



Filed by:
Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbsite.com

July 20, 2018

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051



Notice of Exempt Modification
175 South Main Street, Marlborough, CT 06447
41 36 57.46 N
-72 26 11.14 W
Sprint #: CT33XC577_DOMU

Dear Ms. Bachman:

Sprint currently maintains twelve (12) antennas at the 155-foot level of the existing 170' Monopole at 175 South Main Street in Marlborough, CT. The tower is owned by SBA Towers IV, LLC. The property is owned by Fallow Crossing LLC. Sprint intends to remove (12) existing antennas and replace with (6) newer technology antennas at the 155-foot level of the tower. The full proposed scope of work is as follows:

Remove: N/A

Remove and Replace:

- Remove:
 - (12) existing KMW ETCR-654L12H6 – Panel Antennas
- Replace with:
 - (3) RFS APXVTM14-C-I20 – Panel Antennas
 - (3) Commscope NNVV-65B-R4 – Panel Antennas

Install:

- (3) ALU 1900 Mhz RRHs
- (6) ALU 800 Mhz RRHs
- (3) ALU TD-RRH8x20-25 RRHs
- (1) PRK-SFS-H-L
- (1) HRK14-U
- (1) PRK-1245L

Existing Equipment to Remain (including entitlements):

- (1) Platform
- (4) 1-1/4" fiber

The logo for SBA (Small Business Administration) features the letters "SBA" in a bold, blue, sans-serif font. To the right of the text is a green square containing a white stylized signal icon consisting of three curved lines radiating from a central point, resembling a radio tower or antenna signal.

This facility was approved by the Council under Docket 256 on March 4, 2014. Approval was for a monopole tower to accommodate Sprint, ATT, Cellco and other public and private entities. It was not to exceed 170' including appurtenances and to hold panel antennas using flush or t-arm configurations. A D&M plan was to be produced and space for municipal antennas provided at no cost. On April 18, 2005, Council further approved the use of low profile antenna platforms. This modification complies with the aforementioned conditions.

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 Amy J. Traversa, First Selectman for the Town of Marlborough, and Peter Hughes, Director of Planning and Development, as well as to the property owner. (Separate notice is not being sent to the tower owner, as it belongs to SBA.)

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 modification 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 modification 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, Sprint respectfully submits that the proposed modifications to the above-referenced telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
203.446.7700 + C
kpelletier@sbsite.com

Attachments

cc: Amy J. Traversa, First Selectman / with attachments
Town of Marlborough, 26 North Main Street, Marlborough, CT 06447
Peter Hughes, Director of Planning & Development / with attachments
Town of Marlborough, 26 North Main Street, Marlborough, CT 06447
Fallow Crossing LLC c/o Donna Daigle / with attachments
11 Valli Drive, East Hampton, CT 06424



POWER DENSITY Sprint Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Commscope NNVV-65B-R4	Make / Model:	Commscope NNVV-65B-R4	Make / Model:	Commscope NNVV-65B-R4
Gain:	12.75 / 15.05 dBd	Gain:	12.75 / 15.05 dBd	Gain:	12.75 / 15.05 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	280 Watts	Total TX Power(W):	280 Watts	Total TX Power(W):	280 Watts
ERP (W):	7,378.61	ERP (W):	7,378.61	ERP (W):	7,378.61
Antenna A1 MPE%	1.47 %	Antenna B1 MPE%	1.47 %	Antenna C1 MPE%	1.47 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVTM14- ALU- I20	Make / Model:	RFS APXVTM14- ALU- I20	Make / Model:	RFS APXVTM14- ALU- I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A2 MPE%	1.01 %	Antenna B2 MPE%	1.01 %	Antenna C2 MPE%	1.01 %

Site Composite MPE%	
Carrier	MPE%
SPRINT – Max per sector	2.48 %
Verizon Wireless	1.43 %
MetroPCS	0.63 %
T-Mobile	2.63 %
AT&T	1.66 %
Site Total MPE %:	8.83 %

SPRINT Sector A Total:	2.48 %
SPRINT Sector B Total:	2.48 %
SPRINT Sector C Total:	2.48 %
Site Total:	8.83 %

SPRINT_ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μ W/cm ²)	Frequency (MHz)	Allowable MPE (μ W/cm ²)	Calculated % MPE
Sprint 850 MHz CDMA	1	376.73	155	0.61	850 MHz	567	0.11%
Sprint 850 MHz LTE	2	941.82	155	3.05	850 MHz	567	0.54%
Sprint 1900 MHz (PCS) CDMA	5	511.82	155	4.14	1900 MHz (PCS)	1000	0.41%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	155	4.14	1900 MHz (PCS)	1000	0.41%
Sprint 2500 MHz (BRS) LTE	8	778.09	155	10.08	2500 MHz (BRS)	1000	1.01%
						Total:	2.48%

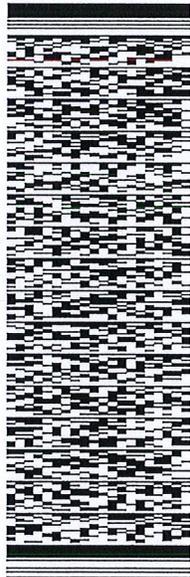
ORIGIN ID:BBFA (508) 251-0720
KRIPELLETER
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 20 JUL 18
ACTWGT: 1.00 LB
CAD: 105843304/NET3980
BILL SENDER

TO
AMY J. TRAVERSA
TOWN OF MARLBOROUGH
26 NORTH MAIN ST

MARLBOROUGH CT 06447
(508) 251-0720 X 3804
INV: REF: 10-56-92009-6089
PO: DEPT:

552J2B532DCA5



J181118012601uv

TRK# 7727 5887 9340
0201

MON - 23 JUL 12:00P
PRIORITY OVERNIGHT

SE SKKA

06447
CT-US BDL



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1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID:BBFA (508) 251-0720
KRIPELLETTER
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
MARLBOROUGH MA 01581
UNITED STATES US

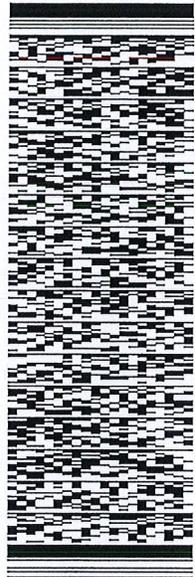
SHIP DATE: 20 JUL 18
ACTWGT: 1.00 LB
CAD: 105843304/INET3980

BILL SENDER

TO PETER HUGHES, DIR. PLANNING & DEV
TOWN OF MARLBOROUGH
26 NORTH MAIN ST

MARLBOROUGH CT 06447
(508) 251-0720 X 3804
INV. REF: 10-56-92009-6089
PO. DEPT:

552J28532/DCA5



J181118012601uv

TRK# 7727 5892 0694
0201
MON - 23 JUL 12:00P
PRIORITY OVERNIGHT

SE SKKA
06447
CT-US BDL



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ORIGIN ID:BBFA (508) 251-0720
KRIPELLETER
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 20JUL18
ACTWGT: 1.00 LB
CAD: 105843304/NET/3980
BILL SENDER

TO **DONNA DAIGLE**
FALLOW CROSSING LLC
11 VALLI DRIVE

EAST HAMPTON CT 06424
(508) 251-0720 X 3804 REF: 1056920096089
INV: DEPT:
PO:

552J28532/DCA5



J181118012501uv

TRK# 7727 5894 8930
0201
MON - 23 JUL 12:00P
PRIORITY OVERNIGHT

SE SKKA

06424
BDL
CT-US



After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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CURRENT OWNER	TOPO	UTILITIES	STRT/ROAD	LOCATION	DESCRIPTION	CURRENT ASSESSMENT	PREVIOUS ASSESSMENTS (HISTORY)
FALLOW CROSSING LLC C/O DONNA DAGLE 11 VALLI DR EAST HARTFORD, CT 06424 Additional Owners:					Res Land Res Outbl Farm 490	Code 1-1 1-4 6-1 Appraised Value 73,100 16,600 300 Assessed Value 51,170 11,620 160	Code 1-1 1-4 6-1 Yr. 2015 2015 2015 Assessed Value 51,170 11,620 160 Yr. 2014 2014 2014 Assessed Value 53,550 11,130 90 Yr. 2014 2014 2014 Assessed Value 53,550 11,130 90
Other ID: 1286	EXEMPT CO	Lake Area Photo Retake CB Letter					
Census Dev. Lot Dev. Map							
GIS ID:							



RECORD OF OWNERSHIP	BK/VOL/PAGE	SALE DATE	Q/L	W/L	SALE PRICE	V.C.	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	
FALLOW CROSSING LLC	146/ 84	05/08/2002	U	1		29	2015	1-1	51,170	2015	1-1	51,170	
							2015	1-4	11,620	2015	1-4	11,130	
							2015	6-1	160	2014	6-1	90	
Total:										63,950		64,770	

EXEMPTIONS	Description	Amount	Code	Description	Number	Amount	Comm. Int.
Total:							

ASSESSING NEIGHBORHOOD	Street Index Name	Tracing	Batch
NBHD/SUB	NBHD Name		
0001/A			

NOTES
10/2011- ADDED METAL SHED
10/2012-CHANGED LAND TO VACANT W/ OBLDG
AND DEP 60% FOR LEDGE
S/15 - BARN IS HAY SHED FOR ANIMALS

BUILDING PERMIT RECORD	Permit ID	Issue Date	Type	Description	Amount	Inv. Date	% Comp.	Date Comp.	Comments

LAND LINE VALUATION SECTION														
Use	Description	Zone	D	Front	Depth	Units	Unit Price	Factor S.A.	Acre	Disc	C. Factor	ST. Idx	Adj.	Notes- Adj
1	100 Residential Land	R	E			1.84 AC	76,000.00	0.6150	5	1.0000	0.85	50	1.00	TOTAL LEDGE
1	717 Woodland	R				0.98 AC	7,000.00	1.0000	0	1.0000	0.05		0.00	WEI
Total Card Land Units: 2.82 AC Parcel Total Land Area: 2.82 AC														

VISIT/ CHANGE HISTORY											
Date	Type	IS	ID	CD	Purpose/Result						
05/28/2015			JR	99	Vacant Land						
05/28/2015			JR	20	Photo Taken						
12/13/2011			JQ	41	Reval Hearing- No Chang						
10/02/2008	6		MH	12	Field Review						

APPRAISED VALUE SUMMARY			
Appraised Bldg. Value (Card)	Appraised XF (B) Value (Bldg)	Appraised OB (L) Value (Bldg)	Appraised Land Value (Bldg)
0	16,600	73,100	300
Total Appraised Parcel Value			90,000
Valuation Method:			C
Adjustment:			0
Net Total Appraised Parcel Value			90,000

Total Land Value: 73,400

CONSTRUCTION DETAIL			CONSTRUCTION DETAIL (CONTINUED)				
Element	Cd	Ch	Description	Element	Cd	Ch	Description

Model	00		Vacant				
-------	----	--	--------	--	--	--	--

MIXED USE	
Code	Description
100	Residential Land
	Percentage
	100

COST/MARKET VALUATION	
Adj. Base Rate:	0.00
Replace Cost	0
AYB	
Dep Code	
Remodel Rating	
Year Remodeled	
Dep %	
Functional Obshnc	
External Obshnc	
Cost Trend Factor	1
Condition	
% Complete	
Overall % Cond	
Apprais Val	
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)					
Code	Description	Sub	Sub Descrip	L/B Units	Unit Price
BRNI	Barn 1 Story	FR	Frame	L	1,800 23,00
					1969
					4
					40
					16,600

BUILDING SUB-AREA SUMMARY SECTION						
Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value

Total Gross Liv/Lense Area:						
		0	0	0	0	

No Photo On Record

CONSTRUCTION DETAIL / **CONSTRUCTION DETAIL (CONTINUED)**

Element	Cd.	Ch.	Description	Element	Cd.	Ch.	Description
---------	-----	-----	-------------	---------	-----	-----	-------------

Model	00		Vacant				
-------	----	--	--------	--	--	--	--

MIXED USE	
Code	Description
201	Comm Land
	Percentage
	100

COST/MARKET VALUATION

Adj. Base Rate:	0.00
Replace Cost	0
AYB	
Dep Code	
Remodel Rating	
Year Remodeled	
Dep %	
Functional Obslnc	
External Obslnc	
Cost Trend Factor	1
Condition	
% Complete	
Overall % Cond	
Apprais Val	
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

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

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp	Rt	Cnd	%Cnd	Apr Value
CELL	Cell Tower			L	4	163,600.00	2011		0			100	654,400

BUILDING-SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprc. Value
		0	0	0		
Ttl. Gross Liv/Lease Area:						
		0	0	0		



CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION	CURRENT ASSESSMENT
FALLOW CROSSING LLC C/O SBA INFRASTRUCTURE LLC 8051 CONGRESS AVE ATTENTION: TAX DEPARTMENT BOCA RATON, FL 33487-1307 Additional Owners:	2 Above Street		1 Paved		Code 2-1 Comm Land Code 2-2 Comm Bldg Code 2-5 Comm OB
Other ID:			EXEMPT CO		Appraised Value 56,800 Assessed Value 39,760
Census Dev. Lot Dev. Map	5241000 3		Lake Area Photo Retake CB Letter		Appraised Value 57,000 Assessed Value 39,900
GIS ID: 9/28A/28T			ASSOC PID#		Appraised Value 658,000 Assessed Value 460,600
VISION					6079 MARLBOROUGH, CT

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/h	v/i	SALE PRICE	V.C.	PREVIOUS ASSESSMENTS (HISTORY)
FALLOW CROSSING LLC	146/ 84	05/08/2002	U	V	0	29	Yr. Code 2015 2-1 2015 2-2 2015 2-5
DAIGLE DONNA M	145/ 919	04/26/2002	U		11,500	XX	Yr. Code 2014 2-1 2014 2-2 2014 2-5
DAIGLE ALBERT W	119/ 334	08/14/1997	Q				Yr. Code 2014 2-1 2014 2-2 2014 2-5
Total:							540,260

EXEMPTIONS	Amount	Code	Description	Number	Amount	Comm. Int.	APPRaised VALUE SUMMARY
NBHD/SCB			NBHD Name				Appraised Bldg. Value (Card) Appraised XF (B) Value (Bldg) Appraised OB (L) Value (Bldg) Appraised Land Value (Bldg) Special Land Value
0001/A			Street Index Name				Appraised Bldg. Value (Card) Appraised OB (L) Value (Bldg) Appraised Land Value (Bldg) Special Land Value
Total:							34,900

OTHER ASSESSMENTS	Amount	Code	Description	Number	Amount	Comm. Int.	APPRaised VALUE SUMMARY
Total:							542,430

BUILDING PERMIT RECORD	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
Permit ID								

VISIT/CHANGE HISTORY	Date	Type	IS	ID	CA	Purpose/Result
	07/29/2015			LM	00	Meas. and List
	01/19/2006			VA	48	Final Assmt Notice-Reval
	11/18/2005			VA	47	1st Assmt Notice-Reval
	09/21/2005			AJ	12	Field Review
	03/07/2005			TH	99	Vacant Land

LAND LINE VALUATION SECTION	Use Code	Use Description	Zone	D	Front	Depth	Units	Unit Price	Factor S.A.	Acres	Disc	Factor C.	ST	Adj.	Notes-Adj	Special Pricing	Spec Use	Spec Calc	S Adj	Fac	Adj.	Unit Price	Land Value
2	200	Commercial	R				0.00	AC	0.00	1.0000	C	1.0000	1.00	0.00					.00				0
Total Card Land Units: 0.00 AC Parcel Total Land Area: 0.23 AC																							
Total Land Value: 0																							

CONSTRUCTION DETAIL

CONSTRUCTION DETAIL (CONTINUED)

Element	CD	Ch.	Description	Element	CD	Ch.	Description
Style	91		Support Shed				
Model	94		Commercial				
Grade	03		Average				
Stories	1						
Occupancy	1						
Exterior Wall A	23		Pre-cast Concr				
Exterior Wall B							
Roof Structure	01		Flat				
Roof Cover	04		T&G/Rubber				
Interior Wall A	01		Minimum				
Interior Wall B							
Interior Floor A	03		Concrete				
Interior Floor B							
Heating Fuel	01		Coal or Wood				
Heating Type	01		None				
AC Type	03		Central				
Bldg Use	200		Commercial				

