

Registration Detail

Reg Number	1035830	Status	Constructed
File Number	A0663844	Constructed	05/17/1997
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

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

Location (in NAD83 Coordinates)

Lat/Long	30-44-07.0 N 088-07-16.0 W	Address	3019 HAND AVE
City, State	MOBILE , AL		
Zip	36618	County	MOBILE
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
13.7	188.4
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
202.1	183.2

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 13
Paint and Light in Accordance with FAA Circular Number 70/7460-1J

FAA Notification

FAA [Study](#) 2009-ASO-7730-OE FAA Issue Date 01/22/2010

Owner & Contact Information

FRN 0006156111 Owner Entity Type

Owner

Pinnacle Towers LLC	P: (724)416-2000
Attention To: Regulatory Department	F:
2000 Corporate Drive	E: Regulatory.Department@CrownCastle.com
Canonsburg , PA 15317	

Contact

Verre , Christine A	P: (336)643-2524
2000 Corporate Drive	F:
Canonsburg , PA 15317	E: Christine.Verre@CrownCastle.com

Last Action Status

Status	Constructed	Received	01/25/2010
Purpose	Notification	Entered	01/25/2010
Mode	Interactive		

Exhibit 13.2

Vertical Plan of Antenna System

The site is located at 3019 Hand Avenue,
the city of Mobile, Mobile County, Alabama.

Site Location (NAD 27)

NL: 30° 44' 06"

WL: 88° 07' 16"

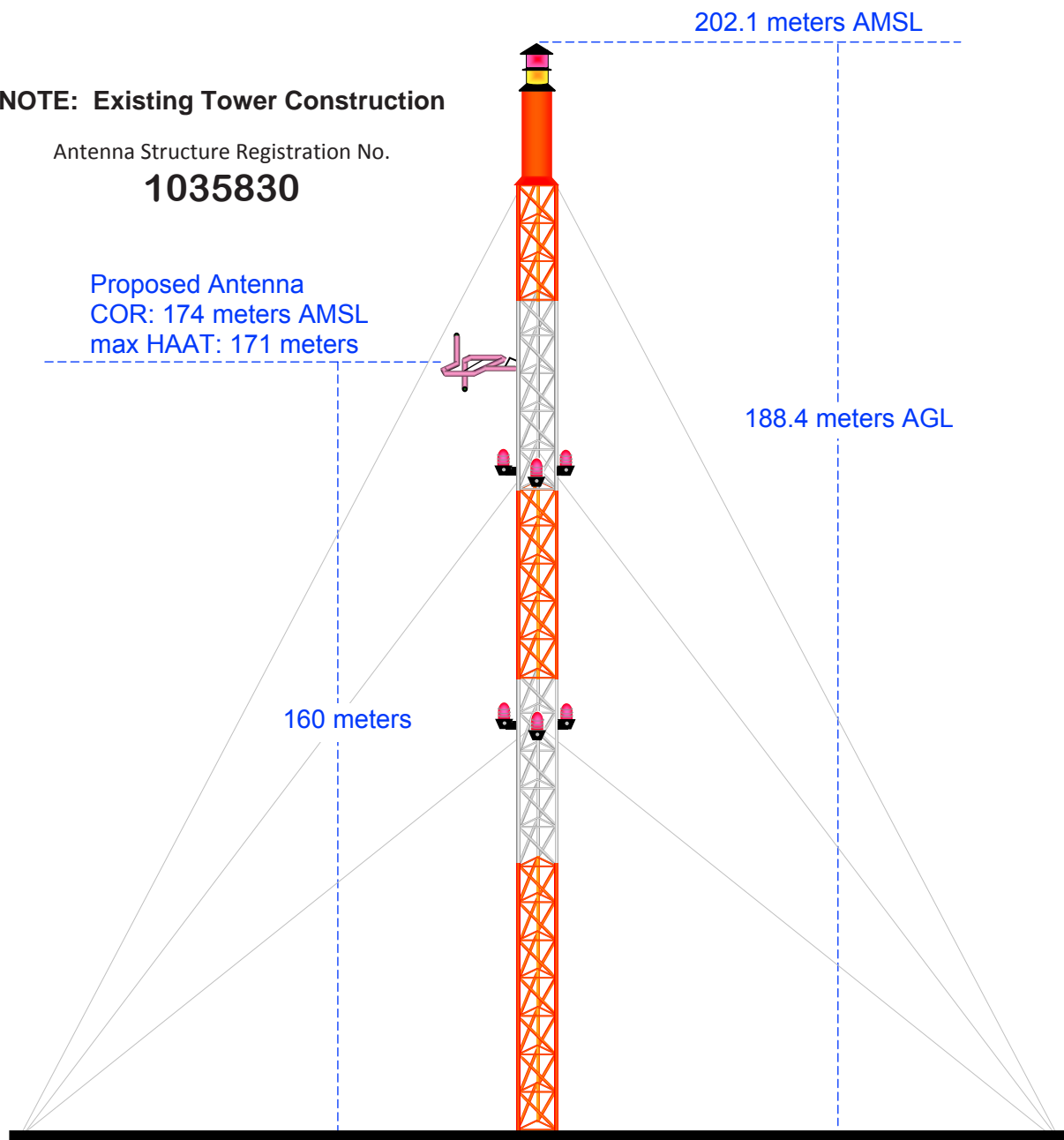
(30-44-07.0NL; 88-07-16.0WL NAD1983)

