

ASR Registration Search

Registration 1037657 [Map Registration](#)**Exhibit 13.1****Copy of Antenna Structure Registration****Registration Detail**

Reg Number	1037657	Status	Constructed
File Number	A0690180	Constructed	09/09/2003
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

Location (in NAD83 Coordinates)

Lat/Long	26-37-52.0 N 081-51-39.7 W	Address	2549 DORA ST.
City, State	FORT MYERS , FL		
Zip	33901	County	LEE
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
4.3	71.6
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
75.9	67.5

Painting and Lighting Specifications

FAA Chapters 4, 8, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2010-ASO-1793-OE	FAA Issue Date	07/06/2010
-----------	------------------	----------------	------------

Owner & Contact Information

FRN	0006156111	Owner Entity Type
-----	------------	----------------------

Owner

Pinnacle Towers LLC
 Attention To: Regulatory Department
 2000 Corporate Drive
 Canonsburg , PA 15317

P: (724)416-2000
 F:
 E: Regulatory.Department@CrownCastle.com

Contact

Verre , Christine A
 2000 Corporate Drive
 Canonsburg , PA 15317

P: (336)643-2524
 F:
 E: Christine.Verre@CrownCastle.com

Last Action Status

Status	Constructed	Received	07/07/2010
Purpose	Notification	Entered	07/07/2010

Exhibit 13.1**Copy of Antenna Structure Registration**

Mode Interactive

Related Applications

07/07/2010 A0690179 - Modification (MD)
07/07/2010 A0690180 - Notification (NT)
01/30/2007 A0539237 - Admin Update (AU)

Related applications (9)

.

Comments**Comments**

None

.

History**Date****Event**

07/08/2010 Registration Printed
07/07/2010 ASR Application receipt email sent: Tower email
07/07/2010 Construction Notification Received

All History (15)

.

Automated Letters

07/08/2010 Authorization, Reference
01/31/2007 Authorization, Reference 550468
04/19/2004 Authorization, Reference 327942

All letters (5)

.

CLOSE WINDOW

Exhibit 13.2

Vertical Plan of Antenna System

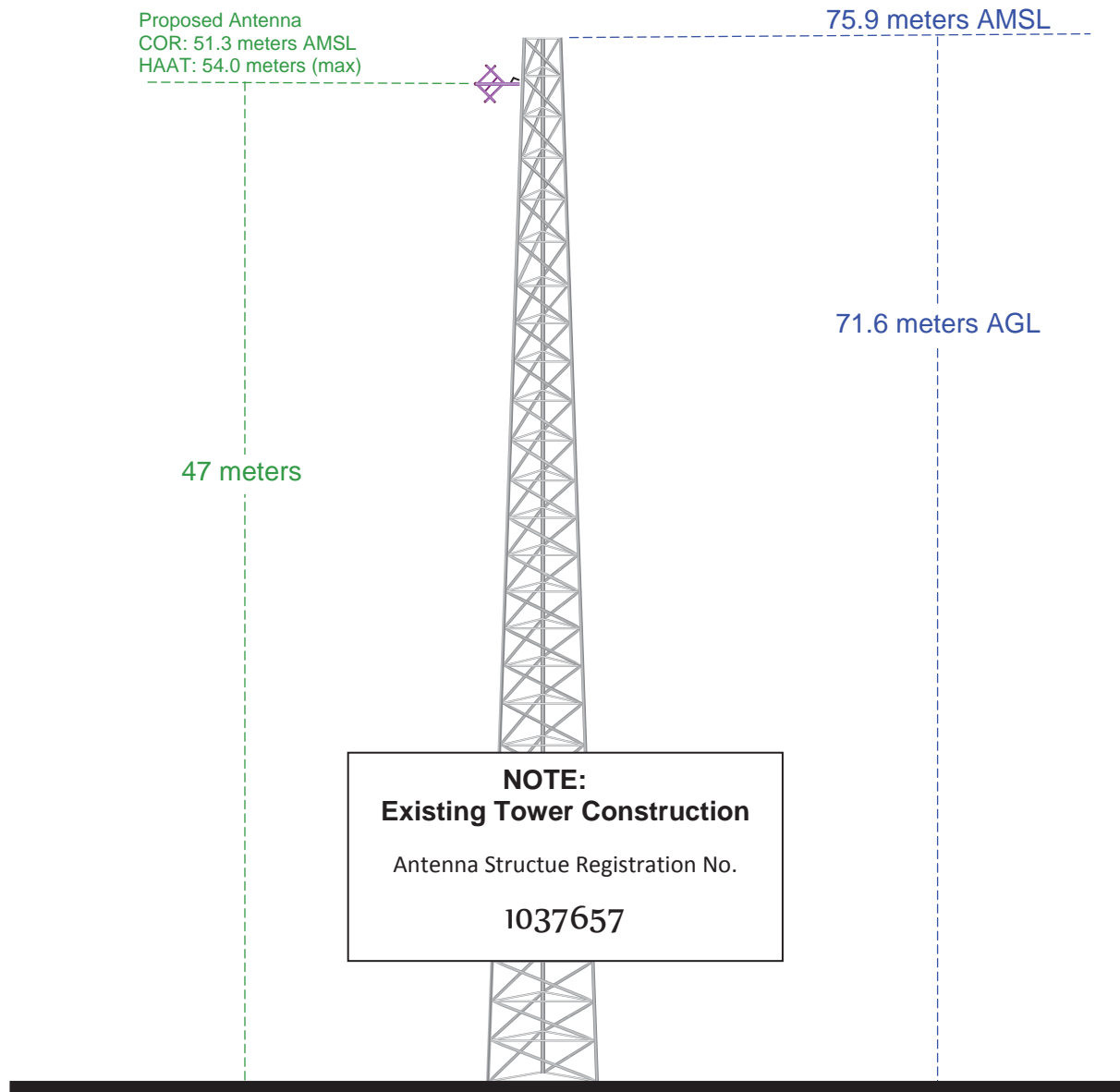
The site is located at 2549 Dora Street,
the city of Fort Myers, Lee County, FL.

Site Location (NAD 27)

NL: 26° 37' 51"

WL: 81° 51' 40"

(26-37-52.0 NL; 81-51-39.7 WL (NAD1983))



Ground Elevation = 4.3 m AMSL

Drawing is not to Scale

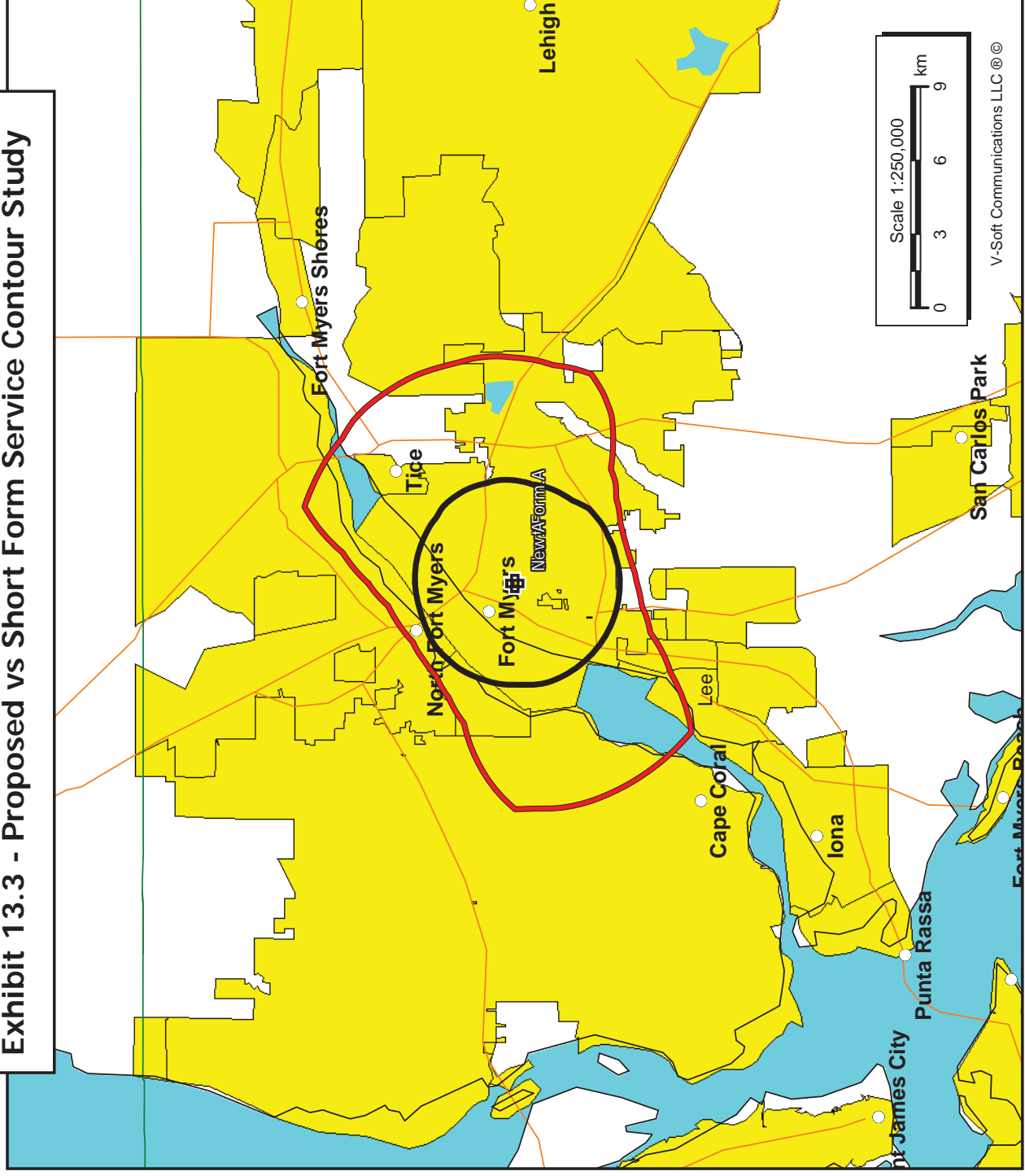
MUNN-REESE, INC.

