

WDLJ

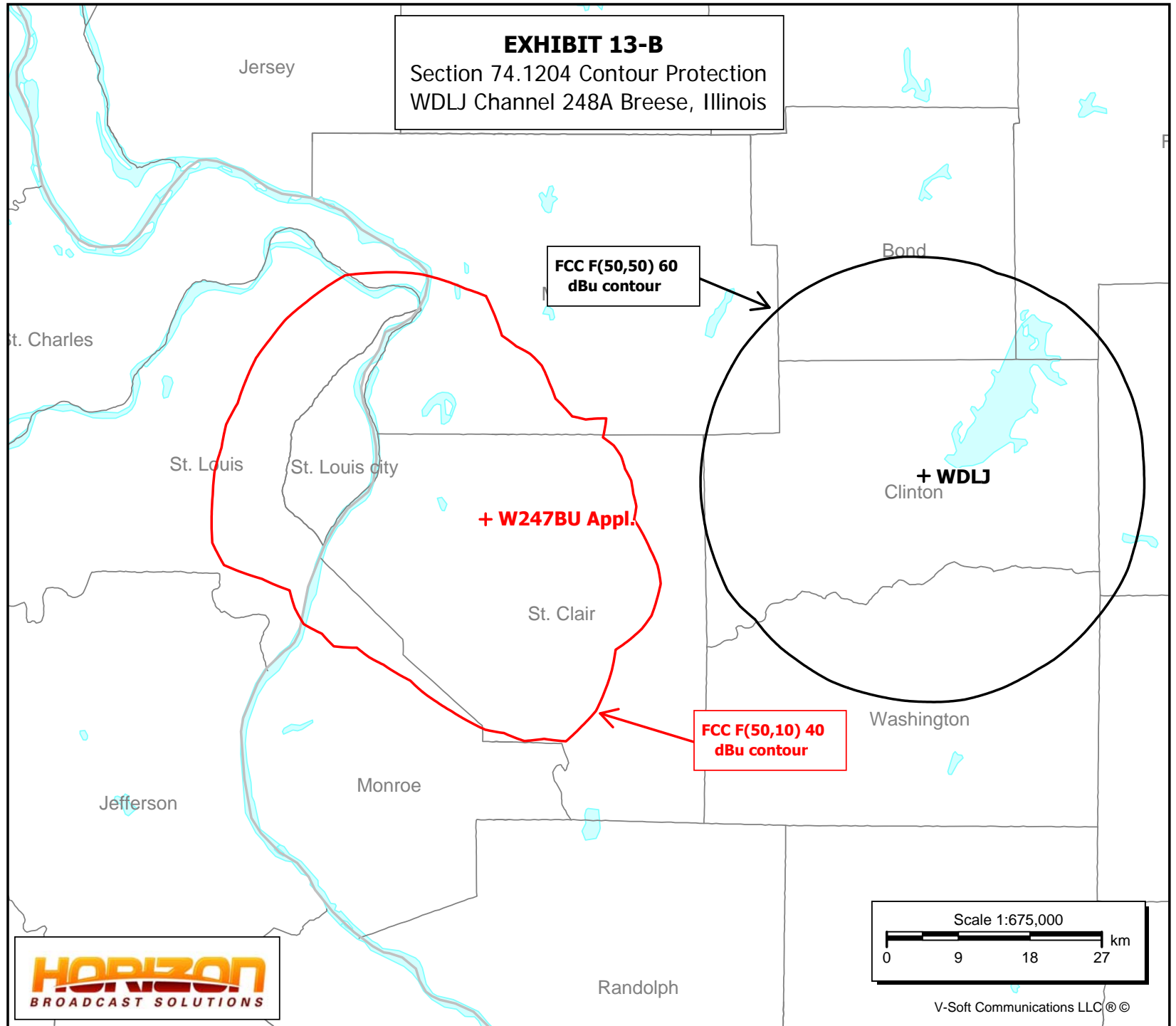
Breese, IL
Latitude: 38-36-33 N
Longitude: 089-23-35 W
ERP: 2.50 kW
Channel: 248
Frequency: 97.5 MHz
AMSL Height: 289.5 m
Elevation: 141.5 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

W247BU Appl.