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

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
04	Reinforced Cnc Light				91	34,900						
01	Apprais Val				0	0						
01	Dep % Ovr				0	0						
01	Dep Ovr Comment				0	0						
01	Mise Imp Ovr				0	0						
01	Mise Imp Ovr Comment				0	0						
01	Cost to Cure Ovr				0	0						
01	Cost to Cure Ovr Comment				0	0						

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprc. Value
BAS	First Floor	360	360	360		38,405
SLB	Slab	0	360	0		0
Ttl. Gross Liv/Lease Area:		360	720	360		38,405

MIXED USE

Code	Description	Percentage
200	Commercial	100

COST/MARKET VALUATION

Adj. Base Rate:	106.68
Replace Cost	38,405
AYB	2004
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	9
Functional Obsinc	
External Obsinc	
Cost Trend Factor	
Condition	
% Complete	91
Overall % Cond	
Apprais Val	34,900
Dep % Ovr	0
Dep Ovr Comment	
Mise Imp Ovr	0
Mise Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

BAS	
SLB	
	30
	12



CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION	CURRENT ASSESSMENT	PREVIOUS ASSESSMENTS (HISTORY)
FALLOW CROSSING LLC C/O SBA INFRASTRUCTURE LLC 8051 CONGRESS AVE ATTENTION: TAX DEPARTMENT BOCA RATON, FL 33487-1307 Additional Owners:	2 Above Street		1 Paved		Code Description 2-1 Comm Land 2-2 Comm Bldg 2-5 Comm OB	Yr. Code Assessed Value 2015 2-1 39,760 2015 2-2 39,900 2015 2-5 460,600
Other ID:	Census Dev. Lot 3	5241000	Lake Area Photo Retake CB Letter		56,800 57,000 658,000	Yr. Code Assessed Value 2014 2-1 41,300 2014 2-2 40,810 2014 2-5 460,320
GIS ID: 9/28A/28T			ASSOC PID#		39,760 39,900 460,600	Yr. Code Assessed Value 2014 2-1 41,300 2014 2-2 40,810 2014 2-5 460,320
SUPPLEMENTAL DATA					771,800	542,430
EXEMPT CO						

6079
MARLBOROUGH, CT
VISION

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/tu	v/i	SALE PRICE	V.C.	Yr. Code	Assessed Value	Yr. Code	Assessed Value	Yr. Code	Assessed Value
FALLOW CROSSING LLC DAIGLE DONNA M DAIGLE ALBERT W	146/ 84 145/ 919 119/ 334	05/08/2002 04/26/2002 08/14/1997	U U Q	V	0 29 11,500	0 29 XX	2015 2-1 2015 2-2 2015 2-5	39,760 39,900 460,600	2014 2-1 2014 2-2 2014 2-5	41,300 40,810 460,320	2014 2-1 2014 2-2 2014 2-5	41,300 40,810 460,320
Total: 540,260												

EXEMPTIONS	Description	Amount	Code	Description	Number	Amount	Comm. Int.
OTHER ASSESSMENTS							
Total: 540,260							

ASSESSING NEIGHBORHOOD	Street Name	Street Index Name	Tracing	Batch
NBHD/ SUB 0001/A	NBHD Name	Street Index Name	Tracing	Batch

APPRaised VALUE SUMMARY	Value
Appraised Bldg. Value (Card)	22,100
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	3,600
Appraised Land Value (Bldg)	0
Special Land Value	0
Total Appraised Parcel Value	771,800
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	771,800

BUILDING PERMIT RECORD	Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
VISIT/ CHANGE HISTORY									
		07/29/2015							
		01/19/2006							LM 00 Meas. and List
		11/18/2005							VA 48 Final Assmt Notice-Reval
		09/21/2005							VA 47 1st Assmt Notice-Reval
		03/07/2005							AJ 12 Field Review
									TH 99 Vacant Land

LAND LINE VALUATION SECTION	B Use # Code	Use Description	Zone	D Front	Depth	Units	Unit Price	I. Factor	S.A.	C. Disc	Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj	Adj. Unit Price	Land Value
	3	Commercial	R			0.00	AC	0.00	1.0000	C	1.0000	1.00	0.00					0
Total Card Land Units: 0.00 AC Parcel Total Land Area: 0.23 AC Total Land Value: 0																		

CONSTRUCTION DETAIL / **CONSTRUCTION DETAIL (CONTINUED)**

Element	Cd	Ch	Description	Element	Cd	Ch	Description
Style	91		Support Shed				
Model	94		Commercial				
Grade	03		Average				
Stories	1						
Occupancy	1						
Exterior Wall A	24		Reinforc Concr				
Exterior Wall B							
Roof Structure	01		Flat				
Roof Cover	04		T&G/Rubber				
Interior Wall A	01		Minimum				
Interior Wall B							
Interior Floor A	03		Concrete				
Interior Floor B							
Heating Fuel	01		Coal or Wood				
Heating Type	01		None				
AC Type	03		Central				
Bldg Use	200		Commercial				

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

Code	Description	Sub	Sub Descript	L/B Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Crtd	Apr Value
FN3	Fence 6'			L	270	15.00	2005		7	90	3,600

MIXED USE

Code	Description	Percentage
200	Commercial	100

COST/MARKET VALUATION

Adj. Base Rate:	110.32
Replace Cost	24,270
AYB	2004
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	9
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Condition	
% Complete	91
Overall % Cond	22,100
Apprais Val	0
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

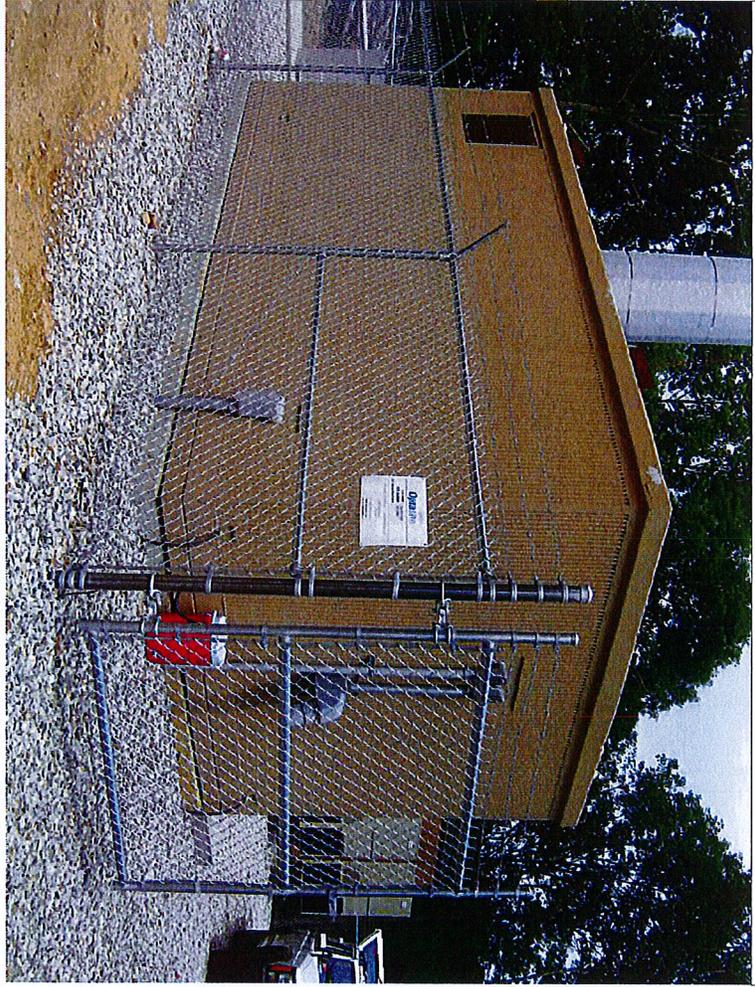
BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	220	220	220		24,270
SLB	Slab	0	220	0		0
Tot. Gross Liv/Lease Area:		220	440	220		24,270

BAS
 SLB

11

20





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

SPRINT Existing Facility

Site ID: CT33XC577

Marlborough
175 South Main Street
Marlborough, CT 06447

July 18, 2018

EBI Project Number: 6218005082

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	8.83 %



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July 18, 2018

SPRINT

Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: CT33XC577 – Marlborough

EBI Consulting was directed to analyze the proposed SPRINT facility located at **175 South Main Street, Marlborough, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT 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.

General population 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 850 MHz Band is approximately $567 \mu\text{W}/\text{cm}^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) 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.



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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 SPRINT Wireless antenna facility located at **175 South Main Street, Marlborough, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT 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 manufactures supplied specifications, minus 10 dB, 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) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.
- 2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 50 Watts per Channel.
- 3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.
- 4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.



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- 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 manufactures supplied specifications minus 10 dB 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 **Commscope NNVV-65B-R4 and the RFS APXVTM14-ALU-I20** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, 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 centerlines of the proposed antennas are **155 feet** above ground level (AGL) for **Sector A**, **155 feet** above ground level (AGL) for **Sector B** and **155 feet** above ground level (AGL) for Sector C.
- 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.

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



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SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Commscope NNVV-65B-R4	Make / Model:	Commscope NNVV-65B-R4	Make / Model:	Commscope NNVV-65B-R4
Gain:	12.75 / 15.05 dBd	Gain:	12.75 / 15.05 dBd	Gain:	12.75 / 15.05 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	280 Watts	Total TX Power(W):	280 Watts	Total TX Power(W):	280 Watts
ERP (W):	7,378.61	ERP (W):	7,378.61	ERP (W):	7,378.61
Antenna A1 MPE%	1.47 %	Antenna B1 MPE%	1.47 %	Antenna C1 MPE%	1.47 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVTM14-ALU- I20	Make / Model:	RFS APXVTM14-ALU- I20	Make / Model:	RFS APXVTM14-ALU- I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A2 MPE%	1.01 %	Antenna B2 MPE%	1.01 %	Antenna C2 MPE%	1.01 %

Site Composite MPE%	
Carrier	MPE%
SPRINT – Max per sector	2.48 %
Verizon Wireless	1.43 %
MetroPCS	0.63 %
T-Mobile	2.63 %
AT&T	1.66 %
Site Total MPE %:	8.83 %

SPRINT Sector A Total:	2.48 %
SPRINT Sector B Total:	2.48 %
SPRINT Sector C Total:	2.48 %
Site Total:	8.83 %

SPRINT _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μ W/cm ²)	Frequency (MHz)	Allowable MPE (μ W/cm ²)	Calculated % MPE
Sprint 850 MHz CDMA	1	376.73	155	0.61	850 MHz	567	0.11%
Sprint 850 MHz LTE	2	941.82	155	3.05	850 MHz	567	0.54%
Sprint 1900 MHz (PCS) CDMA	5	511.82	155	4.14	1900 MHz (PCS)	1000	0.41%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	155	4.14	1900 MHz (PCS)	1000	0.41%
Sprint 2500 MHz (BRS) LTE	8	778.09	155	10.08	2500 MHz (BRS)	1000	1.01%
						Total:	2.48%



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 SPRINT 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:

SPRINT Sector	Power Density Value (%)
Sector A:	2.48 %
Sector B:	2.48 %
Sector C:	2.48 %
SPRINT Maximum Total (per sector):	2.48 %
Site Total:	8.83 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **8.83 %** 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.



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 170 ft TransAmerican Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13062-A

Customer Site Name: Marlborough

Carrier Name: Sprint Nextel

Carrier Site ID / Name: CT33XC577 / Marlborough

Site Location: 175 South Main Street

Marlborough, Connecticut

Hartford County

Latitude: 41.615961

Longitude: -72.436427

Analysis Result:

Max Structural Usage: 83.7% [Pass]

Max Foundation Usage: 38.0% [Pass]

Additional Usage Caused by Mount Modification (SitePro PRK-1245L): +1.5%



Report Prepared By: Khaibar Noorzad

Introduction

The purpose of this report is to summarize the analysis results on the 170 ft TransAmerican Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Paul J. Ford and Company, Job #44404-0628 date November 9, 2004
Foundation Drawing	Paul J. Ford and Company, Job #44404-0628 date November 9, 2004
Geotechnical Report	Jaworski Geotech, Inc., Project #04316G dated August 31, 2004
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 127.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 98.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.177, S_1 = 0.062$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	167.0	2	Antel BXA-171063-8BF - Panel	Low Profile Platform	(12) 1 5/8"	Verizon
2		1	Antel BXA-171085-12BF - Panel			
3		2	Antel BXA-70063-6CF - Panel			
4		1	Antel BXA-70080-6CF - Panel			
5		6	RFS FD9R60024/2C-3L Diplexers			
6		4	Antel LPA-80063/4CF - Panel			
7		2	Antel LPA-80080/6CF - Panel			
8	155.0	3	KMW ETCR-654L12H6 - Panel	Platform/Handrail + SitePro PRK-SFS	(4) 1 1/4" Fiber	Sprint Nextel
9		3	ALU 1900 MHz RRH			
10		6	ALU 800 MHz RRH			
11		3	ALU TD-RRH8x20-25			
12	145.0	6	Powerwave 7770 - Panel	Low Profile Platform	(12) 1 5/8" (2) DC (1) Fiber	Cingular
13		3	KMW AM-X-CD-17-65-00T - Panel			
14		1	Raycap DC6-48-60-18-8F - Surge Arrestor			
15		6	Powerwave LGP21401 TMA			
16		6	Ericsson RRUS-11 - RRU			
17	130.0	9	RFS APX18-206517S-C-ACU - Panel	(3) T-Arm	(9) 1 1/4"	T-Mobile
18		2	Remec G20045A1 - TMA			
19	110.0	3	Kathrein 742 213 - Panel	(3) Pipe Mounts	(6) 1 5/8"	Metro PCS
20	50.0	1	GPS	Direct	(1) 1/2"	Sprint Nextel*

* Line is considered outside of pole

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	155.0	3	RFS APXVTM14-C-I20 - Panel	Platform w/ Handrail SitePro Modification Kits: (1) HRK14-U (1) PRK-SFS-H-L (1) PRK-1245L	(4) 1 1/4" Fiber	Sprint Nextel
2		3	Commscope NNVV-65B-R4 - Panel			
3		3	ALU 1900 Mhz RRH			
4		6	ALU 800 Mhz RRH			
5		3	ALU TD-RRH8x20-25			
6	50.0	1	GPS	Direct	(1) 1/2"	Sprint Nextel*

* Line is considered outside of pole

All transmission lines are considered running inside of the pole shafts.

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate	Flange
Max. Usage:	63.5%	63.2%	49.3%	83.7%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	4400.0	36.0
Analysis Reactions	3689.9	29.6
Factored Reactions*	5940.0	48.6
% of Design Reactions	62.1%	60.9%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.3260 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.



Antenna Mount Structural Analysis



Source: SBA Date: 11.13.2017

SBA Site: CT13062-A Marlborough
Sprint Site Number: CT33XC577
Project: Sprint D0 Macro Upgrade

Prepared For: Sprint

Mount Description: (1) Platform

Site Location: 175 S Main Street, Marlborough, CT
Hartford County
41.615961°, -72.436427°

Design Codes: ANSI/TIA-222-G
IBC 2012 w/ 2016 CT Building Code

Analysis Load Case: Sprint Final Configuration

Analysis Result: Adequate @ 80% - **Once Augmented**
See Conclusion



Revision 0
March 16, 2018

CT33XC577-PASSING-MOUNT-STRUCTURAL-ANALYSIS-03-16-18



1.0 Introduction

An antenna mount structural analysis has been performed on Sprint's existing mount assembly located at the CT13062-A Marlborough communications site in Hartford County, CT considering the final equipment loading configuration listed in Section 3.0.

2.0 Analysis Criteria

An elastic three-dimensional model of the mount structure has been analyzed pursuant to the following criteria:

- IBC 2012 – International Building Code.
- ANSI/TIA-222-G – Structural Standard for Antenna Supporting Structures and Antennas.
- AISC – Steel Construction Manual.
- ANSI/AWS D1.1 – Structural Welding Code.

