

MOUNT MAPPING REPORT

Name:

Lee's Summit Fire Station

Site #:

A5C0028A

Date Site Was Visited:

7/30/2019

Prepared For:

ENGINEERING FIRM



TOWER OWNER/CARRIER



Prepared By:



15225 Hwy 36 Suite 1
Bennington, NE 68007-5163

Inspectors:

Brandon Stork, Seth Johnson

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Report Prepared By:

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Report Reviewed By:

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Site #: A5C0028A

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SCOPE OF WORK

SCOPE OF WORK

At the request of Destek Engineering, LLC, field crews from HighTower Solutions Inc. in Bennington, NE performed a structural mount mapping for Lee's Summit Fire Station. The mount mapping was conducted to collect data for determining the mount's structural capacities and current antenna loading. The acquired data was transmitted to Destek Engineering, LLC's offices for analysis. This document contains the results from the structural mount mapping.

HIGHTOWER'S INFORMATION GATHERING METHODS

HighTower Solutions Inc. uses the latest tools and technology to gather structural information. We use Ultrasonic Thickness Testing Equipment, Total Station Optical Transits, Dial Calipers, Handheld GPS Devices, Guy Tension Meters, and many other hand held tools. Every tool is inspected and calibrated at regular intervals. Our crews are trained in the operation of all tools and have hours of actual field operation experience.

HIGHTOWER'S SAFETY PRACTICES

HighTower Solutions Inc. carries out all work while staying in compliance with OSHA rules and regulations. We are a member of the National Association of Tower Erectors and multiple state associations. Our crews are equipped with the best safety equipment available, and travel to every site with the necessary equipment for any type of tower rescue. It is our passion to keep everyone safe! HighTower's employees have certifications in Tower Rescue, CPR, First Aid, RF Safety Training, OSHA Courses, and many other tool operating classes. Along with these certifications, we have two certified climb rescue instructors that hold tower rescue refresher courses monthly.

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TABLE OF CONTENTS

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TOWER INFORMATION

IDENTIFICATION

TOWER TYPE	Monopole
ADDRESS	207 S.W. Market Street Lee's Summit, Missouri
FCC #	N/A
LATITUDE	38.91392
LONGITUDE	-94.37642

TOWER TAG INFORMATION

N/A N/A



FULL VIEW OF TOWER



SITE SIGN



ENTERING COMPOUND



MOUNT MAPPING REPORT

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ANTENNA INFORMATION SUMMARY

ANT. #	HEIGHT	ANTENNA	LEG/FACE & AZIMUTH	MOUNT TYPE	COAX INFO.	CARRIER
1	159'2"Base	1 QTY Raycap Squid RNSNDC-7771-PF-48 17.5"Tx14"Wx6"D	Alpha Boom Vertical	See Mount Member Details	1 QTY Nokia Fiber 1.25" #20	T-Mobile
2	159'4"Base	3 QTY Nokia RRH FHFB RRH 21"Tx12"Wx6.75"D	Alpha, Beta & Gamma Boom	See Mount Member Details	1 QTY Nokia Fiber 1.25" #20	T-Mobile
3	159'5"Base	3 QTY Nokia RRH FRIG 18"Tx15.5"Wx6.5"D	2 per Alpha Boom / 1 per Gamma Boom	See Mount Member Details	1 QTY Nokia Fiber 1.25" #20	T-Mobile
4	159'8"Base	2 QTY Andrew Dipole 20'T/4 Elements	Alpha & Beta Corner Pipe Mount	See Mount Member Details	2 QTY Andrew AVA5-50 7/8" #7,#8	T-Mobile
5	160'4"Center	3 QTY Panel 6'3"Tx6.5"Wx3.5"D 6 QTY TMA's 9.5"Tx7.5"Wx3.5"D	A3,B3,G3 0°,120°,240°	See Mount Member Details	6 QTY Andrew AVA5-50 7/8" #9-#14	T-Mobile
6	160'6"Center	3 QTY Andrew Panel TMBXX-6517-A2M 6'3"Tx12"Wx6"D	A1,B1,G1 0°,120°,240°	See Mount Member Details	1 QTY Nokia Fiber 1.25" #20	T-Mobile
7	161'6"Center	3 QTY Commscope Panel SBNHH-1D65C-SR 8'Tx11.5"Wx7"D	A4,B4,G4 0°,120°,240°	See Mount Member Details	6/1 QTY Nokia/Nokia N/A/Fiber 1 5/8"/1.25" #1-#6/#20	T-Mobile
8	161'6"Base	1 QTY Dipole 20'T/8 Elements	Gamma Corner Pipe Mount	See Mount Member Details	1 QTY Andrew AVA5-50 7/8" #15	T-Mobile