NOTE: Existing Tower Construction

Antenna Structure Registration No.

1035830

Proposed Antenna
COR: 174 meters AMSL
max HAAT: 171 meters



Ground Elevation = 13.7 m AMSL
Drawing is not to Scale

MUNN-REESE, INC.

Broadcast Engineering Consultants
Coldwater, MI 49036

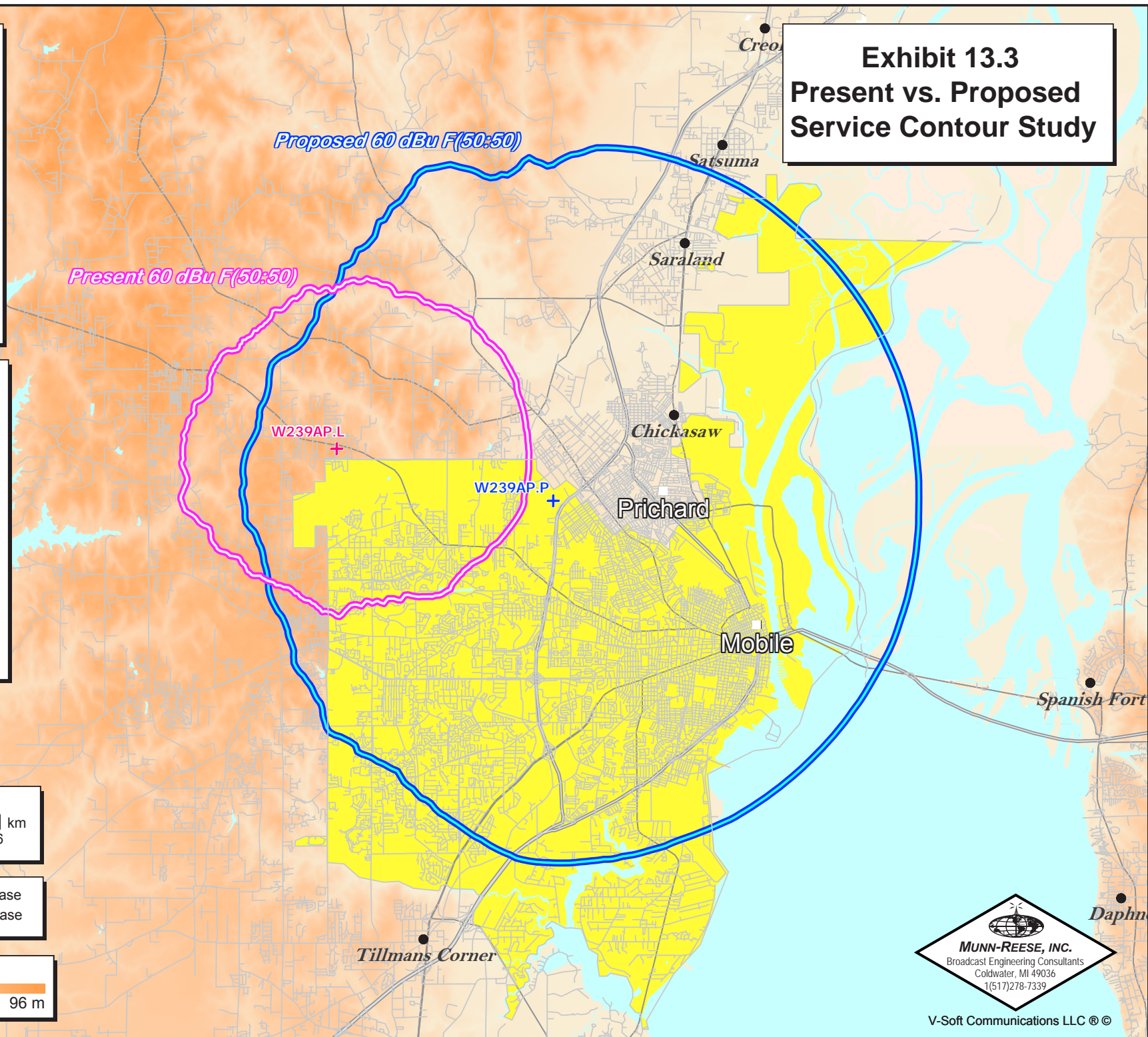
W239AP.L
BLFT20080307AAY
Latitude: 30-45-09 N
Longitude: 088-12-15 W
ERP: 0.019 kW
Channel: 239
Frequency: 95.7 MHz
AMSL Height: 122.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