Broadcast Engineering Consultants
Coldwater, MI 49036

Exhibit 13.3 - Proposed vs Short Form Service Contour Study

Short Form.A
 Fort Myers, FL
 BNPFT20030314CFM
 Latitude: 26-37-51 N
 Longitude: 081-51-39 W
 ERP: 0.02 kW
 Channel: 284
 Frequency: 104.7 MHz
 AMSL Height: 39.0 m
 Elevation: 4.0 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

New.A
 Fort Myers, FL
 Latitude: 26-37-51 N
 Longitude: 081-51-40 W
 ERP: 0.25 kW
 Channel: 284
 Frequency: 104.7 MHz
 AMSL Height: 51.0 m
 Elevation: 0.0 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None
 2010 Census Data:
 60 dBu F(50:50) Contour
 Total Population: 102,501
 Total Area: 190 sq. km



WOLZ
Fort Myers, FL
BMLH20100128AAF
Latitude: 26-30-18 N
Longitude: 081-51-14 W
ERP: 79.00 kW
Channel: 237
Frequency: 95.3 MHz
AMSL Height: 146.0 m
Elevation: 3.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

New.A
Fort Myers, FL
Latitude: 26-37-51 N
Longitude: 081-51-40 W
ERP: 0.25 kW
Channel: 284
Frequency: 104.7 MHz
AMSL Height: 51.0 m
Elevation: 0.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

Exhibit 13.4 - Primary vs Proposed Service Contour Study

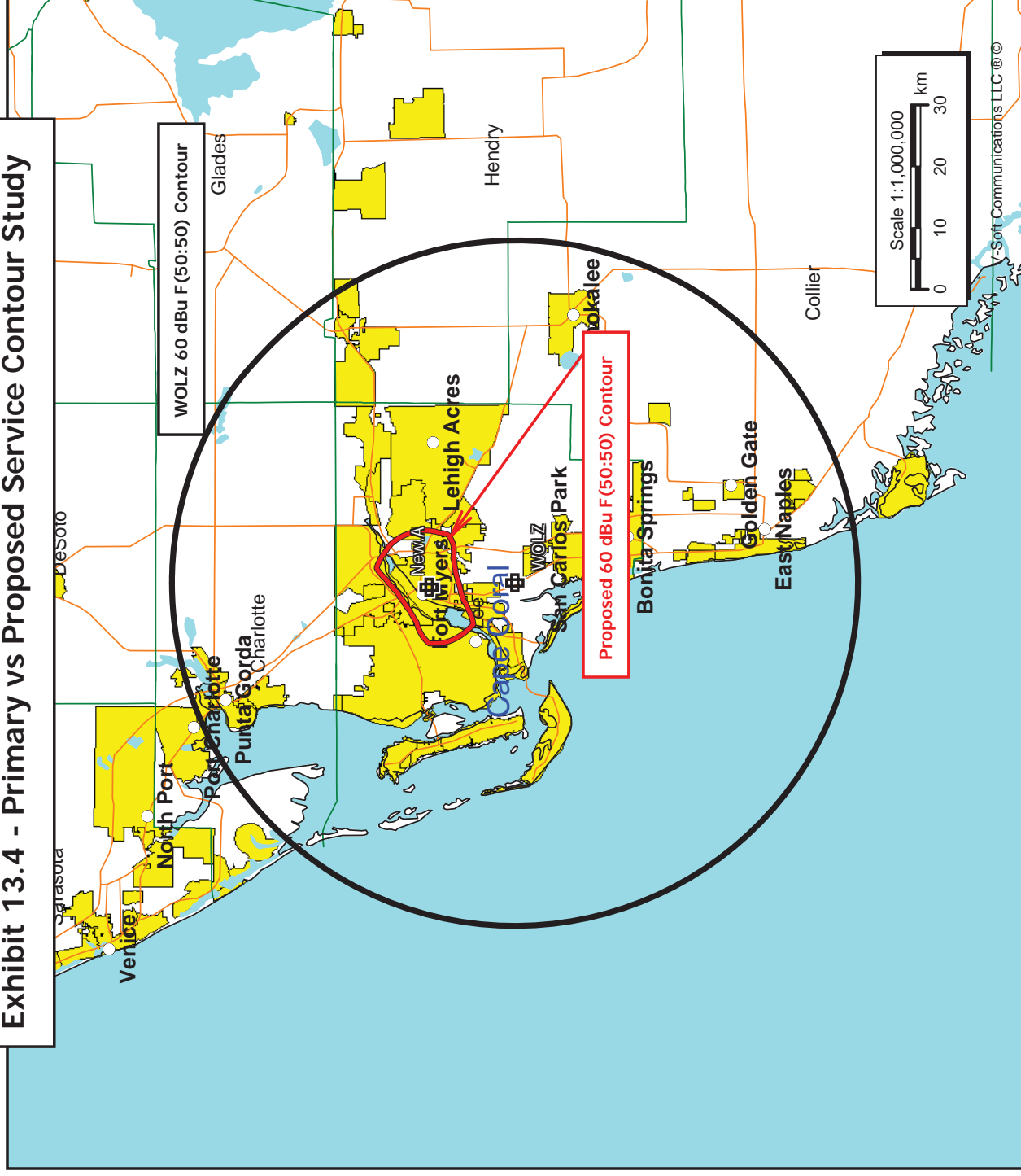


Exhibit 13.5 - Tabulation of Allocation Study

Munn-Reese, Inc.
Coldwater, MI 49036

REFERENCE 26 37 51.0 N. 81 51 40.0 W.		CH# 284D - 104.7 MHz, Pwr= 0.25 kW DA, HAAT= 47.6 M, COR= 51 M		University Of Northwestern-St. Paul Average Protected F(50-50)= 9.02 km Standard Directional		DISPLAY DATES DATA 08-20-13 SEARCH 08-21-13				
CH CITY	CALL	TYPE STATE	ANT AZI ---	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
284C2 Naples	WSGL	LIC NC FL	166.0 346.1	57.78 BLH20000105AAP	26 07 35.0 81 43 17.0	20.000 132	113.9 132	41.7 Renda Broadcasting Corpora	-60.9*<	0.8
284D Fort Myers	1549250	APP _C FL	90.0 270.0	0.02 BNPFT20030314CFM	26 37 51.0 81 51 39.0	0.020 39	13.2 39	4.1 University Of Northwestern	-22.3*	-34.5*
285A Solana	WCVU	LIC NCX FL	327.3 147.2	34.76 BLH20120525AAE	26 53 37.5 82 03 02.7	6.000 97	42.4 98	27.5 Citicasters Licenses, Inc.	-12.5*<	0.6
284C1 Tampa	WRBQ-FM	LIC NC FL	339.9 159.6	154.15 BLH20100122AAR	27 55 53.8 82 24 04.6	100.000 174	159.2 181	61.8 Cbs Radio Stations Inc.	-10.1*<	76.3
287A Nocatee	WZSP	LIC ZCN FL	351.9 171.9	62.07 BLH19980901KA	27 11 01.0 81 56 57.0	4.100 122	1.6 131	18.9 Heartland Broadcasting Cor	55.1	42.7
286D Naples	W286AK	LIC _C FL	166.0 346.1	57.84 BLFT20130207ABE	26 07 33.0 81 43 17.0	0.099 138	0.7 138	12.0 Wrxc License Lp	52.4	45.6
284D Venice	1562124	APP _C FL	313.3 133.1	73.11 BNPFT20030312AWE	27 04 51.0 82 23 55.0	0.019 75	19.5 75	5.9 Calvary Chapel Church, Inc	48.7	51.4
Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM Contour distances are on direct line to and from reference station. Reference zone= East Zone, Co to 3rd adjacent. All separation margins (if shown) include rounding Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X) *"affixed to 'IN' or 'OUT' values = site inside protected contour. < = Contour Overlap Reference station has protected zone issue:										