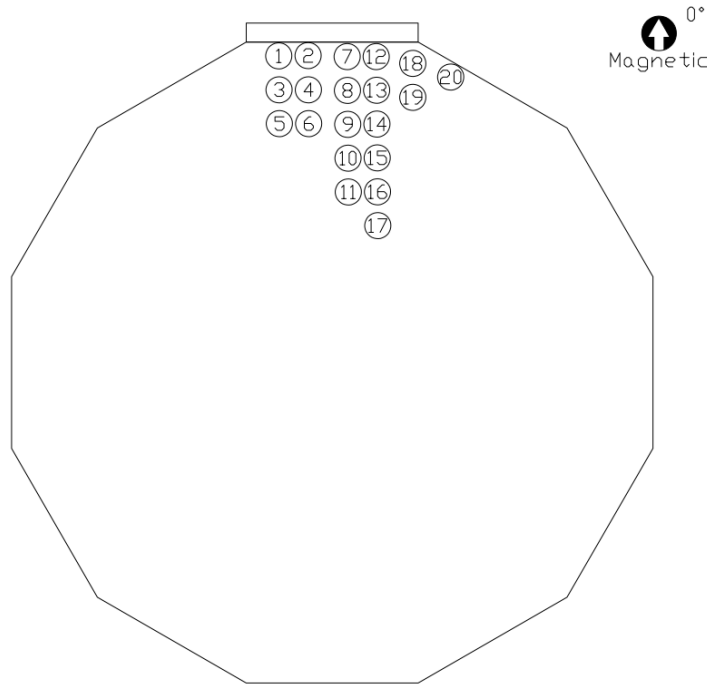
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COAX INFORMATION



COAX DETAILS

COAX #	SIZE	MANUFACTURER	MODEL	CARRIER	ANTENNA
#1	1 5/8"	Nokia	N/A	T-Mobile	#7
#2	1 5/8"	Nokia	N/A	T-Mobile	#7
#3	1 5/8"	Nokia	N/A	T-Mobile	#7
#4	1 5/8"	Nokia	N/A	T-Mobile	#7
#5	1 5/8"	Nokia	N/A	T-Mobile	#7
#6	1 5/8"	Nokia	N/A	T-Mobile	#7
#7	7/8"	Andrew	AVA5-50	T-Mobile	#4
#8	7/8"	Andrew	AVA5-50	T-Mobile	#4
#9	7/8"	Andrew	AVA5-50	T-Mobile	#5
#10	7/8"	Andrew	AVA5-50	T-Mobile	#5
#11	7/8"	Andrew	AVA5-50	T-Mobile	#5
#12	7/8"	Andrew	AVA5-50	T-Mobile	#5
#13	7/8"	Andrew	AVA5-50	T-Mobile	#5
#14	7/8"	Andrew	AVA5-50	T-Mobile	#5
#15	7/8"	Andrew	AVA5-50	T-Mobile	#8
#16	7/8"	Andrew	AVA5-50	T-Mobile	Term. at Mount
#17	7/8"	Andrew	AVA5-50	T-Mobile	Term. at Mount
#18	1/2"	Andrew	LDF4-50A	T-Mobile	Term. at Mount
#19	1/2"	Andrew	LDF4-50A	T-Mobile	Term. at Mount
#20	1.25"	Nokia	Fiber	T-Mobile	#1-#3,#6,#7

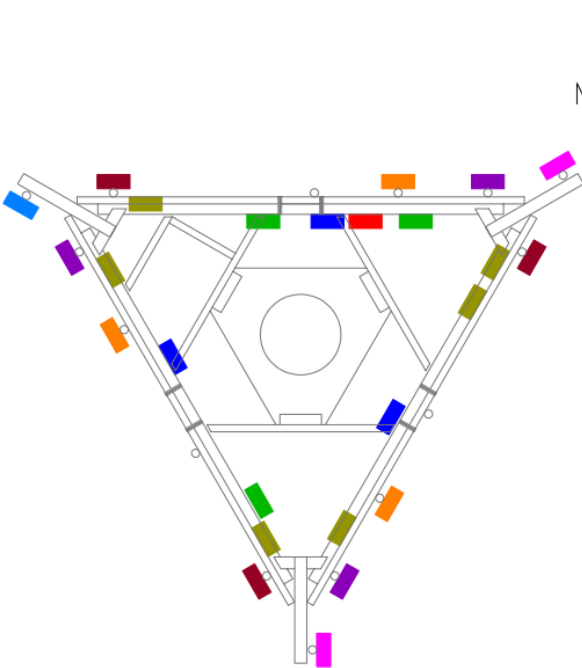
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MOUNT MEMBER DETAILS

MOUNT		1	OF	8				
					Mount Overview Detail			
	Foundation A.G.L.			9.5"				
	Antenna Measurements taken from			Top of Foundation				
	Monopoles Circumference at Mount			9'				
	Height to Bottom of Collar Mount			157'4"				
	Height to Bottom of Side Arm			157'4"				
	Height to Bottom of Boom			157'4"				
	Azimuths							
	Side Arm							
	Alpha			60°				
	Beta			180°				
	Gamma			300°				
	Boom							
	Alpha			0°				
	Beta			120°				
	Gamma			240°				
					<p>Legend</p> <ul style="list-style-type: none">Antenna #1Antenna #2Antenna #3Antenna #4Antenna #5Antenna #6Antenna #7Antenna #8(TMA) Antenna #5			
					Typical Abbreviations			
					LLV	Long Leg Vertical	SB	Stitch Bolt
					LLH	Long Leg Horizontal	SBS	Stitch Bolt Spacing
					DA	Double Angle	MB	Middle Bolt



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MOUNT MEMBER DETAILS

MOUNT 2 OF 8

Member Size

Bolt Size

Collar Mount Detail

A

18"Tx.50"

2-1" All-Threads

B

7"Wx1.5"

Welded

C

5.5"Tx6"Wx.50"

Welded

M1

8.5"

M2

10.5"