60 dBu Contour
Total Population: 34,110
Total Area: 117 sq. km

W239AP.P
Proposed Operation
Latitude: 30-44-07 N
Longitude: 088-07-16 W
ERP: 0.099 kW
Channel: 239
Frequency: 95.7 MHz
AMSL Height: 174.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

60 dbu Contour
Total Population: 214,046
Total Area: 497 sq. km

Exhibit 13.3 Present vs. Proposed Service Contour Study



W239AP.P
Proposed Operation
Latitude: 30-44-07 N
Longitude: 088-07-16 W
ERP: 0.099 kW
Channel: 239
Frequency: 95.7 MHz
AMSL Height: 174.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

WIJD(AM)
Prichard, AL
FAC ID: 53144
Freq: 1270 kHz
PRICHARD, AL, US
Hours: D
Lat: 30-44-44 N
Lng: 088-05-40 W
Power: 5.0 kW
Theo RMS: 297.73 mV/m
@ 1km @ 1kW

Exhibit 13.4 Proposed vs. Primary Service Contour Study

Scale 1:425,000
0 5 10 15 km

NGDC 30 sec terrain database
US Census 2010 PL database

Terrain
-5 111 m

25 mile AM Site Radius

2 mV/m Daytime Contour

Proposed 60 dBu F(50:50)

WIJD(AM)

