1,874.00	495.51	1,592.48	1,373.17	59.05	-4.23	0.430
140.00	-15.63	-20.60	0.00	-513.0	0.00	513.04	1,849.78	484.98	1,525.53	1,326.42	61.74	-4.33	0.397
145.00	-14.98	-20.31	0.00	-410.1	0.00	410.07	1,807.91	467.43	1,417.15	1,249.15	66.36	-4.49	0.338
146.00	-12.74	-18.24	0.00	-389.8	0.00	389.76	1,799.31	463.92	1,395.95	1,233.81	67.3	-4.52	0.325
148.00	-11.53	-15.69	0.00	-353.3	0.00	353.28	1,781.88	456.90	1,354.03	1,203.23	69.21	-4.57	0.301
150.00	-11.29	-15.40	0.00	-321.9	0.00	321.90	1,764.15	449.88	1,312.76	1,172.82	71.13	-4.63	0.282
155.00	-10.71	-15.04	0.00	-244.9	0.00	244.91	1,718.52	432.33	1,212.36	1,097.58	76.04	-4.75	0.231
158.00	-7.95	-11.91	0.00	-198.6	0.00	198.59	1,690.24	421.81	1,154.03	1,053.02	79.04	-4.81	0.194
160.00	-7.74	-11.62	0.00	-174.8	0.00	174.77	1,671.00	414.79	1,115.95	1,023.57	81.07	-4.85	0.176
165.00	-7.22	-11.28	0.00	-116.6	0.00	116.65	1,621.61	397.24	1,023.54	950.94	86.18	-4.93	0.128
168.00	-3.61	-6.87	0.00	-82.8	0.00	82.81	1,591.06	386.71	970.01	908.08	89.29	-4.96	0.094
170.00	-3.48	-6.60	0.00	-69.1	0.00	69.07	1,570.33	379.69	935.12	879.84	91.37	-4.98	0.081
175.00	-3.14	-6.29	0.00	-36.1	0.00	36.06	1,517.17	362.14	850.69	810.41	96.61	-5.02	0.047
178.00	0.00	-5.99	0.00	-17.2	0.00	17.20	1,484.37	351.62	801.96	769.62	99.76	-5.03	0.023

Load Case: 1.2D + 1.0Di + 1.0Wi Normal		50 mph wind with 1" radial ice			24 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00		
Dead load Factor:	1.20			Ice Importance Factor	1.00
Wind Load Factor:	1.00				

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-101.00	-11.26	0.00	-1,483.8	0.00	1,483.84	6,032.65	1,655.24	10,154.34	8,442.81	0	0	0.193
5.00	-98.43	-11.16	0.00	-1,427.6	0.00	1,427.57	5,970.50	1,624.53	9,781.10	8,199.81	0.02	-0.04	0.191
10.00	-95.87	-11.06	0.00	-1,371.8	0.00	1,371.77	5,906.46	1,593.82	9,414.84	7,957.52	0.08	-0.08	0.189
15.00	-93.32	-10.97	0.00	-1,316.5	0.00	1,316.46	5,840.54	1,563.11	9,055.58	7,716.10	0.18	-0.11	0.187
20.00	-90.81	-10.87	0.00	-1,261.6	0.00	1,261.62	5,772.74	1,532.40	8,703.31	7,475.68	0.32	-0.15	0.185
25.00	-88.33	-10.78	0.00	-1,207.2	0.00	1,207.25	5,703.06	1,501.69	8,358.02	7,236.42	0.51	-0.19	0.182
30.00	-85.89	-10.68	0.00	-1,153.4	0.00	1,153.35	5,631.49	1,470.99	8,019.72	6,998.46	0.73	-0.24	0.180
35.00	-83.49	-10.58	0.00	-1,099.9	0.00	1,099.93	5,558.05	1,440.28	7,688.41	6,761.96	1	-0.28	0.178
40.00	-81.12	-10.49	0.00	-1,047.0	0.00	1,047.01	5,482.72	1,409.57	7,364.09	6,527.05	1.31	-0.32	0.175
43.75	-79.37	-10.43	0.00	-1,007.7	0.00	1,007.67	5,424.99	1,386.54	7,125.44	6,352.01	1.58	-0.35	0.173
45.00	-78.44	-10.37	0.00	-994.6	0.00	994.63	5,405.52	1,378.86	7,046.76	6,293.90	1.67	-0.36	0.173
50.00	-74.77	-10.28	0.00	-942.8	0.00	942.80	5,326.43	1,348.15	6,736.42	6,062.63	2.08	-0.41	0.170
51.00	-74.04	-10.23	0.00	-932.5	0.00	932.52	4,331.59	1,167.27	5,891.45	4,986.16	2.16	-0.42	0.204
55.00	-72.40	-10.12	0.00	-891.6	0.00	891.61	4,286.21	1,146.21	5,680.83	4,844.33	2.52	-0.45	0.201
60.00	-70.38	-10.01	0.00	-841.0	0.00	840.99	4,227.81	1,119.89	5,422.94	4,667.85	3.02	-0.5	0.197
65.00	-68.40	-9.89	0.00	-791.0	0.00	790.95	4,167.52	1,093.57	5,171.04	4,492.39	3.57	-0.55	0.193
70.00	-66.46	-9.77	0.00	-741.5	0.00	741.49	4,105.35	1,067.25	4,925.14	4,318.10	4.18	-0.6	0.188
75.00	-64.56	-9.69	0.00	-692.6	0.00	692.63	4,041.30	1,040.92	4,685.22	4,145.13	4.83	-0.65	0.183
76.00	-64.15	-9.63	0.00	-683.0	0.00	682.95	4,028.27	1,035.66	4,637.96	4,110.71	4.97	-0.66	0.182
80.00	-62.66	-9.52	0.00	-644.4	0.00	644.44	3,975.37	1,014.60	4,451.30	3,973.63	5.54	-0.7	0.178
85.00	-60.83	-9.41	0.00	-596.8	0.00	596.85	3,907.56	988.28	4,223.36	3,803.74	6.31	-0.75	0.173
88.75	-59.48	-9.34	0.00	-561.6	0.00	561.58	3,855.46	968.54	4,056.34	3,677.47	6.92	-0.79	0.168
90.00	-58.74	-9.26	0.00	-549.9	0.00	549.91	3,837.86	961.96	4,001.42	3,635.62	7.13	-0.81	0.167
94.75	-56.00	-9.17	0.00	-505.9	0.00	505.91	3,812.68	952.62	3,924.11	3,576.41	7.95	-0.86	0.156
95.00	-55.91	-9.11	0.00	-503.6	0.00	503.62	3,809.12	951.30	3,913.28	3,568.09	8	-0.86	0.156
100.00	-54.17	-8.98	0.00	-458.1	0.00	458.06	3,736.78	924.98	3,699.75	3,402.69	8.92	-0.91	0.149
105.00	-52.47	-8.84	0.00	-413.2	0.00	413.18	3,662.56	898.66	3,492.21	3,239.41	9.9	-0.95	0.142
110.00	-49.29	-8.54	0.00	-369.0	0.00	368.99	3,586.46	872.34	3,290.66	3,078.39	10.92	-1	0.134
111.00	-48.60	-8.11	0.00	-360.4	0.00	360.45	3,571.01	867.08	3,251.07	3,046.47	11.13	-1.01	0.132
113.00	-47.69	-7.79	0.00	-344.2	0.00	344.22	3,539.90	856.55	3,172.61	2,982.92	11.56	-1.03	0.129
115.00	-47.04	-7.75	0.00	-328.6	0.00	328.64	3,508.48	846.02	3,095.10	2,919.78	11.99	-1.05	0.126
116.00	-46.52	-7.46	0.00	-320.9	0.00	320.89	3,492.66	840.75	3,056.71	2,888.36	12.21	-1.06	0.124
120.00	-44.93	-7.14	0.00	-291.1	0.00	291.06	3,428.62	819.70	2,905.53	2,763.73	13.11	-1.09	0.118
125.00	-43.39	-7.01	0.00	-255.4	0.00	255.37	3,346.87	793.38	2,721.95	2,610.39	14.28	-1.13	0.111
129.00	-42.20	-6.93	0.00	-227.3	0.00	227.33	3,269.48	772.32	2,579.40	2,481.68	15.24	-1.17	0.105
130.00	-41.78	-6.87	0.00	-220.4	0.00	220.40	3,247.19	767.05	2,544.37	2,447.80	15.49	-1.18	0.103
133.75	-40.23	-6.78	0.00	-194.6	0.00	194.64	1,899.47	506.91	1,666.63	1,424.09	16.43	-1.21	0.158
135.00	-39.94	-6.74	0.00	-186.2	0.00	186.17	1,889.77	502.52	1,637.91	1,404.47	16.74	-1.22	0.154
137.00	-34.19	-5.96	0.00	-172.7	0.00	172.69	1,874.00	495.51	1,592.48	1,373.17	17.26	-1.24	0.144
140.00	-33.51	-5.86	0.00	-154.8	0.00	154.79	1,849.78	484.98	1,525.53	1,326.42	18.04	-1.27	0.135
145.00	-32.40	-5.78	0.00	-125.5	0.00	125.47	1,807.91	467.43	1,417.15	1,249.15	19.4	-1.31	0.119
146.00	-28.26	-5.24	0.00	-119.7	0.00	119.70	1,799.31	463.92	1,395.95	1,233.81	19.67	-1.32	0.113
148.00	-24.99	-4.65	0.00	-109.2	0.00	109.22	1,781.88	456.90	1,354.03	1,203.23	20.23	-1.34	0.105
150.00	-24.57	-4.57	0.00	-99.9	0.00	99.91	1,764.15	449.88	1,312.76	1,172.82	20.8	-1.36	0.099
155.00	-23.56	-4.45	0.00	-77.1	0.00	77.08	1,718.52	432.33	1,212.36	1,097.58	22.24	-1.4	0.084
158.00	-17.89	-3.62	0.00	-63.5	0.00	63.47	1,690.24	421.81	1,154.03	1,053.02	23.13	-1.42	0.071
160.00	-17.50	-3.53	0.00	-56.2	0.00	56.23	1,671.00	414.79	1,115.95	1,023.57	23.72	-1.43	0.065
165.00	-16.57	-3.42	0.00	-38.6	0.00	38.57	1,621.61	397.24	1,023.54	950.94	25.23	-1.45	0.051
168.00	-8.76	-2.24	0.00	-28.3	0.00	28.31	1,591.06	386.71	970.01	908.08	26.15	-1.47	0.037
170.00	-8.48	-2.15	0.00	-23.8	0.00	23.84	1,570.33	379.69	935.12	879.84	26.76	-1.47	0.033
175.00	-7.79	-2.05	0.00	-13.1	0.00	13.07	1,517.17	362.14	850.69	810.41	28.31	-1.49	0.021
178.00	0.00	-1.84	0.00	-6.9	0.00	6.93	1,484.37	351.62	801.96	769.62	29.25	-1.49	0.009