Wind w/o ice = 127 mph (3-sec gust Ultimate Wind Speed)	
Wind w/o ice = 98 mph (3-sec gust Equivalent per TIA-222-G Tower Code)	
Wind with ice = 50 mph (3-sec gust, 1" Ice)	Topographic Category 1
Exposure Category B	Structure Class II

The following documents were provided:

- | |
|---|
| <ul style="list-style-type: none"> • <u>Tower Structural Analysis</u>
TES, 12/8/17. • <u>Mount and Tower Record Documents</u>
SBA • <u>RF Design</u>
Sprint DOMU Project |
|---|

The results of the analysis are illustrated in Section 4.0. If any of the existing or proposed conditions reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

3.0 Appurtenance Information

Table 3.1 – Sprint Final Configuration¹

COR	(Quantity) Appurtenance Make/Model	Mount Description
155.0'±	(3) RFS APXVTM14-ALU-I20	(1) Platform
	(3) COMMSCOPE NNVV-65B-R4	
	(6) ALU 800MHz RRH	
	(3) ALU 1900MHz RRH	
	(3) ALU 2500MHz RRH	

1. Refer to antenna installation Construction Drawings (by others, when applicable) for additional information regarding final antenna and equipment orientations.
2. Panel antennas to be installed in Positions 2 and 3. RRH units to be installed on dual swivel brackets behind panel antennas in Positions 2 and 3.

4.0 Analysis Results

Table 4.1 – Existing Mount Capacity

Load Case	Governing Mount Component ¹	% Capacity ²	Result
Final Sprint Configuration	Face Channel Rail	>200%	Inadequate ³

1. Refer to the Calculations & Software Output portion of this report for mount component and structural information.
2. Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.3. 105% is an acceptable allowable stress percentage for mount components.
3. Structural augments to the existing mount structure are required to obtain a mount structure capable of supporting the currently proposed final loading configuration in Table 3.1.

Table 4.2 – Augmented Mount Capacity

Load Case	Governing Mount Component ¹	% Capacity ²	Result
Final Sprint Configuration	New PRK Kit Connection Capacity	80%	Adequate Once Augmented³

1. Refer to the Calculations & Software Output portion of this report for mount component and structural information.
2. Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.3. 105% is an acceptable allowable stress percentage for mount components.
3. Refer to **GeoStructural Mount Augmentation Drawings** and **Section 5.0** for information regarding required mount augments.

Table 4.3 – Structural Component Material Strengths

Structural Component	Nominal Strength/Material ¹
Pipe	F _y = 35 ksi (A53, Gr. B)
Tube	F _y = 46 ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate / Bar	F _y = 36 ksi (A36)
Uni-Strut	F _y = 33 ksi (A570, Gr. 33)
Connection Bolts	A325
Stainless Steel Bolts	18-8 Stainless, Grade 316/304 F _y = 74 ksi (Yield) & F _u = 29 ksi (Tension)
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) F _y = 57 ksi (Yield) & F _u = 74 ksi (Tension)
Welds	E70XX Electrodes

1. Strengths listed were assumed for this analysis and are based upon ASTM, AISC, RCSC, AWS and ACI preferred specification values. Values and materials are consistent with industry standards. Material strengths were taken from original design documents when available.

5.0 Conclusion & Recommendations

Based on Sprint's final equipment loading configuration, the existing mount assembly does not have sufficient capacity to support the loading considered in this analysis pursuant to the listed standards. Structural augments (reinforcements) will be required and are briefly summarized below:

- Install Platform Reinforcement Kit; located 3.5' below the existing collar mount and attaching to the existing tube steel platform members 3.5' from collar interface.
 - Sitepro1 PRK-1245L, (1) total.
- Install Handrail Kit; located 3.5' above the existing platform bottom rail and attaching to the mount pipes.
 - Sitepro1 HRK14-U, (1) total. Attach all mount pipes to new handrail with kit-provided cross-over plates.
 - 1/2"Ø or 5/8"Ø U-Bolts, (24) total. Attach all mount pipes to existing bottom rail w/ (2) U-Bolts each similar to existing. (12) new Pipe2.0STD x 8' tall mount pipes will be required to span between the existing rail and new top rail.
- Install V-Brace Kit; located 3.5' above the existing platform rail and attaching to the new handrail kit.
 - Sitepro1 PRK-SFS-H-L, (1) total. Attach kit ring mount in kit to monopole shaft.
 - If the PRK-SFS-H-L kit is not available, provide (6) total L2-1/2x2-1/2x3/16 x ~8' long replacement angles, field-cut and drill to suit.
- Panel antennas to be installed in Positions 2 and 3. RRH units to be installed on dual swivel brackets behind panel antennas in Positions 2 and 3.
- Lower the panel antenna installation centerline approximately 1.5'.

Once the recommended augments are successfully implemented, the **augmented** mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

Augmentation Requirements:

- **In order to obtain a mount structure capable of supporting the currently proposed final loading configuration, upgrade augments must be installed in accordance with GeoStructural's Mount Augmentation Drawings.**
- **Antennas and equipment shall be installed centered vertically on the mount front face rails. If this assumption is incorrect, the results of this analysis will be affected.**

This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

Prepared by:

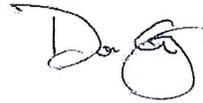


Jesse Drennen, PE, MLE

208.761.7986

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Reviewed and Approved by:



Don George, PE, SE, MLSE

208.602.6569

don.george@geostructural.com

6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.
- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.
- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.
- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.
- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.
- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.
- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.
- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

SPECIAL CONSTRUCTION NOTE:
 SPRINT WORK IS CONTINGENT ON THE FOLLOWING:
 * COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS.
 * COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT.
 * GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.

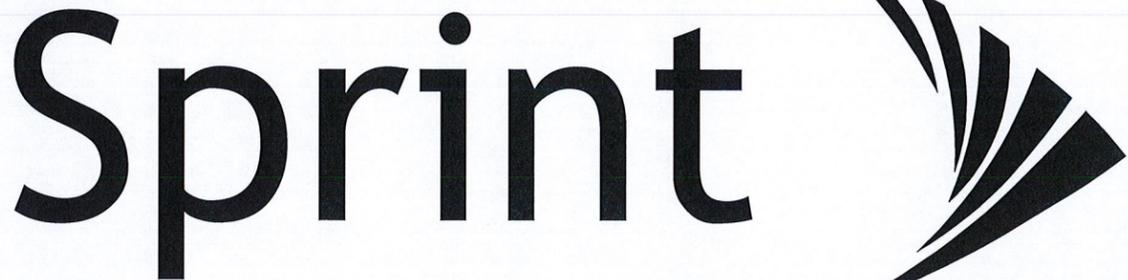
SPECIAL CONSTRUCTION NOTE:
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

PROJECT: DO MACRO UPGRADE
 EQUIPMENT DEPLOYMENT

SITE NUMBER: CT33XC577

SITE ADDRESS: 175 SOUTH MAIN STREET
 MARLBOROUGH, CT 06447

SITE TYPE: MONOPOLE



PLANS PREPARED FOR:
Sprint
 1 INTERNATIONAL BLVD, SUITE 800
 MAHWAH, NJ 07495
 TEL: (800) 357-7641

PROJECT MANAGER:
SBA
 SBA COMMUNICATIONS CORP.
 134 FLANDERS ROAD, SUITE 125
 WESTBOROUGH, MA 01581
 TEL: (508) 251-0720

PLANS PREPARED BY:
INFINIGY
 FROM ZERO TO INFINIGY
 the solutions are endless
 1033 Watervliet Shaker Rd | Albany, NY 12205
 Phone: 518-690-0790 | Fax: 518-690-0793
 www.infinigy.com
 JOB NUMBER 526-104



CHECKED BY:

APPROVED BY:

REVISIONS:	DESCRIPTION	DATE	BY	REV.
	ISSUED FOR CONSTRUCTION	04/12/18	SL	0
	ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:
CT33XC577

SITE ADDRESS:
 175 SOUTH MAIN STREET
 MARLBOROUGH, CT 06447

SHEET DESCRIPTION:
TITLE SHEET & PROJECT DATA

SHEET NUMBER:
T-1

PROJECT INFORMATION	AREA MAP	PROJECT DESCRIPTION	DRAWING INDEX																																										
<p>SITE INFORMATION: LATITUDE: 41° 36' 57.96" N (PER SBA RECORDS) 41.61608° LONGITUDE: -72° 26' 11.19" W (PER SBA RECORDS) -72.43636° STRUCTURE HEIGHT: 171'± STRUCTURE TYPE: MONOPOLE</p> <p>APPLICANT: SPRINT 1 INTERNATIONAL BLVD, SUITE 800 MAHWAH, NJ 07495</p> <p>TOWER OWNER: SBA TOWERS IV, LLC. 8051 CONGRESS AVENUE BOCA RATON, FL 33487</p> <p>SBA SITE ID: CT13062-A SBA SITE NAME: MARLBOROUGH SBA CONTACT: STEPHEN ROTH (800) 539-4920 sroth@sbasite.com</p>		<p>SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.</p> <ul style="list-style-type: none"> REMOVE (12) PANEL ANTENNAS INSTALL (6) PANEL ANTENNAS REMOVE (6) RUNS OF 1 5/8" COAX INSTALL (3) 2.5 GHz RRH'S ON PROPOSED PIPE MOUNT RELOCATE (3) 1900 MHz RRH'S ON PROPOSED PIPE MOUNT INSTALL (6) 800 MHz RRH'S ON PROPOSED PIPE MOUNT INSTALL STRUCTURAL AUGMENTS INSTALL (4) HYBRID CABLES INSTALL RAN EQUIPMENT INSIDE EXISTING MMBTS CABINET SWAP EXISTING BATTERY CABINET WITH 60EVC2 AND SWAP EXISTING MMBTS WITH 9927 AND ADD TOP HAT <p>THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.</p>	<table border="1"> <thead> <tr> <th>SHEET NO.</th> <th>SHEET TITLE</th> <th>REV.</th> </tr> </thead> <tbody> <tr> <td>T-1</td> <td>TITLE SHEET & PROJECT DATA</td> <td>0</td> </tr> <tr> <td>SP-1</td> <td>OUTLINE SPECIFICATIONS</td> <td>0</td> </tr> <tr> <td>SP-2</td> <td>OUTLINE SPECIFICATIONS</td> <td>0</td> </tr> <tr> <td>SP-3</td> <td>OUTLINE SPECIFICATIONS</td> <td>0</td> </tr> <tr> <td>A-1</td> <td>SITE PLAN</td> <td>0</td> </tr> <tr> <td>A-2</td> <td>TOWER ELEVATION</td> <td>0</td> </tr> <tr> <td>A-3</td> <td>ANTENNA LAYOUT & MOUNTING DETAILS</td> <td>0</td> </tr> <tr> <td>A-4</td> <td>EQUIPMENT & MOUNTING DETAILS</td> <td>0</td> </tr> <tr> <td>A-5</td> <td>EQUIPMENT DETAILS</td> <td>0</td> </tr> <tr> <td>A-6</td> <td>DETAILS</td> <td>0</td> </tr> <tr> <td>E-1</td> <td>ELECTRICAL & GROUNDING DETAILS</td> <td>0</td> </tr> <tr> <td>RF-1</td> <td>RF DATA SHEET</td> <td>0</td> </tr> <tr> <td>RF-2</td> <td>PLUMBING DIAGRAM</td> <td>0</td> </tr> </tbody> </table>	SHEET NO.	SHEET TITLE	REV.	T-1	TITLE SHEET & PROJECT DATA	0	SP-1	OUTLINE SPECIFICATIONS	0	SP-2	OUTLINE SPECIFICATIONS	0	SP-3	OUTLINE SPECIFICATIONS	0	A-1	SITE PLAN	0	A-2	TOWER ELEVATION	0	A-3	ANTENNA LAYOUT & MOUNTING DETAILS	0	A-4	EQUIPMENT & MOUNTING DETAILS	0	A-5	EQUIPMENT DETAILS	0	A-6	DETAILS	0	E-1	ELECTRICAL & GROUNDING DETAILS	0	RF-1	RF DATA SHEET	0	RF-2	PLUMBING DIAGRAM	0
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		<p>APPLICABLE CODES</p> <p>ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALL IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.</p> <ol style="list-style-type: none"> INTERNATIONAL BUILDING CODE (2012 IBC) TIA-222-G OR LATEST EDITION NFPA 780 - LIGHTNING PROTECTION CODE 2014 NATIONAL ELECTRIC CODE OR LATEST EDITION ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS CT BUILDING CODE LOCAL BUILDING CODE CITY/COUNTY ORDINANCES 																																											
		<p>GENERAL NOTES</p> <ol style="list-style-type: none"> THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION: <ul style="list-style-type: none"> ADA COMPLIANCE NOT REQUIRED. POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED. NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE. 																																											
<p>CALL CONNECTICUT ONE CALL (800) 922-4455 CALL 3 WORKING DAYS BEFORE YOU DIG!</p> <p>Know what's below. Call before you dig. www.call811.com</p>																																													

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 – SCOPE OF WORK

PART 1 – GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.
- 1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.
- 1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:
 - A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 - 1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
 - 5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 - 3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY -GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
 - 4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC") AND NFPA 101 (LIFE SAFETY CODE).
 - 5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
 - 6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
 - 7. AMERICAN CONCRETE INSTITUTE (ACI)
 - 8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
 - 9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
 - 10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
 - 11. PORTLAND CEMENT ASSOCIATION (PCA)
 - 12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
 - 13. BRICK INDUSTRY ASSOCIATION (BIA)
 - 14. AMERICAN WELDING SOCIETY (AWS)
 - 15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
 - 16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
 - 17. DOOR AND HARDWARE INSTITUTE (DHI)
 - 18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
 - 19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.
- 1.5 DEFINITIONS:
 - A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
 - B. COMPANY: SPRINT CORPORATION
 - C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
 - D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
 - E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
 - F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.
 - G. CONSTRUCTION MANAGER – ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

- 1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.
- 1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.
- 1.8 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
- 1.9 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
 - A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
 - B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.
 - C. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.
- 1.10 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:
- 1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.
- 1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193
- 1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

- 3.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 3.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 3.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HERewith, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.
- 3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

- 3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT:
 - A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.
 - B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
 - 1. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 - 2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 - 3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
 - 4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
 - 5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
 - 6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.
- 3.2 DELIVERABLES:
 - A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
 - B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.
 - C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

PART 1 – GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.
- 1.3 NOTICE TO PROCEED
 - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.
 - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

- 3.1 FUNCTIONAL REQUIREMENTS:
 - A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.
 - B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.
 - C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES
 - D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:



1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:



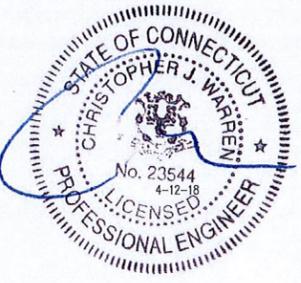
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

PLANS PREPARED BY:



FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:



CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/12/18	SL	0
ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:
CT33XC577

SITE ADDRESS:
175 SOUTH MAIN STREET
MARLBOROUGH, CT 06447

SHEET DESCRIPTION:
OUTLINE SPECIFICATIONS

SHEET NUMBER:
SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNA AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:

- A. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
 1. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
 2. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- D. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION
- E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

- A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER
- B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.
 1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
 2. PROJECT PROGRESS REPORTS.
 3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).

5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.
- 1.3 SUBMITTALS:
 - A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
 - B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.
 1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
 2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
 3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
 4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
 5. CHEMICAL GROUNDING DESIGN
 - D. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
 2. AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
- C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
 1. AZIMUTH, DOWNTILT, AZIMUTH, AGL - UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AZIMUTH MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
 2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 3. ALL AVAILABLE JURISDICTIONAL INFORMATION
 4. PDF SCAN OF REDLINES PRODUCED IN FIELD

5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPS

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPS

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
2. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

- A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
 2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
 3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
 4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
 5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
 6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
 7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
 8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
 9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

- A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.
- B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
 2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
 3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
 4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
 5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
 6. ANTENNA AZIMUTH, DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS - ANTENNA ALIGNMENT TOOL (AAT)

PLANS PREPARED FOR:



1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:



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

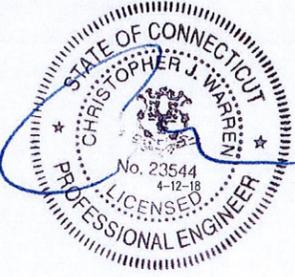
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ENGINEERING LICENSE:



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REVISIONS:	DESCRIPTION	DATE	BY	REV.
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ISSUED FOR REVIEW		01/18/18	RCD	A

SITE NUMBER:
CT33XC577

SITE ADDRESS:
175 SOUTH MAIN STREET
MARLBOROUGH, CT 06447

SHEET DESCRIPTION:
OUTLINE SPECIFICATIONS

SHEET NUMBER:
SP-2

NOTE:
FOR DETAILS OF MOUNT AUGMENT REFER TO
MOUNT AUGMENT CD'S DONE BY OTHERS

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS
(STRUCTURAL MODIFICATIONS) AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS
FROM SBA--PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION
DRAWINGS (PROVIDED BY OTHERS).