Blue Highlighted Text denotes Auction 83 application facility to be modified by this Form 349 Long Form filing. The facility need not be protected.

Green Highlighted Text denotes supplemental contour protection studies towards select facilities as included in Exhibit 13.6(a) - 13.6(b).

University Of Northwestern-St. Paul

Protection to WSGL(FM) - Naples, FL

FMCommander Single Allocation Study - 08-22-2013 - NGDC 30 SEC
 1549250's Overlaps (In= -60.89 km, Out= 0.83 km)

1549250 CH 284 D DA
 Lat= 26 37 51.0, Lng= 81 51 40.0
 0.25 kW 47.6 M HAAT, 51 M COR
 Prot.= 60 dBu, Intef.= 40 dBu

WSGL CH 284 C2 73.215 N BLH20000105AAP
 Lat= 26 07 35.0, Lng= 81 43 17.0
 20.0 kW 132 M HAAT, 132 M COR
 Prot.= 60 dBu, Intef.= 40 dBu

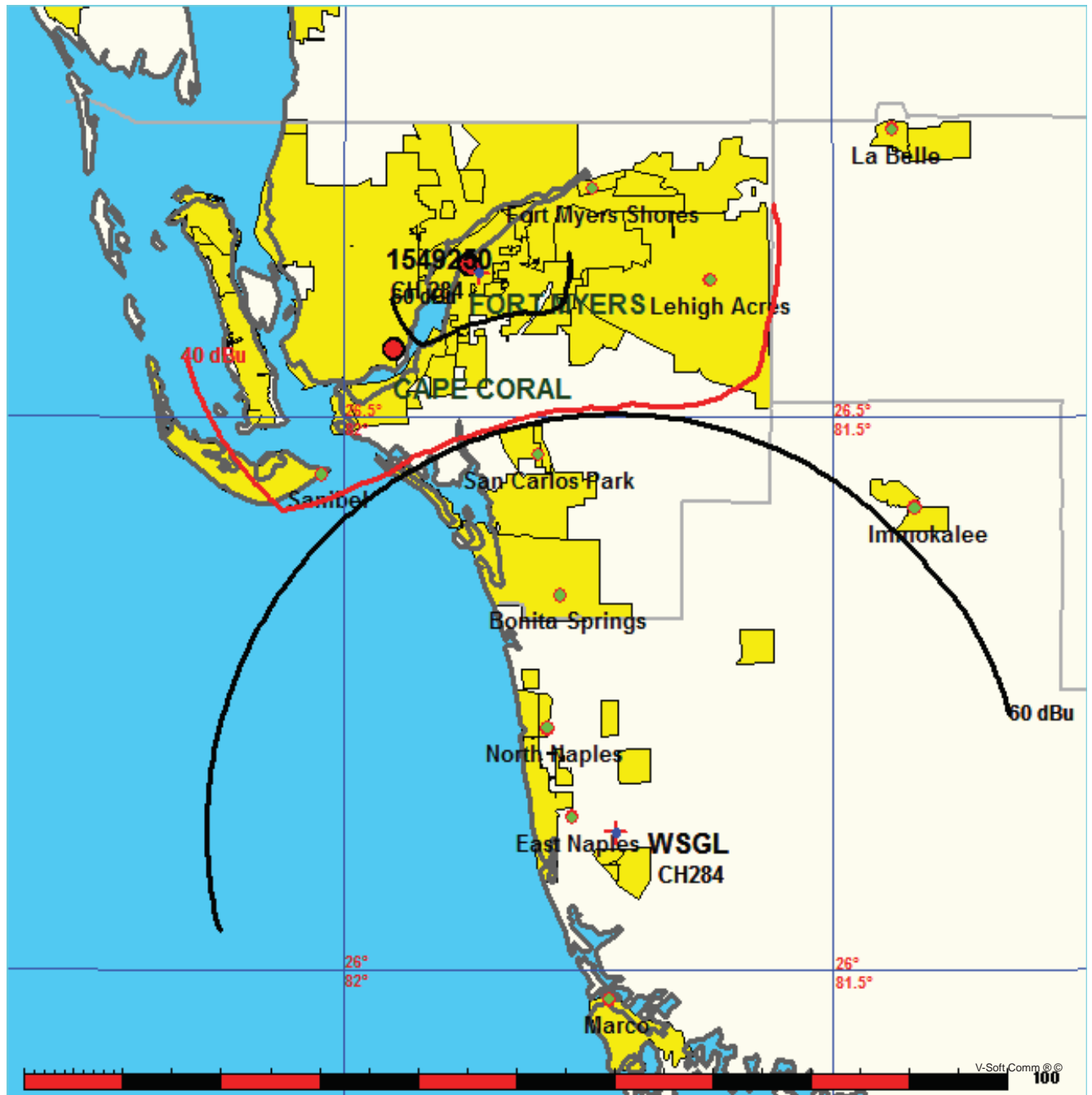


Exhibit 13.6(a) - Protection to WSGL(FM) - Naples, FL

08-22-2013

Terrain Data: NGDC 30 SEC

FMOver Analysis

1549250

WSGL BLH20000105AAP

Channel = 284D
Max ERP = 0.25 kW
RCAMSL = 51 M
N. Lat. 26 37 51.0
W. Lng. 81 51 40.0
Protected
60 dBu