W239AP.P

Mobile



Exhibit 13.5

Tabulation of Proposed Fill-In Translator Allocation

REFERENCE		CH# 239D - 95.7 MHz, Pwr= 0.099 kw, HAAT= 149.0 M, COR= 174 M							DISPLAY DATES		
30 44 06.0 N.		Average Protected F(50-50)= 12.49 km							DATA 06-20-12		
88 07 16.0 W.		Omni-directional							SEARCH 06-21-12		
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)
241C	WRKH	LIC _C_		100.4	28.26	30 41 20.0	77.000	12.2	87.5	2.6	-59.9*<
Mobile		AL		280.5	BLH20050615ACP	87 49 49.0	535	569	Cc Licenses, LLC		
239D	W239AP	LIC _C_		283.8	8.17	30 45 09.0	0.019	23.7	7.1	-26.7*	-37.0
Mobile		AL		103.8	BLFT20080307AAY	88 12 15.0	83	122	550 Am, Inc.		
239C3	WKFP	LIC _CN		104.4	124.17	30 27 02.0	25.000	113.0	38.5	-2.3<	41.3
Navarre		FL		285.1	BLH19990803KK	86 51 59.0	86	104	550 Am, Inc.		
237C0	WZNF	LIC ZCX		271.4	89.41	30 45 05.0	100.000	12.0	82.8	65.9	6.0
Lumberton		MS		90.9	BLH20080212ABV	89 03 24.0	435	482	Jmd, Inc.		
239C	WKBU	LIC _C_		244.1	203.92	29 55 11.0	100.000	171.9	72.3	21.2	94.6
New Orleans		LA		63.1	BMLH20031124APE	90 01 29.0	300	300	Entercom	New Orleans Licen	
238C3	WJDB-FM	LIC NCN		16.9	116.86	31 44 25.0	9.600	53.7	35.4	49.9	61.6
Thomasville		AL		197.1	BLH19940316KD	87 45 43.0	160	253	Griffin Broadcasting Corpo		
240C1	WBBN	APP ZCX		308.1	163.12	31 38 03.0	100.000	89.1	60.1	63.0	87.1
Taylorsville		MS		127.4	BPH20050613ADQ	89 28 35.0	223	310	Blakeney	Communications, I	
Dismissed 3/18/2008 by DA 08-588											
240C1	WBBN	LIC ZCX		308.1	163.12	31 38 03.0	100.000	85.9	58.1	66.2	89.2
Taylorsville		MS		127.4	BLH20120418AAE	89 28 35.0	223	310	Blakeney	Communications, I	
240C1	WBBN	LIC ZCX		308.1	163.12	31 38 03.0	100.000	71.7	48.6	80.4	98.6
Taylorsville		MS		127.4	BLH20050829AAK	89 28 35.0	223	310	Blakeney	Communications, I	
239A	WKXN	CP _CX		44.6	190.59	31 56 52.0	2.100	81.0	27.9	96.1	118.5
Fort Deposit		AL		225.3	BPH20100106AFK	86 42 09.0	171	283	Autaugaville Radio, Inc.		
One Step Application											
237D	W237BE	LIC _C_		67.8	112.40	31 06 42.6	0.002	0.1	3.6	98.8	108.1
Brewton		AL		248.4	BLFT20070405AAA	87 01 38.9	82	130	Divine word Communications		
236C2	WKZB	LIC NCN		343.1	184.30	32 19 12.0	26.000	5.3	48.8	166.1	134.8
Marion		MS		162.8	BLH19900222KB	88 41 27.0	182	307	New South Communications,		
240A	WKXN	LIC _CN		48.2	186.54	31 50 43.0	4.000	34.4	22.9	138.7	143.5
Greenville		AL		229.0	BMLH19900228KC	86 38 56.0	69	192	Autaugaville Radio, Inc.		
238C	WHLH	LIC _CX		308.3	273.61	32 14 26.0	100.000	121.8	82.0	140.8	175.7
Jackson		MS		127.1	BLH20031106AKR	90 24 15.0	451	540	Capstar Tx Llc		

Terrain database is NED 03 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

Blue Highlighted text denotes the W239AP facility to be modified by this minor change proposal. This facility need not be protected.

Yellow highlighted text denotes a §74.1204(d) Waiver Request for given second adjacent channel interference to WRKH(FM) - Mobile, AL (CH241C) as included in **Exhibit 13.6**. Full protection will be afforded the facility as the calculated interference area will not reach the ground nor a 7 meter artificial plane representing a standard two story building when taking into account the downward radiation characteristics of the antenna as supplied by the antenna manufacturer. A copy of the antenna manufacturer specifications have been included in **Exhibit 13.7**.

