

**Channel Study**

REFERENCE		CH# 248D - 97.5 MHz, Pwr= 0.075 kW, HAAT= 148.7 M, COR= 365 M								DISPLAY DATES		
41 30 03.0 N.		Average Protected F(50-50)= 11.7 km								DATA 08-08-16		
90 40 24.0 W.		Omni-directional								SEARCH 08-08-16		
CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*	
248D Davenport	K248CE!	CP	C IA	65.8 245.9	8.70 BNPFT20130820ABO	41 31 58.0 90 34 41.0	0.041 68	18.7 272	5.7 Benjamin Shafer	-21.8	-36.5	
245B Moline	WXLP	LIC	CN IL	126.4 306.6	30.52 BLH4960	41 20 16.0 90 22 46.0	50.000 152	5.9 374	64.3 Townsquare Media Quad Citi	11.8	-35.0*<	
247D Bettendorf	K247BW	LIC	C IA	56.0 236.2	26.36 BLFT20150521ABO	41 37 58.0 90 24 38.0	0.040 90	9.6 292	6.7 Illinois Bible Institute,	5.2	2.9	
247D Bettendorf	K247BW	CP	C IA	56.0 236.2	26.36 BNPFT20151005ABB	41 37 58.0 90 24 38.0	0.040	9.6 292	6.7 Illinois Bible Institute,	5.2	2.9	
250D Davenport	K250BM	CP	C IA	71.7 251.8	17.32 BNPFT20151216AFR	41 32 58.0 90 28 34.0	0.250	1.1 277	10.8 Starboard Media Foundation	4.1	5.9	
249A Monmouth	WMOI	LIC	CN IL	175.4 355.5	68.02 BLH19910118KB	40 53 25.0 90 36 31.0	3.400 134	43.7 356	28.7 Wpw Broadcasting, Inc.	12.8	22.5	
248B Rockford	WZOK	LIC	CX IL	56.9 238.0	160.95 BLH20070731ALC	42 16 45.0 89 02 15.0	50.000 138	136.3 378	63.6 Townsquare Media Rockford	13.1	44.2	
249D Clinton	K249DO	LIC	C IA	43.5 223.8	53.30 BLFT20061116AED	41 50 50.0 90 13 49.0	0.170 101	16.7 302	11.5 Educational Media Foundati	25.3	25.5	
251C1 Cedar Rapids	KHAK	LIC	CN IA	301.4 120.8	91.42 BLH19790823AG	41 55 28.0 91 36 55.0	100.000 140	6.4 382	54.4 Townsquare Media Cedar Rap	74.3	36.5	
247B1 Elmwood	WFYR	LIC	CN IL	135.9 316.5	112.17 BLH19930812KD	40 46 22.0 89 44 50.0	23.500 103	59.8 295	44.6 Radio License Holding Cbc,	39.8	45.1	
247C3 Epworth	KGRR	LIC	CX IA	355.4 175.3	106.67 BLH20090924AAS	42 27 29.0 90 46 40.0	25.000 100	54.4 381	33.9 Radio Dubuque, Inc.	41.1	56.6	
247D Iowa City	K247CA	CP	C IA	286.7 106.2	72.95 BNPFT20130930BUP	41 41 10.0 91 30 46.0	0.250 97	18.1 323	12.3 E-string Wireless, Ltd	44.3	45.9	
247A New London	KHDK	LIC	C IA	219.6 39.1	101.13 BLH20041004AAP	40 47 53.0 91 26 22.0	3.800 125	41.9 332	27.4 Pritchard Broadcasting Cor	47.4	56.4	
248L1 Cedar Rapids	KEWR-LP	LIC	C IA	306.5 125.8	99.45 BLL20141106ACJ	42 01 40.0 91 38 25.0	0.067 37			70.7	57.3	

