

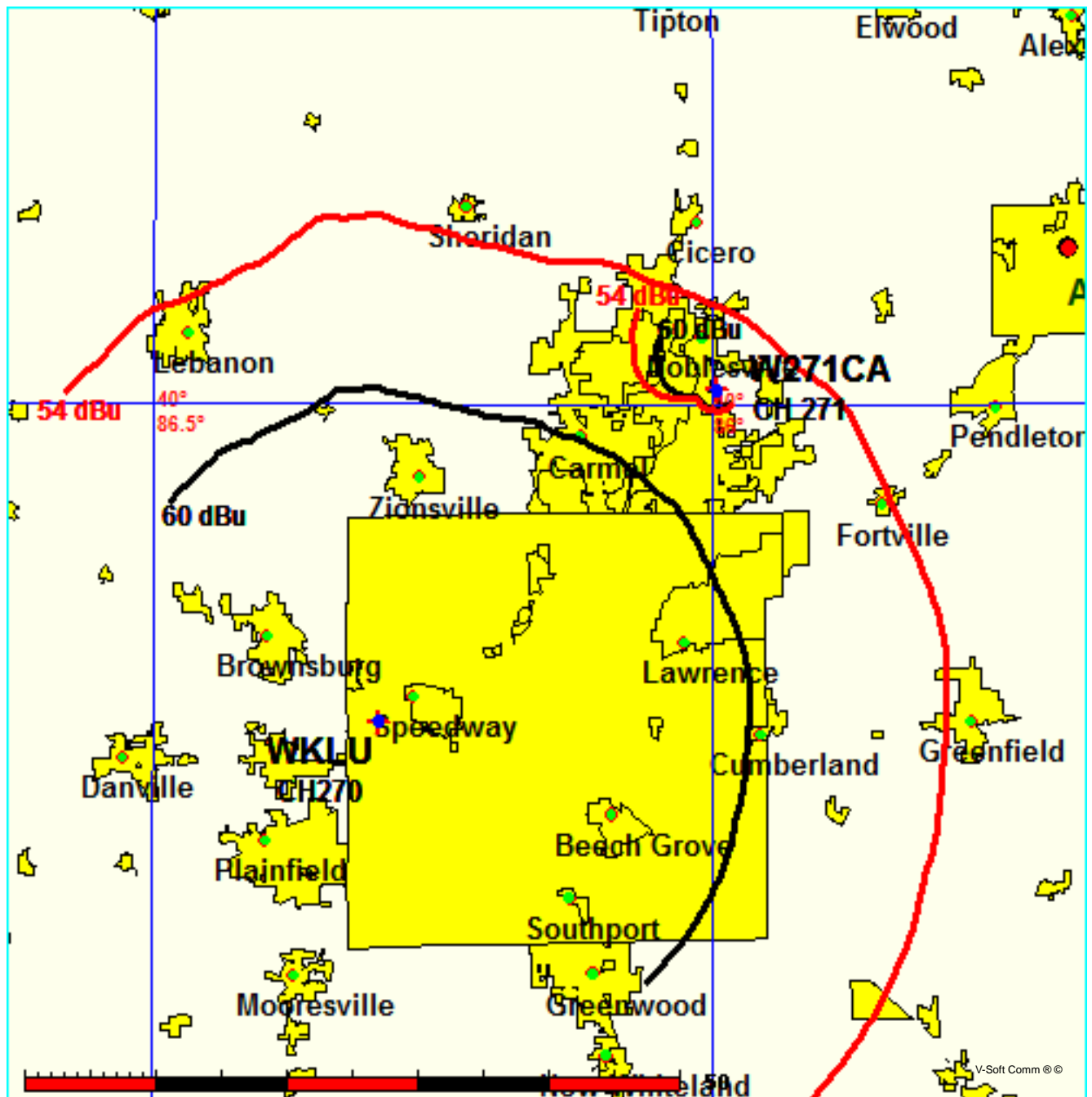
# Channel Study

REFERENCE		CH# 271D - 102.1 MHz, Pwr= 0.055 kW DA, HAAT= 53.0 M, COR= 299 M										DISPLAY DATES	
40 00 38.1 N.		Average Protected F(50-50)= 6.4 km										DATA 08-18-15	
85 59 42.8 W.		Standard Directional										SEARCH 09-03-15	
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 in km)	*OUT*		
271D Noblesville	W271CA!	CP	C IN	65.1 245.1	1.17 BNPFT20130829AAW	40 00 54.0 85 58 58.0	0.013 109	21.9 355	6.6 Educational Media Foundati	-22.3	-8.9		
273B New Castle	WMDH-FM	LIC	CN IN	84.4 264.8	52.34 BLH19790912AC	40 03 18.0 85 23 05.0	50.000 152	6.2 468	66.8 Radio License Holding Cbc,	44.5	-14.5*<		
270A Brownsburg	WKLU	LIC	NCX IN	226.3 46.1	35.94 BMLED20090812AAP	39 47 13.0 86 17 57.0	4.000 110	41.4 345	27.1 Educational Media Foundati	-7.0*<	7.1		
269A Elwood	WIKL	LIC	ZCX IN	20.9 201.0	31.55 BMLED20091021ABW	40 16 33.0 85 51 44.0	6.000 100	2.9 362	30.1 Educational Media Foundati	23.6	1.1		
271B Danville	WDNL	LIC	CN IL	276.9 95.8	139.98 BLH19871016KD	40 08 58.0 87 37 35.0	50.000 112	132.5 309	59.3 Neuhoff Media Danville, Ll	3.4	61.6		
271D Pendleton	W271BY	CP	C IN	77.0 257.2	31.43 BNPFT20130826AEO	40 04 25.0 85 38 10.0	0.050 49	22.2 323	6.6 Horizon Christian Fellowsh	7.7	21.5		
272D Sheridan	W272CZ	CP	C IN	298.1 117.9	33.06 BNPFT20130829ABP	40 09 00.0 86 20 16.0	0.055 54	8.5 334	5.9 Friends Of Christian Radio	19.4	19.9		