M3

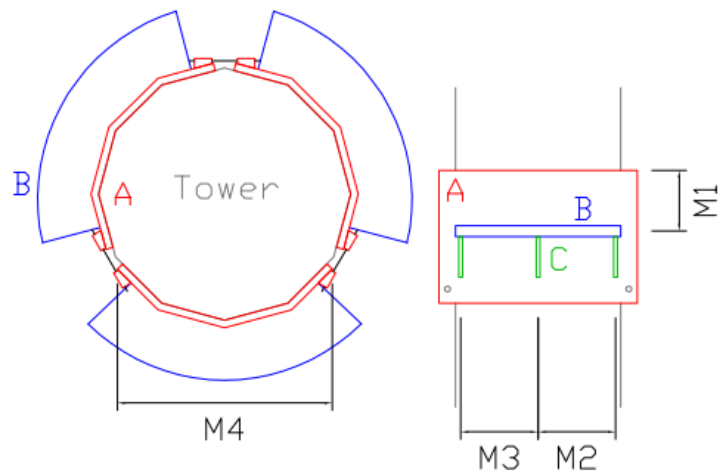
10.5"

M4

2'11"

Plan View

Side Elevation



Typical Abbreviations

LLV	Long Leg Vertical	SB	Stitch Bolt
LLH	Long Leg Horizontal	SBS	Stitch Bolt Spacing
DA	Double Angle	MB	Middle Bolt



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MOUNT MEMBER DETAILS

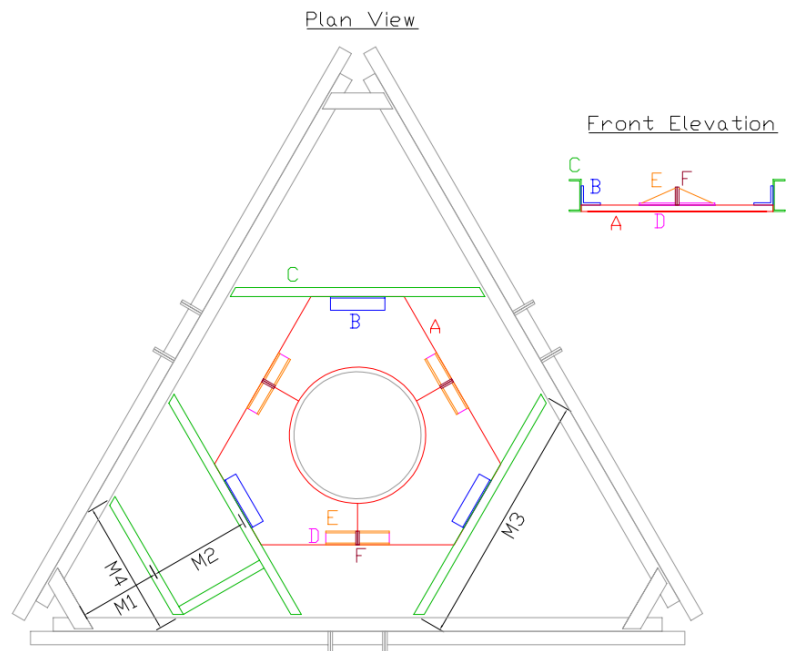
MOUNT 3 OF 8

Member Size

Bolt Size

Side Arm Detail

A	1.05"	9-1"Bolts
B	12"L/3"x3"x.38"Angle	Welded
C	5'L/5"x1.75"x.38"Channel	3-.75"Bolts
D	3"L/7"Wx.38"Flat	Welded
E	3"T/5.5"Wx.38"Flat	Welded
F	4"T/3"Wx.38"Flat	2-.75"Bolts
M1	21"	
M2	23"	
M3	5'	
M4	2'8.5"	



Typical Abbreviations

LLV	Long Leg Vertical	SB	Stitch Bolt
LLH	Long Leg Horizontal	SBS	Stitch Bolt Spacing
DA	Double Angle	MB	Middle Bolt

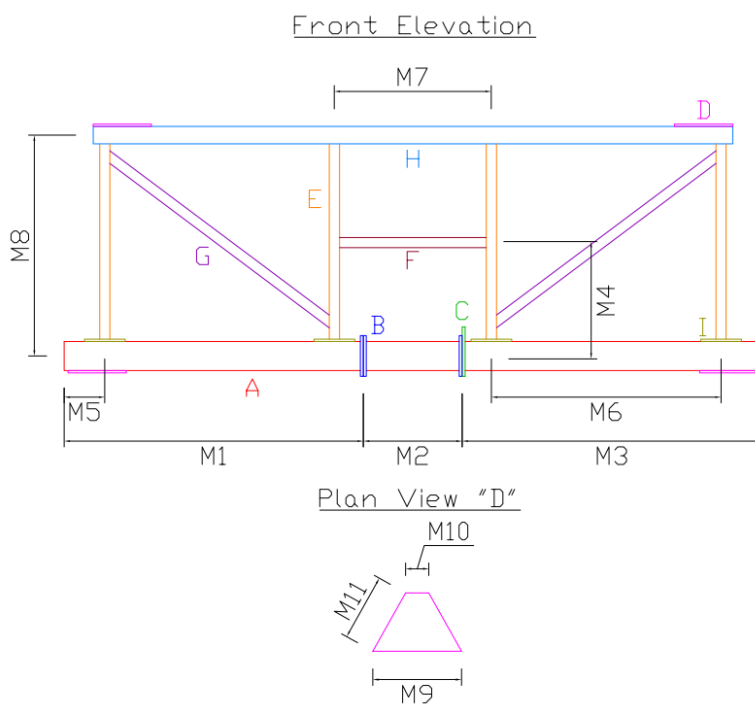
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MOUNT MEMBER DETAILS

