

0 INDUSTRIAL AVE,
SUITE 3
MAHWAH NJ 07430
PHONE: 201.684.0055
FAX: 201.684.0066



July 31, 2021

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 - L600

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) L700/L600/N600 antennas. 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) APXVAARR24 43-U-NA20 Antennas
- (3) Radio 4449 B71 B85
- (1) 1 5/8" Hybrid Cables

Existing to Remain:

- (3) APXV18-209014-C-A20 Antennas
- (3) KRY 112 71 TMAs
- (6) 1 5/8" Cables

To Be Removed:

- (6) 1 5/8" Coax Cables
- (3) LNX-6515DS-A1M 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 § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mayor Antonia Moran, Elected Official, and Linda Painter, 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

Linda Painter - Director of Planning and Development

American Tower - Tower Owner

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

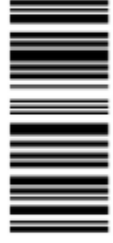
1 LBS

1 OF 1

SHIP TO:
DIRECTOR OF PLANNING AND DEVELOP.
LINDA PAINTER
4 SOUTH EAGLEVILLE ROAD
MANSFIELD CT 06268

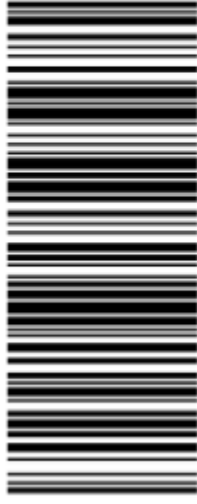


CT 063 0-01



UPS GROUND

TRACKING #: 1Z V25 742 03 9086 9495



BILLING: P/P

Reference #1: CTHA211A

XOL 21.06.14 NV45 31.0A 07/2021*



TM

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

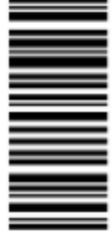
1 LBS

1 OF 1

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



MA 018 9-04



UPS GROUND

TRACKING #: 1Z V25 742 43 9227 1480



BILLING: P/P

Reference #1: CTHA211A

XOL 21.06.14 NV45 30.0A 07/2021*



TM

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

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 43 9367 1500



BILLING: P/P

Reference #1: CTHA211A



TM

XGL 21-06.14 NV45 30.6A 07/2021*



Hello, your package has been delivered.

Delivery Date: Wednesday, 07/28/2021

Delivery Time: 1:27 PM

Left At: FRONT DESK

Signed by: OFFICE

TRANSCEND WIRELESS

Tracking Number: [1ZV257420390869495](#)

Ship To: LINDA PAINTER
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, 07/28/2021

Delivery Time: 11:42 AM

Left At: INSIDE DELIV

Signed by: ANCRI

TRANSCEND WIRELESS

Tracking Number: [1ZV257424392271480](#)

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



Hello, your package has been delivered.

Delivery Date: Thursday, 07/29/2021

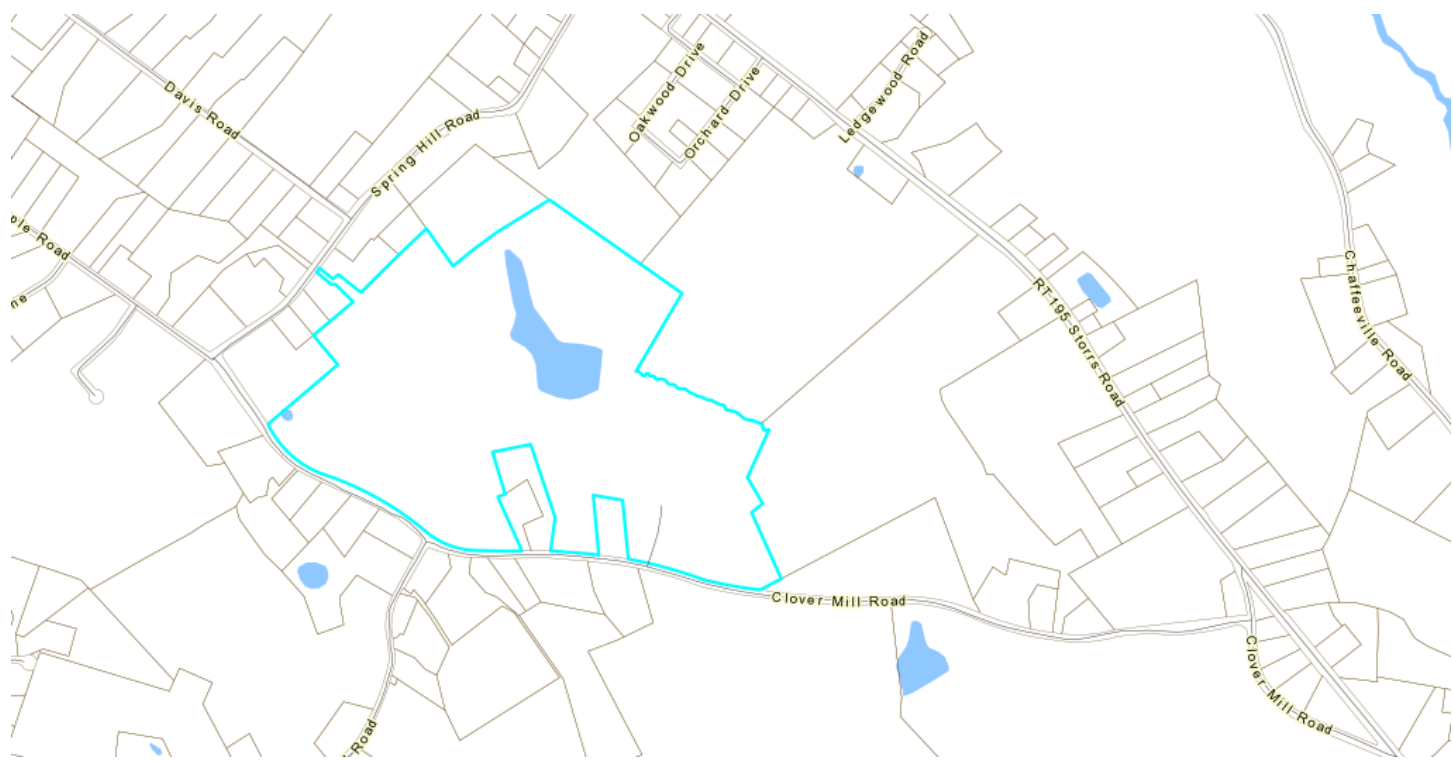
Delivery Time: 12:52 PM

Left At: FRONT DESK

Signed by: MAYOR

TRANSCEND WIRELESS

Tracking Number:	<u>1ZV257424393671500</u>
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



CURRENT OWNER				TOPO		UTILITIES		STRT / ROAD		LOCATION		CURRENT ASSESSMENT				6078 MANSFIELD, CT VISION					
MANSFIELD TOWN OF & BOARD OF MANSFIELD MIDDLE SCHOOL 4 SOUTH EAGLEVILLE RD STORRS CT 06268				1	Level	1	Well	1	Paved			Description		Code	Appraised			Assessed			
						2	Septic					Ex C Land	21	1,700,800	1,190,600						
				SUPPLEMENTAL DATA						Ex C Bldg	22	8,723,600	6,106,600								
				Alt Prcl ID Census 8811 Devel. Lot						Ex Com OB	25	446,100	312,400								
										Ind Land	3-1	153,000	107,100								
				GIS ID 23.60.7						Assoc Pid#		Total		11,023,500	7,716,700						
RECORD OF OWNERSHIP				BK-VOL/PAGE		SALE DATE		Q/U		V/I		SALE PRICE		VC		PREVIOUS ASSESSMENTS (HISTORY)					
MANSFIELD TOWN OF & BOARD OF EDUCA REFERENCE				663	347	01-20-2009		U	V	0		25	Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
				113	428	04-16-1971		U	I	0		2020	21	1,190,600	2019	21	1,190,600	2019	21	1,190,600	
				106	136	12-13-1967		U	I	0			22	6,106,600	22	6,106,600	22	6,106,600			
MANSFIELD TOWN OF				83	413	05-10-1957		U	I	0			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				OTHER ASSESSMENTS								This signature acknowledges a visit by a Data Collector or Assessor									
Year	Code	Description		Amount		Code	Description		Number	Amount										Comm Int	
Total				0.00										APPROAISED VALUE SUMMARY							
Nbhd		Nbhd Name		B		Tracing		Batch		Appraised Bldg. Value (Card)				8,723,600							
0001										Appraised Xf (B) Value (Bldg)				0							
										Appraised Ob (B) Value (Bldg)				446,100							
										Appraised Land Value (Bldg)				1,853,800							
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						Special Land Value				0					
						02/08/2018-#17-18-256MMS LOCKER RM RENOV						Total Appraised Parcel Value				11,023,500					
												Valuation Method				C					
												Total Appraised Parcel Value				11,023,500					
BUILDING PERMIT RECORD										VISIT / CHANGE HISTORY											
Permit Id		Issue Date		Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments		Date	Id	Type	Is	Cd	Purpost/Result				
20-21-0846		05-26-2021		CM	Commercial	2,300		100	05-27-2021	REPLACE MARINE HEATER I		05-28-2019	WG			35	Field Review				
20-21-0805		05-13-2021		WH	Water Heater	0		100	05-19-2021	MANSFIELD ANIMAL CONTR		09-14-2017	MT	02	8	20	Permit Inspection				
20-21-0730		04-26-2021		CM	Commercial	20,000		0		REPLACE 2 AIR HANDLERS		03-06-2013	MT			16	Appraiser Date				
20-21-0155		08-26-2020		WH	Water Heater	3,000		100	09-14-2020	2 WATER HEATERS MIDDLE		03-01-2013	MT			15	Collector Date				
20-21-0027		07-09-2020		GN	Generator	15,000		0		GENERATOR INSTALLED ON		10-12-2000	BM			15	Collector Date				
19-20-0599		03-31-2020		ALT		500		0		EXHAUST FAN AT MANSFIEL											
17-18-0256		11-01-2017		RE	Remodel	317,000		100	02-08-2018	MMS-LOCKER ROOM MODIF											
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			
1	901	Town MDL-Com	RAR		10.000	AC	135,000	1.00000	5	1.00	C100	1.000	CELL SITE				0	135,000	1,350,000		
1	901	Town MDL-Com			83.530	AC	6,000	1.00000	0	1.00		1.000					0	4,200	350,800		
1	350	Cell Tower			1.000	BL	153,000	1.00000	0	1.00		1.000					0	153,000	153,000		
Total Card Land Units					93.53	AC	Parcel Total Land Area: 93.53					Total Land Value					1,853,800				

CONSTRUCTION DETAIL			CONSTRUCTION DETAIL (CONTINUED)		
Element	Cd	Description	Element	Cd	Description
Style:	49	Public 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:					

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		

GRN
(360 sf)

BAS
UBM
(66,700 sf)

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	



CURRENT OWNER		TOPO		UTILITIES		STRT / ROAD		LOCATION		CURRENT ASSESSMENT				<div>6078</div> <div>MANSFIELD, CT</div> <div>VISION</div>				
MANSFIELD TOWN OF & BOARD OF MANSFIELD MIDDLE SCHOOL 4 SOUTH EAGLEVILLE RD STORRS CT 06268		1	Level	1	Well	1	Paved			Description	Code	Appraised	Assessed					
				2	Septic					Ex C Land	21	1,700,800	1,190,600					
		SUPPLEMENTAL DATA						Ex C Bldg	22	8,723,600	6,106,600							
		Alt Prcl ID Census 8811 Devel. Lot GIS ID 23.60.7				Assoc Pid#		Ex Com OB	25	446,100	312,400							
										Ind Land	3-1	153,000	107,100					
										Total		11,023,500	7,716,700					
RECORD OF OWNERSHIP		BK-VOL/PAGE		SALE DATE		Q/U		V/I		SALE PRICE		VC		PREVIOUS ASSESSMENTS (HISTORY)				
MANSFIELD TOWN OF & BOARD OF EDUCA REFERENCE MANSFIELD TOWN OF		663	347	01-20-2009	U	V	0	25					Year	Code	Assessed	Year	Code	Assessed
		113	428	04-16-1971	U	I	0		2020	21	1,190,600	2019	21	1,190,600	2019	21	1,190,600	
		106	136	12-13-1967	U	I	0			22	6,106,600		22	6,106,600		22	6,106,600	
		83	413	05-10-1957	U	I	0			25	312,400		25	312,400		25	312,400	
													3-1	107,100		3-1	107,100	
										Total		7,716,700	Total	7,716,700	Total	7,716,700		
EXEMPTIONS				OTHER ASSESSMENTS								This signature acknowledges a visit by a Data Collector or Assessor						
Year	Code	Description	Amount	Code	Description	Number	Amount	Comm Int										
Total			0.00						APPRAISED VALUE SUMMARY									
ASSESSING NEIGHBORHOOD												Appraised Bldg. Value (Card)				8,723,600		
Nbhd				Nbhd Name				B				Appraised Xf (B) Value (Bldg)				0		
0001								Tracing				Appraised Ob (B) Value (Bldg)				446,100		
								Batch				Appraised Land Value (Bldg)				1,853,800		
NOTES												Special Land Value				0		
TOWN GARAGE												Total Appraised Parcel Value				11,023,500		
												Valuation Method				C		
												Total Appraised Parcel Value				11,023,500		
BUILDING PERMIT RECORD												VISIT / CHANGE HISTORY						
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments	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	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	

CONSTRUCTION DETAIL						CONSTRUCTION DETAIL (CONTINUED)																																																														
Element	Cd	Description	Element	Cd	Description																																																															
Style:	20	Office Building																																																																		
Model	94	Comm/Ind																																																																		
Grade	07	C																																																																		
Stories:	1																																																																			
Occupancy	1.00																																																																			
Exterior Wall 1	27	Pre-finish Metl																																																																		
Exterior Wall 2																																																																				
Roof Structure	03	Gable																																																																		
Roof Cover	01	Metal/Tin																																																																		
Interior Wall 1	01	Minimum																																																																		
Interior Wall 2																																																																				
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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																																																																		
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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																																																														

BAS

24

64

State Use 901
Print Date 06-09-2021 12:53:43

VISION

CONSTRUCTION DETAIL						CONSTRUCTION DETAIL (CONTINUED)									
Element	Cd	Description				Element	Cd	Description							
Style:	56	Office/Garage													
Model	94	Comm/Ind													
Grade	07	C													
Stories:	1														
Occupancy	1.00					MIXED USE									
Exterior Wall 1	15	Concr/Cinder				Code	Description			Percentage					
Exterior Wall 2						901	Town MDL-Com			100					
Roof Structure	03	Gable								0					
Roof Cover	03	Asphalt Shingl								0					
Interior Wall 1	01	Minimum				COST / MARKET VALUATION									
Interior Wall 2															
Interior Floor 1	04	Concr Abv Grad				RCN									
Interior Floor 2															
Heating Fuel	09	Typical				Year Built			1980						
Heating Type	04	Forced Air				Effective Year Built									
AC Type	01	None/partial				Depreciation Code			A						
Bldg Use	901	Town MDL-Com				Remodel Rating									
Heat/AC	00	HEAT ONLY				Year Remodeled									
Frame Type	03	MASONRY				Depreciation %			29						
Baths/Plumbing	02	AVERAGE				Functional Obsol									
Ceiling/Wall	02	CEILING ONLY				Economic Obsol									
Rooms/Prtns	02	AVERAGE				Trend Factor			1						
Wall Height	14.00					Condition									
1st Floor Use:						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						

BAS

50

120

State Use 901
Print Date 06-09-2021 12:53:44

VISION

CONSTRUCTION DETAIL						CONSTRUCTION DETAIL (CONTINUED)					
Element		Cd	Description			Element		Cd	Description		
Style:		61	Commercial Garage								
Model		94	Comm/Ind								
Grade		07	C								
Stories:		1									
Occupancy		1.00									
Exterior Wall 1		27	Pre-finish 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			RCN					
Interior Floor 2											
Heating Fuel		09	Typical			Year Built		1980			
Heating Type		04	Forced Air			Effective Year Built					
AC Type		01	None/partial			Depreciation Code		A			
Bldg Use		901	Town MDL-Com			Remodel Rating					
Heat/AC		00	HEAT ONLY			Year Remodeled					
Frame Type		05	STEEL			Depreciation %		29			
Baths/Plumbing		02	AVERAGE			Functional Obsol					
Ceiling/Wall		02	CEILING ONLY			Economic Obsol					
Rooms/Prtns		02	AVERAGE			Trend Factor		1			
Wall Height		14.00				Condition					
1st Floor Use:						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					

BAS

60

160

CURRENT OWNER		TOPO		UTILITIES		STRT / ROAD		LOCATION		CURRENT ASSESSMENT				<div>6078</div> <div>MANSFIELD, CT</div> <div>VISION</div>									
MANSFIELD TOWN OF & BOARD OF MANSFIELD MIDDLE SCHOOL 4 SOUTH EAGLEVILLE RD STORRS CT 06268		1	Level	1	Well	1	Paved			Description	Code	Appraised	Assessed										
				2	Septic					Ex C Land	21	1,700,800	1,190,600										
		SUPPLEMENTAL DATA						Ex C Bldg	22	8,723,600	6,106,600												
		Alt Prcl ID Census 8811 Devel. Lot GIS ID 23.60.7				Assoc Pid#		Ex Com OB	25	446,100	312,400												
										Ind Land	3-1	153,000	107,100										
										Total		11,023,500	7,716,700										
RECORD OF OWNERSHIP		BK-VOL/PAGE		SALE DATE		Q/U		V/I		SALE PRICE		VC		PREVIOUS ASSESSMENTS (HISTORY)									
MANSFIELD TOWN OF & BOARD OF EDUCA REFERENCE MANSFIELD TOWN OF		663	347	01-20-2009	U	V	0	25							Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
		113	428	04-16-1971	U	I	0		2020	21	1,190,600	2019	21	1,190,600	2019	21	1,190,600						
		106	136	12-13-1967	U	I	0			22	6,106,600		22	6,106,600		22	6,106,600						
		83	413	05-10-1957	U	I	0			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				OTHER ASSESSMENTS								This signature acknowledges a visit by a Data Collector or Assessor											
Year	Code	Description		Amount		Code	Description		Number	Amount										Comm Int			
		Total		0.00																			
ASSESSING NEIGHBORHOOD														APPRAISED VALUE SUMMARY									
Nbhd		Nbhd Name		B		Tracing		Batch		Appraised Bldg. Value (Card)				8,723,600									
0001										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														VISIT / CHANGE HISTORY									
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments		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	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								

CONSTRUCTION DETAIL						CONSTRUCTION DETAIL (CONTINUED)					
Element		Cd	Description			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			RCN					
Interior Floor 2											
Heating Fuel		09	Typical			Year Built			1975		
Heating Type		05	Hot Water			Effective Year Built					
AC Type		01	None/partial			Depreciation Code			A		
Bldg Use		901	Town MDL-Com			Remodel Rating					
Heat/AC		00	HEAT ONLY			Year Remodeled					
Frame Type		02	WOOD FRAME			Depreciation %			32		
Baths/Plumbing		02	AVERAGE			Functional Obsol					
Ceiling/Wall		02	CEILING ONLY			Economic Obsol					
Rooms/Prtns		02	AVERAGE			Trend Factor			1		
Wall Height		8.00				Condition					
1st Floor Use:						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					

BAS

32

16

CURRENT OWNER				TOPO		UTILITIES		STRT / ROAD		LOCATION		CURRENT ASSESSMENT						6078 MANSFIELD, CT VISION						
MANSFIELD TOWN OF & BOARD OF MANSFIELD MIDDLE SCHOOL 4 SOUTH EAGLEVILLE RD STORRS CT 06268				1	Level	1	Well	1	Paved			Description		Code	Appraised		Assessed							
						2	Septic					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								
				SUPPLEMENTAL DATA								Ind Land	3-1	153,000		107,100								
				Alt Prcl ID Census 8811 Devel. Lot																				
				GIS ID 23.60.7						Assoc Pid#														
										Total						11,023,500		7,716,700						
RECORD OF OWNERSHIP				BK-VOL/PAGE		SALE DATE		Q/U	V/I	SALE PRICE		VC	PREVIOUS ASSESSMENTS (HISTORY)											
MANSFIELD TOWN OF & BOARD OF EDUCA REFERENCE				663	347	01-20-2009	U	V			0	25	Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed			
				113	428	04-16-1971	U	I			0		2020	21	1,190,600	2019	21	1,190,600	2019	21	1,190,600			
				106	136	12-13-1967	U	I			0			22	6,106,600		22	6,106,600		22	6,106,600			
MANSFIELD TOWN OF				83	413	05-10-1957	U	I			0		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						OTHER ASSESSMENTS						This signature acknowledges a visit by a Data Collector or Assessor												
Year	Code	Description			Amount		Code	Description		Number	Amount											Comm Int		
Total				0.00																				
ASSESSING NEIGHBORHOOD												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												
Nbhd		Nbhd Name			B		Tracing			Batch														
0001																								
NOTES																								
1997-MODULAR CLASSRM BUILDING ADDED TO REAR OF MANSFIELD MIDDLE SCHOOL																								
BUILDING PERMIT RECORD												VISIT / CHANGE HISTORY												
Permit Id	Issue Date	Type	Description	Amount		Insp Date	% Comp	Date Comp	Comments			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	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							

The diagram illustrates a T-junction. A large rectangular box, outlined in blue, is labeled "BAS" in its top-left corner. The right vertical edge of this box is labeled "60" in blue. Extending from the bottom center of the box is a narrower rectangular box, outlined in red. The top edge of this red box is labeled "60" in blue. The left vertical edge of the red box is labeled "FOP" in red. The right vertical edge of the red box is labeled "40" in red. The bottom edge of the red box is labeled "8" in red.



VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: MANSFIELD CENTER 1 CT
ATC SITE NUMBER: 376046
T-MOBILE SITE ID: CTHA211A
SITE ADDRESS: 230 CLOVER MILL RD
STORRS MANSFIELD,06268



LOCATION MAP

T-MOBILE L600 ANTENNA AMENDMENT
67D04G CONFIGURATION

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 230 CLOVER MILL RD STORRS MANSFIELD,06268 COUNTY: TOLLAND <u>1A CERTIFICATE SUMMARY:</u> LATITUDE: 41° 46' 32" N LONGITUDE: 72° 13' 18" W GROUND ELEVATION: 500' AMSL TOWER HEIGHT: 178' AGL HIGHEST APPURTENANCE: 198' AGL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: REMOVE (3) PANELS, (3) TTAs, AND (6) 1-5/8" COAX CABLES INSTALL (3) NEW PANELS, (3) TTAs, (3) RRU's, (1) 1-5/8" HYBRID CABLE AND MOUNT MODIFICATIONS EXISTING (3) PANELS AND (6) 1-5/8" COAX CABLES TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> TOWN OF MANSFIELD CT 4 SOUTH EAGLEVILLE RD STORRS, CT 06268	<u>PROJECT NOTES</u> 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.	G-001	TITLE SHEET	0	05/29/19	CA
			G-002	GENERAL NOTES	0	05/29/19	CA
			C-101	DETAILED SITE PLAN & TOWER ELEVATION	0	05/29/19	CA
			C-501	ANTENNA INFORMATION & SCHEDULE	0	05/29/19	CA
UTILITY COMPANIES POWER COMPANY: EVERSOURCE PHONE: (877) 659-6326 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843		<u>PROJECT LOCATION DIRECTIONS</u> 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.	E-501	GROUNDING DETAILS	0	05/29/19	CA
			R-601	SUPPLEMENTAL			
811 Know what's below. Call before you dig.			R-602	SUPPLEMENTAL			
			R-603	SUPPLEMENTAL			
			R-604	SUPPLEMENTAL			



AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

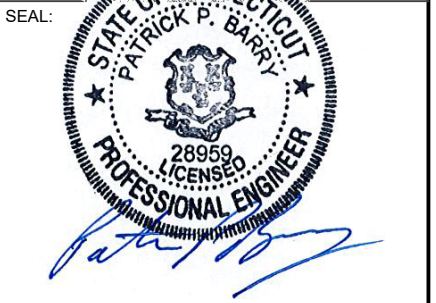
THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
△	FOR CONSTRUCTION	CA	05/29/19
△			
△			
△			
△			

ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

SITE ADDRESS:
230 CLOVER MILL RD
STORRS MANSFIELD, CT 06268



Authorized by "EOR"
May 30 2019 12:00 PM


DRAWN BY:	CA
APPROVED BY:	PPB
DATE DRAWN:	05/29/19
ATC JOB NO:	12951821

TITLE SHEET	
SHEET NUMBER: G-001	REVISION: 0

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC MASTER SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. 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.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH T-MOBILE WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS 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.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. 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.
25. CONTRACTOR SHALL NOTIFY T-MOBILE WIRELESS 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.
26. 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.

27. 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.
28. 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 WIRELESS REP. ANY WORK FOUND BY THE T-MOBILE WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. 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.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:

A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE

B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.

C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)

D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS

E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:

A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.

B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.

C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.

D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.

E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.

F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.

G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.



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SUITE 100
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COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
△	FOR CONSTRUCTION	CA	05/29/19
△			
△			
△			
△			

ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

SITE ADDRESS:
2000 Mansfield Hill Rd
Mansfield, CT 06106-2638

SEAL:



Authorized by "EOR"
May 30 2019 12:00 PM



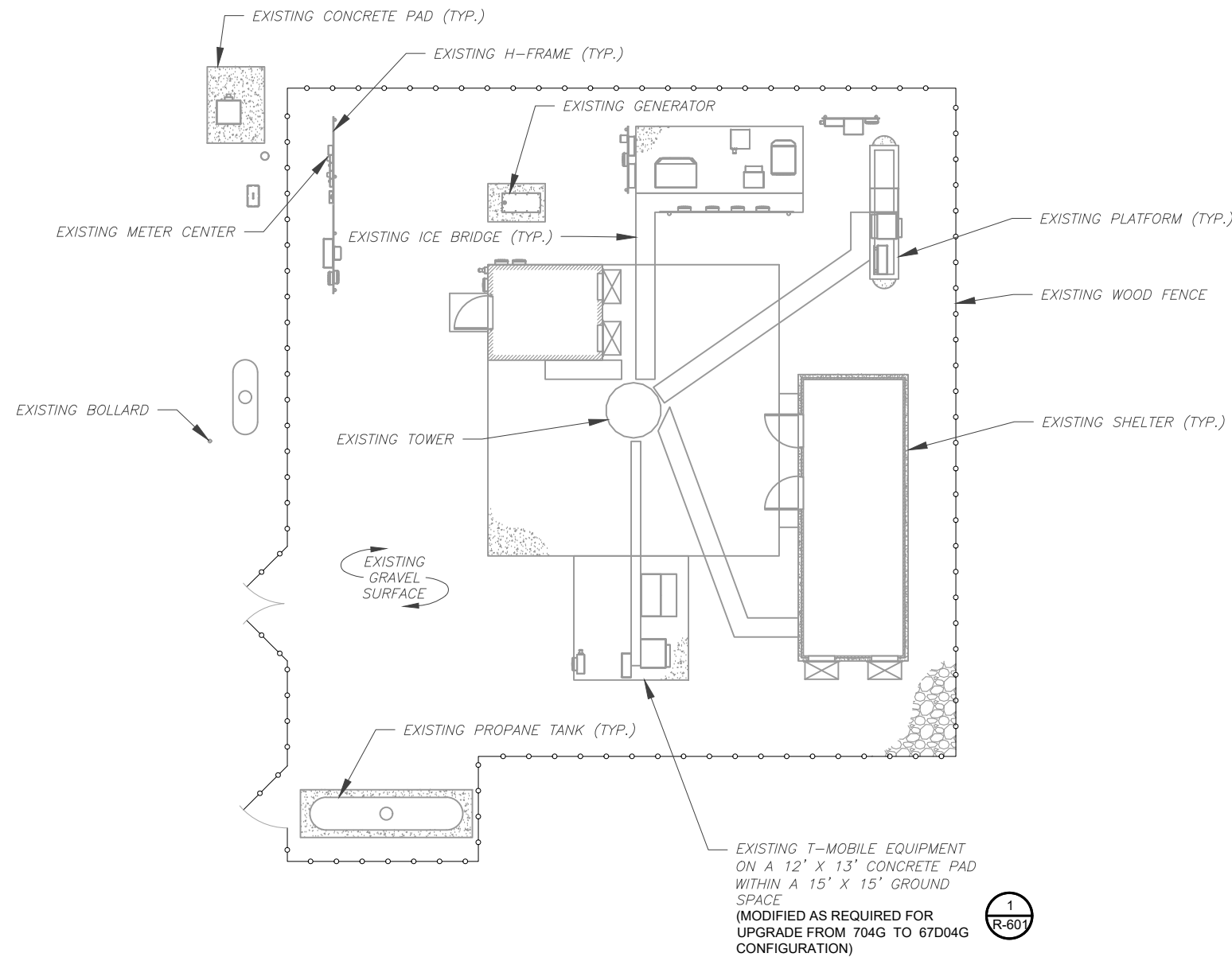
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APPROVED BY:	PPB
DATE DRAWN:	05/29/19
ATC JOB NO:	12951821

GENERAL NOTES

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

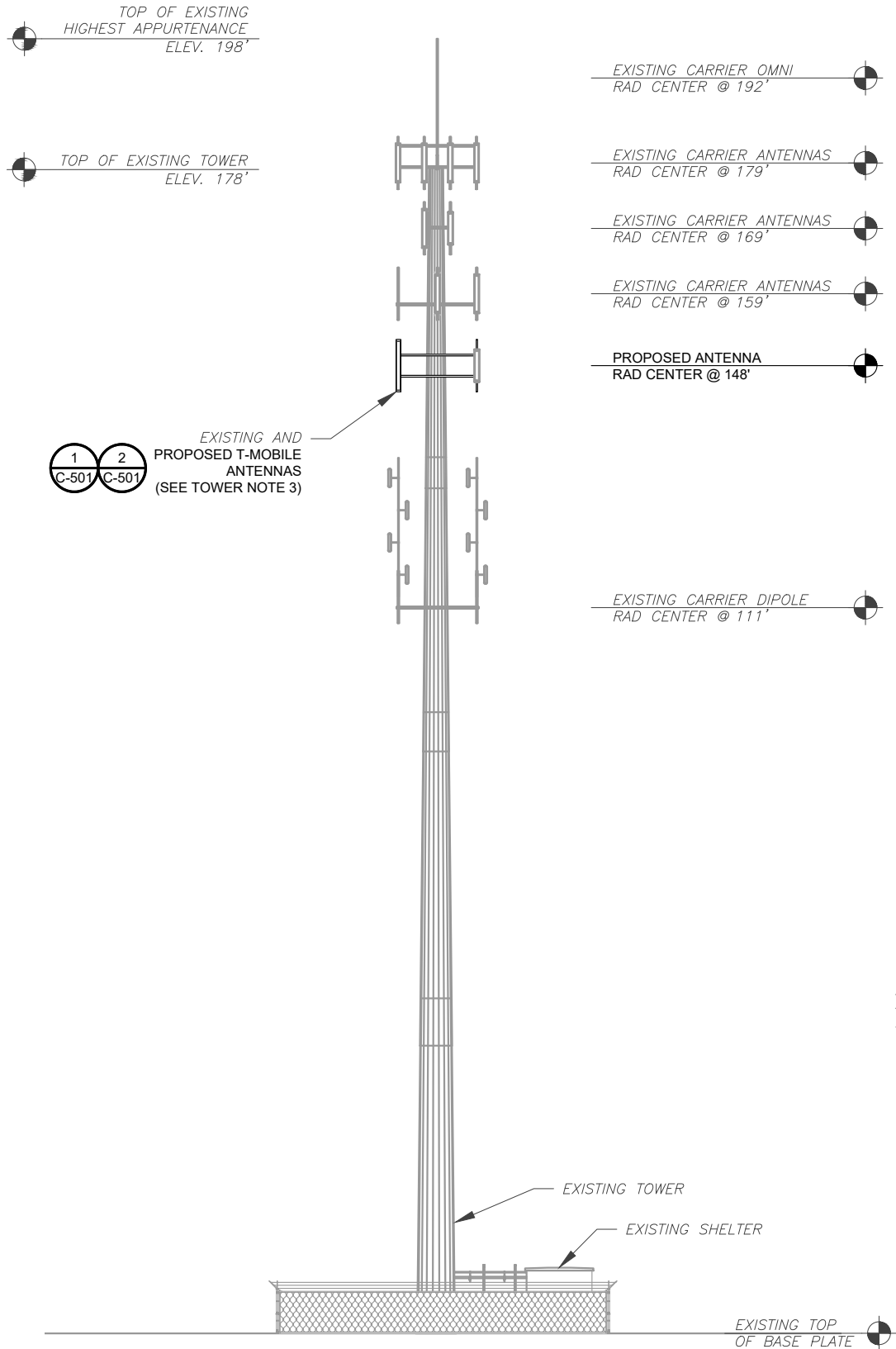
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. 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.



