

# EXHIBIT 12 – COMPREHENSIVE TECHNICAL EXHIBIT

Applicant proposes to move FM Translator K299BK to a new transmitter site for improved coverage of the city of license, operating the facility as a “fill-in” translator for WANS(AM).

## Contour Overlap Requirements

A study of all relevant co-channel, 1st, 2nd, and 3rd adjacent channels and I.F. relationships reveals the absence of any conflict (see **Figure 1** below), with the exception of 2<sup>nd</sup> adjacent WJMZ-FM, Anderson, SC. for which a 2<sup>nd</sup> adjacent waiver is requested (see discussion). The close relationship with FM Translator W299BO is explored in **Figures 4 & 5**, showing the absence of any contour overlap.

(NOTE: Terrain Database is NED 03)

W299BK MINOR MODIFICATION The Power Foundation												
REFERENCE		CH# 299D - 107.7 MHz, Pwr= 0.189 kW, HAAT= 77.4 M, COR= 307 M								DISPLAY DATES		
34 31 55.4 N.		Average Protected F(50-50)= 10.7 km								DATA 07-29-16		
82 41 36.7 W.		Omni-directional								SEARCH 07-29-16		
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*	
299D Anderson	W299BK!	APP	DC SC	0.0 301.3	0.00 BPFT20160719ABQ	34 31 55.3 82 41 36.5	0.250	49.9 366	15.0 The Power Foundation	-59.5	-47.0	
297C0 Anderson	WJMZ-FM	LIC	C SC	23.1 203.2	20.54 BMLH20010628AAA	34 42 07.0 82 36 19.0	100.000 308	10.4 544	73.9 Sm-wjnz, Llc	-1.1	-54.3*	
299D Anderson	W299BK!	LIC	C SC	141.5 321.5	8.73 BLFT20150211ABG	34 28 14.0 82 38 03.0	0.250 73	35.9 298	10.6 The Power Foundation	-38.5	-40.6	
299C2 Martinez	WPRW-FM	LIC	NCN GA	160.2 340.5	108.48 BLH19940421KB	33 36 47.0 82 17 51.0	24.500 176	124.5 283	48.4 Capstar Tx, Llc	-27.1*	23.8	
299C Knoxville	WIVK-FM	LIC	CX TN	328.3 147.8	167.62 BLH20081017ABY	35 48 41.0 83 40 10.0	91.000 633	182.3 1014	80.4 Radio License Holding Cbc,	-25.1*	51.0	
299D Cornelia	W299AT	CP	C GA	267.7 87.2	75.07 BPFT20160114ABN	34 30 07.0 83 30 44.0	0.250	65.6 564	21.5 Habersham Broadcasting Com	-1.5	15.6	
299D Berea	W299BO	LIC	DV SC	30.5 210.6	51.97 BLFT20160509EIU	34 56 05.0 82 24 16.0	0.099	39.6 584	11.4 Fmx Llc	1.4	0.0	
299L1 Greenville	NEW	CP	SC	49.0 229.2	46.38 BNPL20131114AHD	34 48 19.1 82 18 36.9	0.100 30	305	Monsignor Andrew K. Gwynn,	14.9	7.0	
300L1 Piedmont	WXRU-LP	LIC	SC	43.2 223.4	29.78 BMLL20141124BIS	34 43 37.3 82 28 12.8	0.100 28	292	Benjamin Banneker Lodge No	11.4	10.2	
300L1 Salem	WFBS-LP	LIC	SC	328.6 148.5	40.48 BLL20150921ADC	34 50 33.6 82 55 28.6	0.016 75	359	Salem Radio Inc	20.0	18.8	
300C Charlotte	WLNK	LIC	CX NC	55.6 236.5	165.55 BMLH20140722AEM	35 21 51.0 81 11 13.0	100.000 516	129.8 763	86.9 Greater Media Charlotte In	25.8	65.3	
299D Cornelia	W299AT	LIC	C GA	272.7 92.3	76.57 BLFT20100903AAQ	34 33 43.0 83 31 44.0	0.100 88	37.3 492	10.6 Habersham Broadcasting Com	28.4	27.9	
299D Hendersonville	W299BZ	LIC	DC NC	13.7 193.8	92.18 BLFT20150717AAO	35 20 15.0 82 27 12.0	0.250	23.8 711	7.1 Radio Hendersonville, Inc.	57.3	48.5	
300L1 Athens	WDRW-LP	LIC	GA	225.8 45.4	91.99 BLL20050701AAX	33 57 11.0 83 24 31.0	0.094 33	260	Christian Pursuers' Radio,	72.7	70.0	
298C2 Roswell	WAMJ	LIC	ZEX GA	244.2 63.3	154.58 BLH20111123FBI	33 55 01.0 84 12 06.0	33.000 185	67.0 480	45.3 Radio One Licenses, Llc	76.7	92.0	