271D Frankfort	W271BX	CP	DC IN	304.3 123.9	54.67 BNPFT20130822AEM	40 17 09.0 86 31 38.0	0.250 27	22.7 283	6.8 Kaspar Broadcasting Co, In	26.5	29.7		
268B Columbus	WKKG	LIC	CN IN	177.6 357.6	91.55 BLH19890619KA	39 11 12.0 85 57 00.0	50.000 150	5.9 354	65.0 White River Broadcasting C	84.0	26.6		
272A Martinsville	WCBK-FM	LIC	CN IN	212.5 32.2	75.27 BMLH19980128KD	39 26 18.0 86 27 58.0	6.000 94	45.7 310	29.7 Mid-america Radio Group, I	28.0	43.9		
271B Lima	WIMT	LIC	CX OH	64.8 246.0	166.93 BMLH20050707ADI	40 38 03.0 84 12 29.0	11.000 323	126.6 590	66.3 Citicasters Licenses, Inc.	38.7	95.7		
272A Logansport	WLHM	LIC	CN IN	342.2 162.0	86.84 BLH4260	40 45 16.0 86 18 40.0	3.000 91	32.5 307	21.9 Mid-america Radio Group Of	47.8	55.6		
268D Muncie	W268BJ	LIC	C IN	72.8 253.2	55.47 BLFT20080407ABQ	40 09 20.7 85 22 22.3	0.250 7	1.1 306	7.1 Indiana Community Radio Co	52.8	48.4		
271D Columbus	W271BG	LIC	C IN	177.9 357.9	79.65 BLFT20070206AAM	39 17 37.0 85 57 40.0	0.038 47	19.1 261	5.8 Educational Media Foundati	59.0	70.1		
270A Roann	WARU-FM	LIC	ZC IN	3.3 183.3	88.72 BLH20010227AAR	40 48 30.0 85 56 07.0	3.600 129	21.8 354	14.4 Dream Weaver Marketing, Ll	60.9	65.7		
271D Columbus	W271BG	CP	C IN	179.2 359.2	84.69 BPFT20130326AEG	39 14 52.0 85 58 55.3	0.027 66	20.4 280	6.1 Educational Media Foundati	62.8	74.8		

Terrain database is FCC 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. Call signs with exclamation marks need not be protected.  
 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

