

# Channel Study

REFERENCE		CH# 252D - 98.3 MHz, Pwr= 0.013 kW, HAAT= 119.5 M, COR= 426 M								DISPLAY DATES		
42 40 59.0 N.		Average Protected F(50-50)= 6.8 km								DATA 11-22-13		
83 33 11.0 W.		Omni-directional								SEARCH 12-04-13		
CH CITY	CALL	TYPE STATE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap	*OUT* in km)	
254B Detroit	WDZH	LIC	CN MI	134.0 314.2	46.07 BLH19890928KF	42 23 42.0 83 08 58.0	50.000 141	5.6 332	62.3 Cbs Radio East Inc.	33.3	-16.7*<	
250B Detroit	WJLB	LIC	CN MI	130.3 310.6	47.51 BLH19810811AO	42 24 22.0 83 06 44.0	50.000 149	5.6 339	62.8 Amfm Radio Licenses, L.l.c	34.7	-15.8*<	
252D Holly	W252CP	CP	C MI	7.6 187.6	11.30 BNPFT20130812ABP	42 47 02.0 83 32 05.0	0.004 151	17.7 454	5.4 Educational Media Foundati	-12.9*	-15.6	
251B Saginaw	WKCQ	LIC	CX MI	340.2 159.9	86.87 BMLH20100823ABD	43 25 04.0 83 55 06.0	50.000 150	77.8 332	64.8 The Macdonald Broadcasting	2.1	8.2	
252A Sarnia	AL2988	AL	ON	70.8 251.6	99.84	42 58 20.0 82 23 48.0	6.000 100	86.3 286	38.0	6.9	30.5	
252D Detroit	W252BX	CP	DV MI	142.5 322.8	55.77 BPFT20130319ABD	42 17 04.6 83 08 25.0	0.250 98	32.1 278	9.6 Educational Media Foundati	16.5	21.9	
252A Luna Pier	WMIM	LIC	ZCX MI	175.8 355.9	113.04 BLH20070301ABH	41 40 05.0 83 27 11.0	3.400 135	85.0 316	29.3 Cumulus Licensing Llc	20.8	59.6	
252D Chelsea	W252BA	APP	C MI	220.5 40.2	52.18 BPFT20130924AGX	42 19 32.0 83 57 54.0	0.170 28	22.4 310	6.7 Spring Arbor University	23.0	22.9	
252D Detroit	W252BX	LIC	DV MI	140.2 320.5	51.43 BLFT20090331ASS	42 19 37.0 83 09 11.0	0.170 25	12.9 209	4.0 Educational Media Foundati	31.3	23.1	
252D Chelsea	W252BA	LIC	C MI	225.7 45.3	61.35 BLFT20070309ADV	42 17 48.0 84 05 11.0	0.250 17	23.8 309	7.1 Spring Arbor University	30.8	31.6	
249D Russellville	W249CL	CP	C MI	347.8 167.7	45.66 BNPFT20130326BDD	43 05 04.9 83 40 18.6	0.038 71	0.4 301	6.6 Michigan Community Radio	38.3	38.8	
255A Vassar	WOWE	LIC	CN MI	3.0 183.0	68.50 BLH19900702KB	43 17 56.0 83 30 34.0	3.000 100	2.1 329	22.3 Praestantia Broadcasting,	59.8	46.0	
252D Walpole Island	CFRZ-FM	OPE	CN ON	96.3 277.0	88.81 20110106CA1	42 35 26.0 82 28 38.0	0.050 31	17.0 208	7.3	65.0	49.2	
252D Holt	W252CN	CP	C MI	266.5 85.8	77.58 BNPFT20130328ABP	42 38 10.0 84 29 50.0	0.080 43	19.7 312	5.9 Spring Arbor University Co	51.4	50.1	
253B Coldwater	WNWN-FM	LIC	CN MI	240.1 59.1	137.76 BLH19790601AC	42 03 28.0 84 59 51.0	50.000 143	76.6 436	63.6 Midwest Communications, In	54.6	61.2	

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 Terrain database is NGDC 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= 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