Channel = 284C2
Max ERP = 20 kW
RCAMSL = 132 M
N. Lat. 26 07 35.0
W. Lng. 81 43 17.0
Interfering
40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
121.0	000.2500	0047.7	009.0	353.1	020.0000	0132.0	051.8	58.08*	62.10
122.0	000.2500	0047.7	009.0	353.0	020.0000	0132.0	051.7	58.13*	62.22
123.0	000.2500	0047.7	009.0	352.9	020.0000	0132.0	051.5	58.18*	62.35
124.0	000.2500	0047.7	009.0	352.8	020.0000	0132.0	051.4	58.23*	62.47
125.0	000.2500	0047.9	009.0	352.7	020.0000	0132.0	051.3	58.27*	62.60
126.0	000.2500	0048.0	009.1	352.6	020.0000	0132.0	051.2	58.33*	62.73
127.0	000.2500	0048.3	009.1	352.5	020.0000	0132.0	051.0	58.38*	62.86
128.0	000.2500	0048.6	009.1	352.4	020.0000	0132.0	050.9	58.43*	62.99
129.0	000.2500	0048.9	009.2	352.3	020.0000	0132.0	050.8	58.48*	63.13
130.0	000.2500	0049.3	009.2	352.2	020.0000	0132.0	050.6	58.54*	63.27
131.0	000.2500	0049.7	009.2	352.1	020.0000	0132.0	050.5	58.59*	63.41
132.0	000.2500	0050.1	009.3	352.0	020.0000	0132.0	050.3	58.65*	63.55
133.0	000.2500	0050.5	009.3	351.9	020.0000	0132.0	050.2	58.70*	63.68
134.0	000.2500	0050.7	009.3	351.7	020.0000	0132.0	050.1	58.74*	63.80
135.0	000.2500	0050.8	009.4	351.6	020.0000	0132.0	050.0	58.79*	63.91
136.0	000.2500	0050.9	009.4	351.4	020.0000	0132.0	049.9	58.83*	64.01
137.0	000.2500	0050.8	009.4	351.3	020.0000	0132.0	049.8	58.86*	64.10
138.0	000.2500	0050.7	009.3	351.1	020.0000	0132.0	049.7	58.89*	64.18
139.0	000.2500	0050.6	009.3	351.0	020.0000	0132.0	049.6	58.92*	64.26
140.0	000.2500	0050.7	009.3	350.8	020.0000	0132.0	049.5	58.96*	64.35
141.0	000.2500	0050.9	009.4	350.7	020.0000	0132.0	049.4	59.00*	64.45
142.0	000.2500	0051.0	009.4	350.5	020.0000	0132.0	049.4	59.03*	64.54
143.0	000.2500	0051.0	009.4	350.3	020.0000	0132.0	049.3	59.06*	64.62
144.0	000.2500	0050.9	009.4	350.2	020.0000	0132.0	049.2	59.09*	64.69
145.0	000.2500	0050.9	009.4	350.0	020.0000	0132.0	049.1	59.12*	64.75
146.0	000.2500	0050.9	009.4	349.8	020.0000	0132.0	049.1	59.14*	64.82
147.0	000.2500	0051.0	009.4	349.6	020.0000	0132.0	049.0	59.17*	64.89
148.0	000.2500	0050.9	009.4	349.5	020.0000	0132.0	048.9	59.19*	64.95
149.0	000.2500	0050.9	009.4	349.3	020.0000	0132.0	048.9	59.21*	65.00
150.0	000.2500	0050.7	009.3	349.1	020.0000	0132.0	048.8	59.23*	65.05
151.0	000.2500	0050.6	009.3	348.9	020.0000	0132.0	048.8	59.24*	65.08
152.0	000.2500	0050.5	009.3	348.7	020.0000	0132.0	048.8	59.26*	65.12
153.0	000.2500	0050.4	009.3	348.5	020.0000	0132.0	048.7	59.27*	65.15
154.0	000.2500	0050.3	009.3	348.4	020.0000	0132.0	048.7	59.29*	65.19
155.0	000.2500	0050.3	009.3	348.2	020.0000	0132.0	048.7	59.30*	65.23
156.0	000.2500	0050.4	009.3	348.0	020.0000	0132.0	048.6	59.32*	65.27

Exhibit 13.6(a) - Protection to WSGL(FM) - Naples, FL

FMOver Analysis

Page # 2

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
157.0	000.2500	0050.5	009.3	347.8	020.0000	0132.0	048.6	59.33* 65.32
158.0	000.2500	0050.6	009.3	347.6	020.0000	0132.0	048.5	59.35* 65.36
159.0	000.2500	0050.7	009.3	347.4	020.0000	0132.0	048.5	59.36* 65.39
160.0	000.2500	0050.7	009.3	347.2	020.0000	0132.0	048.5	59.37* 65.42
161.0	000.2500	0050.7	009.3	347.0	020.0000	0132.0	048.5	59.38* 65.43
162.0	000.2500	0050.6	009.3	346.8	020.0000	0132.0	048.5	59.38* 65.44
163.0	000.2500	0050.4	009.3	346.7	020.0000	0132.0	048.5	59.38* 65.43
164.0	000.2500	0050.4	009.3	346.5	020.0000	0132.0	048.5	59.38* 65.44
165.0	000.2500	0050.4	009.3	346.3	020.0000	0132.0	048.5	59.38* 65.44
166.0	000.2500	0050.4	009.3	346.1	020.0000	0132.0	048.4	59.38* 65.44
167.0	000.2500	0050.5	009.3	345.9	020.0000	0132.0	048.4	59.39* 65.45
168.0	000.2500	0050.5	009.3	345.7	020.0000	0132.0	048.4	59.39* 65.45
169.0	000.2500	0050.5	009.3	345.5	020.0000	0132.0	048.4	59.38* 65.45
170.0	000.2500	0050.7	009.3	345.3	020.0000	0132.0	048.4	59.39* 65.45
171.0	000.2500	0050.8	009.3	345.1	020.0000	0132.0	048.4	59.38* 65.44
172.0	000.2500	0050.9	009.4	344.9	020.0000	0132.0	048.5	59.38* 65.43
173.0	000.2500	0050.9	009.4	344.7	020.0000	0132.0	048.5	59.38* 65.42
174.0	000.2500	0051.0	009.4	344.5	020.0000	0132.0	048.5	59.37* 65.40
175.0	000.2500	0051.0	009.4	344.4	020.0000	0132.0	048.5	59.36* 65.37
176.0	000.2500	0051.0	009.4	344.2	020.0000	0132.0	048.6	59.34* 65.34
177.0	000.2500	0051.0	009.4	344.0	020.0000	0132.0	048.6	59.33* 65.31
178.0	000.2500	0051.0	009.4	343.8	020.0000	0132.0	048.6	59.32* 65.27
179.0	000.2500	0051.0	009.4	343.6	020.0000	0132.0	048.7	59.30* 65.23
180.0	000.2500	0051.0	009.4	343.4	020.0000	0132.0	048.7	59.28* 65.18
181.0	000.2500	0051.0	009.4	343.2	020.0000	0132.0	048.8	59.26* 65.13
182.0	000.2500	0051.0	009.4	343.1	020.0000	0132.0	048.8	59.24* 65.08
183.0	000.2500	0051.0	009.4	342.9	020.0000	0132.0	048.9	59.22* 65.03
184.0	000.2500	0051.0	009.4	342.7	020.0000	0132.0	048.9	59.20* 64.97
185.0	000.2500	0051.0	009.4	342.5	020.0000	0132.0	049.0	59.18* 64.91
186.0	000.2500	0051.0	009.4	342.3	020.0000	0132.0	049.0	59.15* 64.84
187.0	000.2500	0051.0	009.4	342.2	020.0000	0132.0	049.1	59.12* 64.78
188.0	000.2500	0051.0	009.4	342.0	020.0000	0132.0	049.2	59.10* 64.71
189.0	000.2500	0051.0	009.4	341.8	020.0000	0132.0	049.3	59.07* 64.63
190.0	000.2500	0051.0	009.4	341.7	020.0000	0132.0	049.3	59.04* 64.56
191.0	000.2500	0051.0	009.4	341.5	020.0000	0132.0	049.4	59.01* 64.48
192.0	000.2500	0051.0	009.4	341.3	020.0000	0132.0	049.5	58.98* 64.40
193.0	000.2500	0051.0	009.4	341.2	020.0000	0132.0	049.6	58.94* 64.31
194.0	000.2500	0051.0	009.4	341.0	020.0000	0132.0	049.7	58.91* 64.22
195.0	000.2500	0051.0	009.4	340.9	020.0000	0132.0	049.8	58.87* 64.13
196.0	000.2500	0051.0	009.4	340.7	020.0000	0132.0	049.9	58.84* 64.04
197.0	000.2500	0051.0	009.4	340.6	020.0000	0132.0	050.0	58.80* 63.94
198.0	000.2500	0051.0	009.4	340.4	020.0000	0132.0	050.0	58.76* 63.84
199.0	000.2500	0051.0	009.4	340.3	020.0000	0132.0	050.1	58.72* 63.74
200.0	000.2500	0051.0	009.4	340.1	020.0000	0132.0	050.3	58.68* 63.64
201.0	000.2500	0051.0	009.4	340.0	020.0000	0132.0	050.4	58.64* 63.53
202.0	000.2500	0051.0	009.4	339.8	020.0000	0132.0	050.5	58.60* 63.42
203.0	000.2500	0051.0	009.4	339.7	020.0000	0132.0	050.6	58.55* 63.31
204.0	000.2500	0051.0	009.4	339.6	020.0000	0132.0	050.7	58.51* 63.20
205.0	000.2500	0051.0	009.4	339.4	020.0000	0132.0	050.8	58.46* 63.08
206.0	000.2500	0051.0	009.4	339.3	020.0000	0132.0	050.9	58.42* 62.97
207.0	000.2500	0051.0	009.4	339.2	020.0000	0132.0	051.0	58.37* 62.85