W271CA CH 271 D DA  
Lat= 40 00 38.1, Lng= 85 59 42.8  
0.055 kW 53 M HAAT, 299 M COR  
Prot.= 60 dBu, Intef.= 54 dBu

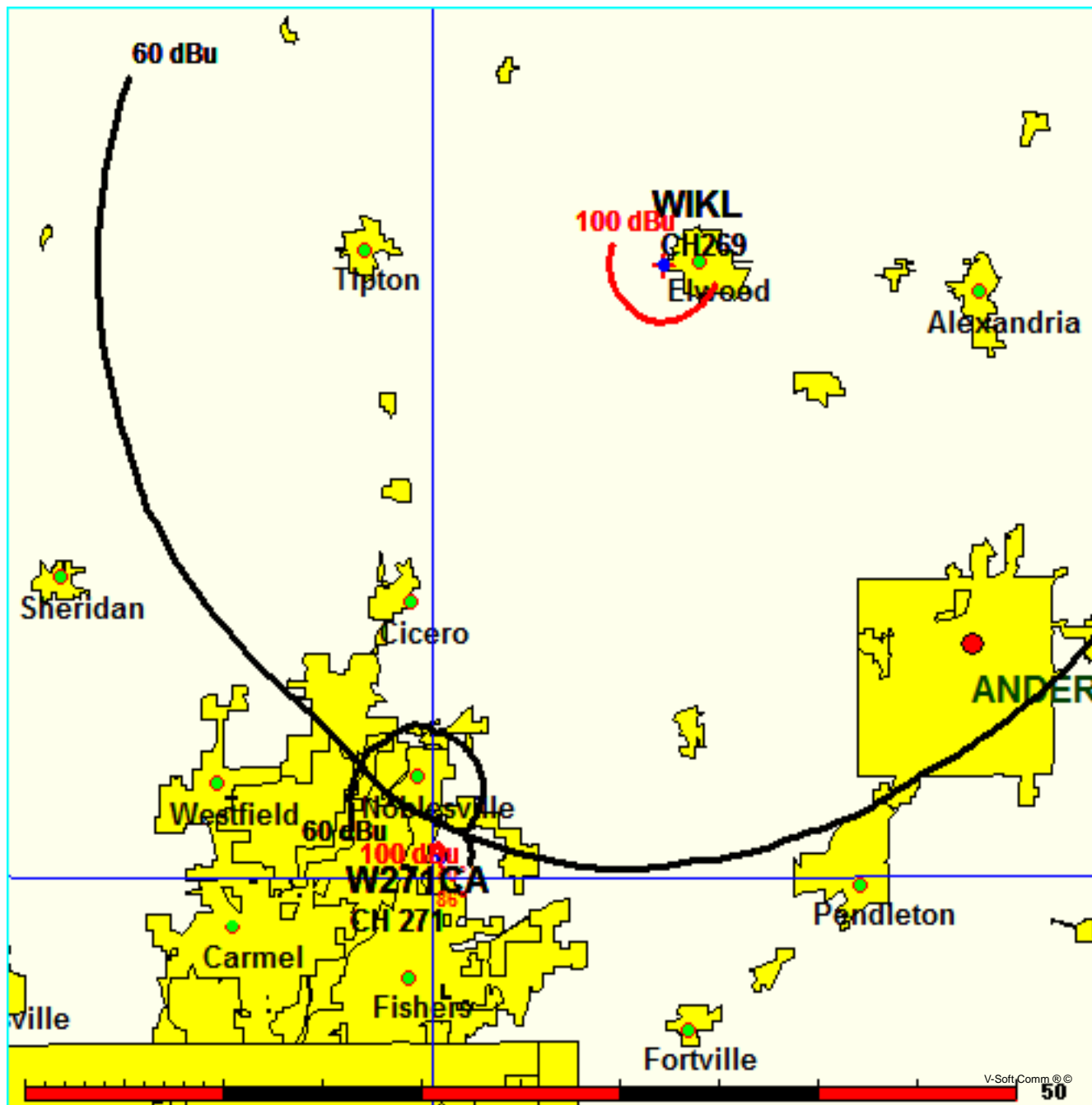
WKLU CH 270 A 73.215 N BMLED20090812AAP  
Lat= 39 47 13.0, Lng= 86 17 57.0  
4.0 kW 110 M HAAT, 345 M COR  
Prot.= 60 dBu, Intef.= 54 dBu