PLANS PREPARED FOR:

Sprint

1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:

SBA

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
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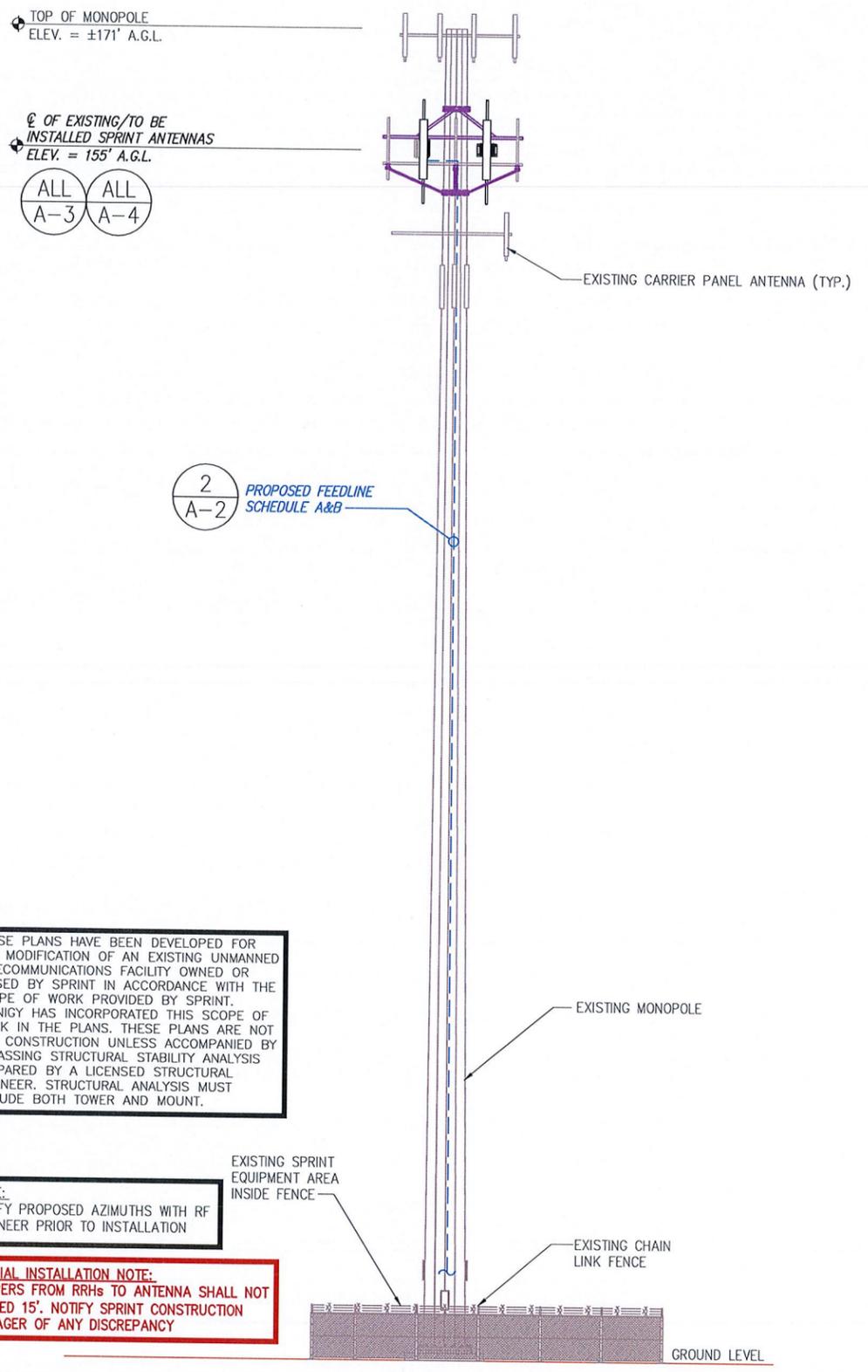
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ISSUED FOR CONSTRUCTION		04/12/18	SL	0
ISSUED FOR REVIEW		01/18/18	RCD	A

SITE NUMBER:
CT33XC577

SITE ADDRESS:
175 SOUTH MAIN STREET
MARLBOROUGH, CT 06447

SHEET DESCRIPTION:
TOWER ELEVATION

SHEET NUMBER:
A-2

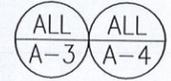


THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

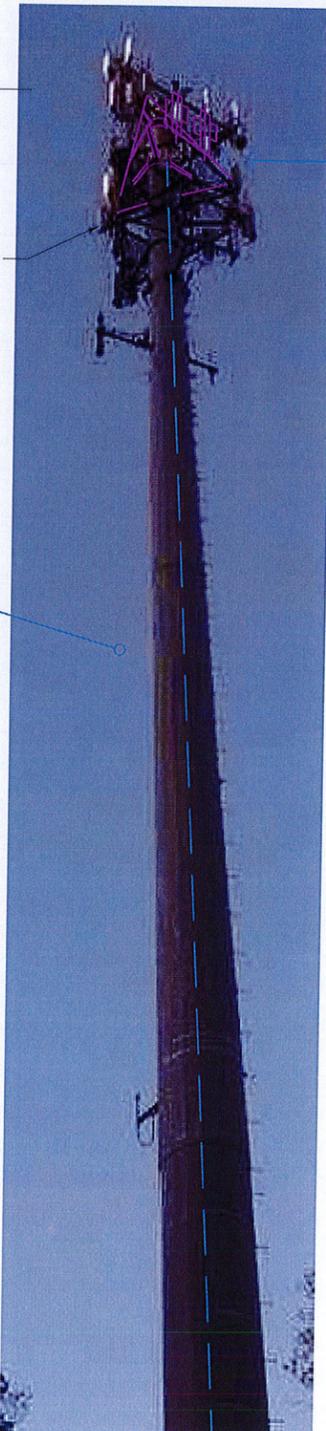
NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

SPECIAL INSTALLATION NOTE:
JUMPERS FROM RRHs TO ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY

⊙ OF PROPOSED SPRINT ANTENNAS
ELEV. = 155' A.G.L.



⊙ PROPOSED FEEDLINE SCHEDULE A&B



SPECIAL TOWER TOP EQUIPMENT INSTALLATION WORK NOTE (SAFETY-CLIMB ALIGNMENT REQUIREMENTS):
GENERAL CONTRACTOR SHALL ORIENT PROPOSED PLATFORM REINFORCEMENT KIT RING-MOUNTS SO THAT EXISTING SAFETY CLIMB CABLE IS NOT OBSTRUCTED/RE-ROUTED FROM VERTICAL ALIGNMENT AND IS NOT IN PHYSICAL CONTACT WITH EXISTING OR PROPOSED RING-MOUNT HARDWARE. GENERAL CONTRACTOR SHALL INSTALL NEW OR ADDITIONAL SAFETY-CLIMB CABLE GUIDES IF ADDITIONAL CLEARANCE IS REQUIRED. ADDITIONAL CABLE GUIDES SHALL BE ATTACHED SECURELY TO THE POLE USING MECHANICAL FASTENERS OR FIELD WELDED BY A CERTIFIED WELDING TECHNICIAN.

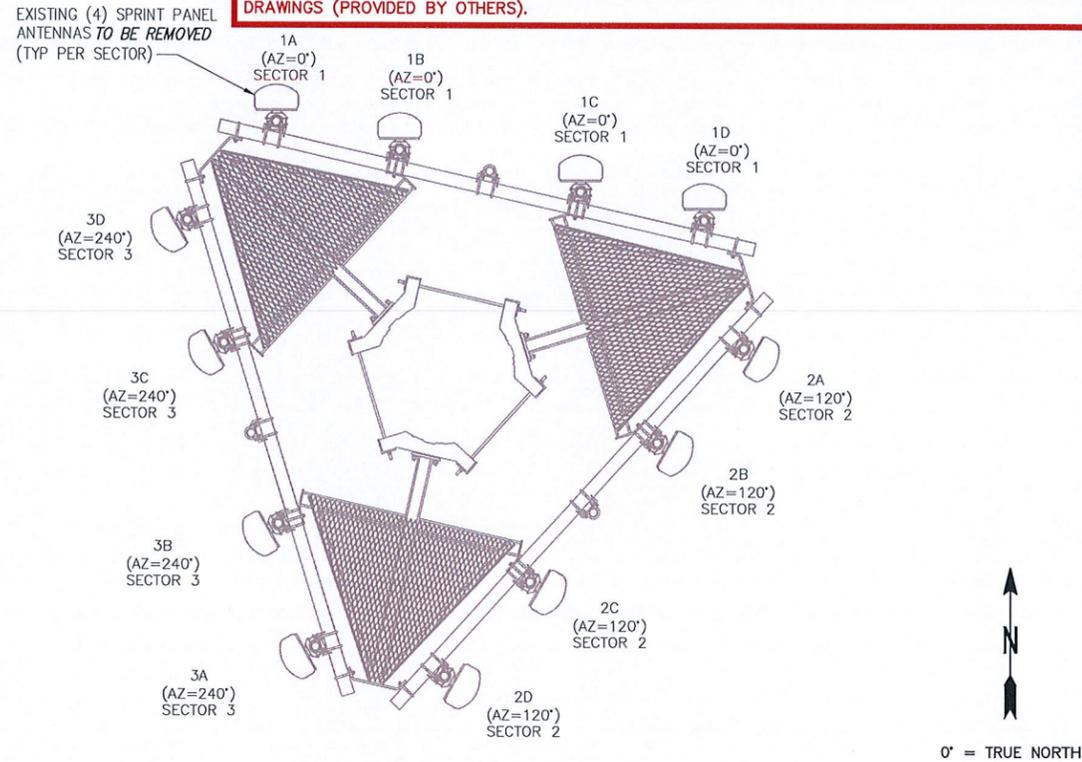
FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
	EXISTING TO BE REMOVED: (6) 1 5/8" COAX	UP INSIDE MONOPOLE TO RAD
	PROPOSED: (4) HYBRID TO 155' RAD	UP INSIDE MONOPOLE TO RAD

NOTE:
EXISTING SPRINT EQUIPMENT FEEDLINE INVENTORY BASED ON COLOCATION APPLICATION AND SBA RECORD, NOT FIELD OBSERVATIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

TOWER ELEVATION NO SCALE 1

TOWER ELEVATION PHOTO DETAIL NO SCALE 2

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).



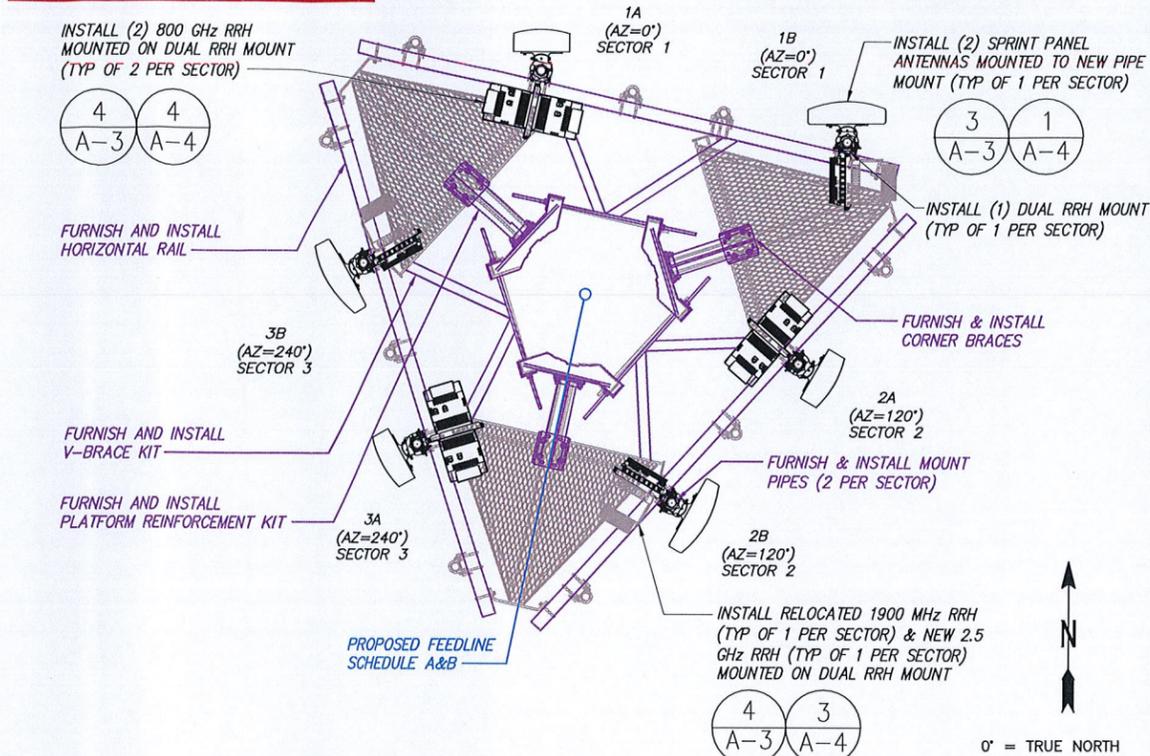
EXISTING ANTENNA & RRH LAYOUT

NO SCALE 1

SPECIAL INSTALLATION NOTE:
JUMPERS FROM RRHs TO ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

