

## **Second Adjacent Exhibit & Waiver Request**

**KZHP-LP – Sacramento, California - Facility ID# 194417**

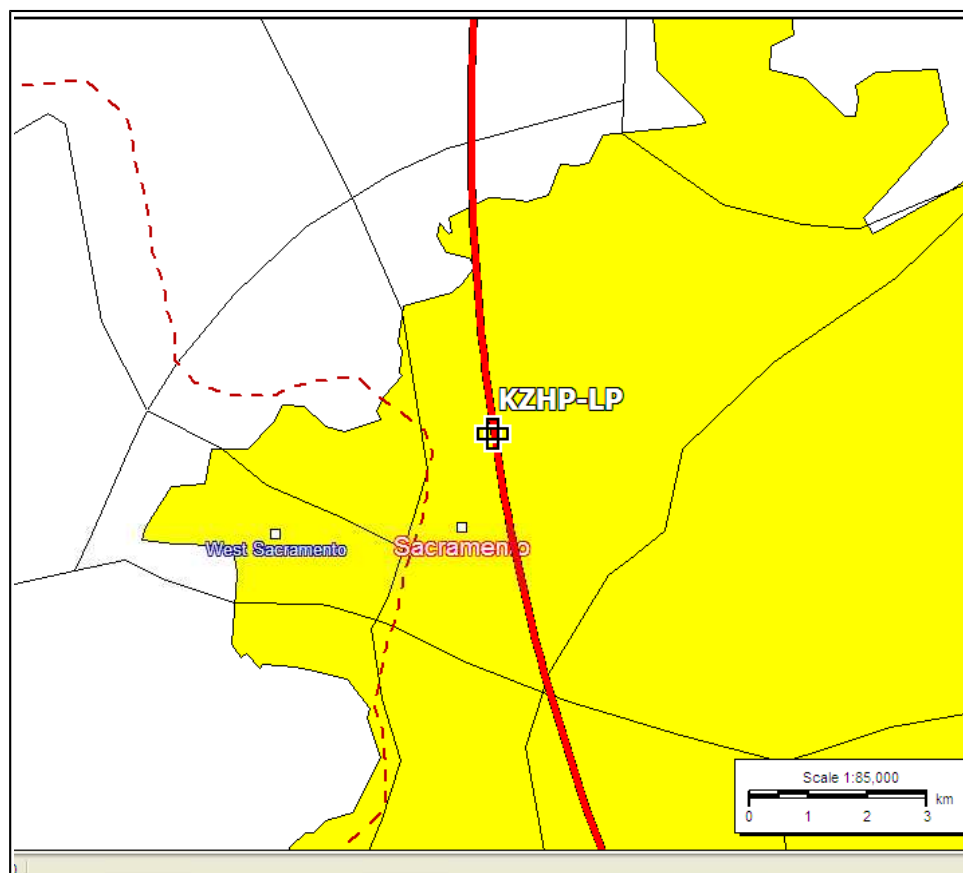
**June 2019**

The attached D/U Ratio Study dataset calculates KYRV FM with an estimated signal strength of 69.65 dBuV/m at the site. With an additional 40 dBu, KYRV is protected to 109.65 dBuV/m.

Antenna structure will be mounted on an existing tower placing center of radiation at 46.6 meters above ground level. Using FCC 30 second terrain data for determining height above average terrain, the COR at 53.6 meters AMSL is calculated 43 meters HAAT, resulting at 49 watts ERP.

Using a Shively 6812b two-bay array spaced  $.75 \lambda$  at 49 watts ERP, worst-case interference radius of 99 m will extend no more than 10.6 above ground level. No population will be subject to interference according to the undesired-to-desired ratio method.

**KYRV (FM) – 109.65 dBuV/m at antenna site:**



## **Shively 6812 – 2 Bay - .75 wave**

### **Depression angle calculations**

Power – 49 W

Height – 46.6

Contour – 109.65 dBu

depression angle below horizon	relative field	db from relative	ERP	angular distance to contour	vertical distance	horizontal distance	clearance above ground
0	1.000	0.00	49.00	161.553	0.000	161.553	46.60
5	0.975	-0.22	46.58	157.515	13.728	156.915	32.87
10	0.904	-0.88	40.04	146.044	25.360	143.826	21.24
15	0.793	-2.01	30.81	128.112	33.158	123.747	13.44
20	0.652	-3.72	20.83	105.333	36.026	98.980	10.57
25	0.495	-6.11	12.01	79.969	33.796	72.476	12.80
30	0.333	-9.55	5.43	53.797	26.899	46.590	19.70
35	0.180	-14.89	1.59	29.080	16.679	23.821	29.92
40	0.044	-27.13	0.09	7.108	4.569	5.445	42.03
45	0.068	-23.35	0.23	10.986	7.768	7.768	38.83
50	0.152	-16.36	1.13	24.556	18.811	15.784	27.79
55	0.206	-13.72	2.08	33.280	27.261	19.089	19.34
60	0.233	-12.65	2.66	37.642	32.599	18.821	14.00
65	0.234	-12.62	2.68	37.803	34.262	15.976	12.34
70	0.214	-13.39	2.24	34.572	32.487	11.824	14.11
75	0.177	-15.04	1.54	28.595	27.621	7.401	18.98
80	0.127	-17.92	0.79	20.517	20.206	3.563	26.39
85	0.067	-23.48	0.22	10.824	10.783	0.943	35.82
90	0.000	-80.00	0.00	0.016	0.016	0.000	46.58