1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)



2 TOWER ELEVATION

SCALE: NOT TO SCALE



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	CA	05/29/19
1			
2			
3			
4			

ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT



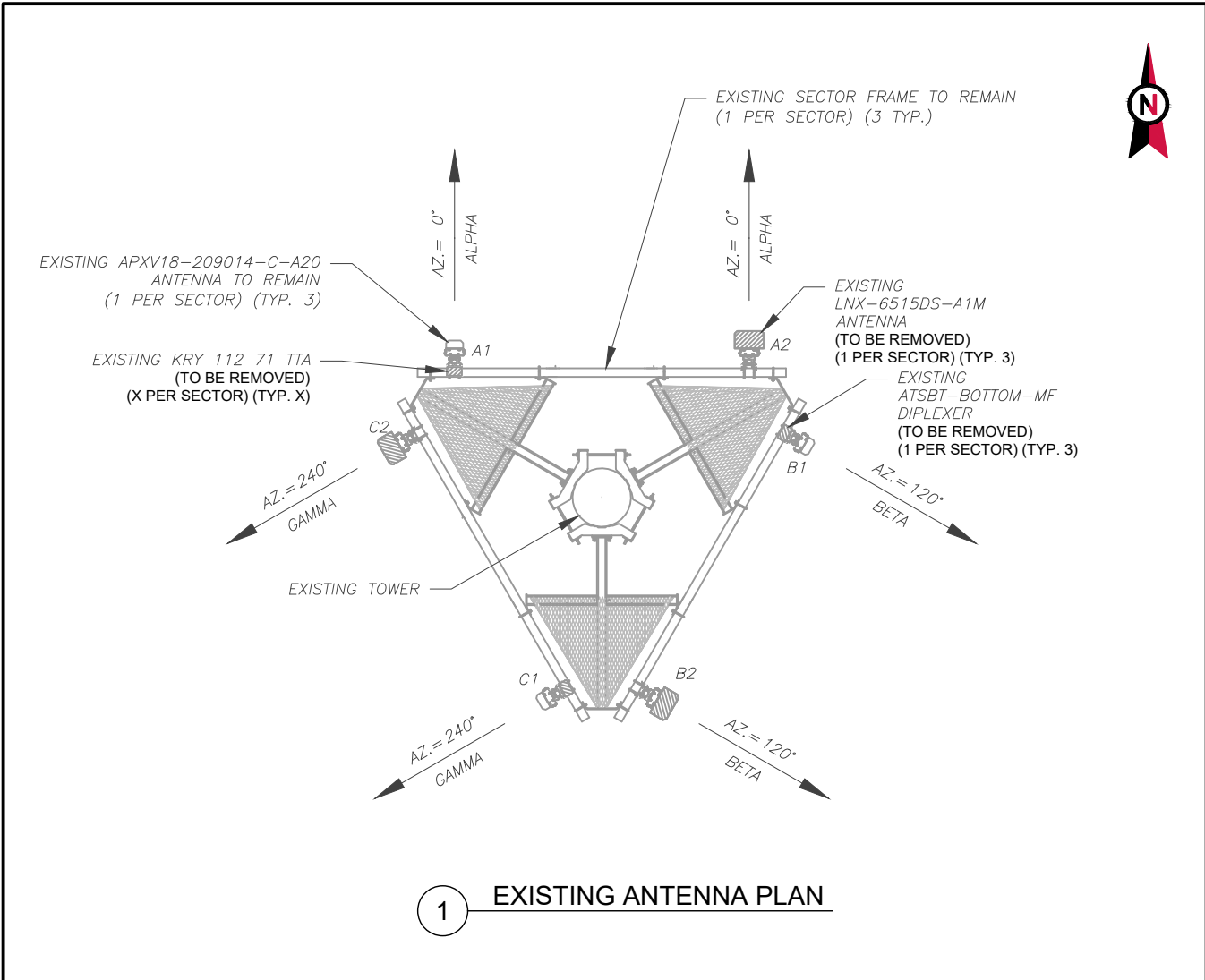
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May 30 2019 12:00 PM cosign

T-Mobile

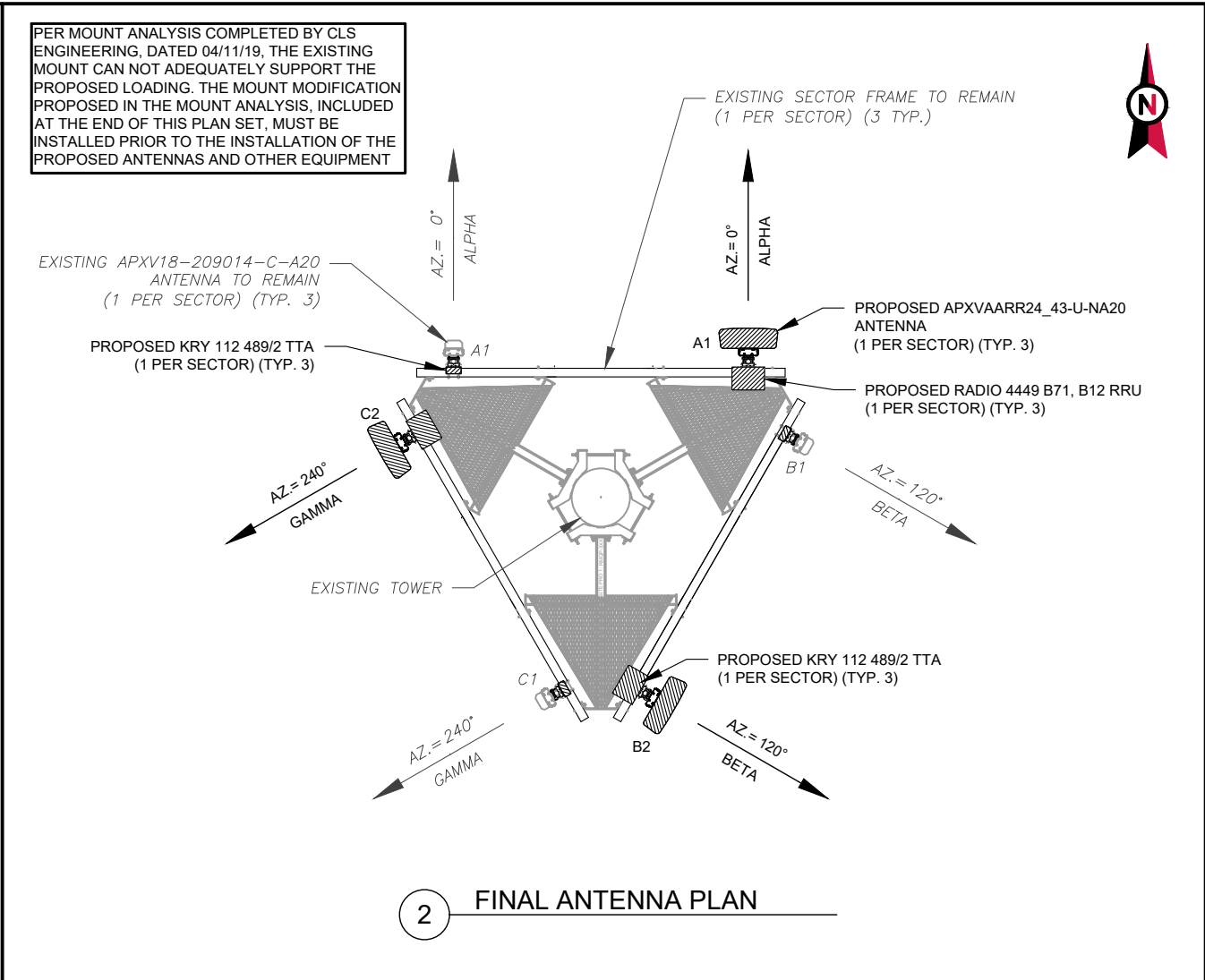
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APPROVED BY:	PPB
DATE DRAWN:	05/29/19
ATC JOB NO:	12951821

DETAILED SITE PLAN & TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-101	0



1 EXISTING ANTENNA PLAN



2 FINAL ANTENNA PLAN

EXISTING ANTENNA / EQUIPMENT SCHEDULE							
SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	A1	APXV18-209014-C	148'-0"	0°	0°	2°	KRY 112 71 ATSBT-BOTTOM-MF
ALPHA	A2	LNK-6515DS-A1M	148'-0"	0°	0°	2°	-
BETA	B1	APXV18-209014-C	148'-0"	120°	0°	2°	KRY 112 71 ATSBT-BOTTOM-MF
BETA	B2	LNK-6515DS-A1M	148'-0"	120°	0°	2°	-
GAMMA	C1	APXV18-209014-C	148'-0"	240°	0°	2°	KRY 112 71 ATSBT-BOTTOM-MF
GAMMA	C2	LNK-6515DS-A1M	148'-0"	240°	0°	2°	-

- NOTES
1. BASED ON APPROVED ATC APPLICATION 12927176, DATED 04/02/19. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
 2. ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
 3. ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
 4. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
 5. POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA / EQUIPMENT SCHEDULE							
SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	A1	APXV18-209014-C	148'-0"	0°	0°	2°	KRY 112 489/2
ALPHA	A2	APXVAARR24_43-U-NA20	148'-0"	0°	0°	2°	RADIO 4449 B12-B71
BETA	B1	APXV18-209014-C	148'-0"	120°	0°	2°	KRY 112 489/2
BETA	B2	APXVAARR24_43-U-NA20	148'-0"	120°	0°	2°	RADIO 4449 B12-B71
GAMMA	C1	APXV18-209014-C	148'-0"	240°	0°	2°	KRY 112 489/2
GAMMA	C2	APXVAARR24_43-U-NA20	148'-0"	240°	0°	2°	RADIO 4449 B12-B71

CURRENT FIBER DISTRIBUTION/OVP BOX		CURRENT CABLING SUMMARY			STATUS ABBREVIATIONS RMV: TO BE REMOVED RMN: TO REMAIN REL: TO BE RELOCATED DSC: TO BE DISCONNECTED & REMAIN ADD: TO BE ADDED
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS	
-	-	(6) 1-5/8"	-	RMN	
-	-	(6) 1-5/8"	-	RMV	

3 ANTENNA SCHEDULE

CABLE LENGTHS FOR JUMPERS
FIBER DISTRIBUTION/OVP TO RRU: 15'
RRU TO ANTENNA: 10'

PROPOSED FIBER DISTRIBUTION/OVP BOX		PROPOSED CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1-5/8"	-	RMN
-	-	-	(1) 1-5/8"	ADD

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SUITE 100
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	CA	05/29/19

ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

SITE ADDRESS:
200 HARTFORD AVENUE, RD
MANSFIELD CENTER, CT 06108-2638

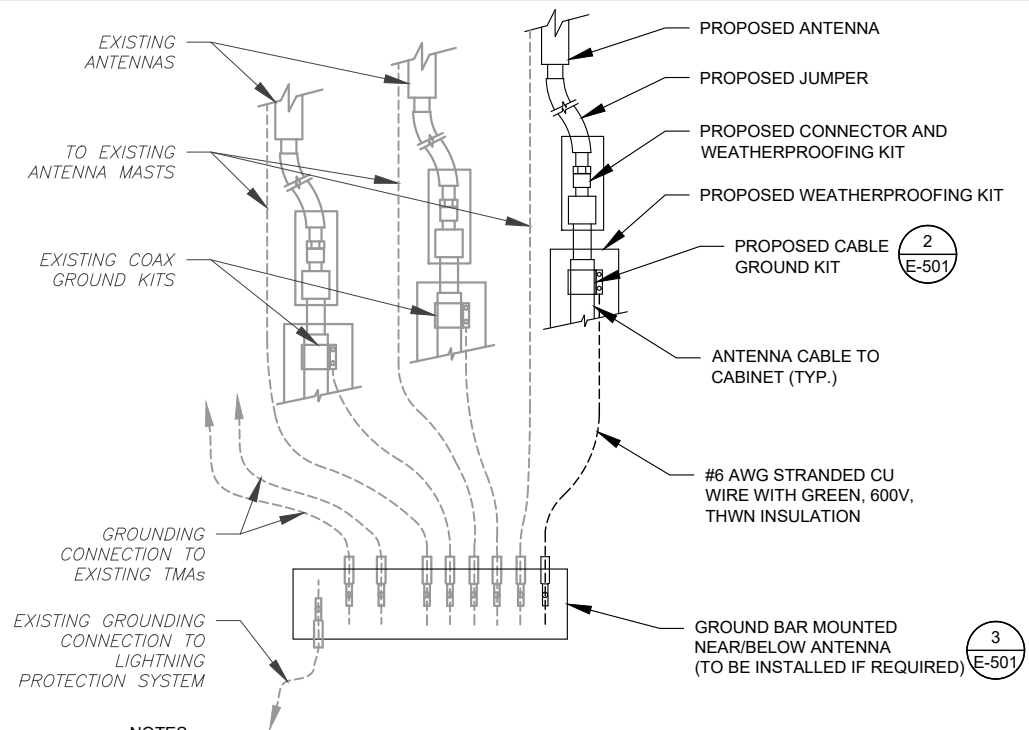
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APPROVED BY:	PPB
DATE DRAWN:	05/29/19
ATC JOB NO:	12951821

ANTENNA INFORMATION & SCHEDULE

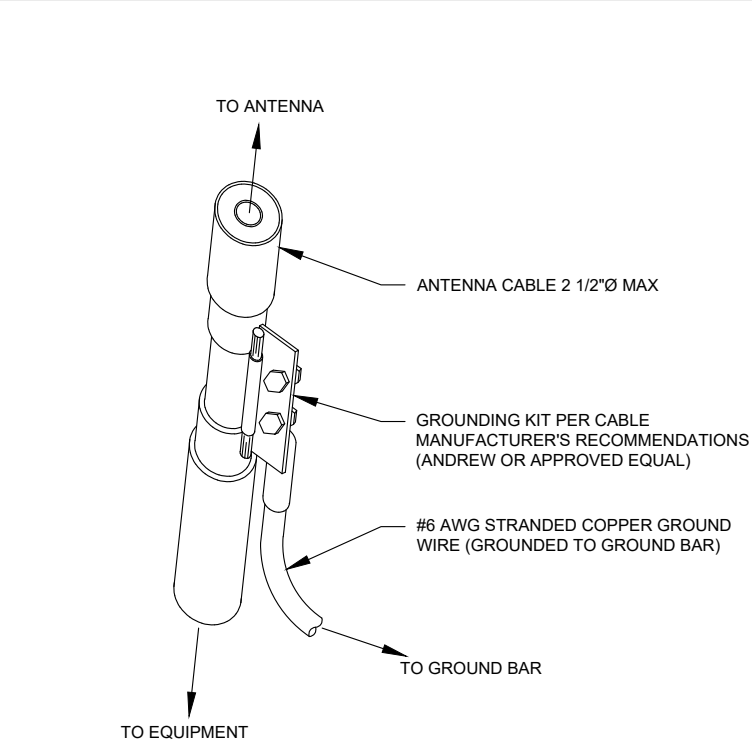
SHEET NUMBER: C-501	REVISION: 0
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NOTES:

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.

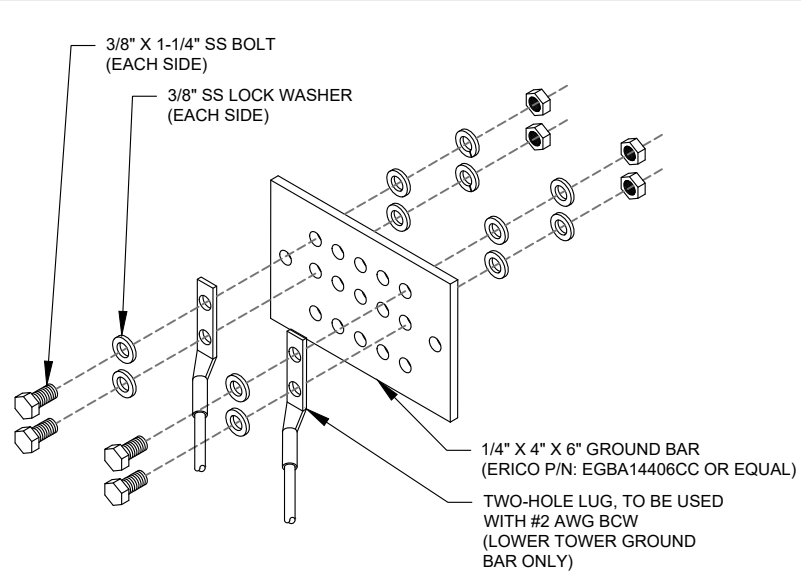
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



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: NOT TO SCALE



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: NOT TO SCALE

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SUITE 100
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	CA	05/29/19

ATC SITE NUMBER:
376046

ATC SITE NAME:
MANSFIELD CENTER 1 CT

SITE ADDRESS:
2000 HILL RD
MANSFIELD CENTER, CT 06253

SEAL:

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May 30 2019 12:01 PM

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APPROVED BY:	PPB
DATE DRAWN:	05/29/19
ATC JOB NO:	12951821

GROUNDING DETAILS

SHEET NUMBER: E-501	REVISION: 0
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Existing RAN Equipment	
Template: 704G	
Enclosure	1
Enclosure Type	RBS 6201 ODE
Baseband	<div>DUG20 G1900</div> <div>DUS41 L1900 L700</div>
Radio	<div>RUS01 B2 (x 6) L1900 G1900</div> <div>RUS01 B12 (x 6) L700</div>

Proposed RAN Equipment	
Template: 67D04G	
Enclosure	1
Enclosure Type	RBS 6201 ODE
Baseband	<div>DUG20 G1900</div> <div>BB 6630 L1900 L700 L600</div> <div>BB 6630 N600 (DARK)</div>
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG*
Radio	<div>RUS01 B2 (x 6) L1900 G1900</div> <div>RUS01 B12 (x 6) L700 (DARK)</div>

RAN Scope of Work:

Replace DUS41 with (1) BB6630 for L1900, L700, and L600.
Add (1) BB6630 for future 5G N600.

Add (1) 6X12 HCS.

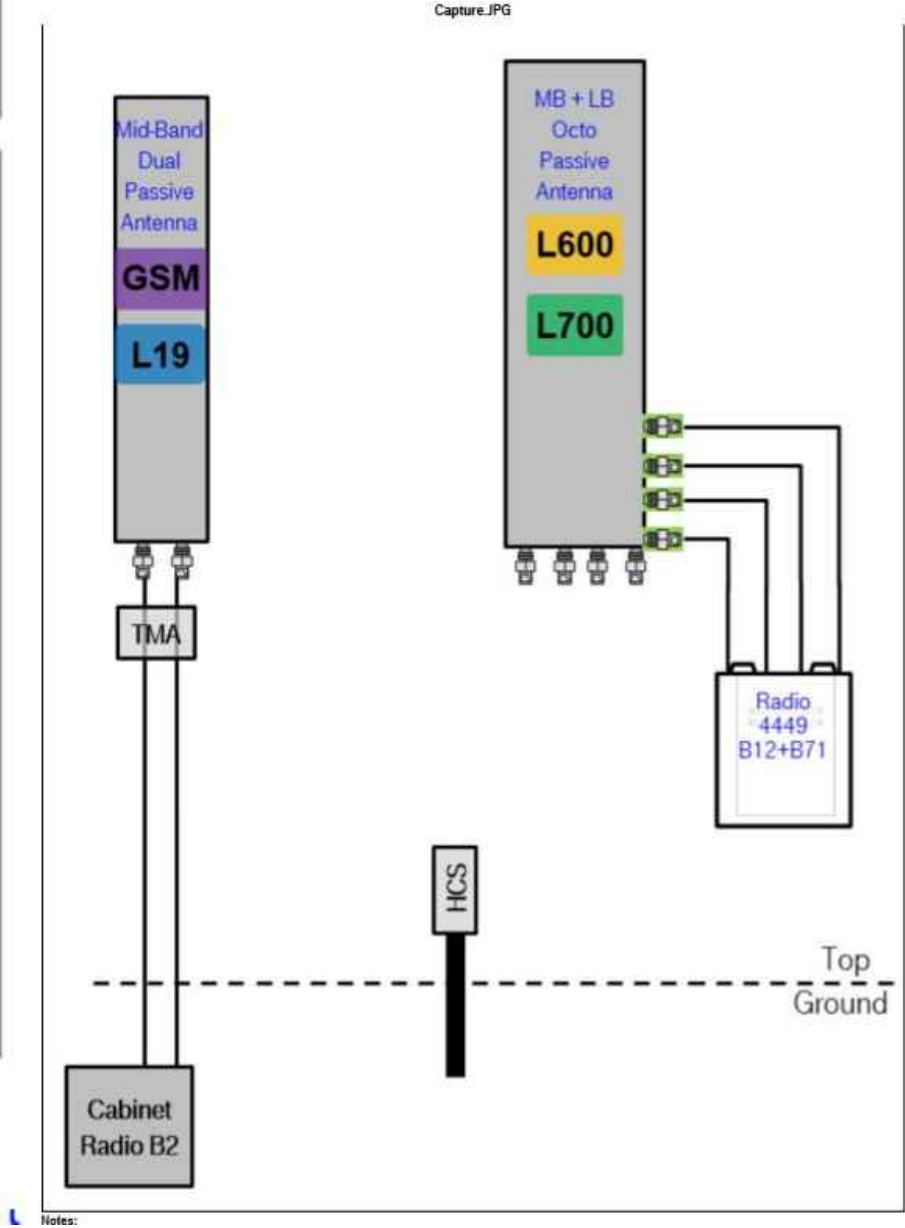
Existing: (12) Coaxial Lines. Remove (6) Lines.

Keep Battery Cabinet.

1

CABINET CONFIGURATION

SCALE: NOT TO SCALE

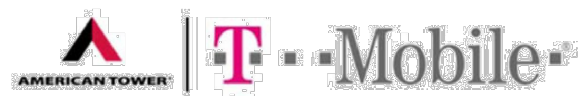


2

ANTENNA CONFIGURATION

SCALE: NOT TO SCALE

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



Mount Analysis of Existing Low Profile Platform for American Tower on behalf of
T-Mobile
376046 - Mansfield Center 1 CT
Project #: 12927176
T-Mobile Site ID: CTHA211A
Program: L600

CLS Engineering PLLC Project #41124-12927176-01-MA
April 11, 2019

MOUNT DESCRIPTION	Existing Low Profile Platform at 145 ft AGL
ANTENNA ELEVATION	Nominal Rad. Elevation of 148 ft AGL (Eccentricity of ~3 ft)
SITE DESCRIPTION	178 ft Monopole
SITE ADDRESS	230 Clover Mill Road, Storrs Mansfield, CT 06268-2826, Tolland County
GPS COORDINATES	41.77577777, -72.2225
ANALYSIS STANDARD	2018 IBC / TIA-222-H
LOADING CRITERIA	120 mph, V _{ult} (3-Second Gust) w/o ice & 50 mph (3-Second Gust) w/ 1" Ice

■ ANALYSIS RESULT: **Pass (Conditional)**

MEMBER USAGE	60%	Pass
COLLAR USAGE	93%	Pass

Modifications are proposed to bring mounts into compliance; see conclusion for details.

Prepared by:
Jennifer Soza

Reviewed and Approved by:
Tyler M. Barker, P.E.



Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2020
COA # PEC.001833 Exp. 8/14/2019

Digitally signed
by Tyler M.
Barker
Date: 2019.04.11
22:37:41 -04'00'

Mount Analysis for American Tower on behalf of T-Mobile
376046 - Mansfield Center 1 CT

April 11, 2019
CLS Engineering PLLC Project #41124-12927176-01-MA

■ RESULTS SUMMARY
Existing Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Mount Pipes	140%	Fail
Collar Reactions	100%	Pass
Stand-Off Horizontals	40%	Pass
Platform Base	29%	Pass

Modified Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Collar Reactions	93%	Pass
Corner Plates	60%	Pass
Mount Pipes	59%	Pass
Support Rail	45%	Pass
Stand-Off Horizontals	37%	Pass
Platform Base	18%	Pass

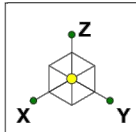
■ CONCLUSION AND RECOMMENDATIONS

According to our structural analysis, the mounts have been found to **CONDITIONALLY PASS**. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

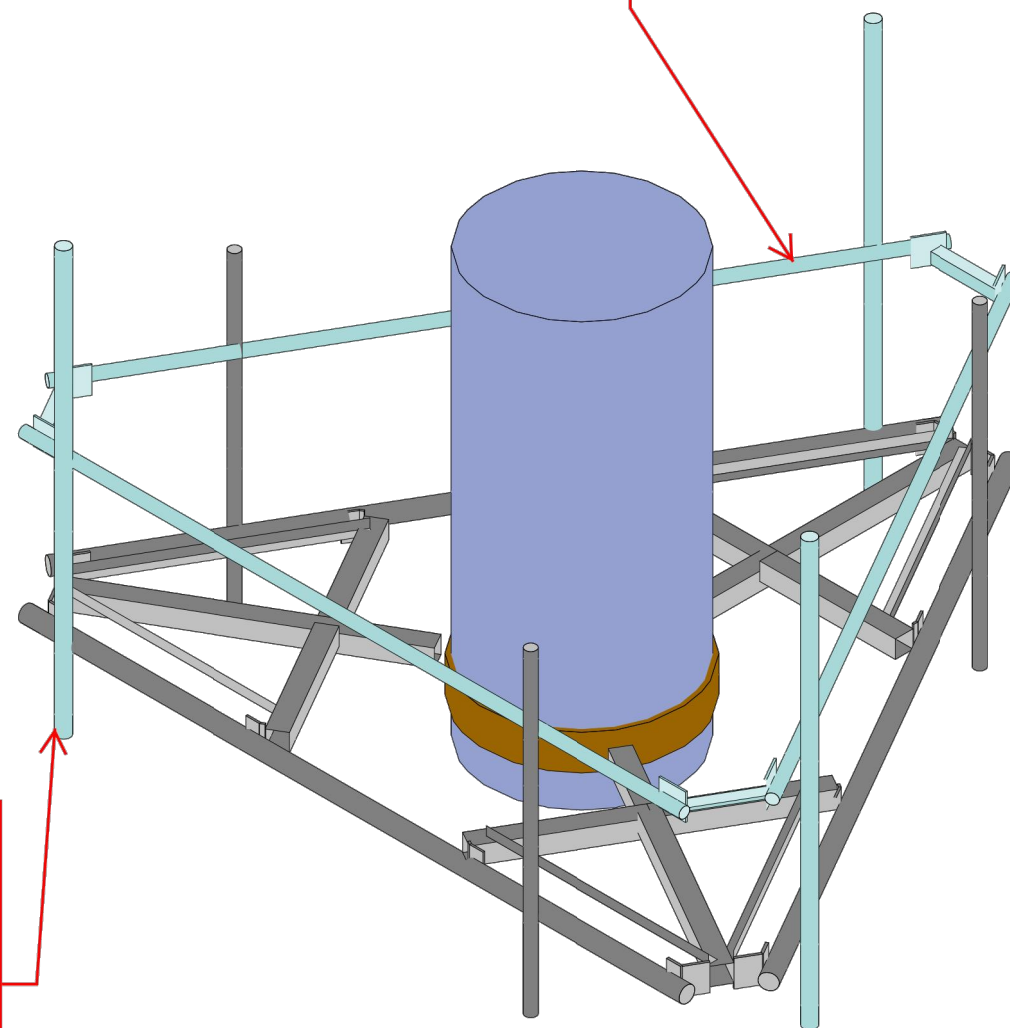
- Replace existing mount pipe at Position 2 with (1) 8ft. long proposed Pipe 2½ STD, A53 Gr. B, at each sector for proposed panel configuration (3 total). Connect to platform base horizontal member using Site Pro 1 SCX45-K crossover plate kit or equal.
- Install Site Pro 1 HRK12-U Support Rail kit at 3'-0" above the existing platform horizontal pipe. Connect to all existing and proposed mount pipes using Site Pro 1 SCX2 crossover plates included in the Support Rail kit.

See following sketches and Site Pro 1 assembly drawings for additional details.

SUPPLEMENTAL



Install Site Pro 1 HRK12-U Support Rail kit at 3'-0" above the existing platform horizontal pipe. Connect to all existing and proposed mount pipes using Site Pro 1 SCX2 crossover plates included in the Support Rail kit.



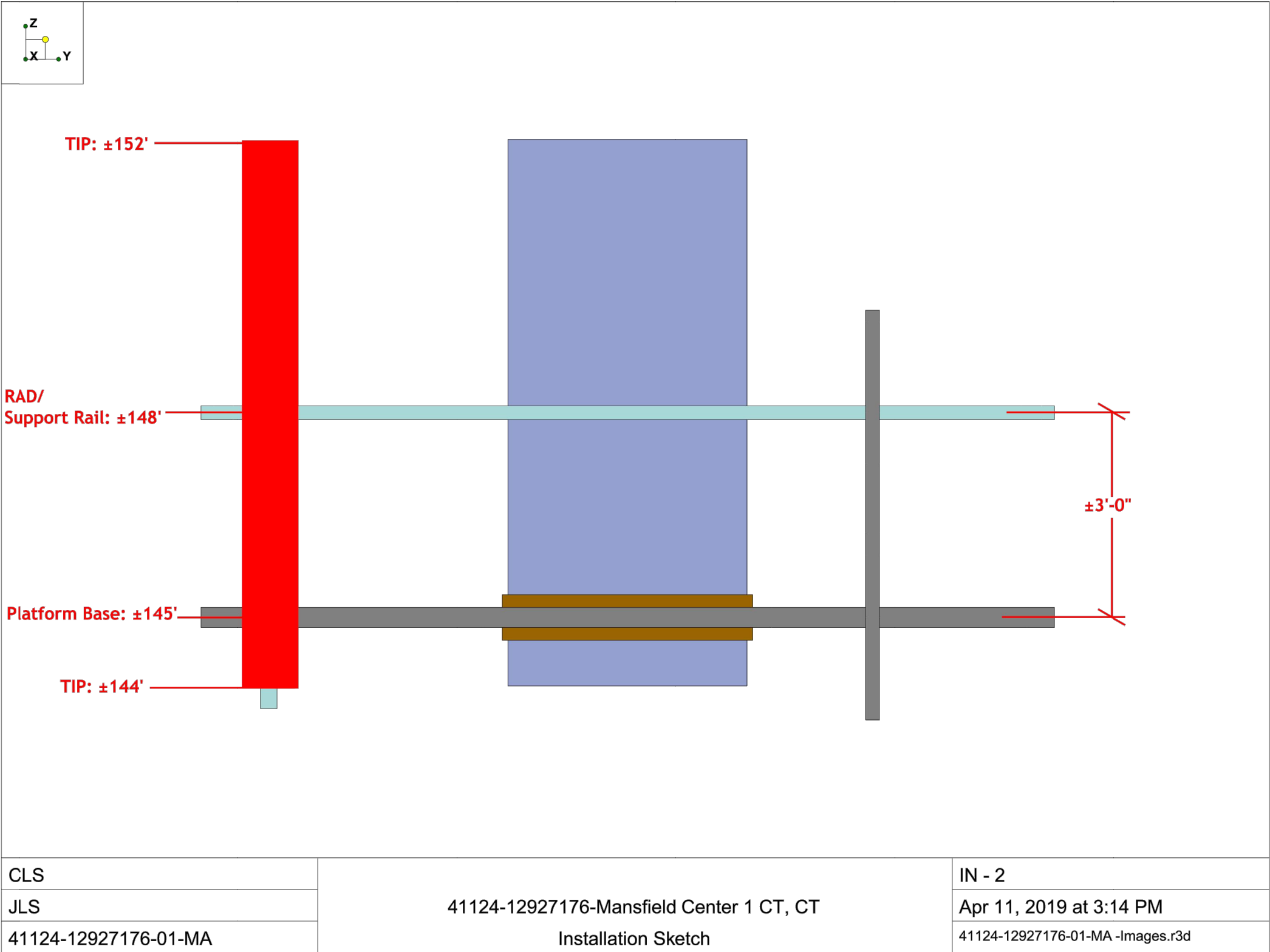
Replace existing mount pipe at Position 2 with (1) 8ft. long proposed Pipe 2½ STD, A53 Gr. B, at each sector for proposed panel configuration (3 total). Connect to platform base horizontal member using Site Pro 1 SCX45-K crossover plate kit or equal.

CLS	41124-12927176-Mansfield Center 1 CT, CT Installation Sketch	IN - 1
JLS		Apr 11, 2019 at 3:14 PM
41124-12927176-01-MA		41124-12927176-01-MA -Images.r3d

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SUPPLEMENTAL

SHEET NUMBER: R-603	REVISION: 0
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NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:

R-604

REVISION:

0



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 178 ft Monopole
ATC Site Name : MANSFIELD CENTER 1 CT, CT
ATC Asset Number : 376046
Engineering Number : 13660476_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
41.775800,-72.222500
County : Tolland
Date : April 26, 2021
Max Usage : 60%
Result : Pass



Prepared By:
Steven Nedrud
Structural Engineer I

Reviewed By:

Authorized by "EOR"
19 May 2021 09:24:01

cosign

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	2
Proposed Equipment	3
Structure Usages	3
Foundations	3
Deflection and Sway	3
Standard Conditions	4
Calculations	Attached

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	TEP Engineering #13660476_C8_02, dated May 13, 2021 (Pending Passing Result)

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" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	$S_s = 0.19$, $S_1 = 0.05$
Site Class:	D - Stiff Soil

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	Antenna	Mount Type	Lines	Carrier
192.0	1	Generic 20' Omni	Platform with Handrails	(3) 7/8" Coax	OTHER
191.0	2	Generic 18' Dipole		(1) 7/8" Coax	
186.0	1	Generic 8' Yagi		(1) 7/8" Coax	
180.0	1	Generic 2' x 4' Rectangular Grid Dish			
178.0	2	RFS DB-T1-6Z-8AB-OZ	Platform with Handrails	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Commscope LNX-8513DS-VTM (39.2 lb)			
	3	Commscope LNX-6514DS-A1M			
	3	Alcatel-Lucent RRH2X60-AWS			
	3	Alcatel-Lucent RRH2X60-1900			
	6	RFS FD9R6004/2C-3L			
	6	Commscope HBXX-6517DS-A2M			
168.0	3	Ericsson RRUS 4449 B5, B12	SitePro1 RMQP-496-HK 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	Ericsson RRUS 4478 B14			
	3	Commscope NNH4-65B-R6			
	3	Ericsson RRUS 8843 B2, B66A			
	3	Raycap DC6-48-60-18-8F			
	6	Powerwave Allgon LGP21401			
	3	Powerwave Allgon 7770.00			
	3	CCI DMP65R-BU6DA			
158.0	3	Alcatel-Lucent 1900MHz RRH (65MHz)	Low Profile Platform	(4) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
	3	Alcatel-Lucent 2X50W RRH w/o Filter			
	3	Alcatel-Lucent 800 MHz RRH w/ Notch Filter			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	RFS APXVSP18-C-A20			
	3	Commscope DT465B-2XR			
148.0	3	Ericsson KRY 112 71	-	(6) 1 5/8" Coax	T-MOBILE
	3	Andrew ATSBT-BOTTOM-MF			
	3	RFS APX18-209014-CT5			
	3	Commscope LNX-6515DS-A1M (50.3 lb)			
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	Antenna	Mount Type	Lines	Carrier
148.0	3	RFS APXVAARR24_43-U-NA20	Low Profile Platform	(1) 1 5/8" (1.63"- 41.3mm) Fiber (6) 1 5/8" Coax	T-MOBILE
	3	Ericsson Radio 4449 B12,B71			

Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
148.0	3	Ericsson Radio 4449 B71 B85A	Platform with Handrails	(1) 1 5/8" Hybriflex	T-MOBILE
	3	RFS APXV18-209014-C-A20			
	3	RFS APXVAALL24 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 coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	52%	Pass
Shaft	60%	Pass
Base Plate	42%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	6,250.0	8,437.5	4,707.0	56%
Shear (Kips)	48.0	64.8	36.3	56%
* 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	1.731	1.070
148.0	Ericsson Radio 4449 B71 B85A	T-MOBILE	1.192	0.961
	RFS APXV18-209014-C-A20			
	RFS APXVAALL24 43-U-NA20			
111.0	Generic 2' x 4' Rectangular Grid Dish	Other	0.652	0.712

*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 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 antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

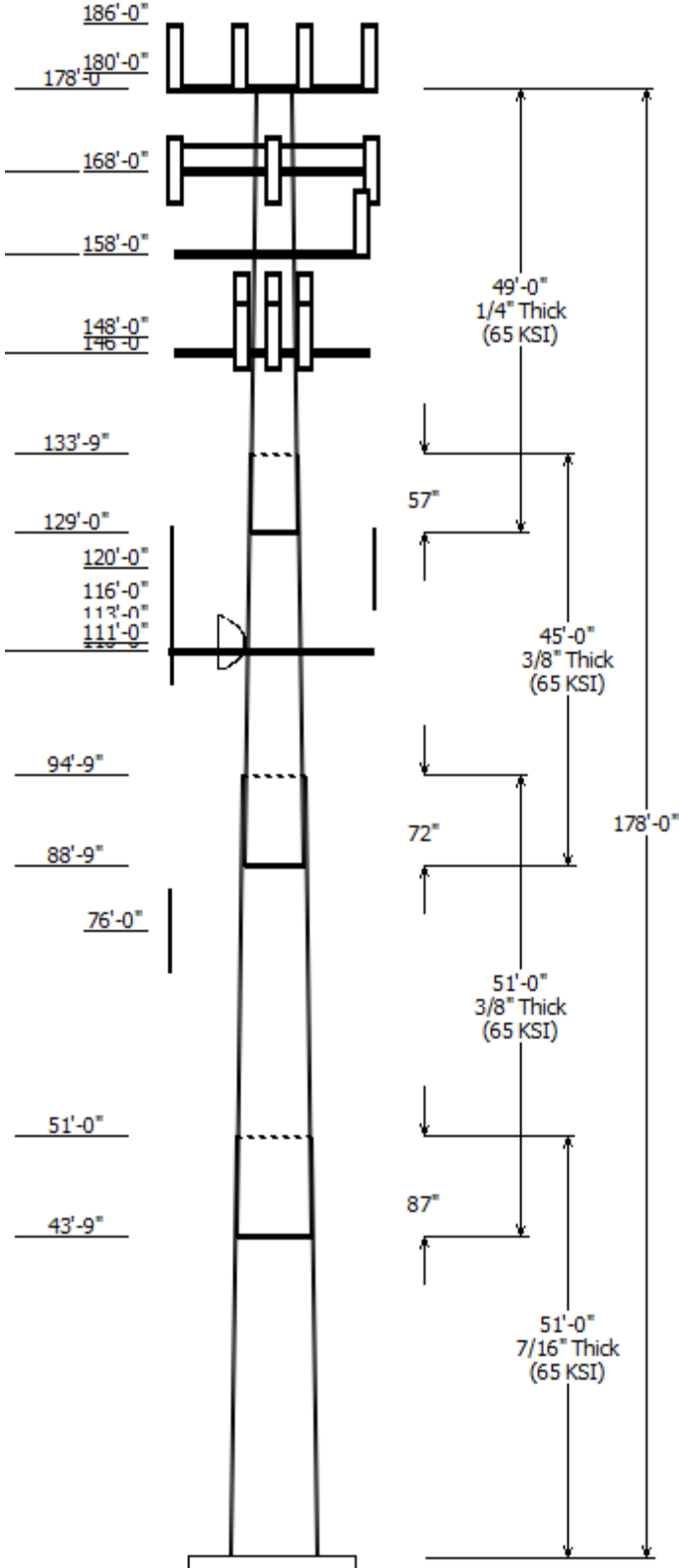
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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 Service, PLLC, 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 Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