Load Case: 1.0D + 1.0W Service Normal 60 mph Wind with No Ice 23 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-65.04	-8.82	0.00	-1,146.8	0.00	1,146.79	6,032.65	1,655.24	10,154.34	8,442.81	0	0	0.147
5.00	-63.17	-8.73	0.00	-1,102.7	0.00	1,102.70	5,970.50	1,624.53	9,781.10	8,199.81	0.02	-0.03	0.145
10.00	-61.34	-8.64	0.00	-1,059.1	0.00	1,059.07	5,906.46	1,593.82	9,414.84	7,957.52	0.06	-0.06	0.144
15.00	-59.53	-8.55	0.00	-1,015.9	0.00	1,015.89	5,840.54	1,563.11	9,055.58	7,716.10	0.14	-0.09	0.142
20.00	-57.75	-8.46	0.00	-973.2	0.00	973.15	5,772.74	1,532.40	8,703.31	7,475.68	0.25	-0.12	0.140
25.00	-56.01	-8.37	0.00	-930.9	0.00	930.86	5,703.06	1,501.69	8,358.02	7,236.42	0.39	-0.15	0.138
30.00	-54.29	-8.29	0.00	-889.0	0.00	888.99	5,631.49	1,470.99	8,019.72	6,998.46	0.57	-0.18	0.137
35.00	-52.60	-8.20	0.00	-847.6	0.00	847.57	5,558.05	1,440.28	7,688.41	6,761.96	0.77	-0.21	0.135
40.00	-50.94	-8.11	0.00	-806.6	0.00	806.59	5,482.72	1,409.57	7,364.09	6,527.05	1.01	-0.25	0.133
43.75	-49.72	-8.06	0.00	-776.2	0.00	776.17	5,424.99	1,386.54	7,125.44	6,352.01	1.22	-0.27	0.131
45.00	-49.02	-8.00	0.00	-766.1	0.00	766.09	5,405.52	1,378.86	7,046.76	6,293.90	1.29	-0.28	0.131
50.00	-46.28	-7.93	0.00	-726.1	0.00	726.07	5,326.43	1,348.15	6,736.42	6,062.63	1.6	-0.31	0.128
51.00	-45.73	-7.88	0.00	-718.1	0.00	718.14	4,331.59	1,167.27	5,891.45	4,986.16	1.67	-0.32	0.155
55.00	-44.62	-7.80	0.00	-686.6	0.00	686.60	4,286.21	1,146.21	5,680.83	4,844.33	1.95	-0.35	0.152
60.00	-43.24	-7.70	0.00	-647.6	0.00	647.63	4,227.81	1,119.89	5,422.94	4,667.85	2.33	-0.39	0.149
65.00	-41.89	-7.59	0.00	-609.2	0.00	609.15	4,167.52	1,093.57	5,171.04	4,492.39	2.76	-0.42	0.146
70.00	-40.57	-7.49	0.00	-571.2	0.00	571.18	4,105.35	1,067.25	4,925.14	4,318.10	3.22	-0.46	0.142
75.00	-39.27	-7.42	0.00	-533.7	0.00	533.72	4,041.30	1,040.92	4,685.22	4,145.13	3.73	-0.5	0.139
76.00	-39.00	-7.37	0.00	-526.3	0.00	526.30	4,028.27	1,035.66	4,637.96	4,110.71	3.83	-0.51	0.138
80.00	-37.99	-7.28	0.00	-496.8	0.00	496.82	3,975.37	1,014.60	4,451.30	3,973.63	4.28	-0.54	0.135
85.00	-36.74	-7.18	0.00	-460.4	0.00	460.44	3,907.56	988.28	4,223.36	3,803.74	4.87	-0.58	0.131
88.75	-35.83	-7.13	0.00	-433.5	0.00	433.49	3,855.46	968.54	4,056.34	3,677.47	5.33	-0.61	0.127
90.00	-35.29	-7.07	0.00	-424.6	0.00	424.58	3,837.86	961.96	4,001.42	3,635.62	5.5	-0.62	0.126
94.75	-33.26	-7.00	0.00	-391.0	0.00	391.02	3,812.68	952.62	3,924.11	3,576.41	6.13	-0.66	0.118
95.00	-33.20	-6.95	0.00	-389.3	0.00	389.27	3,809.12	951.30	3,913.28	3,568.09	6.17	-0.66	0.118
100.00	-32.02	-6.84	0.00	-354.5	0.00	354.53	3,736.78	924.98	3,699.75	3,402.69	6.88	-0.7	0.113
105.00	-30.86	-6.73	0.00	-320.3	0.00	320.34	3,662.56	898.66	3,492.21	3,239.41	7.63	-0.74	0.107
110.00	-28.79	-6.48	0.00	-286.7	0.00	286.69	3,586.46	872.34	3,290.66	3,078.39	8.42	-0.77	0.101
111.00	-28.47	-6.31	0.00	-280.2	0.00	280.21	3,571.01	867.08	3,251.07	3,046.47	8.58	-0.78	0.100
113.00	-27.97	-6.14	0.00	-267.6	0.00	267.59	3,539.90	856.55	3,172.61	2,982.92	8.91	-0.79	0.098
115.00	-27.53	-6.11	0.00	-255.3	0.00	255.31	3,508.48	846.02	3,095.10	2,919.78	9.25	-0.81	0.095
116.00	-27.29	-5.95	0.00	-249.2	0.00	249.20	3,492.66	840.75	3,056.71	2,888.36	9.42	-0.81	0.094
120.00	-26.32	-5.74	0.00	-225.4	0.00	225.39	3,428.62	819.70	2,905.53	2,763.73	10.11	-0.84	0.089
125.00	-25.28	-5.64	0.00	-196.7	0.00	196.71	3,346.87	793.38	2,721.95	2,610.39	11.01	-0.88	0.083
129.00	-24.47	-5.58	0.00	-174.2	0.00	174.16	3,269.48	772.32	2,579.40	2,481.68	11.76	-0.9	0.078
130.00	-24.16	-5.53	0.00	-168.6	0.00	168.58	3,247.19	767.05	2,544.37	2,447.80	11.95	-0.91	0.076
133.75	-23.04	-5.47	0.00	-147.8	0.00	147.84	1,899.47	506.91	1,666.63	1,424.09	12.67	-0.93	0.116
135.00	-22.86	-5.44	0.00	-141.0	0.00	141.00	1,889.77	502.52	1,637.91	1,404.47	12.91	-0.94	0.113
137.00	-19.44	-4.73	0.00	-130.1	0.00	130.13	1,874.00	495.51	1,592.48	1,373.17	13.31	-0.95	0.105
140.00	-19.00	-4.65	0.00	-115.9	0.00	115.93	1,849.78	484.98	1,525.53	1,326.42	13.92	-0.98	0.098
145.00	-18.29	-4.59	0.00	-92.7	0.00	92.66	1,807.91	467.43	1,417.15	1,249.15	14.96	-1.01	0.084
146.00	-15.65	-4.12	0.00	-88.1	0.00	88.07	1,799.31	463.92	1,395.95	1,233.81	15.17	-1.02	0.080
148.00	-14.11	-3.55	0.00	-79.8	0.00	79.83	1,781.88	456.90	1,354.03	1,203.23	15.6	-1.03	0.074
150.00	-13.84	-3.48	0.00	-72.7	0.00	72.73	1,764.15	449.88	1,312.76	1,172.82	16.04	-1.04	0.070
155.00	-13.19	-3.40	0.00	-55.3	0.00	55.32	1,718.52	432.33	1,212.36	1,097.58	17.15	-1.07	0.058
158.00	-9.87	-2.69	0.00	-44.8	0.00	44.85	1,690.24	421.81	1,154.03	1,053.02	17.82	-1.09	0.048
160.00	-9.63	-2.63	0.00	-39.5	0.00	39.46	1,671.00	414.79	1,115.95	1,023.57	18.28	-1.09	0.044
165.00	-9.03	-2.55	0.00	-26.3	0.00	26.32	1,621.61	397.24	1,023.54	950.94	19.44	-1.11	0.033
168.00	-4.63	-1.55	0.00	-18.7	0.00	18.67	1,591.06	386.71	970.01	908.08	20.14	-1.12	0.023
170.00	-4.47	-1.49	0.00	-15.6	0.00	15.56	1,570.33	379.69	935.12	879.84	20.61	-1.12	0.021
175.00	-4.06	-1.42	0.00	-8.1	0.00	8.11	1,517.17	362.14	850.69	810.41	21.79	-1.13	0.013
178.00	0.00	-1.34	0.00	-3.8	0.00	3.85	1,484.37	351.62	801.96	769.62	22.5	-1.14	0.005