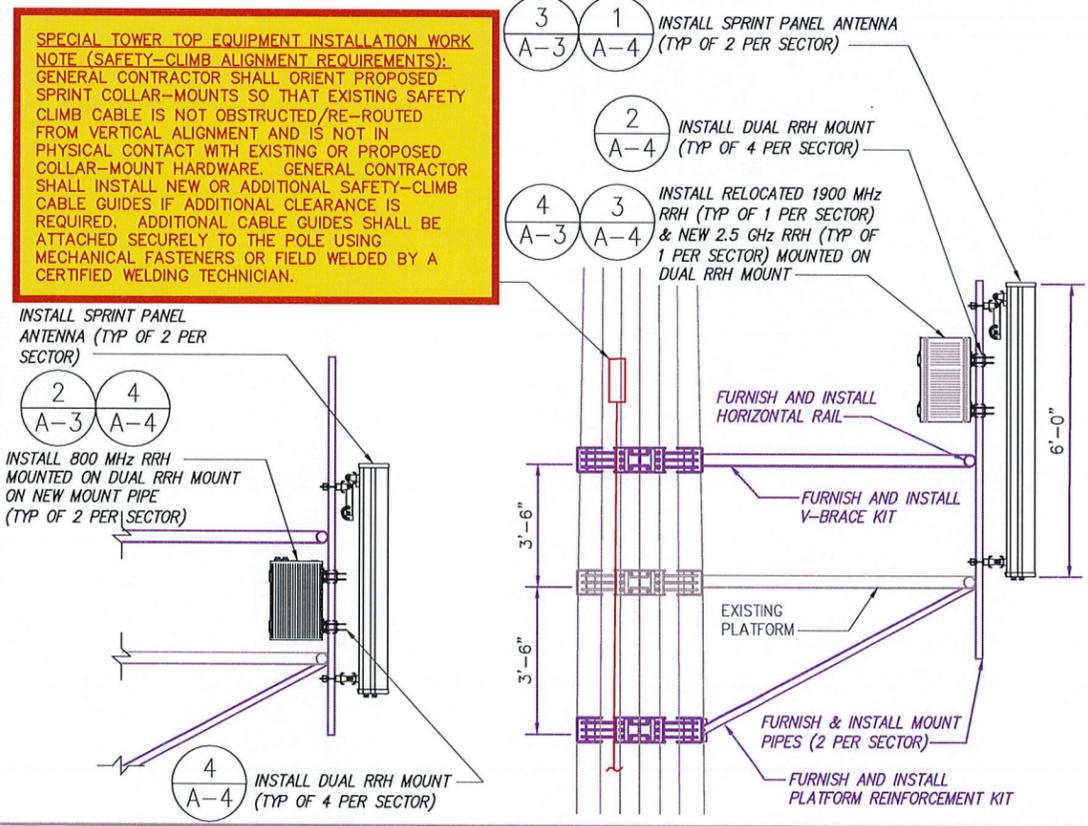
NOTE:
FOR DETAILS OF MOUNT AUGMENT REFER TO MOUNT AUGMENT CD'S DONE BY OTHERS



FINAL ANTENNA & RRH LAYOUT

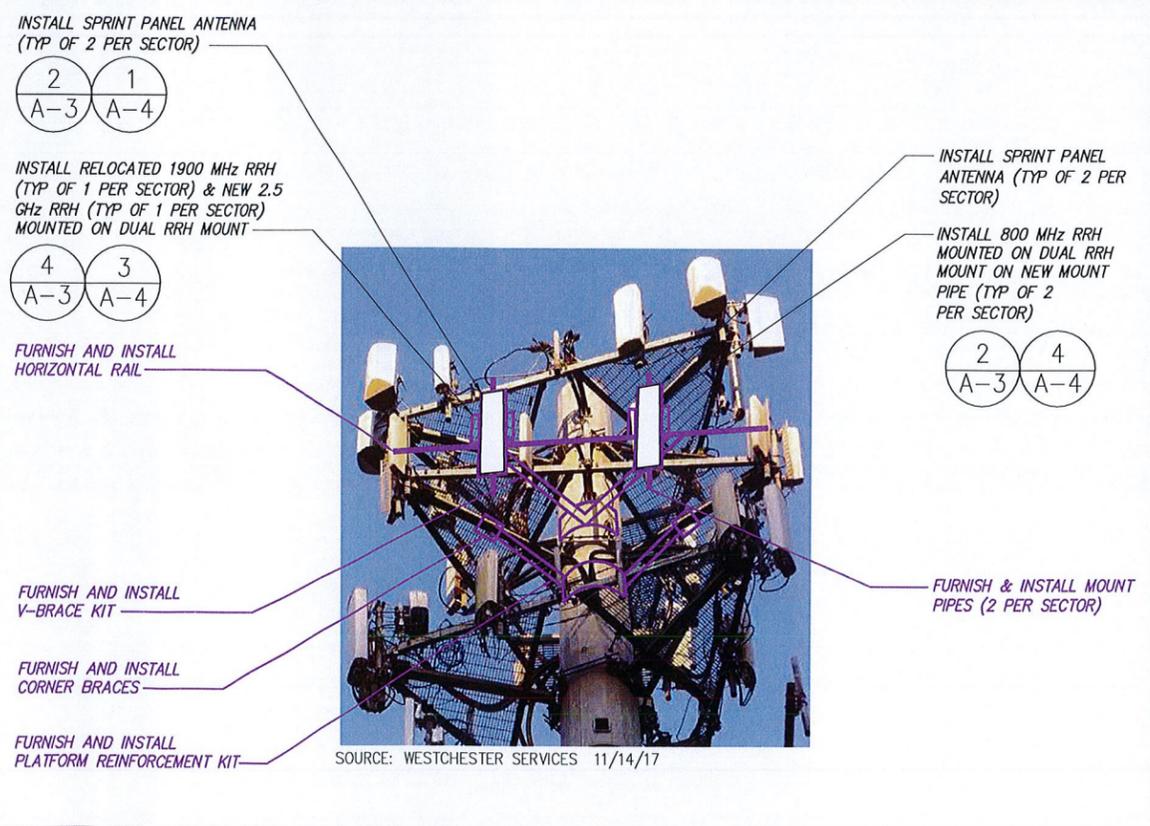
NO SCALE 2

SPECIAL TOWER TOP EQUIPMENT INSTALLATION WORK NOTE (SAFETY-CLIMB ALIGNMENT REQUIREMENTS):
GENERAL CONTRACTOR SHALL ORIENT PROPOSED SPRINT COLLAR-MOUNTS SO THAT EXISTING SAFETY CLIMB CABLE IS NOT OBSTRUCTED/RE-ROUTED FROM VERTICAL ALIGNMENT AND IS NOT IN PHYSICAL CONTACT WITH EXISTING OR PROPOSED COLLAR-MOUNT HARDWARE. GENERAL CONTRACTOR SHALL INSTALL NEW OR ADDITIONAL SAFETY-CLIMB CABLE GUIDES IF ADDITIONAL CLEARANCE IS REQUIRED. ADDITIONAL CABLE GUIDES SHALL BE ATTACHED SECURELY TO THE POLE USING MECHANICAL FASTENERS OR FIELD WELDED BY A CERTIFIED WELDING TECHNICIAN.



TYPICAL MOUNTING DETAILS

NO SCALE 3



ANTENNA & RRH MOUNTING PHOTO DETAIL

NO SCALE 4

PLANS PREPARED FOR:
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JOB NUMBER 526-104

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-12-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

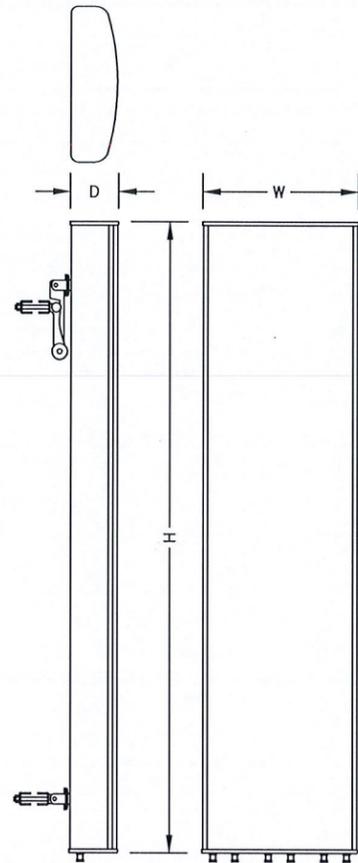
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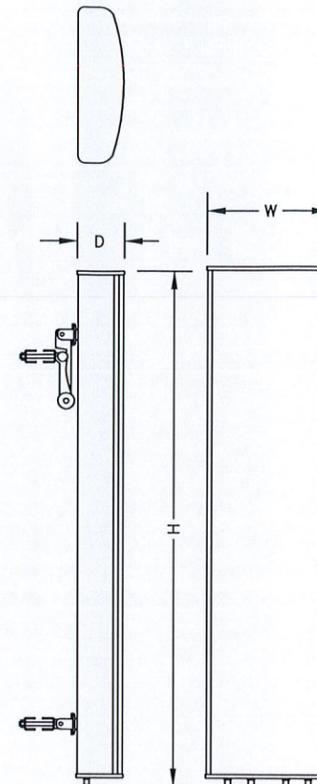
SHEET DESCRIPTION:
ANTENNA LAYOUT
& MOUNTING DETAILS

SHEET NUMBER:
A-3



ANTENNA SPECIFICATIONS

MANUF.	COMMSCOPE
MODEL #	NNVV-65B-R4
HEIGHT	72"
WIDTH	19.6"
DEPTH	7.8"
WEIGHT	84.7± LBS.



ANTENNA SPECIFICATIONS

MANUF.	RFS
MODEL #	APXVTM14-ALU-120
HEIGHT	56.3"
WIDTH	12.6"
DEPTH	6.3"
WEIGHT	56.2± LBS.

ANTENNA DETAIL

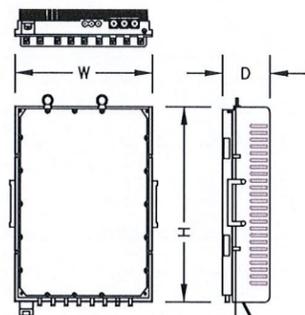
NO SCALE

1

ANTENNA DETAIL

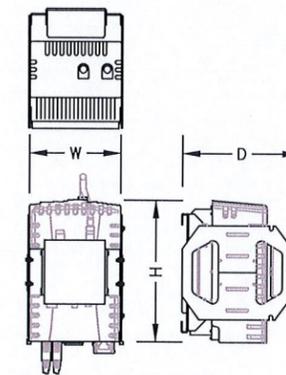
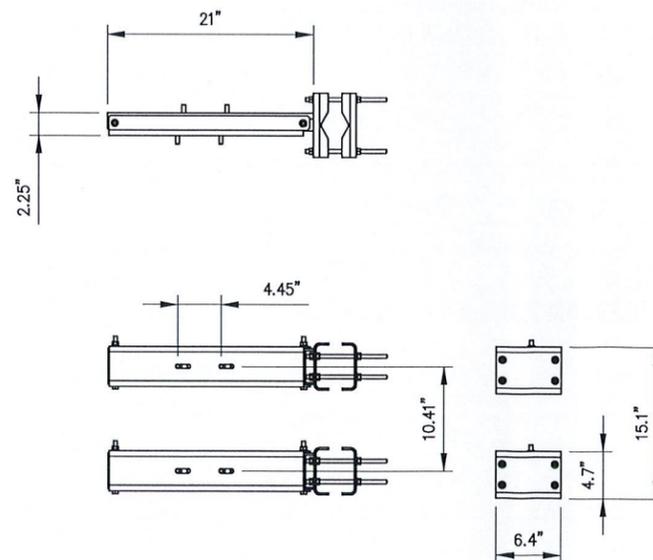
NO SCALE

2



2.5 GHZ RRH SPECIFICATIONS

MANUF.	NOKIA (ALU)
MODEL #	TD-RRH8X20-25
HEIGHT	26.1"
WIDTH	18.6"
DEPTH	6.7"
WEIGHT	70± LBS



800 MHZ RRH SPECIFICATIONS

MANUF.	NOKIA (ALU)
MODEL #	800MHZ 2X50W
HEIGHT	19.7"
WIDTH	13"
DEPTH	10.8"
WEIGHT	53± LBS

2.5 RRH

NO SCALE

3

DUAL RRH MOUNT DETAIL

NO SCALE

4

800 MHZ RRH

NO SCALE

5

PLANS PREPARED FOR:

Sprint

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PROJECT MANAGER:

SBA

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DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/12/18	SL	0
ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:

CT33XC577

SITE ADDRESS:

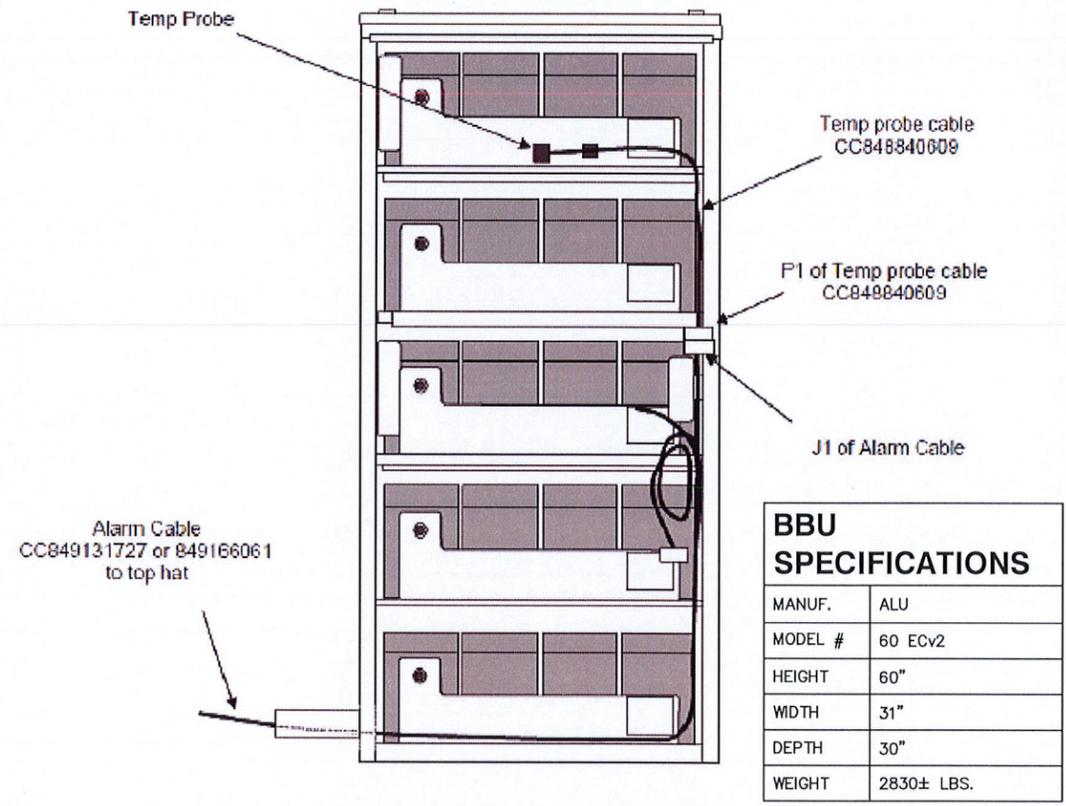
175 SOUTH MAIN STREET
MARLBOROUGH, CT 06447

SHEET DESCRIPTION:

EQUIPMENT &
MOUNTING DETAILS

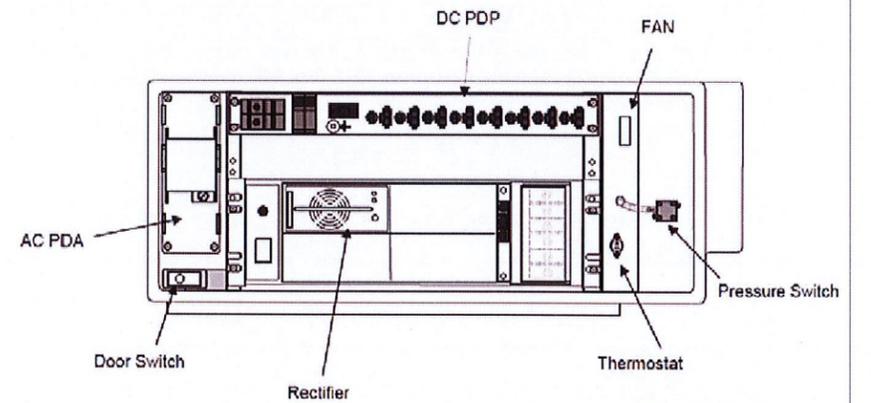
SHEET NUMBER:

A-4



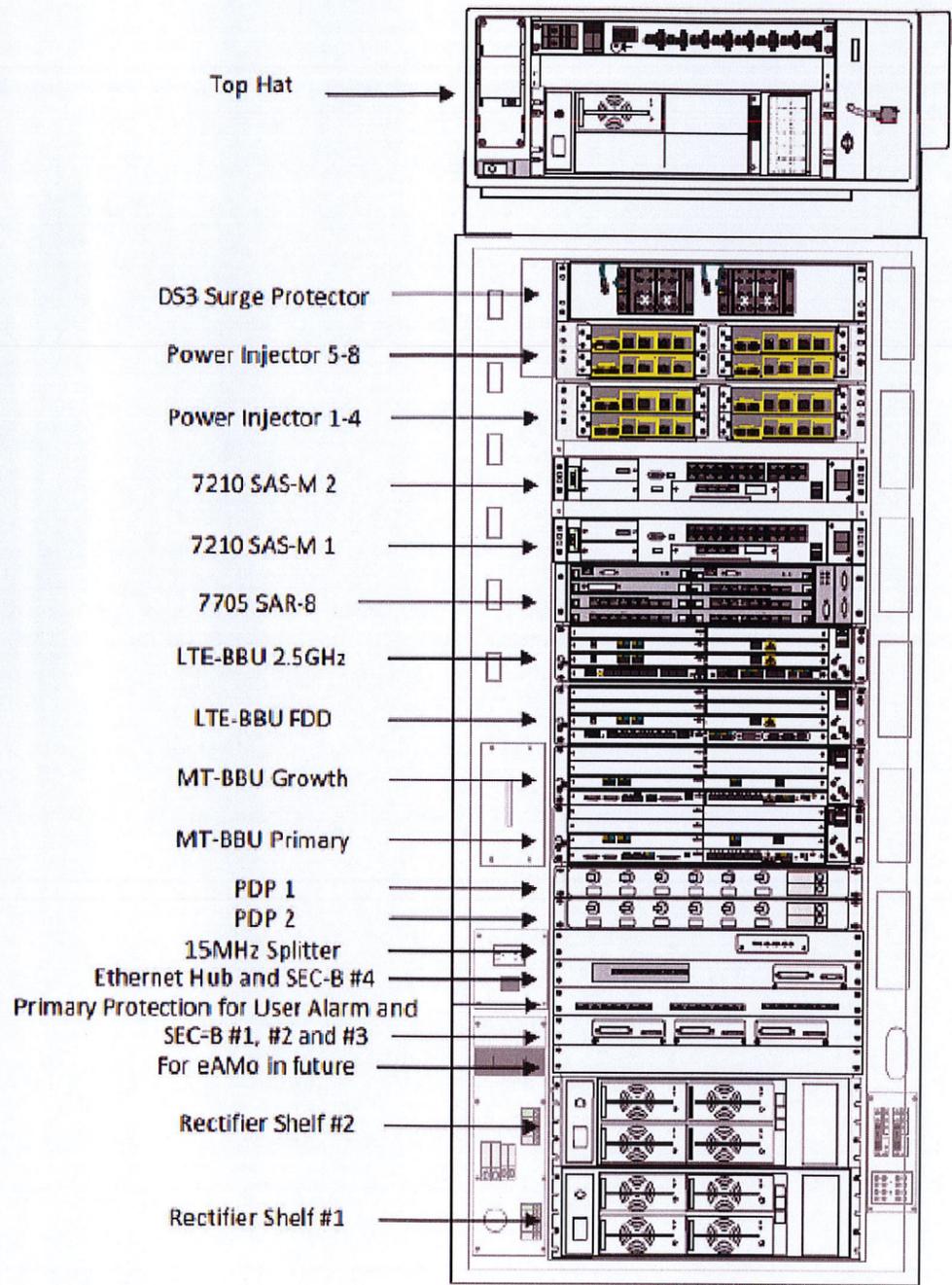
BBU SPECIFICATIONS	
MANUF.	ALU
MODEL #	60 ECv2
HEIGHT	60"
WIDTH	31"
DEPTH	30"
WEIGHT	2830± LBS.