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Job Information

Client : T-MOBILE
 Pole : 376046 Code: ANSI/TIA-222-H
 Location : MANSFIELD CENTER 1 CT, CT
 Description : 178 ft PennSummit Monopole
 Shape : 18 Sides
 Height : 178.00 (ft)
 Base Elev (ft): 0.00
 Taper: 0.252021in/ft

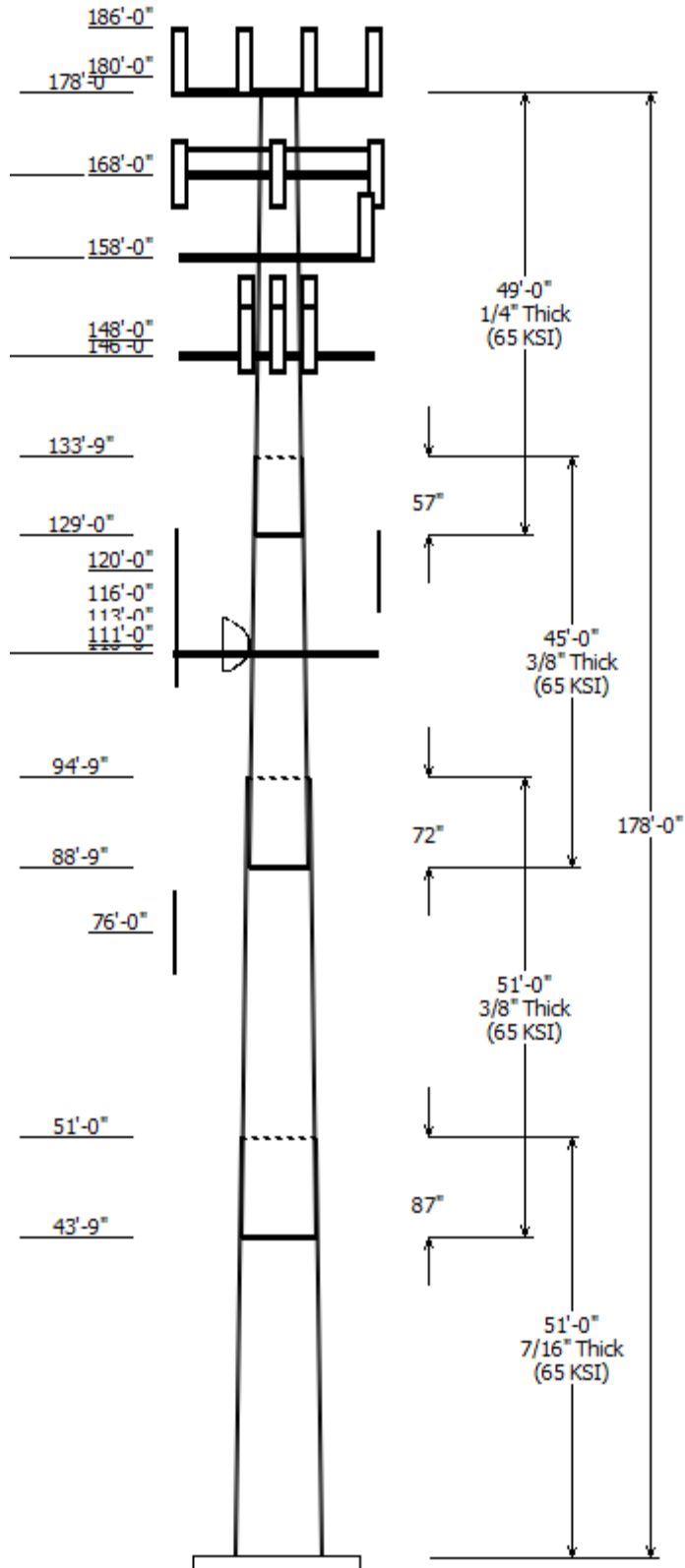
Risk Category : II
 Exposure : B
 Topo Method : Method 1
 Topographic Category : 1

Sections Properties

Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Top	Bottom				
1	51.000	55.50	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	37.84	0.250	Slip Joint	57.000	18 Sides 65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
192.000	192.000	1	Generic 20' Omni
191.000	191.000	2	Generic 18' Dipole
186.000	186.000	1	Generic 8' Yagi
180.000	180.000	1	Generic 2' x 4' Rectangular Gr
178.000	178.000	1	Flat Platform w/ Handrails
178.000	179.000	6	Commscope HBXX-6517DS-
178.000	179.000	3	Commscope LNX-6514DS-A1M
178.000	179.000	3	Commscope LNX-8513DS-
178.000	179.000	2	RFS DB-T1-6Z-8AB-0Z
178.000	178.000	3	Alcatel-Lucent RRH2X60-AWS
178.000	178.000	3	Alcatel-Lucent RRH2X60-1900
178.000	179.000	6	RFS FD9R6004/2C-3L
168.000	168.000	1	Site Pro1 RMQP-496-HK
168.000	168.000	3	CCI DMP65R-BU6DA
168.000	168.000	3	Powerwave Allgon 7770.00
168.000	168.000	3	Ericsson RRUS 4449 B5, B12
168.000	168.000	3	Ericsson RRUS 4478 B14
168.000	168.000	3	Commscope NNH4-65B-R6
168.000	168.000	3	Ericsson RRUS 8843 B2, B66A
168.000	168.000	3	Raycap DC6-48-60-18-8F
168.000	168.000	6	Powerwave Allgon LGP21401
168.000	168.000	1	Generic Mount Reinforcement
158.000	158.000	1	Round Low Profile Platform
158.000	159.000	3	Commscope DT465B-2XR
158.000	159.000	3	RFS APXVSP18-C-A20
158.000	158.000	3	Alcatel-Lucent TD-RRH8x20-25
158.000	158.000	3	Alcatel-Lucent 800 MHz RRH
158.000	158.000	3	Alcatel-Lucent 1900MHz RRH
158.000	158.000	3	Alcatel-Lucent 2X50W RRH w/o
148.000	148.000	3	RFS APXVAALL24 43-U-NA20
148.000	149.000	3	Commscope LNX-6515DS-A1M
148.000	148.000	3	RFS APXV18-209014-C-A20
148.000	149.000	3	RFS APX18-209014-CT5
148.000	148.000	3	Ericsson Radio 4449 B71 B85A
148.000	149.000	3	Ericsson KRY 112 71
148.000	149.000	3	Andrew ATSBT-BOTTOM-MF
146.000	146.000	1	Round Low Profile Platform
120.000	120.000	2	Generic 18' Dipole
116.000	116.000	1	Generic 8' Yagi
113.000	113.000	1	Generic 8' Yagi
113.000	113.000	1	Generic 9' Omni
111.000	111.000	1	Generic 22' Dipole
111.000	111.000	1	Generic 2' x 4' Rectangular Gr
110.000	110.000	3	Flat T-Arm



76.000 76.000 1 Generic GPS

Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
0.000	76.000	1/2" Coax	No
0.000	111.0	7/8" Coax	No
0.000	113.0	7/8" Coax	No
0.000	116.0	7/8" Coax	No
0.000	120.0	7/8" Coax	No
0.000	148.0	1 5/8" Coax	No
0.000	148.0	1 5/8" Hybriflex	No
0.000	158.0	1 1/4" Hybriflex	No
0.000	168.0	0.39" (10mm)	No
0.000	168.0	0.78" (19.7mm) 8	No
0.000	168.0	1 5/8" Coax	No
0.000	168.0	3" conduit	No
0.000	168.0	3/8" Coax	No
0.000	178.0	1 5/8" Coax	No
0.000	178.0	1 5/8" Hybriflex	No
0.000	180.0	7/8" Coax	No
0.000	186.0	7/8" Coax	No
0.000	191.0	7/8" Coax	No
0.000	192.0	7/8" Coax	No

Load Cases

1.2D + 1.0W	120 mph with No Ice
0.9D + 1.0W	120 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

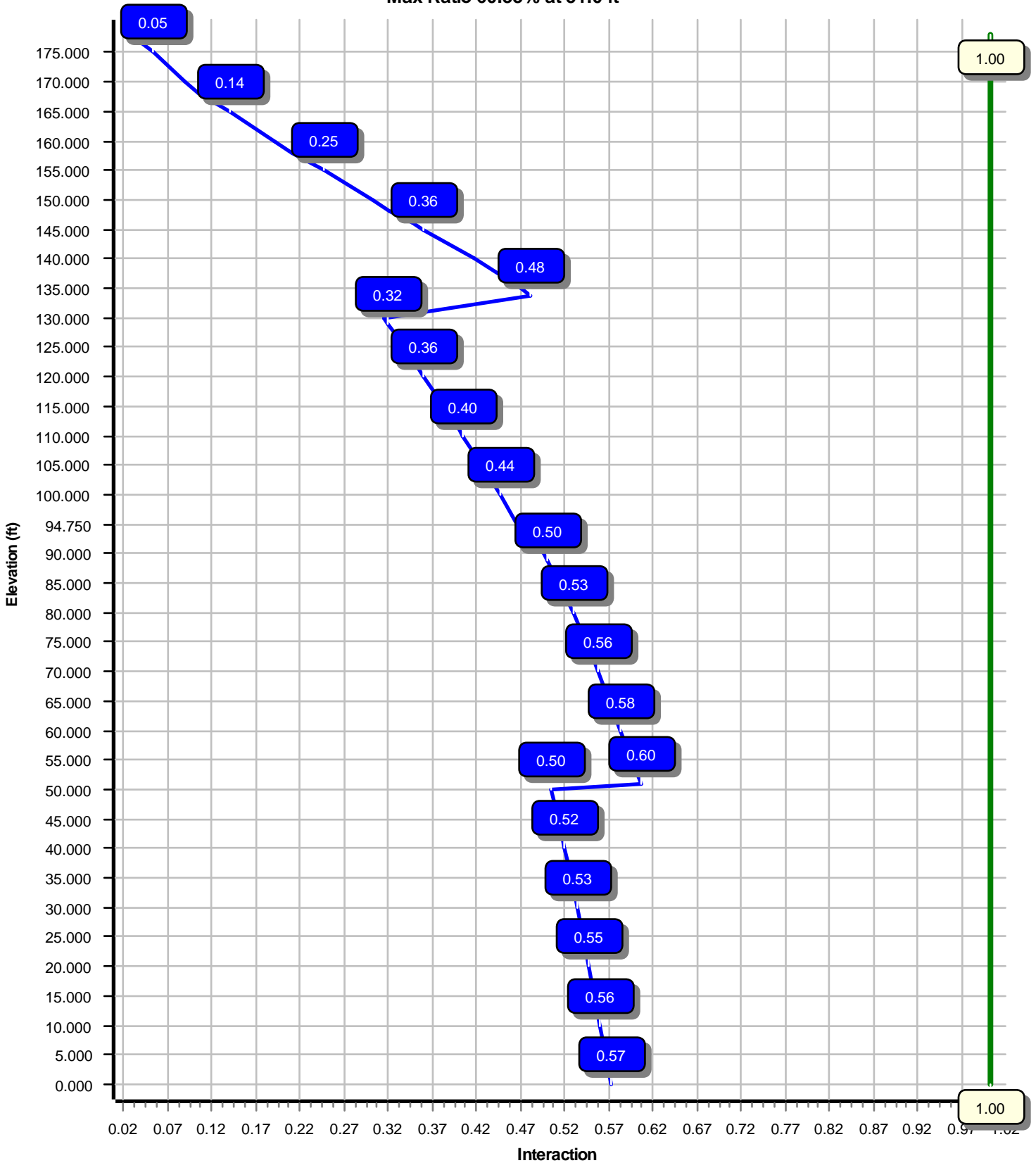
Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	4707.03	36.32	71.85
0.9D + 1.0W	4654.27	36.30	53.88
1.2D + 1.0Di + 1.0Wi	1371.09	10.54	92.68
1.2D + 1.0Ev + 1.0Eh	263.98	1.80	71.95
0.9D - 1.0Ev + 1.0Eh	260.32	1.80	49.91
1.0D + 1.0W	1045.86	8.12	59.91

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	111.00	7.829	0.712
1.0D + 1.0W	178.00	20.770	1.069

Load Case : 1.2D + 1.0W
Max Ratio 60.33% at 51.0 ft



Site Number: 376046**Code: ANSI/TIA-222-H**

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Site Name: MANSFIELD CENTER 1 CT, CT**Engineering Number:13660476_C3_03****4/26/2021 9:04:39 PM****Customer: T-MOBILE**

Analysis Parameters

Location :	Tolland County, CT	Height (ft) :	178
Code :	ANSI/TIA-222-H	Base Diameter (in) :	68.36
Shape :	18 Sides	Top Diameter (in) :	25.50
Pole Type :	Taper	Taper (in/ft) :	0.252
Pole Manufacturer :	PennSummit Tub	Rotation (deg) :	0.00
Kd (non-service) :	0.95	Ke :	0.98

Ice & Wind Parameters

Exposure Category:	B	Design Wind Speed Without Ice:	120 mph
Risk Category:	II	Design Wind Speed With Ice:	50 mph
Topographic 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):	2.51		
T_L (sec):	6	p:	1
S_s :	0.187	S_1 :	0.055
F_a :	1.600	F_v :	2.400
S_{ds} :	0.199	S_{d1} :	0.088
		C_s :	0.030
		C_s Max:	0.030
		C_s Min:	0.030

Load Cases

1.2D + 1.0W	120 mph with No Ice
0.9D + 1.0W	120 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom				Top				W/t Ratio	D/t Ratio	Taper (in/ft)
				Joint Type	Joint Len (in)		Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)			
1-18	51.000	0.4375	65		0.00	14,819	68.36	0.00	94.32	54974.8	25.79	156.25	55.50	51.00	76.47	29298.9	0.252023
2-18	51.000	0.3750	65	Slip	87.00	10,592	58.08	43.75	68.69	28900.5	25.55	154.89	45.23	94.75	53.39	13571.6	0.252023
3-18	45.000	0.3750	65	Slip	72.00	7,554	47.49	88.75	56.08	15730.2	20.57	126.65	36.15	133.75	42.58	6886.3	0.252023
4-18	49.000	0.2500	65	Slip	57.00	4,157	37.84	129.00	29.83	5328.6	24.93	151.40	25.50	178.00	20.04	1613.8	0.252023
Shaft Weight						37,123											

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAA (sf)	Orientation Factor	Weight (lb)	Ice EPAA (sf)	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 Grid	1	1.00	0.000	40.00	7.460	1.00	192.56	41.347	1.00
178.00	RFS FD9R6004/2C-3L	6	0.75	1.000	2.60	0.314	0.50	8.04	0.576	0.50
178.00	Alcatel-Lucent RRH2X60-1900	3	0.75	0.000	43.00	1.876	0.50	80.57	2.512	0.50
178.00	Alcatel-Lucent RRH2X60-AWS	3	0.75	0.000	44.00	1.876	0.50	82.55	2.512	0.50
178.00	RFS DB-T1-6Z-8AB-0Z	2	0.75	1.000	44.00	4.800	0.72	129.46	5.765	0.72
178.00	Commscope LNX-8513DS-VTM	3	0.75	1.000	39.20	8.173	0.69	158.26	10.094	0.69
178.00	Commscope LNX-6514DS-A1M	3	0.75	1.000	38.80	8.173	0.69	158.26	10.087	0.69
178.00	Commscope HBXX-6517DS-A2M	6	0.75	1.000	40.80	8.528	0.68	160.22	10.501	0.68
178.00	Flat Platform w/ Handrails	1	1.00	0.000	2,000.00	42.400	1.00	2,964.97	56.640	1.00
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	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 4478 B14	3	0.75	0.000	59.90	1.842	0.50	97.22	2.448	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	Powerwave Allgon 7770.00	3	0.75	0.000	35.00	5.508	0.65	119.39	6.203	0.65
168.00	Generic Mount Reinforcement	1	1.00	0.000	200.00	7.500	1.00	330.64	12.554	1.00
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	CCI DMP65R-BU6DA	3	0.75	0.000	79.40	12.709	0.63	253.29	14.592	0.63
168.00	Site Pro1 RMQP-496-HK	1	1.00	0.000	2,500.00	27.200	1.00	3,593.38	43.701	1.00
158.00	Alcatel-Lucent 2X50W RRH w/o	3	0.80	0.000	53.00	2.058	0.50	95.70	2.701	0.50
158.00	Alcatel-Lucent 1900MHz RRH	3	0.80	0.000	60.00	2.375	0.50	115.86	3.103	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 TD-RRH8x20-25	3	0.80	0.000	70.00	4.046	0.50	133.40	4.937	0.50
158.00	RFS APXVSP18-C-A20	3	0.80	1.000	57.00	8.024	0.69	172.72	9.895	0.69
158.00	Commscope DT465B-2XR	3	0.80	1.000	58.00	9.098	0.69	193.54	10.956	0.69
158.00	Round Low Profile Platform	1	1.00	0.000	1,500.00	21.700	1.00	1,934.65	34.580	1.00
148.00	Andrew ATSBT-BOTTOM-MF	3	0.75	1.000	1.80	0.173	0.50	5.68	0.373	0.50
148.00	Ericsson KRY 112 71	3	0.75	1.000	13.20	0.583	0.50	25.41	0.952	0.50
148.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	115.09	2.216	0.50
148.00	RFS APX18-209014-CT5	3	0.75	1.000	14.30	3.216	0.66	63.01	3.769	0.66
148.00	RFS APXV18-209014-C-A20	3	0.75	0.000	18.70	3.530	0.67	64.46	4.730	0.67
148.00	Commscope LNX-6515DS-A1M	3	0.75	1.000	50.30	11.440	0.70	204.56	13.608	0.70
148.00	RFS APXVAALL24 43-U-NA20	3	0.75	0.000	122.80	20.243	0.63	382.48	22.716	0.63
146.00	Round Low Profile Platform	1	1.00	0.000	1,500.00	21.700	1.00	1,931.50	34.487	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	0.80	0.000	30.00	12.000	1.00	250.41	33.735	1.00
113.00	Generic 9' Omni	1	1.00	0.000	25.00	2.700	1.00	69.41	4.809	1.00
113.00	Generic 8' Yagi	1	0.80	0.000	30.00	12.000	1.00	249.74	33.668	1.00
111.00	Generic 2' x 4' Rectangular Grid	1	1.00	0.000	40.00	7.460	1.00	185.58	39.796	1.00
111.00	Generic 22' Dipole	1	1.00	0.000	66.00	8.270	1.00	223.63	16.714	1.00
110.00	Flat T-Arm	3	0.75	0.000	250.00	12.900	0.67	385.04	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

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Totals Num Loadings:45 113 13,172.70 25,291.70

Linear Appurtenance Properties Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	192.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	Other
0.00	191.00	2	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	Other
0.00	186.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	Other
0.00	180.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	Other
0.00	178.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	N	VERIZON WIRELESS
0.00	178.00	2	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	N	VERIZON WIRELESS
0.00	168.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	168.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	168.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	168.00	3	3" conduit	3.50	7.58	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	168.00	1	3/8" Coax	0.44	0.08	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	158.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	N	SPRINT NEXTEL
0.00	148.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	N	T-MOBILE
0.00	148.00	1	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	N	T-MOBILE
0.00	120.00	2	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	Other
0.00	116.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	Other
0.00	113.00	2	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	Other
0.00	111.00	2	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	N	Other
0.00	76.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	N	SPRINT NEXTEL

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

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	54,974.8	25.79	156.25	71.1	1584.	0.0	0.0
5.00		0.4375	67.100	92.566	51,971.5	25.28	153.37	71.7	1525.	0.0	1,589.8
10.00		0.4375	65.840	90.816	49,079.6	24.77	150.49	72.3	1468.	0.0	1,560.0
15.00		0.4375	64.580	89.066	46,297.0	24.26	147.61	72.9	1412.	0.0	1,530.2
20.00		0.4375	63.320	87.316	43,621.7	23.76	144.73	73.5	1356.	0.0	1,500.5
25.00		0.4375	62.059	85.567	41,051.4	23.25	141.85	74.1	1302.	0.0	1,470.7
30.00		0.4375	60.799	83.817	38,584.2	22.74	138.97	74.7	1249.	0.0	1,440.9
35.00		0.4375	59.539	82.067	36,217.8	22.23	136.09	75.3	1198.	0.0	1,411.2
40.00		0.4375	58.279	80.317	33,950.2	21.73	133.21	75.8	1147.	0.0	1,381.4
43.75	Bot - Section 2	0.4375	57.334	79.005	32,313.1	21.34	131.05	76.3	1110.	0.0	1,016.5
45.00		0.4375	57.019	78.568	31,779.3	21.22	130.33	76.4	1097.	0.0	626.5
50.00		0.4375	55.759	76.818	29,703.0	20.71	127.45	77.0	1049.	0.0	2,471.3
51.00	Top - Section 1	0.3750	56.257	66.511	26,241.4	24.69	150.02	72.4	918.7	0.0	487.6
55.00		0.3750	55.249	65.311	24,846.7	24.21	147.33	72.9	885.8	0.0	897.1
60.00		0.3750	53.989	63.811	23,174.0	23.62	143.97	73.6	845.4	0.0	1,098.4
65.00		0.3750	52.728	62.312	21,578.1	23.03	140.61	74.3	806.0	0.0	1,072.9
70.00		0.3750	51.468	60.812	20,057.2	22.44	137.25	75.0	767.6	0.0	1,047.4
75.00		0.3750	50.208	59.312	18,609.5	21.84	133.89	75.7	730.0	0.0	1,021.9
76.00		0.3750	49.956	59.012	18,328.5	21.73	133.22	75.8	722.6	0.0	201.3
80.00		0.3750	48.948	57.812	17,233.1	21.25	130.53	76.4	693.4	0.0	795.1
85.00		0.3750	47.688	56.312	15,926.4	20.66	127.17	77.1	657.8	0.0	970.9
88.75	Bot - Section 3	0.3750	46.743	55.187	14,991.0	20.22	124.65	77.6	631.7	0.0	711.4
90.00		0.3750	46.428	54.813	14,687.5	20.07	123.81	77.8	623.1	0.0	471.7
94.75	Top - Section 2	0.3750	45.981	54.280	14,263.8	19.86	122.62	78.0	611.0	0.0	1,763.3
95.00		0.3750	45.918	54.205	14,204.8	19.83	122.45	78.1	609.3	0.0	46.1
100.0		0.3750	44.658	52.706	13,058.0	19.24	119.09	78.8	575.9	0.0	909.5
105.0		0.3750	43.398	51.206	11,974.7	18.64	115.73	79.5	543.5	0.0	884.0
110.0		0.3750	42.137	49.706	10,953.0	18.05	112.37	80.2	512.0	0.0	858.5
111.0		0.3750	41.885	49.406	10,755.9	17.93	111.69	80.3	505.8	0.0	168.6
113.0		0.3750	41.381	48.806	10,368.8	17.69	110.35	80.6	493.5	0.0	334.2
115.0		0.3750	40.877	48.206	9,991.2	17.46	109.01	80.9	481.4	0.0	330.1
116.0		0.3750	40.625	47.906	9,805.8	17.34	108.33	81.0	475.4	0.0	163.5
120.0		0.3750	39.617	46.706	9,087.3	16.86	105.65	81.6	451.8	0.0	643.9
125.0		0.3750	38.357	45.207	8,239.7	16.27	102.29	82.3	423.1	0.0	781.9
129.0	Bot - Section 4	0.3750	37.349	44.007	7,600.9	15.80	99.60	82.6	400.8	0.0	607.1
130.0		0.3750	37.097	43.707	7,446.5	15.68	98.93	82.6	395.4	0.0	250.4
133.7	Top - Section 3	0.2500	36.652	28.884	4,835.7	24.09	146.61	73.1	259.9	0.0	923.9
135.0		0.2500	36.337	28.634	4,711.2	23.87	145.35	73.3	255.4	0.0	122.3
140.0		0.2500	35.077	27.634	4,234.7	22.98	140.31	74.4	237.8	0.0	478.7
145.0		0.2500	33.817	26.634	3,791.5	22.09	135.27	75.4	220.8	0.0	461.7
146.0		0.2500	33.565	26.434	3,706.7	21.91	134.26	75.6	217.5	0.0	90.3
148.0		0.2500	33.061	26.034	3,541.0	21.55	132.24	76.0	211.0	0.0	178.5
150.0		0.2500	32.557	25.634	3,380.3	21.20	130.23	76.5	204.5	0.0	175.8
155.0		0.2500	31.296	24.634	3,000.0	20.31	125.19	77.5	188.8	0.0	427.6
158.0		0.2500	30.540	24.035	2,786.1	19.78	122.16	78.1	179.7	0.0	248.4
160.0		0.2500	30.036	23.635	2,649.3	19.42	120.15	78.6	173.7	0.0	162.2
165.0		0.2500	28.776	22.635	2,327.1	18.53	115.10	79.6	159.3	0.0	393.6
168.0		0.2500	28.020	22.035	2,146.9	18.00	112.08	80.2	150.9	0.0	228.0
170.0		0.2500	27.516	21.635	2,032.1	17.64	110.06	80.6	145.5	0.0	148.6
175.0		0.2500	26.256	20.635	1,763.2	16.76	105.02	81.7	132.3	0.0	359.6
178.0		0.2500	25.500	20.035	1,613.8	16.22	102.00	82.3	124.7	0.0	207.6
											37,122.7

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Load Case: 1.2D + 1.0W**120 mph with No Ice****24 Iterations**

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		276.8	0.0					0.0	0.0	276.8	0.0	0.0	0.0
5.00		548.5	1,907.7					0.0	349.0	548.5	2,256.8	0.0	0.0
10.00		538.2	1,872.0					0.0	349.0	538.2	2,221.0	0.0	0.0
15.00		527.9	1,836.3					0.0	349.0	527.9	2,185.3	0.0	0.0
20.00		517.6	1,800.6					0.0	349.0	517.6	2,149.6	0.0	0.0
25.00		507.3	1,764.8					0.0	349.0	507.3	2,113.9	0.0	0.0
30.00		502.9	1,729.1					0.0	349.0	502.9	2,078.1	0.0	0.0
35.00		508.7	1,693.4					0.0	349.0	508.7	2,042.4	0.0	0.0
40.00		451.9	1,657.7					0.0	349.0	451.9	2,006.7	0.0	0.0
43.75	Bot - Section 2	261.3	1,219.8					0.0	261.8	261.3	1,481.6	0.0	0.0
45.00		332.8	751.8					0.0	87.3	332.8	839.0	0.0	0.0
50.00		320.1	2,965.6					0.0	349.0	320.1	3,314.6	0.0	0.0
51.00	Top - Section 1	268.2	585.2					0.0	69.8	268.2	655.0	0.0	0.0
55.00		483.8	1,076.5					0.0	279.2	483.8	1,355.8	0.0	0.0
60.00		538.3	1,318.1					0.0	349.0	538.3	1,667.1	0.0	0.0
65.00		537.9	1,287.5					0.0	349.0	537.9	1,636.5	0.0	0.0
70.00		536.3	1,256.9					0.0	349.0	536.3	1,605.9	0.0	0.0
75.00		320.9	1,226.3					0.0	349.0	320.9	1,575.3	0.0	0.0
76.00	Appurtenance(s)	266.0	241.6	31.1	0.0	0.0	12.0	0.0	69.8	297.1	323.4	0.0	0.0
80.00		476.6	954.1					0.0	278.5	476.6	1,232.6	0.0	0.0
85.00		460.2	1,165.0					0.0	348.1	460.2	1,513.1	0.0	0.0
88.75	Bot - Section 3	262.4	853.7					0.0	261.1	262.4	1,114.8	0.0	0.0
90.00		315.8	566.0					0.0	87.0	315.8	653.0	0.0	0.0
94.75	Top - Section 2	262.7	2,115.9					0.0	330.7	262.7	2,446.7	0.0	0.0
95.00		272.5	55.4					0.0	17.4	272.5	72.8	0.0	0.0
100.00		515.3	1,091.4					0.0	348.1	515.3	1,439.5	0.0	0.0
105.00		507.8	1,060.8					0.0	348.1	507.8	1,408.9	0.0	0.0
110.00	Appurtenance(s)	301.8	1,030.1	746.7	0.0	0.0	900.0	0.0	348.1	1,048.5	2,278.3	0.0	0.0
111.00	Appurtenance(s)	149.1	202.4	605.6	0.0	0.0	127.2	0.0	69.6	754.7	399.2	0.0	0.0
113.00	Appurtenance(s)	197.8	401.0	475.9	0.0	0.0	66.0	0.0	137.7	673.8	604.7	0.0	0.0
115.00		147.6	396.1					0.0	136.1	147.6	532.2	0.0	0.0
116.00	Appurtenance(s)	243.2	196.2	374.3	0.0	0.0	36.0	0.0	68.0	617.4	300.3	0.0	0.0
120.00	Appurtenance(s)	432.6	772.7	533.0	0.0	0.0	132.0	0.0	270.6	965.6	1,175.2	0.0	0.0
125.00		425.5	938.3					0.0	334.3	425.5	1,272.5	0.0	0.0
129.00	Bot - Section 4	234.0	728.6					0.0	267.4	234.0	996.0	0.0	0.0
130.00		220.8	300.5					0.0	66.9	220.8	367.3	0.0	0.0
133.75	Top - Section 3	231.2	1,108.7					0.0	250.7	231.2	1,359.4	0.0	0.0
135.00		283.0	146.8					0.0	83.6	283.0	230.4	0.0	0.0
140.00		445.6	574.4					0.0	334.3	445.6	908.7	0.0	0.0
145.00		263.2	554.0					0.0	334.3	263.2	888.2	0.0	0.0
146.00	Appurtenance(s)	129.1	108.3	903.4	0.0	0.0	1,800.0	0.0	66.9	1,032.6	1,975.2	0.0	0.0
148.00	Appurtenance(s)	170.7	214.2	2,489.4	0.0	990.1	1,066.0	0.0	133.7	2,660.1	1,413.9	0.0	0.0
150.00		292.7	211.0					0.0	118.8	292.7	329.8	0.0	0.0
155.00		329.5	513.2					0.0	296.9	329.5	810.1	0.0	0.0
158.00	Appurtenance(s)	201.5	298.1	2,694.4	0.0	1,209.6	3,095.3	0.0	178.2	2,895.9	3,571.5	0.0	0.0
160.00		274.8	194.6					0.0	109.2	274.8	303.8	0.0	0.0
165.00		308.7	472.3					0.0	272.9	308.7	745.3	0.0	0.0
168.00	Appurtenance(s)	188.2	273.6	3,895.6	0.0	0.0	4,878.7	0.0	163.8	4,083.8	5,316.1	0.0	0.0

<u>Load Case:</u> 1.2D + 1.0W				120 mph with No Ice				24 Iterations					
Gust Response Factor :1.10													
Dead Load Factor :1.20													
Wind Load Factor :1.00													
170.00		255.8	178.3					0.0	33.8	255.8	212.1	0.0	0.0
175.00		286.7	431.5					0.0	84.5	286.7	516.0	0.0	0.0
178.00	Appurtenance(s)	105.4	249.1	4,585.4	0.0	2,531.4	3,412.1	0.0	50.7	4,690.8	3,711.9	0.0	0.0
Totals:										34,772.0	71,607.4	0.00	0.00

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:45 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0W

120 mph 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	-71.85	-36.32	0.00	-4,707.03	0.00	4,707.03	6,032.65	1,655.24	10,154.3	8,442.81	0.00	0.00	0.570
5.00	-69.52	-35.91	0.00	-4,525.46	0.00	4,525.46	5,970.50	1,624.53	9,781.10	8,199.81	0.06	-0.12	0.564
10.00	-67.22	-35.51	0.00	-4,345.91	0.00	4,345.91	5,906.46	1,593.82	9,414.84	7,957.52	0.26	-0.24	0.558
15.00	-64.97	-35.11	0.00	-4,168.37	0.00	4,168.37	5,840.54	1,563.11	9,055.58	7,716.10	0.57	-0.36	0.552
20.00	-62.74	-34.72	0.00	-3,992.82	0.00	3,992.82	5,772.74	1,532.40	8,703.30	7,475.68	1.02	-0.49	0.545
25.00	-60.56	-34.32	0.00	-3,819.24	0.00	3,819.24	5,703.06	1,501.69	8,358.02	7,236.42	1.60	-0.62	0.539
30.00	-58.41	-33.93	0.00	-3,647.63	0.00	3,647.63	5,631.49	1,470.99	8,019.72	6,998.46	2.32	-0.75	0.532
35.00	-56.30	-33.52	0.00	-3,477.99	0.00	3,477.99	5,558.05	1,440.28	7,688.41	6,761.96	3.17	-0.88	0.525
40.00	-54.23	-33.15	0.00	-3,310.38	0.00	3,310.38	5,482.72	1,409.57	7,364.09	6,527.05	4.16	-1.01	0.518
43.75	-52.71	-32.92	0.00	-3,186.08	0.00	3,186.08	5,424.99	1,386.54	7,125.44	6,352.01	5.00	-1.11	0.512
45.00	-51.83	-32.65	0.00	-3,144.93	0.00	3,144.93	5,405.52	1,378.86	7,046.76	6,293.89	5.30	-1.15	0.510
50.00	-48.48	-32.33	0.00	-2,981.68	0.00	2,981.68	5,326.43	1,348.15	6,736.42	6,062.63	6.57	-1.29	0.501
51.00	-47.79	-32.11	0.00	-2,949.35	0.00	2,949.35	4,331.58	1,167.27	5,891.45	4,986.16	6.85	-1.31	0.603
55.00	-46.37	-31.70	0.00	-2,820.93	0.00	2,820.93	4,286.21	1,146.21	5,680.83	4,844.33	7.99	-1.43	0.594
60.00	-44.63	-31.24	0.00	-2,662.44	0.00	2,662.44	4,227.81	1,119.89	5,422.94	4,667.85	9.57	-1.58	0.582
65.00	-42.93	-30.77	0.00	-2,506.24	0.00	2,506.24	4,167.52	1,093.57	5,171.05	4,492.39	11.31	-1.74	0.569
70.00	-41.26	-30.30	0.00	-2,352.37	0.00	2,352.37	4,105.35	1,067.25	4,925.14	4,318.10	13.22	-1.90	0.556
75.00	-39.64	-30.00	0.00	-2,200.86	0.00	2,200.86	4,041.30	1,040.92	4,685.22	4,145.13	15.30	-2.06	0.542
76.00	-39.29	-29.74	0.00	-2,170.86	0.00	2,170.86	4,028.27	1,035.66	4,637.96	4,110.71	15.74	-2.10	0.539
80.00	-38.00	-29.32	0.00	-2,051.89	0.00	2,051.89	3,975.37	1,014.60	4,451.30	3,973.63	17.55	-2.23	0.527
85.00	-36.43	-28.89	0.00	-1,905.30	0.00	1,905.30	3,907.56	988.28	4,223.36	3,803.74	19.97	-2.39	0.511
88.75	-35.29	-28.63	0.00	-1,796.97	0.00	1,796.97	3,855.46	968.54	4,056.34	3,677.47	21.90	-2.51	0.499
90.00	-34.60	-28.35	0.00	-1,761.18	0.00	1,761.18	3,837.86	961.96	4,001.42	3,635.61	22.56	-2.56	0.494
94.75	-32.13	-28.02	0.00	-1,626.54	0.00	1,626.54	3,812.68	952.62	3,924.11	3,576.41	25.19	-2.71	0.464
95.00	-32.03	-27.79	0.00	-1,619.54	0.00	1,619.54	3,809.11	951.30	3,913.28	3,568.09	25.33	-2.72	0.463
100.00	-30.54	-27.28	0.00	-1,480.61	0.00	1,480.61	3,736.78	924.98	3,699.75	3,402.69	28.26	-2.88	0.444
105.00	-29.09	-26.78	0.00	-1,344.19	0.00	1,344.19	3,662.56	898.66	3,492.21	3,239.41	31.36	-3.03	0.424
110.00	-26.83	-25.65	0.00	-1,210.27	0.00	1,210.27	3,586.46	872.34	3,290.66	3,078.39	34.61	-3.18	0.401
111.00	-26.46	-24.90	0.00	-1,184.62	0.00	1,184.62	3,571.01	867.08	3,251.07	3,046.47	35.28	-3.21	0.397
113.00	-25.86	-24.22	0.00	-1,134.82	0.00	1,134.82	3,539.90	856.55	3,172.61	2,982.92	36.64	-3.27	0.389
115.00	-25.32	-24.06	0.00	-1,086.38	0.00	1,086.38	3,508.48	846.02	3,095.10	2,919.78	38.02	-3.34	0.380
116.00	-25.03	-23.46	0.00	-1,062.32	0.00	1,062.32	3,492.66	840.75	3,056.71	2,888.36	38.73	-3.37	0.376
120.00	-23.86	-22.48	0.00	-968.47	0.00	968.47	3,428.62	819.70	2,905.53	2,763.73	41.60	-3.48	0.358
125.00	-22.57	-22.03	0.00	-856.06	0.00	856.06	3,346.87	793.38	2,721.95	2,610.39	45.32	-3.63	0.335
129.00	-21.56	-21.76	0.00	-767.95	0.00	767.95	3,269.48	772.32	2,579.40	2,481.68	48.41	-3.74	0.317
130.00	-21.19	-21.54	0.00	-746.19	0.00	746.19	3,247.19	767.05	2,544.37	2,447.80	49.19	-3.77	0.312
133.75	-19.82	-21.24	0.00	-665.43	0.00	665.43	1,899.47	506.91	1,666.63	1,424.09	52.19	-3.87	0.479
135.00	-19.57	-20.98	0.00	-638.88	0.00	638.88	1,889.77	502.53	1,637.91	1,404.47	53.21	-3.90	0.467
140.00	-18.63	-20.53	0.00	-533.99	0.00	533.99	1,849.78	484.98	1,525.53	1,326.42	57.39	-4.08	0.414
145.00	-17.73	-20.23	0.00	-431.37	0.00	431.37	1,807.91	467.43	1,417.15	1,249.15	61.75	-4.24	0.357
146.00	-15.83	-19.06	0.00	-411.14	0.00	411.14	1,799.31	463.92	1,395.95	1,233.81	62.64	-4.27	0.344
148.00	-14.60	-16.32	0.00	-372.02	0.00	372.02	1,781.88	456.90	1,354.03	1,203.23	64.44	-4.33	0.319
150.00	-14.27	-16.03	0.00	-339.38	0.00	339.38	1,764.15	449.88	1,312.76	1,172.82	66.27	-4.39	0.299