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

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

Spectral Response Acceleration for Short Period (S_S):	0.187
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.055
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.199
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.088
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_S:	0.030
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	2.720
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	65.040 k
Seismic Base Shear (E):	1.950 k

1.2D + 1.0Ev + 1.0Eh Normal **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
51	176.5	235	7,324	0.009	18	291
50	172.5	405	12,064	0.015	29	503
49	169	167	4,768	0.006	12	207
48	166.5	350	9,695	0.012	24	434
47	162.5	596	15,750	0.020	38	740
46	159	243	6,152	0.008	15	302
45	156.5	382	9,359	0.012	23	474
44	152.5	650	15,128	0.019	37	807
43	149	265	5,882	0.007	14	329
42	147	279	6,031	0.008	15	346
41	145.5	141	2,976	0.004	7	174
40	142.5	713	14,478	0.018	35	884
39	138.5	436	8,363	0.010	20	541
38	136	297	5,500	0.007	13	369
37	134.375	187	3,381	0.004	8	232
36	131.875	1,119	19,454	0.024	47	1,387
35	129.5	302	5,070	0.006	12	375
34	127	815	13,143	0.016	32	1,010
33	122.5	1,042	15,630	0.020	38	1,291
32	118	854	11,895	0.015	29	1,059
31	115.5	216	2,887	0.004	7	268
30	114	436	5,666	0.007	14	541
29	112	441	5,536	0.007	13	547
28	110.5	223	2,721	0.003	7	276
27	107.5	1,130	13,055	0.016	32	1,401
26	102.5	1,155	12,136	0.015	30	1,432
25	97.5	1,181	11,224	0.014	27	1,464
24	94.875	60	537	0.001	1	74
23	92.375	2,021	17,245	0.022	42	2,506
22	89.375	539	4,309	0.005	11	669
21	86.875	915	6,904	0.009	17	1,134
20	82.5	1,242	8,454	0.011	21	1,540
19	78	1,012	6,157	0.008	15	1,255
18	75.5	256	1,458	0.002	4	317

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
17	72.5	1,294	6,801	0.008	17	1,604
16	67.5	1,319	6,011	0.008	15	1,636
15	62.5	1,345	5,253	0.007	13	1,667
14	57.5	1,370	4,531	0.006	11	1,699
13	53	1,115	3,131	0.004	8	1,382
12	50.5	542	1,382	0.002	3	672
11	47.5	2,743	6,190	0.008	15	3,401
10	44.375	694	1,367	0.002	3	861
9	41.875	1,220	2,140	0.003	5	1,513
8	37.5	1,653	2,325	0.003	6	2,050
7	32.5	1,683	1,778	0.002	4	2,087
6	27.5	1,713	1,295	0.002	3	2,124
5	22.5	1,743	882	0.001	2	2,161
4	17.5	1,772	543	0.001	1	2,198
3	12.5	1,802	282	0.000	1	2,235
2	7.5	1,832	103	0.000	0	2,271
1	2.5	1,862	12	0.000	0	2,308
Generic 20' Omni	178	55	1,743	0.002	4	68
Generic 18' Dipole	178	110	3,485	0.004	8	136
Generic 18' Dipole	120	110	1,584	0.002	4	136
Generic 8' Yagi	178	30	951	0.001	2	37
Generic 8' Yagi	116	30	404	0.000	1	37
Generic 8' Yagi	113	30	383	0.000	1	37
Generic 2' x 4' Rectangular Grid Dish	178	40	1,267	0.002	3	50
Generic 2' x 4' Rectangular Grid Dish	111	40	493	0.001	1	50
Samsung B5/B13 RRH-BR04C	178	211	6,682	0.008	16	261
Samsung B2/B66A RRH-BR049	178	253	8,022	0.010	20	314
Raycap RCMDC-6627-PF-48	178	32	1,014	0.001	2	40
Samsung MT6407-77A	178	245	7,756	0.010	19	304
Commscope NHH-65B-R2B	178	262	8,308	0.010	20	325
Commscope LNX-8513DS-VTM (39.2 lb)	178	118	3,726	0.005	9	146
Generic Flat Platform with Handrails	178	2,500	79,210	0.099	193	3,100
Generic Flat Platform with Handrails	146	2,500	53,290	0.067	130	3,100
Generic Flat Platform with Handrails	137	2,500	46,922	0.059	114	3,100
Powerwave Allgon LGP21401	168	85	2,388	0.003	6	105
Raycap DC6-48-60-18-8F	168	60	1,693	0.002	4	74
Ericsson RRUS 8843 B2, B66A	168	216	6,096	0.008	15	268
Ericsson RRUS 4478 B14	168	180	5,072	0.006	12	223
Ericsson RRUS 4449 B5, B12	168	213	6,012	0.008	15	264
Powerwave Allgon 7770.00	168	105	2,964	0.004	7	130
Generic Mount Reinforcement	168	200	5,645	0.007	14	248
Commscope NNH4-65B-R6	168	269	7,595	0.010	19	334
CCI DMP65R-BU6DA	168	238	6,723	0.008	16	295
Site Pro1 RMQP-496-HK	168	2,500	70,560	0.088	172	3,100
Alcatel-Lucent 2X50W RRH w/o Filter	158	159	3,969	0.005	10	197
Alcatel-Lucent 1900MHz RRH (65MHz)	158	180	4,494	0.006	11	223
Alcatel-Lucent 800 MHz RRH w/ Notch Filter	158	185	4,628	0.006	11	230
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	158	210	5,242	0.006	13	260
RFS APXVSPP18-C-A20	158	171	4,269	0.005	10	212
Commscope DT465B-2XR	158	174	4,344	0.005	11	216
Generic Round Low Profile Platform	158	1,875	46,808	0.058	114	2,325
Ericsson Radio 4449 B71 B85A	148	225	4,928	0.006	12	279
Ericsson Radio 4460 B25+B66	148	327	7,163	0.009	17	405
Ericsson AIR 6419 B41	148	250	5,474	0.007	13	310
Commscope VV-65B-R1B	148	88	1,939	0.002	5	110
RFS APXVAARR24_43-U-NA20	148	384	8,405	0.010	20	476
Raycap RDIDC-9181-PF-48	137	22	411	0.000	1	27
Fujitsu TA08025-B605	137	225	4,223	0.005	10	279
Fujitsu TA08025-B604	137	192	3,598	0.004	9	238
JMA Wireless MX08FRO665-21	137	194	3,632	0.004	9	240
Generic 9' Omni	113	25	319	0.000	1	31
Generic 22' Dipole	111	66	813	0.001	2	82
Generic Flat T-Arm	110	938	11,344	0.014	28	1,162
Generic GPS	76	10	58	0.000	0	12
		65,040	800,406	1.000	1,951	80,643

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
51	176.5	235	7,324	0.009	18	202
50	172.5	405	12,064	0.015	29	349
49	169	167	4,768	0.006	12	144
48	166.5	350	9,695	0.012	24	301
47	162.5	596	15,750	0.020	38	513
46	159	243	6,152	0.008	15	209
45	156.5	382	9,359	0.012	23	329
44	152.5	650	15,128	0.019	37	559
43	149	265	5,882	0.007	14	228
42	147	279	6,031	0.008	15	240
41	145.5	141	2,976	0.004	7	121
40	142.5	713	14,478	0.018	35	613
39	138.5	436	8,363	0.010	20	375
38	136	297	5,500	0.007	13	256
37	134.375	187	3,381	0.004	8	161
36	131.875	1,119	19,454	0.024	47	962
35	129.5	302	5,070	0.006	12	260
34	127	815	13,143	0.016	32	701
33	122.5	1,042	15,630	0.020	38	896
32	118	854	11,895	0.015	29	735
31	115.5	216	2,887	0.004	7	186
30	114	436	5,666	0.007	14	375
29	112	441	5,536	0.007	13	380
28	110.5	223	2,721	0.003	7	192
27	107.5	1,130	13,055	0.016	32	972
26	102.5	1,155	12,136	0.015	30	994
25	97.5	1,181	11,224	0.014	27	1,016
24	94.875	60	537	0.001	1	51
23	92.375	2,021	17,245	0.022	42	1,738
22	89.375	539	4,309	0.005	11	464
21	86.875	915	6,904	0.009	17	787
20	82.5	1,242	8,454	0.011	21	1,068
19	78	1,012	6,157	0.008	15	870
18	75.5	256	1,458	0.002	4	220
17	72.5	1,294	6,801	0.008	17	1,113
16	67.5	1,319	6,011	0.008	15	1,135
15	62.5	1,345	5,253	0.007	13	1,157
14	57.5	1,370	4,531	0.006	11	1,179
13	53	1,115	3,131	0.004	8	959
12	50.5	542	1,382	0.002	3	466
11	47.5	2,743	6,190	0.008	15	2,360
10	44.375	694	1,367	0.002	3	597
9	41.875	1,220	2,140	0.003	5	1,050
8	37.5	1,653	2,325	0.003	6	1,422
7	32.5	1,683	1,778	0.002	4	1,448
6	27.5	1,713	1,295	0.002	3	1,473
5	22.5	1,743	882	0.001	2	1,499
4	17.5	1,772	543	0.001	1	1,524
3	12.5	1,802	282	0.000	1	1,550
2	7.5	1,832	103	0.000	0	1,576
1	2.5	1,862	12	0.000	0	1,601
Generic 20' Omni	178	55	1,743	0.002	4	47
Generic 18' Dipole	178	110	3,485	0.004	8	95
Generic 18' Dipole	120	110	1,584	0.002	4	95
Generic 8' Yagi	178	30	951	0.001	2	26
Generic 8' Yagi	116	30	404	0.000	1	26
Generic 8' Yagi	113	30	383	0.000	1	26
Generic 2' x 4' Rectangular Grid Dish	178	40	1,267	0.002	3	34
Generic 2' x 4' Rectangular Grid Dish	111	40	493	0.001	1	34
Samsung B5/B13 RRH-BR04C	178	211	6,682	0.008	16	181
Samsung B2/B66A RRH-BR049	178	253	8,022	0.010	20	218
Raycap RCMDC-6627-PF-48	178	32	1,014	0.001	2	28
Samsung MT6407-77A	178	245	7,756	0.010	19	211
Commscope NHH-65B-R2B	178	262	8,308	0.010	20	226
Commscope LNX-8513DS-VTM (39.2 lb)	178	118	3,726	0.005	9	101
Generic Flat Platform with Handrails	178	2,500	79,210	0.099	193	2,150
Generic Flat Platform with Handrails	146	2,500	53,290	0.067	130	2,150
Generic Flat Platform with Handrails	137	2,500	46,922	0.059	114	2,150

