

W249BE MINOR MODIFICATION

This application seeks a modification of the W249BE construction permit (BPFT-20130102AAU) to adjacent channel 248 as a fill in translator for station WPRS-FM (facility # 74212) at Waldorf, MD. This translator is now licensed at a site in Fairfax County, VA and is moving to a site in Montgomery County, MD. Both are in the Washington, DC ARB metro radio market. Such moves are currently permitted by Commission processing policy and practice.

Allocation discussion:

All exhibits utilize the USGS 3 second terrain database.

- E1 Channel study
- E1A Plot to WLTF
- E1B Plot to W248AO
- E1C Plot to WASH and WIYY
- E1D Aerial photograph of the WIYY interference area
- E1E DA tabulation and vertical elevation pattern
- E2 54 and 60 dBu plots
- E3 ASR-NADCON

A channel study is included as E1 and interference plots as E1B, E1C and E1D demonstrating compliance with §74.1204. A plot of the proposed W249BE and WPRS-FM 54 dBu contours is provided as E2. The proposed 54 dBu is entirely contained within the WPRS-FM 54 dBu and the proposed 60 dBu overlap the licensed W249BE 60 dBu.

The proposed W249BE channel 248 facility will be located inside the protected contour of second adjacent channel stations WASH on channel 248B and WIYY on channel 250B. Therefore, an interference analysis has been conducted based on the U/D ratio of +40 dB at the proposed site. The WASH (50:50) contour at the proposed site is 109.3 dBu and the (50:10) interference contour is 149.3 dBu or 3.8 meters. This contour is clearly not an issue. The WIYY (50:50) contour at the proposed site is 56.92 dBu and the resulting interference contour is 96.92 dBu at a distance 1,581 meters. Using the depression angle of 7.67 degrees and the corresponding F factor for Shively six bay 0.75 wavelength spaced 6813 antenna, the reduced ERP of 0.0645 kW produces an interference contour of 803.1 meters maximum. The lower interference contour to WIYY has been

Anderson Associates

evaluated at every five degrees of depression angle from 7.67 through 90 degrees using the vertical elevation pattern to determine the vertical clearance from the contour to ground.

Depression Angle (Deg.)	F	ERP X F² kW	Int. = 96.92 dBu meters	Vertical Clearance AGL (m) (Int. X sin Ang – 213 m)
07.67	0.508	0.0645	803.1	105.8
10.0	0.026	0.0172	414.7	141.0
15.0	0.139	0.0048	219.1	156.3
20.0	0.216	0.0117	342.0	96.0
25.0	0.055	0.0007	83.7	177.6
30.0	0.111	0.003	173.2	126.4
35.0	0.136	0.0046	214.5	90.0
40.0	0.043	0.0005	70.7	167.6
45.0	0.065	0.001	100.0	142.3
50.0	0.111	0.0031	176.1	78.1 (256 feet)
55.0	0.087	0.0019	137.8	100.0
60.0	0.031	0.00024	49.0	170.6
65.0	0.021	0.0001	31.6	184.4
70.0	0.049	0.0006	77.5	140.2
75.0	0.053	0.0007	83.7	132.2
80.0	0.041	0.00042	64.8	149.2
85.0	0.022	0.00012	34.6	178.5
90.0	0.000	0.000	0.0	213.0

Exhibit E1D provides an aerial view of area contained within the reduced ERP 96.93 dBu contour. A thorough review of all of the taller buildings in the area using the Google maps street view feature shows that the tallest building is 16 stories or approximately 170 feet to the highest occupied floor. A picture of that building and the second tallest building are included. Neither receives interference since the closest interference contour is 256 feet above ground. Clearly, these interference contours will not reach any populated area or major highways. Based on this showing, a waiver of Section 74.1204 is requested in accordance with *Living Way Ministries, Inc.* (FCC 08-242).

Proposed 60 dBu:

N. Latitude = 38-57-50 W. Longitude = 77-06-18
HAAT and Distance to Contour,
FCC, FM 2-10 Miles, 51 points Method - USGS 03 SEC

Azi.	AV EL	HAAT	dBk	60-F5
000	94.7	191.3	-18.06	9.05
030	101.1	184.9	-18.06	8.89
060	78.9	207.1	-18.06	9.42
090	48.0	238.0	-6.02	20.18
120	40.9	245.1	-6.02	20.47
150	25.7	260.3	-6.02	21.08
180	58.1	227.9	-6.02	19.76
210	86.0	200.0	-7.96	16.47
240	105.3	180.7	-12.40	12.13
270	70.5	215.5	-22.50	7.31
300	78.0	208.0	-26.02	5.75
330	100.7	185.3	-22.50	6.80

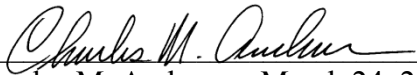
Ave El= 73.99 M HAAT= 212.01 M AMSL= 286 M

RF Exposure Calculation:

The proposed facility will utilize a Shively 6813 six bay 0.75 wavelength spaced circularly polarized antenna with a center of radiation at 213 meters AGL. The RF contribution of the proposed translator was calculated using FMMODEL to be 0.0023 μ Watts/cm² or 0.001% of the maximum permissible 200 microwatts/cm² exposure for general population/uncontrolled exposure, and well below 5% of that limit which requires consideration.



The proposed translator clearly complies with Commission RF radiation limits.


Charles M. Anderson, March 24, 2013

E1 CHANNEL STUDY

REFERENCE
38 57 50.0 N.
77 06 18.0 W.

CH# 248D - 97.5 MHz, Pwr= 0.25 kw DA, HAAT= 212.0 M, COR= 286 M
Average Protected F(50-50)= 19.13 km
Standard Directional