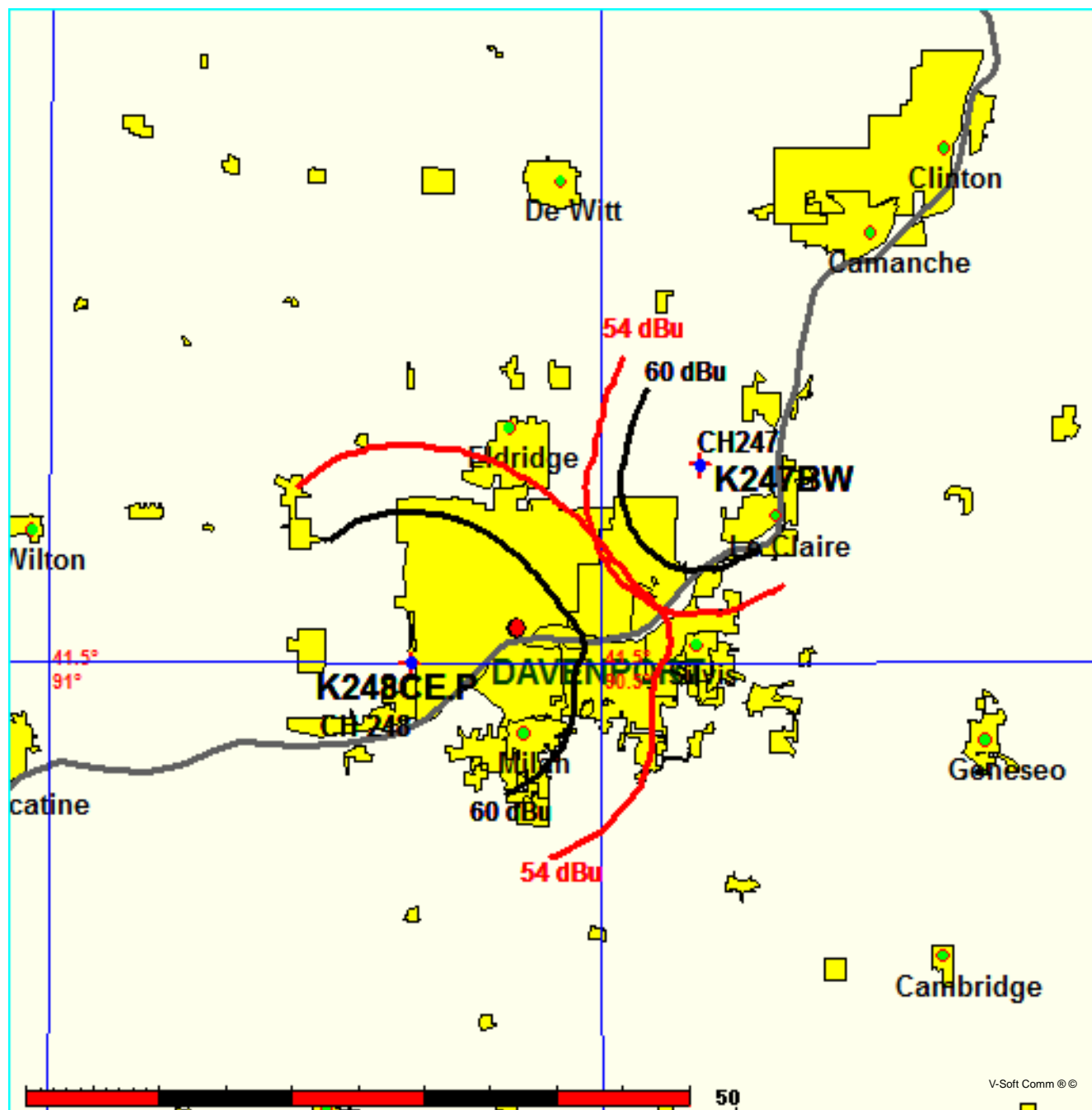
Terrain database is GLOBE 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference Zone= West Zone, Co to 3rd adjacent.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
 < = Contour Overlap