	MOUNT	4	OF	8				
	Member Size	Bolt Size	Boom Detail					
A	12'L/5"x1.75"x.38"Channel	Welded						
B	7"Tx5"Wx.50"Flat	3-.75"Bolts						
C	10"Tx5"Wx.50"Flat	Shared with B						
D	.38"	4-.50"Bolts						
E	3'T/1.75"x1.75"x.25"Angle	Welded						
F	4'2.25"L/ 1.75"x1.75"x.25"Angle	Welded						
G	4'1.5"L/ 1.75"x1.75"x.25"Angle	Welded						
H	11'1.5"L/3"x3"x.30"Angle	Welded						
I	2"L/7"Wx.38"Flat	1-.50"Bolt						
M1	5'4"							
M2	16"							
M3	5'4"							
M4	20"							
M5	7.5"							
M6	3'3"							
M7	4'4"							
M8	3'2"							
M9	15.25"							
M10	4"							
M11	11.5"							
			Typical Abbreviations					
			LLV	Long Leg Vertical	SB	Stitch Bolt		
			LLH	Long Leg Horizontal	SBS	Stitch Bolt Spacing		
			DA	Double Angle	MB	Middle Bolt		



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MOUNT MEMBER DETAILS

MOUNT 5 OF 8

Member Size

Bolt Size

Alpha Pipe Mount Detail

A

6"L/3"x3"x.35"Angle

2-.50"Bolts

B

6'8"T/2.38"Dia.Pipe x.15"

Welded

C

3.5"L/
1.25x.75"x.10"Channel

1-.30"U-Bolt

D

4'10"T/1.88"Dia.Pipe x.18"

Shared with C

E

6'T/2.38"Dia.Pipe x.15"

1-.50"U-Bolt

F

5"L/LLH 5"x3"x.30"Angle

1-.50"Bolt

G

1.5"T/5.5"Wx.25"Flat

2-.50"All-Threads

H

10'7"T/2.38"Dia.Pipe x.15"

Shared with G

M1

21"

M2

23"

M3

17"

M4

11"

M5

5'5.5"

M6

21"

M7

2'11.5"

M8

11"

M9

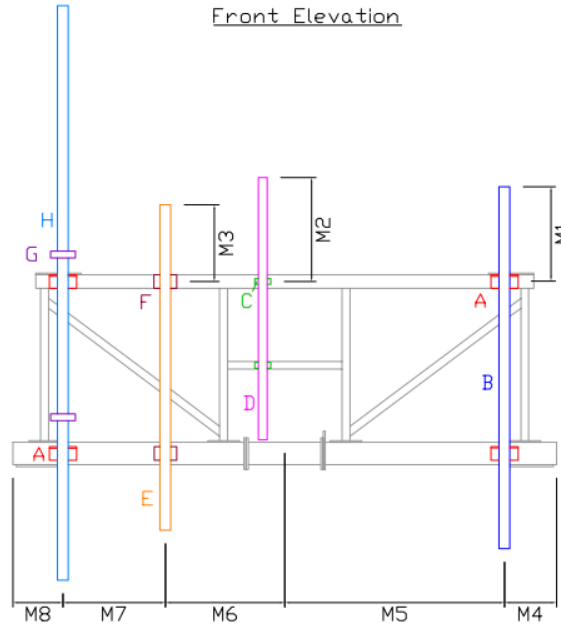
15"

M10

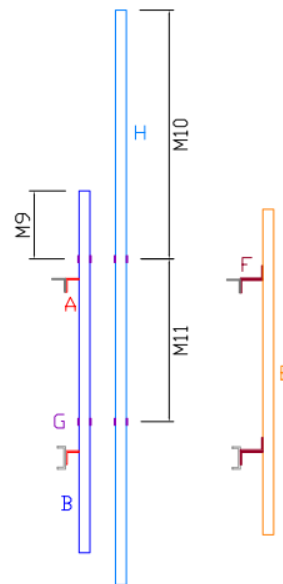
4'7"

M11

3'



Side Elevation



Typical Abbreviations

LLV	Long Leg Vertical	SB	Stitch Bolt
LLH	Long Leg Horizontal	SBS	Stitch Bolt Spacing
DA	Double Angle	MB	Middle Bolt