Exhibit 13.6(a) - Protection to WSGL(FM) - Naples, FL

08-22-2013

Terrain Data: NGDC 30 SEC

FMOver Analysis

WSGL BLH20000105AAP

1549250

Channel = 284C2

Max ERP = 20 kW

RCAMSL = 132 M

N. Lat. 26 07 35.0

W. Lng. 81 43 17.0

Protected

60 dBu

Channel = 284D

Max ERP = 0.25 kW

RCAMSL = 51 M

N. Lat. 26 37 51.0

W. Lng. 81 51 40.0

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
301.0	020.0000	0132.0	041.7	212.3	000.1282	0051.0	040.8	33.21	
302.0	020.0000	0132.0	041.7	212.3	000.1288	0051.0	040.1	33.49	
303.0	020.0000	0132.0	041.7	212.3	000.1288	0051.0	039.4	33.76	
304.0	020.0000	0132.0	041.7	212.3	000.1285	0051.0	038.6	34.02	
305.0	020.0000	0132.0	041.7	212.3	000.1280	0051.0	037.9	34.28	
306.0	020.0000	0132.0	041.7	212.2	000.1272	0051.0	037.2	34.53	
307.0	020.0000	0132.0	041.7	212.1	000.1261	0051.0	036.4	34.78	
308.0	020.0000	0132.0	041.7	212.0	000.1247	0051.0	035.7	35.02	
309.0	020.0000	0132.0	041.7	211.9	000.1229	0051.0	035.0	35.25	
310.0	020.0000	0132.0	041.7	211.7	000.1209	0051.0	034.3	35.47	
311.0	020.0000	0132.0	041.7	211.5	000.1185	0051.0	033.6	35.68	
312.0	020.0000	0132.0	041.7	211.3	000.1157	0051.0	032.8	35.88	
313.0	020.0000	0132.0	041.7	211.1	000.1126	0051.0	032.1	36.07	
314.0	020.0000	0132.0	041.7	210.8	000.1091	0051.0	031.4	36.25	
315.0	020.0000	0132.0	041.7	210.4	000.1053	0051.0	030.7	36.43	
316.0	020.0000	0132.0	041.7	210.1	000.1011	0051.0	030.0	36.61	
317.0	020.0000	0132.0	041.7	209.7	000.0977	0051.0	029.3	36.85	
318.0	020.0000	0132.0	041.7	209.2	000.0945	0051.0	028.6	37.10	
319.0	020.0000	0132.0	041.7	208.8	000.0911	0051.0	027.9	37.34	
320.0	020.0000	0132.0	041.7	208.2	000.0873	0051.0	027.2	37.58	
321.0	020.0000	0132.0	041.7	207.6	000.0833	0051.0	026.6	37.81	
322.0	020.0000	0132.0	041.7	207.0	000.0790	0051.0	025.9	38.02	
323.0	020.0000	0132.0	041.7	206.3	000.0744	0051.0	025.2	38.22	
324.0	020.0000	0132.0	041.7	205.5	000.0696	0051.0	024.6	38.38	
325.0	020.0000	0132.0	041.7	204.6	000.0645	0051.0	024.0	38.52	
326.0	020.0000	0132.0	041.7	203.7	000.0592	0051.0	023.3	38.61	
327.0	020.0000	0132.0	041.7	202.7	000.0538	0051.0	022.7	38.65	
328.0	020.0000	0132.0	041.7	201.7	000.0481	0051.0	022.1	38.63	
329.0	020.0000	0132.0	041.7	200.5	000.0424	0051.0	021.6	38.54	

Exhibit 13.6(a) - Protection to WGL(FM) - Naples, FL

FMOver Analysis

Page # 4

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
330.0	020.0000	0132.0	041.7	199.3	000.0388	0051.0	021.0	38.60
331.0	020.0000	0132.0	041.7	197.9	000.0366	0051.0	020.5	38.79
332.0	020.0000	0132.0	041.7	196.5	000.0343	0051.0	019.9	38.94
333.0	020.0000	0132.0	041.7	194.9	000.0320	0051.0	019.4	39.04
334.0	020.0000	0132.0	041.7	193.3	000.0296	0051.0	019.0	39.10
335.0	020.0000	0132.0	041.7	191.5	000.0271	0051.0	018.5	39.10
336.0	020.0000	0132.0	041.7	189.7	000.0248	0051.0	018.1	39.08
337.0	020.0000	0132.0	041.7	187.7	000.0238	0051.0	017.7	39.22
338.0	020.0000	0132.0	041.7	185.6	000.0228	0051.0	017.3	39.33
339.0	020.0000	0132.0	041.7	183.5	000.0217	0051.0	017.0	39.40
340.0	020.0000	0132.0	041.7	181.2	000.0206	0051.0	016.7	39.42
341.0	020.0000	0132.0	041.7	178.8	000.0198	0051.0	016.5	39.45
342.0	020.0000	0132.0	041.7	176.4	000.0193	0051.0	016.3	39.52
343.0	020.0000	0132.0	041.7	173.9	000.0188	0051.0	016.1	39.55
344.0	020.0000	0132.0	041.7	171.3	000.0183	0050.8	016.0	39.49
345.0	020.0000	0132.0	041.7	168.7	000.0179	0050.5	015.9	39.42
346.0	020.0000	0132.0	041.7	166.1	000.0178	0050.4	015.9	39.39
347.0	020.0000	0132.0	041.7	163.5	000.0177	0050.4	015.9	39.34
348.0	020.0000	0132.0	041.7	160.9	000.0175	0050.7	016.0	39.31
349.0	020.0000	0132.0	041.7	158.3	000.0179	0050.7	016.1	39.29
350.0	020.0000	0132.0	041.7	155.8	000.0185	0050.4	016.3	39.25
351.0	020.0000	0132.0	041.7	153.4	000.0191	0050.3	016.5	39.21
352.0	020.0000	0132.0	041.7	151.0	000.0197	0050.6	016.7	39.19
353.0	020.0000	0132.0	041.7	148.7	000.0210	0050.9	017.0	39.26
354.0	020.0000	0132.0	041.7	146.5	000.0226	0050.9	017.3	39.33
355.0	020.0000	0132.0	041.7	144.4	000.0243	0050.9	017.7	39.33
356.0	020.0000	0132.0	041.7	142.5	000.0259	0051.0	018.0	39.29
357.0	020.0000	0132.0	041.7	140.6	000.0275	0050.8	018.5	39.17
358.0	020.0000	0132.0	041.7	138.8	000.0302	0050.6	018.9	39.17
359.0	020.0000	0132.0	041.7	137.2	000.0336	0050.8	019.4	39.26
000.0	020.0000	0132.0	041.7	135.6	000.0368	0050.9	019.9	39.27
001.0	020.0000	0132.0	041.7	134.2	000.0400	0050.7	020.4	39.17
002.0	020.0000	0132.0	041.7	132.8	000.0431	0050.4	020.9	39.00
003.0	020.0000	0132.0	041.7	131.6	000.0461	0049.9	021.5	38.76
004.0	020.0000	0132.0	041.7	130.4	000.0490	0049.4	022.1	38.47
005.0	020.0000	0132.0	041.7	129.3	000.0551	0049.0	022.7	38.44
006.0	020.0000	0132.0	041.7	128.3	000.0630	0048.7	023.3	38.50
007.0	020.0000	0132.0	041.7	127.4	000.0708	0048.4	023.9	38.49
008.0	020.0000	0132.0	041.7	126.6	000.0784	0048.2	024.5	38.43
009.0	020.0000	0132.0	041.7	125.8	000.0857	0048.0	025.2	38.33
010.0	020.0000	0132.0	041.7	125.1	000.0927	0047.9	025.8	38.20
011.0	020.0000	0132.0	041.7	124.4	000.0993	0047.8	026.5	38.04
012.0	020.0000	0131.9	041.7	123.8	000.1054	0047.7	027.2	37.85
013.0	020.0000	0131.7	041.7	123.3	000.1107	0047.7	027.9	37.63
014.0	020.0000	0131.4	041.6	122.9	000.1154	0047.7	028.5	37.40
015.0	020.0000	0131.3	041.6	122.5	000.1200	0047.7	029.2	37.17
016.0	020.0000	0131.3	041.6	122.1	000.1249	0047.7	029.9	36.97
017.0	020.0000	0131.4	041.6	121.7	000.1293	0047.7	030.6	36.77
018.0	020.0000	0131.3	041.6	121.4	000.1330	0047.7	031.3	36.56
019.0	020.0000	0131.1	041.6	121.1	000.1359	0047.7	032.1	36.34
020.0	020.0000	0130.9	041.6	120.9	000.1386	0047.7	032.8	36.12