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
Powerwave Allgon LGP21401	168	85	2,388	0.003	6	73
Raycap DC6-48-60-18-8F	168	60	1,693	0.002	4	52
Ericsson RRUS 8843 B2, B66A	168	216	6,096	0.008	15	186
Ericsson RRUS 4478 B14	168	180	5,072	0.006	12	155
Ericsson RRUS 4449 B5, B12	168	213	6,012	0.008	15	183
Powerwave Allgon 7770.00	168	105	2,964	0.004	7	90
Generic Mount Reinforcement	168	200	5,645	0.007	14	172
Commscope NNH4-65B-R6	168	269	7,595	0.010	19	231
CCI DMP65R-BU6DA	168	238	6,723	0.008	16	205
Site Pro1 RMQP-496-HK	168	2,500	70,560	0.088	172	2,150
Alcatel-Lucent 2X50W RRH w/o Filter	158	159	3,969	0.005	10	137
Alcatel-Lucent 1900MHz RRH (65MHz)	158	180	4,494	0.006	11	155
Alcatel-Lucent 800 MHz RRH w/ Notch Filter	158	185	4,628	0.006	11	159
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	158	210	5,242	0.006	13	181
RFS APXVSPP18-C-A20	158	171	4,269	0.005	10	147
Commscope DT465B-2XR	158	174	4,344	0.005	11	150
Generic Round Low Profile Platform	158	1,875	46,808	0.058	114	1,613
Ericsson Radio 4449 B71 B85A	148	225	4,928	0.006	12	194
Ericsson Radio 4460 B25+B66	148	327	7,163	0.009	17	281
Ericsson AIR 6419 B41	148	250	5,474	0.007	13	215
Commscope VV-65B-R1B	148	88	1,939	0.002	5	76
RFS APXVAARR24_43-U-NA20	148	384	8,405	0.010	20	330
Raycap RDIDC-9181-PF-48	137	22	411	0.000	1	19
Fujitsu TA08025-B605	137	225	4,223	0.005	10	194
Fujitsu TA08025-B604	137	192	3,598	0.004	9	165
JMA Wireless MX08FRO665-21	137	194	3,632	0.004	9	166
Generic 9' Omni	113	25	319	0.000	1	22
Generic 22' Dipole	111	66	813	0.001	2	57
Generic Flat T-Arm	110	938	11,344	0.014	28	806
Generic GPS	76	10	58	0.000	0	9
		65,040	800,406	1.000	1,951	55,942

1.2D + 1.0Ev + 1.0Eh Normal **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-78.33	-1.96	0.00	-291.85	0.00	291.85	6,032.65	1,655.24	10,154	8,442.81	0.00	0.00	0.05
5.00	-76.06	-1.97	0.00	-282.07	0.00	282.07	5,970.50	1,624.53	9,781	8,199.81	0.00	-0.01	0.05
10.00	-73.83	-1.97	0.00	-272.24	0.00	272.24	5,906.46	1,593.82	9,415	7,957.52	0.02	-0.02	0.05
15.00	-71.63	-1.98	0.00	-262.38	0.00	262.38	5,840.54	1,563.11	9,056	7,716.10	0.04	-0.02	0.05
20.00	-69.47	-1.99	0.00	-252.47	0.00	252.47	5,772.74	1,532.40	8,703	7,475.68	0.06	-0.03	0.05
25.00	-67.35	-1.99	0.00	-242.53	0.00	242.53	5,703.06	1,501.69	8,358	7,236.42	0.10	-0.04	0.05
30.00	-65.26	-2.00	0.00	-232.56	0.00	232.56	5,631.49	1,470.99	8,020	6,998.46	0.15	-0.05	0.05
35.00	-63.21	-2.00	0.00	-222.58	0.00	222.58	5,558.05	1,440.28	7,688	6,761.96	0.20	-0.06	0.04
40.00	-61.69	-2.00	0.00	-212.58	0.00	212.58	5,482.72	1,409.57	7,364	6,527.05	0.26	-0.06	0.04
43.75	-60.83	-2.00	0.00	-205.08	0.00	205.08	5,424.99	1,386.54	7,125	6,352.01	0.31	-0.07	0.04
45.00	-57.43	-1.99	0.00	-202.58	0.00	202.58	5,405.52	1,378.86	7,047	6,293.90	0.33	-0.07	0.04
50.00	-56.76	-1.99	0.00	-192.65	0.00	192.65	5,326.43	1,348.15	6,736	6,062.63	0.41	-0.08	0.04
51.00	-55.38	-1.98	0.00	-190.66	0.00	190.66	4,331.59	1,167.27	5,891	4,986.16	0.43	-0.08	0.05
55.00	-53.68	-1.98	0.00	-182.73	0.00	182.73	4,286.21	1,146.21	5,681	4,844.33	0.50	-0.09	0.05
60.00	-52.01	-1.97	0.00	-172.85	0.00	172.85	4,227.81	1,119.89	5,423	4,667.85	0.60	-0.10	0.05
65.00	-50.37	-1.96	0.00	-163.00	0.00	163.00	4,167.52	1,093.57	5,171	4,492.39	0.72	-0.11	0.05
70.00	-48.77	-1.95	0.00	-153.19	0.00	153.19	4,105.35	1,067.25	4,925	4,318.10	0.84	-0.12	0.05
75.00	-48.45	-1.95	0.00	-143.43	0.00	143.43	4,041.30	1,040.92	4,685	4,145.13	0.97	-0.13	0.05
76.00	-47.18	-1.94	0.00	-141.48	0.00	141.48	4,028.27	1,035.66	4,638	4,110.71	1.00	-0.13	0.05
80.00	-45.64	-1.92	0.00	-133.72	0.00	133.72	3,975.37	1,014.60	4,451	3,973.63	1.12	-0.14	0.05
85.00	-44.51	-1.91	0.00	-124.11	0.00	124.11	3,907.56	988.28	4,223	3,803.74	1.27	-0.15	0.04
88.75	-43.84	-1.90	0.00	-116.95	0.00	116.95	3,855.46	968.54	4,056	3,677.47	1.39	-0.16	0.04
90.00	-41.33	-1.86	0.00	-114.58	0.00	114.58	3,837.86	961.96	4,001	3,635.62	1.44	-0.16	0.04
94.75	-41.26	-1.86	0.00	-105.76	0.00	105.76	3,812.68	952.62	3,924	3,576.41	1.61	-0.17	0.04
95.00	-39.80	-1.83	0.00	-105.29	0.00	105.29	3,809.12	951.30	3,913	3,568.09	1.61	-0.17	0.04
100.00	-38.36	-1.80	0.00	-96.14	0.00	96.14	3,736.78	924.98	3,700	3,402.69	1.80	-0.19	0.04
105.00	-36.96	-1.77	0.00	-87.12	0.00	87.12	3,662.56	898.66	3,492	3,239.41	2.00	-0.20	0.04