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:45 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0W

120 mph with No Ice

24 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

155.00	-13.46	-15.66	0.00	-259.25	0.00	259.25	1,718.52	432.33	1,212.36	1,097.58	70.93	-4.52	0.245
158.00	-10.12	-12.50	0.00	-211.07	0.00	211.07	1,690.24	421.81	1,154.03	1,053.02	73.79	-4.58	0.207
160.00	-9.82	-12.21	0.00	-186.07	0.00	186.07	1,671.00	414.79	1,115.95	1,023.57	75.71	-4.62	0.189
165.00	-9.09	-11.85	0.00	-125.03	0.00	125.03	1,621.61	397.24	1,023.54	950.94	80.60	-4.71	0.138
168.00	-4.13	-7.34	0.00	-89.47	0.00	89.47	1,591.06	386.71	970.01	908.08	83.57	-4.75	0.101
170.00	-3.93	-7.07	0.00	-74.78	0.00	74.78	1,570.33	379.69	935.12	879.84	85.56	-4.77	0.088
175.00	-3.44	-6.75	0.00	-39.41	0.00	39.41	1,517.17	362.14	850.69	810.41	90.57	-4.81	0.051
178.00	0.00	-6.43	0.00	-19.17	0.00	19.17	1,484.37	351.62	801.96	769.62	93.59	-4.82	0.025

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:45 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W**120 mph with No Ice (Reduced DL)****24 Iterations**

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		276.8	0.0					0.0	0.0	276.8	0.0	0.0	0.0
5.00		548.5	1,430.8					0.0	261.8	548.5	1,692.6	0.0	0.0
10.00		538.2	1,404.0					0.0	261.8	538.2	1,665.8	0.0	0.0
15.00		527.9	1,377.2					0.0	261.8	527.9	1,639.0	0.0	0.0
20.00		517.6	1,350.4					0.0	261.8	517.6	1,612.2	0.0	0.0
25.00		507.3	1,323.6					0.0	261.8	507.3	1,585.4	0.0	0.0
30.00		502.9	1,296.8					0.0	261.8	502.9	1,558.6	0.0	0.0
35.00		508.7	1,270.0					0.0	261.8	508.7	1,531.8	0.0	0.0
40.00		451.9	1,243.3					0.0	261.8	451.9	1,505.0	0.0	0.0
43.75	Bot - Section 2	261.3	914.9					0.0	196.3	261.3	1,111.2	0.0	0.0
45.00		332.8	563.8					0.0	65.4	332.8	629.3	0.0	0.0
50.00		320.1	2,224.2					0.0	261.8	320.1	2,486.0	0.0	0.0
51.00	Top - Section 1	268.2	438.9					0.0	52.4	268.2	491.2	0.0	0.0
55.00		483.8	807.4					0.0	209.4	483.8	1,016.8	0.0	0.0
60.00		538.3	988.6					0.0	261.8	538.3	1,250.4	0.0	0.0
65.00		537.9	965.6					0.0	261.8	537.9	1,227.4	0.0	0.0
70.00		536.3	942.7					0.0	261.8	536.3	1,204.4	0.0	0.0
75.00		320.9	919.7					0.0	261.8	320.9	1,181.5	0.0	0.0
76.00	Appurtenance(s)	266.0	181.2	31.1	0.0	0.0	9.0	0.0	52.4	297.1	242.5	0.0	0.0
80.00		476.6	715.5					0.0	208.9	476.6	924.4	0.0	0.0
85.00		460.2	873.8					0.0	261.1	460.2	1,134.9	0.0	0.0
88.75	Bot - Section 3	262.4	640.3					0.0	195.8	262.4	836.1	0.0	0.0
90.00		315.8	424.5					0.0	65.3	315.8	489.8	0.0	0.0
94.75	Top - Section 2	262.7	1,587.0					0.0	248.0	262.7	1,835.0	0.0	0.0
95.00		272.5	41.5					0.0	13.1	272.5	54.6	0.0	0.0
100.00		515.3	818.5					0.0	261.1	515.3	1,079.6	0.0	0.0
105.00		507.8	795.6					0.0	261.1	507.8	1,056.7	0.0	0.0
110.00	Appurtenance(s)	301.8	772.6	746.7	0.0	0.0	675.0	0.0	261.1	1,048.5	1,708.7	0.0	0.0
111.00	Appurtenance(s)	149.1	151.8	605.6	0.0	0.0	95.4	0.0	52.2	754.7	299.4	0.0	0.0
113.00	Appurtenance(s)	197.8	300.8	475.9	0.0	0.0	49.5	0.0	103.2	673.8	453.5	0.0	0.0
115.00		147.6	297.1					0.0	102.1	147.6	399.2	0.0	0.0
116.00	Appurtenance(s)	243.2	147.2	374.3	0.0	0.0	27.0	0.0	51.0	617.4	225.2	0.0	0.0
120.00	Appurtenance(s)	432.6	579.5	533.0	0.0	0.0	99.0	0.0	202.9	965.6	881.4	0.0	0.0
125.00		425.5	703.7					0.0	250.7	425.5	954.4	0.0	0.0
129.00	Bot - Section 4	234.0	546.4					0.0	200.6	234.0	747.0	0.0	0.0
130.00		220.8	225.4					0.0	50.1	220.8	275.5	0.0	0.0
133.75	Top - Section 3	231.2	831.5					0.0	188.0	231.2	1,019.5	0.0	0.0
135.00		283.0	110.1					0.0	62.7	283.0	172.8	0.0	0.0
140.00		445.6	430.8					0.0	250.7	445.6	681.5	0.0	0.0
145.00		263.2	415.5					0.0	250.7	263.2	666.2	0.0	0.0
146.00	Appurtenance(s)	129.1	81.3	903.4	0.0	0.0	1,350.0	0.0	50.1	1,032.6	1,481.4	0.0	0.0
148.00	Appurtenance(s)	170.7	160.7	2,489.4	0.0	990.1	799.5	0.0	100.3	2,660.1	1,060.4	0.0	0.0
150.00		292.7	158.2					0.0	89.1	292.7	247.3	0.0	0.0
155.00		329.5	384.9					0.0	222.7	329.5	607.6	0.0	0.0
158.00	Appurtenance(s)	201.5	223.6	2,694.4	0.0	1,209.6	2,321.5	0.0	133.6	2,895.9	2,678.7	0.0	0.0
160.00		274.8	146.0					0.0	81.9	274.8	227.9	0.0	0.0
165.00		308.7	354.2					0.0	204.7	308.7	559.0	0.0	0.0
168.00	Appurtenance(s)	188.2	205.2	3,895.6	0.0	0.0	3,659.0	0.0	122.8	4,083.8	3,987.1	0.0	0.0

<u>Load Case:</u> 0.9D + 1.0W		120 mph with No Ice (Reduced DL)							24 Iterations				
Gust Response Factor :1.10													
Dead Load Factor :0.90													
Wind Load Factor :1.00													
170.00		255.8	133.7					0.0	25.4	255.8	159.1	0.0	0.0
175.00		286.7	323.6					0.0	63.4	286.7	387.0	0.0	0.0
178.00	Appurtenance(s)	105.4	186.8	4,585.4	0.0	2,531.4	2,559.1	0.0	38.0	4,690.8	2,783.9	0.0	0.0
Totals:										34,772.0	53,705.6	0.00	0.00

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:51 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

120 mph with No Ice (Reduced DL)

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	-53.88	-36.30	0.00	-4,654.27	0.00	4,654.27	6,032.65	1,655.24	10,154.3	8,442.81	0.00	0.00	0.561
5.00	-52.11	-35.85	0.00	-4,472.80	0.00	4,472.80	5,970.50	1,624.53	9,781.10	8,199.81	0.06	-0.12	0.555
10.00	-50.37	-35.42	0.00	-4,293.53	0.00	4,293.53	5,906.46	1,593.82	9,414.84	7,957.52	0.25	-0.24	0.549
15.00	-48.66	-34.98	0.00	-4,116.45	0.00	4,116.45	5,840.54	1,563.11	9,055.58	7,716.10	0.57	-0.36	0.542
20.00	-46.98	-34.56	0.00	-3,941.53	0.00	3,941.53	5,772.74	1,532.40	8,703.30	7,475.68	1.01	-0.48	0.536
25.00	-45.32	-34.14	0.00	-3,768.75	0.00	3,768.75	5,703.06	1,501.69	8,358.02	7,236.42	1.59	-0.61	0.529
30.00	-43.69	-33.71	0.00	-3,598.08	0.00	3,598.08	5,631.49	1,470.99	8,019.72	6,998.46	2.29	-0.74	0.522
35.00	-42.09	-33.28	0.00	-3,429.52	0.00	3,429.52	5,558.05	1,440.28	7,688.41	6,761.96	3.13	-0.87	0.515
40.00	-40.53	-32.88	0.00	-3,263.13	0.00	3,263.13	5,482.72	1,409.57	7,364.09	6,527.05	4.11	-1.00	0.508
43.75	-39.39	-32.65	0.00	-3,139.82	0.00	3,139.82	5,424.99	1,386.54	7,125.44	6,352.01	4.94	-1.10	0.502
45.00	-38.72	-32.36	0.00	-3,099.01	0.00	3,099.01	5,405.52	1,378.86	7,046.76	6,293.89	5.23	-1.13	0.500
50.00	-36.19	-32.04	0.00	-2,937.21	0.00	2,937.21	5,326.43	1,348.15	6,736.42	6,062.63	6.49	-1.27	0.492
51.00	-35.67	-31.80	0.00	-2,905.17	0.00	2,905.17	4,331.58	1,167.27	5,891.45	4,986.16	6.76	-1.30	0.592
55.00	-34.59	-31.38	0.00	-2,777.96	0.00	2,777.96	4,286.21	1,146.21	5,680.83	4,844.33	7.89	-1.41	0.582
60.00	-33.27	-30.90	0.00	-2,621.08	0.00	2,621.08	4,227.81	1,119.89	5,422.94	4,667.85	9.45	-1.56	0.570
65.00	-31.98	-30.41	0.00	-2,466.59	0.00	2,466.59	4,167.52	1,093.57	5,171.05	4,492.39	11.17	-1.72	0.558
70.00	-30.71	-29.92	0.00	-2,314.54	0.00	2,314.54	4,105.35	1,067.25	4,925.14	4,318.10	13.05	-1.87	0.544
75.00	-29.49	-29.61	0.00	-2,164.93	0.00	2,164.93	4,041.30	1,040.92	4,685.22	4,145.13	15.10	-2.03	0.530
76.00	-29.21	-29.35	0.00	-2,135.32	0.00	2,135.32	4,028.27	1,035.66	4,637.96	4,110.71	15.53	-2.07	0.528
80.00	-28.23	-28.91	0.00	-2,017.94	0.00	2,017.94	3,975.37	1,014.60	4,451.30	3,973.63	17.32	-2.20	0.516
85.00	-27.05	-28.47	0.00	-1,873.40	0.00	1,873.40	3,907.56	988.28	4,223.36	3,803.74	19.70	-2.36	0.500
88.75	-26.18	-28.21	0.00	-1,766.65	0.00	1,766.65	3,855.46	968.54	4,056.34	3,677.47	21.60	-2.48	0.488
90.00	-25.66	-27.92	0.00	-1,731.38	0.00	1,731.38	3,837.86	961.96	4,001.42	3,635.61	22.26	-2.52	0.484
94.75	-23.80	-27.60	0.00	-1,598.79	0.00	1,598.79	3,812.68	952.62	3,924.11	3,576.41	24.84	-2.67	0.454
95.00	-23.72	-27.36	0.00	-1,591.89	0.00	1,591.89	3,809.11	951.30	3,913.28	3,568.09	24.98	-2.68	0.453
100.00	-22.60	-26.86	0.00	-1,455.07	0.00	1,455.07	3,736.78	924.98	3,699.75	3,402.69	27.87	-2.83	0.435
105.00	-21.50	-26.35	0.00	-1,320.80	0.00	1,320.80	3,662.56	898.66	3,492.21	3,239.41	30.92	-2.98	0.414
110.00	-19.81	-25.24	0.00	-1,189.04	0.00	1,189.04	3,586.46	872.34	3,290.66	3,078.39	34.13	-3.13	0.393
111.00	-19.53	-24.49	0.00	-1,163.80	0.00	1,163.80	3,571.01	867.08	3,251.07	3,046.47	34.78	-3.16	0.388
113.00	-19.09	-23.81	0.00	-1,114.82	0.00	1,114.82	3,539.90	856.55	3,172.61	2,982.92	36.12	-3.22	0.380
115.00	-18.68	-23.66	0.00	-1,067.20	0.00	1,067.20	3,508.48	846.02	3,095.10	2,919.78	37.49	-3.28	0.372
116.00	-18.46	-23.05	0.00	-1,043.54	0.00	1,043.54	3,492.66	840.75	3,056.71	2,888.36	38.18	-3.31	0.367
120.00	-17.59	-22.07	0.00	-951.34	0.00	951.34	3,428.62	819.70	2,905.53	2,763.73	41.00	-3.43	0.350
125.00	-16.62	-21.63	0.00	-840.97	0.00	840.97	3,346.87	793.38	2,721.95	2,610.39	44.67	-3.57	0.328
129.00	-15.86	-21.37	0.00	-754.46	0.00	754.46	3,269.48	772.32	2,579.40	2,481.68	47.71	-3.68	0.310
130.00	-15.58	-21.15	0.00	-733.10	0.00	733.10	3,247.19	767.05	2,544.37	2,447.80	48.48	-3.71	0.305
133.75	-14.55	-20.86	0.00	-653.80	0.00	653.80	1,899.47	506.91	1,666.63	1,424.09	51.43	-3.81	0.468
135.00	-14.36	-20.60	0.00	-627.72	0.00	627.72	1,889.77	502.53	1,637.91	1,404.47	52.43	-3.84	0.456
140.00	-13.65	-20.15	0.00	-524.74	0.00	524.74	1,849.78	484.98	1,525.53	1,326.42	56.55	-4.02	0.405
145.00	-12.97	-19.86	0.00	-424.01	0.00	424.01	1,807.91	467.43	1,417.15	1,249.15	60.84	-4.17	0.348
146.00	-11.56	-18.73	0.00	-404.16	0.00	404.16	1,799.31	463.92	1,395.95	1,233.81	61.72	-4.21	0.336
148.00	-10.68	-16.01	0.00	-365.71	0.00	365.71	1,781.88	456.90	1,354.03	1,203.23	63.49	-4.26	0.311
150.00	-10.43	-15.71	0.00	-333.70	0.00	333.70	1,764.15	449.88	1,312.76	1,172.82	65.29	-4.32	0.292

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:51 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

120 mph with No Ice (Reduced DL)

24 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

155.00	-9.82	-15.35	0.00	-255.13	0.00	255.13	1,718.52	432.33	1,212.36	1,097.58	69.88	-4.44	0.239
158.00	-7.37	-12.26	0.00	-207.86	0.00	207.86	1,690.24	421.81	1,154.03	1,053.02	72.69	-4.51	0.203
160.00	-7.15	-11.98	0.00	-183.33	0.00	183.33	1,671.00	414.79	1,115.95	1,023.57	74.59	-4.55	0.184
165.00	-6.61	-11.64	0.00	-123.42	0.00	123.42	1,621.61	397.24	1,023.54	950.94	79.40	-4.63	0.135
168.00	-2.96	-7.24	0.00	-88.52	0.00	88.52	1,591.06	386.71	970.01	908.08	82.32	-4.67	0.100
170.00	-2.82	-6.98	0.00	-74.03	0.00	74.03	1,570.33	379.69	935.12	879.84	84.28	-4.69	0.086
175.00	-2.45	-6.66	0.00	-39.15	0.00	39.15	1,517.17	362.14	850.69	810.41	89.21	-4.73	0.050
178.00	0.00	-6.43	0.00	-19.17	0.00	19.17	1,484.37	351.62	801.96	769.62	92.19	-4.75	0.025

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:51 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

23 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

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		80.8	0.0					0.0	0.0	80.8	0.0	0.0	0.0
5.00		160.3	2,236.3					0.0	349.0	160.3	2,585.3	0.0	0.0
10.00		157.7	2,232.4					0.0	349.0	157.7	2,581.4	0.0	0.0
15.00		154.9	2,208.6					0.0	349.0	154.9	2,557.7	0.0	0.0
20.00		152.1	2,178.4					0.0	349.0	152.1	2,527.4	0.0	0.0
25.00		149.3	2,144.9					0.0	349.0	149.3	2,493.9	0.0	0.0
30.00		148.1	2,109.2					0.0	349.0	148.1	2,458.2	0.0	0.0
35.00		150.0	2,072.1					0.0	349.0	150.0	2,421.1	0.0	0.0
40.00		133.4	2,033.9					0.0	349.0	133.4	2,382.9	0.0	0.0
43.75	Bot - Section 2	77.2	1,500.6					0.0	261.8	77.2	1,762.4	0.0	0.0
45.00		98.4	846.6					0.0	87.3	98.4	933.9	0.0	0.0
50.00		94.6	3,339.5					0.0	349.0	94.6	3,688.5	0.0	0.0
51.00	Top - Section 1	79.4	660.1					0.0	69.8	79.4	729.9	0.0	0.0
55.00		143.3	1,372.4					0.0	279.2	143.3	1,651.6	0.0	0.0
60.00		159.6	1,682.7					0.0	349.0	159.6	2,031.7	0.0	0.0
65.00		159.7	1,646.7					0.0	349.0	159.7	1,995.8	0.0	0.0
70.00		159.4	1,610.5					0.0	349.0	159.4	1,959.5	0.0	0.0
75.00		95.4	1,573.9					0.0	349.0	95.4	1,922.9	0.0	0.0
76.00	Appurtenance(s)	79.2	311.0	7.8	0.0	0.0	26.0	0.0	69.8	87.0	406.9	0.0	0.0
80.00		142.0	1,227.4					0.0	278.5	142.0	1,505.9	0.0	0.0
85.00		137.3	1,500.0					0.0	348.1	137.3	1,848.1	0.0	0.0
88.75	Bot - Section 3	78.3	1,101.3					0.0	261.1	78.3	1,362.4	0.0	0.0
90.00		94.3	649.6					0.0	87.0	94.3	736.6	0.0	0.0
94.75	Top - Section 2	78.5	2,426.6					0.0	330.7	78.5	2,757.3	0.0	0.0
95.00		81.5	71.7					0.0	17.4	81.5	89.2	0.0	0.0
100.00		154.3	1,410.9					0.0	348.1	154.3	1,759.0	0.0	0.0
105.00		152.3	1,373.1					0.0	348.1	152.3	1,721.2	0.0	0.0
110.00	Appurtenance(s)	90.6	1,335.1	182.7	0.0	0.0	1,215.1	0.0	348.1	273.4	2,898.4	0.0	0.0
111.00	Appurtenance(s)	44.8	263.2	377.7	0.0	0.0	363.2	0.0	69.6	422.5	696.0	0.0	0.0
113.00	Appurtenance(s)	59.5	521.4	213.2	0.0	0.0	271.7	0.0	137.7	272.7	930.8	0.0	0.0
115.00		44.4	515.3					0.0	136.1	44.4	651.4	0.0	0.0
116.00	Appurtenance(s)	73.3	255.5	182.7	0.0	0.0	207.8	0.0	68.0	255.9	531.4	0.0	0.0
120.00	Appurtenance(s)	130.5	1,004.6	187.8	0.0	0.0	334.8	0.0	270.6	318.3	1,610.0	0.0	0.0
125.00		128.5	1,220.4					0.0	334.3	128.5	1,554.6	0.0	0.0
129.00	Bot - Section 4	70.8	949.3					0.0	267.4	70.8	1,216.7	0.0	0.0
130.00		66.8	356.1					0.0	66.9	66.8	423.0	0.0	0.0
133.75	Top - Section 3	70.0	1,312.6					0.0	250.7	70.0	1,563.3	0.0	0.0
135.00		85.9	214.3					0.0	83.6	85.9	297.9	0.0	0.0
140.00		135.4	836.1					0.0	334.3	135.4	1,170.4	0.0	0.0
145.00		80.1	807.6					0.0	334.3	80.1	1,141.8	0.0	0.0
146.00	Appurtenance(s)	39.4	158.8	249.3	0.0	0.0	2,138.5	0.0	66.9	288.6	2,364.2	0.0	0.0
148.00	Appurtenance(s)	52.1	313.8	510.8	0.0	207.3	2,426.5	0.0	133.7	562.9	2,874.0	0.0	0.0
150.00		89.5	309.2					0.0	118.8	89.5	428.0	0.0	0.0
155.00		100.9	750.1					0.0	296.9	100.9	1,047.0	0.0	0.0
158.00	Appurtenance(s)	61.8	437.3	635.0	0.0	255.7	4,554.4	0.0	178.2	696.8	5,169.9	0.0	0.0
160.00		84.5	286.1					0.0	109.2	84.5	395.3	0.0	0.0
165.00		95.1	692.3					0.0	272.9	95.1	965.3	0.0	0.0
168.00	Appurtenance(s)	58.1	402.6	917.7	0.0	0.0	7,359.2	0.0	163.8	975.8	7,925.6	0.0	0.0

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

23 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

170.00	79.2	263.0					0.0	33.8	79.2	296.8	0.0	0.0	
175.00	89.0	634.2					0.0	84.5	89.0	718.8	0.0	0.0	
178.00	Appurtenance(s)	32.8	367.7	1,020.3	0.0	543.8	5,643.0	0.0	50.7	1,053.1	6,061.4	0.0	0.0
Totals:									9,699.18	91,802.3	0.00	0.00	

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:57 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

23 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	-92.68	-10.54	0.00	-1,371.09	0.00	1,371.09	6,032.65	1,655.24	10,154.3	8,442.81	0.00	0.00	0.178
5.00	-90.09	-10.43	0.00	-1,318.42	0.00	1,318.42	5,970.50	1,624.53	9,781.10	8,199.81	0.02	-0.03	0.176
10.00	-87.50	-10.32	0.00	-1,266.27	0.00	1,266.27	5,906.46	1,593.82	9,414.84	7,957.52	0.07	-0.07	0.174
15.00	-84.93	-10.22	0.00	-1,214.65	0.00	1,214.65	5,840.54	1,563.11	9,055.58	7,716.10	0.17	-0.11	0.172
20.00	-82.40	-10.11	0.00	-1,163.56	0.00	1,163.56	5,772.74	1,532.40	8,703.30	7,475.68	0.30	-0.14	0.170
25.00	-79.90	-10.01	0.00	-1,112.99	0.00	1,112.99	5,703.06	1,501.69	8,358.02	7,236.42	0.47	-0.18	0.168
30.00	-77.44	-9.91	0.00	-1,062.94	0.00	1,062.94	5,631.49	1,470.99	8,019.72	6,998.46	0.68	-0.22	0.166
35.00	-75.01	-9.80	0.00	-1,013.41	0.00	1,013.41	5,558.05	1,440.28	7,688.41	6,761.96	0.92	-0.26	0.163
40.00	-72.62	-9.69	0.00	-964.44	0.00	964.44	5,482.72	1,409.57	7,364.09	6,527.05	1.21	-0.29	0.161
43.75	-70.86	-9.63	0.00	-928.09	0.00	928.09	5,424.99	1,386.54	7,125.44	6,352.01	1.46	-0.32	0.159
45.00	-69.92	-9.56	0.00	-916.05	0.00	916.05	5,405.52	1,378.86	7,046.76	6,293.89	1.54	-0.33	0.159
50.00	-66.23	-9.47	0.00	-868.25	0.00	868.25	5,326.43	1,348.15	6,736.42	6,062.63	1.92	-0.37	0.156
51.00	-65.49	-9.41	0.00	-858.78	0.00	858.78	4,331.58	1,167.27	5,891.45	4,986.16	1.99	-0.38	0.187
55.00	-63.84	-9.30	0.00	-821.15	0.00	821.15	4,286.21	1,146.21	5,680.83	4,844.33	2.33	-0.42	0.184
60.00	-61.80	-9.17	0.00	-774.67	0.00	774.67	4,227.81	1,119.89	5,422.94	4,667.85	2.79	-0.46	0.181
65.00	-59.80	-9.04	0.00	-728.81	0.00	728.81	4,167.52	1,093.57	5,171.05	4,492.39	3.30	-0.51	0.177
70.00	-57.83	-8.91	0.00	-683.59	0.00	683.59	4,105.35	1,067.25	4,925.14	4,318.10	3.85	-0.55	0.172
75.00	-55.91	-8.83	0.00	-639.03	0.00	639.03	4,041.30	1,040.92	4,685.22	4,145.13	4.46	-0.60	0.168
76.00	-55.50	-8.76	0.00	-630.20	0.00	630.20	4,028.27	1,035.66	4,637.96	4,110.71	4.59	-0.61	0.167
80.00	-53.99	-8.64	0.00	-595.17	0.00	595.17	3,975.37	1,014.60	4,451.30	3,973.63	5.11	-0.65	0.163
85.00	-52.13	-8.52	0.00	-551.97	0.00	551.97	3,907.56	988.28	4,223.36	3,803.74	5.82	-0.70	0.159
88.75	-50.77	-8.44	0.00	-520.03	0.00	520.03	3,855.46	968.54	4,056.34	3,677.47	6.38	-0.73	0.155
90.00	-50.03	-8.37	0.00	-509.47	0.00	509.47	3,837.86	961.96	4,001.42	3,635.61	6.57	-0.74	0.153
94.75	-47.27	-8.27	0.00	-469.74	0.00	469.74	3,812.68	952.62	3,924.11	3,576.41	7.34	-0.79	0.144
95.00	-47.18	-8.21	0.00	-467.67	0.00	467.67	3,809.11	951.30	3,913.28	3,568.09	7.38	-0.79	0.144
100.00	-45.41	-8.06	0.00	-426.64	0.00	426.64	3,736.78	924.98	3,699.75	3,402.69	8.23	-0.84	0.138
105.00	-43.69	-7.92	0.00	-386.32	0.00	386.32	3,662.56	898.66	3,492.21	3,239.41	9.13	-0.88	0.131
110.00	-40.79	-7.62	0.00	-346.73	0.00	346.73	3,586.46	872.34	3,290.66	3,078.39	10.07	-0.92	0.124
111.00	-40.10	-7.19	0.00	-339.12	0.00	339.12	3,571.01	867.08	3,251.07	3,046.47	10.27	-0.93	0.123
113.00	-39.17	-6.92	0.00	-324.73	0.00	324.73	3,539.90	856.55	3,172.61	2,982.92	10.66	-0.95	0.120
115.00	-38.52	-6.87	0.00	-310.90	0.00	310.90	3,508.48	846.02	3,095.10	2,919.78	11.07	-0.97	0.118
116.00	-37.99	-6.62	0.00	-304.02	0.00	304.02	3,492.66	840.75	3,056.71	2,888.36	11.27	-0.98	0.116
120.00	-36.38	-6.30	0.00	-277.54	0.00	277.54	3,428.62	819.70	2,905.53	2,763.73	12.10	-1.01	0.111
125.00	-34.83	-6.16	0.00	-246.06	0.00	246.06	3,346.87	793.38	2,721.95	2,610.39	13.18	-1.05	0.105
129.00	-33.61	-6.08	0.00	-221.40	0.00	221.40	3,269.48	772.32	2,579.40	2,481.68	14.08	-1.08	0.100
130.00	-33.19	-6.02	0.00	-215.32	0.00	215.32	3,247.19	767.05	2,544.37	2,447.80	14.31	-1.09	0.098
133.75	-31.62	-5.93	0.00	-192.75	0.00	192.75	1,899.47	506.91	1,666.63	1,424.09	15.18	-1.12	0.152
135.00	-31.32	-5.85	0.00	-185.34	0.00	185.34	1,889.77	502.53	1,637.91	1,404.47	15.47	-1.13	0.149
140.00	-30.15	-5.72	0.00	-156.08	0.00	156.08	1,849.78	484.98	1,525.53	1,326.42	16.68	-1.18	0.134
145.00	-29.01	-5.63	0.00	-127.47	0.00	127.47	1,807.91	467.43	1,417.15	1,249.15	17.95	-1.23	0.118
146.00	-26.65	-5.30	0.00	-121.84	0.00	121.84	1,799.31	463.92	1,395.95	1,233.81	18.21	-1.24	0.114
148.00	-23.79	-4.68	0.00	-111.04	0.00	111.04	1,781.88	456.90	1,354.03	1,203.23	18.73	-1.26	0.106
150.00	-23.36	-4.59	0.00	-101.68	0.00	101.68	1,764.15	449.88	1,312.76	1,172.82	19.26	-1.27	0.100

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:57 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

23 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

155.00	-22.31	-4.48	0.00	-78.72	0.00	78.72	1,718.52	432.33	1,212.36	1,097.58	20.62	-1.31	0.085
158.00	-17.16	-3.67	0.00	-65.02	0.00	65.02	1,690.24	421.81	1,154.03	1,053.02	21.45	-1.33	0.072
160.00	-16.77	-3.58	0.00	-57.69	0.00	57.69	1,671.00	414.79	1,115.95	1,023.57	22.01	-1.35	0.066
165.00	-15.80	-3.47	0.00	-39.79	0.00	39.79	1,621.61	397.24	1,023.54	950.94	23.43	-1.37	0.052
168.00	-7.90	-2.30	0.00	-29.39	0.00	29.39	1,591.06	386.71	970.01	908.08	24.30	-1.38	0.037
170.00	-7.61	-2.22	0.00	-24.78	0.00	24.78	1,570.33	379.69	935.12	879.84	24.88	-1.39	0.033
175.00	-6.89	-2.11	0.00	-13.69	0.00	13.69	1,517.17	362.14	850.69	810.41	26.34	-1.40	0.021
178.00	0.00	-1.94	0.00	-7.36	0.00	7.36	1,484.37	351.62	801.96	769.62	27.23	-1.41	0.010

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

4/26/2021 9:04:57 PM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W**Serviceability 60 mph****23 Iterations**

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		61.9	0.0					0.0	0.0	61.9	0.0	0.0	0.0
5.00		122.7	1,589.8					0.0	290.8	122.7	1,880.6	0.0	0.0
10.00		120.4	1,560.0					0.0	290.8	120.4	1,850.9	0.0	0.0
15.00		118.1	1,530.2					0.0	290.8	118.1	1,821.1	0.0	0.0
20.00		115.8	1,500.5					0.0	290.8	115.8	1,791.3	0.0	0.0
25.00		113.5	1,470.7					0.0	290.8	113.5	1,761.6	0.0	0.0
30.00		112.5	1,440.9					0.0	290.8	112.5	1,731.8	0.0	0.0
35.00		113.8	1,411.2					0.0	290.8	113.8	1,702.0	0.0	0.0
40.00		101.1	1,381.4					0.0	290.8	101.1	1,672.2	0.0	0.0
43.75	Bot - Section 2	58.5	1,016.5					0.0	218.1	58.5	1,234.6	0.0	0.0
45.00		74.4	626.5					0.0	72.7	74.4	699.2	0.0	0.0
50.00		71.6	2,471.3					0.0	290.8	71.6	2,762.2	0.0	0.0
51.00	Top - Section 1	60.0	487.6					0.0	58.2	60.0	545.8	0.0	0.0
55.00		108.2	897.1					0.0	232.7	108.2	1,129.8	0.0	0.0
60.00		120.4	1,098.4					0.0	290.8	120.4	1,389.3	0.0	0.0
65.00		120.3	1,072.9					0.0	290.8	120.3	1,363.8	0.0	0.0
70.00		120.0	1,047.4					0.0	290.8	120.0	1,338.3	0.0	0.0
75.00		71.8	1,021.9					0.0	290.8	71.8	1,312.7	0.0	0.0
76.00	Appurtenance(s)	59.5	201.3	7.0	0.0	0.0	10.0	0.0	58.2	66.5	269.5	0.0	0.0
80.00		106.6	795.1					0.0	232.1	106.6	1,027.1	0.0	0.0
85.00		102.9	970.9					0.0	290.1	102.9	1,261.0	0.0	0.0
88.75	Bot - Section 3	58.7	711.4					0.0	217.6	58.7	929.0	0.0	0.0
90.00		70.6	471.7					0.0	72.5	70.6	544.2	0.0	0.0
94.75	Top - Section 2	58.8	1,763.3					0.0	275.6	58.8	2,038.9	0.0	0.0
95.00		61.0	46.1					0.0	14.5	61.0	60.6	0.0	0.0
100.00		115.3	909.5					0.0	290.1	115.3	1,199.6	0.0	0.0
105.00		113.6	884.0					0.0	290.1	113.6	1,174.1	0.0	0.0
110.00	Appurtenance(s)	67.5	858.5	167.0	0.0	0.0	750.0	0.0	290.1	234.5	1,898.6	0.0	0.0
111.00	Appurtenance(s)	33.4	168.6	135.5	0.0	0.0	106.0	0.0	58.0	168.8	332.6	0.0	0.0
113.00	Appurtenance(s)	44.2	334.2	106.5	0.0	0.0	55.0	0.0	114.7	150.7	503.9	0.0	0.0
115.00		33.0	330.1					0.0	113.4	33.0	443.5	0.0	0.0
116.00	Appurtenance(s)	54.4	163.5	83.7	0.0	0.0	30.0	0.0	56.7	138.1	250.2	0.0	0.0
120.00	Appurtenance(s)	96.8	643.9	119.2	0.0	0.0	110.0	0.0	225.5	216.0	979.4	0.0	0.0
125.00		95.2	781.9					0.0	278.5	95.2	1,060.4	0.0	0.0
129.00	Bot - Section 4	52.3	607.1					0.0	222.8	52.3	830.0	0.0	0.0
130.00		49.4	250.4					0.0	55.7	49.4	306.1	0.0	0.0
133.75	Top - Section 3	51.7	923.9					0.0	208.9	51.7	1,132.8	0.0	0.0
135.00		63.3	122.3					0.0	69.6	63.3	192.0	0.0	0.0
140.00		99.7	478.7					0.0	278.5	99.7	757.2	0.0	0.0
145.00		58.9	461.7					0.0	278.5	58.9	740.2	0.0	0.0
146.00	Appurtenance(s)	28.9	90.3	202.1	0.0	0.0	1,500.0	0.0	55.7	231.0	1,646.0	0.0	0.0
148.00	Appurtenance(s)	38.2	178.5	556.8	0.0	221.5	888.3	0.0	111.4	595.0	1,178.3	0.0	0.0
150.00		65.5	175.8					0.0	99.0	65.5	274.8	0.0	0.0
155.00		73.7	427.6					0.0	247.4	73.7	675.1	0.0	0.0
158.00	Appurtenance(s)	45.1	248.4	602.7	0.0	270.6	2,579.4	0.0	148.5	647.8	2,976.3	0.0	0.0
160.00		61.5	162.2					0.0	91.0	61.5	253.2	0.0	0.0
165.00		69.0	393.6					0.0	227.4	69.0	621.1	0.0	0.0
168.00	Appurtenance(s)	42.1	228.0	871.4	0.0	0.0	4,065.6	0.0	136.5	913.5	4,430.1	0.0	0.0