DISPLAY DATES
DATA 03-24-13
SEARCH 03-24-13

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*
246B Washington	WASH	LIC NCX DC	124.7 304.7	2.65 BMLH20040610ABF	38 57 01.0 77 04 47.0	17.500 242	5.4 315	63.1 Amfm Radio Licenses, L.l.c	-23.4*	-62.4*(1)
248D Alexandria	W249BE	CP DC_ VA	187.0 7.0	16.36 BPFT20130102AAU	38 49 04.0 77 07 41.0	0.015	4.2 79	1.6 Positive Alternative Radio	-7.2*	-46.0
248B Martinsburg	WLTF	LIC _C_ WV	304.0 123.4	99.23 BLH20041018ACE	39 27 33.0 78 03 48.0	11.500 316	132.9 523	69.3 Prettyman Broadcasting Com	-39.9*	2.3
248D Baltimore	W248AO	LIC DC_ MD	43.4 223.7	56.86 BLFT20130102ABU	39 20 05.0 76 39 03.0	0.250	62.9 307	18.4 Hope Christian Church Of M	-19.0*	5.6
249D Alexandria	W249BE	LIC DC_ VA	187.0 7.0	16.36 BLFT20121107ABW	38 49 04.0 77 07 41.0	0.002	2.6 79	1.8 Positive Alternative Radio	-5.6*	-14.8
250B Baltimore	WIYY	LIC _CN MD	43.4 223.7	56.86 BLH19880914KA	39 20 05.0 76 39 03.0	13.500 288	5.3 373	63.2 Hearst Stations Inc.	38.2	-6.9*(1)
250D Washington	649687	APP DC_ DC	208.4 28.3	16.80 BNPFT20030317HHS	38 49 51.0 77 11 50.0	0.019 63	0.0 137	0.9 R & L Non-comm	0.0*	14.1
250D Reston	629392	APP DV_ VA	265.7 85.6	21.67 BNPFT20030311ARA	38 56 57.0 77 21 18.0	0.010 114	0.0 211	1.5 John Garziglia	11.5	18.0
249A Lexington Park	WMDM	LIC _CX MD	147.9 328.2	89.26 BLH20051221ALT	38 16 58.0 76 33 39.0	6.000 100	40.2 114	26.1 Somar Communications, Inc.	28.0	31.9
248B Charlottesville	WWWV	LIC _C_ VA	228.1 47.3	161.80 BMLH19980925KA	37 59 05.0 78 28 49.0	8.900 345	115.6 514	59.2 Saga Communications Of Cha	31.9	32.7
248L1 Sherwood	WRYR-LP«	LIC ____ MD	107.8 288.3	70.93 BLL20020313ABJ	38 45 59.0 76 19 40.0	0.100 30	27.2 30	8.1 Wryr Community Radio Inc	38.5R	32.4M

(1) SEE TECHNICAL REPORT.

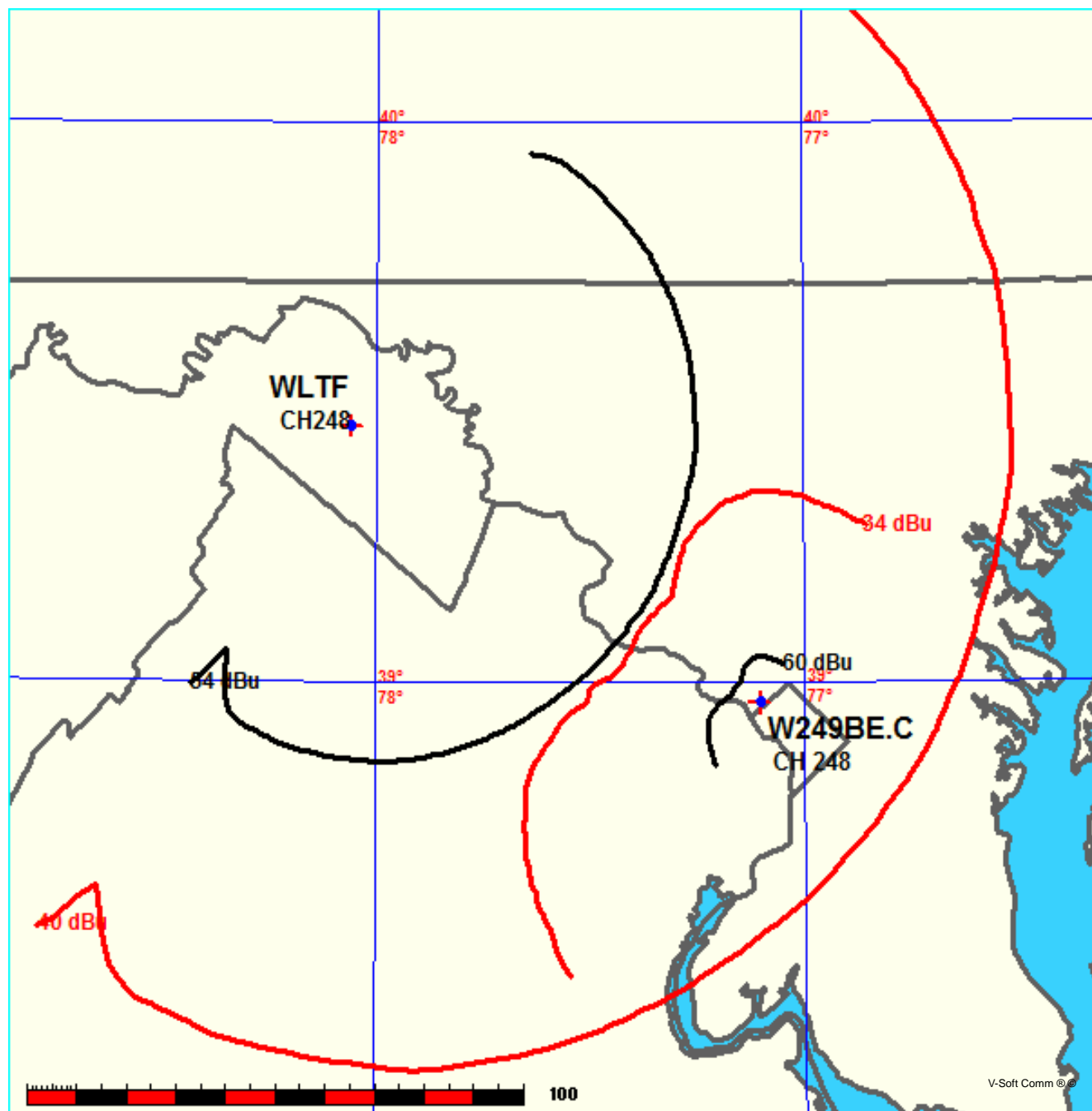
Terrain database is USGS 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding
Ant Column: (D= DA Standard, 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.
« = Station meets FCC minimum distance spacing for its class.

