

# ENGINEERING STUDY

WDPR (FM)

Requesting a Construction Permit for  
Minor Modification of Facilities  
License BLED20071206ACB

Channel 201 (88.1MHz)

Dayton, OH.

Facility ID 61582

March, 2013



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**Minor Modification to**  
**License BLED20071206ACB**  
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**TECHNICAL STATEMENT**

This technical statement and attached exhibits were prepared on behalf of Dayton Public Radio (“DPR”), licensee of radio station WDPR (FM), Channel 201, 88.1MHz, Dayton, OH. Due to some changes in the allocation environment, it has been determined that WDPR can slightly increase its ERP at its existing site from 600 watts to 780 watts. Other than the increase in power there is no other change being requested by this application.

**ALLOCATION**

It is proposed only to increase the ERP of WDPR. WDPR will continue to operate at the exact same location and HAAT with a non-directional antenna and will meet all contour protection requirements toward other stations. The allocation study attached as Exhibit 18.1 indicates that four facilities are close enough to warrant close examination, WBJC, WWGV (LIC and APP), WOAR, and WJCF-FM. Those maps are attached as Exhibits 18.2 through 18.4. Each is discussed in detail below:

WBJC- As shown in exhibit 18.2, WDPR’s protected and interfering contours will not overlap those from co-channel station WBJC.

WWGV – As shown in exhibit 18.3, 18.3a, WDPR’s protected and interfering contours will not overlap those from co-channel station WWGV. Both the current licensed contours and those of the proposed application BPED20130103AAG are evaluated.

WOAR As demonstrated in exhibit 18.4, there will be no prohibited overlap to WOAR from the proposed WDPR facility.

WJCF-FM As demonstrated in exhibit 18.5, there will be no prohibited overlap to WJCF-FM from the proposed WDPR facility.

The proposed facility is within 320km of the common border between the US and Canada, however, this very minor change has no impact on any Canadian allocation. There is no impact to any full power TV Channel 6 operation.

Exhibit 14 indicates that the proposed 60dBu noncommercial station's contour will completely encompass the Dayton, OH. Community of License.

The main studio location for DPR will continue to be located at 126 N. Main St., Suite 110, Dayton, OH. 45402. The studio is in the community of license, Dayton, Ohio thus satisfying 73.1125 concerning Main Studio location.

### **ENVIRONMENTAL CONSIDERATIONS**

There will be no change to the existing antenna or tower being used by WDPR. The antenna is attached to an existing tower (ASR 1011760). The tower is owned by Greater Dayton Public Television Inc.

Because there will be no change to either the antenna or the tower for WDPR, there will be no impact for purposes of the Nationwide Programmatic Agreement and the NHPA Section 106.

The proposed WDPR antenna will operate at a power level of 780 watts (increased from 600 watts) and will continue to operate at 235m AGL.

WDPR uses an ERI model 1083 single level, 3-around panel antenna. Based upon the FCC "FM Model for Windows" Power Density vs. Distance calculator using the worst case dipole antenna setting produces the maximum power density of  $0.602\mu\text{W}/\text{cm}^2$  or 0.301% of the permitted  $200\mu\text{W}/\text{cm}^2$  limit for uncontrolled exposure. The receive antenna height was calculated at a height of 7m AGL (instead of the typical 2m) to account for the height of the transmitter building at the tower base. The output of the FCC program "FM Model for Windows" is shown as figure 19. There are no other tall buildings within 400m of the proposed tower.

Because the expected emission from the WDPR antenna is under 5% of the permitted  $200\mu\text{W}/\text{cm}^2$  limit for uncontrolled exposure, and because there will be no physical change to the WDPR antenna, the changes requested in this instant application are categorically excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

Radio station WDPR along with other users at the site will maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