Load Case: 1.0D + 1.0W		Serviceability 60 mph								23 Iterations			
Gust Response Factor :1.10													
Dead Load Factor :1.00													
Wind Load Factor :1.00													
170.00		57.2	148.6					0.0	28.2	57.2	176.8	0.0	0.0
175.00		64.1	359.6					0.0	70.5	64.1	430.0	0.0	0.0
178.00	Appurtenance(s)	23.6	207.6	1,025.7	0.0	566.2	2,843.4	0.0	42.3	1,049.3	3,093.3	0.0	0.0
Totals:										7,777.96	59,672.9	0.00	0.00

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

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	-59.91	-8.12	0.00	-1,045.86	0.00	1,045.86	6,032.65	1,655.24	10,154.3	8,442.81	0.00	0.00	0.134
5.00	-58.02	-8.02	0.00	-1,005.26	0.00	1,005.26	5,970.50	1,624.53	9,781.10	8,199.81	0.01	-0.03	0.132
10.00	-56.17	-7.93	0.00	-965.14	0.00	965.14	5,906.46	1,593.82	9,414.84	7,957.52	0.06	-0.05	0.131
15.00	-54.34	-7.83	0.00	-925.50	0.00	925.50	5,840.54	1,563.11	9,055.58	7,716.10	0.13	-0.08	0.129
20.00	-52.55	-7.74	0.00	-886.33	0.00	886.33	5,772.74	1,532.40	8,703.30	7,475.68	0.23	-0.11	0.128
25.00	-50.78	-7.65	0.00	-847.62	0.00	847.62	5,703.06	1,501.69	8,358.02	7,236.42	0.36	-0.14	0.126
30.00	-49.05	-7.56	0.00	-809.37	0.00	809.37	5,631.49	1,470.99	8,019.72	6,998.46	0.52	-0.17	0.124
35.00	-47.34	-7.46	0.00	-771.59	0.00	771.59	5,558.05	1,440.28	7,688.41	6,761.96	0.70	-0.19	0.123
40.00	-45.67	-7.38	0.00	-734.27	0.00	734.27	5,482.72	1,409.57	7,364.09	6,527.05	0.92	-0.22	0.121
43.75	-44.43	-7.32	0.00	-706.62	0.00	706.62	5,424.99	1,386.54	7,125.44	6,352.01	1.11	-0.25	0.119
45.00	-43.73	-7.26	0.00	-697.46	0.00	697.46	5,405.52	1,378.86	7,046.76	6,293.89	1.18	-0.25	0.119
50.00	-40.96	-7.19	0.00	-661.15	0.00	661.15	5,326.43	1,348.15	6,736.42	6,062.63	1.46	-0.29	0.117
51.00	-40.42	-7.14	0.00	-653.96	0.00	653.96	4,331.58	1,167.27	5,891.45	4,986.16	1.52	-0.29	0.141
55.00	-39.28	-7.04	0.00	-625.41	0.00	625.41	4,286.21	1,146.21	5,680.83	4,844.33	1.77	-0.32	0.138
60.00	-37.89	-6.94	0.00	-590.19	0.00	590.19	4,227.81	1,119.89	5,422.94	4,667.85	2.12	-0.35	0.135
65.00	-36.52	-6.83	0.00	-555.50	0.00	555.50	4,167.52	1,093.57	5,171.05	4,492.39	2.51	-0.39	0.132
70.00	-35.18	-6.72	0.00	-521.34	0.00	521.34	4,105.35	1,067.25	4,925.14	4,318.10	2.94	-0.42	0.129
75.00	-33.87	-6.66	0.00	-487.71	0.00	487.71	4,041.30	1,040.92	4,685.22	4,145.13	3.40	-0.46	0.126
76.00	-33.60	-6.60	0.00	-481.06	0.00	481.06	4,028.27	1,035.66	4,637.96	4,110.71	3.49	-0.46	0.125
80.00	-32.57	-6.50	0.00	-454.67	0.00	454.67	3,975.37	1,014.60	4,451.30	3,973.63	3.90	-0.49	0.123
85.00	-31.30	-6.40	0.00	-422.16	0.00	422.16	3,907.56	988.28	4,223.36	3,803.74	4.43	-0.53	0.119
88.75	-30.37	-6.35	0.00	-398.14	0.00	398.14	3,855.46	968.54	4,056.34	3,677.47	4.86	-0.56	0.116
90.00	-29.83	-6.28	0.00	-390.21	0.00	390.21	3,837.86	961.96	4,001.42	3,635.61	5.01	-0.57	0.115
94.75	-27.79	-6.21	0.00	-360.37	0.00	360.37	3,812.68	952.62	3,924.11	3,576.41	5.59	-0.60	0.108
95.00	-27.73	-6.16	0.00	-358.82	0.00	358.82	3,809.11	951.30	3,913.28	3,568.09	5.62	-0.60	0.108
100.00	-26.52	-6.05	0.00	-328.03	0.00	328.03	3,736.78	924.98	3,699.75	3,402.69	6.27	-0.64	0.104
105.00	-25.35	-5.93	0.00	-297.80	0.00	297.80	3,662.56	898.66	3,492.21	3,239.41	6.96	-0.67	0.099
110.00	-23.45	-5.69	0.00	-268.13	0.00	268.13	3,586.46	872.34	3,290.66	3,078.39	7.68	-0.71	0.094
111.00	-23.12	-5.52	0.00	-262.44	0.00	262.44	3,571.01	867.08	3,251.07	3,046.47	7.83	-0.71	0.093
113.00	-22.61	-5.36	0.00	-251.41	0.00	251.41	3,539.90	856.55	3,172.61	2,982.92	8.13	-0.73	0.091
115.00	-22.17	-5.33	0.00	-240.68	0.00	240.68	3,508.48	846.02	3,095.10	2,919.78	8.44	-0.74	0.089
116.00	-21.92	-5.19	0.00	-235.35	0.00	235.35	3,492.66	840.75	3,056.71	2,888.36	8.59	-0.75	0.088
120.00	-20.94	-4.98	0.00	-214.57	0.00	214.57	3,428.62	819.70	2,905.53	2,763.73	9.23	-0.77	0.084
125.00	-19.88	-4.88	0.00	-189.69	0.00	189.69	3,346.87	793.38	2,721.95	2,610.39	10.06	-0.80	0.079
129.00	-19.05	-4.82	0.00	-170.18	0.00	170.18	3,269.48	772.32	2,579.40	2,481.68	10.74	-0.83	0.074
130.00	-18.74	-4.77	0.00	-165.37	0.00	165.37	3,247.19	767.05	2,544.37	2,447.80	10.91	-0.84	0.073
133.75	-17.61	-4.70	0.00	-147.49	0.00	147.49	1,899.47	506.91	1,666.63	1,424.09	11.58	-0.86	0.113
135.00	-17.42	-4.65	0.00	-141.60	0.00	141.60	1,889.77	502.53	1,637.91	1,404.47	11.81	-0.87	0.110
140.00	-16.66	-4.55	0.00	-118.38	0.00	118.38	1,849.78	484.98	1,525.53	1,326.42	12.73	-0.90	0.098
145.00	-15.92	-4.48	0.00	-95.65	0.00	95.65	1,807.91	467.43	1,417.15	1,249.15	13.70	-0.94	0.085
146.00	-14.28	-4.22	0.00	-91.17	0.00	91.17	1,799.31	463.92	1,395.95	1,233.81	13.90	-0.95	0.082
148.00	-13.11	-3.61	0.00	-82.50	0.00	82.50	1,781.88	456.90	1,354.03	1,203.23	14.30	-0.96	0.076
150.00	-12.83	-3.55	0.00	-75.27	0.00	75.27	1,764.15	449.88	1,312.76	1,172.82	14.70	-0.97	0.072

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

155.00	-12.16	-3.47	0.00	-57.53	0.00	57.53	1,718.52	432.33	1,212.36	1,097.58	15.74	-1.00	0.060
158.00	-9.19	-2.77	0.00	-46.86	0.00	46.86	1,690.24	421.81	1,154.03	1,053.02	16.37	-1.02	0.050
160.00	-8.94	-2.71	0.00	-41.33	0.00	41.33	1,671.00	414.79	1,115.95	1,023.57	16.80	-1.03	0.046
165.00	-8.32	-2.63	0.00	-27.80	0.00	27.80	1,621.61	397.24	1,023.54	950.94	17.88	-1.04	0.034
168.00	-3.91	-1.63	0.00	-19.92	0.00	19.92	1,591.06	386.71	970.01	908.08	18.54	-1.05	0.024
170.00	-3.73	-1.57	0.00	-16.66	0.00	16.66	1,570.33	379.69	935.12	879.84	18.99	-1.06	0.021
175.00	-3.30	-1.50	0.00	-8.79	0.00	8.79	1,517.17	362.14	850.69	810.41	20.10	-1.07	0.013
178.00	0.00	-1.44	0.00	-4.29	0.00	4.29	1,484.37	351.62	801.96	769.62	20.77	-1.07	0.006

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.51
Redundancy Factor (p):	1.00
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	59.91 k
Seismic Base Shear (E):	1.80 k

Load Case 1.2D + 1.0Ev + 1.0Eh**Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
50	176.50	250	7,784	0.011	20	310
49	172.50	430	12,796	0.019	34	533
48	169.00	177	5,049	0.007	13	219
47	166.50	364	10,104	0.015	27	452
46	162.50	621	16,400	0.024	43	770
45	159.00	253	6,401	0.009	17	314
44	156.50	397	9,721	0.014	26	492
43	152.50	675	15,700	0.023	41	837
42	149.00	275	6,101	0.009	16	341
41	147.00	290	6,266	0.009	16	360
40	145.50	146	3,091	0.005	8	181
39	142.50	740	15,031	0.022	39	918
38	137.50	757	14,316	0.021	38	939
37	134.38	192	3,466	0.005	9	238
36	131.88	1,133	19,701	0.029	52	1,405
35	129.50	306	5,134	0.008	13	380
34	127.00	830	13,387	0.020	35	1,029
33	122.50	1,060	15,913	0.023	42	1,315
32	118.00	869	12,105	0.018	32	1,078
31	115.50	220	2,938	0.004	8	273
30	114.00	444	5,764	0.008	15	550
29	112.00	449	5,631	0.008	15	557
28	110.50	227	2,767	0.004	7	281
27	107.50	1,149	13,273	0.019	35	1,424
26	102.50	1,174	12,335	0.018	32	1,456

Site Number: 376046

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

25	97.50	1,200	11,404	0.017	30	1,487
24	94.88	61	546	0.001	1	75
23	92.38	2,039	17,398	0.025	46	2,528
22	89.38	544	4,347	0.006	11	675
21	86.88	929	7,011	0.010	18	1,152
20	82.50	1,261	8,582	0.013	23	1,563
19	78.00	1,027	6,249	0.009	16	1,274
18	75.50	259	1,479	0.002	4	322
17	72.50	1,313	6,900	0.010	18	1,628
16	67.50	1,338	6,097	0.009	16	1,659
15	62.50	1,364	5,327	0.008	14	1,691
14	57.50	1,389	4,593	0.007	12	1,723
13	53.00	1,130	3,174	0.005	8	1,401
12	50.50	546	1,392	0.002	4	677
11	47.50	2,762	6,232	0.009	16	3,425
10	44.38	699	1,377	0.002	4	867
9	41.88	1,235	2,165	0.003	6	1,531
8	37.50	1,672	2,352	0.003	6	2,073
7	32.50	1,702	1,798	0.003	5	2,110
6	27.50	1,732	1,310	0.002	3	2,147
5	22.50	1,762	892	0.001	2	2,184
4	17.50	1,791	549	0.001	1	2,221
3	12.50	1,821	285	0.000	1	2,258
2	7.50	1,851	104	0.000	0	2,295
1	2.50	1,881	12	0.000	0	2,332
Generic 20' Omni	178.00	55	1,743	0.003	5	68
Generic 18' Dipole	178.00	110	3,485	0.005	9	136
Generic 8' Yagi	178.00	30	951	0.001	2	37
Generic 2' x 4' Rect	178.00	40	1,267	0.002	3	50
RFS FD9R6004/2C-3L	178.00	16	494	0.001	1	19
Alcatel-Lucent RRH2X	178.00	129	4,087	0.006	11	160
Alcatel-Lucent RRH2X	178.00	132	4,182	0.006	11	164
RFS DB-T1-6Z-8AB-0Z	178.00	88	2,788	0.004	7	109
Commscope LNX-8513DS	178.00	118	3,726	0.005	10	146
Commscope LNX-6514DS	178.00	116	3,688	0.005	10	144
Commscope HBXX-6517D	178.00	245	7,756	0.011	20	304
Flat Platform w/ Han	178.00	2,000	63,368	0.093	167	2,480
Powerwave Allgon LGP	168.00	85	2,388	0.003	6	105
Raycap DC6-48-60-18-	168.00	60	1,693	0.002	4	74
Ericsson RRUS 8843 B	168.00	216	6,096	0.009	16	268
Ericsson RRUS 4478 B	168.00	180	5,072	0.007	13	223
Ericsson RRUS 4449 B	168.00	213	6,012	0.009	16	264
Powerwave Allgon 777	168.00	105	2,964	0.004	8	130
Generic Mount Reinfo	168.00	200	5,645	0.008	15	248
Commscope NNH4-65B-R	168.00	269	7,595	0.011	20	334
CCI DMP65R-BU6DA	168.00	238	6,723	0.010	18	295
Site Pro1 RMQP-496-H	168.00	2,500	70,560	0.103	185	3,100
Alcatel-Lucent 2X50W	158.00	159	3,969	0.006	10	197
Alcatel-Lucent 1900M	158.00	180	4,494	0.007	12	223
Alcatel-Lucent 800 M	158.00	185	4,628	0.007	12	230
Alcatel-Lucent TD-RR	158.00	210	5,242	0.008	14	260
RFS APXVSP18-C-A20	158.00	171	4,269	0.006	11	212
Commscope DT465B-2XR	158.00	174	4,344	0.006	11	216
Round Low Profile PI	158.00	1,500	37,446	0.055	98	1,860
Andrew ATSBT-BOTTOM-	148.00	5	118	0.000	0	7
Ericsson KRY 112 71	148.00	40	867	0.001	2	49
Ericsson Radio 4449	148.00	225	4,928	0.007	13	279
RFS APX18-209014-CT5	148.00	43	940	0.001	2	53
RFS APXV18-209014-C-	148.00	56	1,229	0.002	3	70
Commscope LNX-6515DS	148.00	151	3,305	0.005	9	187
RFS APXVAALL24 43-U-	148.00	368	8,069	0.012	21	457
Round Low Profile PI	146.00	1,500	31,974	0.047	84	1,860
Generic 18' Dipole	120.00	110	1,584	0.002	4	136
Generic 8' Yagi	116.00	30	404	0.001	1	37

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Generic 9' Omni	113.00	25	319	0.000	1	31
Generic 8' Yagi	113.00	30	383	0.001	1	37
Generic 2' x 4' Rect	111.00	40	493	0.001	1	50
Generic 22' Dipole	111.00	66	813	0.001	2	82
Flat T-Arm	110.00	750	9,075	0.013	24	930
Generic GPS	76.00	10	58	0.000	0	12
		59,908	683,982	1.000	1,797	74,279

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

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
50	176.50	250	7,784	0.011	20	215
49	172.50	430	12,796	0.019	34	370
48	169.00	177	5,049	0.007	13	152
47	166.50	364	10,104	0.015	27	313
46	162.50	621	16,400	0.024	43	534
45	159.00	253	6,401	0.009	17	218
44	156.50	397	9,721	0.014	26	341
43	152.50	675	15,700	0.023	41	581
42	149.00	275	6,101	0.009	16	236
41	147.00	290	6,266	0.009	16	249
40	145.50	146	3,091	0.005	8	126
39	142.50	740	15,031	0.022	39	637
38	137.50	757	14,316	0.021	38	651
37	134.38	192	3,466	0.005	9	165
36	131.88	1,133	19,701	0.029	52	974
35	129.50	306	5,134	0.008	13	263
34	127.00	830	13,387	0.020	35	714
33	122.50	1,060	15,913	0.023	42	912
32	118.00	869	12,105	0.018	32	748
31	115.50	220	2,938	0.004	8	189
30	114.00	444	5,764	0.008	15	381
29	112.00	449	5,631	0.008	15	386
28	110.50	227	2,767	0.004	7	195
27	107.50	1,149	13,273	0.019	35	988
26	102.50	1,174	12,335	0.018	32	1,010
25	97.50	1,200	11,404	0.017	30	1,032
24	94.88	61	546	0.001	1	52
23	92.38	2,039	17,398	0.025	46	1,754
22	89.38	544	4,347	0.006	11	468
21	86.88	929	7,011	0.010	18	799
20	82.50	1,261	8,582	0.013	23	1,085
19	78.00	1,027	6,249	0.009	16	883
18	75.50	259	1,479	0.002	4	223
17	72.50	1,313	6,900	0.010	18	1,129
16	67.50	1,338	6,097	0.009	16	1,151
15	62.50	1,364	5,327	0.008	14	1,173
14	57.50	1,389	4,593	0.007	12	1,195
13	53.00	1,130	3,174	0.005	8	972
12	50.50	546	1,392	0.002	4	469
11	47.50	2,762	6,232	0.009	16	2,376
10	44.38	699	1,377	0.002	4	601
9	41.88	1,235	2,165	0.003	6	1,062
8	37.50	1,672	2,352	0.003	6	1,438
7	32.50	1,702	1,798	0.003	5	1,464
6	27.50	1,732	1,310	0.002	3	1,490
5	22.50	1,762	892	0.001	2	1,515
4	17.50	1,791	549	0.001	1	1,541
3	12.50	1,821	285	0.000	1	1,566
2	7.50	1,851	104	0.000	0	1,592

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

1	2.50	1,881	12	0.000	0	1,618
Generic 20' Omni	178.00	55	1,743	0.003	5	47
Generic 18' Dipole	178.00	110	3,485	0.005	9	95
Generic 8' Yagi	178.00	30	951	0.001	2	26
Generic 2' x 4' Rect	178.00	40	1,267	0.002	3	34
RFS FD9R6004/2C-3L	178.00	16	494	0.001	1	13
Alcatel-Lucent RRH2X	178.00	129	4,087	0.006	11	111
Alcatel-Lucent RRH2X	178.00	132	4,182	0.006	11	114
RFS DB-T1-6Z-8AB-0Z	178.00	88	2,788	0.004	7	76
Commscope LNX-8513DS	178.00	118	3,726	0.005	10	101
Commscope LNX-6514DS	178.00	116	3,688	0.005	10	100
Commscope HBXX-6517D	178.00	245	7,756	0.011	20	211
Flat Platform w/ Han	178.00	2,000	63,368	0.093	167	1,720
Powerwave Allgon LGP	168.00	85	2,388	0.003	6	73
Raycap DC6-48-60-18-	168.00	60	1,693	0.002	4	52
Ericsson RRUS 8843 B	168.00	216	6,096	0.009	16	186
Ericsson RRUS 4478 B	168.00	180	5,072	0.007	13	155
Ericsson RRUS 4449 B	168.00	213	6,012	0.009	16	183
Powerwave Allgon 777	168.00	105	2,964	0.004	8	90
Generic Mount Reinfo	168.00	200	5,645	0.008	15	172
Commscope NNH4-65B-R	168.00	269	7,595	0.011	20	231
CCI DMP65R-BU6DA	168.00	238	6,723	0.010	18	205
Site Pro1 RMQP-496-H	168.00	2,500	70,560	0.103	185	2,150
Alcatel-Lucent 2X50W	158.00	159	3,969	0.006	10	137
Alcatel-Lucent 1900M	158.00	180	4,494	0.007	12	155
Alcatel-Lucent 800 M	158.00	185	4,628	0.007	12	159
Alcatel-Lucent TD-RR	158.00	210	5,242	0.008	14	181
RFS APXVSP18-C-A20	158.00	171	4,269	0.006	11	147
Commscope DT465B-2XR	158.00	174	4,344	0.006	11	150
Round Low Profile PI	158.00	1,500	37,446	0.055	98	1,290
Andrew ATSBT-BOTTOM-	148.00	5	118	0.000	0	5
Ericsson KRY 112 71	148.00	40	867	0.001	2	34
Ericsson Radio 4449	148.00	225	4,928	0.007	13	194
RFS APX18-209014-CT5	148.00	43	940	0.001	2	37
RFS APXV18-209014-C-	148.00	56	1,229	0.002	3	48
Commscope LNX-6515DS	148.00	151	3,305	0.005	9	130
RFS APXVAALL24 43-U-	148.00	368	8,069	0.012	21	317
Round Low Profile PI	146.00	1,500	31,974	0.047	84	1,290
Generic 18' Dipole	120.00	110	1,584	0.002	4	95
Generic 8' Yagi	116.00	30	404	0.001	1	26
Generic 9' Omni	113.00	25	319	0.000	1	22
Generic 8' Yagi	113.00	30	383	0.001	1	26
Generic 2' x 4' Rect	111.00	40	493	0.001	1	34
Generic 22' Dipole	111.00	66	813	0.001	2	57
Flat T-Arm	110.00	750	9,075	0.013	24	645
Generic GPS	76.00	10	58	0.000	0	9
		59,908	683,982	1.000	1,797	51,527

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Load Case 1.2D + 1.0Ev + 1.0Eh

Seismic

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	-71.95	-1.80	0.00	-263.98	0.00	263.98	6,032.65	1,655.24	10,154.3	8,442.81	0.00	0.00	0.043
5.00	-69.65	-1.81	0.00	-254.98	0.00	254.98	5,970.50	1,624.53	9,781.10	8,199.81	0.00	-0.01	0.043
10.00	-67.39	-1.81	0.00	-245.95	0.00	245.95	5,906.46	1,593.82	9,414.84	7,957.52	0.01	-0.01	0.042
15.00	-65.17	-1.82	0.00	-236.87	0.00	236.87	5,840.54	1,563.11	9,055.58	7,716.10	0.03	-0.02	0.042
20.00	-62.99	-1.83	0.00	-227.77	0.00	227.77	5,772.74	1,532.40	8,703.30	7,475.68	0.06	-0.03	0.041
25.00	-60.84	-1.83	0.00	-218.64	0.00	218.64	5,703.06	1,501.69	8,358.02	7,236.42	0.09	-0.03	0.041
30.00	-58.73	-1.83	0.00	-209.50	0.00	209.50	5,631.49	1,470.99	8,019.72	6,998.46	0.13	-0.04	0.040
35.00	-56.66	-1.83	0.00	-200.35	0.00	200.35	5,558.05	1,440.28	7,688.41	6,761.96	0.18	-0.05	0.040
40.00	-55.13	-1.83	0.00	-191.21	0.00	191.21	5,482.72	1,409.57	7,364.09	6,527.05	0.24	-0.06	0.039
43.75	-54.26	-1.83	0.00	-184.35	0.00	184.35	5,424.99	1,386.54	7,125.44	6,352.01	0.28	-0.06	0.039
45.00	-50.83	-1.81	0.00	-182.06	0.00	182.06	5,405.52	1,378.86	7,046.76	6,293.89	0.30	-0.07	0.038
50.00	-50.16	-1.81	0.00	-173.00	0.00	173.00	5,326.43	1,348.15	6,736.42	6,062.63	0.37	-0.07	0.038
51.00	-48.76	-1.81	0.00	-171.19	0.00	171.19	4,331.58	1,167.27	5,891.45	4,986.16	0.39	-0.08	0.046
55.00	-47.03	-1.80	0.00	-163.97	0.00	163.97	4,286.21	1,146.21	5,680.83	4,844.33	0.46	-0.08	0.045
60.00	-45.34	-1.79	0.00	-154.98	0.00	154.98	4,227.81	1,119.89	5,422.94	4,667.85	0.55	-0.09	0.044
65.00	-43.68	-1.78	0.00	-146.04	0.00	146.04	4,167.52	1,093.57	5,171.05	4,492.39	0.65	-0.10	0.043
70.00	-42.05	-1.76	0.00	-137.16	0.00	137.16	4,105.35	1,067.25	4,925.14	4,318.10	0.76	-0.11	0.042
75.00	-41.73	-1.76	0.00	-128.35	0.00	128.35	4,041.30	1,040.92	4,685.22	4,145.13	0.88	-0.12	0.041
76.00	-40.45	-1.75	0.00	-126.58	0.00	126.58	4,028.27	1,035.66	4,637.96	4,110.71	0.90	-0.12	0.041
80.00	-38.88	-1.73	0.00	-119.60	0.00	119.60	3,975.37	1,014.60	4,451.30	3,973.63	1.00	-0.13	0.040
85.00	-37.73	-1.71	0.00	-110.97	0.00	110.97	3,907.56	988.28	4,223.36	3,803.74	1.14	-0.14	0.039
88.75	-37.06	-1.70	0.00	-104.56	0.00	104.56	3,855.46	968.54	4,056.34	3,677.47	1.26	-0.15	0.038
90.00	-34.53	-1.65	0.00	-102.43	0.00	102.43	3,837.86	961.96	4,001.42	3,635.61	1.29	-0.15	0.037
94.75	-34.45	-1.65	0.00	-94.59	0.00	94.59	3,812.68	952.62	3,924.11	3,576.41	1.45	-0.16	0.035
95.00	-32.97	-1.62	0.00	-94.17	0.00	94.17	3,809.11	951.30	3,913.28	3,568.09	1.45	-0.16	0.035
100.00	-31.51	-1.59	0.00	-86.06	0.00	86.06	3,736.78	924.98	3,699.75	3,402.69	1.62	-0.17	0.034
105.00	-30.09	-1.56	0.00	-78.11	0.00	78.11	3,662.56	898.66	3,492.21	3,239.41	1.80	-0.18	0.032
110.00	-28.87	-1.52	0.00	-70.33	0.00	70.33	3,586.46	872.34	3,290.66	3,078.39	1.99	-0.18	0.031
111.00	-28.19	-1.50	0.00	-68.81	0.00	68.81	3,571.01	867.08	3,251.07	3,046.47	2.03	-0.19	0.030
113.00	-27.57	-1.49	0.00	-65.80	0.00	65.80	3,539.90	856.55	3,172.61	2,982.92	2.11	-0.19	0.030
115.00	-27.30	-1.48	0.00	-62.83	0.00	62.83	3,508.48	846.02	3,095.10	2,919.78	2.19	-0.19	0.029
116.00	-26.18	-1.45	0.00	-61.35	0.00	61.35	3,492.66	840.75	3,056.71	2,888.36	2.23	-0.19	0.029
120.00	-24.73	-1.40	0.00	-55.57	0.00	55.57	3,428.62	819.70	2,905.53	2,763.73	2.39	-0.20	0.027
125.00	-23.70	-1.36	0.00	-48.58	0.00	48.58	3,346.87	793.38	2,721.95	2,610.39	2.61	-0.21	0.026
129.00	-23.32	-1.35	0.00	-43.13	0.00	43.13	3,269.48	772.32	2,579.40	2,481.68	2.79	-0.22	0.025
130.00	-21.92	-1.29	0.00	-41.78	0.00	41.78	3,247.19	767.05	2,544.37	2,447.80	2.83	-0.22	0.024
133.75	-21.68	-1.28	0.00	-36.94	0.00	36.94	1,899.47	506.91	1,666.63	1,424.09	3.01	-0.22	0.037
135.00	-20.74	-1.25	0.00	-35.33	0.00	35.33	1,889.77	502.53	1,637.91	1,404.47	3.06	-0.22	0.036
140.00	-19.82	-1.21	0.00	-29.11	0.00	29.11	1,849.78	484.98	1,525.53	1,326.42	3.31	-0.23	0.033
145.00	-19.64	-1.20	0.00	-23.08	0.00	23.08	1,807.91	467.43	1,417.15	1,249.15	3.56	-0.24	0.029
146.00	-17.42	-1.09	0.00	-21.88	0.00	21.88	1,799.31	463.92	1,395.95	1,233.81	3.61	-0.25	0.027
148.00	-15.98	-1.02	0.00	-19.70	0.00	19.70	1,781.88	456.90	1,354.03	1,203.23	3.71	-0.25	0.025
150.00	-15.14	-0.97	0.00	-17.67	0.00	17.67	1,764.15	449.88	1,312.76	1,172.82	3.82	-0.25	0.024
155.00	-14.65	-0.95	0.00	-12.81	0.00	12.81	1,718.52	432.33	1,212.36	1,097.58	4.08	-0.26	0.020
158.00	-11.14	-0.75	0.00	-9.97	0.00	9.97	1,690.24	421.81	1,154.03	1,053.02	4.25	-0.26	0.016
160.00	-10.37	-0.70	0.00	-8.48	0.00	8.48	1,671.00	414.79	1,115.95	1,023.57	4.36	-0.26	0.014
165.00	-9.92	-0.67	0.00	-4.98	0.00	4.98	1,621.61	397.24	1,023.54	950.94	4.63	-0.27	0.011

Site Number: 376046**Code: ANSI/TIA-222-H**

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Site Name: MANSFIELD CENTER 1 CT, CT**Engineering Number:13660476_C3_03****4/26/2021 9:05:03 PM****Customer: T-MOBILE**

168.00	-4.66	-0.33	0.00	-2.97	0.00	2.97	1,591.06	386.71	970.01	908.08	4.80	-0.27	0.006
170.00	-4.13	-0.30	0.00	-2.30	0.00	2.30	1,570.33	379.69	935.12	879.84	4.91	-0.27	0.005
175.00	-3.82	-0.27	0.00	-0.82	0.00	0.82	1,517.17	362.14	850.69	810.41	5.20	-0.27	0.004
178.00	0.00	-0.26	0.00	0.00	0.00	0.00	1,484.37	351.62	801.96	769.62	5.37	-0.27	0.000

Site Number: 376046

Code: ANSI/TIA-222-H

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Site Name: MANSFIELD CENTER 1 CT, CT

Engineering Number:13660476_C3_03

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Customer: T-MOBILE

Load Case 0.9D - 1.0Ev + 1.0EhSeismic (Reduced DL)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	-49.91	-1.80	0.00	-260.32	0.00	260.32	6,032.65	1,655.24	10,154.3	8,442.81	0.00	0.00	0.039
5.00	-48.32	-1.80	0.00	-251.33	0.00	251.33	5,970.50	1,624.53	9,781.10	8,199.81	0.00	-0.01	0.039
10.00	-46.75	-1.81	0.00	-242.31	0.00	242.31	5,906.46	1,593.82	9,414.84	7,957.52	0.01	-0.01	0.038
15.00	-45.21	-1.81	0.00	-233.27	0.00	233.27	5,840.54	1,563.11	9,055.58	7,716.10	0.03	-0.02	0.038
20.00	-43.69	-1.81	0.00	-224.21	0.00	224.21	5,772.74	1,532.40	8,703.30	7,475.68	0.06	-0.03	0.038
25.00	-42.20	-1.82	0.00	-215.14	0.00	215.14	5,703.06	1,501.69	8,358.02	7,236.42	0.09	-0.03	0.037
30.00	-40.74	-1.82	0.00	-206.06	0.00	206.06	5,631.49	1,470.99	8,019.72	6,998.46	0.13	-0.04	0.037
35.00	-39.30	-1.81	0.00	-196.99	0.00	196.99	5,558.05	1,440.28	7,688.41	6,761.96	0.18	-0.05	0.036
40.00	-38.24	-1.81	0.00	-187.92	0.00	187.92	5,482.72	1,409.57	7,364.09	6,527.05	0.23	-0.06	0.036
43.75	-37.64	-1.81	0.00	-181.13	0.00	181.13	5,424.99	1,386.54	7,125.44	6,352.01	0.28	-0.06	0.035
45.00	-35.26	-1.79	0.00	-178.87	0.00	178.87	5,405.52	1,378.86	7,046.76	6,293.89	0.30	-0.06	0.035
50.00	-34.79	-1.79	0.00	-169.91	0.00	169.91	5,326.43	1,348.15	6,736.42	6,062.63	0.37	-0.07	0.035
51.00	-33.82	-1.78	0.00	-168.12	0.00	168.12	4,331.58	1,167.27	5,891.45	4,986.16	0.38	-0.07	0.042
55.00	-32.63	-1.78	0.00	-160.98	0.00	160.98	4,286.21	1,146.21	5,680.83	4,844.33	0.45	-0.08	0.041
60.00	-31.45	-1.76	0.00	-152.10	0.00	152.10	4,227.81	1,119.89	5,422.94	4,667.85	0.54	-0.09	0.040
65.00	-30.30	-1.75	0.00	-143.28	0.00	143.28	4,167.52	1,093.57	5,171.05	4,492.39	0.64	-0.10	0.039
70.00	-29.17	-1.74	0.00	-134.53	0.00	134.53	4,105.35	1,067.25	4,925.14	4,318.10	0.74	-0.11	0.038
75.00	-28.95	-1.73	0.00	-125.85	0.00	125.85	4,041.30	1,040.92	4,685.22	4,145.13	0.86	-0.12	0.038
76.00	-28.06	-1.72	0.00	-124.11	0.00	124.11	4,028.27	1,035.66	4,637.96	4,110.71	0.89	-0.12	0.037
80.00	-26.97	-1.70	0.00	-117.24	0.00	117.24	3,975.37	1,014.60	4,451.30	3,973.63	0.99	-0.13	0.036
85.00	-26.17	-1.68	0.00	-108.75	0.00	108.75	3,907.56	988.28	4,223.36	3,803.74	1.13	-0.14	0.035
88.75	-25.70	-1.67	0.00	-102.45	0.00	102.45	3,855.46	968.54	4,056.34	3,677.47	1.23	-0.14	0.035
90.00	-23.95	-1.62	0.00	-100.36	0.00	100.36	3,837.86	961.96	4,001.42	3,635.61	1.27	-0.14	0.034
94.75	-23.90	-1.62	0.00	-92.66	0.00	92.66	3,812.68	952.62	3,924.11	3,576.41	1.42	-0.15	0.032
95.00	-22.87	-1.59	0.00	-92.25	0.00	92.25	3,809.11	951.30	3,913.28	3,568.09	1.43	-0.15	0.032
100.00	-21.86	-1.56	0.00	-84.29	0.00	84.29	3,736.78	924.98	3,699.75	3,402.69	1.60	-0.16	0.031
105.00	-20.87	-1.53	0.00	-76.49	0.00	76.49	3,662.56	898.66	3,492.21	3,239.41	1.77	-0.17	0.029
110.00	-20.03	-1.49	0.00	-68.86	0.00	68.86	3,586.46	872.34	3,290.66	3,078.39	1.96	-0.18	0.028
111.00	-19.55	-1.48	0.00	-67.36	0.00	67.36	3,571.01	867.08	3,251.07	3,046.47	1.99	-0.18	0.028
113.00	-19.12	-1.46	0.00	-64.41	0.00	64.41	3,539.90	856.55	3,172.61	2,982.92	2.07	-0.19	0.027
115.00	-18.93	-1.45	0.00	-61.50	0.00	61.50	3,508.48	846.02	3,095.10	2,919.78	2.15	-0.19	0.026
116.00	-18.16	-1.42	0.00	-60.05	0.00	60.05	3,492.66	840.75	3,056.71	2,888.36	2.19	-0.19	0.026
120.00	-17.15	-1.37	0.00	-54.38	0.00	54.38	3,428.62	819.70	2,905.53	2,763.73	2.35	-0.20	0.025
125.00	-16.44	-1.33	0.00	-47.54	0.00	47.54	3,346.87	793.38	2,721.95	2,610.39	2.56	-0.21	0.023
129.00	-16.18	-1.32	0.00	-42.20	0.00	42.20	3,269.48	772.32	2,579.40	2,481.68	2.74	-0.21	0.022
130.00	-15.20	-1.27	0.00	-40.88	0.00	40.88	3,247.19	767.05	2,544.37	2,447.80	2.78	-0.21	0.021
133.75	-15.04	-1.26	0.00	-36.13	0.00	36.13	1,899.47	506.91	1,666.63	1,424.09	2.95	-0.22	0.033
135.00	-14.38	-1.22	0.00	-34.56	0.00	34.56	1,889.77	502.53	1,637.91	1,404.47	3.01	-0.22	0.032
140.00	-13.75	-1.18	0.00	-28.47	0.00	28.47	1,849.78	484.98	1,525.53	1,326.42	3.25	-0.23	0.029
145.00	-13.62	-1.17	0.00	-22.57	0.00	22.57	1,807.91	467.43	1,417.15	1,249.15	3.49	-0.24	0.026
146.00	-12.08	-1.07	0.00	-21.40	0.00	21.40	1,799.31	463.92	1,395.95	1,233.81	3.54	-0.24	0.024
148.00	-11.08	-0.99	0.00	-19.27	0.00	19.27	1,781.88	456.90	1,354.03	1,203.23	3.65	-0.24	0.022
150.00	-10.50	-0.95	0.00	-17.28	0.00	17.28	1,764.15	449.88	1,312.76	1,172.82	3.75	-0.25	0.021
155.00	-10.16	-0.93	0.00	-12.53	0.00	12.53	1,718.52	432.33	1,212.36	1,097.58	4.01	-0.25	0.017
158.00	-7.73	-0.73	0.00	-9.75	0.00	9.75	1,690.24	421.81	1,154.03	1,053.02	4.17	-0.26	0.014
160.00	-7.19	-0.68	0.00	-8.29	0.00	8.29	1,671.00	414.79	1,115.95	1,023.57	4.28	-0.26	0.012
165.00	-6.88	-0.66	0.00	-4.87	0.00	4.87	1,621.61	397.24	1,023.54	950.94	4.55	-0.26	0.009