University Of Northwestern-St. Paul

Protection to WCVU(FM) - Solana, FL

FMCommander Single Allocation Study - 08-22-2013 - NGDC 30 SEC

1549250's Overlaps (In= -12.47 km, Out= 0.59 km)

1549250 CH 284 D DA

Lat= 26 37 51.0, Lng= 81 51 40.0

0.25 kW 47.6 M HAAT, 51 M COR

Prot.= 60 dBu, Intef.= 54 dBu

WCVU CH 285 A 73.215 N BLH20120525AAE

Lat= 26 53 37.5, Lng= 82 03 02.7

6.0 kW 97 M HAAT, 98 M COR

Prot.= 60 dBu, Intef.= 54 dBu

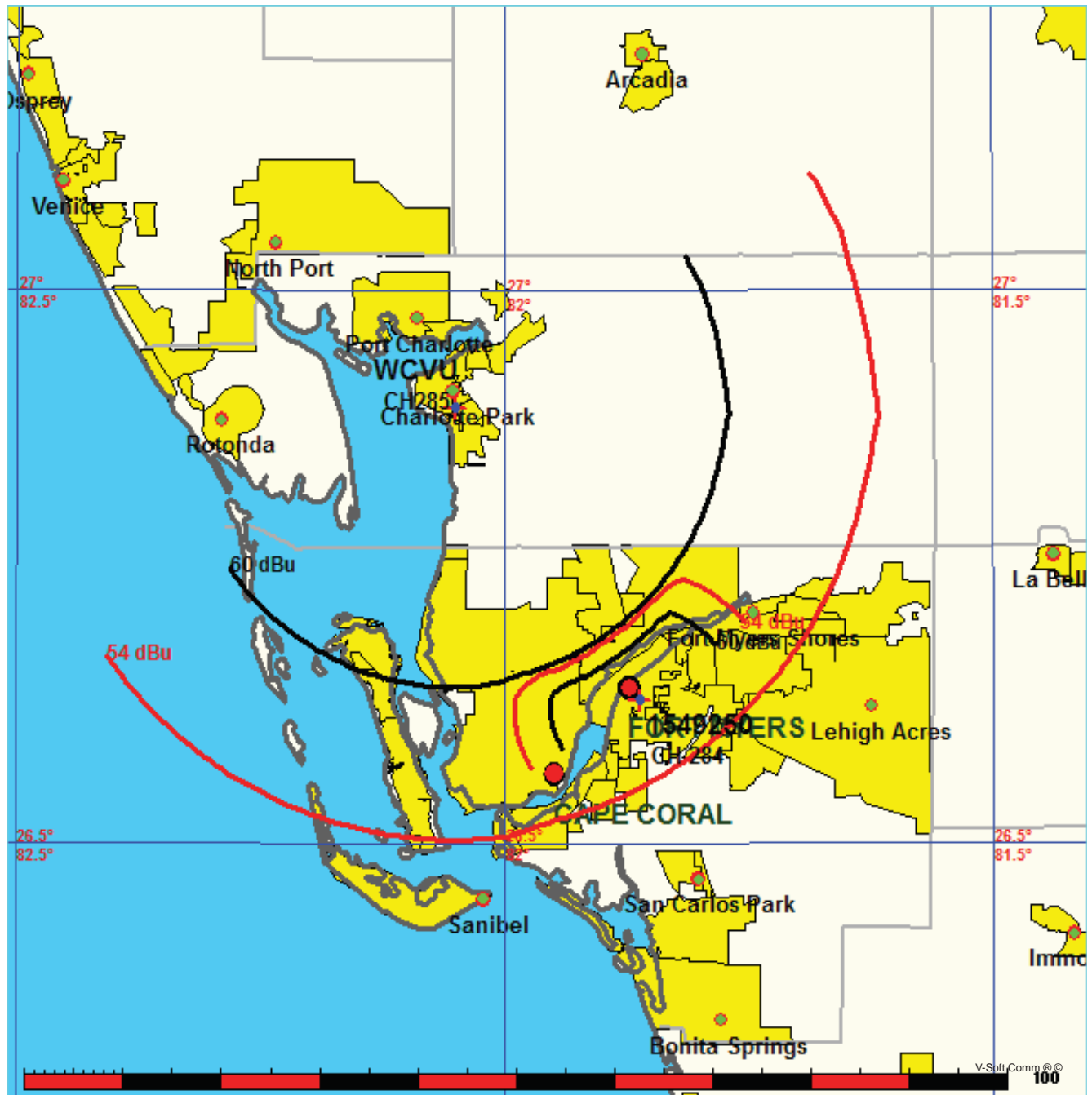


Exhibit 13.6(b) - Protection to WCVU(FM) - Solana, FL

08-22-2013

Terrain Data: NGDC 30 SEC

FMOver Analysis

1549250

WCVU BLH20120525AAE

Channel = 284D

Max ERP = 0.25 kW

RCAMSL = 51 M

N. Lat. 26 37 51.0

W. Lng. 81 51 40.0

Protected

60 dBu

Channel = 285A

Max ERP = 6 kW

RCAMSL = 98 M

N. Lat. 26 53 37.5

W. Lng. 82 03 02.7

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
282.0	000.2500	0049.1	009.2	160.1	006.0000	0094.4	029.0	60.22*	13.51
283.0	000.2500	0049.1	009.2	159.9	006.0000	0094.4	028.9	60.30*	13.65
284.0	000.2500	0049.1	009.2	159.8	006.0000	0094.4	028.8	60.38*	13.78
285.0	000.2500	0049.1	009.2	159.6	006.0000	0094.4	028.6	60.46*	13.91
286.0	000.2500	0049.0	009.2	159.4	006.0000	0094.4	028.5	60.53*	14.03
287.0	000.2500	0049.0	009.2	159.2	006.0000	0094.4	028.4	60.61*	14.16
288.0	000.2500	0049.0	009.2	159.0	006.0000	0094.3	028.3	60.68*	14.28
289.0	000.2500	0049.0	009.2	158.8	006.0000	0094.3	028.1	60.76*	14.40
290.0	000.2500	0049.0	009.2	158.6	006.0000	0094.3	028.0	60.83*	14.52
291.0	000.2500	0049.0	009.2	158.3	006.0000	0094.3	027.9	60.91*	14.64
292.0	000.2500	0049.0	009.2	158.1	006.0000	0094.3	027.8	60.98*	14.75
293.0	000.2500	0049.0	009.2	157.9	006.0000	0094.3	027.7	61.05*	14.87
294.0	000.2500	0049.1	009.2	157.7	006.0000	0094.3	027.6	61.12*	14.98
295.0	000.2500	0049.1	009.2	157.4	006.0000	0094.3	027.4	61.19*	15.09
296.0	000.2500	0049.2	009.2	157.2	006.0000	0094.2	027.3	61.26*	15.20
297.0	000.2500	0049.3	009.2	156.9	006.0000	0094.2	027.2	61.33*	15.31
298.0	000.2500	0049.3	009.2	156.7	006.0000	0094.2	027.1	61.40*	15.41
299.0	000.2500	0049.3	009.2	156.4	006.0000	0094.2	027.0	61.46*	15.51
300.0	000.2500	0049.2	009.2	156.1	006.0000	0094.2	026.9	61.52*	15.60
301.0	000.2500	0049.2	009.2	155.8	006.0000	0094.2	026.8	61.58*	15.69
302.0	000.2500	0049.1	009.2	155.6	006.0000	0094.2	026.7	61.64*	15.77
303.0	000.2500	0049.1	009.2	155.3	006.0000	0094.2	026.7	61.69*	15.86
304.0	000.2500	0049.1	009.2	155.0	006.0000	0094.2	026.6	61.75*	15.95
305.0	000.2500	0049.2	009.2	154.7	006.0000	0094.2	026.5	61.81*	16.03
306.0	000.2500	0049.1	009.2	154.4	006.0000	0094.2	026.4	61.86*	16.11
307.0	000.2500	0049.0	009.2	154.1	006.0000	0094.2	026.3	61.90*	16.17
308.0	000.2500	0048.9	009.2	153.7	006.0000	0094.2	026.3	61.94*	16.24
309.0	000.2500	0048.8	009.1	153.4	006.0000	0094.2	026.2	61.98*	16.29
310.0	000.2500	0048.8	009.1	153.1	006.0000	0094.2	026.2	62.02*	16.35
311.0	000.2500	0048.7	009.1	152.8	006.0000	0094.2	026.1	62.06*	16.41
312.0	000.2500	0048.8	009.1	152.4	006.0000	0094.2	026.0	62.10*	16.47
313.0	000.2500	0048.8	009.1	152.1	006.0000	0094.2	026.0	62.14*	16.53
314.0	000.2500	0048.8	009.1	151.8	006.0000	0094.2	025.9	62.17*	16.58
315.0	000.2500	0048.8	009.1	151.4	006.0000	0094.2	025.9	62.20*	16.62
316.0	000.2500	0048.8	009.1	151.1	006.0000	0094.1	025.8	62.23*	16.65
317.0	000.2500	0048.8	009.1	150.7	006.0000	0094.1	025.8	62.25*	16.69