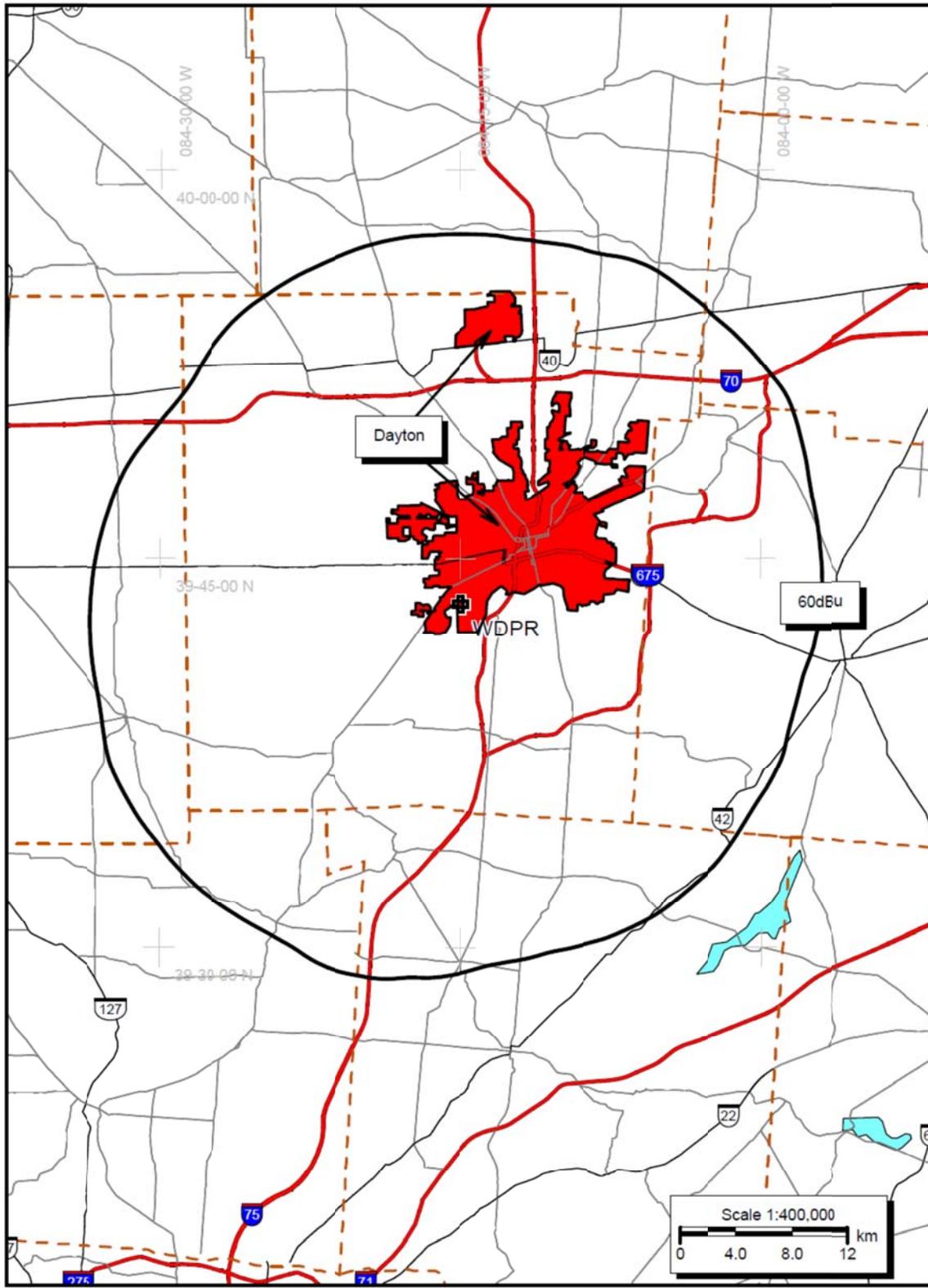
Respectfully Submitted

A handwritten signature in cursive script that reads "Bert Goldman". The signature is written in black ink and is positioned above the printed name.