Site Number: 376046**Code: ANSI/TIA-222-H**

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Site Name: MANSFIELD CENTER 1 CT, CT**Engineering Number:13660476_C3_03****4/26/2021 9:05:03 PM****Customer: T-MOBILE**

168.00	-3.23	-0.32	0.00	-2.90	0.00	2.90	1,591.06	386.71	970.01	908.08	4.71	-0.26	0.005
170.00	-2.86	-0.29	0.00	-2.25	0.00	2.25	1,570.33	379.69	935.12	879.84	4.82	-0.26	0.004
175.00	-2.65	-0.27	0.00	-0.81	0.00	0.81	1,517.17	362.14	850.69	810.41	5.10	-0.26	0.003
178.00	0.00	-0.26	0.00	0.00	0.00	0.00	1,484.37	351.62	801.96	769.62	5.27	-0.26	0.000

Site Number: 376046**Code: ANSI/TIA-222-H**

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Site Name: MANSFIELD CENTER 1 CT, CT**Engineering Number:13660476_C3_03****4/26/2021 9:05:03 PM****Customer: T-MOBILE**

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	36.32	0.00	71.85	0.00	0.00	4707.03	51.00	0.60
0.9D + 1.0W	36.30	0.00	53.88	0.00	0.00	4654.27	51.00	0.59
1.2D + 1.0Di + 1.0Wi	10.54	0.00	92.68	0.00	0.00	1371.09	51.00	0.19
1.2D + 1.0Ev + 1.0Eh	1.80	0.00	71.95	0.00	0.00	263.98	51.00	0.05
0.9D - 1.0Ev + 1.0Eh	1.80	0.00	49.91	0.00	0.00	260.32	51.00	0.04
1.0D + 1.0W	8.12	0.00	59.91	0.00	0.00	1045.86	51.00	0.14

Base Plate & Anchor Rod Analysis

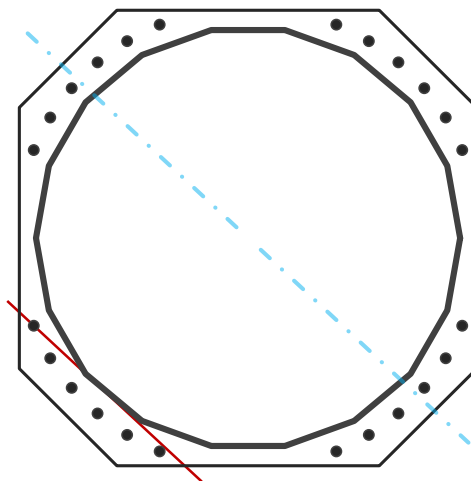
Pole Dimensions		
Number of Sides	18	-
Diameter	68.36	in
Thickness	0.4375	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	4707.0	k-ft
Axial, Pu	71.9	k
Shear, Vu	36.3	k
Neutral Axis	137	°

Report Capacities		
Component	Capacity	Result
Base Plate	42%	Pass
Anchor Rods	52%	Pass
Dwyidag	-	-

Base Plate		
Shape	Square	-
Width	75	in
Thickness	3	in
Grade	Other	
Yield Strength, Fy	55	ksi
Tensile Strength, Fu	70	ksi
Clip	16	in
Orientation Offset	0	°
Anchor Rod Detail	d	$\eta=0.5$
Clear Distance	3	in
Applied Moment, Mu	1766.4	k
Bending Stress, ϕM_n	4185.6	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	24	-
Diameter, ϕ	2 1/4	in
Bolt Circle	76	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	126.7	k
Anchor Rods, ϕP_n	243.6	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	36.3	4707.0	1.00
Anchor Rod Forces	36.3	4707.0	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	92.8826	5.1601	0.3303		53569.80
Bolt	3.9761	3.2477	0.8393	4.5	56296.11
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	75	in
Thickness, t	3	in
Yield Strength, Fy	55	ksi
Tensile Strength, Fu	70	ksi
Base Plate Chord	30.853	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	24	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	76	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	126.7	k
Applied Shear, Vu	0.1	k
Compressive Capacity, ϕP_n	243.6	k
Tensile Capacity, ϕR_n	0.520	OK
Interaction Capacity	0.521	OK

External Base Plate		
Chord Length AA	37.581	in
Additional AA	0.000	in
Section Modulus, Z	84.557	in ³
Applied Moment, Mu	1766.4	k-ft
Bending Capacity, ϕM_n	4185.6	k-ft
Capacity, Mu/ ϕM_n	0.422	OK
Chord Length AB	36.525	in
Additional AB	0.000	in
Section Modulus, Z	82.180	in ³
Applied Moment, Mu	1404.8	k-ft
Bending Capacity, ϕM_n	4067.9	k-ft
Capacity, Mu/ ϕM_n	0.345	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in ³
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕM_n	0.0	k-ft
Capacity, Mu/ ϕM_n		

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in ³
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕM_n	0.0	k-ft
Capacity, Mu/ ϕM_n		



AMERICAN TOWER®
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**TOWER
ENGINEERING
PROFESSIONALS**

Antenna Mount Analysis Report

ATC Site Name : MANSFIELD CENTER 1 CT, CT
ATC Site Number : 376046
Engineering Number : 13660476_C8_02
Mount Elevation : 148 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
41.775800, -72.222500
County : Tolland
Date : May 13, 2021
Max Usage : 76%
Result : Contingent Pass



Prepared By:
Sorin Capra
TEP No. 149448.533713

Reviewed By:

05/13/2021



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Mount Layout	3
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Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for T-Mobile at 148 ft.

Supporting Documents

Previous Mount Analysis	CLS Engineering PLLC Project #41124-12927176-01-MA-R2, dated July 8, 2019
RFDS	RFDS dated February 16, 2021
Photos	Site photos from 2020

Analysis

This antenna mount was analyzed using RISA-3D v17 analysis software

Basic Wind Speed:	120 mph (Vult 3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (Vult 3-Second Gust) w/ 1.0" radial ice
Codes:	ANSI/TIA-222-H
Risk Category:	II
Exposure Category:	B
Topographic Factor Procedure:	Method 2
Kzt:	1
Spectral Response:	Ss = 0.187, S1 = 0.055
Site Class:	D – Default
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

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:

- A SitePro HRK12-3HD Handrail Kit must be installed 4-ft above the platform. See Appendix A for more details.

If the load differs from that described in this report or the provisions of this analysis are found to be invalid, another structural analysis should be performed.

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.

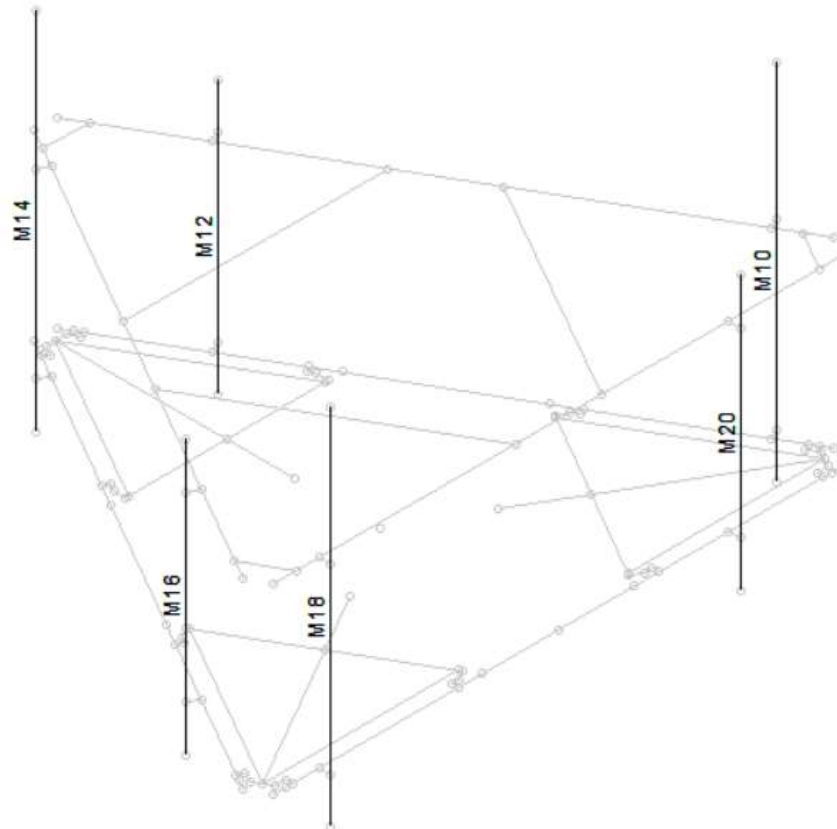
**Antenna Loading**

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
148.0	148.0	3	RFS APXV18-209014-C-A20
		3	RFS APXVAALL24_43-U-NA20
		3	Ericsson Radio 4449 B71+B85A
		3	Ericsson KRY 112 489/2

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Face Horizontals	20%	Pass
Support Rail	35%	Pass
Mount Pipes	76%	Pass
Standoff Members	33%	Pass
Grating Members	11%	Pass
Corner Members	62%	Pass
Mount to Tower Connection	37%	Pass

Mount Layout



POSITION	MEMBER LABEL (mounting pipe)	LOCATION (measured from 1 node of mount pipe to C/L of antenna)	MANUFACTURER	DESCRIPTION	Flat or Round	Length of Normal Face	Width of Normal Face	Width of Transversal Face	θ (wind direction from normal face)	Weight
		[in]				[in]	[in]	[in]	[°]	[lbs]
1	M20	30	RFS	APXV18-209014-C-A20	F	53.1	6.7	3.2	0	18.70
2	M18	48	RFS	APXVAALL24 43-U-NA20	F	95.9	24	8.5	0	122.80
1	M16	30	RFS	APXV18-209014-C-A20	F	53.1	6.7	3.2	120	18.70
2	M14	48	RFS	APXVAALL24 43-U-NA20	F	95.9	24	8.5	120	122.80
1	M12	30	RFS	APXV18-209014-C-A20	F	53.1	6.7	3.2	240	18.70
2	M10	48	RFS	APXVAALL24 43-U-NA20	F	95.9	24	8.5	240	122.80
2	M18	18	Ericsson	Radio 4449 B71-B85A	F	15	13.2	10.5	0	75.00
1	M20	18	Ericsson	KRY 112 489/2	F	11	6.1	3.9	0	15.40
2	M14	18	Ericsson	Radio 4449 B71-B85A	F	15	13.2	10.5	120	75.00
1	M16	18	Ericsson	KRY 112 489/2	F	11	6.1	3.9	120	15.40
2	M10	18	Ericsson	Radio 4449 B71-B85A	F	15	13.2	10.5	240	75.00
1	M12	18	Ericsson	KRY 112 489/2	F	11	6.1	3.9	240	15.40



Standard Conditions

All engineering services performed by TEP 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 TEP

It is the responsibility of the client to ensure that the information provided to TEP and used in the performance of our engineering services is correct and complete.

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

TEP assumes that the mount has been maintained in accordance with the manufacturer's specification.

TEP assumes that all mount components are in sufficient condition to carry their full design capacity for this analysis.

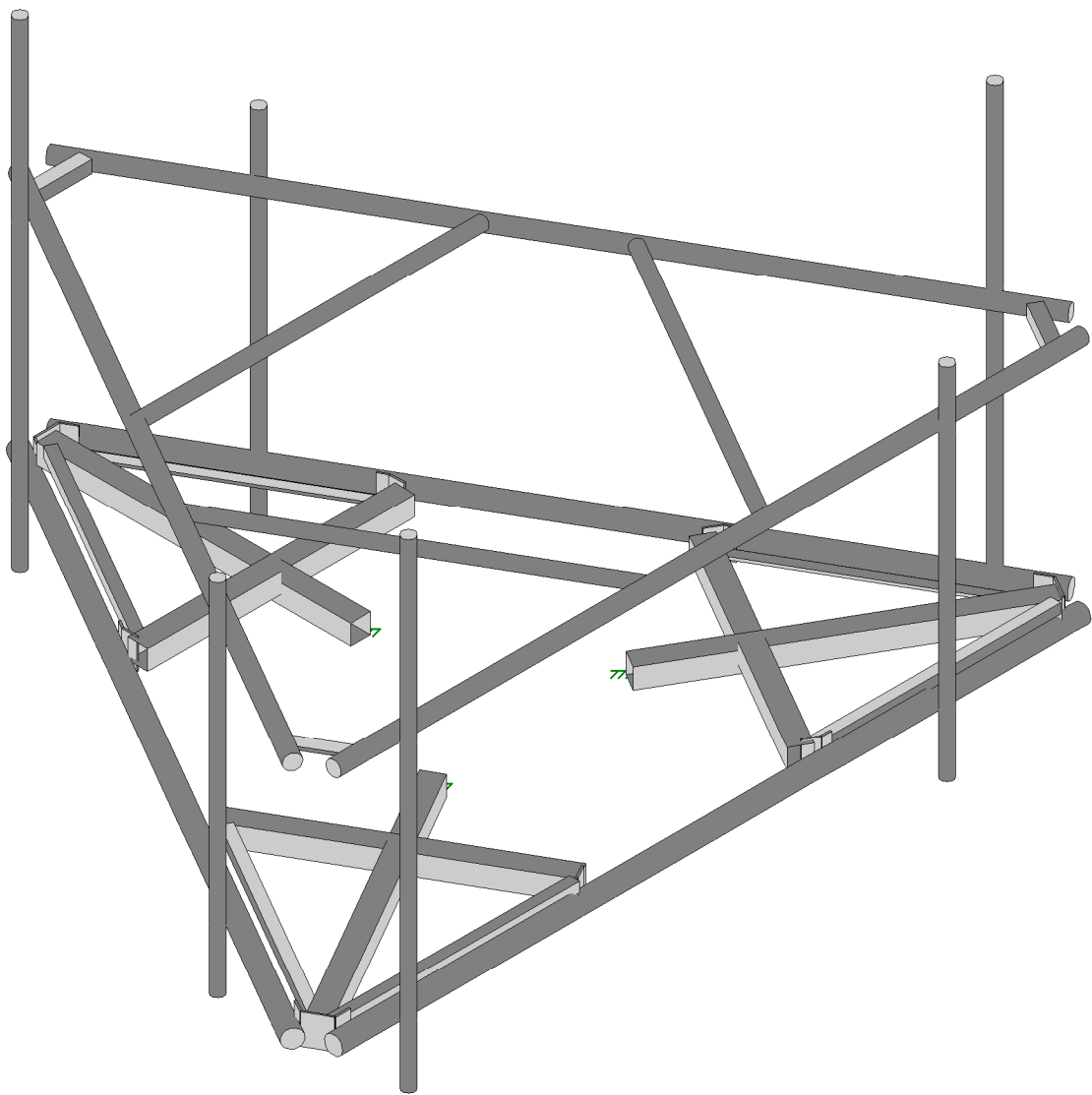
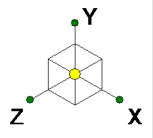
Serviceability with respect to antenna twist, tilt, roll, or lateral translation, is not checked and is left to the carrier or tower owner to ensure conformance.

All material grades used for this analysis, unless verified by mount manufacturer design, were assumed per AISC Table 2-4, 15th Edition. See RISA 3-D output for confirmation on grades used in this analysis.

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.

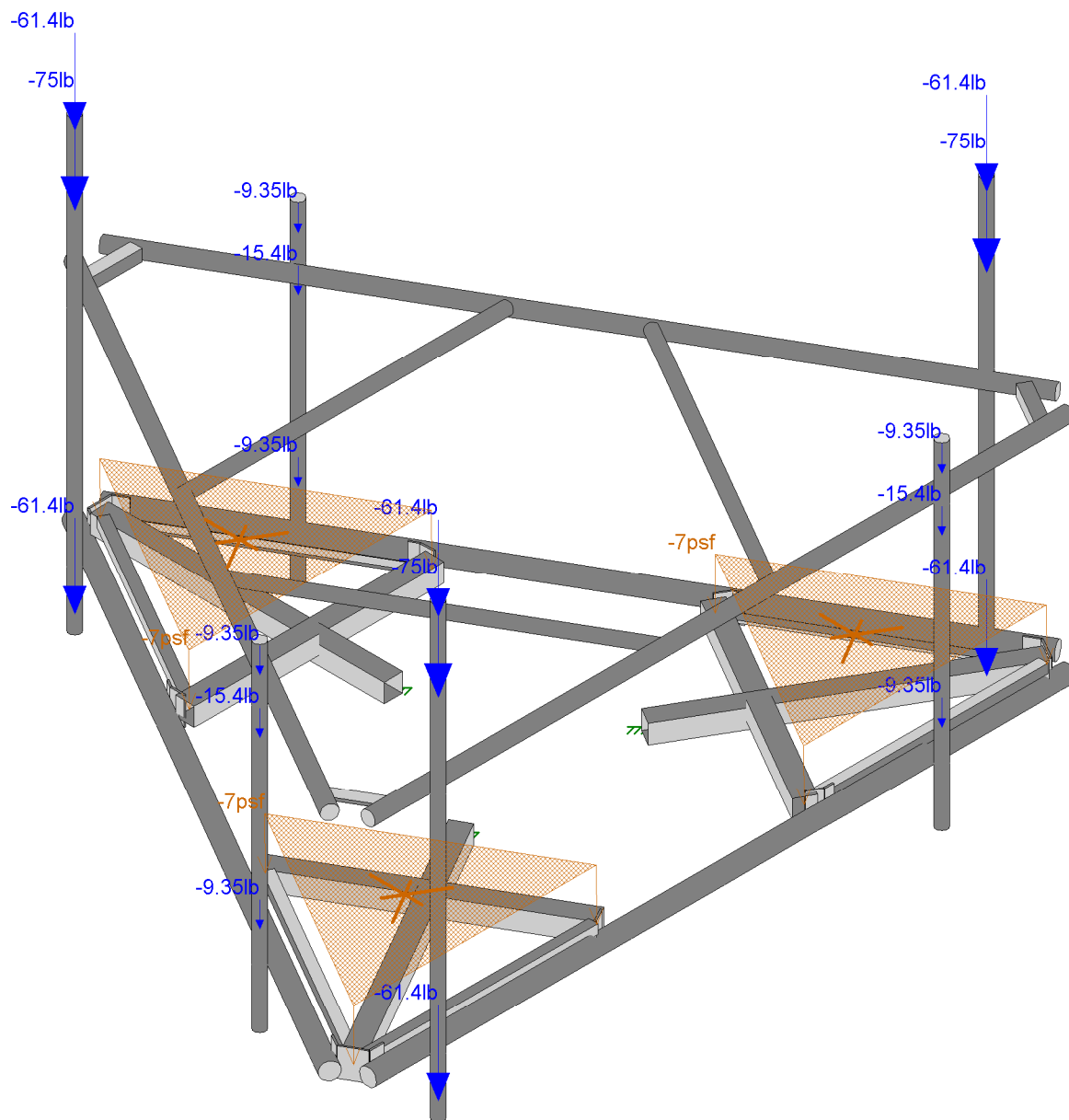
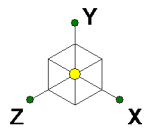
Unless explicitly agreed by both the client and TEP, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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



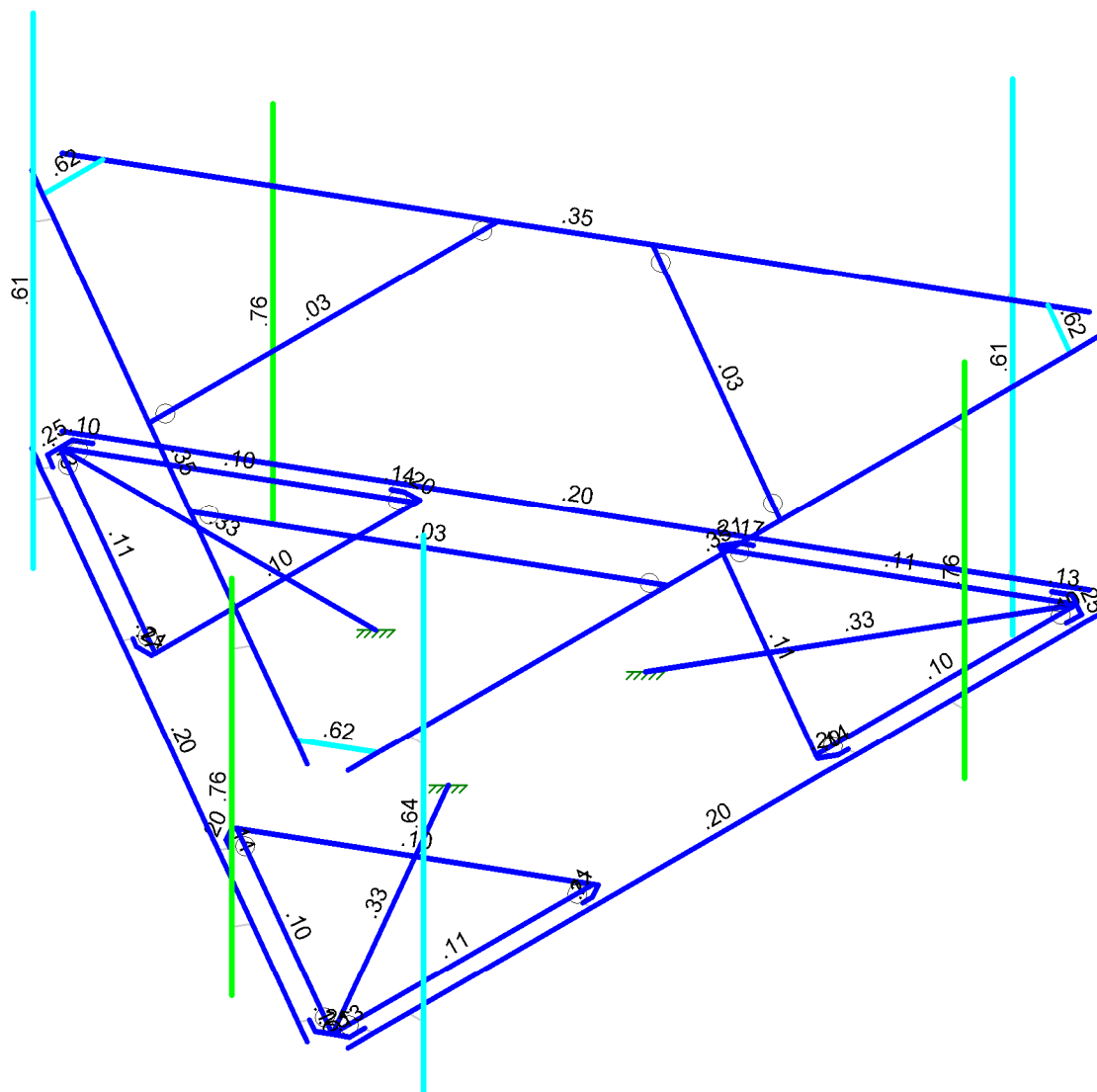
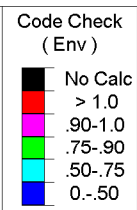
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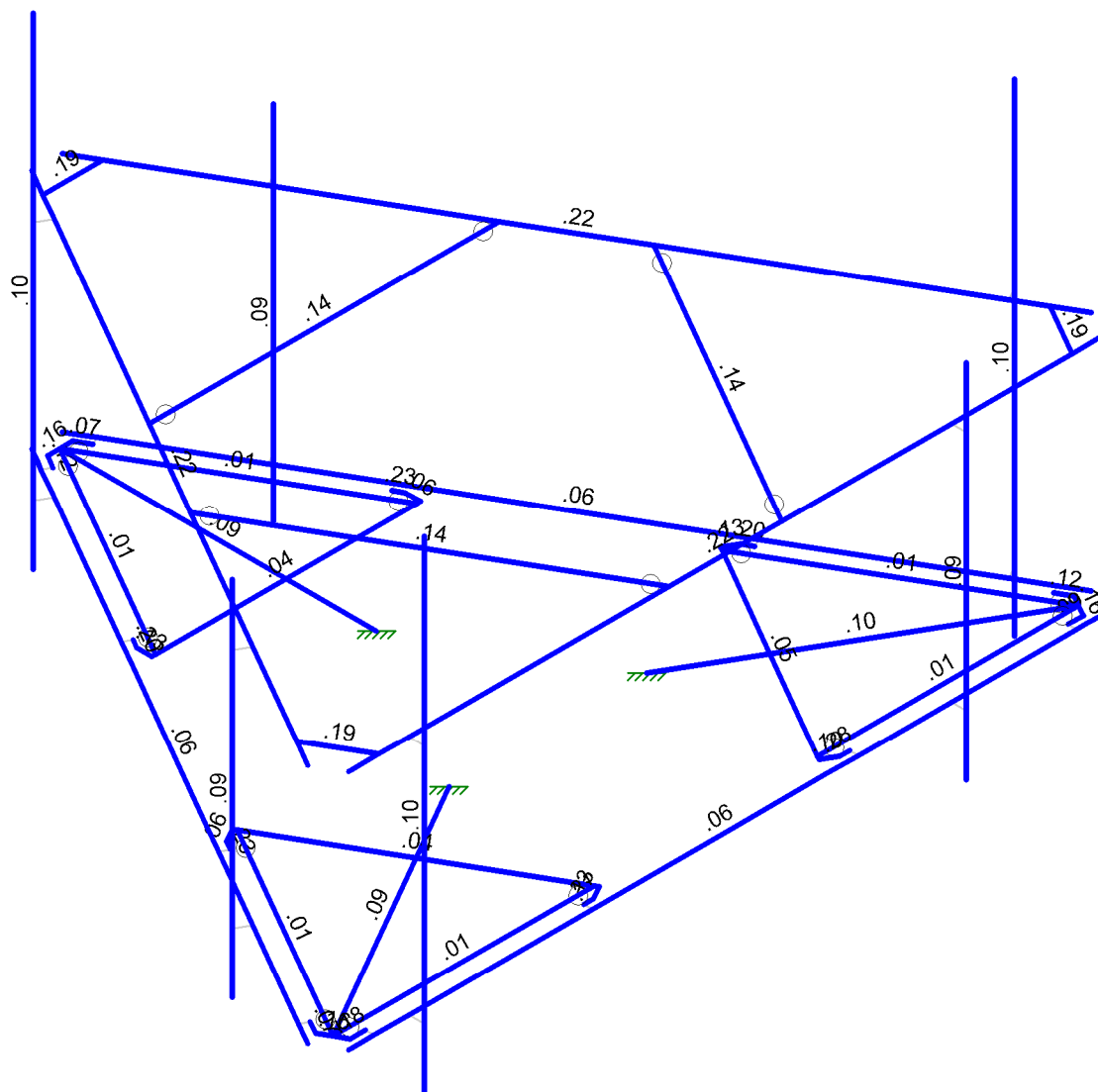
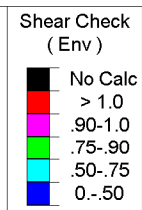


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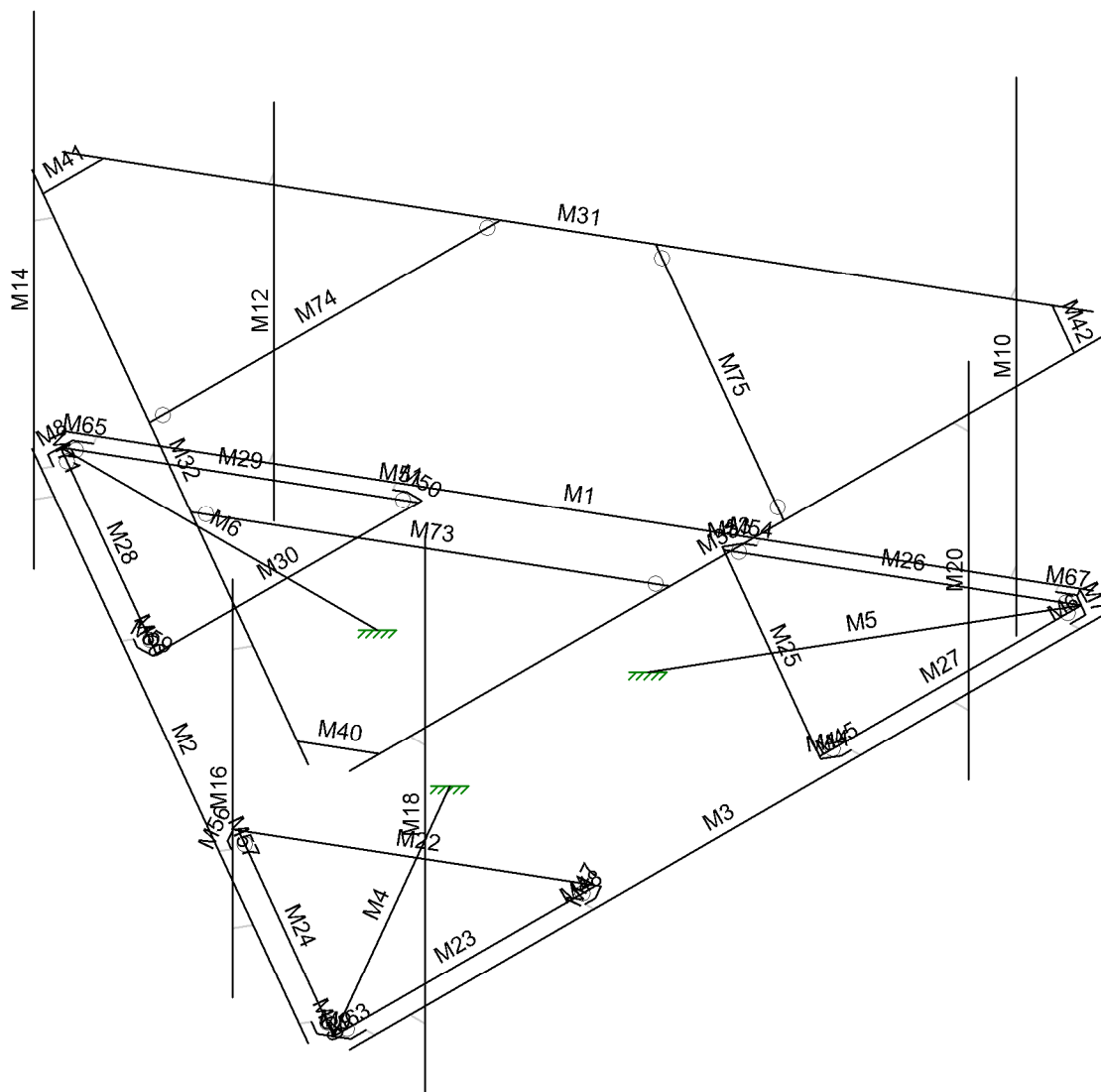
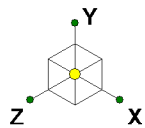
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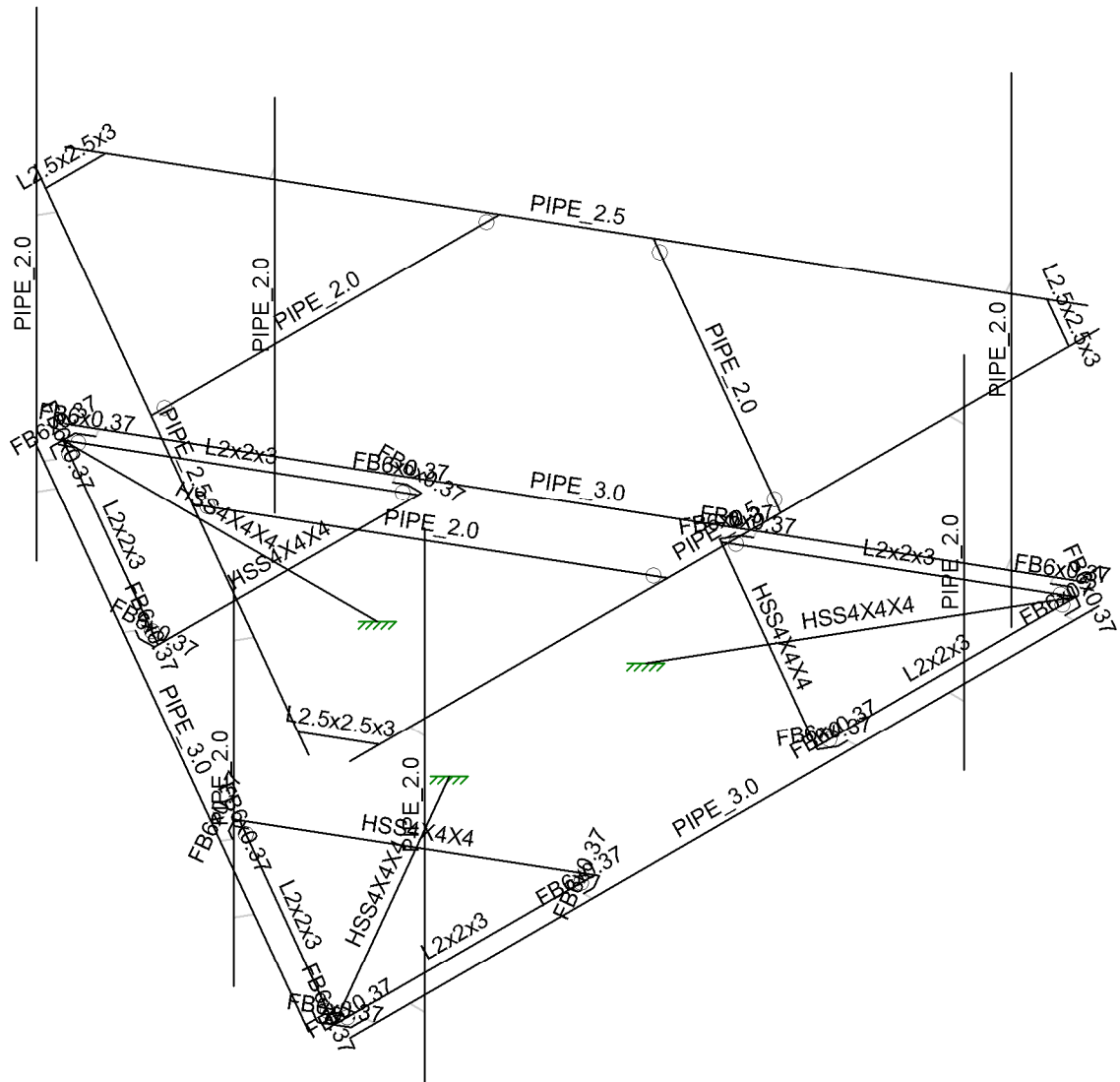
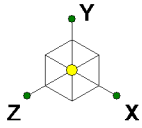