FMCommander Single Allocation Study - 09-03-2015 - FCC NGDC 30 Sec  
W271CA's Overlaps (In= 23.64 km, Out= 1.14 km)

W271CA CH 271 D DA  
Lat= 40 00 38.1, Lng= 85 59 42.8  
0.055 kW 53 M HAAT, 299 M COR  
Prot.= 60 dBu, Intef.= 100 dBu

WIKL CH 269 A 73.215 Z BMLED20091021ABW  
Lat= 40 16 33.0, Lng= 85 51 44.0  
6.0 kW 100 M HAAT, 362 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 second adjacent channel station WMDH-FM, channel 273B, New Castle, IN. 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 W271CA.P:	55 watts
The proposed COR for W271CA.P:	48 meters
WMDH-FM F(50/50) contour at proposed site:	60.8dBu
The F(50/10) contour of proposed W271CA.P:	100.8dBu

The predicted distance to the 100.8dbu interfering contour is 474.4 meters. Exhibit 13-A1 demonstrates the distances to the interfering contour by taking into account the vertical elevation pattern of the Scala CLFM-RX single bay antenna. It has been determined that the interfering contour of 100.8dbu does not extend to any regularly occupied structures.

Exhibit 13-A1 is a printout of the distance to the 100.8dbu interfering contour. Exhibit 13-A2 shows the 100.8dbu interfering contour on a Google Earth map. Note there are no structures located in the interfering contour therefore no population will be affected as a result of this proposed modification.

The interfering contour does extend over one nearby road. This road is not a major highway (ie: interstate or State Highway) therefore is allowable as determined in the Living Way Decision.

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

**Educational Media Foundation**  
5700 West Oaks Boulevard  
Rocklin, CA 95765

*Exhibit 13-A1*  
*Noblesville, IN*

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

#### Distance to Contour Report

Type of contour: FCC  
Location Variability: 50.0 %  
Time Variability: 10.0 %  
# of Radials Calculated: 72  
FCC Matching HAAT Calculation Used  
Field Strength: 100.80 dBuV/m

Primary Terrain: FCC 30 Second US Database  
Secondary Terrain: V-Soft 30 Second US Database

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Transmitter Information:

Call Letters: W271CA ASR 1228050  
File Number: BNPFT20130829AAW  
Latitude: 40-00-38.10 N  
Longitude: 085-59-42.80 W  
ERP: 0.055 kW  
Channel: 271  
Frequency: 102.1 MHz  
AMSL Height: 299.0 m  
Elevation: 251.0 m  
Horiz. Antenna Pattern: Directional  
Vert. Elevation Pattern: No  
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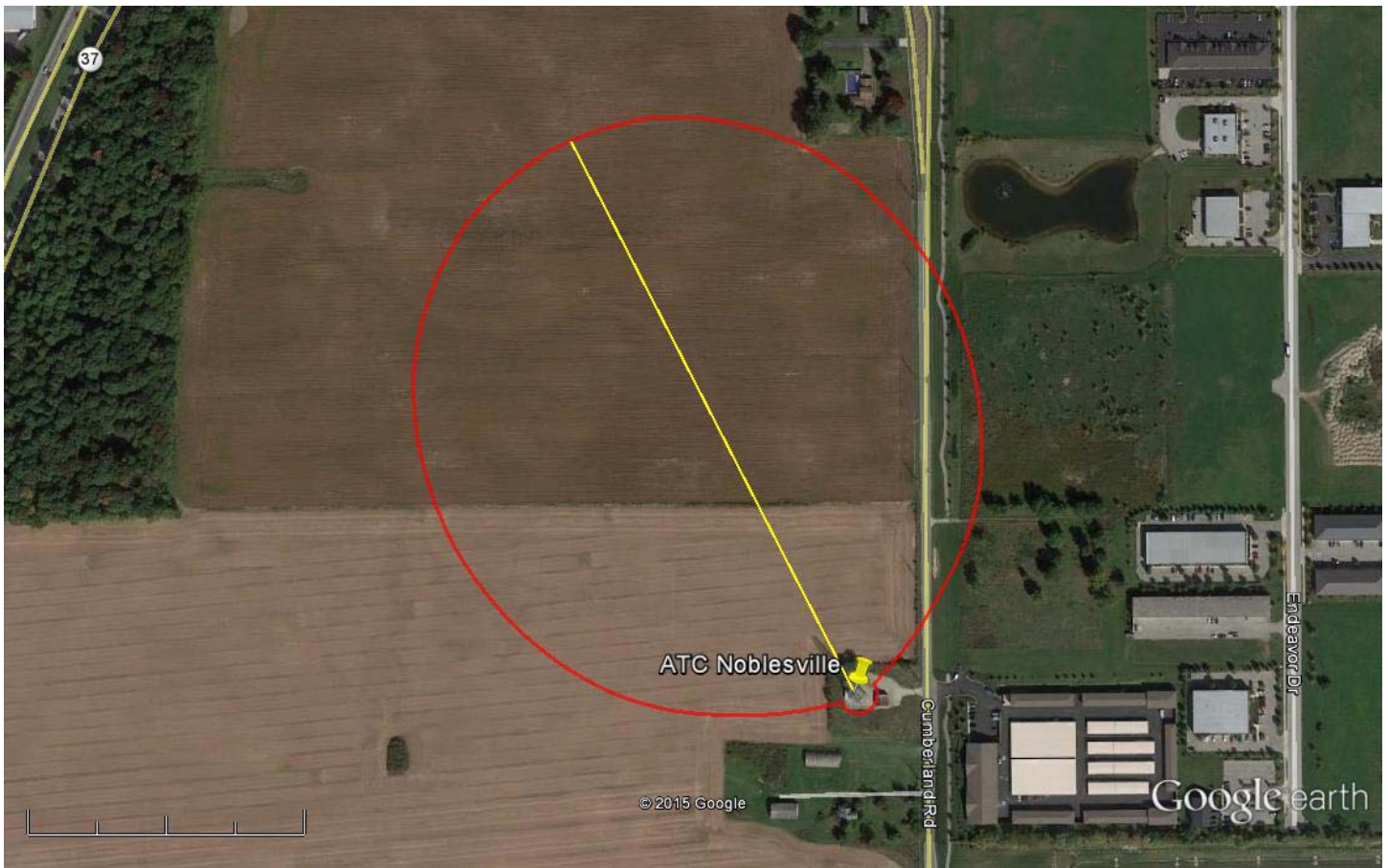
Azimuth (deg)	Distance (km)	HAAT (m)
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0.0	0.39	58.0
10.0	0.33	59.0
20.0	0.26	59.0
30.0	0.19	59.0
40.0	0.09	59.0
50.0	0.02	54.4
60.0	0.01	52.6
70.0	0.01	49.6
80.0	0.01	44.3
90.0	0.01	43.0
100.0	0.01	44.6
110.0	0.01	51.9
120.0	0.01	56.0
130.0	0.01	57.6
140.0	0.01	58.4
150.0	0.01	58.4
160.0	0.01	58.5
170.0	0.01	58.9

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*Exhibit 13-A1*  
*Noblesville, IN*

180.0	0.01	57.6
190.0	0.01	51.1
200.0	0.01	53.2
210.0	0.01	60.1
220.0	0.01	67.9
230.0	0.01	64.6
240.0	0.01	54.7
250.0	0.02	47.6
260.0	0.09	44.2
270.0	0.19	41.0
280.0	0.26	42.3
290.0	0.33	41.2
300.0	0.39	42.9
310.0	0.43	45.2
320.0	0.46	48.7
330.0	0.47	50.2
340.0	0.46	55.0
350.0	0.43	60.4

Average HAAT for radials shown: 53.1 m



Google earth

feet 1000  
meters 500



Yellow Pin Marker:

NAD 27

40 00' 38.1" N 85 59' 42.8" W

Yellow Line Marker: 474m at 330 degrees true north

Red Contour: Proposed W271CA 100.8dbu(F50-10)