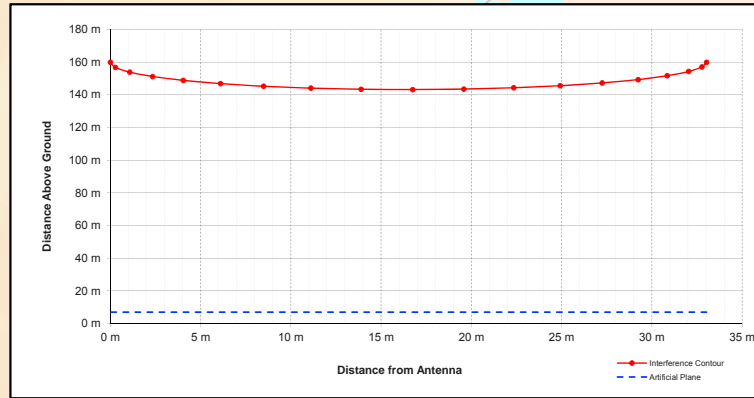
WRKH(FM) - 86.5 dBu F(50:50)

Exhibit 13.6

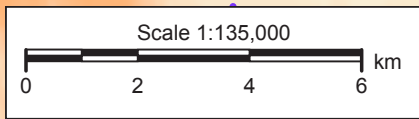
§74.1204(d) 2nd Adjacent Channel Given Interference Waiver Request Study Toward WRKH(FM) - Mobile, AL

W239AP.P
Proposed Operation
Latitude: 30-44-07 N
Longitude: 088-07-16 W
ERP: 0.099 kW
Channel: 239
Frequency: 95.7 MHz
AMSL Height: 174.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

WRKH(FM)
BLH20050615ACP
Latitude: 30-41-20 N
Longitude: 087-49-49 W
ERP: 77.00 kW
Channel: 241
Frequency: 96.1 MHz
AMSL Height: 569.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None



Proposed Antenna: 1-Bay Shively 6812-B Fully spaced								
Proposed Power: 0.099 kW								
Antenna Height AGL: 160 meters								
Interference Contour: 126.5 dBu F(50:10)								
Artificial Ground Plane Height: 7 meters								
Distance (Free Space) Equation: $= (10^4) \cdot ((106.92 - (\text{desired dBu}) + (\text{ERP in dBk})/20)) \cdot 1000$								
Field Strength (dBu) Equation: $= 106.92 - (20 \cdot (\text{LOG10}(\text{DistMeters}/1000))) + (\text{ERP in dBk})$								
Depression Angle Below Horizon	Antenna Relative Field	ERP in kW	ERP in dBk	Distance from Ant. to Interference Contour	Distance from Ant. to Artificial Plane	Field Strength in dBu @ Artificial Plane	Distance from Ant. to Ground Level	Field Strength in dBu @ Ground Level
0°	1.000	0.099	-10.04	33.02 m	Infinite	---	---	---
-5°	0.996	0.098	-10.08	32.89 m	1755.48 m	91.95 dBu	1835.79 m	91.57 dBu
-10°	0.985	0.096	-10.17	32.53 m	881.09 m	97.84 dBu	921.40 m	97.46 dBu
-15°	0.967	0.093	-10.34	31.93 m	591.15 m	101.15 dBu	618.19 m	100.76 dBu
-20°	0.942	0.088	-10.56	31.11 m	447.34 m	103.34 dBu	467.81 m	102.96 dBu
-25°	0.910	0.082	-10.86	30.05 m	362.03 m	104.88 dBu	378.59 m	104.49 dBu
-30°	0.871	0.075	-11.24	28.78 m	306.00 m	105.98 dBu	320.00 m	105.57 dBu
-35°	0.826	0.068	-11.70	27.28 m	266.75 m	106.69 dBu	278.95 m	106.31 dBu
-40°	0.774	0.059	-12.27	25.56 m	238.03 m	107.12 dBu	248.92 m	106.73 dBu
-45°	0.717	0.051	-12.93	23.68 m	216.37 m	107.28 dBu	226.27 m	106.89 dBu
-50°	0.654	0.042	-13.73	21.60 m	199.73 m	107.18 dBu	208.87 m	106.79 dBu
-55°	0.586	0.034	-14.69	19.35 m	186.78 m	106.81 dBu	195.32 m	106.42 dBu
-60°	0.514	0.026	-15.82	16.97 m	176.67 m	106.15 dBu	184.75 m	105.76 dBu
-65°	0.437	0.019	-17.23	14.43 m	168.82 m	105.14 dBu	176.54 m	104.75 dBu
-70°	0.357	0.013	-18.99	11.79 m	162.82 m	103.70 dBu	170.27 m	103.31 dBu
-75°	0.273	0.007	-21.32	9.02 m	158.40 m	101.60 dBu	165.64 m	101.22 dBu
-80°	0.186	0.003	-24.65	6.14 m	155.36 m	98.44 dBu	162.47 m	98.05 dBu
-85°	0.096	0.001	-30.40	3.17 m	153.58 m	92.79 dBu	160.61 m	92.41 dBu
-90°	0.001	0.000	-70.04	0.03 m	153.00 m	53.18 dBu	160.00 m	52.79 dBu