BBU_DETAIL NO SCALE 1



TOP HAT SPECIFICATIONS	
MANUF.	ALU
MODEL #	SPR13MW0264A1
HEIGHT	10.6"
WIDTH	29.5"
DEPTH	20.1"
WEIGHT	110± LBS

TOP_HAT_DETAIL NO SCALE 2



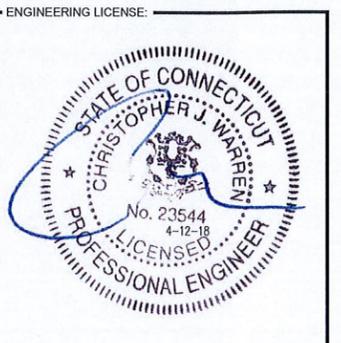
BTS SPECIFICATIONS	
MANUF.	ALU
MODEL #	9927 CABINET
HEIGHT	60"
WIDTH	29.5"
DEPTH	20.1"
WEIGHT	864± LBS

BTS_WITH_TOP_HAT_DETAIL NO SCALE 3

PLANS PREPARED FOR:
Sprint
 1 INTERNATIONAL BLVD, SUITE 800
 MAHAH, NJ 07495
 TEL: (800) 357-7641

PROJECT MANAGER:
SBA
 SBA COMMUNICATIONS CORP.
 134 FLANDERS ROAD, SUITE 125
 WESTBOROUGH, MA 01581
 TEL: (508) 251-0720

PLANS PREPARED BY:
INFINIGY
 FROM ZERO TO INFINIGY
 the solutions are endless
 1033 Watervliet Shaker Rd | Albany, NY 12205
 Phone: 518-690-0790 | Fax: 518-690-0793
 www.infinigy.com
 JOB NUMBER 526-104



CHECKED BY:

APPROVED BY:

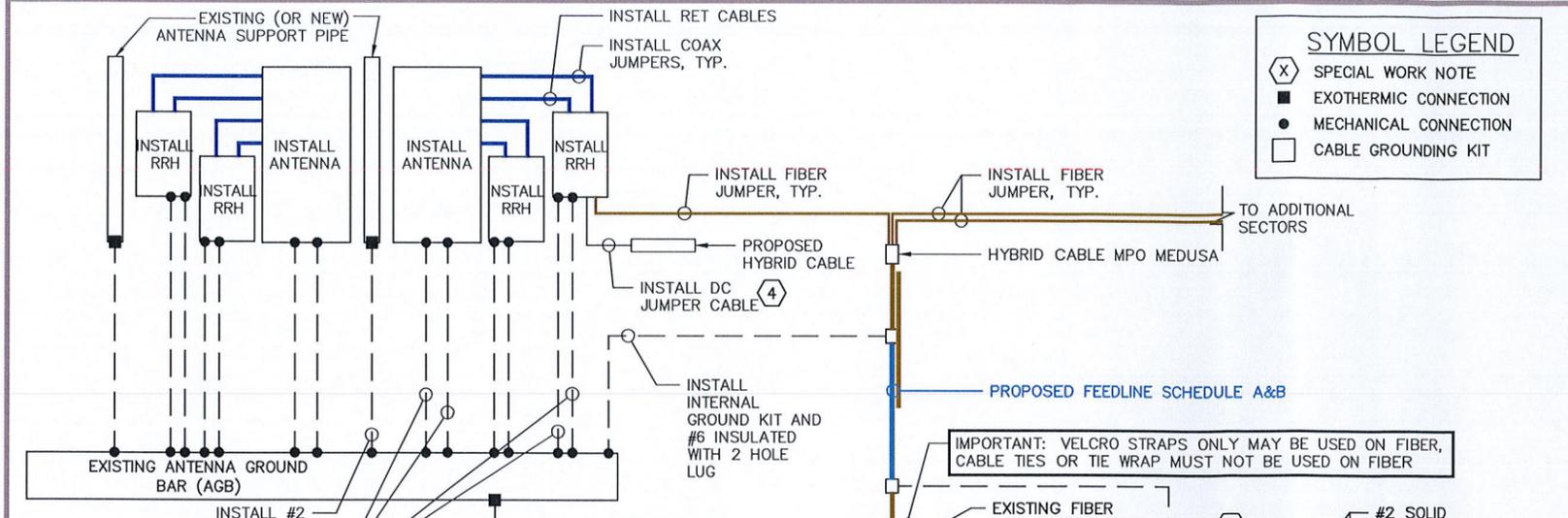
REVISIONS:	DESCRIPTION	DATE	BY	REV.
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ISSUED FOR REVIEW		01/18/18	RCD	A

SITE NUMBER:
CT33XC577

SITE ADDRESS:
 175 SOUTH MAIN STREET
 MARLBOROUGH, CT 06447

SHEET DESCRIPTION:
EQUIPMENT DETAILS

SHEET NUMBER:
A-5



SYMBOL LEGEND

- (X) SPECIAL WORK NOTE
- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION
- CABLE GROUNDING KIT

- ELECTRICAL NOTES**
- 1) ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
 - 2) THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING WITH LOCAL UTILITY COMPANIES AND SPRINT CONSTRUCTION MANAGER.
 - 3) ALL CONDUITS ROUTED BELOW GRADE SHALL TRANSITION TO RIGID GALVANIZED ELBOWS WITH RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE.
 - 4) ALL METAL CONDUITS SHALL BE PROVIDED WITH GROUNDING BUSHINGS.
 - 5) GENERAL CONTRACTOR SHALL PROVIDE ALL DIRECT BURIED CONDUITS WITH PLASTIC WARNING TAPE IDENTIFYING CONTENTS. TAPE COLORS SHALL BE ORANGE FOR TELEPHONE AND RED FOR ELECTRIC.
 - 6) ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
 - 7) THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIALS DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
 - 8) GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
 - 9) ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
 - 10) BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
 - 11) ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
 - 12) RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
 - 13) RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
 - 14) FIBER OPTIC CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 770—OPTICAL FIBER CABLES AND RADIWAYS.
 - 15) COMMUNICATIONS CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 800—COMMUNICATIONS SYSTEMS.

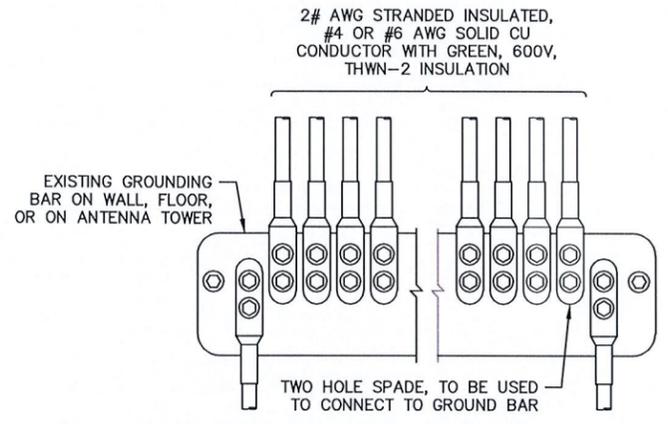
- SPECIAL WORK NOTE:**
1. G.C. TO FURNISH AND INSTALL ALL COMPONENTS TO UPGRADE EXISTING ELECTRICAL SERVICE, CONDUIT, CONDUCTOR, PPC AND MCB IN ACCORDANCE WITH SPRINT CONSTRUCTION STANDARDS NV 2.5 ADDENDUM "ENGINEERING NOTICE 2013-002 (POWER UPGRADES) REV.0" (OR CURRENT VERSION)
 2. G.C. TO FURNISH AND INSTALL UPGRADE THE EXISTING MMBTS BREAKER, CONDUCTOR, AND CONDUIT TO A MINIMUM NEC RATING.
 3. FOR NEW OR REPAIRED GROUNDING EQUIPMENT, REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
-ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08-24-12 (OR CURRENT VERSION)
-SPRINT ENGINEERING LETTER EL-0504 DATED 04-20-12 (OR CURRENT VERSION)
 4. USE SPARE DC CABLES COILED UP AT TOWER TOP NV ARRAY TO POWER UP 2.5 RRH. INSIDE EXISTING FIBER DISTRIBUTION BOX, TIE SPARE DC CONDUCTORS INTO EXISTING DC BREAKER PANEL PER APPROVED DC WIRING CONNECTIVITY OPTION (BASED ON NV HYBRIFLEX CABLE LENGTH). CONSULT WITH SPRINT CM TO DETERMINE APPROPRIATE DC CONNECTIVITY OPTION, PLUMBING DIAGRAM AND DC BREAKER SIZE.

- PROTECTIVE GROUNDING SYSTEMS GENERAL NOTES:**
1. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250—GROUNDING AND BONDING.
 2. GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES" AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING".
 3. PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTIVE ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.
 4. GROUND CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED, REMOVE THE COATING. APPLY A NON-CORROSIVE APPROVED COMPOUND TO CLEAN SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVAMOX" OR EQUAL.
 5. ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
 6. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
 7. ALL GROUND WIRES SHALL BE #2 SOLID TINNED BCW UNLESS NOTED OTHERWISE.
 8. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.
 9. GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
 10. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 SOLID TINNED BCW EQUIPMENT CABINETS WALL HAVE (2) CONNECTIONS.
 11. GROUND HYBRIFLEX SHIELD AT TOP, BOTTOM AND AT TRANSITION TO HYBRIFLEX JUMPER CABLES AT EQUIPMENT CABINET ENTRANCE USING MANUFACTURER'S GUIDELINES. WHEN HYBRIFLEX CABLE EXCEEDS 200', GROUND AT INTERVALS NOT EXCEEDING 100'.
 12. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.
 13. EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL OTHERWISE. THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH AN ANTI-OXIDANT (THOMAS BETTS KOPR-SHILD) BEFORE MAKING THE CRIMP CONNECTIONS THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED TORQUES ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS.
 14. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING, CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF-TAPPING SCREWS.
 15. THE MASTER GROUND BAR (MGB) SHALL BE MADE OF BARE 1/4"x2" COPPER (FOR OUTDOOR APPLICATIONS IT SHALL BE TINNED COPPER) AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MGB SHALL ELECTRICAL INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
 16. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
 17. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH SPRINT CONSTRUCTION MANAGER.
 18. FOR NEW OR REPAIRED GROUNDING EQUIPMENT, REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
-ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08-24-12 (OR CURRENT VERSION)
-SPRINT ENGINEERING LETTER EL-0504 DATED 04-20-12 (OR CURRENT VERSION)

TYPICAL POWER AND GROUNDING ONE LINE DIAGRAMS

SCALE: N.T.S.

1
E-1

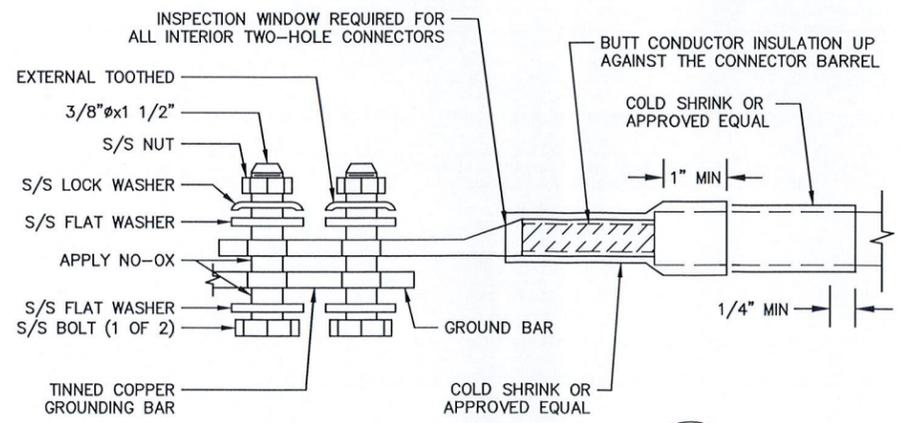


1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

SCALE: N.T.S.

2
E-1



TWO HOLE LUG

SCALE: N.T.S.

3
E-1

PLANS PREPARED FOR:

Sprint

1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:

SBA

SBA COMMUNICATIONS CORP.
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WESTBOROUGH, MA 01581
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PLANS PREPARED BY:

INFINIGY

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the solutions are endless

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Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/12/18	SL	0
ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:

CT33XC577

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175 SOUTH MAIN STREET
MARLBOROUGH, CT 06447

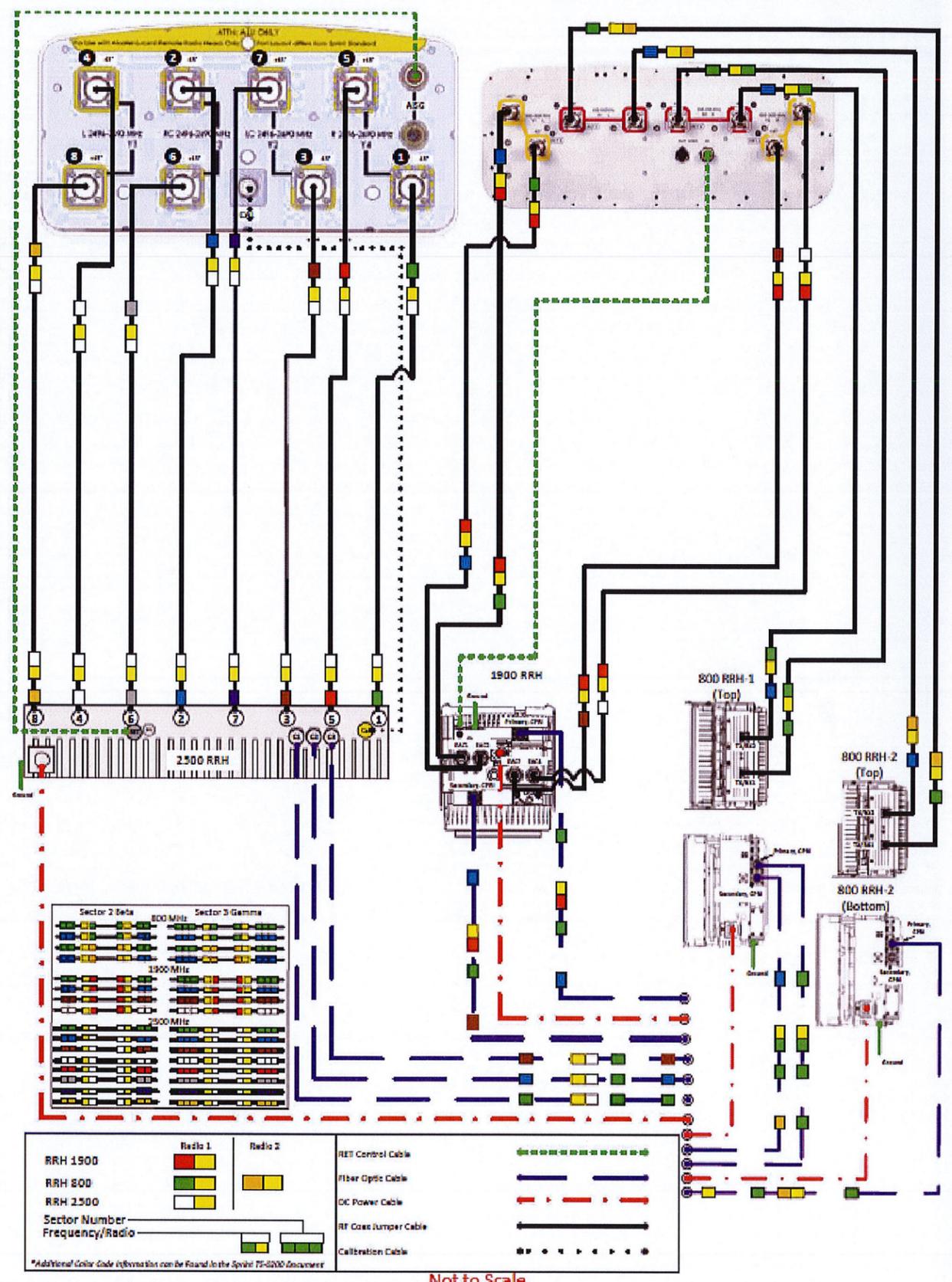
SHEET DESCRIPTION:

ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:

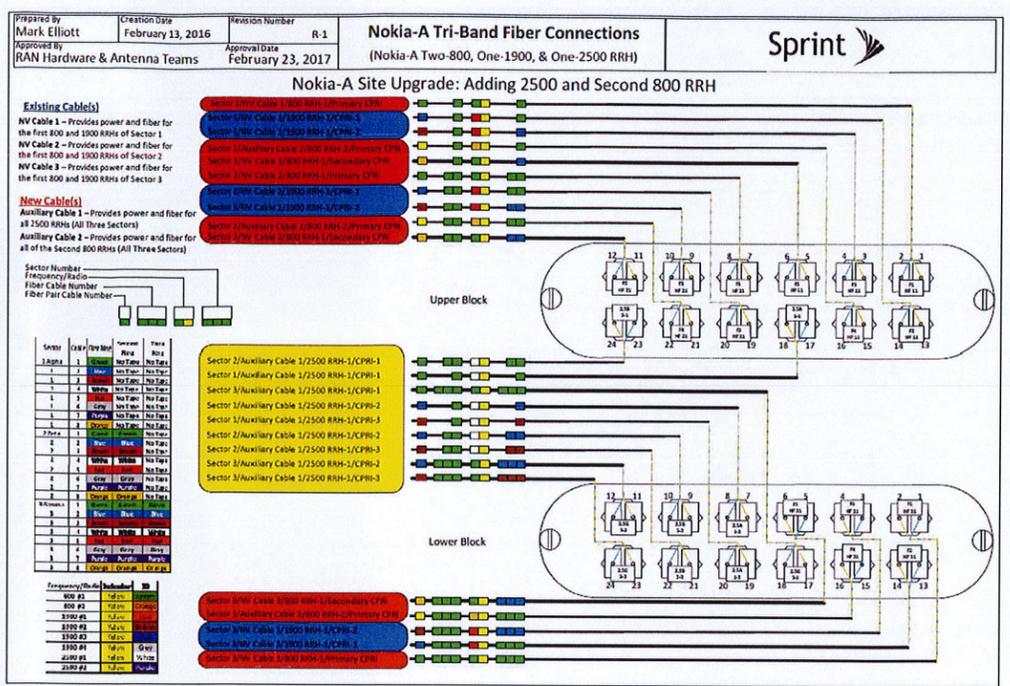
E-1

ALU 211 APXVTM14-ALU-I20 & NNVV-65B-R4 wo Filters



Not to Scale

PLUMBING DIAGRAM



PLANS PREPARED FOR:

1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
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Phone: 518-690-0790 | Fax: 518-690-0793
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JOB NUMBER: 526-104

ENGINEERING LICENSE:

CHECKED BY:

APPROVED BY:

REVISIONS:

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SITE NUMBER:
CT33XC577

SITE ADDRESS:
175 SOUTH MAIN STREET
MARLBOROUGH, CT 06447

SHEET DESCRIPTION:
PLUMBING DIAGRAM

SHEET NUMBER:
RF-2

CT33XC577

DO MACRO EQUIPMENT DEPLOYMENT

MOUNT AUGMENTATION @ 155'

MONOPOLE TOWER

MARLBOROUGH, CT
HARTFORD COUNTY



REVISIONS:			
0	04/15/18	ISSUE FOR CONSTRUCTION	JAD

CHECKED BY: DWG

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO THE CLIENT NAMES IS STRICTLY PROHIBITED.



SITE INFORMATION:
MOUNT AUGMENTATION

CT33XC577

MARLBOROUGH, CT

LATITUDE: 41.615961
LONGITUDE: -72.436427

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

S1

SITE INFORMATION	
STRUCTURE TYPE:	MONOPOLE
MOUNT TYPE:	PLATFORM
LATITUDE:	41.615961 (NAD 83)
LONGITUDE:	-72.436427 (NAD 83)
CITY, STATE:	MARLBOROUGH, CT
COUNTY:	HARTFORD
SBA SITE:	CT13062-A Marlborough
COORDINATES ARE FOR NAVIGATIONAL PURPOSES ONLY, NOT TO 1A ACCURACY.	

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE LABOR & MATERIALS FOR THE DISCREPANCIES.

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

BUILDING CODE AND DESIGN STANDARD: 2012 IBC / TIA-222-G / 2016 CT

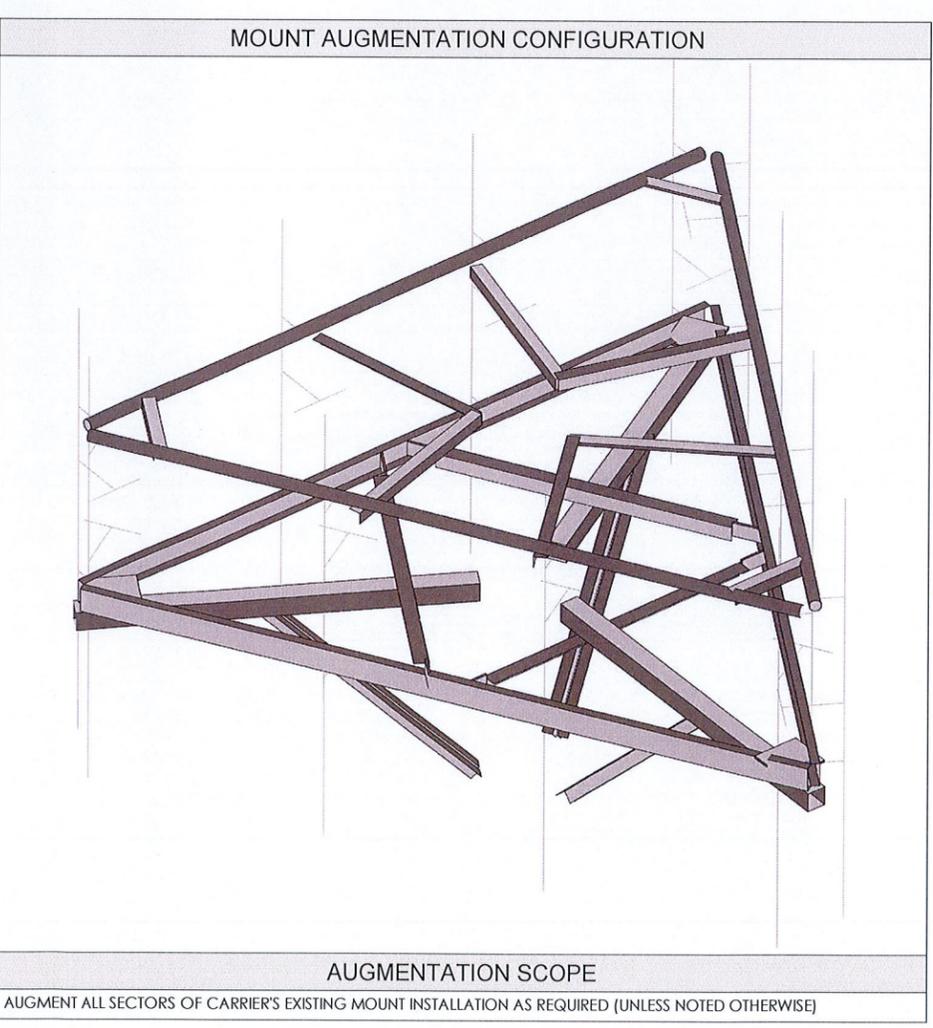
RIGGING PLAN REQUIRED

THIS SET OF PLANS DOES "NOT" CONSTITUTE A RIGGING PLAN.

A PROPER RIGGING PLAN SHALL BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER PRIOR TO PROCEEDING ON ANY AUGMENTATIONS SHOWN HEREIN.

- | GENERAL DESIGN NOTES | |
|----------------------|--|
| 1. | THIS PLAN HAS BEEN DESIGNED UTILIZING THE CORRESPONDING MOUNT STRUCTURAL ANALYSIS. |
| 2. | THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222, ASCE 7, AWS, ACI, AND AISC. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE-MENTIONED CODES AND THE CONTRACT SPECIFICATIONS. |
| 3. | ALL STRUCTURE INFORMATION OBTAINED IN THE FORM OF FROM INFORMATION PROVIDED BY THE CLIENT. CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH THE REFERENCED DOCUMENTS. CONTRACTOR SHALL ISSUE A REQUEST FOR INFORMATION (RFI) IN THE EVENT ANY DISCREPANCIES ARE DISCOVERED BETWEEN THESE DOCUMENTS AND THE AS-BUILT CONDITIONS IN THE FIELD IN A SITE VISIT THAT SHALL BE PERFORMED PRIOR TO STARTING FABRICATION OR CONSTRUCTION. |
| 4. | ALL MATERIALS UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. |
| 5. | ALL PRODUCT OR MATERIAL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER SUITABLE TO DETERMINE IF SUBSTITUTE IS ACCEPTABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED. |
| 6. | PROVIDE STRUCTURAL STEEL SHOP DRAWING(S) TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION (ONLY IF SPECIFICALLY REQUESTED BY ENGINEER). |
| 7. | UNLESS NOTED OTHERWISE, ALL NEW MEMBERS AND REINFORCING SHALL MAINTAIN THE EXISTING MEMBER WORK LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE. |
| 8. | ANY CONTRACTOR-CAUSED DAMAGE TO PROPERTY OF THE LAND OWNER, PROPERTY OF THE STRUCTURE OWNER, PROPERTY OF THE CUSTOMER, SITE FENCING OR GATES, ANY AND ALL UTILITY AND/OR SERVICE LINES, SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE REPAIRED OR REPLACED AT THE SOLE COST OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED BY THE CONTRACTOR OR SUBCONTRACTOR AS APPROVED BY THE ENGINEER OF RECORD AND LAND OWNER. DAMAGE TO EQUIPMENT OR PROPERTY OF ANY KIND BELONGING TO OTHER COMPANIES (BESIDES THE INDICATED CUSTOMER) SHALL BE ADDRESSED BY THE CONTRACTOR WITH THE COMPANIES THAT OWN THE DAMAGED ITEMS. |

SHEET INDEX	
SHEET	DESCRIPTION
S-1	TITLE SHEET
S-2	NOTES AND SPECIFICATIONS
S-3	AUGMENTATIONS, SECTIONS & DETAILS



CONTRACTOR NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, ALL CONTRACTORS AND SUBCONTRACTORS MUST ACKNOWLEDGE IN WRITING TO TOWER OWNER THAT THEY HAVE OBTAINED, UNDERSTAND, AND WILL FOLLOW STRUCTURE OWNER STANDARDS OF PRACTICE, CONSTRUCTION GUIDELINES, ALL SITE AND STRUCTURE/TOWER SAFETY PROCEDURES, ALL PRODUCT LIMITATIONS AND INSTALLATION PROCEDURES USED ON SITE, AND PROPOSED AUGMENTATIONS DESCRIBED. RECEIPT OF ACKNOWLEDGEMENT MUST OCCUR PRIOR TO BEGINNING CONSTRUCTION OR CLIMBING. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THIS DOCUMENTATION FOR STRUCTURE OWNER ON COMPANY LETTERHEAD AND THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN THIS DOCUMENTATION FROM ANY SUBCONTRACTORS (ON SUBCONTRACTOR LETTERHEAD) AND DELIVER IT TO THE STRUCTURE OWNER.
2. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE AUGMENTATIONS, THE ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY TO EVALUATE THE SIGNIFICANCE OF THE DEVIATION.
3. THE CONTRACTOR SHALL SOLICIT AND HIRE THE SERVICES OF A QUALIFIED AUGMENTATION INSPECTOR PRIOR TO BEGINNING CONSTRUCTION. THE AUGMENTATION INSPECTOR MAY BE AN EMPLOYEE OF THE CONTRACTOR'S FIRM, HOWEVER THE INSPECTOR'S ONLY DUTIES SHALL BE INSPECTION, TESTING, AND REPORT CREATION AS REQUIRED ON THE "AUGMENTATION INSPECTION NOTES" SHEET.
4. THE CONTRACTOR SHALL NOTIFY THE TOWER OWNER OF THE PLANNED CONSTRUCTION & INSPECTION SCHEDULE, AS WELL AS ANY CHANGES TO THE SCHEDULE, WITHIN TWO BUSINESS DAYS OF THE COMPLETION OF THE SCHEDULE OR SCHEDULE REVISION BOTH PRIOR TO BEGINNING CONSTRUCTION AND DURING CONSTRUCTION AS THE SCHEDULE CHANGES. THE STRUCTURE OWNER WHEN THE WORK HAS BEEN COMPLETED WITHIN 2 BUSINESS DAYS OF THE COMPLETION OF THE WORK AND ASSOCIATED AUGMENTATION INSPECTIONS & TESTING (WHEN APPLICABLE).
5. IT IS ASSUMED THAT ANY STRUCTURAL AUGMENTATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE. THIS INCLUDES PROVIDING THE NECESSARY CERTIFICATIONS TO THE STRUCTURE OWNER AND ENGINEER INCLUDING BUT NOT LIMITED TO TOWER CLIMBER AND RESCUE CLIMBER CERTIFICATIONS, ET CETERA.
6. THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
7. CONTRACTOR SHALL WORK WITHIN THE LIMITS OF THE STRUCTURE OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

1. THE STRUCTURAL DRAWINGS ILLUSTRATE THE COMPLETED STRUCTURE WITH ALL ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED AND BRACED.
2. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING AS REQUIRED DURING CONSTRUCTION TO ENSURE STABILITY. DESIGN AND SEQUENCING OF CONSTRUCTION SHORING AND BRACING IS OUTSIDE THE SCOPE OF THIS WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, GUYING, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.