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
110.00	-35.52	-1.74	0.00	-78.25	0.00	78.25	3,586.46	872.34	3,291	3,078.39	2.21	-0.20	0.04
111.00	-34.85	-1.72	0.00	-76.52	0.00	76.52	3,571.01	867.08	3,251	3,046.47	2.26	-0.21	0.04
113.00	-34.24	-1.71	0.00	-73.07	0.00	73.07	3,539.90	856.55	3,173	2,982.92	2.34	-0.21	0.03
115.00	-33.97	-1.70	0.00	-69.66	0.00	69.66	3,508.48	846.02	3,095	2,919.78	2.43	-0.21	0.03
116.00	-32.87	-1.67	0.00	-67.96	0.00	67.96	3,492.66	840.75	3,057	2,888.36	2.48	-0.22	0.03
120.00	-31.44	-1.62	0.00	-61.29	0.00	61.29	3,428.62	819.70	2,906	2,763.73	2.66	-0.22	0.03
125.00	-30.43	-1.59	0.00	-53.17	0.00	53.17	3,346.87	793.38	2,722	2,610.39	2.90	-0.23	0.03
129.00	-30.06	-1.58	0.00	-46.80	0.00	46.80	3,269.48	772.32	2,579	2,481.68	3.10	-0.24	0.03
130.00	-28.67	-1.53	0.00	-45.22	0.00	45.22	3,247.19	767.05	2,544	2,447.80	3.15	-0.24	0.03
133.75	-28.44	-1.52	0.00	-39.48	0.00	39.48	1,899.47	506.91	1,667	1,424.09	3.34	-0.25	0.04
135.00	-28.07	-1.51	0.00	-37.58	0.00	37.58	1,889.77	502.52	1,638	1,404.47	3.41	-0.25	0.04
137.00	-23.65	-1.33	0.00	-34.56	0.00	34.56	1,874.00	495.51	1,592	1,373.17	3.51	-0.25	0.04
140.00	-22.76	-1.29	0.00	-30.58	0.00	30.58	1,849.78	484.98	1,526	1,326.42	3.68	-0.26	0.04
145.00	-22.59	-1.29	0.00	-24.11	0.00	24.11	1,807.91	467.43	1,417	1,249.15	3.95	-0.27	0.03
146.00	-19.14	-1.13	0.00	-22.83	0.00	22.83	1,799.31	463.92	1,396	1,233.81	4.01	-0.27	0.03
148.00	-17.24	-1.04	0.00	-20.58	0.00	20.58	1,781.88	456.90	1,354	1,203.23	4.12	-0.27	0.03
150.00	-16.43	-1.00	0.00	-18.50	0.00	18.50	1,764.15	449.88	1,313	1,172.82	4.24	-0.28	0.03
155.00	-15.96	-0.97	0.00	-13.52	0.00	13.52	1,718.52	432.33	1,212	1,097.58	4.54	-0.28	0.02
158.00	-11.99	-0.76	0.00	-10.60	0.00	10.60	1,690.24	421.81	1,154	1,053.02	4.72	-0.29	0.02
160.00	-11.25	-0.72	0.00	-9.09	0.00	9.09	1,671.00	414.79	1,116	1,023.57	4.84	-0.29	0.02
165.00	-10.82	-0.69	0.00	-5.50	0.00	5.50	1,621.61	397.24	1,024	950.94	5.14	-0.29	0.01
168.00	-5.57	-0.37	0.00	-3.42	0.00	3.42	1,591.06	386.71	970	908.08	5.33	-0.30	0.01
170.00	-5.07	-0.34	0.00	-2.68	0.00	2.68	1,570.33	379.69	935	879.84	5.45	-0.30	0.01
175.00	-4.78	-0.32	0.00	-0.97	0.00	0.97	1,517.17	362.14	851	810.41	5.76	-0.30	0.00
178.00	0.00	-0.30	0.00	0.00	0.00	0.00	1,484.37	351.62	802	769.62	5.95	-0.30	0.00

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

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-54.34	-1.95	0.00	-287.02	0.00	287.02	6,032.65	1,655.24	10,154	8,442.81	0.00	0.00	0.04
5.00	-52.76	-1.96	0.00	-277.25	0.00	277.25	5,970.50	1,624.53	9,781	8,199.81	0.00	-0.01	0.04
10.00	-51.21	-1.97	0.00	-267.44	0.00	267.44	5,906.46	1,593.82	9,415	7,957.52	0.02	-0.01	0.04
15.00	-49.69	-1.97	0.00	-257.61	0.00	257.61	5,840.54	1,563.11	9,056	7,716.10	0.04	-0.02	0.04
20.00	-48.19	-1.97	0.00	-247.76	0.00	247.76	5,772.74	1,532.40	8,703	7,475.68	0.06	-0.03	0.04
25.00	-46.72	-1.98	0.00	-237.88	0.00	237.88	5,703.06	1,501.69	8,358	7,236.42	0.10	-0.04	0.04
30.00	-45.27	-1.98	0.00	-228.00	0.00	228.00	5,631.49	1,470.99	8,020	6,998.46	0.14	-0.05	0.04
35.00	-43.85	-1.98	0.00	-218.11	0.00	218.11	5,558.05	1,440.28	7,688	6,761.96	0.20	-0.05	0.04
40.00	-42.80	-1.98	0.00	-208.22	0.00	208.22	5,482.72	1,409.57	7,364	6,527.05	0.26	-0.06	0.04
43.75	-42.20	-1.98	0.00	-200.80	0.00	200.80	5,424.99	1,386.54	7,125	6,352.01	0.31	-0.07	0.04
45.00	-39.84	-1.96	0.00	-198.33	0.00	198.33	5,405.52	1,378.86	7,047	6,293.90	0.33	-0.07	0.04
50.00	-39.37	-1.96	0.00	-188.52	0.00	188.52	5,326.43	1,348.15	6,736	6,062.63	0.41	-0.08	0.04
51.00	-38.41	-1.96	0.00	-186.56	0.00	186.56	4,331.59	1,167.27	5,891	4,986.16	0.42	-0.08	0.05
55.00	-37.23	-1.95	0.00	-178.74	0.00	178.74	4,286.21	1,146.21	5,681	4,844.33	0.50	-0.09	0.05
60.00	-36.08	-1.94	0.00	-169.00	0.00	169.00	4,227.81	1,119.89	5,423	4,667.85	0.59	-0.10	0.05
65.00	-34.94	-1.93	0.00	-159.30	0.00	159.30	4,167.52	1,093.57	5,171	4,492.39	0.70	-0.11	0.04
70.00	-33.83	-1.92	0.00	-149.65	0.00	149.65	4,105.35	1,067.25	4,925	4,318.10	0.82	-0.12	0.04
75.00	-33.61	-1.92	0.00	-140.07	0.00	140.07	4,041.30	1,040.92	4,685	4,145.13	0.95	-0.13	0.04
76.00	-32.73	-1.90	0.00	-138.15	0.00	138.15	4,028.27	1,035.66	4,638	4,110.71	0.98	-0.13	0.04
80.00	-31.66	-1.88	0.00	-130.55	0.00	130.55	3,975.37	1,014.60	4,451	3,973.63	1.09	-0.14	0.04
85.00	-30.87	-1.87	0.00	-121.12	0.00	121.12	3,907.56	988.28	4,223	3,803.74	1.25	-0.15	0.04
88.75	-30.41	-1.86	0.00	-114.11	0.00	114.11	3,855.46	968.54	4,056	3,677.47	1.37	-0.16	0.04
90.00	-28.67	-1.82	0.00	-111.79	0.00	111.79	3,837.86	961.96	4,001	3,635.62	1.41	-0.16	0.04
94.75	-28.62	-1.82	0.00	-103.15	0.00	103.15	3,812.68	952.62	3,924	3,576.41	1.57	-0.17	0.04
95.00	-27.61	-1.79	0.00	-102.70	0.00	102.70	3,809.12	951.30	3,913	3,568.09	1.58	-0.17	0.04
100.00	-26.61	-1.76	0.00	-93.74	0.00	93.74	3,736.78	924.98	3,700	3,402.69	1.77	-0.18	0.04
105.00	-25.64	-1.73	0.00	-84.93	0.00	84.93	3,662.56	898.66	3,492	3,239.41	1.96	-0.19	0.03
110.00	-24.64	-1.70	0.00	-76.27	0.00	76.27	3,586.46	872.34	3,291	3,078.39	2.17	-0.20	0.03
111.00	-24.17	-1.68	0.00	-74.57	0.00	74.57	3,571.01	867.08	3,251	3,046.47	2.21	-0.20	0.03
113.00	-23.75	-1.66	0.00	-71.21	0.00	71.21	3,539.90	856.55	3,173	2,982.92	2.30	-0.21	0.03
115.00	-23.56	-1.66	0.00	-67.88	0.00	67.88	3,508.48	846.02	3,095	2,919.78	2.38	-0.21	0.03
116.00	-22.80	-1.63	0.00	-66.23	0.00	66.23	3,492.66	840.75	3,057	2,888.36	2.43	-0.21	0.03
120.00	-21.81	-1.58	0.00	-59.72	0.00	59.72	3,428.62	819.70	2,906	2,763.73	2.61	-0.22	0.03
125.00	-21.11	-1.55	0.00	-51.80	0.00	51.80	3,346.87	793.38	2,722	2,610.39	2.84	-0.23	0.03
129.00	-20.85	-1.54	0.00	-45.59	0.00	45.59	3,269.48	772.32	2,579	2,481.68	3.04	-0.23	0.03
130.00	-19.89	-1.49	0.00	-44.05	0.00	44.05	3,247.19	767.05	2,544	2,447.80	3.08	-0.24	0.02
133.75	-19.73	-1.48	0.00	-38.46	0.00	38.46	1,899.47	506.91	1,667	1,424.09	3.27	-0.24	0.04

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
135.00	-19.47	-1.47	0.00	-36.60	0.00	36.60	1,889.77	502.52	1,638	1,404.47	3.34	-0.24	0.04
137.00	-16.40	-1.29	0.00	-33.66	0.00	33.66	1,874.00	495.51	1,592	1,373.17	3.44	-0.25	0.03
140.00	-15.79	-1.26	0.00	-29.78	0.00	29.78	1,849.78	484.98	1,526	1,326.42	3.60	-0.25	0.03
145.00	-15.67	-1.25	0.00	-23.49	0.00	23.49	1,807.91	467.43	1,417	1,249.15	3.87	-0.26	0.03
146.00	-13.28	-1.10	0.00	-22.24	0.00	22.24	1,799.31	463.92	1,396	1,233.81	3.92	-0.27	0.03
148.00	-11.96	-1.01	0.00	-20.05	0.00	20.05	1,781.88	456.90	1,354	1,203.23	4.04	-0.27	0.02
150.00	-11.40	-0.97	0.00	-18.03	0.00	18.03	1,764.15	449.88	1,313	1,172.82	4.15	-0.27	0.02
155.00	-11.07	-0.95	0.00	-13.18	0.00	13.18	1,718.52	432.33	1,212	1,097.58	4.44	-0.28	0.02
158.00	-8.32	-0.74	0.00	-10.33	0.00	10.33	1,690.24	421.81	1,154	1,053.02	4.61	-0.28	0.02
160.00	-7.81	-0.70	0.00	-8.86	0.00	8.86	1,671.00	414.79	1,116	1,023.57	4.73	-0.28	0.01
165.00	-7.50	-0.67	0.00	-5.36	0.00	5.36	1,621.61	397.24	1,024	950.94	5.03	-0.29	0.01
168.00	-3.87	-0.36	0.00	-3.34	0.00	3.34	1,591.06	386.71	970	908.08	5.21	-0.29	0.01
170.00	-3.52	-0.33	0.00	-2.61	0.00	2.61	1,570.33	379.69	935	879.84	5.33	-0.29	0.01
175.00	-3.31	-0.31	0.00	-0.94	0.00	0.94	1,517.17	362.14	851	810.41	5.64	-0.29	0.00
178.00	0.00	-0.30	0.00	0.00	0.00	0.00	1,484.37	351.62	802	769.62	5.82	-0.29	0.00