300L1 NEW Gainesville	CP	GA	255.0 74.3	109.62 BNPL20131108AIK	34 16 15.0 83 50 45.0	0.100 27	365	87.4	85.5
246C WSRV Gainesville	LIC	CY GA	247.4 66.8	116.34 BLH19980825KB	34 07 32.0 83 51 32.0	100.000 483	0.3 797	6.5 Cox Radio, Inc.	28.5R 87.8M
296D W296CX Winder	CP	DC GA	237.8 57.2	110.63 BPFT20160708ACR	33 59 49.4 83 42 31.6	0.075	0.6 344	10.1 Barrow Radio Broadcasting	99.0 99.6

Terrain database is NED 03 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 In & Out distances between contours are shown at closest points. 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.  
 « = Station meets FCC minimum distance spacing for its class.  
 Reference station has protected zone issue: AM tower

**2<sup>nd</sup> adjacent waiver requested, see discussion**

## Figure 1

### Waiver Request of Section 74.1204 and Showing of Compliance

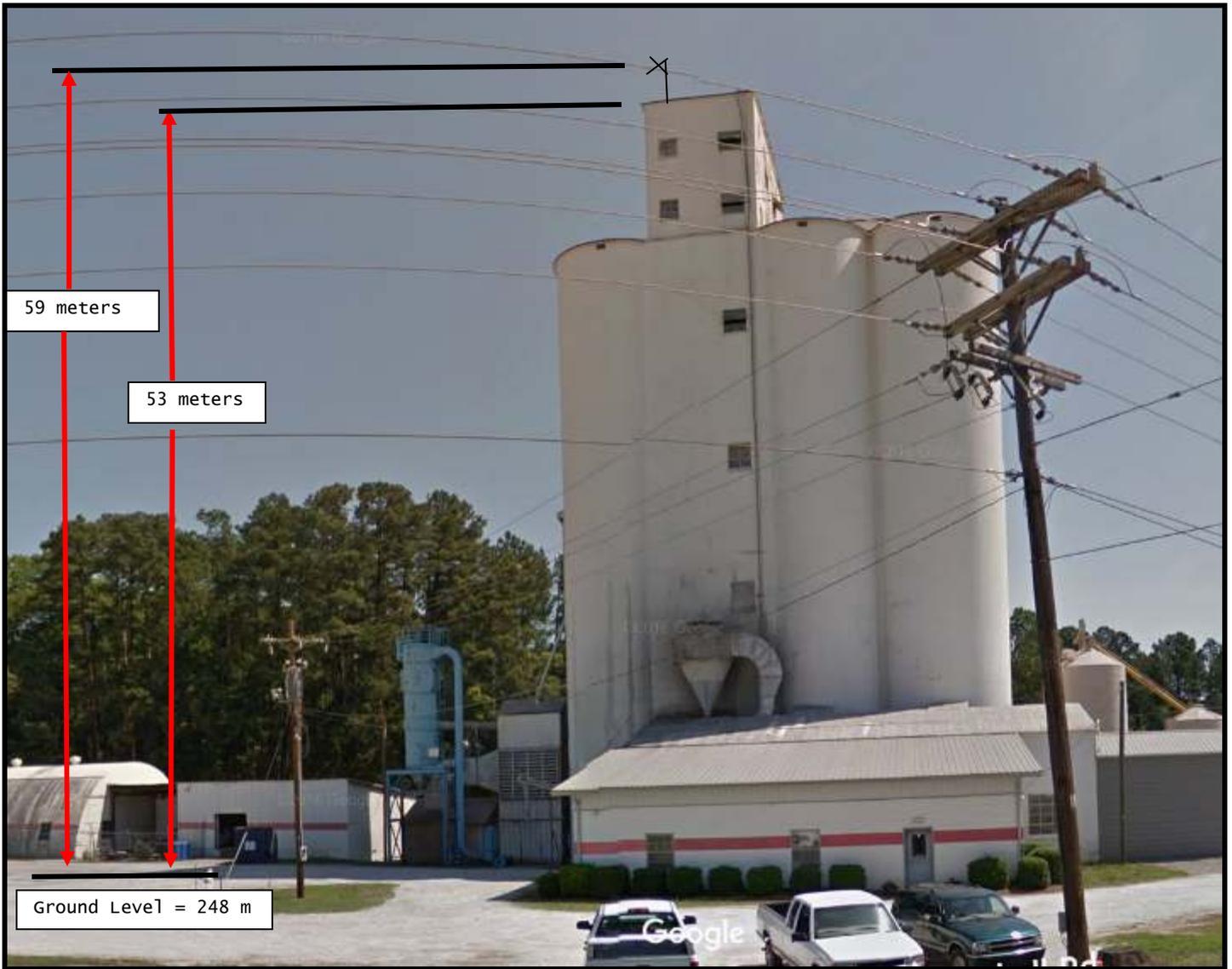
The proposed FM translator is located within the protected 60 dBu F(50,50) contour of 2<sup>nd</sup> adjacent channel WJMZ-FM, Anderson, SC, (see **Figure 1**).