Bert Goldman  
Technical Consultant

**EXHIBIT 14**

WDPR Community of License Coverage



## **EXHIBIT 18.1 – Allocation Study**

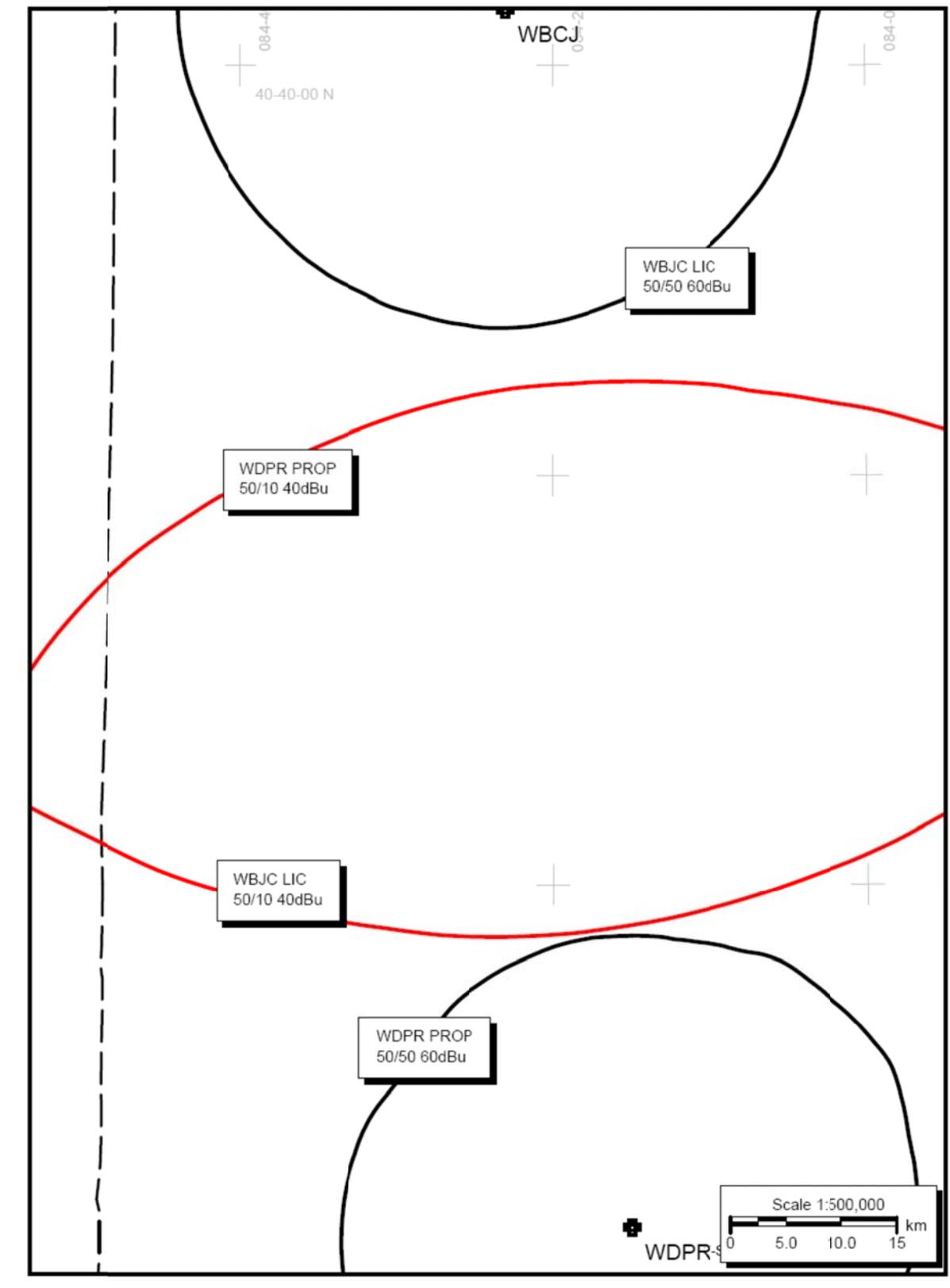
ComStudy 2.2 search of channel 201 (88.1 MHz Class A) at 39-43-16.0 N, 84-15-00.0 W.