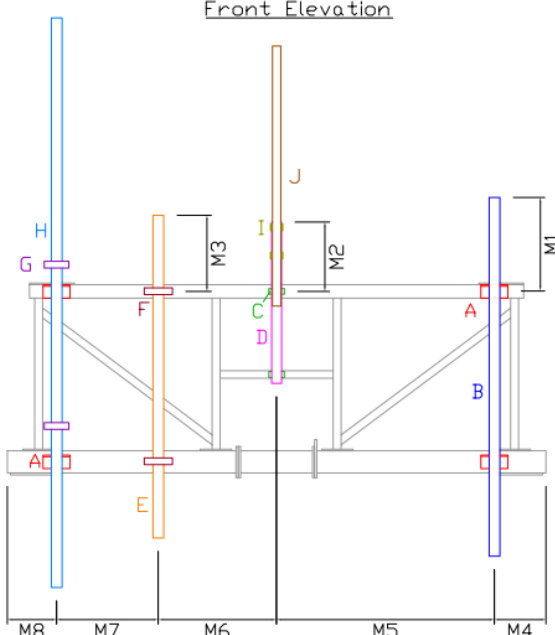
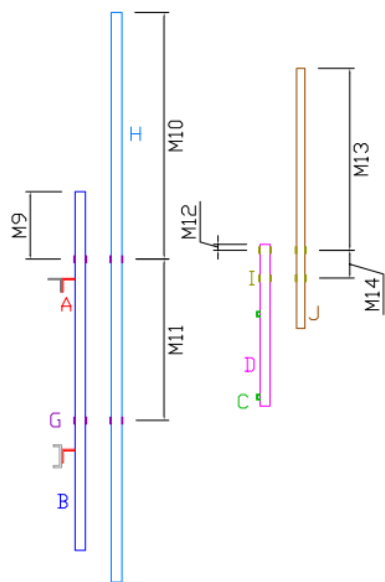
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MOUNT MEMBER DETAILS

MOUNT 6 OF 8				
	Member Size	Bolt Size	<div>Beta Pipe Mount Detail</div> <div><div><div>Front Elevation</div></div><div><div>Side Elevation</div></div></div>	
A	6"L/3"x3"x.35"Angle	2-.50"Bolts		
B	6'8"T/2.38"Dia.Pipe x.15"	Welded		
C	3.5"L/ 1.25"x.75"x.10"Channel	1-.30"U-Bolt		
D	3'T/2.20"Dia.Pipe x.10"	Shared with C		
E	6'T/2.38"Dia.Pipe x.15"	1-.50"U-Bolt		
F	1.5"T/6.25"Wx.35"Flat	2-.50"Bolts		
G	1.5"T/5.5"Wx.25"Flat	2-.50"All-Threads		
H	10'7"T/ 2.38"Dia.Pipe x.15"	Shared with G		
I	1.5"T/5.5"Wx.25"Flat	2-.50"All-Threads		
J	4'10"T/ 1.88"Dia.Pipe x.10"	Shared with I		
M1	21"			
M2	15.5"			
M3	17"			
M4	11"			
M5	4'11"			
M6	2'4"			
M7	2'11"			
M8	11"			
M9	15"			
M10	4'7"			
M11	3'			
M12	1.25"			
M13	3'4.5"			
M14	6.25"			
			Typical Abbreviations	
LLV		Long Leg Vertical	SB	Stitch Bolt
LLH		Long Leg Horizontal	SBS	Stitch Bolt Spacing
DA		Double Angle	MB	Middle Bolt



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MOUNT MEMBER DETAILS

MOUNT 7 OF 8

Member Size

Bolt Size

Gamma Pipe Mount Detail

A

6"L/3"x3"x.35"Angle

2-.50"Bolts

B

6'8"T/2.38"Dia.Pipe x.15"

Welded

C

3.5"L/
1.25"x.75"x.10"Channel

1-.30"U-Bolt

D

3'T/2.20"Dia.Pipe x.10"

Shared with C

E

6'T/2.38"Dia.Pipe x.15"

1-.50"U-Bolt

F

1.5"T/6.25"Wx.35"Flat

2-.50"Bolts

G

1.5"T/5.5"Wx.25"Flat

2-.50"All-Threads

H

10'7"T/
2.38"Dia.Pipe x.15"

Shared with G

M1

21"

M2

15.5"

M3

17"

M4

11"

M5

3'10"

M6

3'5"

M7

2'11"

M8

11"

M9

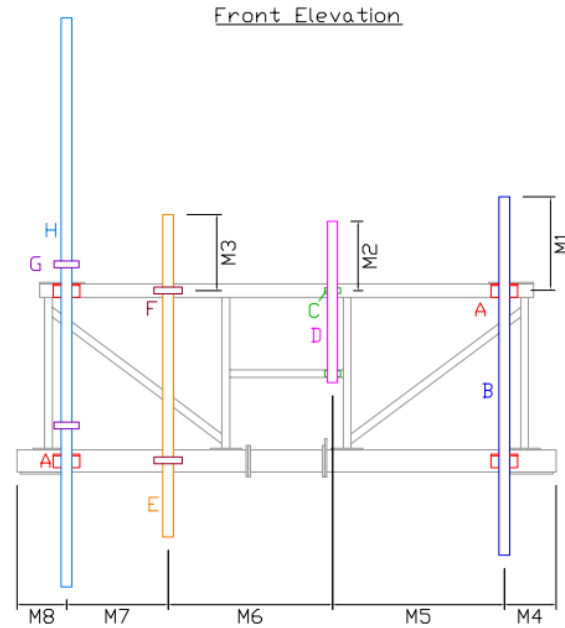
15"

M10

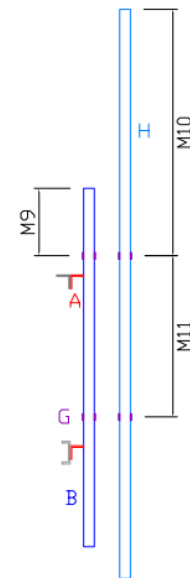
4'7"

M11

3'



Side Elevation



Typical Abbreviations

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LLH	Long Leg Horizontal	SBS	Stitch Bolt Spacing
DA	Double Angle	MB	Middle Bolt