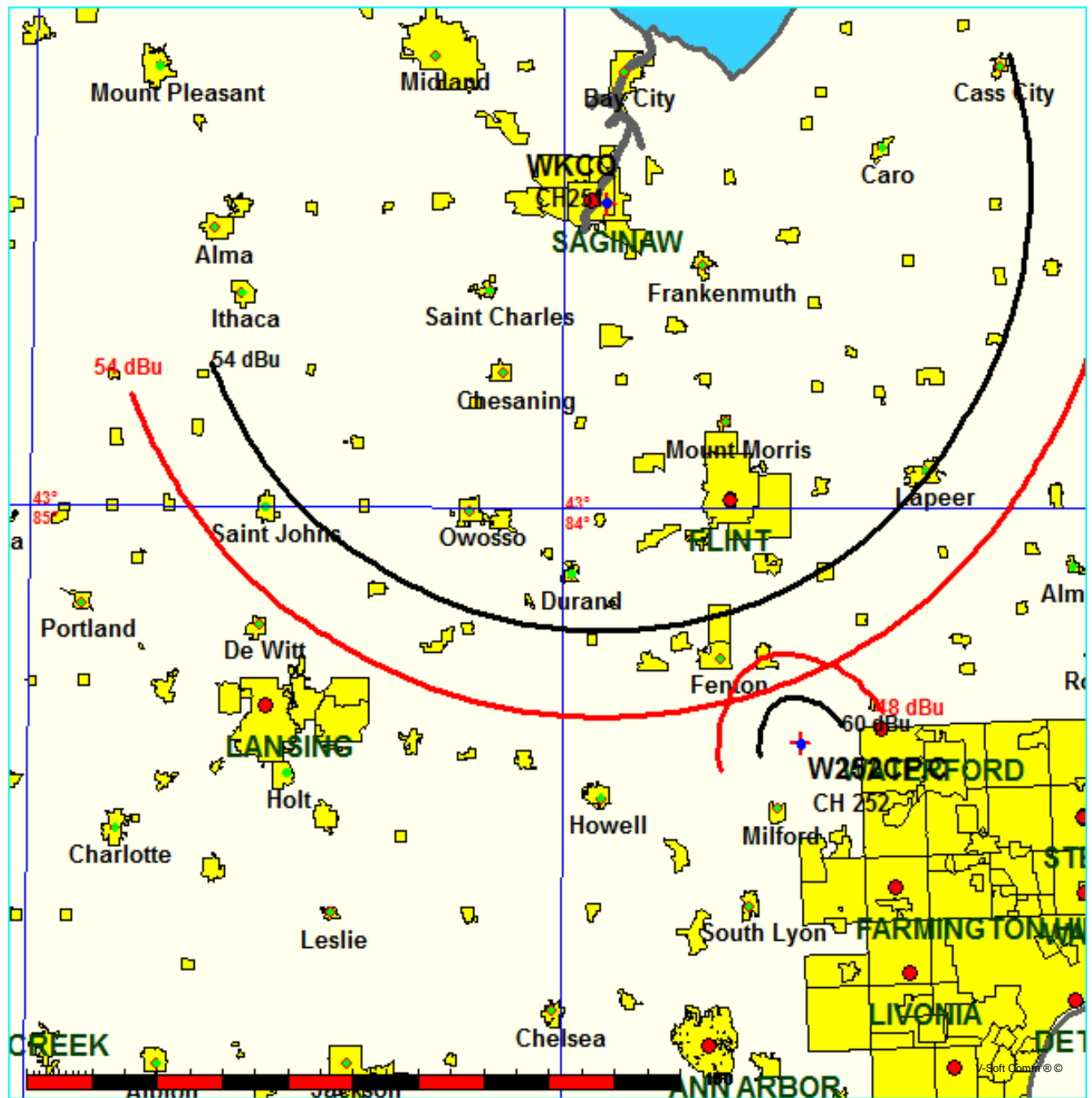
FMCommander Single Allocation Study - 12-04-2013 - NGDC 30 SEC  
W252CP.C's Overlaps (In= 2.08 km, Out= 8.25 km)

W252CP.C CH 252 D

Lat= 42 40 59.0, Lng= 83 33 11.0  
0.013 kW 119.5 M HAAT, 426 M COR  
Prot.= 60 dBu, Intef.= 48 dBu