<b>CALL</b>	<b>CITY</b>	<b>ST CHN CL</b>	<b>DIST</b>	<b>SEP</b>	<b>BRNG</b>	<b>CLEARANCE</b>
WBCJ	SPENCERVILLE	OH 201 A	110.54	115.00	354.2	0.21 dB
WWGV	GROVE CITY	OH 201 A	94.89	115.00	89.6	0.10 dB
WOAR	SOUTH VIENNA	OH 202 A	59.57	72.00	66.6	0.06 dB
WWGV	GROVE CITY	OH 201 B1	122.11	143.00	86.4	0.27 dB
WAIF	CINCINNATI	OH 202 A	69.03	72.00	197.1	1.26 dB
WMUB	OXFORD	OH 203 B	50.04	69.00	248.8	3.29 dB
WMUB	OXFORD	OH 203 B	50.04	69.00	248.8	4.66 dB
WKRY	VERSAILLES	IN 201 A	113.64	115.00	230.6	6.63 dB
WJCF-FM	MORRISTOWN	IN 201 B	111.94	178.00	272.1	7.51 dB
WJCF-FM	MORRISTOWN	IN 201 B	129.89	178.00	273.7	13.0 dB
WRFL	LEXINGTON	KY 201 C3	188.08	142.00	186.8	14.04 dB
WOBO	BATAVIA	OH 204 B	74.36	69.00	169.8	19.73 dB
WVPE	ELKHART	IN 201 B	266.54	178.00	322.8	21.67 dB