E1A PROPOSED - WLTF INTERFERENCE PLOT

FMCommander Single Allocation Study - 03-24-2013 - USGS 03 SEC
W249BE.C's Overlaps (In= -39.93 km, Out= 2.32 km)

W249BE.C CH 248 D DA
Lat= 38 57 50.0, Lng= 77 06 18.0
0.25 kW 212 M HAAT, 286 M COR
Prot.= 60 dBu, Intef.= 34 dBu

WLTF CH 248 B BLH20041018ACE
Lat= 39 27 33.0, Lng= 78 03 48.0
11.5 kW 316 M HAAT, 523 M COR
Prot.= 54 dBu, Intef.= 40 dBu

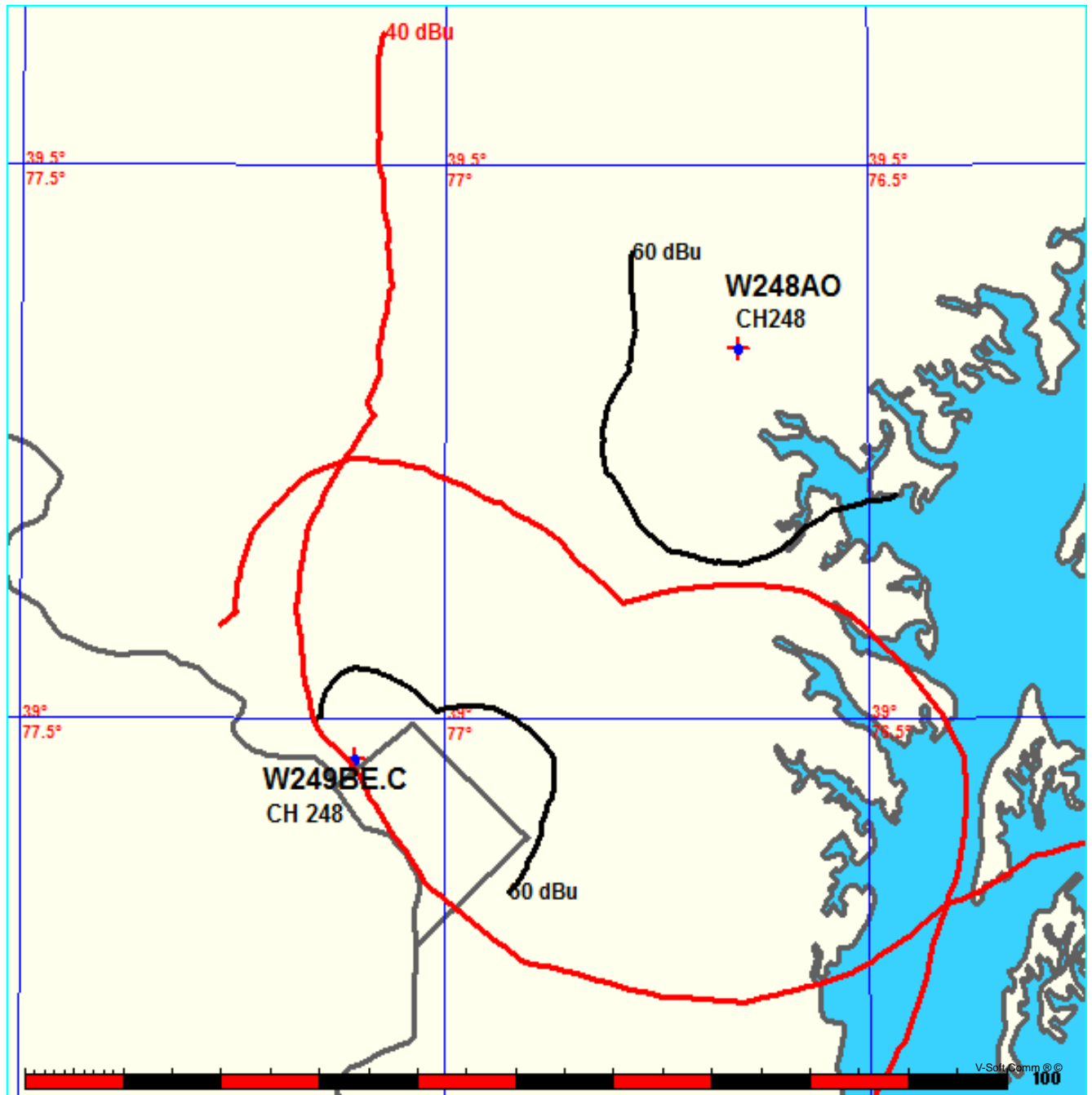


E1B PROPOSED - W248AO INTERFERENCE PLOT

FMCommander Single Allocation Study - 03-24-2013 - USGS 03 SEC
W249BE.C's Overlaps (In= -18.99 km, Out= 5.61 km)

W249BE.C CH 248 D DA
Lat= 38 57 50.0, Lng= 77 06 18.0
0.25 kW 212 M HAAT, 286 M COR
Prot.= 60 dBu, Intef.= 40 dBu

W248AO CH 248 D DA BLFT20130102ABU
Lat= 39 20 05.0, Lng= 76 39 03.0
0.25 kW 0 M HAAT, 307 M COR
Prot.= 60 dBu, Intef.= 40 dBu



W249BE.APP

Latitude: 38-57-50 N
Longitude: 077-06-18 W
ERP: 0.0645 kW
Channel: 248
Frequency: 97.5 MHz
AMSL Height: 286.0 m
Elevation: 73.0 m
Horiz. Pattern: Directional