Belleville, IL
Latitude: 38-33-39.50 N
Longitude: 090-01-26.50 W
ERP: 0.20 kW
Channel: 248
Frequency: 97.5 MHz
AMSL Height: 203.0 m
Elevation: 176.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

EXHIBIT 13-B

Section 74.1204 Contour Protection
WDLJ Channel 248A Breese, Illinois



HORIZON
BROADCAST SOLUTIONS

Scale 1:675,000
0 9 18 27 km

V-Soft Communications LLC ©

Exhibit 13-C

Section 74.1204 Contour Protection to KYKY

This comprehensive exhibit has been prepared to demonstrate that the proposed W247BU construction permit modification will not cause prohibited interference to KYKY, Channel 251C1, St. Louis, MO. The KYKY FCC F(50,50) protected contour at the W247BU application site is 83.8 dBu. Therefore the W247BU F(50,10) interfering contour with respect to KYKY is the 123.8 dBu contour. Using the FCC's FM propagation curves program (see attached), the 123.8 dBu contour was calculated to extend 64 meters from the antenna. As shown on the accompanying spreadsheet and chart, using the vertical elevation pattern data for the two bay half wave Nicom BKG-77 antenna, the ERP and contour distances have been calculated every 10 degrees from 0 degrees to 90 degrees. The contour distance decreases from a maximum distance of 64 meters at 0 degrees to 1 meter at 90 degrees. That data was calculated in the attached chart to plot the distance the interfering contour extends into free space. The contour does not reach the ground. The contour comes to within 8.5 meters (27.9 feet) of ground level at approximately 38 meters (125 ft.) from the tower base.

Included in this exhibit is a Google Earth screen shot showing the W247BU tower site and the surrounding area. The only occupied buildings near the tower are single story buildings which are part of Hanks Excavating, the owner of the tower.

It is believed that the proposed modification to W247BU will not cause prohibited interference to KYKY as no interference reaches the ground or any near by occupied buildings. Therefore it is believed the proposed W247BU modification is in compliance with Section 74.1204 contour protection with respect to KYKY.

