

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of INDIANA WESLEYAN UNIVERSITY, licensee of Class A digital television station WIWU-CD, Channel 51 in Marion, Indiana, in support of its Application for Construction Permit to specify operation on its post-repack channel, Channel 28. No change in site location, antenna azimuth pattern or antenna height is proposed herein.

It is proposed to mount an ERI omnidirectional antenna at the 133.5-meter level of the existing 142-meter tower on which the present WIWU-CD antenna is located. The proposed effective radiated power for the facility is 0.93 kW in horizontal plane, which is the allotted repack power level for WIWU-CD. Exhibit B is a map upon which the predicted 51 dBu service contour is plotted.

Elevation pattern data for the proposed ERI 8-bay antenna appears in Exhibit C. Since the facility proposed herein specifies the exact repack allotment facility assigned to WIWU-CD, no interference study is included herein. A detailed power density calculation is provided in Exhibit D.

Since no change in the overall height or location of the existing WIWU-DT tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1252039 to this tower.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher". The signature is stylized with a large "K" and "F".

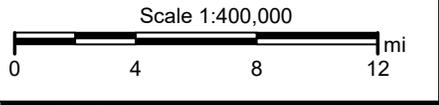
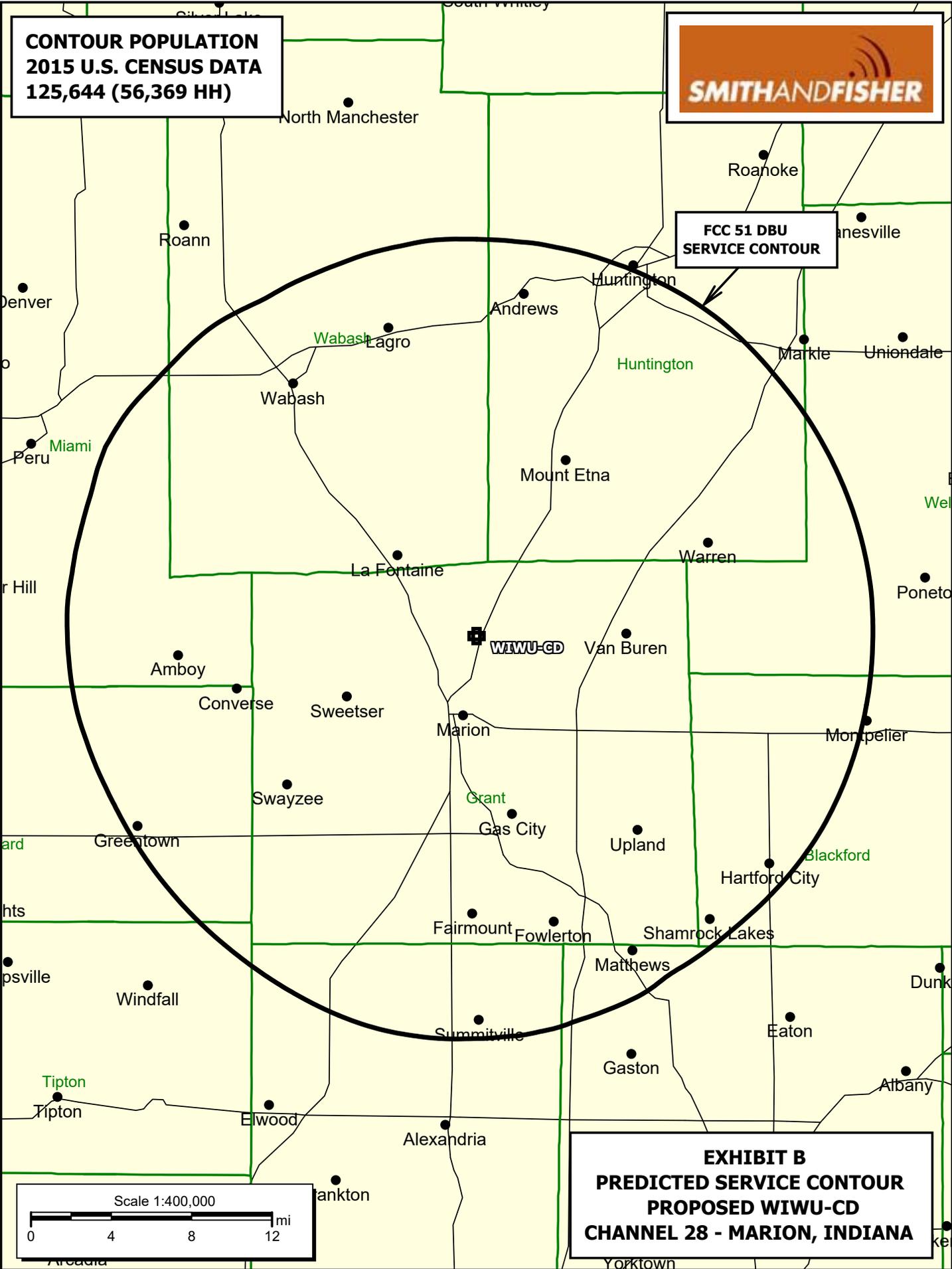
KEVIN T. FISHER