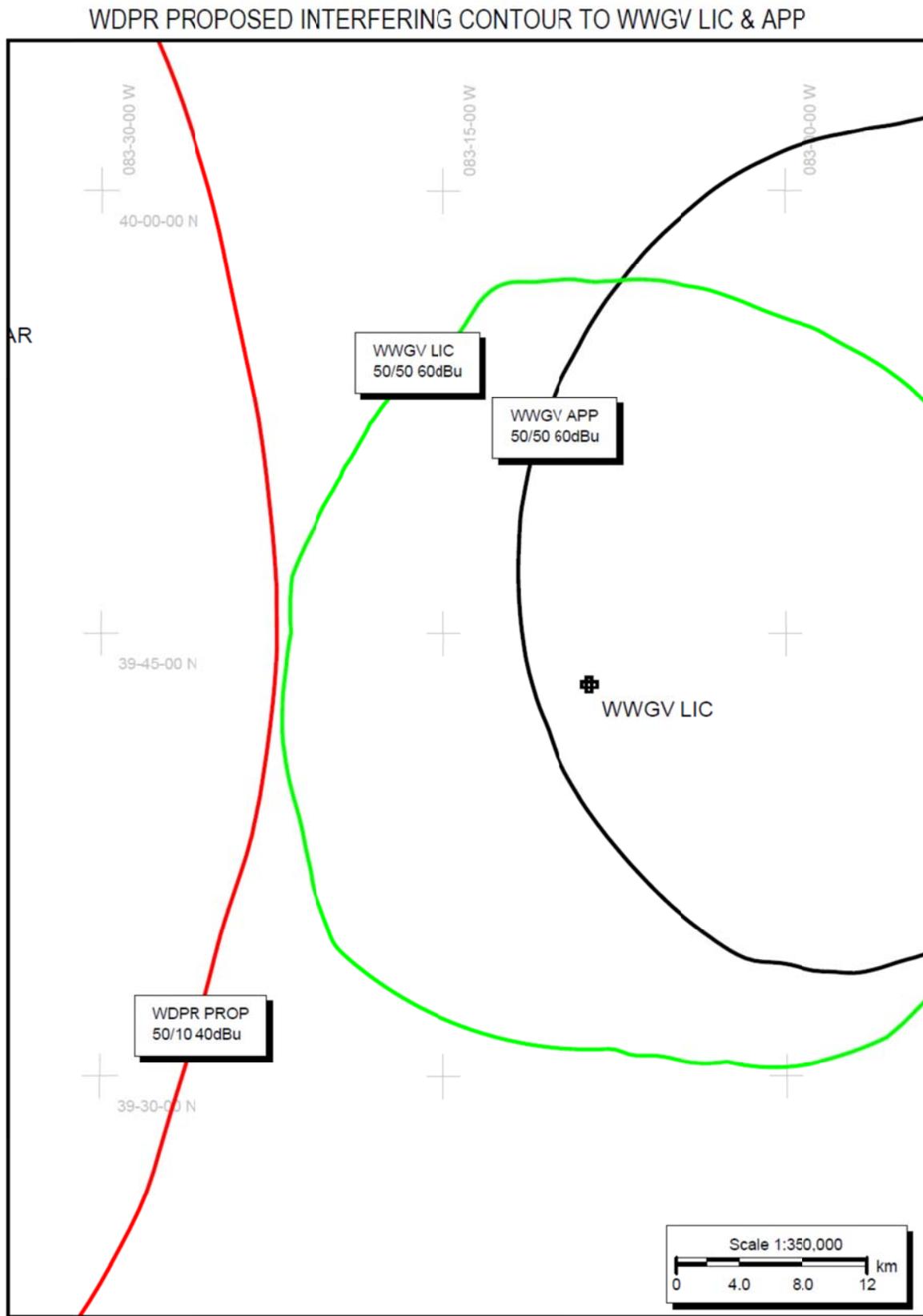
\* FCC CDBS Database as of 3/14/13

**EXHIBIT 18.2 – Contour protection to KBJC (Co-Channel)**

WEJC LIC and WDPR PROP PROTECTED AND INTERFERING CONTOURS

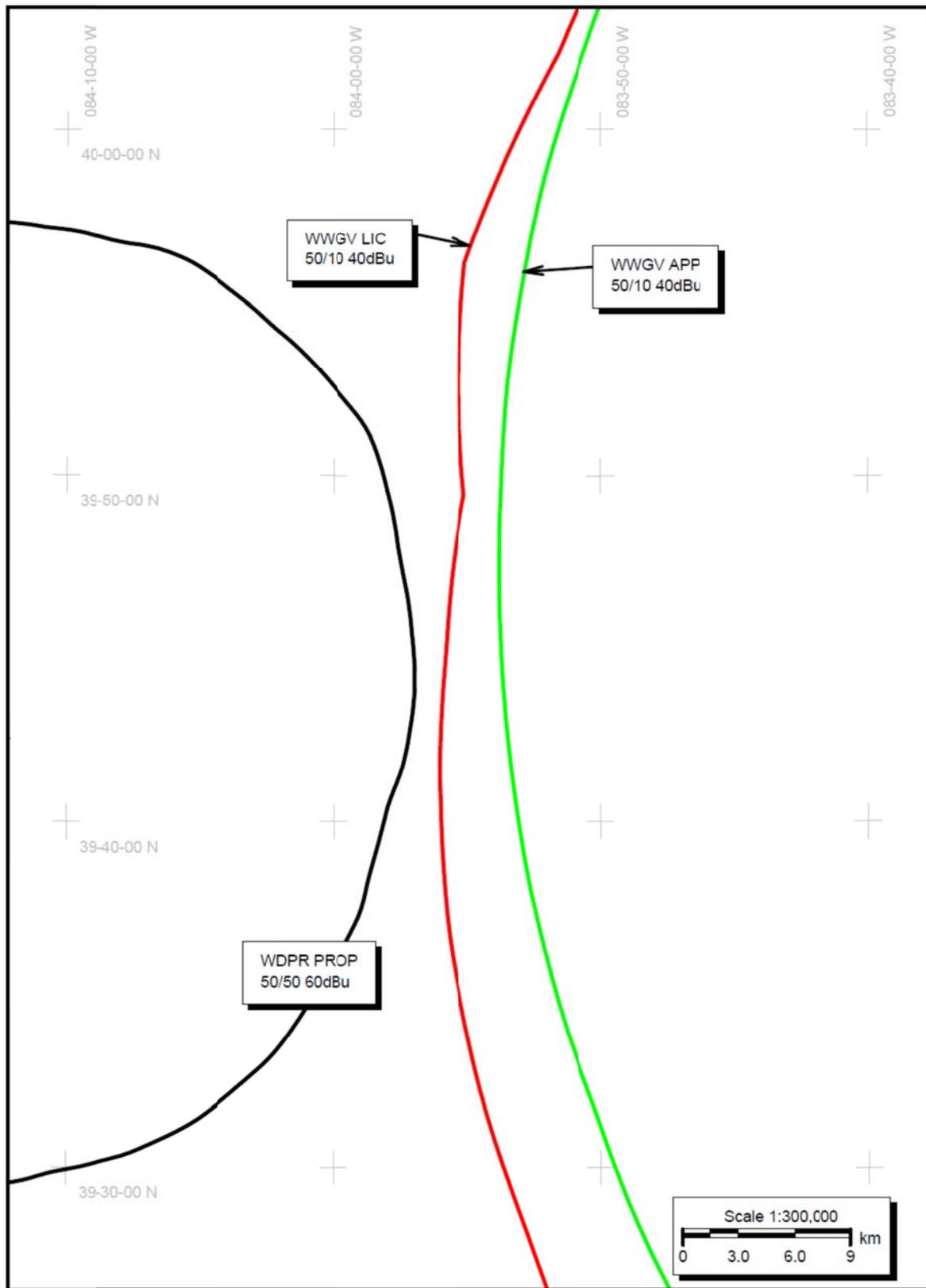


**EXHIBIT 18.3 – Contour protection to WWGV from WDPR (Co-Channel)**



**EXHIBIT 18.3a – Contour