EXHIBIT E1C

**SEE TECHNICAL REPORT FOR
DISPROVAL OF INTERFERENCE**

WIYY 56.92 DBU

WASH 109.3 DBU

Somerset

W249BE.APP

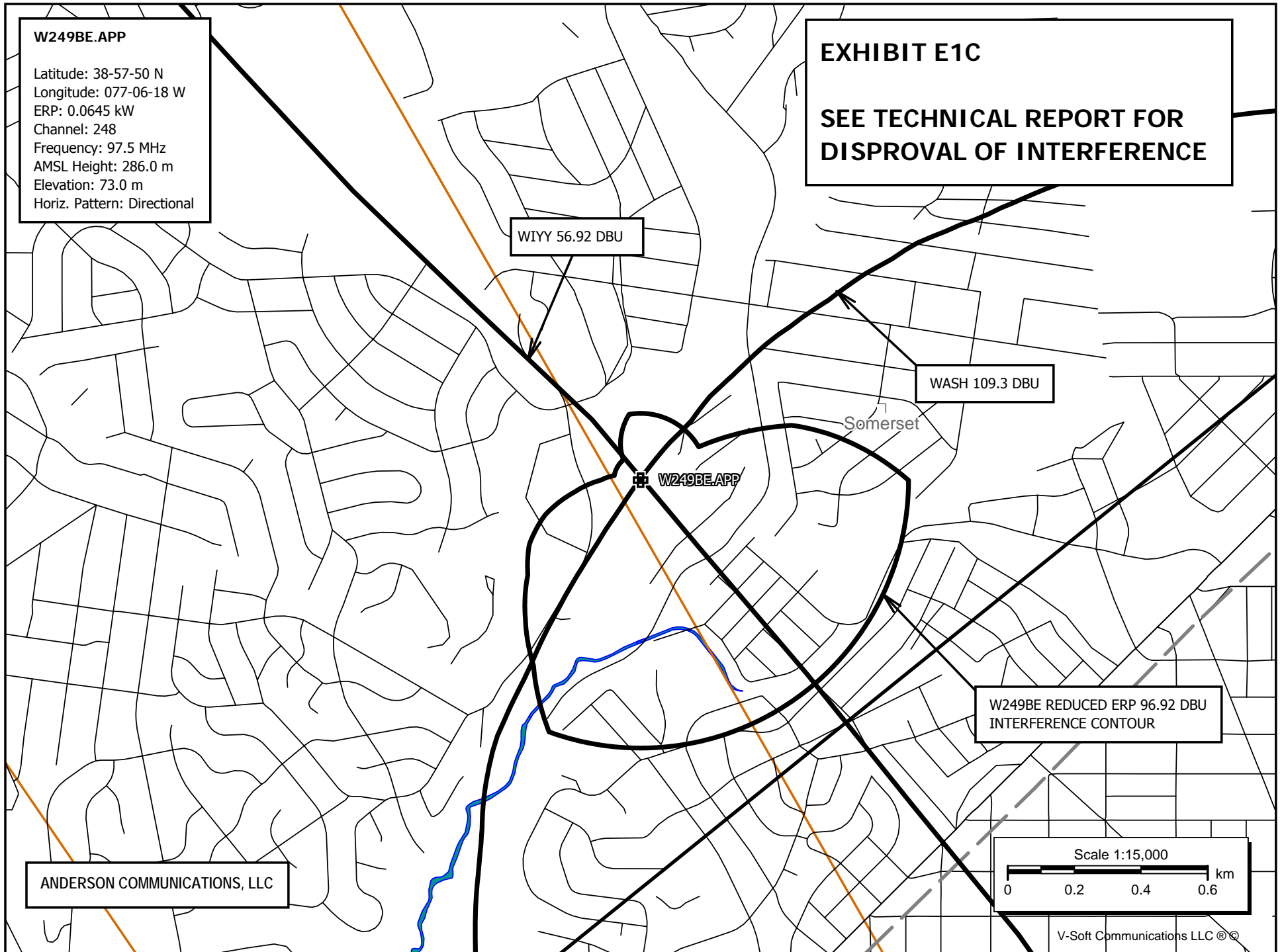
W249BE REDUCED ERP 96.92 DBU
INTERFERENCE CONTOUR