The predicted F(50,50) field strength of WJMZ-FM at the proposed translator location is 88.3 dBu (free space equation).

Using the Undesired-to-Desired method for calculating proposed interference, the proposed interfering contour with respect to the WJMZ-FM construction permit is 128.3 dBu (88.3 + 40) (free space method employed). This interfering signal would, in the worst case, extend 37.2meters from the proposed antenna and would not reach the ground.

Applicant proposes attaching a single bay FM antenna to a 6 meter mast atop a grain elevator (see **Figure 2**). The roof of the headhouse (top) of the elevator is 53 meters above ground level. The proposed antenna center-of-radiation is 59 meters AGL. Regular human occupancy of the grain elevator facility does not reach more than 6 meters above ground level. With the maximum interference zone (ignoring diminished downward radiation) extending 37.2 meters from the antenna, there is an unpopulated area of 15.8 meters between the regularly occupied work area and the extent of the interference zone. There are no other multiple story occupied buildings in the immediate area (see **Figure 3**).

Since no population inhabits the interference area, the applicant respectfully requests waiver of the FM translator contour overlap requirements with respect to 2<sup>nd</sup> adjacent station KJMZ-FM, as permitted in CFR Section 74.1204.



(Not to Scale)  
Figure 2



Figure 3

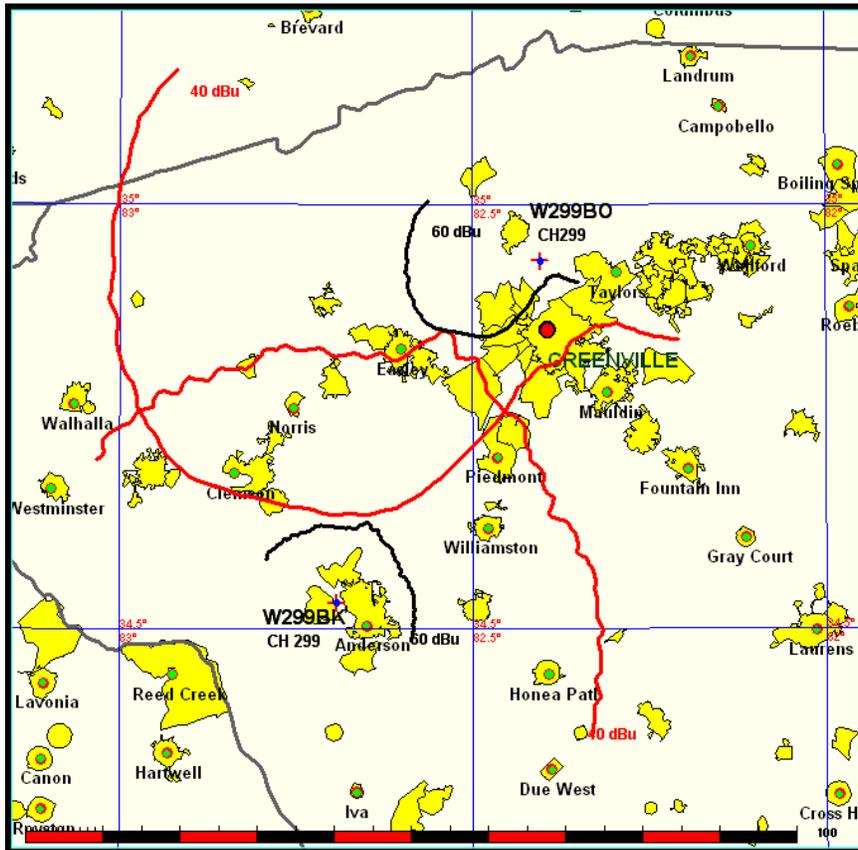


Figure 4

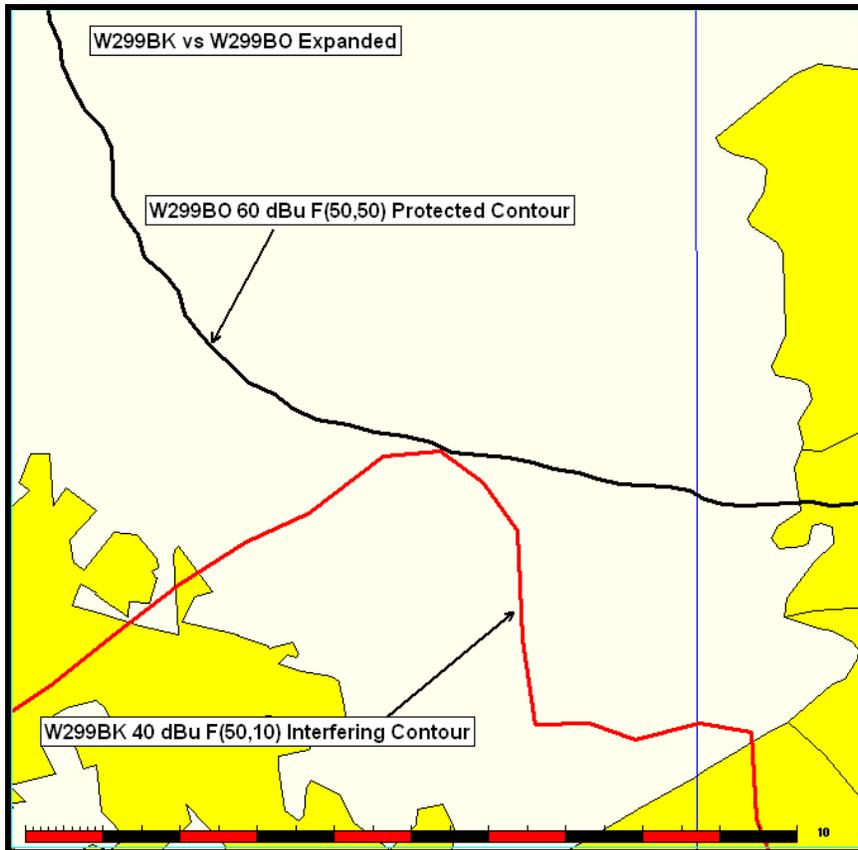
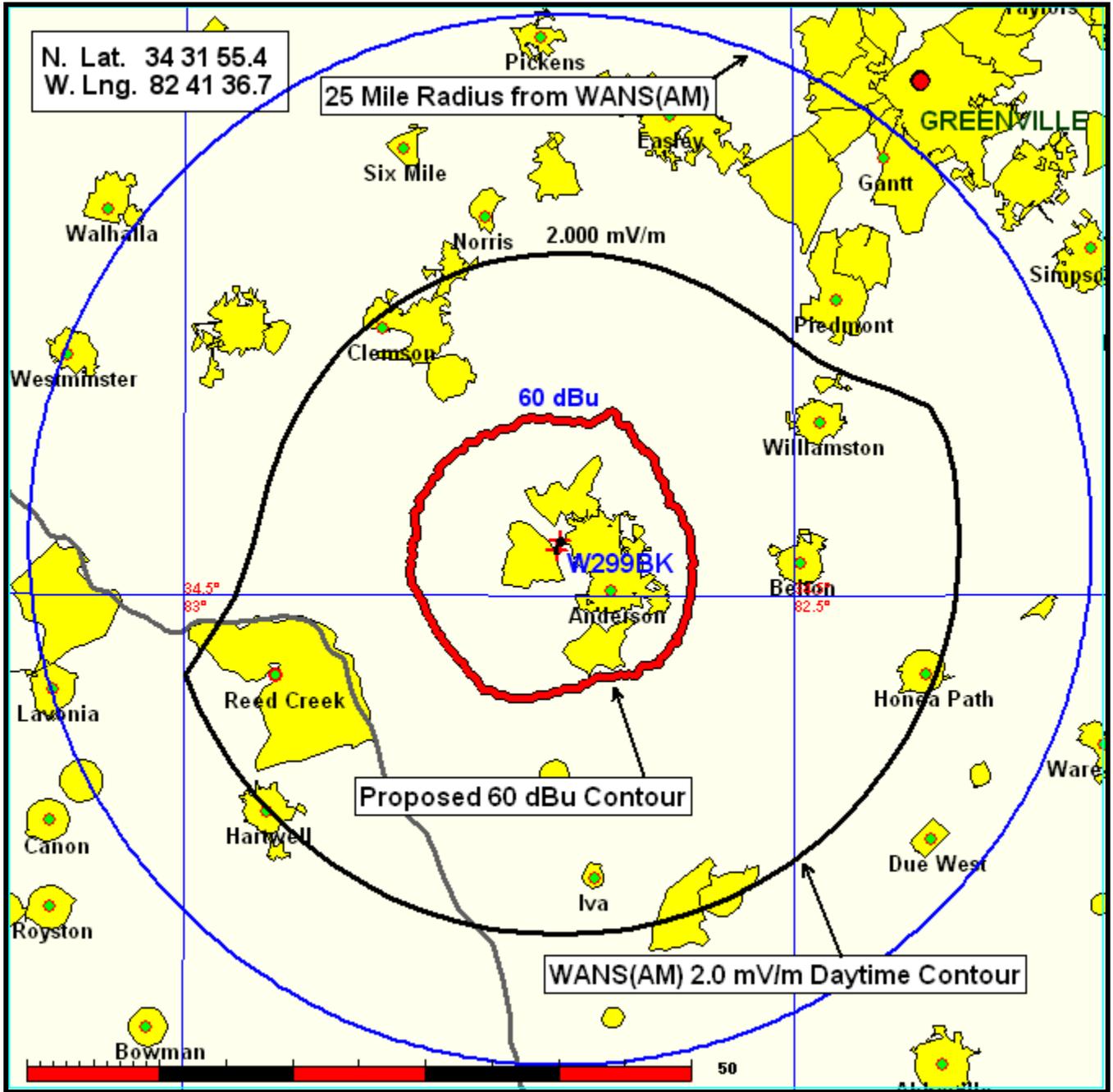