protection to WDPR from WWGV (Co-Channel)**

WWGV INTERFERING CONTOURS TO WDPR PROP 780w



**EXHIBIT 18.4 – Contour protection to WOAR (1<sup>st</sup> Adjacent)**

WOAR LIC and WDPR PROP PROTECTED AND INTERFERING CONTOURS

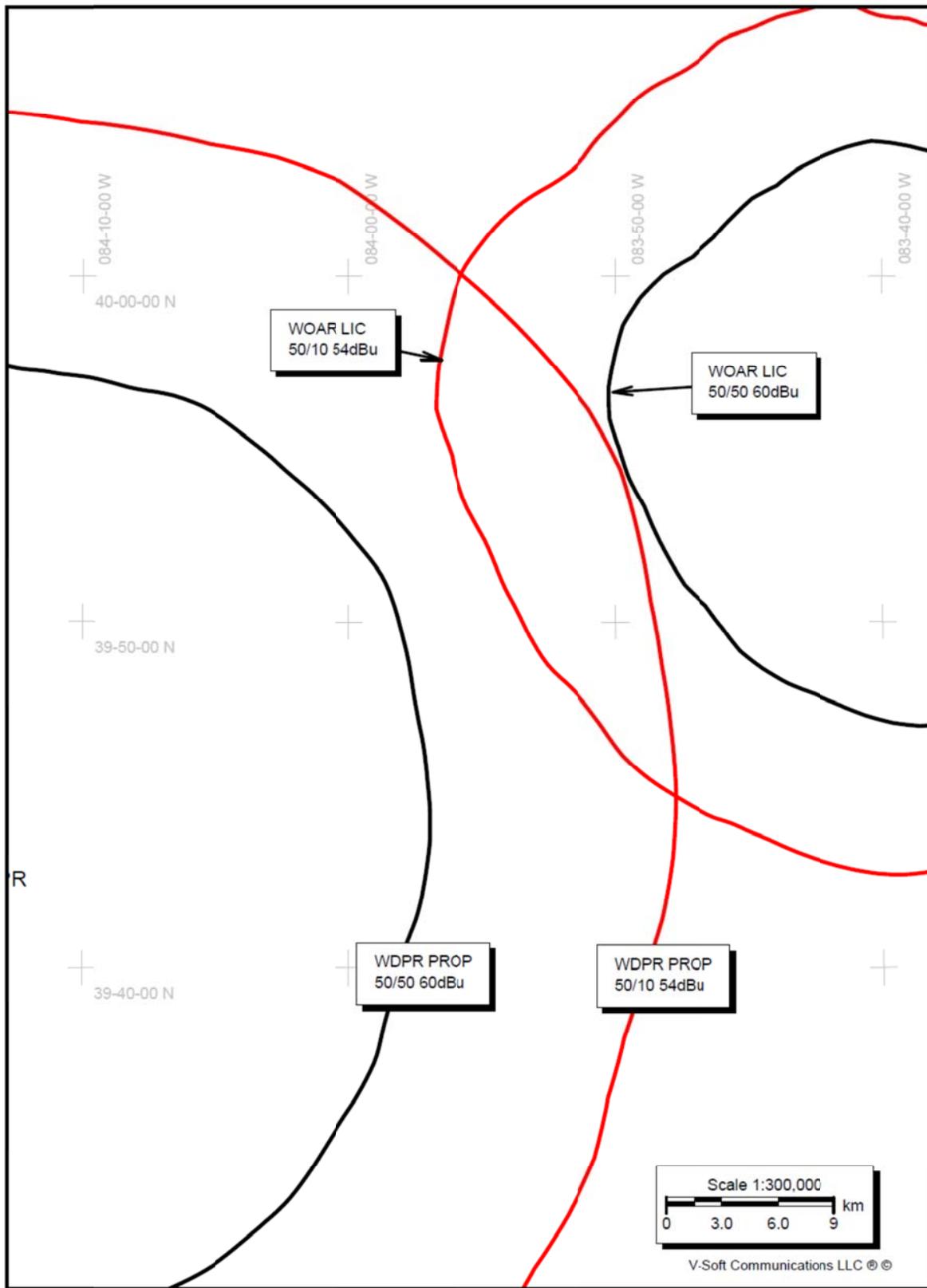
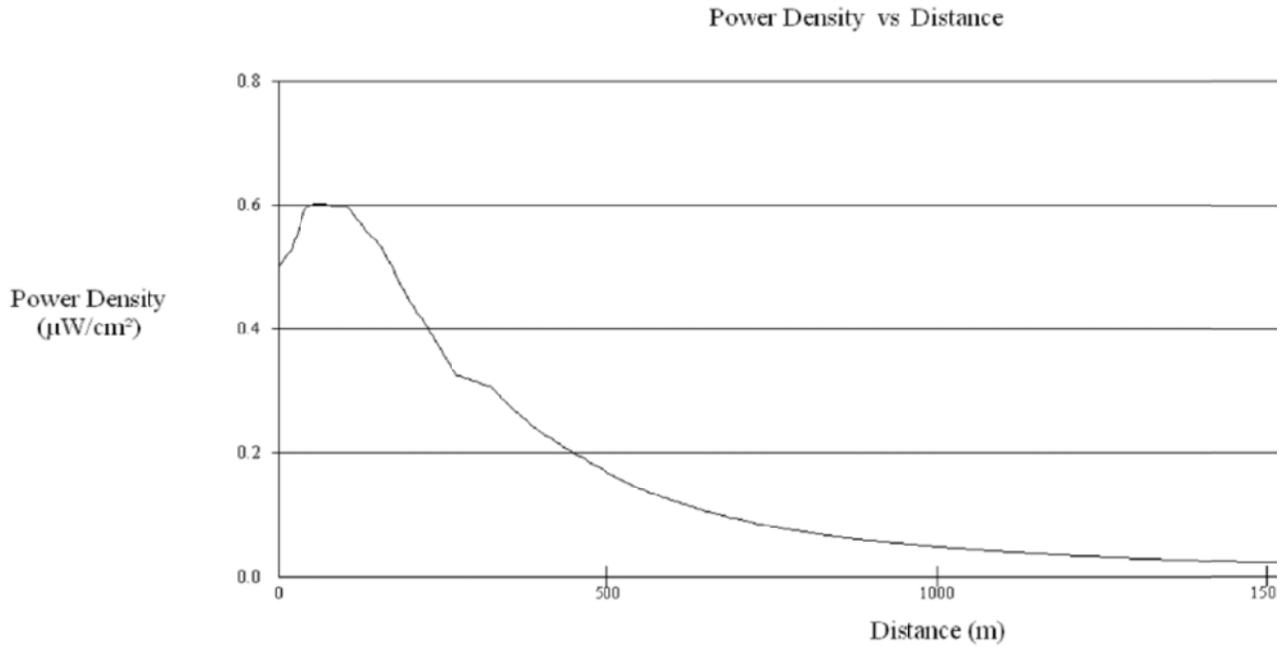


Figure 19, Power Density, WDPR PROPOSED



Office of Engineering and Technology

Distance (m):	2000	Antenna Type:	Phelps-Dodge "Ring Stub" or Dipole (EP)
Horizontal ERP (W):	780	Number of Elements:	1
Vertical ERP (W):	780	Element Spacing:	1
Antenna Height (m):	230		

Maximum RFR @ 7m AGL, 64m from tower base = 0.602 µW/cm², or 0.301% of the 200 µW/cm² limit