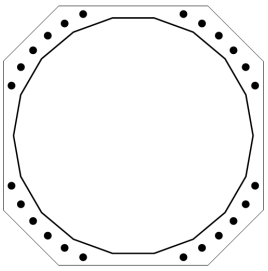
ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W Normal	39.44	0.00	78.00	0.00	0.00	5167.30	51.00	0.66
0.9D + 1.0W Normal	39.41	0.00	58.49	0.00	0.00	5099.54	51.00	0.65
1.2D + 1.0Di + 1.0Wi Normal	11.26	0.00	101.00	0.00	0.00	1483.84	51.00	0.2
1.2D + 1.0Ev + 1.0Eh Normal	2.00	0.00	78.33	0.00	0.00	291.85	51.00	0.05
0.9D - 1.0Ev + 1.0Eh Normal	1.98	0.00	54.34	0.00	0.00	287.02	51.00	0.05
1.0D + 1.0W Service Normal	8.82	0.00	65.04	0.00	0.00	1146.79	51.00	0.15

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 6909)

Width:	75	in
Shape:	Square	
Thickness:	3	in
Grade:	A572-55	
Yield Strength:	55	ksi
Tensile Strength:	70	ksi
Clip Length:	16	in
Rod Detail Type:	d	
Clear Distance	3	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	320	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 7512]	Cluster	24	2.25	76	A615-75	75	100	6	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (24) 2.25"ø [ID 7512]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.391	35.14	14.47	32.508	3432.819	124.37	1.28
2	0.549	32.42	19.82	34.777	3928.806	124.37	0.88
3	0.706	28.90	24.67	36.182	4252.483	124.37	0.46
4	0.864	24.67	28.90	36.686	4371.838	124.37	0.02
5	1.022	19.82	32.42	36.278	4275.070	124.37	0.41
6	1.180	14.47	35.14	34.967	3971.746	124.37	0.83
7	1.961	-14.47	35.14	17.007	940.158	124.37	2.44
8	2.119	-19.82	32.42	11.684	444.174	124.37	2.61
9	2.277	-24.67	28.90	6.070	120.498	124.37	2.71
10	2.435	-28.90	24.67	0.305	1.142	124.37	2.75
11	2.593	-32.42	19.82	-5.467	97.911	-111.37	2.72
12	2.751	-35.14	14.47	-11.103	401.233	-111.37	2.62
13	3.532	-35.14	-14.47	-32.508	3432.821	-111.37	1.28
14	3.690	-32.42	-19.82	-34.777	3928.807	-111.37	0.88
15	3.848	-28.90	-24.67	-36.182	4252.482	-111.37	0.46
16	4.006	-24.67	-28.90	-36.686	4371.838	-111.37	0.02
17	4.164	-19.82	-32.42	-36.278	4275.069	-111.37	0.41
18	4.322	-14.47	-35.14	-34.967	3971.745	-111.37	0.83
19	5.103	14.47	-35.14	-17.007	940.160	-111.37	2.44
20	5.261	19.82	-32.42	-11.684	444.174	-111.37	2.61
21	5.419	24.67	-28.90	-6.070	120.497	-111.37	2.71
22	5.577	28.90	-24.67	-0.305	1.142	-111.37	2.75
23	5.735	32.42	-19.82	5.467	97.910	124.37	2.72
24	5.893	35.14	-14.47	11.103	401.234	124.37	2.62

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	68.36"ø x 0.4375" (18 Sides)	5167.3	78.00	39.44	1.000
Bolt Group	Original (24) 2.25"ø	5167.3	-	39.44	1.000
	TOTALS	**5167.3**	**78**	**39.44**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	68.36"ø x 0.4375" (18 Sides)	92.8826	-	-	53569.80	-
Bolt Group	Original (24) 2.25"ø	3.9761	3.2477	0.8393	52475.76	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	68.48	in
Point-to-Point Diameter:	69.54	in
Flat Width:	12.076	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	320	°
Bend Line Lower Limit:		rad
Bend Line Upper Limit:	-0.112	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	37.581	0.00	84.557	1090.2	4185.6	0.260
Corner	36.525	0.00	82.180	719.0	4067.9	0.177

PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	24	2.25	124.5	2.8	243.6	0.533

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 1 - Site Information

Site ID: CTHA211A
Status: Final
Version: 4
Project Type: Anchor
Approved: 5/26/2022 3:2:27 PM
Approved By: Pratik.Patil30@T-Mobile.com
Last Modified: 5/26/2022 3:2:27 PM
Last Modified By: Pratik.Patil30@T-Mobile.com

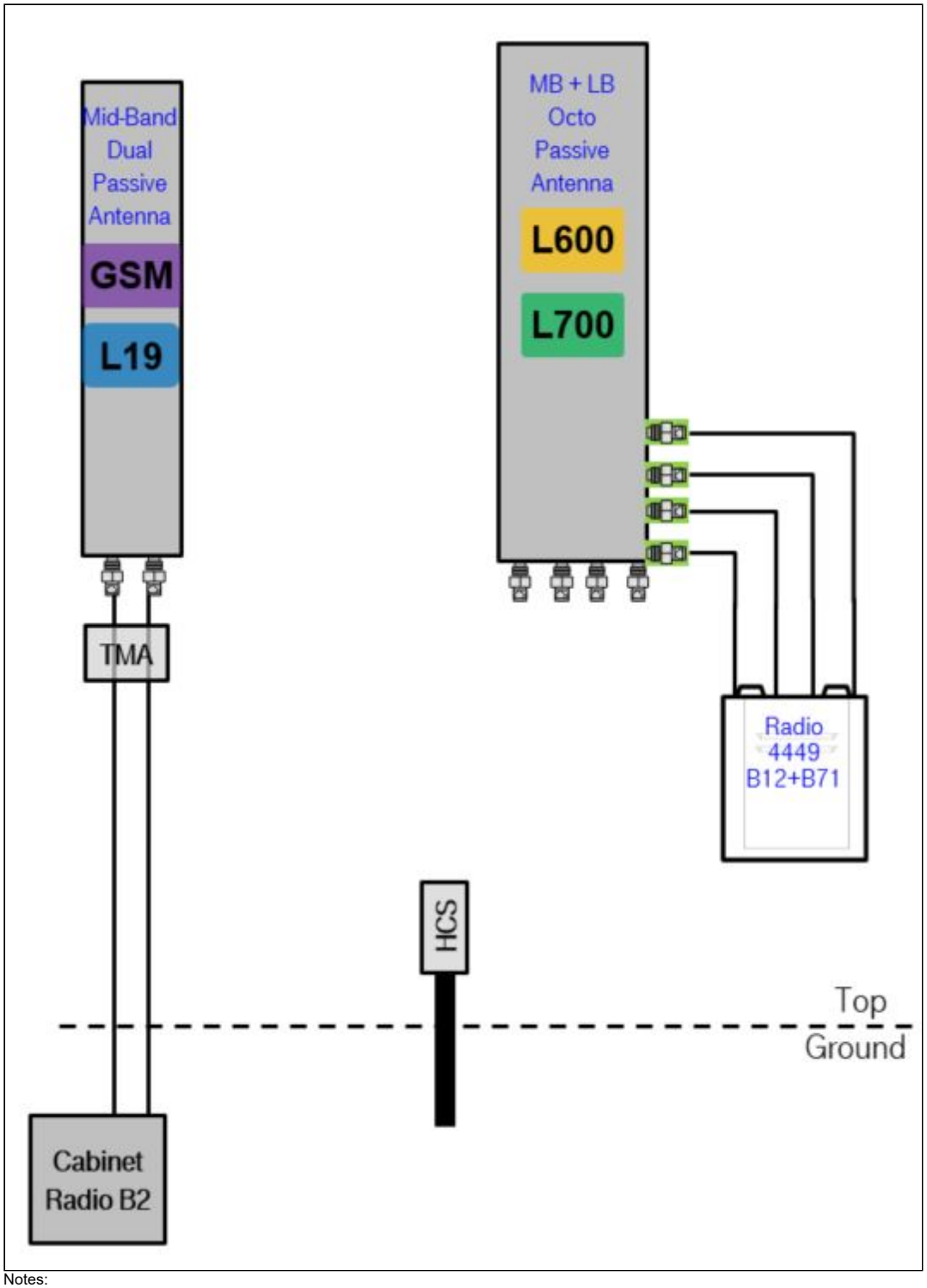
Site Name: CTHA211/TCP Communication
Site Class: Monopole
Site Type: Structure Non Building
Plan Year: 2022
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: TCP Communications

Latitude: 41.77579159
Longitude: -72.22257620
Address: 230 Clover Mill Road
City, State: Mansfield, CT
Region: NORTHEAST

RAN Template: 67D5D998E ODE+6160			AL Template: 67D5998E_1xAIR+1OP+1QP	
Sector Count: 3	**Antenna Count:** 9	**Coax Line Count:** 0	**TMA Count:** 0	**RRU Count:** 6