KYKY

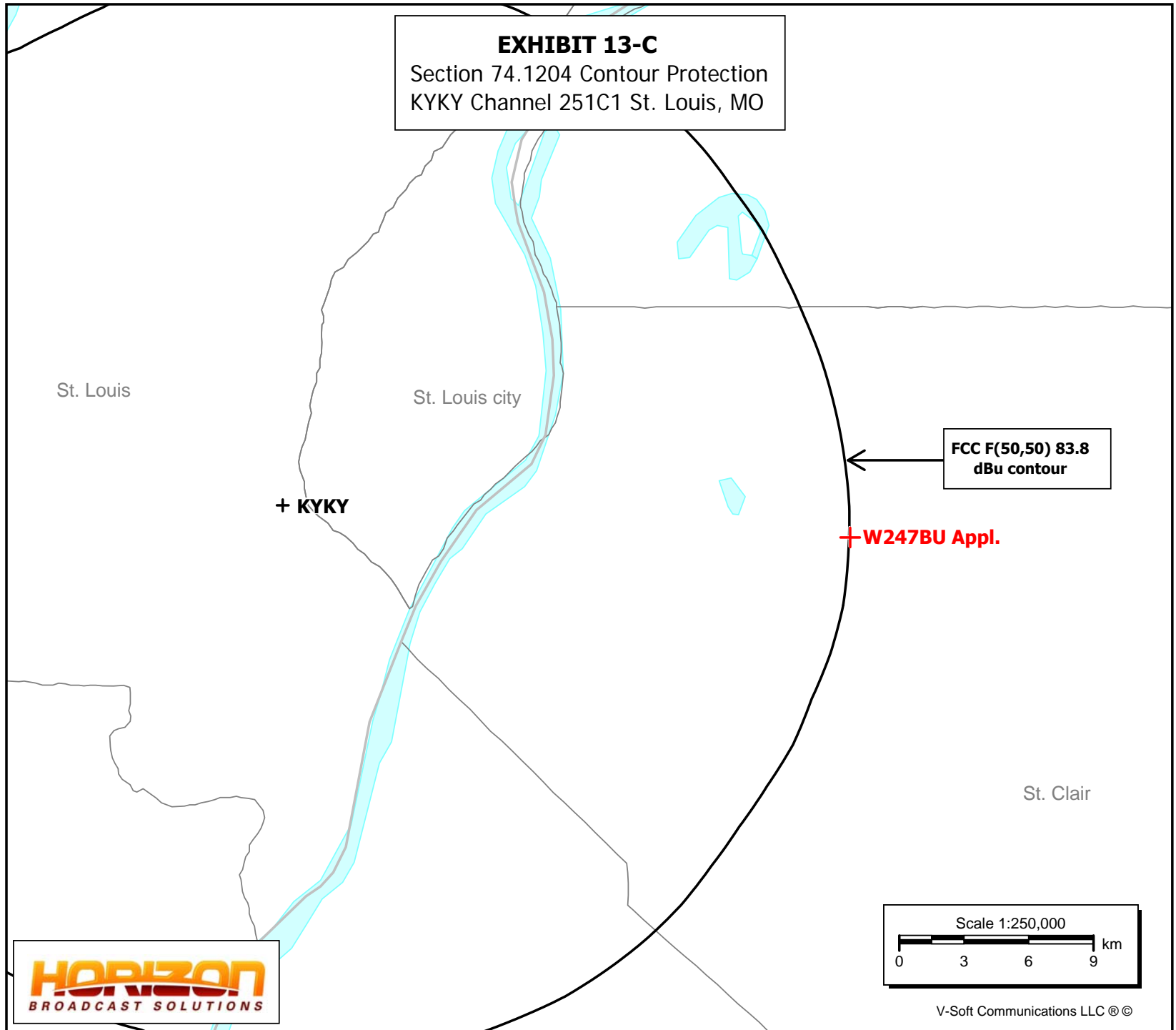
St. Louis, MO
BLH20110919ADO
Latitude: 38-34-27.70 N
Longitude: 090-19-31.50 W
ERP: 90.00 kW
Channel: 251
Frequency: 98.1 MHz
AMSL Height: 462.2 m
Elevation: 137.2 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

W247BU Appl.

Belleville, IL
Latitude: 38-33-39.50 N
Longitude: 090-01-26.50 W
ERP: 0.20 kW
Channel: 248
Frequency: 97.5 MHz
AMSL Height: 203.0 m
Elevation: 176.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