WKCC CH 251 B BMLH20100823ABD

Lat= 43 25 04.0, Lng= 83 55 06.0  
50.0 kW 150 M HAAT, 332 M COR  
Prot.= 54 dBu, Intef.= 54 dBu



**Educational Media Foundation**

5700 W Oaks Blvd  
Rocklin, CA 95765

*Exhibit 13-A  
Holly, MI*

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

The proposed FM Translator is located within the protected 54dBu contour of second adjacent channel station WZDH, channel 254B, Detroit, MI. 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 W252CP.P:	13 watts
The proposed COR for W252CP.P:	107 meters
WZDH F(50/50) contour at proposed site:	61.7dBu
The F(50/10) contour of proposed W252CP.P:	101.7dBu

The predicted distance to the 101.7dbu interfering contour is 208 meters. Taking into account the vertical elevation pattern of the Jampro JLCP single bay antenna and the height above ground of 107M, it has been determined that the interfering contour of 101.7dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 11.418M above ground.

As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the 11.418 meter aperture within the 208 meter radius from the base of the tower.

Therefore, EMF 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  
W252CP  
Holly, MI

ERP (kw): 0.013  
Height of Antenna above Ground (m): 107  
Translator's IX Contour: 101.7  
Antenna Type: JLC-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	0.0130	207.9561	107.000
5	0.994	0.0128	206.7084	88.984
10	0.975	0.0124	202.7572	71.792
15	0.940	0.0115	195.4787	56.406
20	0.910	0.0108	189.2401	42.276
25	0.880	0.0101	183.0014	29.660
30	0.840	0.0092	174.6831	19.658
35	0.770	0.0077	160.1262	15.155
40	0.710	0.0066	147.6488	12.093
45	0.650	0.0055	135.1715	11.419
50	0.600	0.0047	124.7737	11.418
55	0.520	0.0035	108.1372	18.419
60	0.450	0.0026	93.5802	25.957
65	0.380	0.0019	79.0233	35.381
70	0.320	0.0013	66.5460	44.467
75	0.250	0.0008	51.9890	56.782
80	0.180	0.0004	37.4321	70.137
85	0.140	0.0003	29.1139	77.997
90	0.010	0.0000	2.0796	104.920

**Educational Media Foundation**

5700 W Oaks Blvd  
Rocklin, CA 95765

*Exhibit 13-A  
Holly, MI*

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

The proposed FM Translator is located within the protected 54dBu contour of second adjacent channel station WJLB, channel 250B, Detroit, MI. 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 W252CP.P:	13 watts
The proposed COR for W252CP.P:	107 meters
WJLB F(50/50) contour at proposed site:	61.2dBu
The F(50/10) contour of proposed W252CP.P:	101.2dBu

The predicted distance to the 101.2dbu interfering contour is 220 meters. Taking into account the vertical elevation pattern of the Jampro JLCP single bay antenna and the height above ground of 107M, it has been determined that the interfering contour of 101.2dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 5.754M above ground.

As can be seen in Exhibit 13-A2 there are no surrounding structures which are tall enough to enter the 5.754 meter aperture within the 220 meter radius from the base of the tower.