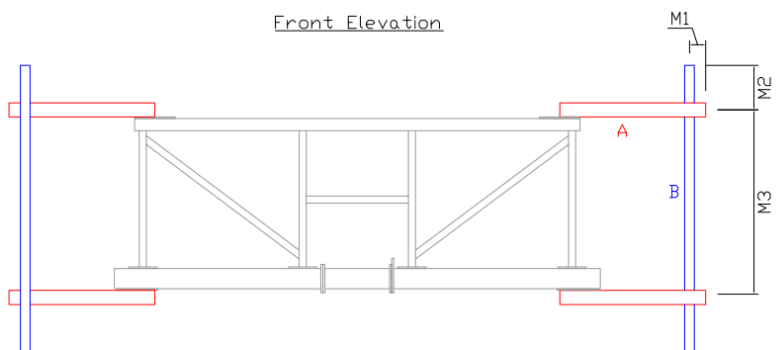
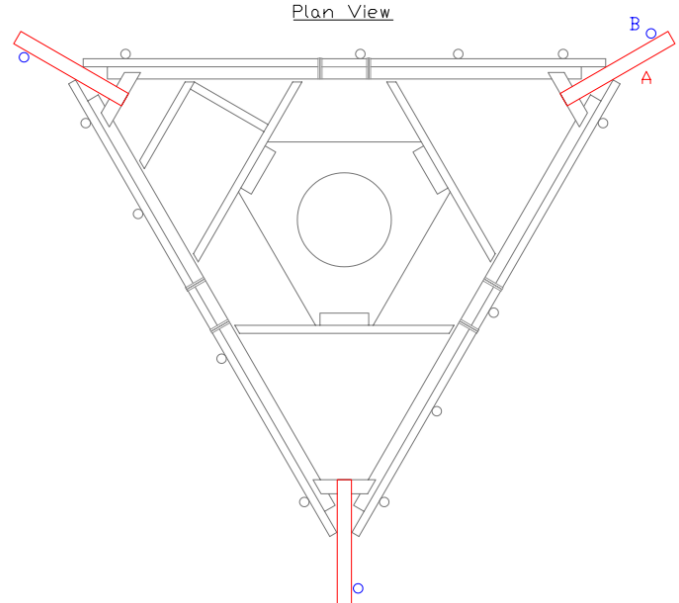
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MOUNT MEMBER DETAILS

MOUNT 8 OF 8															
	Member Size	Bolt Size	Corner Pipe Mount Detail												
A	3'L/3.5"x3.5"x.28"Angle	2-.50"Bolts	<div><p>Front Elevation</p></div> <div><p>Plan View</p></div>												
B	5'11" T/ 2.38" Dia. Pipe x.15"	1-.50" U-Bolt													
M1	4"														
M2	11"														
M3	3'9.5"														
			Typical Abbreviations												
			<table><tr><td>LLV</td><td>Long Leg Vertical</td><td>SB</td><td>Stitch Bolt</td></tr><tr><td>LLH</td><td>Long Leg Horizontal</td><td>SBS</td><td>Stitch Bolt Spacing</td></tr><tr><td>DA</td><td>Double Angle</td><td>MB</td><td>Middle Bolt</td></tr></table>	LLV	Long Leg Vertical	SB	Stitch Bolt	LLH	Long Leg Horizontal	SBS	Stitch Bolt Spacing	DA	Double Angle	MB	Middle Bolt
LLV	Long Leg Vertical	SB	Stitch Bolt												
LLH	Long Leg Horizontal	SBS	Stitch Bolt Spacing												
DA	Double Angle	MB	Middle Bolt												



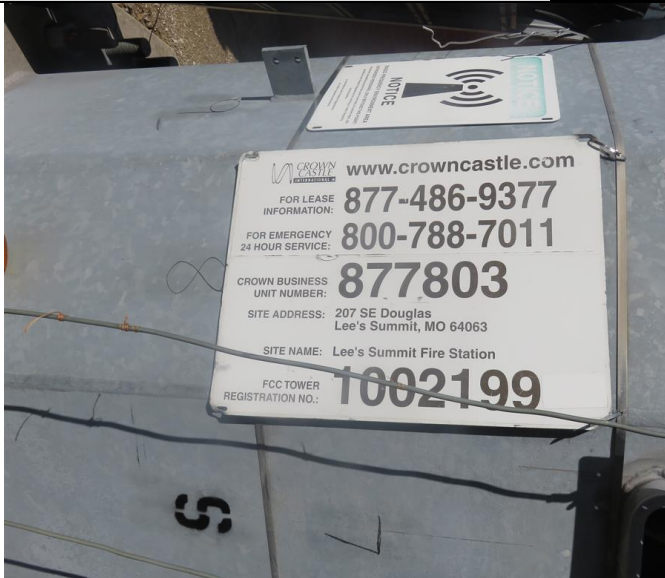
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SITE PICTURES



SITE SIGN



ENTERING COMPOUND



FIRST 10'