EXHIBIT 13-C

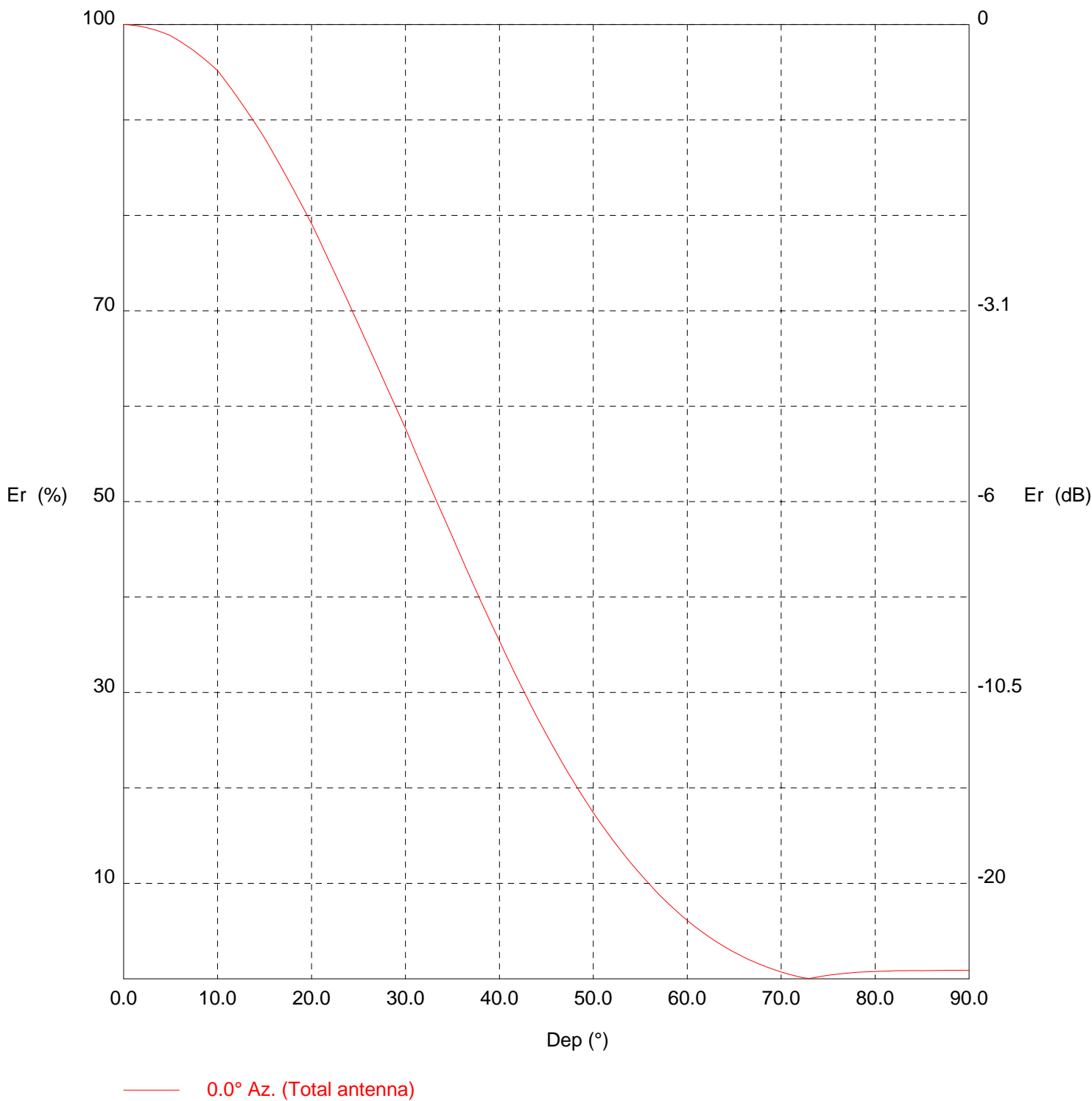
Section 74.1204 Contour Protection
KYKY Channel 251C1 St. Louis, MO