ANDERSON COMMUNICATIONS, LLC

Scale 1:15,000

0 0.2 0.4 0.6 km

V-Soft Communications LLC ©



E1D AERIAL VIEW OF WIYY INTERFERENCE CONTOUR

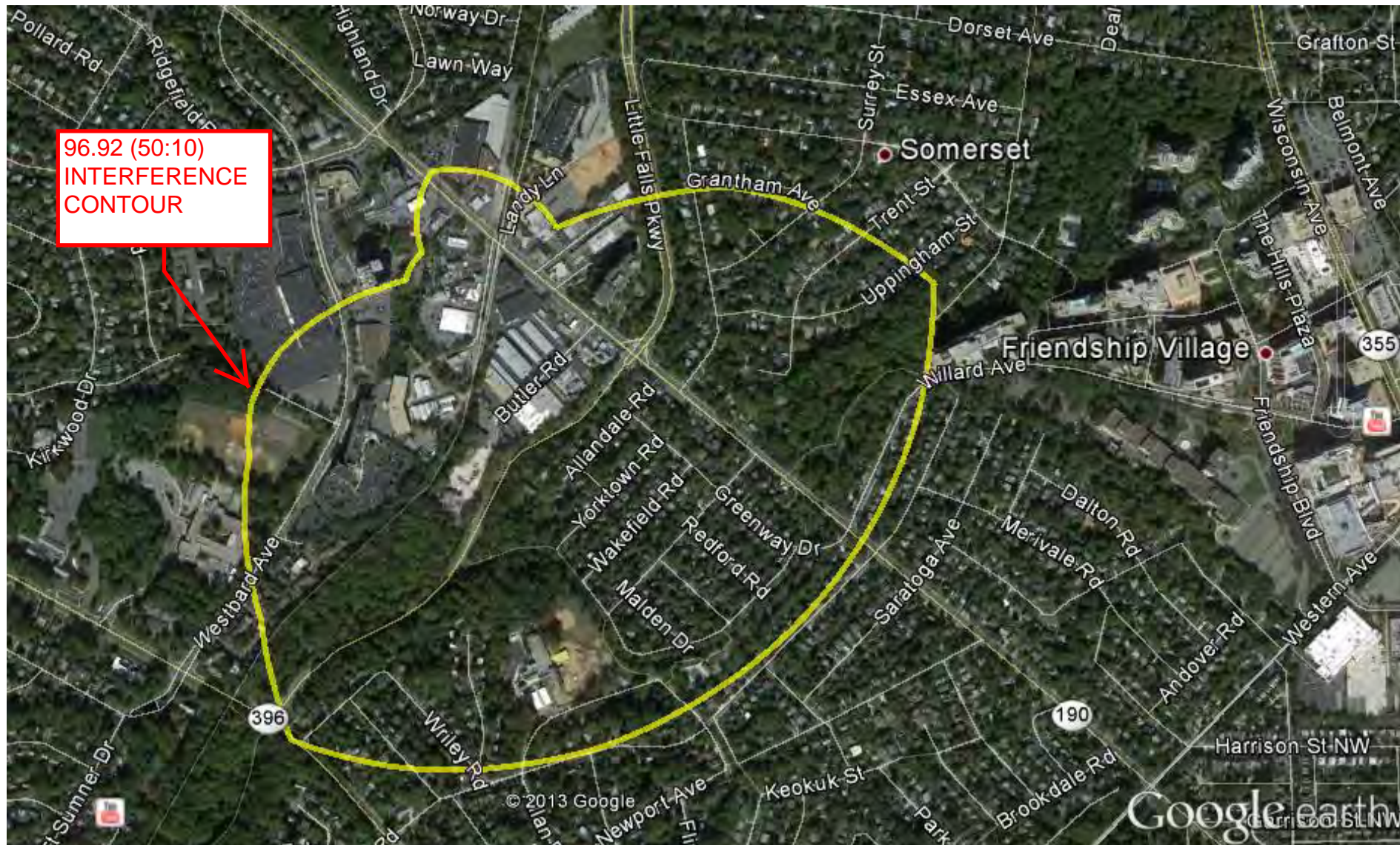


EXHIBIT E1D CONTINUED