NED 03 SEC terrain database
US Census 2010 PL database



The Interference Contour corresponding to WRKH(FM) - Mobile, AL (CH241C) Protected Contour at the proposed Translator operational site has been calculated to be no more than the 126.5 dBu F(50:10) Interference Contour corresponding to the WRKH(FM) 86.5 dBu F(50:50) Protected Contour. This represents the proposed interference contour which falls wholly within the 40:1 dBu ratio. As seen on the map and associated vertical protection study, full protection will be afforded the WRKH(FM) facility as the calculated interference area will not reach the ground nor a 7 meter artificial plane representing a standard two story building when taking into account the downward radiation characteristics of the antenna as supplied by the antenna manufacturer. A copy of the antenna manufacturer's vertical radiation pattern has been included in **Exhibit 13.7**.

Exhibit 13.7 - Proposed Directional Antenna Information
(Vertical Radiation Pattern as supplied by the Antenna Manufacturer)



Shively Labs

Antenna Mfr.: Shively Labs

Date: 12/30/2004

Antenna Type: 6812B or 6602B 1-Bay, full-wave-spaced

Frequency: 98.1

6812B Gain (Max) 0.46 -3.37 dB

6602B Gain (Max) 0.92 -0.36 dB

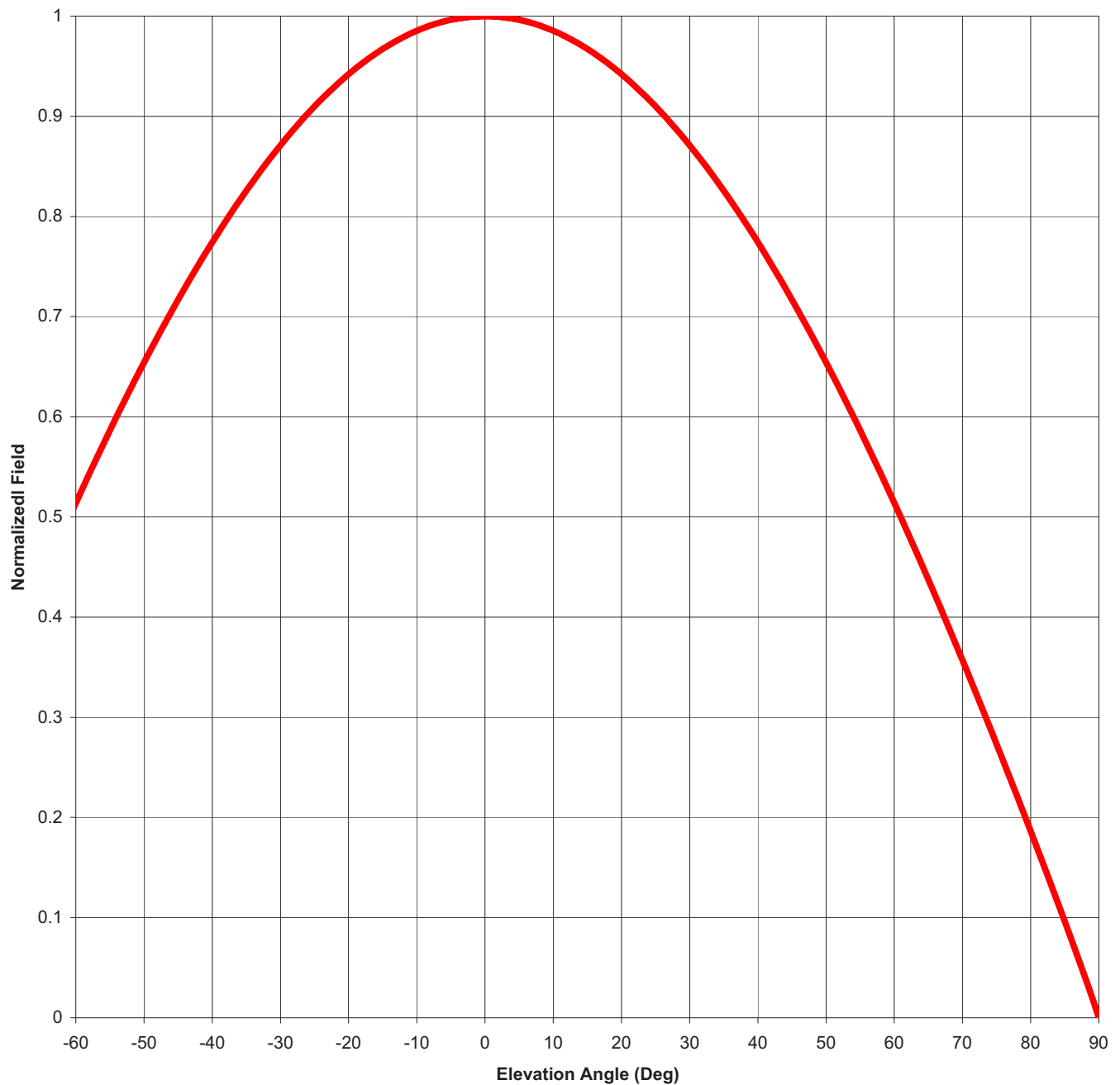


Exhibit 13.7 - Proposed Directional Antenna Information (Vertical Radiation Pattern as supplied by the Antenna Manufacturer)



Elevation Pattern Tabulation, 6602B and 6812B Single-Bay

Relative Field at 0° Depression = 1.000

Degrees	Rel. Field
1	1.000
2	0.999
3	0.999
4	0.998
5	0.996
6	0.995
7	0.993
8	0.991
9	0.988
10	0.985
11	0.982
12	0.979
13	0.975
14	0.971
15	0.967
16	0.963
17	0.958
18	0.953

Degrees	Rel. Field
19	0.948
20	0.942
21	0.936
22	0.930
23	0.924
24	0.917
25	0.910
26	0.903
27	0.895
28	0.887
29	0.879
30	0.871
31	0.862
32	0.854
33	0.845
34	0.835
35	0.826
36	0.816

Degrees	Rel. Field
37	0.806
38	0.796
39	0.785
40	0.774
41	0.763
42	0.752
43	0.741
44	0.729
45	0.717
46	0.705
47	0.693
48	0.680
49	0.667
50	0.654
51	0.641
52	0.628
53	0.614
54	0.600

Degrees	Rel. Field
55	0.586
56	0.572
57	0.558
58	0.544
59	0.529
60	0.514
61	0.499
62	0.484
63	0.469
64	0.453
65	0.437
66	0.422
67	0.406
68	0.390
69	0.373
70	0.357
71	0.341
72	0.324

Degrees	Rel. Field
73	0.307
74	0.290
75	0.273
76	0.256
77	0.239
78	0.221
79	0.204
80	0.186
81	0.168
82	0.151
83	0.133
84	0.114
85	0.096
86	0.078
87	0.059
88	0.040
89	0.021
90	0.000