TX station: BKG77/2 GENERIC
Frequency: 98.10 MHz

Site name: 1/2 WAVE SEPARATION

Vertical diagram



TX station: BKG77/2 GENERIC

Site name: 1/2 WAVE SEPARATION

Frequency: 98.10 MHz

Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	914.2	30.0	57.7	304.2	60.0	6.1	3.4
0.5	100.0	913.7	30.5	56.5	292.0	60.5	5.7	3.0
1.0	99.9	912.9	31.0	55.3	280.1	61.0	5.3	2.6
1.5	99.9	911.6	31.5	54.2	268.5	61.5	5.0	2.3
2.0	99.8	910.0	32.0	53.0	257.2	62.0	4.6	1.9
2.5	99.7	908.1	32.5	51.9	246.3	62.5	4.3	1.7
3.0	99.5	905.7	33.0	50.8	235.6	63.0	3.9	1.4
3.5	99.4	903.0	33.5	49.6	225.3	63.5	3.6	1.2
4.0	99.2	899.9	34.0	48.5	215.3	64.0	3.3	1.0
4.5	99.0	896.5	34.5	47.4	205.5	64.5	3.1	0.9
5.0	98.8	892.7	35.0	46.3	196.1	65.0	2.8	0.7
5.5	98.5	887.7	35.5	45.2	186.5	65.5	2.5	0.6
6.0	98.2	882.4	36.0	44.0	177.3	66.0	2.3	0.5
6.5	97.9	876.7	36.5	42.9	168.4	66.5	2.0	0.4
7.0	97.6	870.7	37.0	41.8	159.8	67.0	1.8	0.3
7.5	97.2	864.3	37.5	40.7	151.5	67.5	1.6	0.2
8.0	96.9	857.7	38.0	39.6	143.5	68.0	1.4	0.2
8.5	96.5	850.8	38.5	38.5	135.8	68.5	1.2	0.1
9.0	96.1	843.5	39.0	37.5	128.5	69.0	1.0	0.1
9.5	95.6	836.0	39.5	36.4	121.4	69.5	0.9	0.1
10.0	95.2	828.2	40.0	35.4	114.6	70.0	0.7	0.0
10.5	94.5	817.1	40.5	34.4	107.9	70.5	0.6	0.0
11.0	93.9	805.8	41.0	33.3	101.5	71.0	0.4	0.0
11.5	93.2	794.4	41.5	32.3	95.4	71.5	0.3	0.0
12.0	92.5	782.7	42.0	31.3	89.5	72.0	0.2	0.0
12.5	91.8	770.9	42.5	30.3	84.0	72.5	0.1	0.0
13.0	91.1	759.0	43.0	29.3	78.7	73.0	0.0	0.0