Section 2 - Existing Template Images

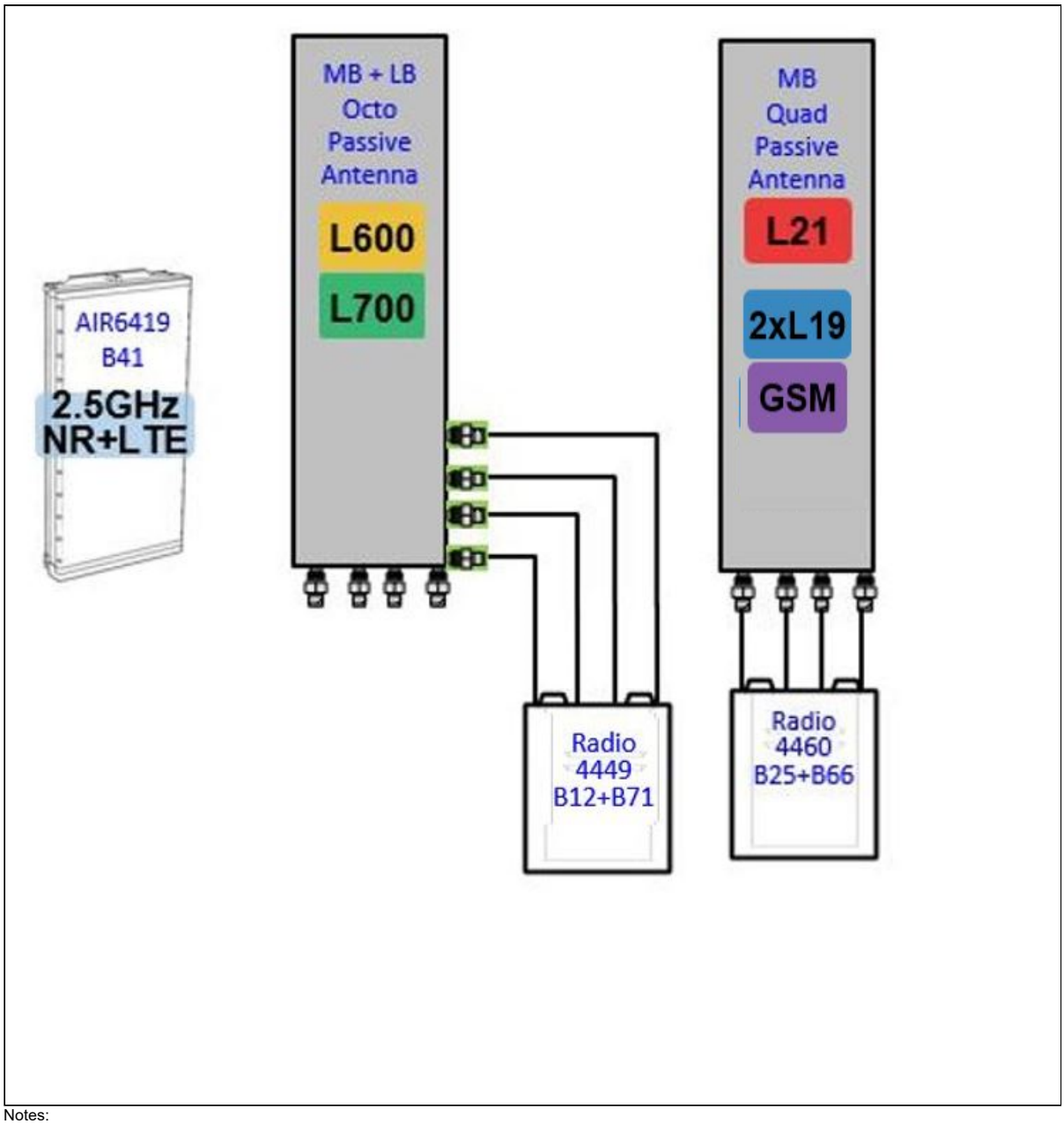
Capture.JPG


Mid-Band
Dual
Passive
Antenna
GSM
L19
MB + LB
Octo
Passive
Antenna
L600
L700
TMA
Radio
4449
B12+B71
HCS
Top
Ground
Cabinet
Radio B2

Notes:

Section 3 - Proposed Template Images

67D5D998E_1AIR_1QP+1OP_G19.png



Notes:

Section 4 - Siteplan Images

----- This section is intentionally blank. -----

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 67D04G

	1
Enclosure	
Enclosure Type	RBS 6201 ODE
Baseband	DUG20 (G1900); BB 6630 (L1900); BB 6648 (L700, L600, N600)
Hybrid Cable System	Hybrid Trunk 6/24 4AWG 60m
Radio	RUS01 B2 **(x 6)** (L1900, G1900)
Transport System	CSR IXRe V2 (Gen2)

Proposed RAN Equipment

Template: 67D5D998E ODE+6160

	1	2	3
Enclosure			
Enclosure Type	RBS 6201 ODE	Enclosure 6160 AC V1	B160
Baseband	DUG20 (G1900); BB 6630 (L1900, L2100); BB 6648 (L700, L600, N600)	RP 6651 (N2500, L2500)	
Hybrid Cable System	Hybrid Trunk 6/24 4AWG 60m	PSU 4813 vR4A (Kit); Hybrid Trunk 6/24 4AWG 60m **(x 2)**	
Transport System	CSR IXRe V2 (Gen2)	CSR IXRe V2 (Gen2)	

RAN Scope of Work:

Remove and return all cabinet radios from existing base station cabinet.

Add (1) Enclosure 6160.

Move the (1) iXRe Router to new Enclosure 6160.

Add (1) RP 6651 for L2500/ N2500 to new Enclosure 6160.

Add (1) PSU4813 Voltage Booster to new Enclosure 6160.

Add (1) Battery Cabinet B160.

Existing : (1) 6x24

Remove all Coax,

Add (2) 6X24 HCS. Connect DC for the AIR6419 B41 to the PSU4813 Voltage Booster.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 6 - A&L Equipment

Existing Template: 67D04G_1DP+1OP
Proposed Template: 67D5998E_1xAIR+1OP+1QP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro				
Antenna	1	2			
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	0	0			
M. Tilt	0	0			
Height	148	148			
Ports	P1	P2	P3	P4	P5
Active Tech.	L1900 G1900	L700 L600 N600	L700 L600 N600		
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2		
Cables	1-5/8" Coax - 180 ft. **(x2)**	Coax Jumper **(x4)**	SHARED Coax Jumper **(x4)**		
TMAs	Generic Twin Style 1A - PCS (AtAntenna)				
Diplexers / Combiners					
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment					

Unconnected Equipment:

Scope of Work:

Remove coaxial lines for LB Dual in Position 2.
Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B85 to Position 2 for 600/700.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Commscope_VV-65B-R1 (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	330		330				330	
M. Tilt	0		0				0	
Height	148		148				148	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L1900 L2100 G1900	L1900 L2100 G1900	N600 L700 L600	N600 L700 L600			L2500 N2500	L2500 N2500
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2			2	2
Cables	Coax Jumper **(x2)** Fiber Jumper **(x2)**	SHARED Fiber Jumper **(x2)** Coax Jumper **(x2)**	Coax Jumper **(x2)** Fiber Jumper **(x2)**	SHARED Fiber Jumper **(x2)** Coax Jumper **(x2)**			Fiber Jumper **(x4)**	SHARED Fiber Jumper **(x4)**
TMAs								
Diplexers / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

New azimuths at 330/110/230.

Remove all TMAs.

Remove all Coaxial Lines.

Replace APXV18 with (1) VV-65B-R1 at Position 1 and add (1) radio 4460 for L2100, L1900 (Both carriers), and GSM to Position 1 at antenna.

Keep existing Octo at Position 2.

Add (1) AIR6419 for L2500/N2500 at Position 3.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 2 (Existing) view from behind

Coverage Type	A - Outdoor Macro				
Antenna	**1**	**2**			
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	120	120			
M. Tilt	0	0			
Height	148	148			
Ports	**P1**	**P2**	**P3**	**P4**	**P5**
Active Tech.	L1900 G1900	L700 L600 N600	L700 L600 N600		
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2		
Cables	1-5/8" Coax - 180 ft. **(x2)**	Coax Jumper **(x4)**	SHARED Coax Jumper **(x4)**		
TMAs	Generic Twin Style 1A - PCS (AtAntenna)				
Diplexers / Combiners					
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment					

Unconnected Equipment:

Scope of Work:

Remove coaxial lines for LB Dual in Position 2.
Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B85 to Position 2 for 600/700.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Commscope_VV-65B-R1 (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	110		110				110	
M. Tilt	0		0				0	
Height	148		148				148	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L1900 L2100 G1900	L1900 L2100 G1900	N600 L700 L600	N600 L700 L600			L2500 N2500	L2500 N2500
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2			2	2
Cables	Coax Jumper **(x2)** Fiber Jumper **(x2)**	SHARED Fiber Jumper **(x2)** Coax Jumper **(x2)**	Coax Jumper **(x2)** Fiber Jumper **(x2)**	SHARED Fiber Jumper **(x2)** Coax Jumper **(x2)**			Fiber Jumper **(x4)**	SHARED Fiber Jumper **(x4)**
TMAs								
Diplexers / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

New azimuths at 330/110/230.

Remove all TMAs.

Remove all Coaxial Lines.

Replace APXV18 with (1) VV-65B-R1 at Position 1 and add (1) radio 4460 for L2100, L1900 (Both carriers), and GSM to Position 1 at antenna.

Keep existing Octo at Position 2.