June 27, 2017

**CONTOUR POPULATION  
2015 U.S. CENSUS DATA  
125,644 (56,369 HH)**



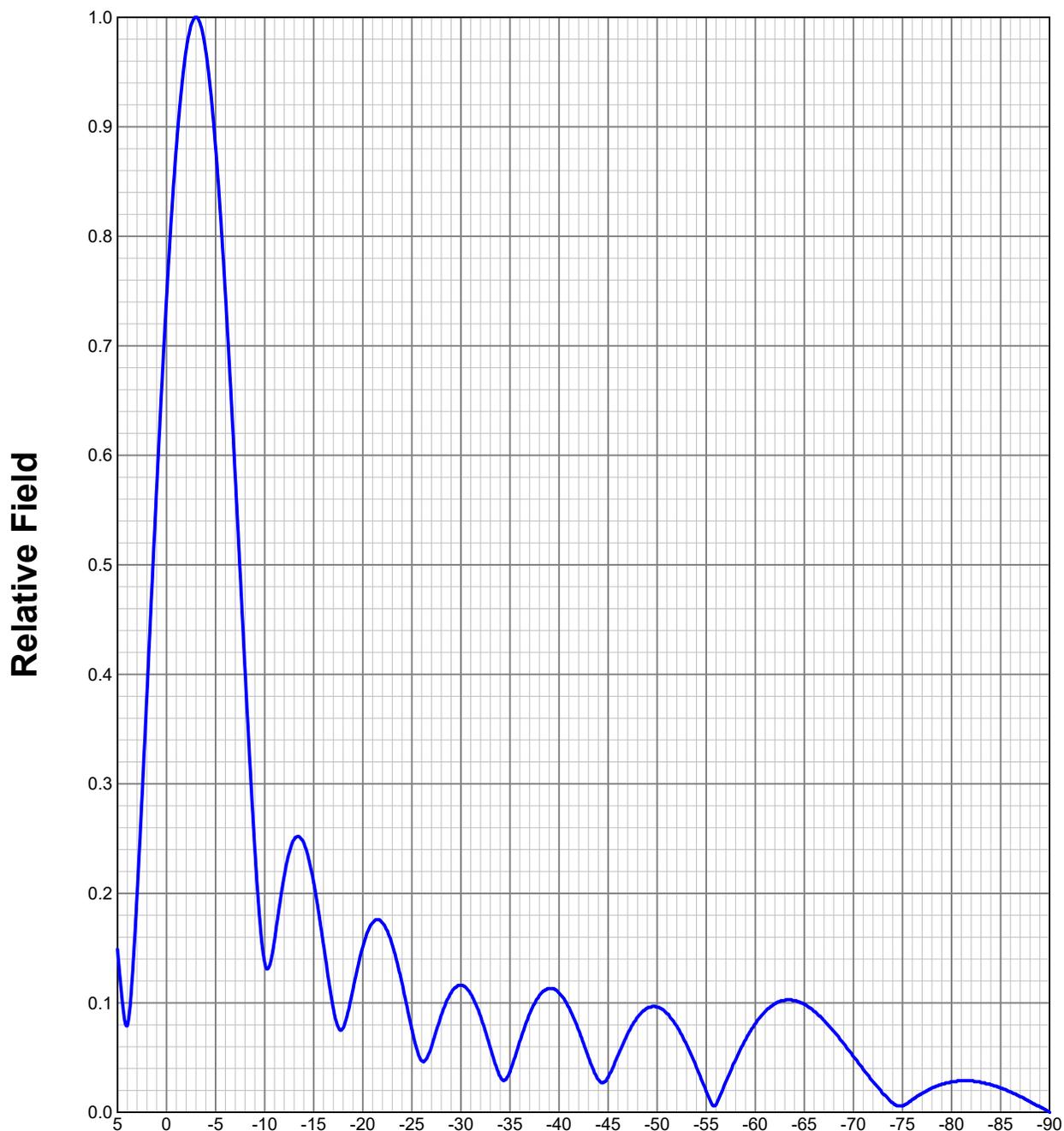
**FCC 51 DBU  
SERVICE CONTOUR**



**EXHIBIT B  
PREDICTED SERVICE CONTOUR  
PROPOSED WIWU-CD  
CHANNEL 28 - MARION, INDIANA**

### ELEVATION PATTERN

Type:	AL8		Channel:	28
Directivity:	Numeric	dBd	Location:	
Main Lobe:	8.68	9.39	Beam Tilt:	-1.75
Horizontal:	4.79	6.80	Polarization:	Horizontal



Preliminary, subject to final design and review.

POWER DENSITY CALCULATION

PROPOSED WIWU-CD  
CHANNEL 28 – MARION, INDIANA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Marion facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 0.93 kW, an antenna radiation center 131 meters above ground, and the specific elevation pattern of the proposed ERI antenna, maximum power density two meters above ground of  $0.000017 \text{ mW/cm}^2$  is calculated to occur 67 meters from the base of the tower. Since this is significantly less than 0.1 percent of the  $0.37 \text{ mW/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 28 (554-560 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation..

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.