13.5	90.4	746.9	43.5	28.4	73.6	73.5	0.1	0.0
14.0	89.6	734.6	44.0	27.4	68.8	74.0	0.2	0.0
14.5	88.9	722.3	44.5	26.5	64.3	74.5	0.3	0.0
15.0	88.1	709.8	45.0	25.6	59.9	75.0	0.4	0.0
15.5	87.3	696.2	45.5	24.7	55.8	75.5	0.4	0.0
16.0	86.4	682.5	46.0	23.8	51.9	76.0	0.5	0.0
16.5	85.5	668.7	46.5	23.0	48.2	76.5	0.5	0.0
17.0	84.6	655.0	47.0	22.1	44.7	77.0	0.6	0.0
17.5	83.8	641.2	47.5	21.3	41.5	77.5	0.6	0.0
18.0	82.8	627.4	48.0	20.5	38.4	78.0	0.7	0.0
18.5	81.9	613.7	48.5	19.7	35.4	78.5	0.7	0.0
19.0	81.0	599.9	49.0	18.9	32.7	79.0	0.7	0.0
19.5	80.1	586.2	49.5	18.2	30.1	79.5	0.7	0.1
20.0	79.1	572.5	50.0	17.4	27.7	80.0	0.8	0.1
20.5	78.1	557.6	50.5	16.7	25.5	80.5	0.8	0.1
21.0	77.1	542.9	51.0	16.0	23.4	81.0	0.8	0.1
21.5	76.0	528.2	51.5	15.3	21.4	81.5	0.8	0.1
22.0	75.0	513.7	52.0	14.6	19.6	82.0	0.8	0.1
22.5	73.9	499.3	52.5	14.0	17.9	82.5	0.8	0.1
23.0	72.8	485.1	53.0	13.3	16.3	83.0	0.8	0.1
23.5	71.8	471.1	53.5	12.7	14.8	83.5	0.9	0.1
24.0	70.7	457.2	54.0	12.1	13.4	84.0	0.9	0.1
24.5	69.6	443.5	54.5	11.5	12.2	84.5	0.9	0.1
25.0	68.6	429.9	55.0	11.0	11.0	85.0	0.8	0.1
25.5	67.5	416.4	55.5	10.4	9.9	85.5	0.9	0.1
26.0	66.4	403.0	56.0	9.9	8.9	86.0	0.9	0.1
26.5	65.3	389.8	56.5	9.3	8.0	86.5	0.9	0.1
27.0	64.2	376.9	57.0	8.8	7.1	87.0	0.9	0.1
27.5	63.1	364.2	57.5	8.3	6.4	87.5	0.9	0.1
28.0	62.0	351.7	58.0	7.9	5.6	88.0	0.9	0.1
28.5	60.9	339.4	58.5	7.4	5.0	88.5	0.9	0.1
29.0	59.8	327.4	59.0	7.0	4.4	89.0	0.9	0.1
29.5	58.8	315.7	59.5	6.5	3.9	89.5	0.9	0.1