Add (1) AIR6419 for L2500/N2500 at Position 3.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 3 (Existing) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	**1**	**2**				
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	RFS - APXVAARR24_43-U-NA20 (Octo)				
Azimuth	240	240				
M. Tilt	0	0				
Height	148	148				
Ports	**P1**	**P2**	**P3**	**P4**	**P5**	
Active Tech.	L1900 G1900	L700 L600 N600	L700 L600 N600			
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2	2			
Cables	1-5/8" Coax - 180 ft. **(x2)**	Coax Jumper **(x4)**	SHARED Coax Jumper **(x4)**			
TMAs	Generic Twin Style 1A - PCS (AtAntenna)					
Diplexers / Combiners						
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)			
Sector Equipment						

Unconnected Equipment:

Scope of Work:

Remove coaxial lines for LB Dual in Position 2.
Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B85 to Position 2 for 600/700.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 3 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Commscope_VV-65B-R1 (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	230		230				230	
M. Tilt	0		0				0	
Height	148		148				148	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	G1900 L2100 L1900	G1900 L2100 L1900	L700 N600 L600	L700 N600 L600			L2500 N2500	L2500 N2500
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2			2	2
Cables	Coax Jumper **(x2)** Fiber Jumper **(x2)**	SHARED Fiber Jumper **(x2)** Coax Jumper **(x2)**	Coax Jumper **(x2)** Fiber Jumper **(x2)**	SHARED Fiber Jumper **(x2)** Coax Jumper **(x2)**			Fiber Jumper **(x4)**	SHARED Fiber Jumper **(x4)**
TMAs								
Diplexers / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

New azimuths at 330/110/230.

Remove all TMAs.

Remove all Coaxial Lines.

Replace APXV18 with (1) VV-65B-R1 at Position 1 and add (1) radio 4460 for L2100, L1900 (Both carriers), and GSM to Position 1 at antenna.

Keep existing Octo at Position 2.

Add (1) AIR6419 for L2500/N2500 at Position 3.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E ODE+6160	67D5998E_1xAIR+1OP+1QP

CTHA211A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 7 - Power Systems Equipment

Existing Power Systems Equipment
----- This section is intentionally blank. -----

	Proposed Power Systems Equipment
Enclosure	1
Enclosure Type	Enclosure 6160 AC V1

EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CTHA211A

CTHA211/TCP Communication
230 Clover Mill Road
Storrs, Connecticut 06268

January 10, 2023

EBI Project Number: 6222005552

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**2.89%**

January 10, 2023

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTHA211A - CTHA211/TCP Communication

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **230 Clover Mill Road** in **Storrs, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 230 Clover Mill Road in Storrs, Connecticut using the equipment information listed below. Modeling of the antennas and associated equipment was completed using RoofMaster™ software, which is a widely-used predictive modeling program that has been developed to predict RF power density values for rooftop and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. Using the computational methods set forth in Federal Communications (FCC) Office of Engineering & Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" (OET-65), RoofMaster™ calculates predicted power density in a scalable grid based on the contributions of all RF sources characterized in the study scenario. At each grid location, the cumulative power density is expressed as a percentage of the FCC limits. Manufacturer antenna pattern data is utilized in these calculations. RoofMaster™ models consist of the Far Field model as specified in OET-65 and an implementation of the OET-65 Cylindrical Model (Sula9). The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 or similar SON antenna has been considered. Due to the beamforming nature of these antennas, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

For all calculations, telecommunications equipment was modeled using the following assumptions:

1) 1 LTE channel (600 MHz Band) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) 1 GSM channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 10 Watts per Channel.

5) 1 LTE channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 120/160 Watts per Channel.

6) 1 LTE channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 120/160 Watts per Channel.

7) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 45 Watts.

8) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 15 Watts.

9) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 90 Watts.

10) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 30 Watts.

11) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

12) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused

parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

13) The antennas used in this modeling are the COMMSCOPE VV-65B-R1B 02DT 1900 for the 1900 MHz / 1900 MHz / 1900 MHz channel(s), the RFS APXVAARR24 43-U-NA20 02DT 600 for the 600 MHz / 600 MHz / 700 MHz channel(s), the ERICSSON SON_AIR6419 B41 LTE TB 02.09.21 2500 TMO for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector A, the COMMSCOPE VV-65B-R1B 02DT 1900 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24 43-U-NA20 02DT 600 for the 600 MHz / 600 MHz / 700 MHz channel(s), the ERICSSON SON_AIR6419 B41 LTE TB 02.09.21 2500 TMO for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector B, the COMMSCOPE VV-65B-R1B 02DT 1900 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24 43-U-NA20 02DT 600 for the 600 MHz / 600 MHz / 700 MHz channel(s), the ERICSSON SON_AIR6419 B41 LTE TB 02.09.21 2500 TMO for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

14) The antenna mounting height centerline of the proposed antennas is 148 feet above ground level (AGL).

15) Emissions values for additional carriers were calculated in Far Field utilizing the antenna models provided in the structural analysis.

16) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	COMMSCOPE VV-65B-R1B 02DT 1900	Make / Model:	COMMSCOPE VV-65B-R1B 02DT 1900	Make / Model:	COMMSCOPE VV-65B-R1B 02DT 1900
Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	16.16 dBd / 16.16 dBd / 16.75 dBd	Gain:	16.16 dBd / 16.16 dBd / 16.75 dBd	Gain:	16.16 dBd / 16.16 dBd / 16.75 dBd
Height (AGL):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 feet
Channel Count:	3	Channel Count:	3	Channel Count:	3
Total TX Power (W):	330.00 Watts	Total TX Power (W):	330.00 Watts	Total TX Power (W):	330.00 Watts
ERP (W):	12,650.91	ERP (W):	12,650.91	ERP (W):	12,650.91
Antenna A1 MPE %:	**2.26%**	Antenna B1 MPE %:	**2.26%**	Antenna C1 MPE %:	**2.26%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAARR24 43-U-NA20 02DT 600	Make / Model:	RFS APXVAARR24 43-U-NA20 02DT 600	Make / Model:	RFS APXVAARR24 43-U-NA20 02DT 600
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	13.14 dBd / 13.14 dBd / 13.2 dBd	Gain:	13.14 dBd / 13.14 dBd / 13.2 dBd	Gain:	13.14 dBd / 13.14 dBd / 13.2 dBd
Height (AGL):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 feet
Channel Count:	3	Channel Count:	3	Channel Count:	3
Total TX Power (W):	160.00 Watts	Total TX Power (W):	160.00 Watts	Total TX Power (W):	160.00 Watts
ERP (W):	2,891.53	ERP (W):	2,891.53	ERP (W):	2,891.53
Antenna A2 MPE %:	**1.24%**	Antenna B2 MPE %:	**1.24%**	Antenna C2 MPE %:	**1.24%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	ERICSSON SON_AIR6419 B41 LTE TB 02.09.21 2500 TMO	Make / Model:	ERICSSON SON_AIR6419 B41 LTE TB 02.09.21 2500 TMO	Make / Model:	ERICSSON SON_AIR6419 B41 LTE TB 02.09.21 2500 TMO
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd / 15.55 dBd / 15.55 dBd	Gain:	22.05 dBd / 22.05 dBd / 15.55 dBd / 15.55 dBd	Gain:	22.05 dBd / 22.05 dBd / 15.55 dBd / 15.55 dBd
Height (AGL):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	180.00 Watts	Total TX Power (W):	180.00 Watts	Total TX Power (W):	180.00 Watts
ERP (W):	23,258.96	ERP (W):	23,258.96	ERP (W):	23,258.96
Antenna A3 MPE %:	**4.15%**	Antenna B3 MPE %:	**4.15%**	Antenna C3 MPE %:	**4.15%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Combined Sectors):	0.67%
Dish	0.21%
Fire Svcs & EMS/Emergency Mgmt/Public Works	1.16%
AT&T	0.06%
Sprint	0.02%
Verizon	0.77%
Site Total MPE % :	2.89%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	0.64%
T-Mobile Sector B Total:	0.64%
T-Mobile Sector C Total:	0.64%
T-Mobile Total MPE % :	0.67%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 1900 MHz GSM	1	358.0964371	148	0.638469055	1900 MHz GSM	1000.0	0.06%
T-Mobile 1900 MHz LTE	1	5729.542994	148	10.21550487	1900 MHz LTE	1000.0	1.02%
T-Mobile 2100 MHz LTE	1	6563.265648	148	11.70199304	2100 MHz LTE	1000.0	1.17%
T-Mobile 600 MHz LTE	1	720.3772538	148	1.284398661	600 MHz LTE	400.0	0.32%
T-Mobile 600 MHz NR	1	1440.754508	148	2.568797321	600 MHz NR	400.0	0.64%
T-Mobile 700 MHz LTE	1	730.3986996	148	1.302266426	700 MHz LTE	467.0	0.28%
T-Mobile 2500 MHz LTE	1	7214.604258	148	12.86329905	2500 MHz LTE	1000.0	1.29%
T-Mobile 2500 MHz NR	1	14429.20852	148	25.72659811	2500 MHz NR	1000.0	2.57%
T-Mobile 2500 MHz LTE	1	538.382902	148	0.959911317	2500 MHz LTE	1000.0	0.10%
T-Mobile 2500 MHz NR	1	1076.765804	148	1.919822634	2500 MHz NR	1000.0	0.19%
T-Mobile 1900 MHz GSM	1	358.0964371	148	0.638469055	1900 MHz GSM	1000.0	0.06%
						T-Mobile Total:	**0.67%**

• NOTE: Total T-Mobile MPE values reflect all T-Mobile antennas as reported by RoofMaster™ combined modeling.
• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	0.64%
Sector B:	0.64%
Sector C:	0.64%
T-Mobile Maximum MPE % (Sector A):	0.64%
T-Mobile Combined Sectors MPE %:	0.67%
Site Total:	2.89%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **2.89%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions or documents available on the Connecticut Siting Council website.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.