Benjamin Shafer

FMCommander Single Allocation Study - 08-09-2016 - GLOBE 30 Sec  
K248CE.P's Overlaps (In= 5.24 km, Out= 2.89 km)

K248CE.P CH 248 D  
Lat= 41 30 03.0, Lng= 90 40 24.0  
0.075 kW 148.7 m HAAT, 365 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

K247BW CH 247 D BLFT20150521ABO  
Lat= 41 37 58.0, Lng= 90 24 38.0  
0.04 kW 89.6 m HAAT, 292 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

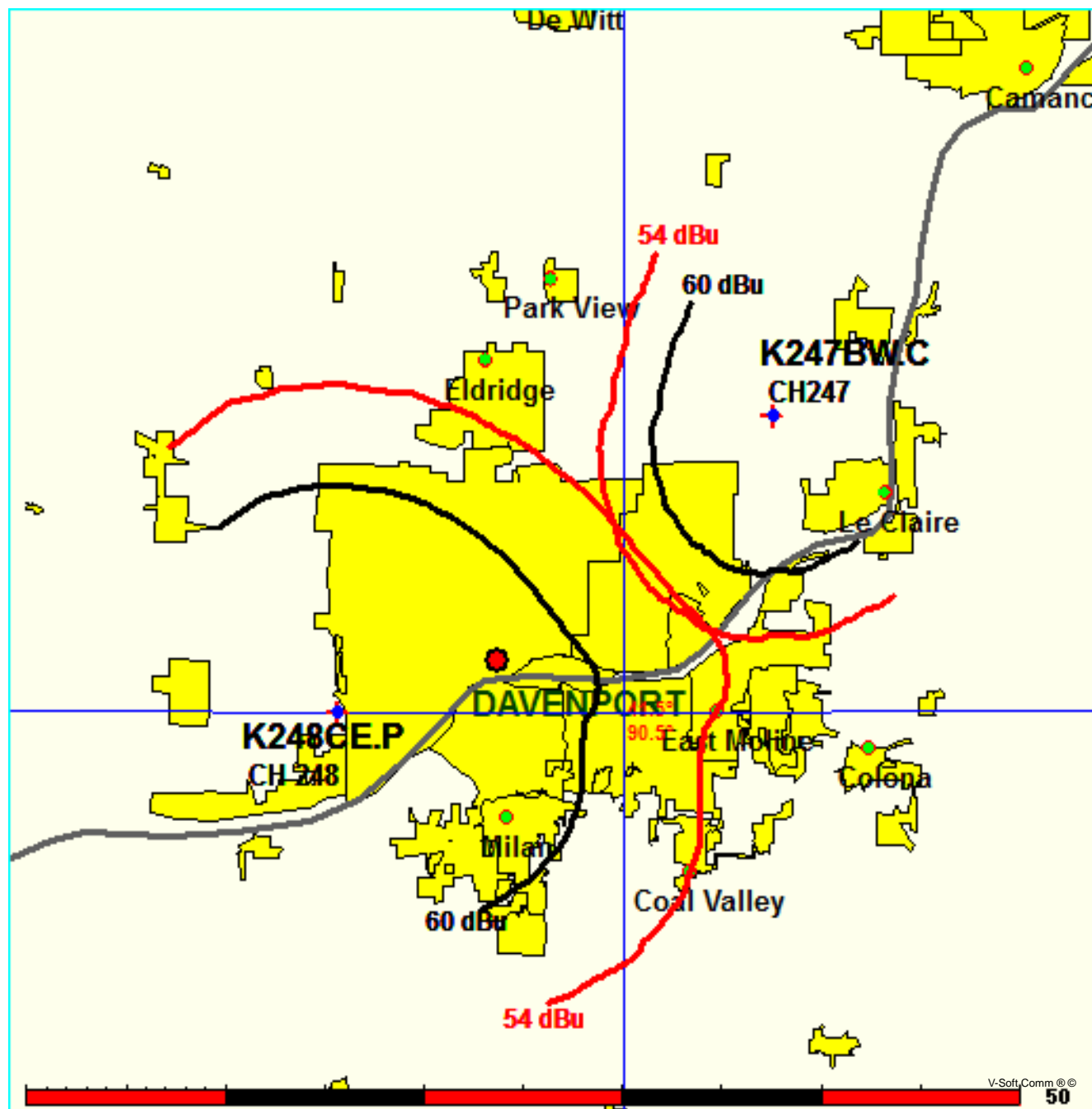


Benjamin Shafer

FMCommander Single Allocation Study - 08-09-2016 - GLOBE 30 Sec  
K248CE.P's Overlaps (In= 5.24 km, Out= 2.89 km)

K248CE.P CH 248 D  
Lat= 41 30 03.0, Lng= 90 40 24.0  
0.075 kW 148.7 m HAAT, 365 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

K247BW CH 247 D BMPFT20151005ABB  
Lat= 41 37 58.0, Lng= 90 24 38.0  
0.04 kW 0 m HAAT, 292 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