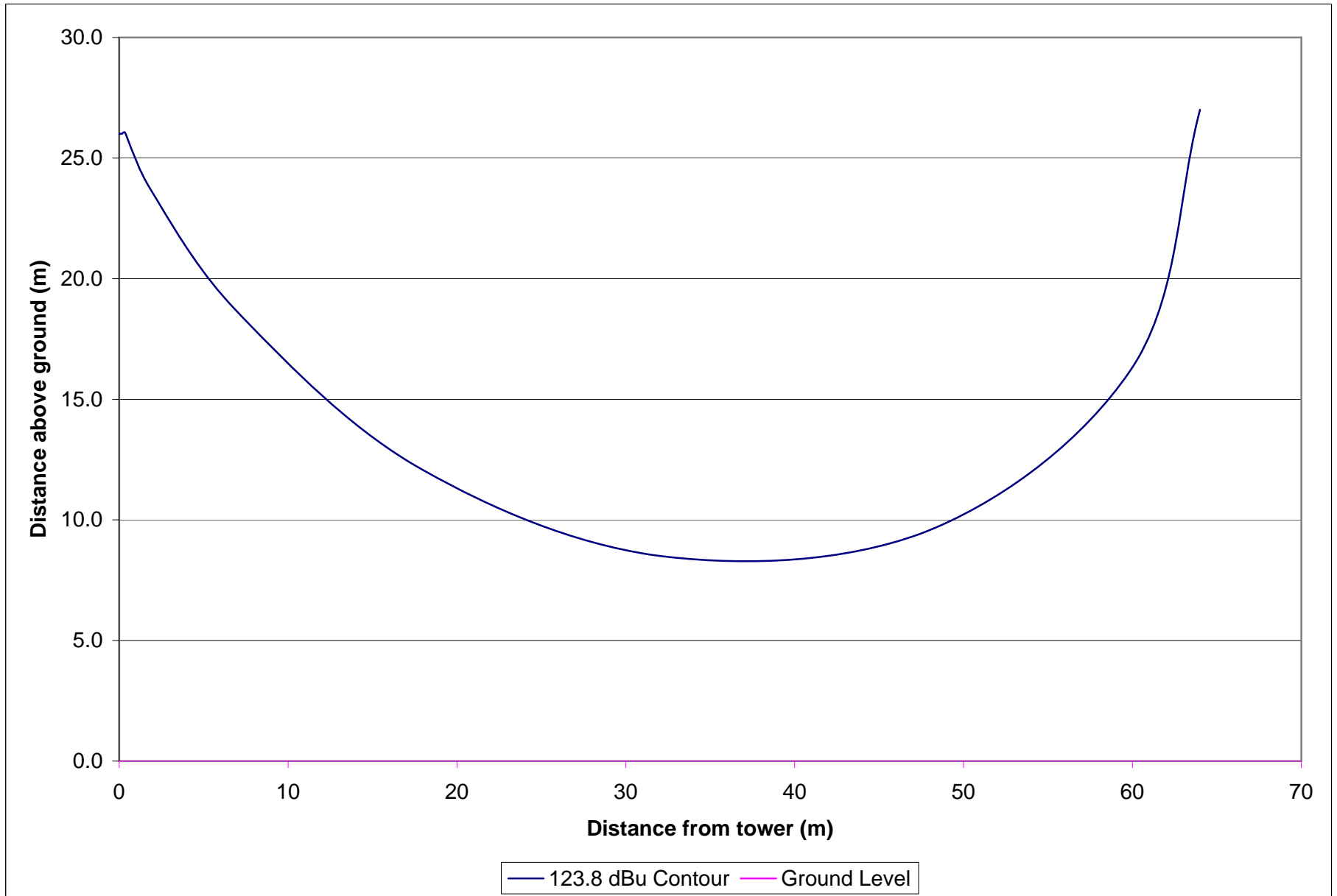
EXHIBIT 13-C

W247BU - Belleville, IL

Section 74.1204 Contour Protection to KYKY CH251C1 St. Louis, MO

Close-Up of contour at closest point to ground

(123.8 dBu F(50,10) interfering contour shown)



The W247BU 123.8 dBu interfering contour with respect to KYKY does not reach the ground.

Θ (°)	Θ (radians)	R (m)
0	0	64
10	0.175	61
20	0.349	51
30	0.524	37
40	0.698	23
50	0.873	11
60	1.047	4
70	1.222	1
80	1.396	1
90	1.571	1

x'	y'	$y = 27 - y'$	Gnd
64	0	27.0	0
60.1	10.6	16.4	0
47.9	17.4	9.6	0
32.0	18.5	8.5	0
17.6	14.8	12.2	0
7.1	8.4	18.6	0
2.0	3.5	23.5	0
0.3	0.9	26.1	0
0.2	1.0	26.0	0
0.0	1	26.0	0

Angle of				123.8 dBu
Elevation	Relative	ERP	ERP	Contour*
(Degrees)	Field	(watts)	(dBk)	(Meters)
-----	-----	-----	-----	-----
0	1	200	-6.99	64
-10	0.952	181	-7.417	61
-20	0.791	125	-9.026	51
-30	0.577	67	-11.766	37
-40	0.354	25	-16.01	23
-50	0.174	6	-22.179	11
-60	0.061	0.7	-31.283	4
-70	0.007	0.1	-50.088	1
-80	0.008	0.1	-48.928	1
-90	0.009	0.1	-47.905	1