Exhibit 13.6(b) - Protection to WCVU(FM) - Solana, FL

FMOver Analysis

Page # 2

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
318.0	000.2500	0048.8	009.1	150.4	006.0000	0094.1	025.8	62.28* 16.72
319.0	000.2500	0048.9	009.2	150.1	006.0000	0094.1	025.7	62.30* 16.75
320.0	000.2500	0048.9	009.2	149.7	006.0000	0094.0	025.7	62.32* 16.78
321.0	000.2500	0048.9	009.2	149.4	006.0000	0094.0	025.7	62.33* 16.80
322.0	000.2500	0048.8	009.1	149.0	006.0000	0094.0	025.7	62.34* 16.81
323.0	000.2500	0048.8	009.1	148.6	006.0000	0093.9	025.6	62.35* 16.81
324.0	000.2500	0048.7	009.1	148.3	006.0000	0093.9	025.6	62.35* 16.81
325.0	000.2500	0048.6	009.1	147.9	006.0000	0093.9	025.6	62.35* 16.81
326.0	000.2500	0048.6	009.1	147.6	006.0000	0093.8	025.6	62.34* 16.80
327.0	000.2500	0048.5	009.1	147.2	006.0000	0093.8	025.6	62.34* 16.79
328.0	000.2500	0048.3	009.1	146.9	006.0000	0093.8	025.7	62.32* 16.77
329.0	000.2500	0048.1	009.1	146.5	006.0000	0093.8	025.7	62.30* 16.73
330.0	000.2500	0047.9	009.0	146.2	006.0000	0093.7	025.7	62.28* 16.70
331.0	000.2500	0047.6	009.0	145.8	006.0000	0093.7	025.8	62.25* 16.66
332.0	000.2500	0047.5	009.0	145.5	006.0000	0093.7	025.8	62.22* 16.62
333.0	000.2500	0047.3	009.0	145.1	006.0000	0093.7	025.8	62.20* 16.58
334.0	000.2500	0047.3	009.0	144.8	006.0000	0093.7	025.9	62.18* 16.55
335.0	000.2500	0047.2	009.0	144.5	006.0000	0093.7	025.9	62.16* 16.51
336.0	000.2500	0047.1	009.0	144.1	006.0000	0093.7	025.9	62.13* 16.48
337.0	000.2500	0047.1	009.0	143.8	006.0000	0093.7	026.0	62.10* 16.43
338.0	000.2500	0047.0	008.9	143.5	006.0000	0093.7	026.0	62.07* 16.39
339.0	000.2500	0046.9	008.9	143.1	006.0000	0093.7	026.1	62.04* 16.34
340.0	000.2500	0046.8	008.9	142.8	006.0000	0093.7	026.1	62.00* 16.28
341.0	000.2500	0046.7	008.9	142.5	006.0000	0093.7	026.2	61.96* 16.23
342.0	000.2500	0046.7	008.9	142.2	006.0000	0093.7	026.2	61.93* 16.17
343.0	000.2500	0046.7	008.9	141.9	006.0000	0093.7	026.3	61.89* 16.12
344.0	000.2500	0046.7	008.9	141.5	006.0000	0093.7	026.3	61.86* 16.07
345.0	000.2500	0046.8	008.9	141.2	006.0000	0093.7	026.4	61.82* 16.02
346.0	000.2500	0046.8	008.9	140.9	006.0000	0093.7	026.4	61.78* 15.96
347.0	000.2500	0046.9	008.9	140.6	006.0000	0093.7	026.5	61.74* 15.90
348.0	000.2500	0046.9	008.9	140.3	006.0000	0093.7	026.6	61.70* 15.83
349.0	000.2500	0046.9	008.9	140.0	006.0000	0093.7	026.6	61.65* 15.76
350.0	000.2500	0047.0	008.9	139.7	006.0000	0093.7	026.7	61.60* 15.69
351.0	000.2500	0047.0	009.0	139.4	006.0000	0093.7	026.8	61.55* 15.61
352.0	000.2500	0047.1	009.0	139.1	006.0000	0093.7	026.9	61.50* 15.53
353.0	000.2500	0047.1	009.0	138.8	006.0000	0093.7	027.0	61.45* 15.45
354.0	000.2500	0047.2	009.0	138.6	006.0000	0093.7	027.0	61.39* 15.37
355.0	000.2500	0047.3	009.0	138.3	006.0000	0093.7	027.1	61.34* 15.28
356.0	000.2500	0047.3	009.0	138.0	006.0000	0093.7	027.2	61.28* 15.19
357.0	000.2500	0047.4	009.0	137.7	006.0000	0093.7	027.3	61.22* 15.10
358.0	000.2500	0047.4	009.0	137.5	006.0000	0093.7	027.4	61.16* 15.00
359.0	000.2500	0047.5	009.0	137.2	006.0000	0093.7	027.5	61.10* 14.90
000.0	000.2500	0047.6	009.0	137.0	006.0000	0093.7	027.6	61.03* 14.80
001.0	000.2500	0047.7	009.0	136.7	006.0000	0093.7	027.7	60.97* 14.70
002.0	000.2500	0047.7	009.0	136.5	006.0000	0093.7	027.8	60.90* 14.59
003.0	000.2500	0047.7	009.0	136.3	006.0000	0093.6	027.9	60.83* 14.47
004.0	000.2500	0047.7	009.0	136.0	006.0000	0093.6	028.0	60.76* 14.36
005.0	000.2500	0047.7	009.0	135.8	006.0000	0093.6	028.2	60.68* 14.24
006.0	000.2500	0047.7	009.0	135.6	006.0000	0093.6	028.3	60.61* 14.12
007.0	000.2500	0047.8	009.0	135.4	006.0000	0093.6	028.4	60.54* 14.00
008.0	000.2500	0047.9	009.0	135.2	006.0000	0093.6	028.5	60.46* 13.88