TALLEST BUILDINGS WITHIN CONTOUR

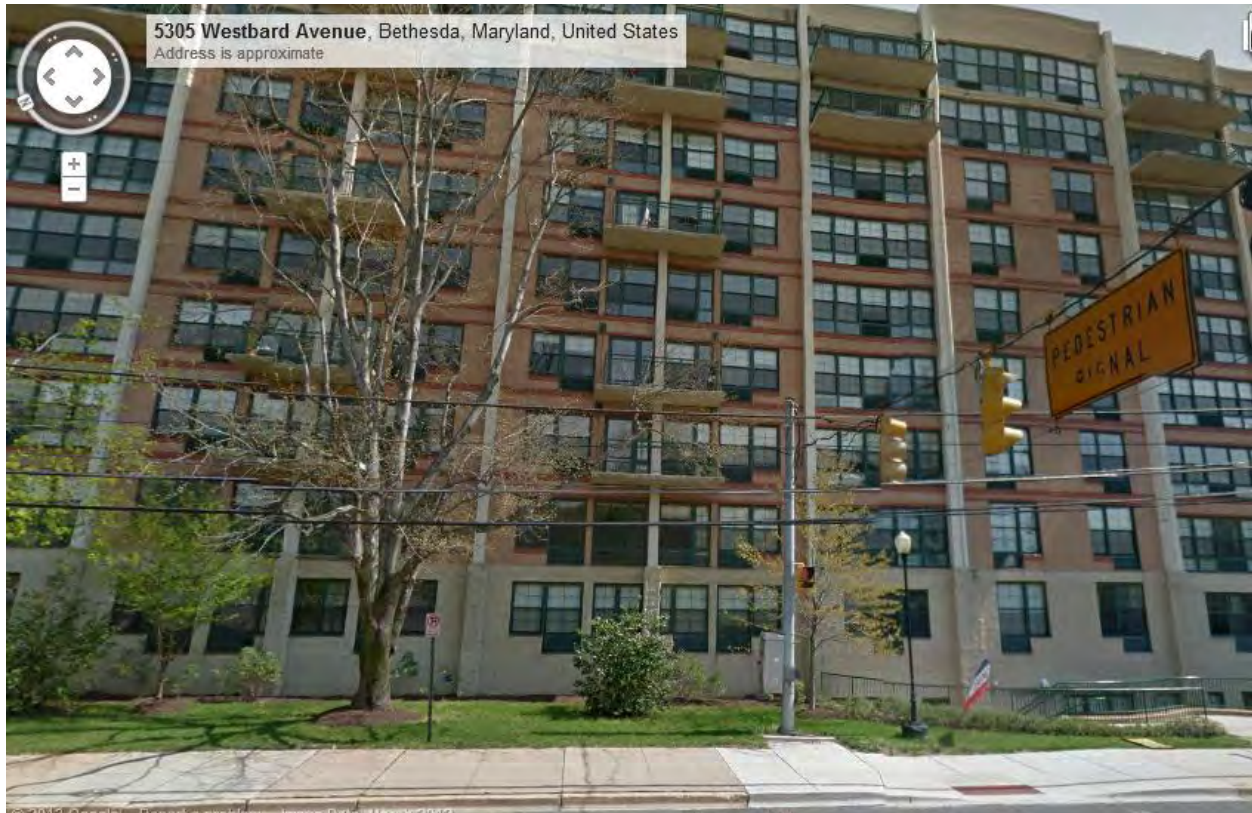


EXHIBIT E1D CONTINUED

TALLEST BUILDINGS WITHIN CONTOUR

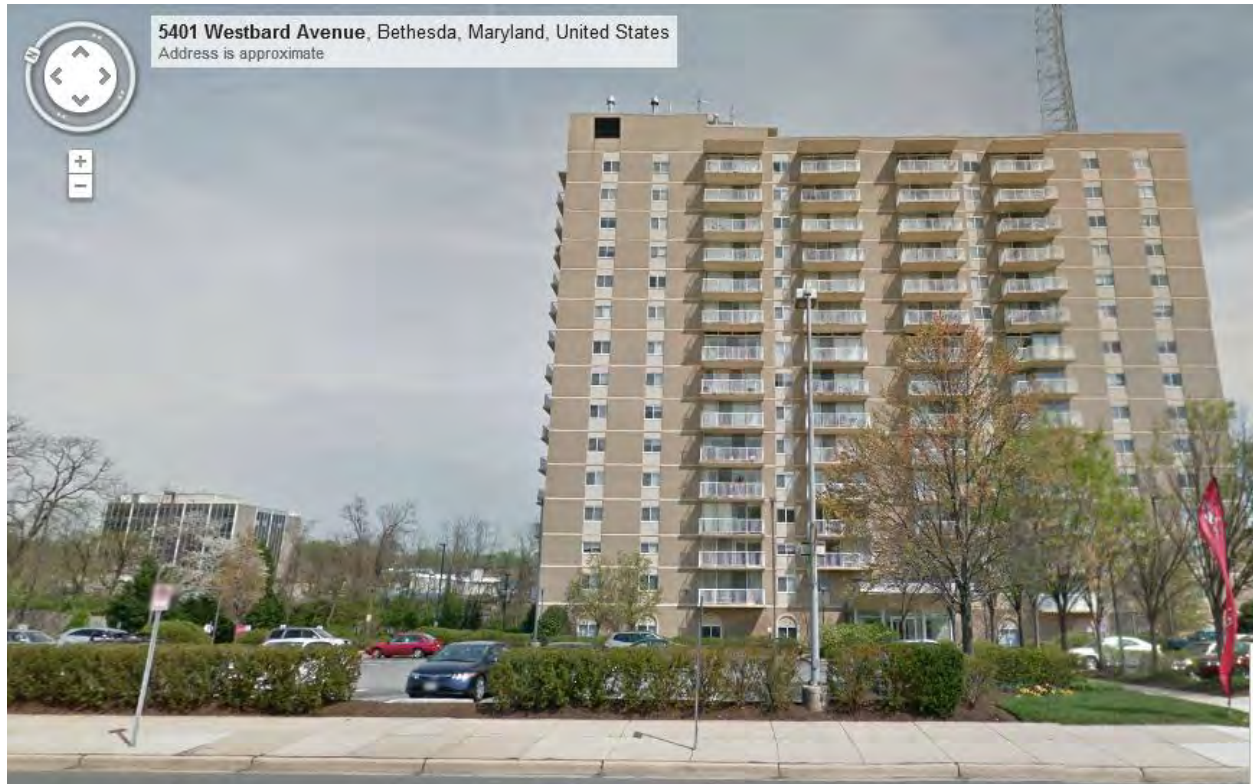
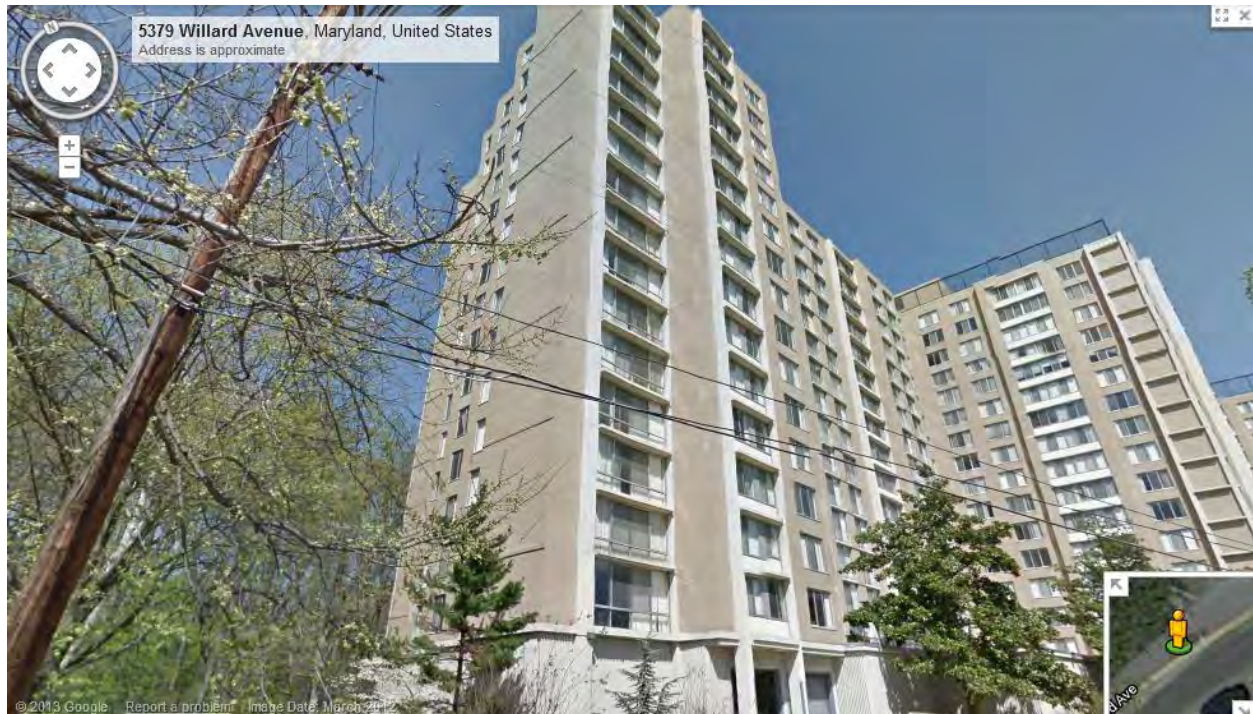