BOLTS

1. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED GALVANIZED HIGH STRENGTH ASTM A325 OR A490 BOLTS WITH THREADS EXCLUDED FROM SHEAR PLANE.
2. FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES, WITH BOLT HEADS FACING DOWN WHERE APPLICABLE.
3. ALL BOLTS AT EVERY CONNECTION SHALL BE INSTALLED SNUG-TIGHT UNTIL THE SECTION IS FULLY COMPACTED AND ALL PLIES ARE JOINED, AND THEN TIGHTENED FURTHER BY AISC - "TURN OF THE NUT" METHOD. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.
4. BOLT LENGTHS UP TO AND INCLUDING 4 DIAMETERS SHALL BE TENSIONED 1/3 TURN BEYOND SNUG-TIGHT. BOLT LENGTHS OVER 4 DIAMETERS SHALL BE 1/2 TURNS BEYOND SNUG-TIGHT.
5. ALL BOLTED CONNECTIONS SHALL USE LOCK WASHERS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC STEEL CONSTRUCTION MANUAL AND SECTION 4 OF THE TIA CODE.
2. PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MINIMUM GRADES UNLESS OTHERWISE NOTED:
 - CHANNELS & ANGLES ASTM A36, (Fy = 36 KSI)
 - PLATES ASTM A36, (Fy = 36 KSI)
 - PIPES ASTM A53 GR.B, (Fy = 35 KSI)
 - HSS ROUND ASTM A500 GR.B, (Fy = 42 KSI)
 - HSS RECTANGULAR ASTM A500 GR.B, (Fy = 46 KSI)
 - STRUCTURAL BOLTS ASTM A325
 - U-BOLTS ASTM A307 GR.A
 - NUTS FOR BOLTS ASTM A563 (THREADING TO MATCH BOLT)
 - WASHERS FOR BOLTS ASTM F436
 - SEE TABLE 5-1 OF THE TIA CODE FOR ADDITIONAL SHAPES AND STANDARDS THAT ARE NOT LISTED ABOVE.
3. NON PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS PER THE TIA CODE:
 - THE CARBON EQUIVALENT OF STEEL SHALL NOT EXCEED 0.65 PER SECTION 5.4.2 OF THE TIA CODE
 - ELONGATION OF STEEL SHALL NOT BE LESS THAN 18%
 - TEST REPORTS SHALL BE IN ACCORDANCE WITH ASTM A6 OR A568
 - TOLERANCES SHALL BE IN ACCORDANCE WITH ASTM A6
4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH AND COLD GALVANIZED.
5. ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 STRUCTURAL WELDING CODE. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY. WELDING ELECTRODES SHALL BE E70XX.
6. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECS AND CODES, LATEST EDITION.
7. UPON REQUEST, THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ENGINEER OF RECORD TO REVIEW FOR COMPLIANCE WITH DESIGN INTENT PRIOR TO THE START OF FABRICATION AND/OR ERECTION.
8. TORCH-CUTTING OF ANY KIND SHALL NOT BE PERMITTED.
9. ALL BOLT HOLES SHALL BE STANDARD SIZE BOLT HOLES PER AISC 360, UNLESS OTHERWISE NOTED. ALL HOLES SHALL BE SHOP DRILLED OR SUB-PUNCHED AND REAMED. BURNING OF HOLES IS NOT PERMITTED. WHERE SLOTTED OR OVERSIZE HOLES ARE SPECIFIED ON THE DRAWINGS, EXTRA-THICK ASTM F436 PLATE WASHERS SHALL BE USED (3/16" MINIMUM THICKNESS) WITH A DIAMETER SUITABLE TO COVER THE EXTENTS OF THE SLOT OR HOLE. BOLTS SHALL BE HEAVY-HEX WHERE AVAILABLE IN THE SIZE AND GRADE SPECIFIED, OTHERWISE BOLTS SHALL BE HEX HEAD CAP SCREWS.
10. ALL STEEL HARDWARE, INCLUDING ADHESIVE OR EMBEDDED ANCHOR BOLTS AND THEIR ACCESSORIES, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 (EXCEPT BOLTS SMALLER THAN 1/2" SHALL CONFORM TO FE/ZN 3 AT PER ASTM F1941 WHERE HOT-DIP GALVANIZED BOLTS ARE NOT AVAILABLE). ALL STEEL MEMBERS, INCLUDING WELDMENTS, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. REPAIR DAMAGE TO GALVANIZED COATINGS USING ASTM A780 PROCEDURES WITH A ZINC RICH PAINT (SUCH AS ZINC GALVALITE) FOR GALVANIZING DAMAGED BY HANDLING, TRANSPORTING, CUTTING, WELDING, OR BOLTING. DO NOT HEAT SURFACES TO WHICH REPAIR PAINT HAS BEEN APPLIED. CALL OUT HOLES REQUIRED FOR HOT-DIP GALVANIZING ON SHOP DRAWINGS.
11. MEMBERS SHALL BE SHOP-FABRICATED AND WELDED TO THE EXTENT PRACTICABLE IN ORDER TO REDUCE FIELD INSTALLATION COSTS.

CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	CONSTRUCTION INSPECTIONS
	THIRD-PARTY CERTIFIED WELD INSPECTION (INCLUDING IBC SPECIAL INSPECTIONS)
√	GALVANIZING REPAIR MATERIAL PREPARATION, INSPECTION, & PAINT APPLICATION
√	PRIME CONTRACTOR'S AS-BUILT DOCUMENTS (SIGNED & DATED)
√	FABRICATION INSPECTION
√	MATERIAL TEST REPORT(S) / MILL CERTIFICATE(S)
√	PACKING SLIPS FOR STRUCTURAL MATERIALS

NOMINAL HOLE DIMENSIONS

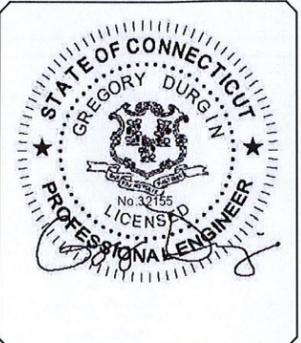
BOLT Ø	STANDARD HOLE Ø
1/2"Ø	9/16"Ø
5/8"Ø	11/16"Ø
3/4"Ø	13/16"Ø
7/8"Ø	15/16"Ø
1"Ø	1 1/16"Ø



REVISIONS:			
NO.	DATE	DESCRIPTION	BY
0	04/15/18	ISSUE FOR CONSTRUCTION	JAD

CHECKED BY: DWG

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SITE INFORMATION:
 MOUNT AUGMENTATION
 CT33XC577
 MARLBOROUGH, CT
 LATITUDE: 41.615961
 LONGITUDE: -72.436427

SHEET TITLE:
 NOTES AND SPECIFICATIONS

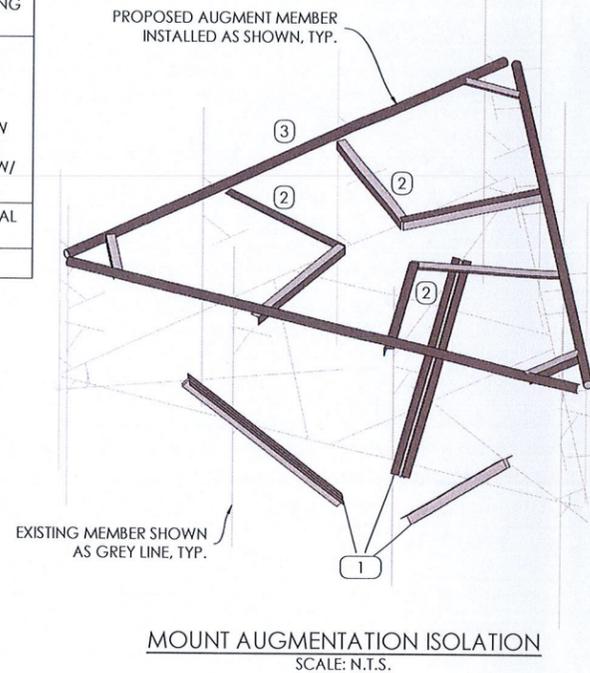
SHEET NUMBER:
 S2

NEW MOUNT AUGMENTATIONS

1. PLATFORM REINFORCEMENT KIT
SITEPRO1 PART# PRK-1245L. ATTACH PRK COLLAR TO MONOPOLE SHAFT ~3.5' BELOW EXISTING STANDOFF CENTERLINE AND DOUBLE ANGLE KICKER BRACKET TO STANDOFF MEMBER ~3.5' OUT FROM THE STANDOFF-TO-COLLAR INTERFACE AS SHOWN PER MANUF. SPECS. [(1) KIT TOTAL]
2. HANDRAIL COMPONENTS - V-BRACE KIT
SITEPRO1 PART# PRK-SFS-H-L. ATTACH COLLAR MOUNT TO MONOPOLE SHAFT ~3.5' ABOVE EXISTING STANDOFF CENTERLINE. NOTE: IF THE PRK-SFS-H-L KIT IS NOT AVAILABLE, PROVIDE (6) TOTAL $L\frac{1}{2} \times 2\frac{1}{2} \times \frac{3}{16} \times 8'$ LONG REPLACEMENT ANGLES, FIELD-CUT AND DRILL TO SUIT. [(1) KIT TOTAL] ROTATE AND ORIENT SFS ANGLES AS GRAPHICALLY DISPLAYED IN ORDER TO MAINTAIN CLIMBING FACILITY PATHWAY THROUGH MOUNT.
3. HANDRAIL KIT COMPONENTS
SITEPRO1 PART# HRK12-U OR HRK14-U. ATTACH TO MOUNT PIPES ~3.5' ABOVE EXISTING STANDOFF CENTERLINE. VERIFY MOUNT FACE WIDTH IN FIELD PRIOR TO ORDERING. [(1) KIT TOTAL]
 - PIPE2.0STD MOUNT PIPES, [(12) TOTAL] TO NEW HANDRAIL. ATTACH ALL MOUNT PIPES TO NEW TOP HANDRAIL USING KIT-PROVIDED CROSS-OVER PLATES.
 - $1/2"$ Ø OR $5/8"$ Ø U-BOLTS, [(24) TOTAL]. ATTACH ALL MOUNT PIPES TO EXISTING BOTTOM RAIL W/ [(2) U-BOLTS EACH SIMILAR TO EXISTING.
4. • PANEL ANTENNAS TO BE INSTALLED IN POSITIONS 2 AND 3. RRH UNITS TO BE INSTALLED ON DUAL SWIVEL BRACKETS BEHIND PANEL ANTENNAS IN POSITIONS 2 AND 3.
AUGMENTATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT.

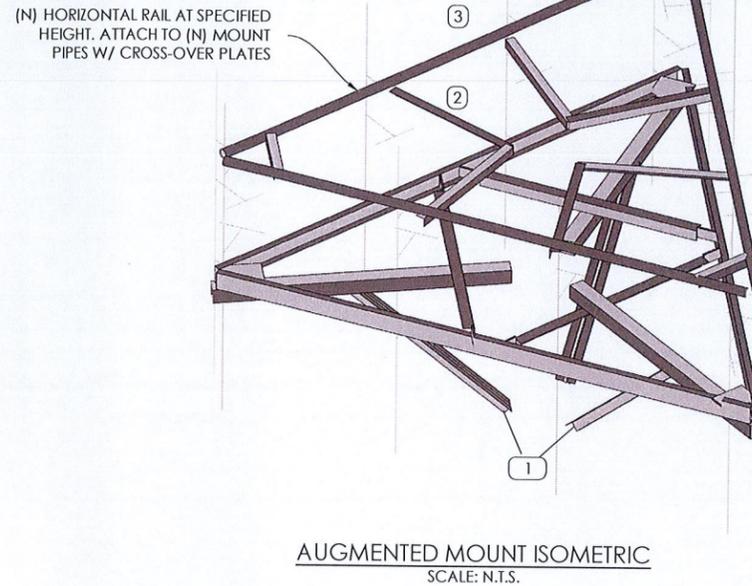


PLATFORM @ 155' AUGMENTATION



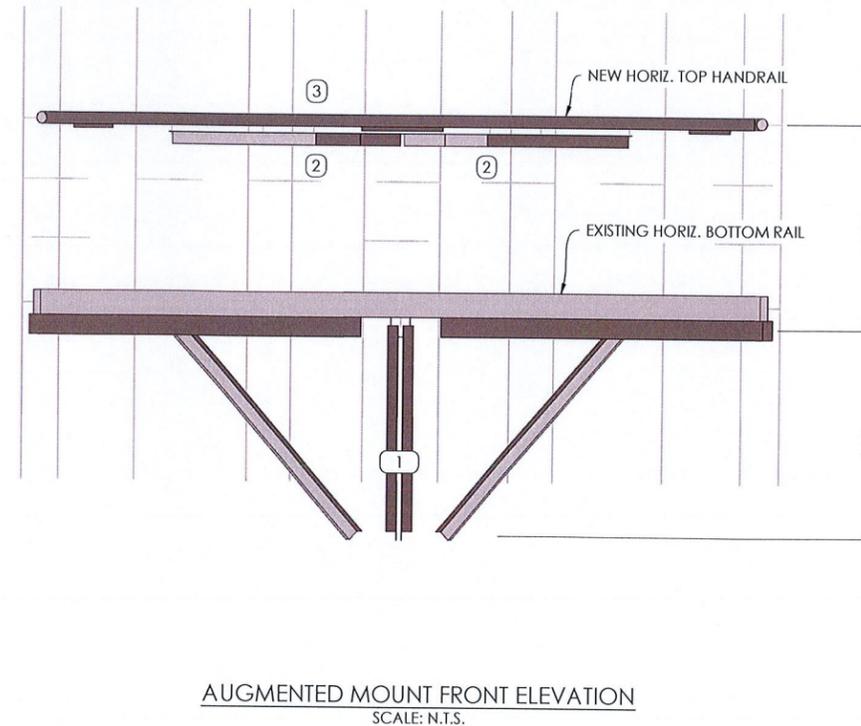
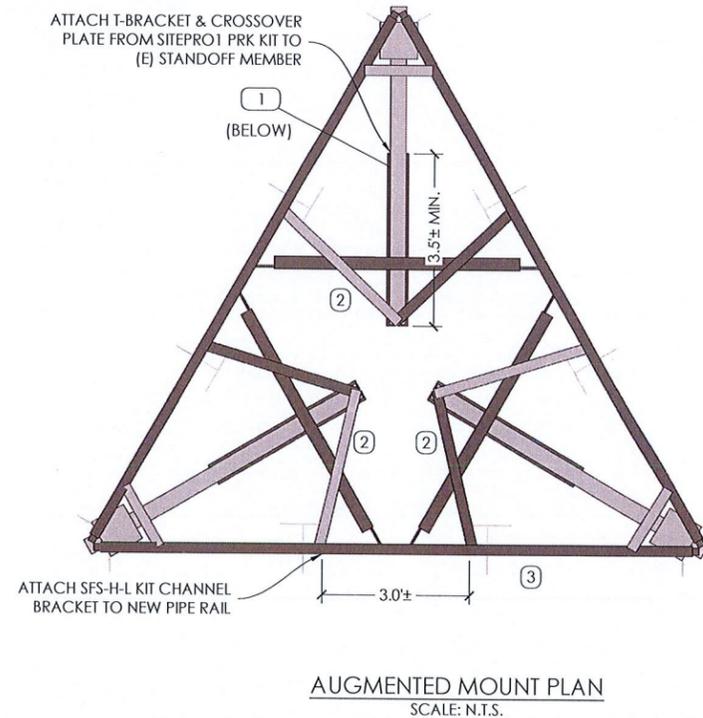
CONSTRUCTION NOTES

1. SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH.
2. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHOULD FIELD-VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
3. CONTRACTOR TO COORDINATE THE TEMPORARY REMOVAL/RELOCATION/REPLACEMENT OF ELEMENTS (E.G. COAX, CLIPS, TMAS, ETC.) CONNECTED TO, OR IN THE DIRECT PATH, OF NEW AUGMENTATION MEMBERS.



INSTALLATION NOTES

1. AUGMENT MEMBER(S) MAY NEED TO BE FIELD-CUT TO LENGTH TO ACCOMMODATE THIS INSTALLATION. CONTRACTOR TO CUT AND DRILL TO SUIT AS REQUIRED AND APPLY (2) COATS OF COLD-GALV. COMPOUND TO CUT MEMBER ENDS.
2. CONTRACTOR TO CHECK ALL EXISTING MEMBER CONNECTION BOLTS, PARTICULARLY STANDOFF TO TOWER BOLTS, FOR PROPER INSTALLATION AND TIGHTNESS.
3. COORDINATE PLACEMENT OF NEW AUGMENT MEMBERS WITH EXISTING TOWER AND CLIMBING FACILITY ELEMENTS (E.G. STEP PEGS, COAX PORTS, ETC.)
4. REFER TO CONSTRUCTION DRAWINGS (BY OTHERS) AND MOUNT STRUCTURAL ANALYSIS FOR APPROVED INSTALLATION LOCATIONS AND QUANTITIES OF APPURTENANCES.



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REVISIONS:

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MARLBOROUGH, CT

LATITUDE: 41.615961
LONGITUDE: -72.436427

SHEET TITLE:
**AUGMENTATIONS,
SECTIONS &
DETAILS**

SHEET NUMBER:
S3