Exhibit 13.6(b) - Protection to WCVU(FM) - Solana, FL

08-22-2013

Terrain Data: NGDC 30 SEC

FMOver Analysis

WCVU BLH20120525AAE

1549250

Channel = 285A

Max ERP = 6 kW

RCAMSL = 98 M

N. Lat. 26 53 37.5

W. Lng. 82 03 02.7

Protected

60 dBu

Channel = 284D

Max ERP = 0.25 kW

RCAMSL = 51 M

N. Lat. 26 37 51.0

W. Lng. 81 51 40.0

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
102.0	006.0000	0093.7	027.4	018.7	000.2268	0048.4	024.8	42.88	
103.0	006.0000	0093.6	027.4	018.8	000.2281	0048.4	024.3	43.25	
104.0	006.0000	0093.6	027.4	018.9	000.2297	0048.4	023.9	43.63	
105.0	006.0000	0093.5	027.4	019.0	000.2311	0048.4	023.4	44.01	
106.0	006.0000	0093.5	027.4	019.0	000.2322	0048.4	022.9	44.40	
107.0	006.0000	0093.5	027.4	019.1	000.2329	0048.4	022.4	44.78	
108.0	006.0000	0093.4	027.4	019.1	000.2334	0048.4	021.9	45.16	
109.0	006.0000	0093.4	027.4	019.1	000.2334	0048.4	021.5	45.54	
110.0	006.0000	0093.4	027.4	019.1	000.2332	0048.4	021.0	45.92	
111.0	006.0000	0093.4	027.4	019.0	000.2324	0048.4	020.5	46.29	
112.0	006.0000	0093.4	027.4	019.0	000.2316	0048.4	020.0	46.67	
113.0	006.0000	0093.4	027.4	018.9	000.2305	0048.4	019.5	47.04	
114.0	006.0000	0093.5	027.4	018.8	000.2287	0048.4	019.1	47.40	
115.0	006.0000	0093.5	027.4	018.7	000.2262	0048.4	018.6	47.75	
116.0	006.0000	0093.4	027.4	018.5	000.2229	0048.4	018.1	48.09	
117.0	006.0000	0093.4	027.4	018.3	000.2191	0048.4	017.6	48.42	
118.0	006.0000	0093.4	027.4	018.0	000.2148	0048.4	017.2	48.74	
119.0	006.0000	0093.4	027.4	017.7	000.2099	0048.4	016.7	49.05	
120.0	006.0000	0093.5	027.4	017.4	000.2044	0048.4	016.2	49.34	
121.0	006.0000	0093.5	027.4	017.0	000.1981	0048.4	015.8	49.61	
122.0	006.0000	0093.5	027.4	016.6	000.1912	0048.3	015.3	49.86	
123.0	006.0000	0093.6	027.4	016.1	000.1835	0048.3	014.8	49.93	
124.0	006.0000	0093.6	027.4	015.6	000.1749	0048.3	014.4	50.26	
125.0	006.0000	0093.6	027.4	014.9	000.1655	0048.3	013.9	50.59	
126.0	006.0000	0093.7	027.4	014.2	000.1553	0048.3	013.5	50.90	
127.0	006.0000	0093.7	027.4	013.5	000.1442	0048.3	013.0	51.19	
128.0	006.0000	0093.7	027.4	012.6	000.1321	0048.3	012.6	51.43	
129.0	006.0000	0093.7	027.4	011.6	000.1193	0048.2	012.2	51.62	
130.0	006.0000	0093.7	027.4	010.5	000.1057	0048.1	011.7	51.73	

Exhibit 13.6(b) - Protection to WCVU(FM) - Solana, FL

FMOver Analysis

Page # 4

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
131.0	006.0000	0093.6	027.4	009.3	000.0957	0048.0	011.3	51.93
132.0	006.0000	0093.6	027.4	007.9	000.0881	0047.9	010.9	52.20
133.0	006.0000	0093.6	027.4	006.4	000.0802	0047.8	010.5	52.42
134.0	006.0000	0093.6	027.4	004.8	000.0718	0047.7	010.2	52.59
135.0	006.0000	0093.6	027.4	003.0	000.0633	0047.7	009.8	52.68
136.0	006.0000	0093.6	027.4	001.1	000.0546	0047.7	009.4	52.65
137.0	006.0000	0093.7	027.4	359.0	000.0477	0047.5	009.1	52.63
138.0	006.0000	0093.7	027.4	356.6	000.0427	0047.3	008.8	52.69
139.0	006.0000	0093.7	027.4	354.1	000.0376	0047.2	008.5	52.65
140.0	006.0000	0093.7	027.4	351.4	000.0324	0047.0	008.2	52.47
141.0	006.0000	0093.7	027.4	348.4	000.0292	0046.9	008.0	52.44
142.0	006.0000	0093.7	027.4	345.3	000.0276	0046.8	007.8	52.57
143.0	006.0000	0093.7	027.4	341.9	000.0259	0046.7	007.6	52.64
144.0	006.0000	0093.7	027.4	338.5	000.0242	0046.9	007.5	52.70
145.0	006.0000	0093.7	027.4	334.9	000.0224	0047.2	007.4	52.65
146.0	006.0000	0093.7	027.4	331.2	000.0205	0047.6	007.3	52.52
147.0	006.0000	0093.8	027.5	327.4	000.0200	0048.4	007.3	52.63
148.0	006.0000	0093.9	027.5	323.6	000.0200	0048.7	007.3	52.68
149.0	006.0000	0094.0	027.5	319.9	000.0200	0048.9	007.3	52.62
150.0	006.0000	0094.0	027.5	316.2	000.0207	0048.8	007.4	52.56
151.0	006.0000	0094.1	027.5	312.6	000.0215	0048.8	007.5	52.44
152.0	006.0000	0094.2	027.5	309.2	000.0226	0048.8	007.7	52.31
153.0	006.0000	0094.2	027.5	306.0	000.0250	0049.1	007.9	52.42
154.0	006.0000	0094.2	027.5	303.0	000.0275	0049.1	008.1	52.37
155.0	006.0000	0094.2	027.5	300.2	000.0298	0049.2	008.4	52.26
156.0	006.0000	0094.2	027.5	297.6	000.0343	0049.3	008.7	52.34
157.0	006.0000	0094.2	027.5	295.2	000.0389	0049.1	009.0	52.30
158.0	006.0000	0094.3	027.5	293.0	000.0435	0049.0	009.3	52.18
159.0	006.0000	0094.3	027.5	291.0	000.0479	0049.0	009.6	51.97
160.0	006.0000	0094.4	027.5	289.1	000.0557	0049.0	010.0	52.00
161.0	006.0000	0094.4	027.5	287.4	000.0671	0049.0	010.4	52.16
162.0	006.0000	0094.5	027.5	285.9	000.0782	0049.0	010.8	52.17
163.0	006.0000	0094.5	027.5	284.5	000.0890	0049.1	011.2	52.07
164.0	006.0000	0094.5	027.5	283.3	000.0994	0049.1	011.6	51.89
165.0	006.0000	0094.6	027.6	282.2	000.1096	0049.1	012.0	51.66
166.0	006.0000	0094.7	027.6	281.1	000.1194	0049.1	012.4	51.40
167.0	006.0000	0094.8	027.6	280.1	000.1288	0049.2	012.8	51.12
168.0	006.0000	0095.1	027.6	279.2	000.1387	0049.3	013.3	50.86
169.0	006.0000	0095.5	027.7	278.2	000.1485	0049.4	013.7	50.59
170.0	006.0000	0096.1	027.8	277.3	000.1585	0049.4	014.1	50.31
171.0	006.0000	0096.7	027.9	276.4	000.1685	0049.3	014.6	50.02
172.0	006.0000	0097.3	027.9	275.7	000.1773	0049.2	015.0	49.93
173.0	006.0000	0097.7	028.0	275.1	000.1842	0049.2	015.5	49.68
174.0	006.0000	0097.9	028.0	274.6	000.1895	0049.1	016.0	49.37
175.0	006.0000	0098.0	028.0	274.3	000.1939	0049.1	016.5	49.05
176.0	006.0000	0098.0	028.0	274.0	000.1971	0049.1	016.9	48.71
177.0	006.0000	0098.0	028.0	273.8	000.1997	0049.1	017.4	48.35
178.0	006.0000	0098.0	028.0	273.6	000.2018	0049.1	017.9	47.98
179.0	006.0000	0098.0	028.0	273.5	000.2035	0049.1	018.4	47.60
180.0	006.0000	0098.0	028.0	273.4	000.2048	0049.1	018.9	47.22
181.0	006.0000	0098.0	028.0	273.3	000.2057	0049.1	019.4	46.83

Exhibit 13.7 - Directional Antenna Pattern

1549250

08-22-2013

RMS(V)= .739

Graph is Relative Field

Azi	Field	dBk	kw
000	0.447	-13.010	0.050
010	0.632	-10.000	0.100
020	1.000	-06.021	0.250
030	1.000	-06.021	0.250
040	1.000	-06.021	0.250
050	1.000	-06.021	0.250
060	1.000	-06.021	0.250
070	1.000	-06.021	0.250
080	1.000	-06.021	0.250
090	1.000	-06.021	0.250
100	1.000	-06.021	0.250
110	1.000	-06.021	0.250
120	0.775	-08.239	0.150
130	0.447	-13.010	0.050
140	0.335	-15.528	0.028
150	0.283	-16.990	0.020
160	0.265	-17.570	0.017
170	0.268	-17.447	0.018
180	0.283	-16.990	0.020
190	0.316	-16.021	0.025
200	0.400	-13.979	0.040
210	0.632	-10.000	0.100
220	1.000	-06.021	0.250
230	1.000	-06.021	0.250
240	1.000	-06.021	0.250
250	1.000	-06.021	0.250
260	1.000	-06.021	0.250
270	1.000	-06.021	0.250
280	0.721	-08.861	0.130
290	0.447	-13.010	0.050
300	0.346	-15.229	0.030
310	0.297	-16.576	0.022
320	0.283	-16.990	0.020
330	0.283	-16.990	0.020
340	0.316	-16.021	0.025
350	0.346	-15.229	0.030