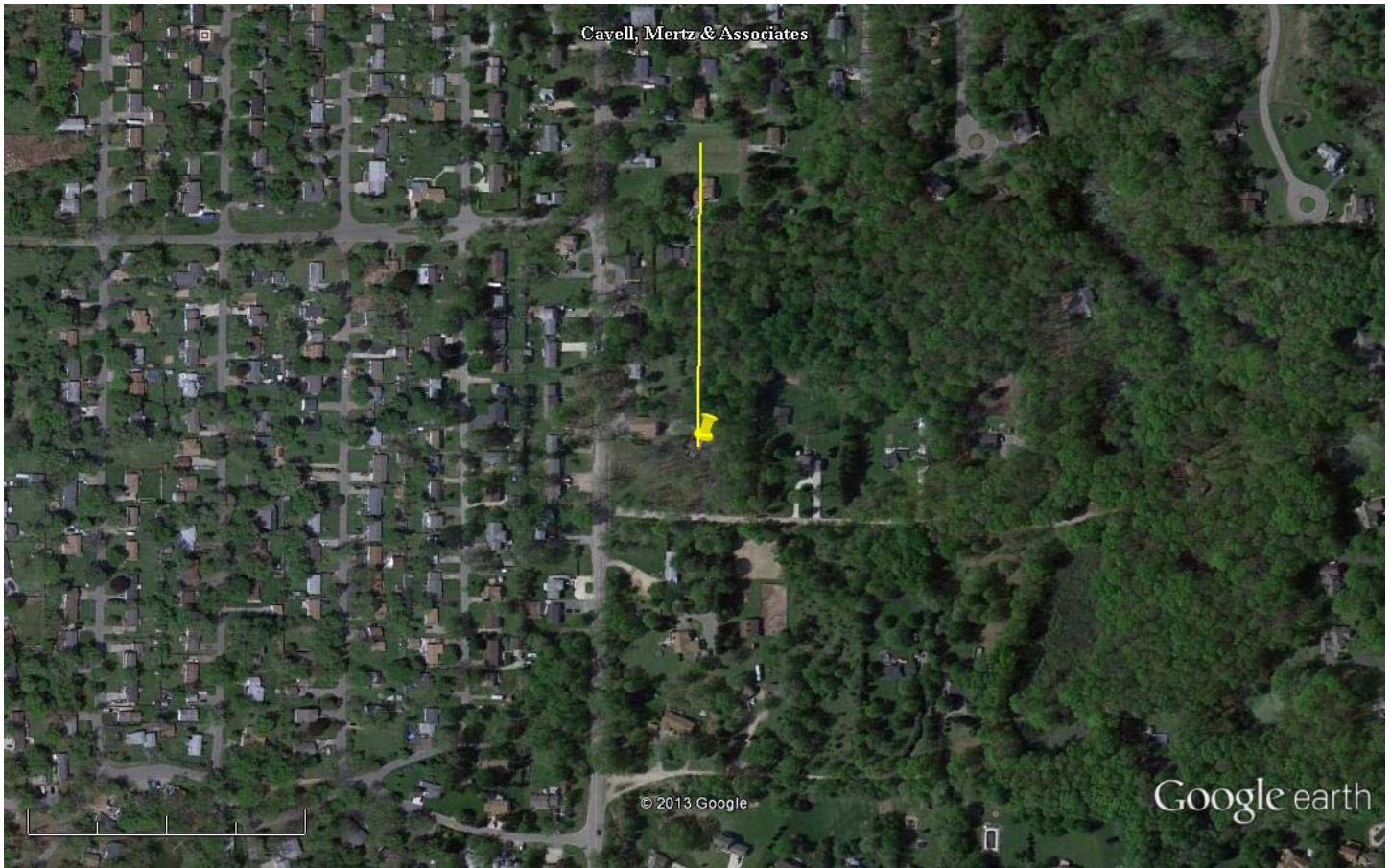
Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1  
74.1204(d) Showing  
W252CP  
Holly, MI

ERP (kw): 0.013  
Height of Antenna above Ground (m): 107  
Translator's IX Contour: 101.2  
Antenna Type: JLCp-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	0.0130	220.2783	107.000
5	0.994	0.0128	218.9566	87.917
10	0.975	0.0124	214.7713	69.705
15	0.940	0.0115	207.0616	53.409
20	0.910	0.0108	200.4532	38.441
25	0.880	0.0101	193.8449	25.078
30	0.840	0.0092	185.0338	14.483
35	0.770	0.0077	169.6143	9.713
40	0.710	0.0066	156.3976	6.470
45	0.650	0.0055	143.1809	5.756
50	0.600	0.0047	132.1670	5.754
55	0.520	0.0035	114.5447	13.170
60	0.450	0.0026	99.1252	21.155
65	0.380	0.0019	83.7057	31.137
70	0.320	0.0013	70.4890	40.762
75	0.250	0.0008	55.0696	53.807
80	0.180	0.0004	39.6501	67.952
85	0.140	0.0003	30.8390	76.278
90	0.010	0.0000	2.2028	104.797

Exhibit 13-A2



Google earth

feet  
meters

1000

500



Yellow Pin

NAD 27

42 40' 59.0" N

83 33' 11.0" W

Yellow Marker: 220m at zero degrees true north