BASE PLATE



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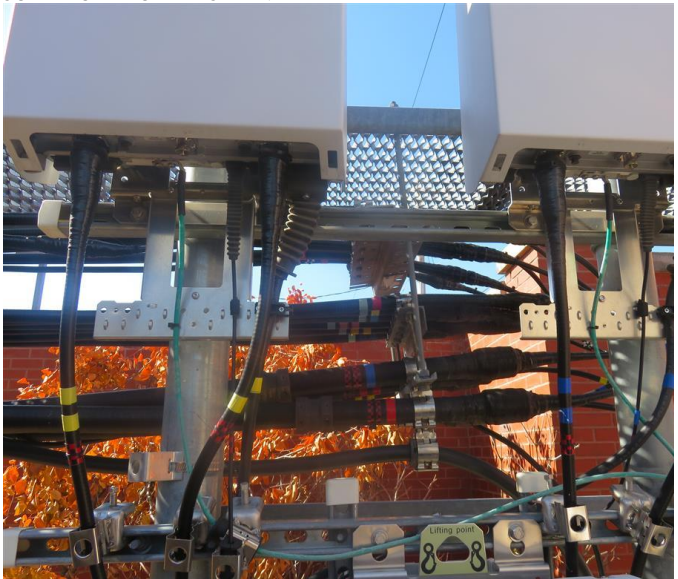
UP NORTH FACE



COAX TO T-MOBILE CABINET



COAX TO T-MOBILE CABINET



COAX ENTERING T-MOBILE CABINET



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COAX ENTERING T-MOBILE CABINET



COAX ENTERING T-MOBILE CABINET



T-MOBILE CABINET



UP EAST FACE



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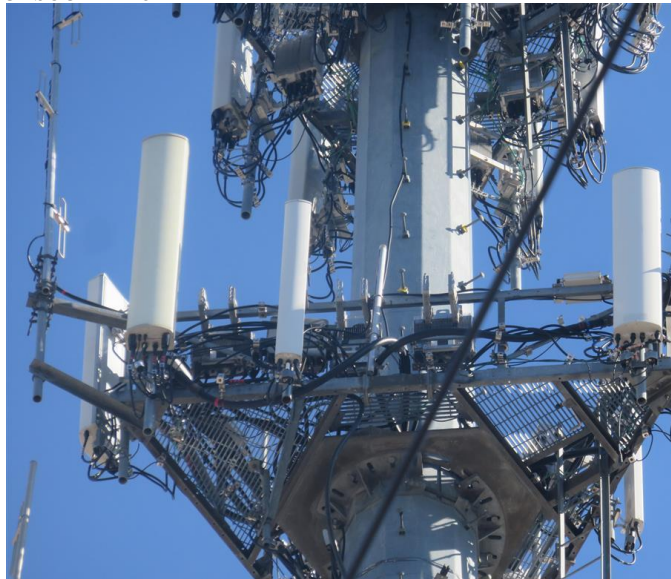
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UP SOUTH FACE



UP WEST FACE



ALPHA SECTOR



FULL VIEW



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BOTTOM HALF



TOP HALF



BETA SECTOR



GAMMA SECTOR



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COMPOUND



COMPOUND



MOUNT FROM BELOW



MOUNT HEIGHT



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CONNECTION



CONNECTION



CONNECTION



CONNECTION



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CONNECTION



CONNECTION



CONNECTION



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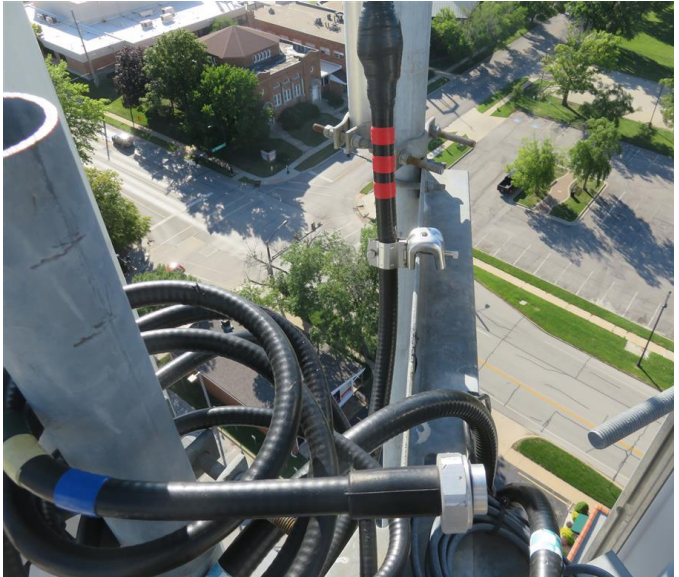
CONNECTION



CONNECTION



CONNECTION



CONNECTION



MOUNT MAPPING REPORT

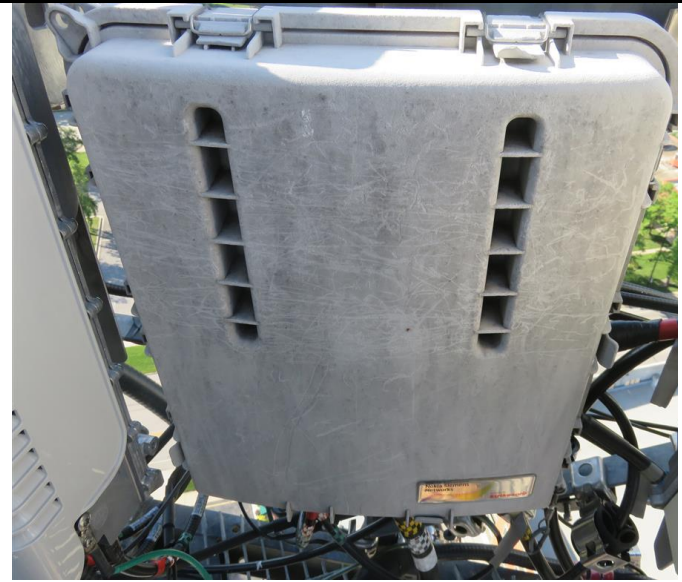
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CONNECTION