EXHIBIT E1D CONTINUED

TALLEST BUILDINGS WITHIN CONTOUR (AT THE EDGE OF THE CONTOUR)



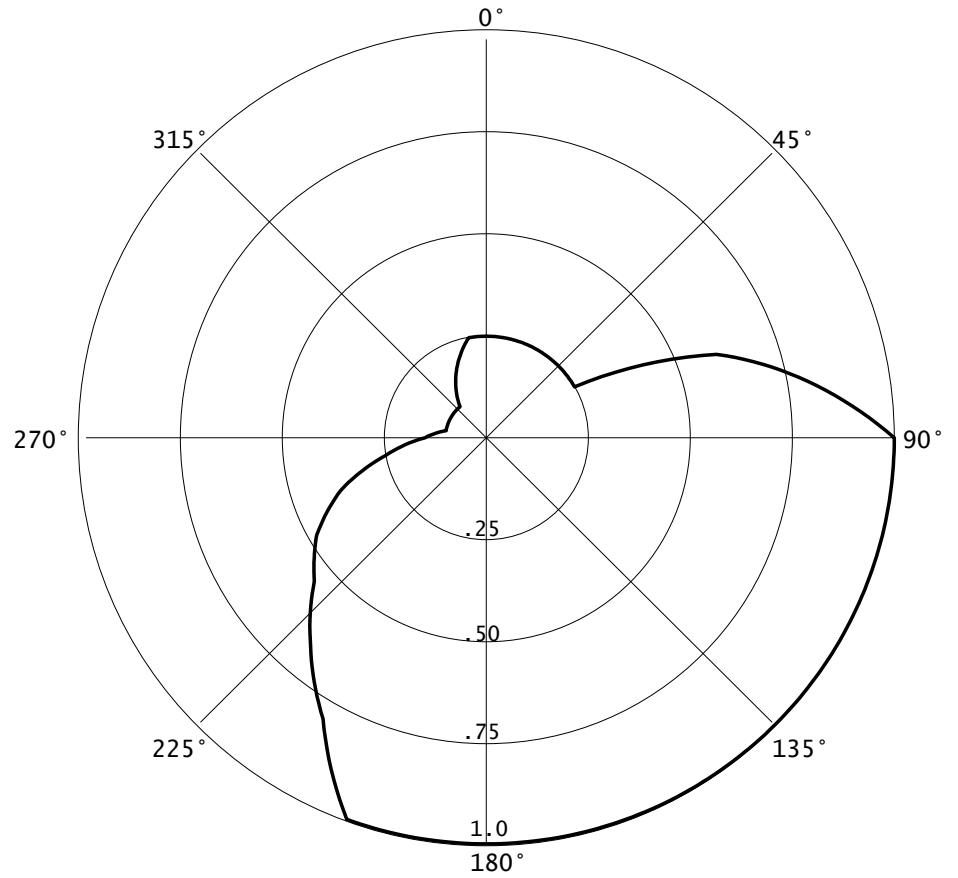
E1E DA

03-24-2013

RMS(V)= .654

Graph is Relative Field

Azi	Field	dBk	kw
000	0.250	-18.062	0.016
010	0.250	-18.062	0.016
020	0.250	-18.062	0.016
030	0.250	-18.062	0.016
040	0.250	-18.062	0.016
050	0.250	-18.062	0.016
060	0.250	-18.062	0.016
070	0.600	-10.458	0.090
080	0.800	-07.959	0.160
090	1.000	-06.021	0.250
100	1.000	-06.021	0.250
110	1.000	-06.021	0.250
120	1.000	-06.021	0.250
130	1.000	-06.021	0.250
140	1.000	-06.021	0.250
150	1.000	-06.021	0.250
160	1.000	-06.021	0.250
170	1.000	-06.021	0.250
180	1.000	-06.021	0.250
190	1.000	-06.021	0.250
200	1.000	-06.021	0.250
210	0.800	-07.959	0.160
220	0.670	-09.499	0.112
230	0.550	-11.213	0.076
240	0.480	-12.396	0.058
250	0.380	-14.425	0.036
260	0.250	-18.062	0.016
270	0.150	-22.499	0.006
280	0.100	-26.021	0.003
290	0.100	-26.021	0.003
300	0.100	-26.021	0.003
310	0.100	-26.021	0.003
320	0.100	-26.021	0.003
330	0.150	-22.499	0.006
340	0.200	-20.000	0.010
350	0.250	-18.062	0.016