Google earth

feet 500
meters 100



KWAP-LP.CP

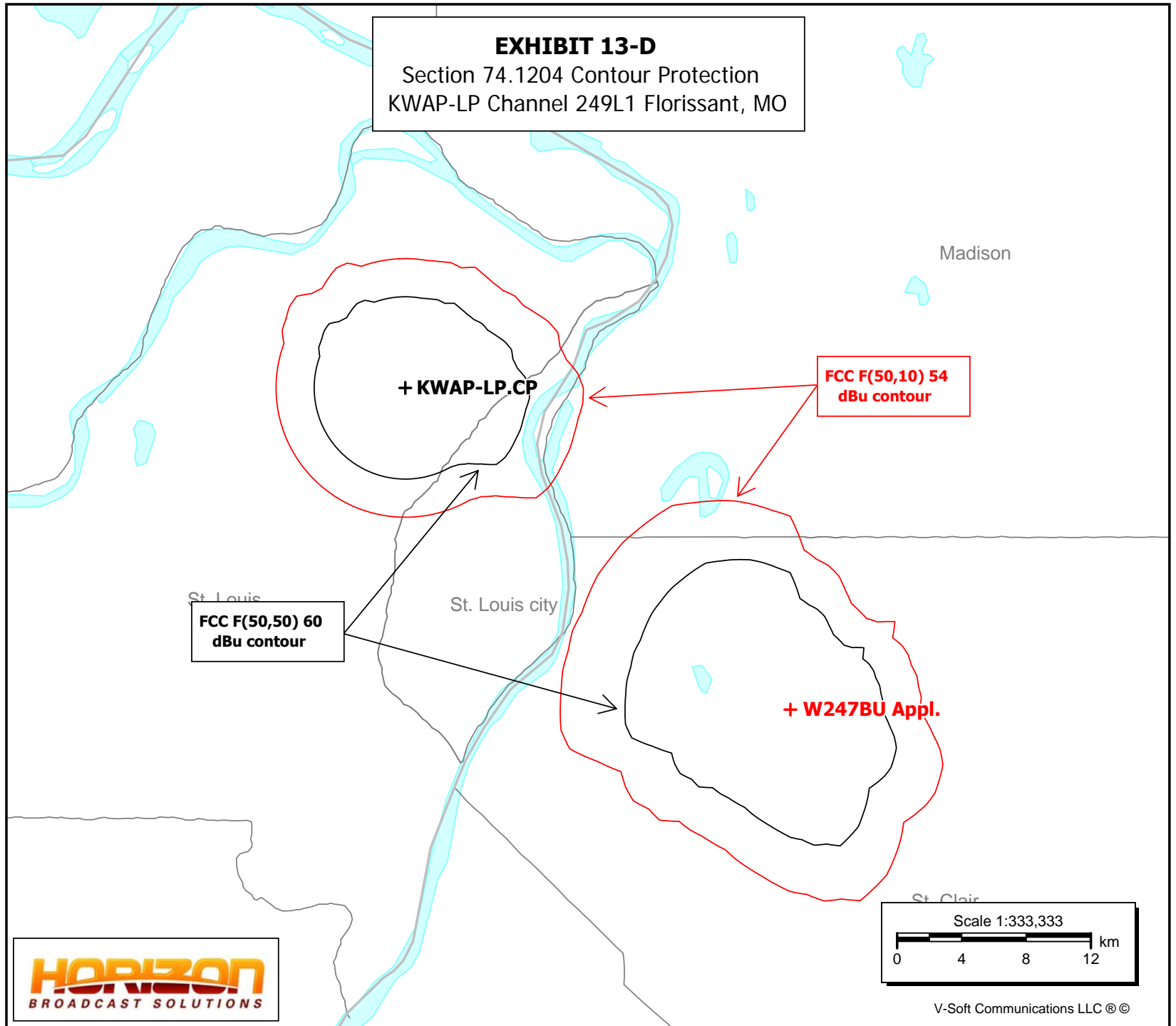
Florissant, MO
BNPL20131113AUX
Latitude: 38-44-24.80 N
Longitude: 090-17-51.60 W
ERP: 0.10 kW
Channel: 249
Frequency: 97.7 MHz
AMSL Height: 186.2 m
Elevation: 153.9 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

W247BU Appl.

Belleville, IL
Latitude: 38-33-39.50 N
Longitude: 090-01-26.50 W
ERP: 0.20 kW
Channel: 248
Frequency: 97.5 MHz
AMSL Height: 203.0 m
Elevation: 176.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

EXHIBIT 13-D

Section 74.1204 Contour Protection
KWAP-LP Channel 249L1 Florissant, MO



KFTK

Florissant, MO
BLH19851127KC
Latitude: 38-46-45 N
Longitude: 090-43-43 W
ERP: 100.00 kW
Channel: 246
Frequency: 97.1 MHz
AMSL Height: 334.0 m
Elevation: 194.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

W247BU Appl.

Belleville, IL
Latitude: 38-33-39.50 N
Longitude: 090-01-26.50 W
ERP: 0.20 kW
Channel: 248
Frequency: 97.5 MHz
AMSL Height: 203.0 m
Elevation: 176.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

EXHIBIT 13-E

Section 74.1204 Contour Protection
KFTK Channel 246C1 Florissant, MO