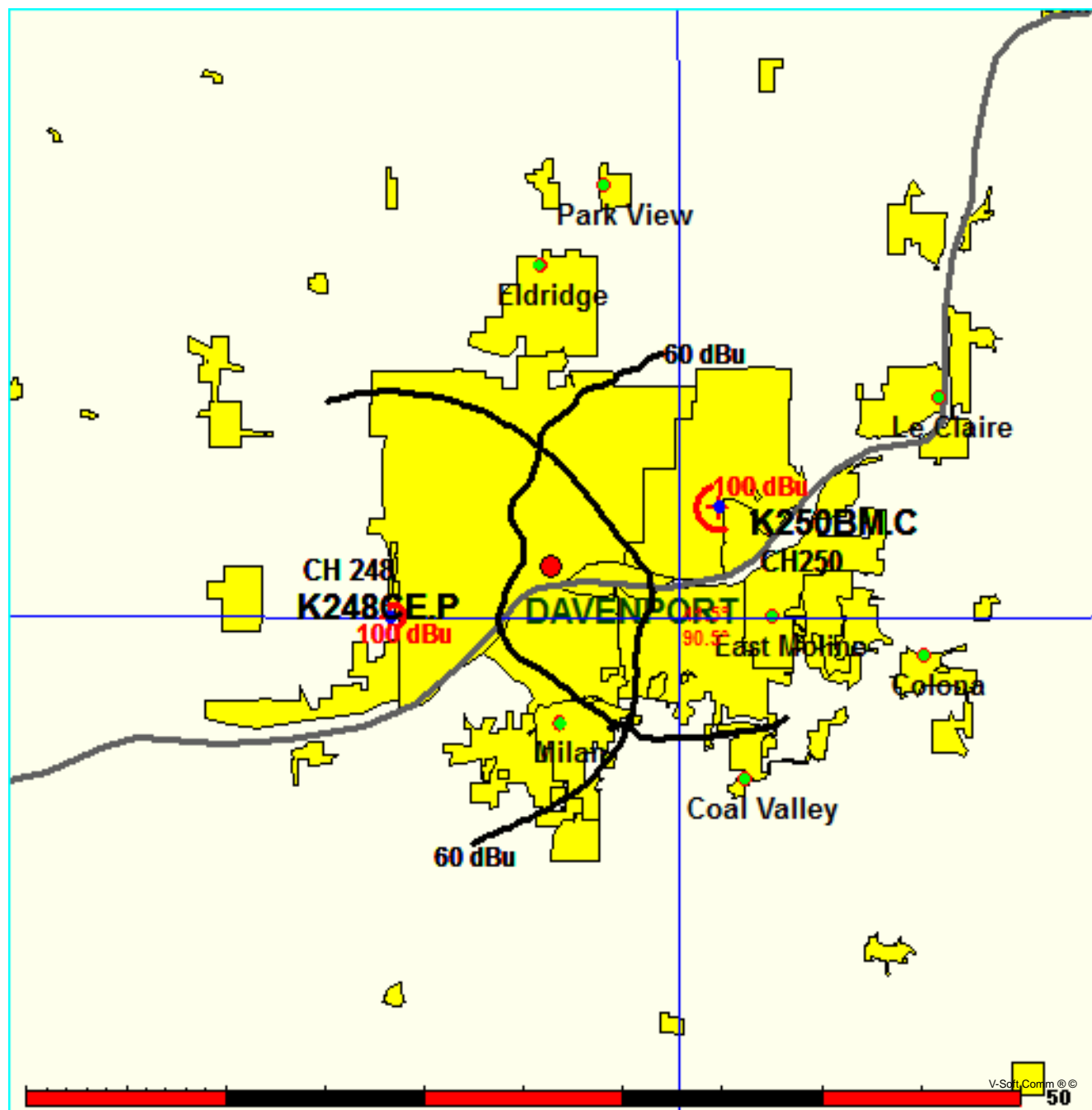


Benjamin Shafer

FMCommander Single Allocation Study - 08-09-2016 - GLOBE 30 Sec  
K248CE.P's Overlaps (In= 4.07 km, Out= 5.88 km)

K248CE.P CH 248 D  
Lat= 41 30 03.0, Lng= 90 40 24.0  
0.075 kW 148.7 m HAAT, 365 m COR  
Prot.= 60 dBu, Intef.= 100 dBu

K250BM CH 250 D BNPFT20151216AFR  
Lat= 41 32 58.0, Lng= 90 28 34.0  
0.25 kW 0 m HAAT, 277 m COR  
Prot.= 60 dBu, Intef.= 100 dBu



**Compliance with C.F.R. 74.1204**

The proposed FM Translator is located within the protected 54dBu contour of third adjacent channel station KXLP, channel 245B, Moline, IL. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

The proposed ERP for K248EC.P:	75 watts
The proposed COR for K248CE.P:	137 meters
KXLP F(50/50) contour at proposed site:	70.9dBu
The F(50/10) contour of proposed K248CE.P:	110.9dBu

The predicted distance to the 110.9dbu interfering contour is 173 meters. Taking into account the vertical elevation pattern of the Nicom BKG77 single bay antenna and the height above ground of 137M, it has been determined that the interfering contour of 110.9dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 60M above ground at a distance of 119.7m from the antenna.