Antenna Mfg.: Shively Labs

Antenna Type: 6813

Station: W249BE

Frequency: 97.5

Channel #: 248

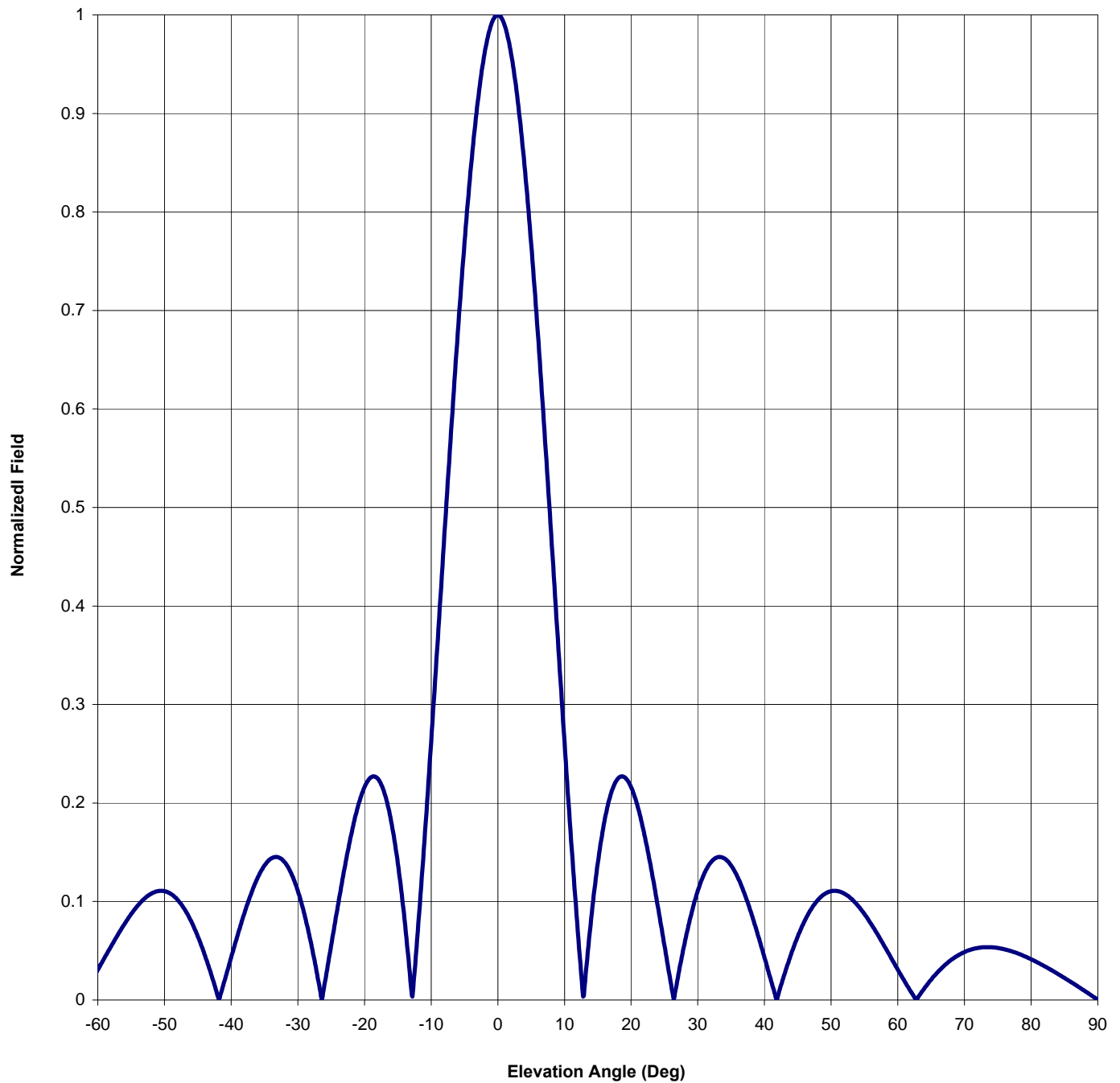
Figure: Figure 3

Date: 3/22/2013

Beam Tilt 0

Gain (Max) 2.815 4.495 dB

Gain (Horizon) 2.815 4.495 dB



Antenna Mfg.: Shively Labs

Date: 3/22/2013

Antenna Type: 6813

Station: W249BE

Beam Tilt 0

Frequency: 97.5

Gain (Max) 2.815

4.495 dB

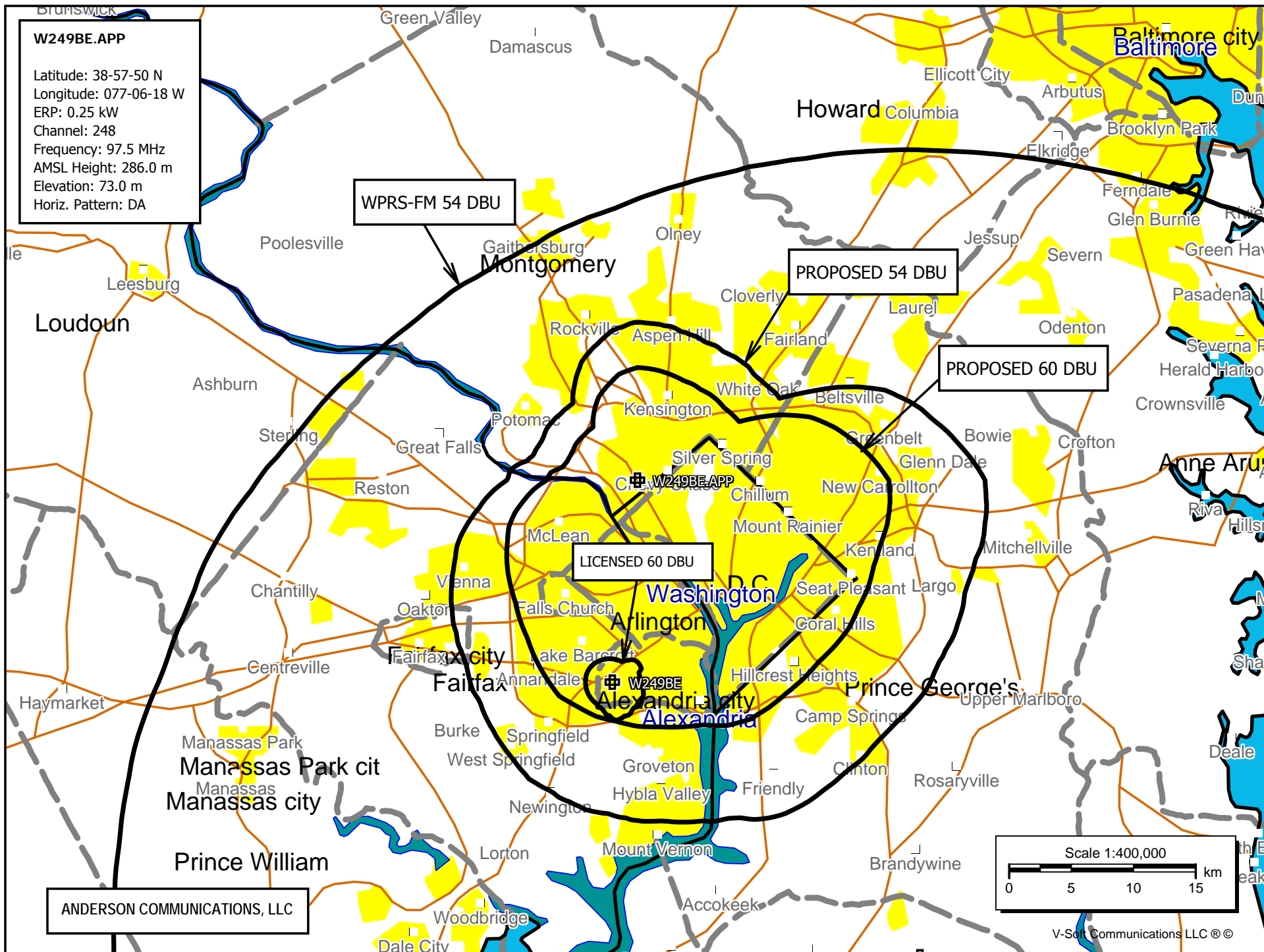
Channel #: 248

Gain (Horizon) 2.815

4.495 dB

Figure: Figure 3

Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field
-90	0.000	-44	0.047	0	1.000	46	0.080
-89	0.005	-43	0.026	1	0.990	47	0.092
-88	0.009	-42	0.004	2	0.960	48	0.101
-87	0.014	-41	0.019	3	0.912	49	0.108
-86	0.018	-40	0.043	4	0.848	50	0.110
-85	0.022	-39	0.066	5	0.768	51	0.111
-84	0.027	-38	0.088	6	0.677	52	0.108
-83	0.031	-37	0.108	7	0.578	53	0.103
-82	0.034	-36	0.124	8	0.473	54	0.096
-81	0.038	-35	0.137	9	0.367	55	0.087
-80	0.041	-34	0.144	10	0.262	56	0.077
-79	0.044	-33	0.145	11	0.162	57	0.066
-78	0.047	-32	0.140	12	0.070	58	0.055
-77	0.050	-31	0.129	13	0.012	59	0.043
-76	0.052	-30	0.111	14	0.082	60	0.031
-75	0.053	-29	0.087	15	0.139	61	0.019
-74	0.054	-28	0.057	16	0.182	62	0.008
-73	0.054	-27	0.023	17	0.210	63	0.002
-72	0.053	-26	0.015	18	0.225	64	0.012
-71	0.051	-25	0.055	19	0.226	65	0.021
-70	0.049	-24	0.095	20	0.216	66	0.028
-69	0.045	-23	0.133	21	0.196	67	0.035
-68	0.041	-22	0.168	22	0.168	68	0.041
-67	0.035	-21	0.196	23	0.133	69	0.045
-66	0.028	-20	0.216	24	0.095	70	0.049
-65	0.021	-19	0.226	25	0.055	71	0.051
-64	0.012	-18	0.225	26	0.015	72	0.053
-63	0.002	-17	0.210	27	0.023	73	0.054
-62	0.008	-16	0.182	28	0.057	74	0.054
-61	0.019	-15	0.139	29	0.087	75	0.053
-60	0.031	-14	0.082	30	0.111	76	0.052
-59	0.043	-13	0.012	31	0.129	77	0.050
-58	0.055	-12	0.070	32	0.140	78	0.047
-57	0.066	-11	0.162	33	0.145	79	0.044
-56	0.077	-10	0.262	34	0.144	80	0.041
-55	0.087	-9	0.367	35	0.137	81	0.038
-54	0.096	-8	0.473	36	0.124	82	0.034
-53	0.103	-7	0.578	37	0.108	83	0.031
-52	0.108	-6	0.677	38	0.088	84	0.027
-51	0.111	-5	0.768	39	0.066	85	0.022
-50	0.110	-4	0.848	40	0.043	86	0.018
-49	0.108	-3	0.912	41	0.019	87	0.014
-48	0.101	-2	0.960	42	0.004	88	0.009
-47	0.092	-1	0.990	43	0.026	89	0.005
-46	0.080	0	1.000	44	0.047	90	0.000
-45	0.065			45	0.065		



E3 Registration 1035708

 [Map Registration](#)

Registration Detail

Reg Number	1035708	Status	Constructed
File Number	A0748987	Constructed	12/27/1965
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

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

Location (in NAD83 Coordinates)

Lat/Long	38-57-49.9 N 077-06-17.2 W	Address	5202B RIVER RD
City, State	BETHESDA , MD		
Zip	20816	County	MONTGOMERY
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
73.2	246.6
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
319.8	227.1

Painting and Lightings Specifications

FAA Chapters 4, 7, 13

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

FAA Notification

FAA Study	2011-AEA-4561-OE	FAA Issue Date	01/25/2012
-----------	------------------	----------------	------------

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	01/26/2012
Purpose	Notification	Entered	01/26/2012
Mode	Interactive		

Related Applications

Output from NADCON for station W249BE

North American Datum Conversion

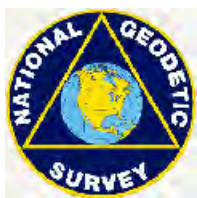
NAD 83 to NAD 27

NADCON Program Version 2.11

=====

Transformation #: 1 Region: Conus

	Latitude	Longitude
NAD 27 datum values:	38 57 49.50216	77 06 18.27794
NAD 83 datum values:	38 57 49.90000	77 06 17.20000
NAD 27 - NAD 83 shift values:	-0.39784	1.07794(secs.)
	-12.268	25.952 (meters)
Magnitude of total shift:		28.705(meters)



[NGS HOME PAGE](#)