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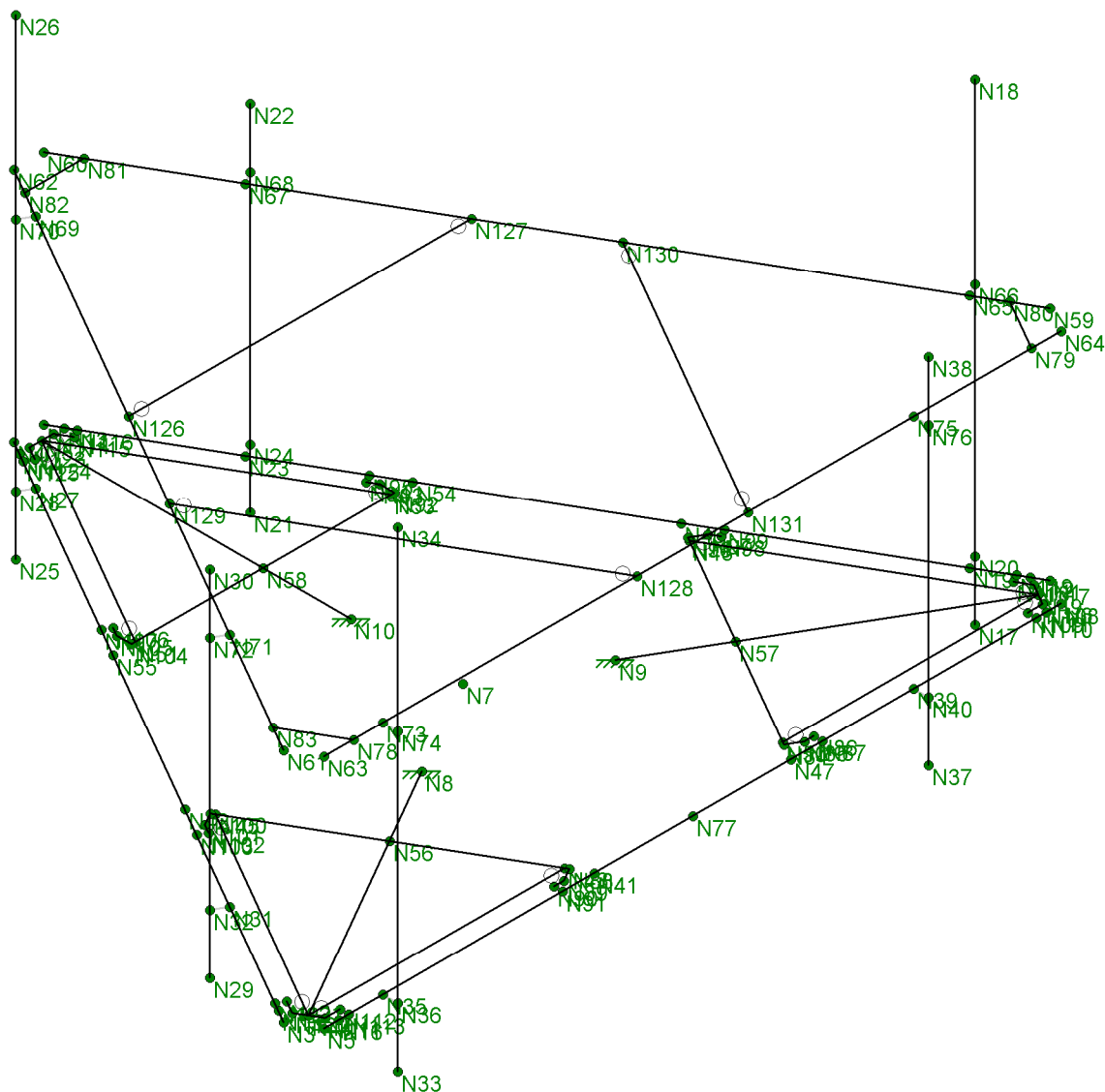
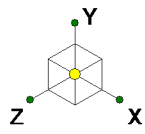
TEP No. 149448.533713

376046 - MANSFIELD CENTER 1 CT

SK - 6

May 13, 2021 at 12:50 PM

376046 - MANSFIELD CENTER 1 C...



Envelope Only Solution

Tower Engineering Profess...	376046 - MANSFIELD CENTER 1 CT	SK - 7
KM		May 13, 2021 at 12:51 PM
TEP No. 149448.533713		376046 - MANSFIELD CENTER 1 C...



Company : Tower Engineering Professionals, Inc
 Designer : KM
 Job Number : TEP No. 149448.533713
 Model Name : 376046 - MANSFIELD CENTER 1 CT

May 13, 2021
 1:04 PM
 Checked By: SC

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver
Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 15th(360-16): LRFD
Cold Formed Steel Code	AISI S100-16: LRFD
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	AA ADM1-15: LRFD - Building
Stainless Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)
Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parame Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR SET ASTM A615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-16
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	HR1A	W10X33	Beam	None	A992	Typical	9.71	36.6	171	.583

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-in/rad]	Y Rot.[k-in/rad]	Z Rot.[k-in/rad]
1	N8	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N9	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N10	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			PIPE 3.0	None	None	A53 Gr.B	Typical
2	M2	N3	N4			PIPE 3.0	None	None	A53 Gr.B	Typical
3	M3	N5	N6			PIPE 3.0	None	None	A53 Gr.B	Typical
4	M4	N44	N8			HSS4X4X4	None	None	A500 Gr.B...	Typical
5	M5	N49	N9			HSS4X4X4	None	None	A500 Gr.B...	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
6	M6	N52	N10			HSS4X4X4	None	None	A500 Gr.B...	Typical
7	M7	N108	N117			FB6x0.37	None	None	A36 Gr.36	Typical
8	M8	N114	N123			FB6x0.37	None	None	A36 Gr.36	Typical
9	M9	N120	N111			FB6x0.37	None	None	A36 Gr.36	Typical
10	M10	N18	N17			PIPE 2.0	None	None	A53 Gr.B	Typical
11	M11	N19	N20			RIGID	None	None	RIGID	Typical
12	M12	N22	N21			PIPE 2.0	None	None	A53 Gr.B	Typical
13	M13	N23	N24			RIGID	None	None	RIGID	Typical
14	M14	N26	N25			PIPE 2.0	None	None	A53 Gr.B	Typical
15	M15	N27	N28			RIGID	None	None	RIGID	Typical
16	M16	N30	N29			PIPE 2.0	None	None	A53 Gr.B	Typical
17	M17	N31	N32			RIGID	None	None	RIGID	Typical
18	M18	N34	N33			PIPE 2.0	None	None	A53 Gr.B	Typical
19	M19	N35	N36			RIGID	None	None	RIGID	Typical
20	M20	N38	N37			PIPE 2.0	None	None	A53 Gr.B	Typical
21	M21	N39	N40			RIGID	None	None	RIGID	Typical
22	M22	N88	N100			HSS4X4X4	None	None	A500 Gr.B...	Typical
23	M23	N44	N43		180	L2x2x3	Beam	None	A36 Gr.36	Typical
24	M24	N44	N45		90	L2x2x3	Beam	None	A36 Gr.36	Typical
25	M25	N96	N84			HSS4X4X4	None	None	A500 Gr.B...	Typical
26	M26	N49	N48		180	L2x2x3	Beam	None	A36 Gr.36	Typical
27	M27	N49	N50		90	L2x2x3	Beam	None	A36 Gr.36	Typical
28	M28	N52	N51		180	L2x2x3	Beam	None	A36 Gr.36	Typical
29	M29	N52	N53		90	L2x2x3	Beam	None	A36 Gr.36	Typical
30	M30	N92	N104			HSS4X4X4	None	None	A500 Gr.B...	Typical
31	M31	N59	N60			PIPE 2.5	None	None	A53 Gr.B	Typical
32	M32	N61	N62			PIPE 2.5	None	None	A53 Gr.B	Typical
33	M33	N63	N64			PIPE 2.5	None	None	A53 Gr.B	Typical
34	M34	N65	N66			RIGID	None	None	RIGID	Typical
35	M35	N67	N68			RIGID	None	None	RIGID	Typical
36	M36	N69	N70			RIGID	None	None	RIGID	Typical
37	M37	N71	N72			RIGID	None	None	RIGID	Typical
38	M38	N73	N74			RIGID	None	None	RIGID	Typical
39	M39	N75	N76			RIGID	None	None	RIGID	Typical
40	M40	N83	N78		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
41	M41	N81	N82		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
42	M42	N80	N79		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
43	M43	N86	N87			RIGID	None	None	RIGID	Typical
44	M44	N84	N85			FB6x0.37	Beam	None	A36 Gr.36	Typical
45	M45	N85	N86			FB6x0.37	Beam	None	A36 Gr.36	Typical
46	M46	N90	N91			RIGID	None	None	RIGID	Typical
47	M47	N88	N89			FB6x0.37	Beam	None	A36 Gr.36	Typical
48	M48	N89	N90			FB6x0.37	Beam	None	A36 Gr.36	Typical
49	M49	N94	N95			RIGID	None	None	RIGID	Typical
50	M50	N92	N93			FB6x0.37	Beam	None	A36 Gr.36	Typical
51	M51	N93	N94			FB6x0.37	Beam	None	A36 Gr.36	Typical
52	M52	N98	N99			RIGID	None	None	RIGID	Typical
53	M53	N96	N97			FB6x0.37	Beam	None	A36 Gr.36	Typical
54	M54	N97	N98			FB6x0.37	Beam	None	A36 Gr.36	Typical
55	M55	N102	N103			RIGID	None	None	RIGID	Typical
56	M56	N100	N101			FB6x0.37	Beam	None	A36 Gr.36	Typical
57	M57	N101	N102			FB6x0.37	Beam	None	A36 Gr.36	Typical
58	M58	N106	N107			RIGID	None	None	RIGID	Typical
59	M59	N104	N105			FB6x0.37	Beam	None	A36 Gr.36	Typical
60	M60	N105	N106			FB6x0.37	Beam	None	A36 Gr.36	Typical
61	M61	N108	N109			FB6x0.37	None	None	A36 Gr.36	Typical
62	M62	N109	N110			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
63	M63	N111	N112			FB6x0.37	None	None	A36 Gr.36	Typical
64	M64	N112	N113			RIGID	None	None	RIGID	Typical
65	M65	N114	N115			FB6x0.37	None	None	A36 Gr.36	Typical
66	M66	N115	N116			RIGID	None	None	RIGID	Typical
67	M67	N117	N118			FB6x0.37	None	None	A36 Gr.36	Typical
68	M68	N118	N119			RIGID	None	None	RIGID	Typical
69	M69	N120	N121			FB6x0.37	None	None	A36 Gr.36	Typical
70	M70	N121	N122			RIGID	None	None	RIGID	Typical
71	M71	N123	N124			FB6x0.37	None	None	A36 Gr.36	Typical
72	M72	N124	N125			RIGID	None	None	RIGID	Typical
73	M73	N129	N128			PIPE 2.0	None	None	A53 Gr.B	Typical
74	M74	N126	N127			PIPE 2.0	None	None	A53 Gr.B	Typical
75	M75	N130	N131			PIPE 2.0	None	None	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes	** NA **			None
2	M2						Yes	** NA **			None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M5						Yes	** NA **			None
6	M6						Yes	** NA **			None
7	M7						Yes	** NA **			None
8	M8						Yes	** NA **			None
9	M9						Yes	** NA **			None
10	M10						Yes	** NA **			None
11	M11						Yes	** NA **			None
12	M12						Yes	** NA **			None
13	M13						Yes	** NA **			None
14	M14						Yes	** NA **			None
15	M15						Yes	** NA **			None
16	M16						Yes	** NA **			None
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19						Yes	** NA **			None
20	M20						Yes	** NA **			None
21	M21						Yes	** NA **			None
22	M22						Yes	** NA **			None
23	M23	BenPIN	BenPIN				Yes				None
24	M24	BenPIN	BenPIN				Yes				None
25	M25						Yes	** NA **			None
26	M26	BenPIN	BenPIN				Yes				None
27	M27	BenPIN	BenPIN				Yes				None
28	M28	BenPIN	BenPIN				Yes				None
29	M29	BenPIN	BenPIN				Yes				None
30	M30						Yes	** NA **			None
31	M31						Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None
34	M34						Yes	** NA **			None
35	M35						Yes	** NA **			None
36	M36						Yes	** NA **			None
37	M37						Yes	** NA **			None
38	M38						Yes	** NA **			None
39	M39						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
40	M40						Yes				None
41	M41						Yes				None
42	M42						Yes				None
43	M43		BenPIN				Yes	** NA **			None
44	M44						Yes				None
45	M45						Yes				None
46	M46		BenPIN				Yes	** NA **			None
47	M47						Yes				None
48	M48						Yes				None
49	M49		BenPIN				Yes	** NA **			None
50	M50						Yes				None
51	M51						Yes				None
52	M52		BenPIN				Yes	** NA **			None
53	M53						Yes				None
54	M54						Yes				None
55	M55		BenPIN				Yes	** NA **			None
56	M56						Yes				None
57	M57						Yes				None
58	M58		BenPIN				Yes	** NA **			None
59	M59						Yes				None
60	M60						Yes				None
61	M61						Yes	** NA **			None
62	M62		BenPIN				Yes	** NA **			None
63	M63						Yes	** NA **			None
64	M64		BenPIN				Yes	** NA **			None
65	M65						Yes	** NA **			None
66	M66		BenPIN				Yes	** NA **			None
67	M67						Yes	** NA **			None
68	M68		BenPIN				Yes	** NA **			None
69	M69						Yes	** NA **			None
70	M70		BenPIN				Yes	** NA **			None
71	M71						Yes	** NA **			None
72	M72		BenPIN				Yes	** NA **			None
73	M73	BenPIN	BenPIN				Yes	** NA **			None
74	M74	BenPIN	BenPIN				Yes	** NA **			None
75	M75	BenPIN	BenPIN				Yes	** NA **			None

Hot Rolled Steel Design Parameters

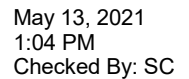
	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	PIPE 3.0	150			Lbyy						Lateral
2	M2	PIPE 3.0	150			Lbyy						Lateral
3	M3	PIPE 3.0	150			Lbyy						Lateral
4	M4	HSS4X4X4	63			Lbyy						Lateral
5	M5	HSS4X4X4	63			Lbyy						Lateral
6	M6	HSS4X4X4	63			Lbyy						Lateral
7	M7	FB6x0.37	4.959			Lbyy						Lateral
8	M8	FB6x0.37	4.959			Lbyy						Lateral
9	M9	FB6x0.37	4.959			Lbyy						Lateral
10	M10	PIPE 2.0	96			Lbyy						Lateral
11	M12	PIPE 2.0	72			Lbyy						Lateral
12	M14	PIPE 2.0	96			Lbyy						Lateral
13	M16	PIPE 2.0	72			Lbyy						Lateral
14	M18	PIPE 2.0	96			Lbyy						Lateral
15	M20	PIPE 2.0	72			Lbyy						Lateral
16	M22	HSS4X4X4	53.507			Lbyy						Lateral

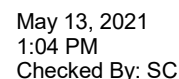
Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
17	M23	L2x2x3	52.013			Lbyy						Lateral
18	M24	L2x2x3	52.013			Lbyy						Lateral
19	M25	HSS4X4X4	53.507			Lbyy						Lateral
20	M26	L2x2x3	52.013			Lbyy						Lateral
21	M27	L2x2x3	52.013			Lbyy						Lateral
22	M28	L2x2x3	52.013			Lbyy						Lateral
23	M29	L2x2x3	52.013			Lbyy						Lateral
24	M30	HSS4X4X4	53.507			Lbyy						Lateral
25	M31	PIPE 2.5	150			Lbyy			2.1	2.1		Lateral
26	M32	PIPE 2.5	150			Lbyy			2.1	2.1		Lateral
27	M33	PIPE 2.5	150			Lbyy			2.1	2.1		Lateral
28	M40	L2.5x2.5x3	12			Lbyy						Lateral
29	M41	L2.5x2.5x3	12			Lbyy						Lateral
30	M42	L2.5x2.5x3	12			Lbyy						Lateral
31	M44	FB6x0.37	3			Lbyy						Lateral
32	M45	FB6x0.37	2			Lbyy						Lateral
33	M47	FB6x0.37	3			Lbyy						Lateral
34	M48	FB6x0.37	2			Lbyy						Lateral
35	M50	FB6x0.37	3			Lbyy						Lateral
36	M51	FB6x0.37	2			Lbyy						Lateral
37	M53	FB6x0.37	3			Lbyy						Lateral
38	M54	FB6x0.37	2			Lbyy						Lateral
39	M56	FB6x0.37	3			Lbyy						Lateral
40	M57	FB6x0.37	2			Lbyy						Lateral
41	M59	FB6x0.37	3			Lbyy						Lateral
42	M60	FB6x0.37	2			Lbyy						Lateral
43	M61	FB6x0.37	3									Lateral
44	M63	FB6x0.37	3									Lateral
45	M65	FB6x0.37	3									Lateral
46	M67	FB6x0.37	3									Lateral
47	M69	FB6x0.37	3									Lateral
48	M71	FB6x0.37	3									Lateral
49	M73	PIPE 2.0	69.735									Lateral
50	M74	PIPE 2.0	69.735									Lateral
51	M75	PIPE 2.0	69.735									Lateral

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Self We	DL		-1.1					
2	We	DL					18	3	
3	Ice We	DL					18	27	3
4	W0	WL					18	27	
5	W30	WL					36	54	
6	W60	WL					36	54	
7	W90	WL					18	27	
8	W120	WL					36	54	
9	W150	WL					36	54	
10	W0 + Ice	WL					18	27	
11	W30 + Ice	WL					36	54	
12	W60 + Ice	WL					36	54	
13	W90 + Ice	WL					18	27	
14	W120 + Ice	WL					36	54	
15	W150 + Ice	WL					36	54	
16	500lbs LM 1	LL				1			
17	500lbs LM 2	LL				1			





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Joint Loads and Enforced Displacements (BLC 20 : 250lbs LV 5) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[lb.k-in], (in.rad), (lb*s^2...
1	N77	L	Y	-250

Joint Loads and Enforced Displacements (BLC 21 : 250lbs LV 6)

	Joint Label	L,D,M	Direction	Magnitude[lb.k-in], (in.rad), (lb*s^2...
1	N44	L	Y	-250

Member Point Loads (BLC 2 : We)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	Y	-9.35	6.45
2	M18	Y	-61.4	3.05
3	M16	Y	-9.35	6.45
4	M14	Y	-61.4	3.05
5	M12	Y	-9.35	6.45
6	M10	Y	-61.4	3.05
7	M20	Y	-9.35	53.55
8	M18	Y	-61.4	92.95
9	M16	Y	-9.35	53.55
10	M14	Y	-61.4	92.95
11	M12	Y	-9.35	53.55
12	M10	Y	-61.4	92.95
13	M18	Y	-75	18
14	M20	Y	-15.4	18
15	M14	Y	-75	18
16	M16	Y	-15.4	18
17	M10	Y	-75	18
18	M12	Y	-15.4	18

Member Point Loads (BLC 3 : Ice We)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	Y	-27.559	6.45
2	M18	Y	-152.841	3.05
3	M16	Y	-27.559	6.45
4	M14	Y	-152.841	3.05
5	M12	Y	-27.559	6.45
6	M10	Y	-152.841	3.05
7	M20	Y	-27.559	53.55
8	M18	Y	-152.841	92.95
9	M16	Y	-27.559	53.55
10	M14	Y	-152.841	92.95
11	M12	Y	-27.559	53.55
12	M10	Y	-152.841	92.95
13	M18	Y	-34.469	18
14	M20	Y	-12.088	18
15	M14	Y	-34.469	18
16	M16	Y	-12.088	18
17	M10	Y	-34.469	18
18	M12	Y	-12.088	18

Member Point Loads (BLC 4 : W0)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	X	-60.458	6.45
2	M18	X	-346.197	3.05
3	M16	X	-41.145	6.45
4	M14	X	-198.567	3.05

Member Point Loads (BLC 4 : W0) (Continued)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in, %]
5	M12	X	-41.145	6.45
6	M10	X	-198.567	3.05
7	M20	X	-60.458	53.55
8	M18	X	-346.197	92.95
9	M16	X	-41.145	53.55
10	M14	X	-198.567	92.95
11	M12	X	-41.145	53.55
12	M10	X	-198.567	92.95
13	M18	X	-56.438	18
14	M20	X	-19.126	18
15	M14	X	-47.78	18
16	M16	X	-14.062	18
17	M10	X	-47.78	18
18	M12	X	-14.062	18

Member Point Loads (BLC 5 : W30)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in, %]
1	M20	X	-46.783	6.45
2	M18	X	-257.198	3.05
3	M16	X	-46.783	6.45
4	M14	X	-257.198	3.05
5	M12	X	-30.057	6.45
6	M10	X	-129.347	3.05
7	M20	X	-46.783	53.55
8	M18	X	-257.198	92.95
9	M16	X	-46.783	53.55
10	M14	X	-257.198	92.95
11	M12	X	-30.057	53.55
12	M10	X	-129.347	92.95
13	M18	X	-46.377	18
14	M20	X	-15.102	18
15	M14	X	-46.377	18
16	M16	X	-15.102	18
17	M10	X	-38.879	18
18	M12	X	-10.716	18
19	M20	Z	27.01	6.45
20	M18	Z	148.493	3.05
21	M16	Z	27.01	6.45
22	M14	Z	148.493	3.05
23	M12	Z	17.353	6.45
24	M10	Z	74.679	3.05
25	M20	Z	27.01	53.55
26	M18	Z	148.493	92.95
27	M16	Z	27.01	53.55
28	M14	Z	148.493	92.95
29	M12	Z	17.353	53.55
30	M10	Z	74.679	92.95
31	M18	Z	26.776	18
32	M20	Z	8.719	18
33	M14	Z	26.776	18
34	M16	Z	8.719	18
35	M10	Z	22.447	18
36	M12	Z	6.187	18

Member Point Loads (BLC 6 : W60)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in, %]
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Member Point Loads (BLC 6 : W60) (Continued)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	X	-20.572	6.45
2	M18	X	-99.284	3.05
3	M16	X	-30.229	6.45
4	M14	X	-173.098	3.05
5	M12	X	-20.572	6.45
6	M10	X	-99.284	3.05
7	M20	X	-20.572	53.55
8	M18	X	-99.284	92.95
9	M16	X	-30.229	53.55
10	M14	X	-173.098	92.95
11	M12	X	-20.572	53.55
12	M10	X	-99.284	92.95
13	M18	X	-23.89	18
14	M20	X	-7.031	18
15	M14	X	-28.219	18
16	M16	X	-9.563	18
17	M10	X	-23.89	18
18	M12	X	-7.031	18
19	M20	Z	35.632	6.45
20	M18	Z	171.964	3.05
21	M16	Z	52.358	6.45
22	M14	Z	299.815	3.05
23	M12	Z	35.632	6.45
24	M10	Z	171.964	3.05
25	M20	Z	35.632	53.55
26	M18	Z	171.964	92.95
27	M16	Z	52.358	53.55
28	M14	Z	299.815	92.95
29	M12	Z	35.632	53.55
30	M10	Z	171.964	92.95
31	M18	Z	41.379	18
32	M20	Z	12.178	18
33	M14	Z	48.877	18
34	M16	Z	16.564	18
35	M10	Z	41.379	18
36	M12	Z	12.178	18

Member Point Loads (BLC 7 : W90)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	Z	34.707	6.45
2	M18	Z	149.357	3.05
3	M16	Z	54.02	6.45
4	M14	Z	296.987	3.05
5	M12	Z	54.02	6.45
6	M10	Z	296.987	3.05
7	M20	Z	34.707	53.55
8	M18	Z	149.357	92.95
9	M16	Z	54.02	53.55
10	M14	Z	296.987	92.95
11	M12	Z	54.02	53.55
12	M10	Z	296.987	92.95
13	M18	Z	44.894	18
14	M20	Z	12.373	18
15	M14	Z	53.552	18
16	M16	Z	17.438	18
17	M10	Z	53.552	18

Member Point Loads (BLC 7 : W90) (Continued)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in,%]
18	M12	Z	17.438	18

Member Point Loads (BLC 8 : W120)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in,%]
1	M20	X	20.572	6.45
2	M18	X	99.284	3.05
3	M16	X	20.572	6.45
4	M14	X	99.284	3.05
5	M12	X	30.229	6.45
6	M10	X	173.098	3.05
7	M20	X	20.572	53.55
8	M18	X	99.284	92.95
9	M16	X	20.572	53.55
10	M14	X	99.284	92.95
11	M12	X	30.229	53.55
12	M10	X	173.098	92.95
13	M18	X	23.89	18
14	M20	X	7.031	18
15	M14	X	23.89	18
16	M16	X	7.031	18
17	M10	X	28.219	18
18	M12	X	9.563	18
19	M20	Z	35.632	6.45
20	M18	Z	171.964	3.05
21	M16	Z	35.632	6.45
22	M14	Z	171.964	3.05
23	M12	Z	52.358	6.45
24	M10	Z	299.815	3.05
25	M20	Z	35.632	53.55
26	M18	Z	171.964	92.95
27	M16	Z	35.632	53.55
28	M14	Z	171.964	92.95
29	M12	Z	52.358	53.55
30	M10	Z	299.815	92.95
31	M18	Z	41.379	18
32	M20	Z	12.178	18
33	M14	Z	41.379	18
34	M16	Z	12.178	18
35	M10	Z	48.877	18
36	M12	Z	16.564	18

Member Point Loads (BLC 9 : W150)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in,%]
1	M20	X	46.783	6.45
2	M18	X	257.198	3.05
3	M16	X	30.057	6.45
4	M14	X	129.347	3.05
5	M12	X	46.783	6.45
6	M10	X	257.198	3.05
7	M20	X	46.783	53.55
8	M18	X	257.198	92.95
9	M16	X	30.057	53.55
10	M14	X	129.347	92.95
11	M12	X	46.783	53.55
12	M10	X	257.198	92.95
13	M18	X	46.377	18

Member Point Loads (BLC 9 : W150) (Continued)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
14	M20	X	15.102	18
15	M14	X	38.879	18
16	M16	X	10.716	18
17	M10	X	46.377	18
18	M12	X	15.102	18
19	M20	Z	27.01	6.45
20	M18	Z	148.493	3.05
21	M16	Z	17.353	6.45
22	M14	Z	74.679	3.05
23	M12	Z	27.01	6.45
24	M10	Z	148.493	3.05
25	M20	Z	27.01	53.55
26	M18	Z	148.493	92.95
27	M16	Z	17.353	53.55
28	M14	Z	74.679	92.95
29	M12	Z	27.01	53.55
30	M10	Z	148.493	92.95
31	M18	Z	26.776	18
32	M20	Z	8.719	18
33	M14	Z	22.447	18
34	M16	Z	6.187	18
35	M10	Z	26.776	18
36	M12	Z	8.719	18

Member Point Loads (BLC 10 : W0 + Ice)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	X	-14.044	6.45
2	M18	X	-66.894	3.05
3	M16	X	-10.618	6.45
4	M14	X	-40.878	3.05
5	M12	X	-10.618	6.45
6	M10	X	-40.878	3.05
7	M20	X	-14.044	53.55
8	M18	X	-66.894	92.95
9	M16	X	-10.618	53.55
10	M14	X	-40.878	92.95
11	M12	X	-10.618	53.55
12	M10	X	-40.878	92.95
13	M18	X	-13.308	18
14	M20	X	-5.554	18
15	M14	X	-11.572	18
16	M16	X	-4.466	18
17	M10	X	-11.572	18
18	M12	X	-4.466	18

Member Point Loads (BLC 11 : W30 + Ice)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	X	-11.174	6.45
2	M18	X	-50.422	3.05
3	M16	X	-11.174	6.45
4	M14	X	-50.422	3.05
5	M12	X	-8.206	6.45
6	M10	X	-27.891	3.05
7	M20	X	-11.174	53.55
8	M18	X	-50.422	92.95
9	M16	X	-11.174	53.55

Member Point Loads (BLC 11 : W30 + Ice) (Continued)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in, %]
10	M14	X	-50.422	92.95
11	M12	X	-8.206	53.55
12	M10	X	-27.891	92.95
13	M18	X	-11.024	18
14	M20	X	-4.496	18
15	M14	X	-11.024	18
16	M16	X	-4.496	18
17	M10	X	-9.521	18
18	M12	X	-3.554	18
19	M20	Z	6.451	6.45
20	M18	Z	29.111	3.05
21	M16	Z	6.451	6.45
22	M14	Z	29.111	3.05
23	M12	Z	4.738	6.45
24	M10	Z	16.103	3.05
25	M20	Z	6.451	53.55
26	M18	Z	29.111	92.95
27	M16	Z	6.451	53.55
28	M14	Z	29.111	92.95
29	M12	Z	4.738	53.55
30	M10	Z	16.103	92.95
31	M18	Z	6.365	18
32	M20	Z	2.596	18
33	M14	Z	6.365	18
34	M16	Z	2.596	18
35	M10	Z	5.497	18
36	M12	Z	2.052	18

Member Point Loads (BLC 12 : W60 + Ice)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in, %]
1	M20	X	-5.309	6.45
2	M18	X	-20.439	3.05
3	M16	X	-7.022	6.45
4	M14	X	-33.447	3.05
5	M12	X	-5.309	6.45
6	M10	X	-20.439	3.05
7	M20	X	-5.309	53.55
8	M18	X	-20.439	92.95
9	M16	X	-7.022	53.55
10	M14	X	-33.447	92.95
11	M12	X	-5.309	53.55
12	M10	X	-20.439	92.95
13	M18	X	-5.786	18
14	M20	X	-2.233	18
15	M14	X	-6.654	18
16	M16	X	-2.777	18
17	M10	X	-5.786	18
18	M12	X	-2.233	18
19	M20	Z	9.195	6.45
20	M18	Z	35.401	3.05
21	M16	Z	12.163	6.45
22	M14	Z	57.932	3.05
23	M12	Z	9.195	6.45
24	M10	Z	35.401	3.05
25	M20	Z	9.195	53.55
26	M18	Z	35.401	92.95

Member Point Loads (BLC 12 : W60 + Ice) (Continued)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
27	M16	Z	12.163	53.55
28	M14	Z	57.932	92.95
29	M12	Z	9.195	53.55
30	M10	Z	35.401	92.95
31	M18	Z	10.022	18
32	M20	Z	3.868	18
33	M14	Z	11.525	18
34	M16	Z	4.81	18
35	M10	Z	10.022	18
36	M12	Z	3.868	18

Member Point Loads (BLC 13 : W90 + Ice)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	Z	9.476	6.45
2	M18	Z	32.206	3.05
3	M16	Z	12.902	6.45
4	M14	Z	58.222	3.05
5	M12	Z	12.902	6.45
6	M10	Z	58.222	3.05
7	M20	Z	9.476	53.55
8	M18	Z	32.206	92.95
9	M16	Z	12.902	53.55
10	M14	Z	58.222	92.95
11	M12	Z	12.902	53.55
12	M10	Z	58.222	92.95
13	M18	Z	10.994	18
14	M20	Z	4.104	18
15	M14	Z	12.73	18
16	M16	Z	5.192	18
17	M10	Z	12.73	18
18	M12	Z	5.192	18

Member Point Loads (BLC 14 : W120 + Ice)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	X	5.309	6.45
2	M18	X	20.439	3.05
3	M16	X	5.309	6.45
4	M14	X	20.439	3.05
5	M12	X	7.022	6.45
6	M10	X	33.447	3.05
7	M20	X	5.309	53.55
8	M18	X	20.439	92.95
9	M16	X	5.309	53.55
10	M14	X	20.439	92.95
11	M12	X	7.022	53.55
12	M10	X	33.447	92.95
13	M18	X	5.786	18
14	M20	X	2.233	18
15	M14	X	5.786	18
16	M16	X	2.233	18
17	M10	X	6.654	18
18	M12	X	2.777	18
19	M20	Z	9.195	6.45
20	M18	Z	35.401	3.05
21	M16	Z	9.195	6.45
22	M14	Z	35.401	3.05

Member Point Loads (BLC 14 : W120 + Ice) (Continued)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in, %]
23	M12	Z	12.163	6.45
24	M10	Z	57.932	3.05
25	M20	Z	9.195	53.55
26	M18	Z	35.401	92.95
27	M16	Z	9.195	53.55
28	M14	Z	35.401	92.95
29	M12	Z	12.163	53.55
30	M10	Z	57.932	92.95
31	M18	Z	10.022	18
32	M20	Z	3.868	18
33	M14	Z	10.022	18
34	M16	Z	3.868	18
35	M10	Z	11.525	18
36	M12	Z	4.81	18

Member Point Loads (BLC 15 : W150 + Ice)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in, %]
1	M20	X	11.174	6.45
2	M18	X	50.422	3.05
3	M16	X	8.206	6.45
4	M14	X	27.891	3.05
5	M12	X	11.174	6.45
6	M10	X	50.422	3.05
7	M20	X	11.174	53.55
8	M18	X	50.422	92.95
9	M16	X	8.206	53.55
10	M14	X	27.891	92.95
11	M12	X	11.174	53.55
12	M10	X	50.422	92.95
13	M18	X	11.024	18
14	M20	X	4.496	18
15	M14	X	9.521	18
16	M16	X	3.554	18
17	M10	X	11.024	18
18	M12	X	4.496	18
19	M20	Z	6.451	6.45
20	M18	Z	29.111	3.05
21	M16	Z	4.738	6.45
22	M14	Z	16.103	3.05
23	M12	Z	6.451	6.45
24	M10	Z	29.111	3.05
25	M20	Z	6.451	53.55
26	M18	Z	29.111	92.95
27	M16	Z	4.738	53.55
28	M14	Z	16.103	92.95
29	M12	Z	6.451	53.55
30	M10	Z	29.111	92.95
31	M18	Z	6.365	18
32	M20	Z	2.596	18
33	M14	Z	5.497	18
34	M16	Z	2.052	18
35	M10	Z	6.365	18
36	M12	Z	2.596	18