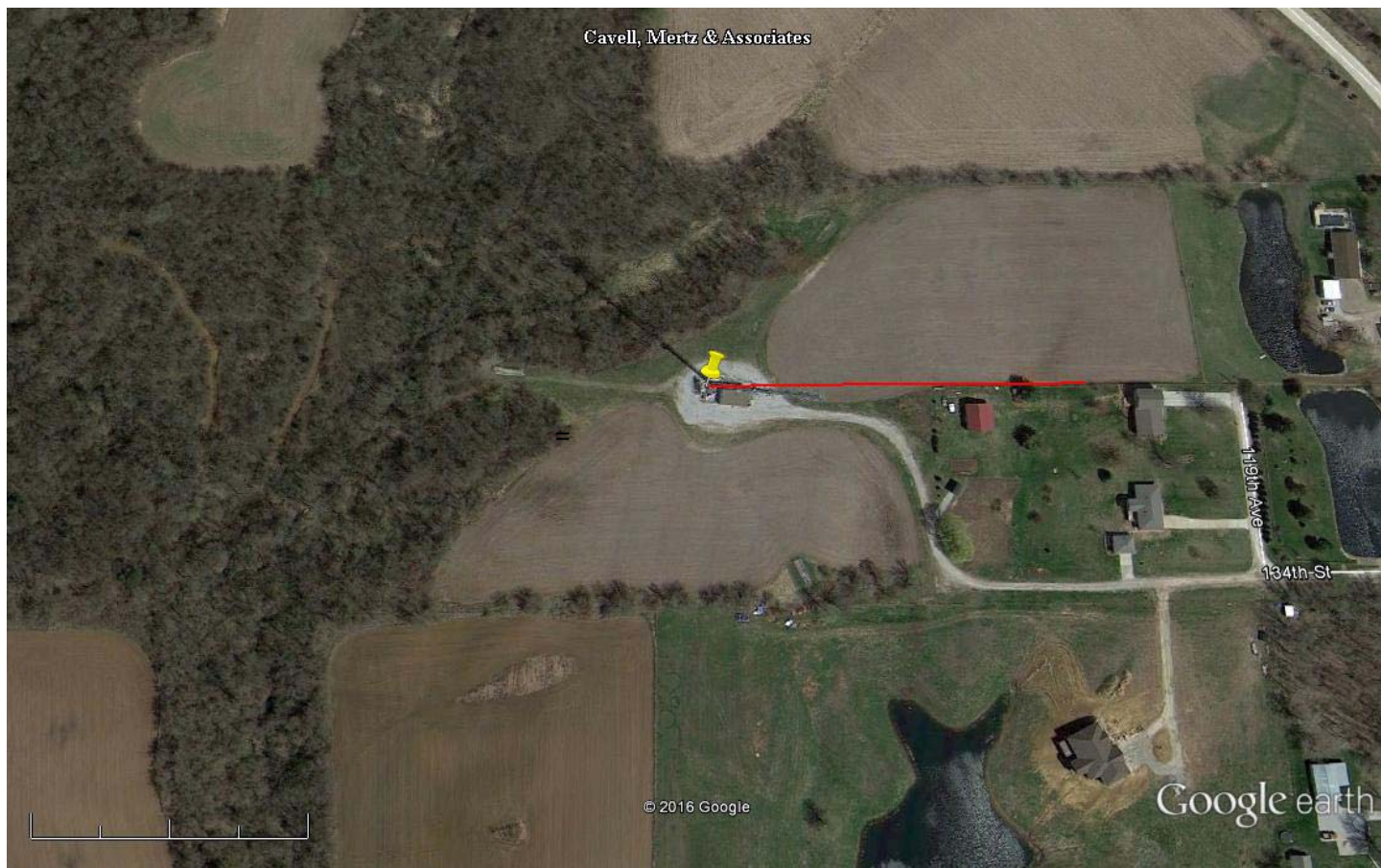
As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the interfering contour within the 173m distance from the antenna.

Therefore, Benjamin Shafer respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1  
74.1204(d) Showing  
K248CE  
Davenport, IA

ERP (kw): 0.075  
Height of Antenna above Ground (m): 137  
Translator's IX Contour: 110.9  
Antenna Type: Nicom BKG77/1

<u>Depression Angle from Horizon</u>	<u>Antenna Relative Field</u>	<u>ERP (kw) from the Antenna RF</u>	<u>Dist. To IX Contour (m)</u>	<u>Height IX Contour Above Ground (m)</u>
0	1.000	0.0750	173.1931	137.000
5	0.999	0.0749	173.0199	121.920
10	0.982	0.0723	170.0756	107.467
15	0.954	0.0683	165.2262	94.236
20	0.918	0.0632	158.9913	82.622
25	0.872	0.0570	151.0244	73.174
30	0.818	0.0501	141.5854	66.207
35	0.758	0.0431	131.2804	61.701
40	0.691	0.0358	119.6764	60.073
45	0.616	0.0285	106.6870	61.561
50	0.538	0.0217	93.1779	65.622
55	0.465	0.0162	80.5348	71.030
60	0.391	0.0115	67.7185	78.354
65	0.313	0.0073	54.2094	87.870
70	0.239	0.0043	41.3932	98.103
75	0.176	0.0023	30.4820	107.557
80	0.129	0.0012	22.3419	114.998
85	0.103	0.0008	17.8389	119.229
90	0.104	0.0008	18.0121	118.988



Google earth

feet  
meters



Yellow Pin Marker

NAD 27

41 30' 03.0" N 90 40'24.0" W

Red Line Marker: 173m at 90 degrees true north