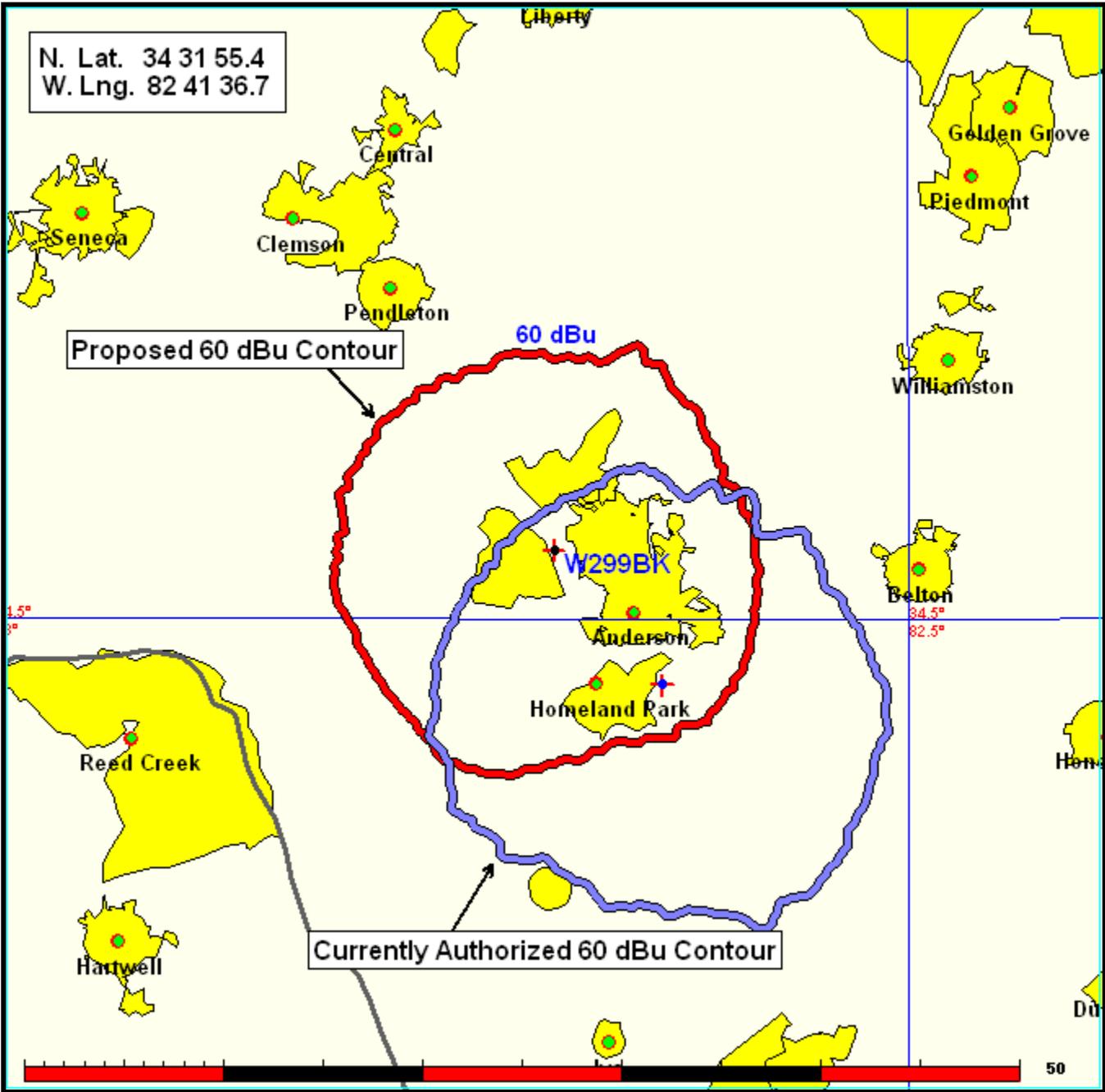
Figure 5

# "FILL-IN" QUALIFICATION

## W299BK as "fill-in" FM Translator for WANS(AM)



Overlap of current and proposed 60 dBu contours demonstrated



## FAA Study Determination

### **DETERMINATION Results**

**Structure does not require registration. The structure meets the 6.10-meter (20-foot) Rule criteria.**

### **Your Specifications**

#### **NAD83 Coordinates**

Latitude	34-31-55.8 north
Longitude	082-41-36.1 west

#### **Measurements (Meters)**

Overall Structure Height (AGL)	59
Support Structure Height (AGL)	53
Site Elevation (AMSL)	248

#### **Structure Type**

BPIPE - Building with Pipe

## Environmental Compliance

Applicant proposes to mount the antenna on An 18 foot pipe atop a grain elevator (see **Figure 2**), The Center-of-Radiation will be 59 meters AGL. The facility will radiate a maximum 189 watts H & V using an EPA Type 2 Opposed V Dipole, single bay antenna.

Using the online FCC FMModel software, the maximum worst case RF electromagnetic exposure is calculated to be 1.069 uW/cm<sup>2</sup> at a distance of 58.4 meters from the base of the supporting structure.

This is well below the limitations set for both controlled and uncontrolled access.

Access to the grain elevator roof is restricted by a locked hatch.

The permittee/licensee in coordination with other users of the site will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.