Member Point Loads (BLC 22 : E0)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in, %]
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Member Point Loads (BLC 22 : E0) (Continued)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	X	-.933	6.45
2	M18	X	-6.124	3.05
3	M16	X	-.933	6.45
4	M14	X	-6.124	3.05
5	M12	X	-.933	6.45
6	M10	X	-6.124	3.05
7	M20	X	-.933	53.55
8	M18	X	-6.124	92.95
9	M16	X	-.933	53.55
10	M14	X	-6.124	92.95
11	M12	X	-.933	53.55
12	M10	X	-6.124	92.95
13	M18	X	-7.48	18
14	M20	X	-1.536	18
15	M14	X	-7.48	18
16	M16	X	-1.536	18
17	M10	X	-7.48	18
18	M12	X	-1.536	18

Member Point Loads (BLC 23 : E90)

	Member Label	Direction	Magnitude[lb.k-in]	Location[in.%]
1	M20	Z	.933	6.45
2	M18	Z	6.124	3.05
3	M16	Z	.933	6.45
4	M14	Z	6.124	3.05
5	M12	Z	.933	6.45
6	M10	Z	6.124	3.05
7	M20	Z	.933	53.55
8	M18	Z	6.124	92.95
9	M16	Z	.933	53.55
10	M14	Z	6.124	92.95
11	M12	Z	.933	53.55
12	M10	Z	6.124	92.95
13	M18	Z	7.48	18
14	M20	Z	1.536	18
15	M14	Z	7.48	18
16	M16	Z	1.536	18
17	M10	Z	7.48	18
18	M12	Z	1.536	18

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-in]	LC	MY [k-in]	LC	MZ [k-in]	LC
1	N8	max	826.719	12	1937.119	18	1564.819	12	7.76	12	13.602	3	34.221	7
2		min	-800.364	6	11.785	12	-1531.474	6	-53.175	18	-13.758	9	-10.093	13
3	N9	max	941.861	4	1937.112	22	1458.89	10	53.222	10	13.602	7	33.222	33
4		min	-926.157	10	11.79	4	-1498.378	4	-10.281	4	-13.757	13	-4.254	3
5	N10	max	1726.46	2	1937.097	14	450.713	11	11.199	10	13.603	11	10.415	8
6		min	-1768.574	8	11.795	8	-447.912	5	-10.053	4	-13.759	5	-61.11	14
7	Totals:	max	3114.701	2	5211.762	18	3114.731	11						
8		min	-3114.701	8	2129.084	76	-3114.733	5						

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

	Member	Shape	Code Check	Loc[in]	LC Shear Che.	Loc[in]	Dir	LC phi*Pnc	phi*Pnt	phi*Mn y	phi*Mn z	Cb	Eqn		
1	M12	PIPE 2.0	.762	60	10	.093	60		9	20866.7...	32130	22.459	22.459	1.806	H1-1b
2	M16	PIPE 2.0	.762	60	2	.093	60		13	20866.7...	32130	22.459	22.459	1.767	H1-1b
3	M20	PIPE 2.0	.762	60	6	.093	60		5	20866.7...	32130	22.459	22.459	1.039	H1-1b
4	M18	PIPE 2.0	.643	36	8	.096	36		2	14916.0...	32130	22.459	22.459	2.419	H1-1b
5	M41	L2.5x2.5x3	.624	12	10	.194	0	z	10	27702.87	29192.4	10.471	23.662	1.615	H2-1
6	M40	L2.5x2.5x3	.624	12	2	.194	0	z	2	27702.87	29192.4	10.471	23.662	1.615	H2-1
7	M42	L2.5x2.5x3	.624	0	6	.194	12	y	6	27702.87	29192.4	10.471	23.662	1.615	H2-1
8	M14	PIPE 2.0	.614	36	5	.096	36		10	14916.0...	32130	22.459	22.459	2.285	H1-1b
9	M10	PIPE 2.0	.610	84	2	.096	36		6	14916.0...	32130	22.459	22.459	1.962	H1-1b
10	M31	PIPE 2.5	.347	120....	10	.222	6.25		6	3301.313	50715	43.155	43.155	2.424	H1-1b
11	M32	PIPE 2.5	.347	29.687	2	.222	143.75		10	3301.313	50715	43.155	43.155	2.425	H1-1b
12	M33	PIPE 2.5	.347	120....	6	.222	6.25		2	3301.313	50715	43.155	43.155	2.425	H1-1b
13	M5	HSS4X4X4	.333	63	10	.096	63	y	31	124317....	139518	194.166	194.166	2.181	H1-1b
14	M6	HSS4X4X4	.333	63	2	.094	63	y	4	124317....	139518	194.166	194.166	2.181	H1-1b
15	M4	HSS4X4X4	.333	63	6	.094	63	y	8	124317....	139518	194.166	194.166	2.181	H1-1b
16	M9	FB6x0.37	.251	2.479	7	.159	2.479	y	9	64213.0...	71928	6.653	107.892	1.223	H1-1b
17	M7	FB6x0.37	.251	2.479	11	.159	2.479	y	13	64213.0...	71928	6.653	107.892	1.223	H1-1b
18	M8	FB6x0.37	.251	2.479	3	.159	2.479	y	5	64213.0...	71928	6.653	107.892	1.223	H1-1b
19	M47	FB6x0.37	.213	0	7	.128	0	y	4	69002.0...	71928	6.653	107.892	1.247	H1-1b
20	M53	FB6x0.37	.213	0	11	.128	0	y	8	69002.0...	71928	6.653	107.892	1.247	H1-1b
21	M59	FB6x0.37	.213	0	3	.128	0	y	12	69002.0...	71928	6.653	107.892	1.247	H1-1b
22	M44	FB6x0.37	.200	0	9	.098	0	y	30	69002.0...	71928	6.653	107.892	1.234	H1-1b
23	M56	FB6x0.37	.200	0	5	.061	0	y	8	69002.0...	71928	6.653	107.892	1.234	H1-1b
24	M50	FB6x0.37	.200	0	13	.061	0	y	4	69002.0...	71928	6.653	107.892	1.234	H1-1b
25	M3	PIPE 3.0	.198	118.75	6	.060	101....		7	28250.5...	65205	68.985	68.985	1.685	H1-1b
26	M1	PIPE 3.0	.198	118.75	10	.060	101....		11	28250.5...	65205	68.985	68.985	1.685	H1-1b
27	M2	PIPE 3.0	.198	31.25	2	.060	48.437		3	28250.5...	65205	68.985	68.985	1.685	H1-1b
28	M60	FB6x0.37	.174	2	9	.204	0	y	15	70612.4...	71928	6.653	107.892	1.133	H1-1b
29	M54	FB6x0.37	.174	2	5	.204	0	y	23	70612.4...	71928	6.653	107.892	1.133	H1-1b
30	M48	FB6x0.37	.174	2	13	.213	0	y	43	70612.4...	71928	6.653	107.892	1.133	H1-1b
31	M45	FB6x0.37	.142	2	9	.275	0	y	32	70612.4...	71928	6.653	107.892	1.389	H1-1b
32	M57	FB6x0.37	.142	2	5	.230	0	y	16	70612.4...	71928	6.653	107.892	1.389	H1-1b
33	M51	FB6x0.37	.142	2	13	.230	0	y	24	70612.4...	71928	6.653	107.892	1.389	H1-1b
34	M67	FB6x0.37	.128	0	5	.120	0	y	10	69001.8...	71928	6.653	107.892	1.975	H1-1b
35	M71	FB6x0.37	.128	0	9	.120	0	y	2	69001.8...	71928	6.653	107.892	1.975	H1-1b
36	M63	FB6x0.37	.128	0	13	.176	0	y	42	69001.8...	71928	6.653	107.892	1.975	H1-1b
37	M28	L2x2x3	.113	25.465	4	.007	52.013	y	19	9123.425	23392.8	6.693	12.762	1.137	H2-1
38	M26	L2x2x3	.113	25.465	12	.007	52.013	y	15	9123.425	23392.8	6.693	12.762	1.137	H2-1
39	M23	L2x2x3	.113	25.465	8	.007	52.013	y	23	9123.422	23392.8	6.693	12.762	1.137	H2-1
40	M25	HSS4X4X4	.106	26.754	31	.054	26.754	y	32	128378....	139518	194.166	194.166	1.4	H1-1b
41	M69	FB6x0.37	.105	3	5	.071	0	y	6	69001.8...	71928	6.653	107.892	1.28	H1-1b
42	M61	FB6x0.37	.105	3	9	.095	0	y	34	69001.8...	71928	6.653	107.892	1.28	H1-1b
43	M65	FB6x0.37	.105	3	13	.071	0	y	2	69001.8...	71928	6.653	107.892	1.28	H1-1b
44	M27	L2x2x3	.099	27.632	10	.008	52.013	z	18	9123.422	23392.8	6.693	12.768	1.139	H2-1
45	M29	L2x2x3	.099	27.632	2	.008	52.013	z	22	9123.425	23392.8	6.693	12.768	1.139	H2-1
46	M24	L2x2x3	.099	27.632	6	.008	52.013	z	14	9123.425	23392.8	6.693	12.768	1.139	H2-1
47	M22	HSS4X4X4	.098	26.754	17	.043	26.754	y	16	128378....	139518	194.166	194.166	1.35	H1-1b
48	M30	HSS4X4X4	.098	26.754	25	.043	26.754	y	24	128378....	139518	194.166	194.166	1.35	H1-1b
49	M75	PIPE 2.0	.027	34.868	4	.145	0		13	21432.0...	32130	22.459	22.459	1.136	H1-1b
50	M73	PIPE 2.0	.027	34.868	12	.145	0		9	21432.0...	32130	22.459	22.459	1.136	H1-1b
51	M74	PIPE 2.0	.027	34.868	8	.145	0		5	21432.0...	32130	22.459	22.459	1.136	H1-1b

SITE DETAILS

Site Name/Code 376046 - MANSFIELD CENTER 1 CT
 Date 05/13/2021
 Engineer KM

CONNECTION PARAMETERS

Number of bolts 4
 b - width of member 4
 d - height of member 4
 B - horizontal bolt spacing 7 in
 D - vertical bolt spacing 7 in
 Bolt Diameter d 5/8 in
 Section Shape HSS
 Weld Thickness 3/8 in
 Tensile Area A_b 0.31 in²
 Tensile Area A_n 0.23 in²
 Grade A325
 Bolt Ultimate Strength F_{ub} 120 ksi
 Connection length reduction factor R_b 1



Connection Sketch/Photo

FLANGE LOADS

Loadcase # 10
 Bending Moment Mzz 60.62 kips-in
 Bending Moment Myy 2.79 kips-in
 Torsional Moment Mxx 1.45 kips-in
 Shear Force Vy 1.69 kips
 Shear Force Vz 0.07 kips
 Axial Force Px 1.73 kips

BOLT CHECK**Bolt Tension Capacity**

$$\phi R_{nt} = 0.75 * F_{ub} * A_n$$

$\phi R_{nt} = 20.3 \text{ kips}$

Bolt Shear Capacity

$$\phi R_{nv} = 0.75 * 0.625 * 0.8 * F_{ub} * A_b * R_b$$

$\phi R_{nv} = 13.8 \text{ kips}$

Maximum Bolt Tension

$$T_{ub} = F_{Mxx} + F_{Mzz} + T_v/4$$

$T_{ub} = 4.96 \text{ kips}$

Maximum Bolt Shear

$$V_{ub} = \sqrt{(V_x/4)^2 + (V_y/4)^2} + F_{Myy}$$

$V_{ub} = 0.50 \text{ kips}$

Tension Ratio:

24.4% %

Shear Ratio:

3.6% %

PASS

PASS

$$(T_{ub} / \phi R_{nt})^2 + (V_{ub} / \phi R_{nv})^2 < 1.0$$

OK

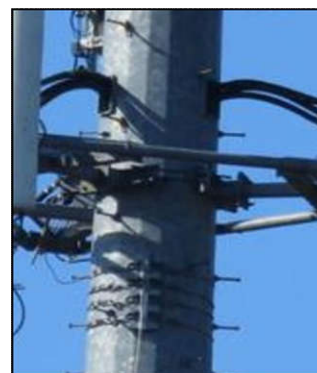
Ratio 6.1% PASS

WELD CHECK

Filler Metal F_{EXX} 70 ksi
 Weld Thk. 0.375 in
 Base metal F_u 58 ksi
 Type of section HSS
 Length of Section [b] 4.0 in
 Length of Section [d] 4.0 in
 I_{total} 16.00 in
 I_p 85.33 in³
 S_z 21.33 in²
 S_y 21.33 in²
 R_{ux} 3.08 kips/in
 R_{uy} 0.14 kips/in
 R_{uz} 0.04 kips/in
 R_u 3.08 kips/in
 Allowable Weld Stress 8.35 kips/in

Are stiffeners present?

No



36.9% PASS

Connection Sketch

ANSI/TIA-222H - WIND, ICE & SEISMIC LOAD CALCULATIONS

Site Code/Name	376046 - MANSFIELD CENTER 1 CT		
State	Connecticut		
County	Tolland		<i>Reference</i>
Structure Class	II		<i>Table 2-1</i>
Exposure Category	B		<i>Section 2.6.5.1.2</i>
Topographic Category	1 - Kzt = 1		<i>Section 2.6.6.2.1</i>
Mean Elevation of base of structure	z _s 502.72	ft	<i>ASCE7-16 Hazards</i>
Height Above Ground	z 148	ft	
Wind Parameters			
Basic wind speed	V 120	mph	<i>ASCE7-16 Hazards Tool</i>
Wind direction probability factor	K _d 0.95		<i>Section 16.6</i>
Gust effect factor	G _h 1		<i>Section 16.6</i>
Velocity Pressure (K _a = 0.9)	34.20	psf	<i>Section 2.6.11.6</i>
Wind & Ice Parameters			
Base windspeed in conjunction with ice, V _i	50	mph	<i>ASCE7-16 Hazards Tool</i>
Base Ice thickness	t _i 1.00	in	<i>ASCE7-16 Hazards Tool</i>
Ice Velocity Pressure (K _a = 0.9)	q _{ice} 5.94	psf	<i>Section 2.6.11.6</i>
Design Ice Thickness	t _{iz} 1.16	in	<i>Section 2.6.10</i>
Seismic Parameters			
Site Soil Class	D - Default		<i>Table 2-10</i>
Seismic Design Category	B		<i>ASCE7-16 Hazards Tool</i>
Spectral Response at Short Periods	S _s 0.187		<i>ASCE7-16 Hazards Tool</i>
Spectral Response at 1sec	S ₁ 0.055		<i>ASCE7-16 Hazards Tool</i>
Long Period Transition Period	T _L 6		<i>ASCE7-16 Hazards Tool</i>
Seismic Importance Factor	I _s 1		<i>Table 2-3</i>
Response modification coefficient	R 2		<i>Section 16.7</i>
Short-Period Site Coefficient	F _a 1.6		<i>Table 2-11</i>
Design Spectral Response at Short Periods	S _{DS} 0.199		<i>Section 2.7.5</i>
Seismic Response Coefficient	C _s 0.100		<i>Section 2.7.7.1</i>

ALPHA SECTOR

Position	Appurtenance properties						Wind		Ice	Seismic
	Manufacturer	Model	L [in]	W [in]	D [in]	Weight [lbs]	0° [lbs]	90° [lbs]	IceWeight [lbs]	E _H [lbs]
1	RFS	APXV18-209014-C-A20	53.1	6.7	3.2	18.7	120.9	69.4	55.1	1.9
2	RFS	APXVAALL24_43-U-NA20	95.9	24.0	8.5	122.8	692.4	298.7	305.7	12.2
2	Ericsson	Radio 4449 B71+B85A	15.0	13.2	10.5	75.0	56.4	44.9	34.5	7.5
1	Ericsson	KRY 112 489/2	11.0	6.1	3.9	15.4	19.1	12.4	12.1	1.5

BETA SECTOR

Position	Appurtenance properties						Wind		Ice	Seismic
	Manufacturer	Model	L [in]	W [in]	D [in]	Weight [lbs]	0° [lbs]	90° [lbs]	IceWeight [lbs]	E _H [lbs]
1	RFS	APXV18-209014-C-A20	53.1	6.7	3.2	18.7	82.3	108.0	55.1	1.9
2	RFS	APXVAALL24_43-U-NA20	95.9	24.0	8.5	122.8	397.1	594.0	305.7	12.2
2	Ericsson	Radio 4449 B71+B85A	15.0	13.2	10.5	75.0	47.8	53.6	34.5	7.5
1	Ericsson	KRY 112 489/2	11.0	6.1	3.9	15.4	14.1	17.4	12.1	1.5

GAMMA SECTOR

Position	Appurtenance properties						Wind		Ice	Seismic
	Manufacturer	Model	L [in]	W [in]	D [in]	Weight [lbs]	0° [lbs]	90° [lbs]	IceWeight [lbs]	E _H [lbs]
1	RFS	APXV18-209014-C-A20	53.1	6.7	3.2	18.7	82.3	108.0	55.1	1.9
2	RFS	APXVAALL24_43-U-NA20	95.9	24.0	8.5	122.8	397.1	594.0	305.7	12.2
2	Ericsson	Radio 4449 B71+B85A	15.0	13.2	10.5	75.0	47.8	53.6	34.5	7.5
1	Ericsson	KRY 112 489/2	11.0	6.1	3.9	15.4	14.1	17.4	12.1	1.5

ASCE 7 Hazards Report

Address:

No Address at This
Location

Standard:

ASCE/SEI 7-16

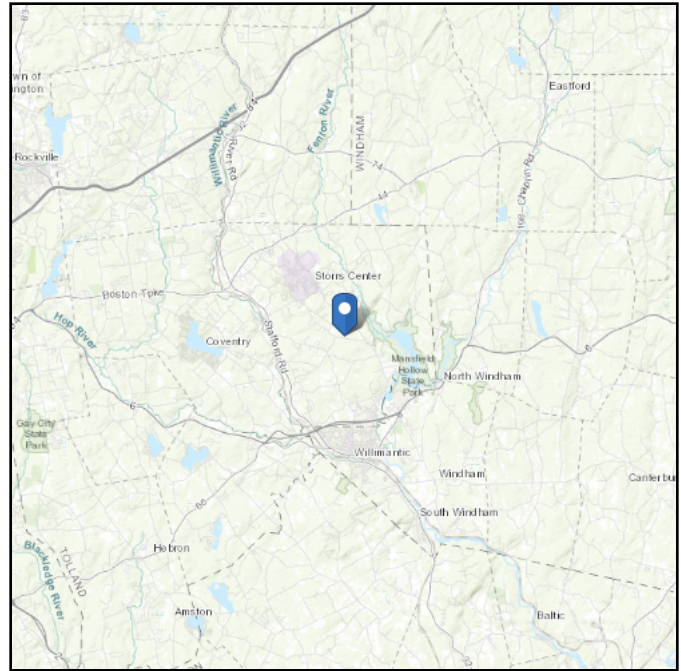
Risk Category: II**Soil Class:**

D - Default (see
Section 11.4.3)

Elevation: 507.72 ft (NAVD 88)

Latitude: 41.7758

Longitude: -72.2225



Wind

Results:

Wind Speed:	120 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	92 Vmph
100-year MRI	99 Vmph

Data Source:

ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed:

Thu Apr 29 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

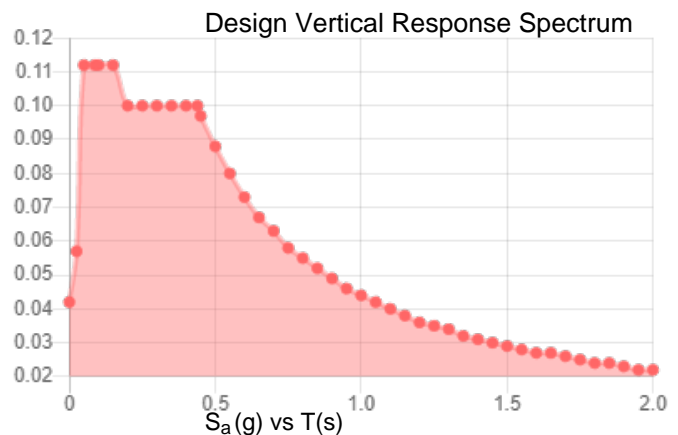
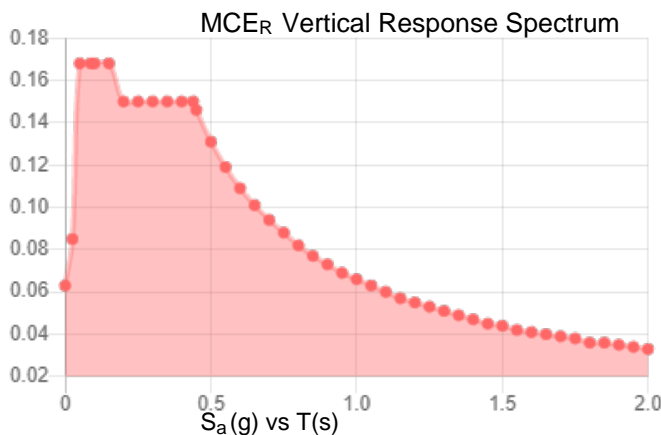
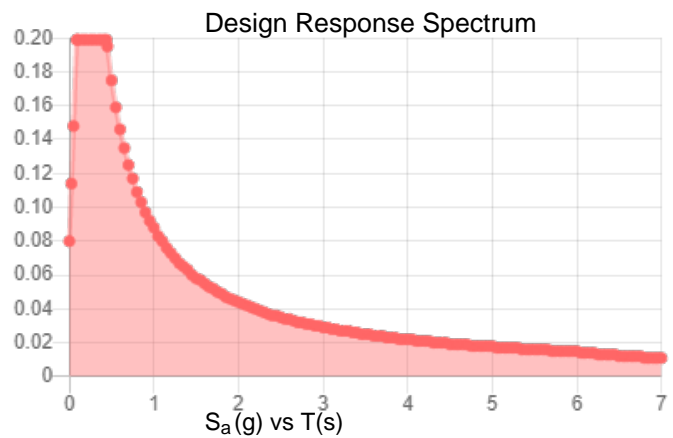
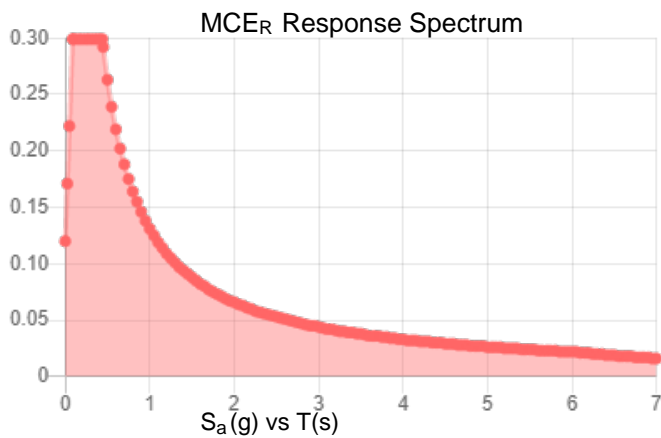
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	0.187	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.101
F_v :	2.4	PGA _M :	0.161
S_{MS} :	0.299	F_{PGA} :	1.598
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.199	C_v :	0.7

Seismic Design Category B



Data Accessed:

Thu Apr 29 2021

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Thu Apr 29 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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RAN Template: 67D04G	A&L Template: 67D04G_1DP+1OP
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Section 1 - Site Information

Site ID: CTHA211A Status: Draft Version: 3 Project Type: L600 Approved: Not Approved Approved By: Not Approved Last Modified: 1/21/2021 8:48:04 PM Last Modified By: Michael.Low1@T-Mobile.com	Site Name: CTHA211/TCP Communication Site Class: Monopole Site Type: Structure Non Building Plan Year: 2021 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
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RAN Template: 67D04G			AL Template: 67D04G_1DP+1OP		
Sector Count: 3	Antenna Count: 6	Coax Line Count: 6	TMA Count: 3	RRU Count: 3	

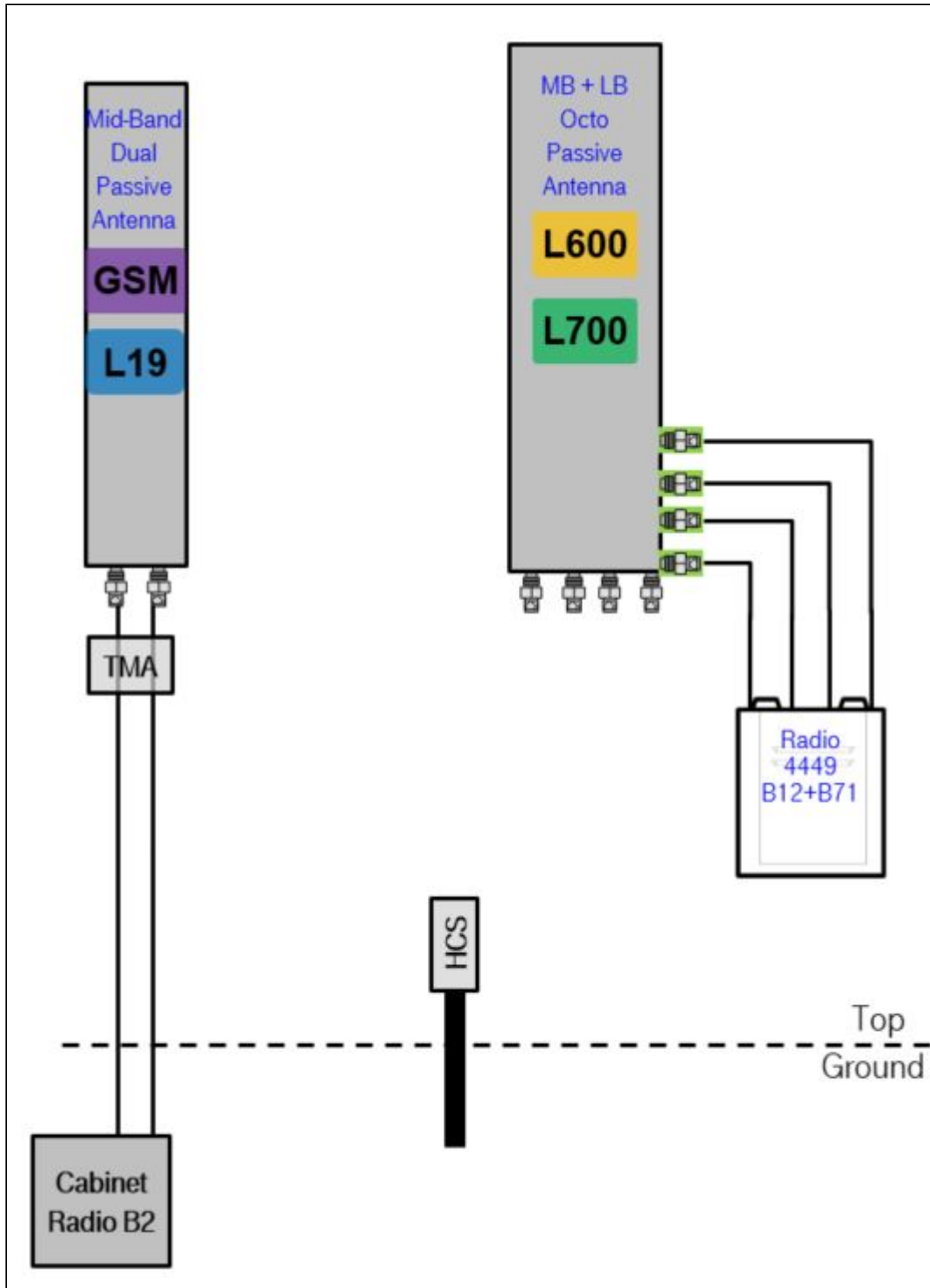
Section 2 - Existing Template Images

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Section 3 - Proposed Template Images

Capture.JPG

DRAFT



Notes:

Section 4 - Siteplan Images

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DRAFT

RAN Template: 67D04G	A&L Template: 67D04G_1DP+1OP
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CTHA211A_L600_3_draft

Print Name: Standard (3)
PORs: L600_5G POPs

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 704G

Enclosure	1	
Enclosure Type	RBS 6201 ODE	
Baseband	<div>DUG20</div> <div>G1900</div> <div>BB 6630</div> <div>L1900</div> <div>L700</div>	
Radio	<div>RUS01 B2 (x 6)</div> <div>L1900</div> <div>G1900</div> <div>RUS01 B12 (x 6)</div> <div>L700</div>	

Proposed RAN Equipment

Template: 67D04G

Enclosure	1	
Enclosure Type	RBS 6201 ODE	
Baseband	<div>DUG20</div> <div>G1900</div> <div>BB 6630</div> <div>L1900</div> <div>BB 6648</div> <div>L700</div> <div>L600</div> <div>N600</div>	
Radio	<div>RUS01 B2 (x 6)</div> <div>L1900</div> <div>G1900</div>	
Functionality Groups	Ericsson Hybrid Trunk 6/24 4AWG *Select Length*	

RAN Scope of Work:

Add (1) BB6648 for 600/700.
 Add (1) 6X24 HCS.
 Existing: (12) Coaxial Lines. Remove (6) Lines.
 Keep Battery Cabinet.

RAN Template:
67D04G

A&L Template:
67D04G_1DP+1OP

CTHA211A_L600_3_draft

Print Name: Standard (3)
PORs: L600_5G POPs

Section 6 - A&L Equipment

Existing Template: 704G
Proposed Template: 67D04G_1DP+1OP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro	
Antenna	1	2
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	Andrew - LNX-6515DS-A1M (Dual)
Azimuth	0	0
M. Tilt	0	0
Height	148	148
Ports	P1	P2
Active Tech.	L1900 G1900	L700
Dark Tech.		
Restricted Tech.		
Decomm. Tech.		
E. Tilt	2	2
Cables	1-5/8" Coax - 180 ft. (x2)	1-5/8" Coax - 180 ft. (x2)
TMA's	Generic Twin Style 1A - PCS (AtAntenna)	
Diplexers / Combiners		
Radio		
Sector Equipment		

Unconnected Equipment:

Scope of Work:

RAN Template: 67D04G	A&L Template: 67D04G_1DP+1OP
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CTHA211A_L600_3_draft

Print Name: Standard (3)
PORs: L600_5G POPs

Sector 1 (Proposed) 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)	
TMA's	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:
67D04G

A&L Template:
67D04G_1DP+1OP

CTHA211A_L600_3_draft

Print Name: Standard (3)
PORs: L600_5G POPs

Sector 2 (Existing) view from behind		
Coverage Type	A - Outdoor Macro	
Antenna	1	2
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	Andrew - LNX-6515DS-A1M (Dual)
Azimuth	120	120
M. Tilt	0	0
Height	148	148
Ports	P1	P2
Active Tech.	L1900 G1900	L700
Dark Tech.		
Restricted Tech.		
Decomm. Tech.		
E. Tilt	2	2
Cables	1-5/8" Coax - 180 ft. (x2)	1-5/8" Coax - 180 ft. (x2)
TMA's	Generic Twin Style 1A - PCS (AtAntenna)	
Diplexers / Combiners		
Radio		
Sector Equipment		
Unconnected Equipment: Scope of Work: <div style="border: 1px solid black; height: 40px; margin-top: 5px;"></div>		

RAN Template: 67D04G	A&L Template: 67D04G_1DP+1OP
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CTHA211A_L600_3_draft

Print Name: Standard (3)
PORs: L600_5G POPs

Sector 2 (Proposed) 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)	
TMA's	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: 67D04G	A&L Template: 67D04G_1DP+1OP
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CTHA211A_L600_3_draft

Print Name: Standard (3)
PORs: L600_5G POPs

Sector 3 (Existing) view from behind		
Coverage Type	A - Outdoor Macro	
Antenna	1	2
Antenna Model	RFS - APXV18-209014-C-A20 (Dual)	Andrew - LNX-6515DS-A1M (Dual)
Azimuth	240	240
M. Tilt	0	0
Height	148	148
Ports	P1	P2
Active Tech.	L1900 G1900	L700
Dark Tech.		
Restricted Tech.		
Decomm. Tech.		
E. Tilt	2	2
Cables	1-5/8" Coax - 180 ft. (x2)	1-5/8" Coax - 180 ft. (x2)
TMA's	Generic Twin Style 1A - PCS (AtAntenna)	
Diplexers / Combiners		
Radio		
Sector Equipment		
Unconnected Equipment:		
Scope of Work:		
<div style="border: 1px solid black; height: 40px; width: 100%;"></div>		

RAN Template: 67D04G	A&L Template: 67D04G_1DP+1OP
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CTHA211A_L600_3_draft

Print Name: Standard (3)
PORs: L600_5G POPs

Sector 3 (Proposed) 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)	
TMA's	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: 67D04G	A&L Template: 67D04G_1DP+1OP
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Section 7 - Power Systems Equipment

Existing Power Systems Equipment

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Proposed Power Systems Equipment

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
Mansfield, Connecticut 06268

July 14, 2021

EBI Project Number: 6221003655

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	11.49%



July 14, 2021

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 Mansfield, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is $1000 \mu\text{W}/\text{cm}^2$. 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 Mansfield, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. 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 all calculations, all equipment was calculated using the following assumptions:

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 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) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 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.

- 7) 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.
- 8) The antennas used in this modeling are the RFS APXVI8-209014-C-A20 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector A, the RFS APXVI8-209014-C-A20 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector B, the RFS APXVI8-209014-C-A20 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 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.
- 9) The antenna mounting height centerline of the proposed antennas is 148 feet above ground level (AGL).
- 10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 11) 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:	RFS APXVI8-209014-C-A20	Make / Model:	RFS APXVI8-209014-C-A20	Make / Model:	RFS APXVI8-209014-C-A20
Frequency Bands:	1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz
Gain:	14.4 dBd / 14.4 dBd	Gain:	14.4 dBd / 14.4 dBd	Gain:	14.4 dBd / 14.4 dBd
Height (AGL):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 feet
Channel Count:	6	Channel Count:	6	Channel Count:	6
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	6,610.15	ERP (W):	6,610.15	ERP (W):	6,610.15
Antenna A1 MPE %:	1.18%	Antenna B1 MPE %:	1.18%	Antenna C1 MPE %:	1.18%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
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:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd
Height (AGL):	148 feet	Height (AGL):	148 feet	Height (AGL):	148 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts
ERP (W):	4,059.02	ERP (W):	4,059.02	ERP (W):	4,059.02
Antenna A2 MPE %:	1.73%	Antenna B2 MPE %:	1.73%	Antenna C2 MPE %:	1.73%



Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	2.90%
Fire Svcs & EMS	1.21%
Emergency Mgmt	0.27%
Public Works	0.27%
AT&T	3.11%
Sprint	2.13%
Verizon	1.6%
Site Total MPE % :	11.49%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	2.90%
T-Mobile Sector B Total:	2.90%
T-Mobile Sector C Total:	2.90%
Site Total MPE % :	11.49%

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 ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 1900 MHz GSM	4	826.27	148.0	5.89	1900 MHz GSM	1000	0.59%
T-Mobile 1900 MHz LTE	2	1652.54	148.0	5.89	1900 MHz LTE	1000	0.59%
T-Mobile 600 MHz LTE	2	591.73	148.0	2.11	600 MHz LTE	400	0.53%
T-Mobile 600 MHz NR	1	1577.94	148.0	2.81	600 MHz NR	400	0.70%
T-Mobile 700 MHz LTE	2	648.82	148.0	2.31	700 MHz LTE	467	0.50%
Total:							2.90%

• 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:	2.90%
Sector B:	2.90%
Sector C:	2.90%
T-Mobile Maximum MPE % (Sector A):	2.90%
Site Total:	11.49%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **11.49%** 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.

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.