ANTENNA #1



ANTENNA #1 TAG



ANTENNA #2



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ANTENNA #2 TAG



ANTENNA #3



ANTENNA #3 TAG



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CONNECTION



CONNECTION



CONNECTION



CONNECTION



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CONNECTION



CONNECTION



ANTENNA #4



ANTENNA #4 TAG



MOUNT MAPPING REPORT

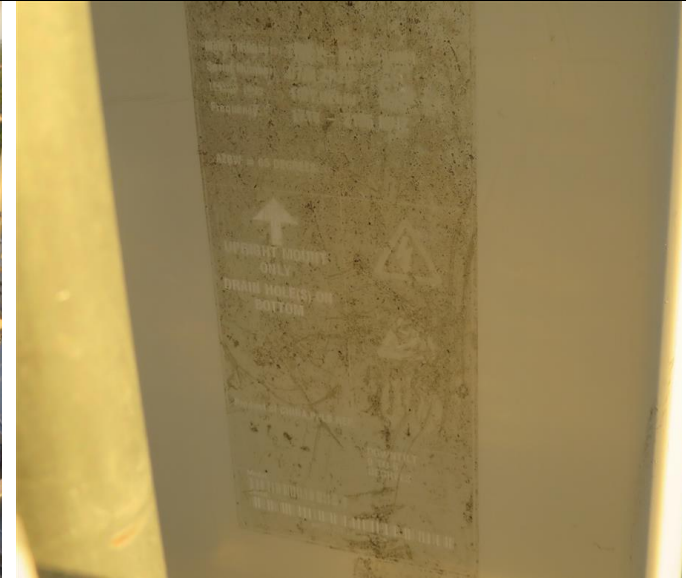
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ANTENNA #5



ANTENNA #5 TAG



ANTENNA #5 HEIGHT



ANTENNA #5 TMA

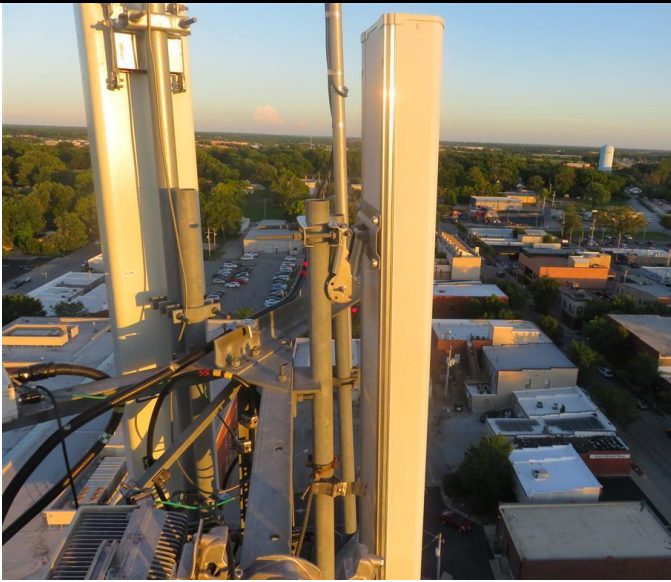


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ANTENNA #6



ANTENNA #6 TAG



ANTENNA #6 HEIGHT



ANTENNA #7



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ANTENNA #7 TAG



ANTENNA #7 HEIGHT



ANTENNA #8



ANTENNA #8 TAG

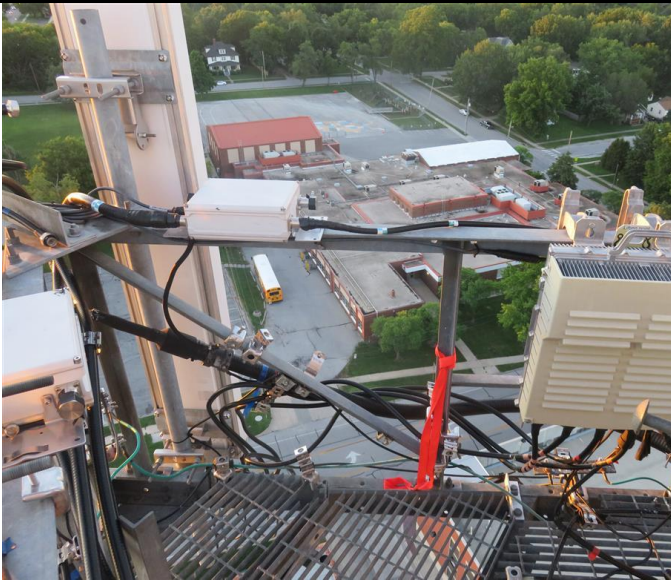


MOUNT MAPPING REPORT

Site Name: Lee's Summit Fire Station

Site #: A5C0028A

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ALPHA BOOM



ALPHA BOOM



BETA BOOM



BETA BOOM



MOUNT MAPPING REPORT

Site Name: Lee's Summit Fire Station

Site #: A5C0028A

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GAMMA BOOM



GAMMA BOOM



VIEW NORTH



VIEW EAST



MOUNT MAPPING REPORT

Site Name: Lee's Summit Fire Station

Site #: A5C0028A

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VIEW SOUTH



VIEW WEST