

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRINITY BROADCASTING NETWORK, licensee of Television Translator W52BO, Channel 52 in Meadville, Pennsylvania, in support of this Application for Construction Permit to operate on Channel 40 from the licensed site. This proposal is being submitted in response to the Commission's reclamation of Channel 52 spectrum for future auction, thereby placing this translator in a displacement situation.

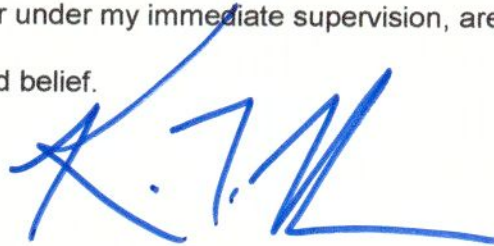
It is proposed to mount a standard MCI directional antenna at the 118-meter level of the existing 122-meter communications tower. Exhibit B is a map upon which the predicted service contours of the instant proposal are plotted. Since no change in site location is proposed herein, the newly proposed 74 dBu contour necessarily encompasses a significant portion of that which obtains from the licensed facility. Therefore, the changes proposed herein constitute a "minor" change in facilities.

Operating parameters for the proposed facility are tabulated in Exhibit C. A contour overlap analysis and interference study are provided in Exhibit D, and a power density calculation follows as Exhibit E.

Because no change in the overall height or location of the existing tower is proposed, the FAA has not been notified of this application. The FCC issued Antenna Structure Registration Number 1025876 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.

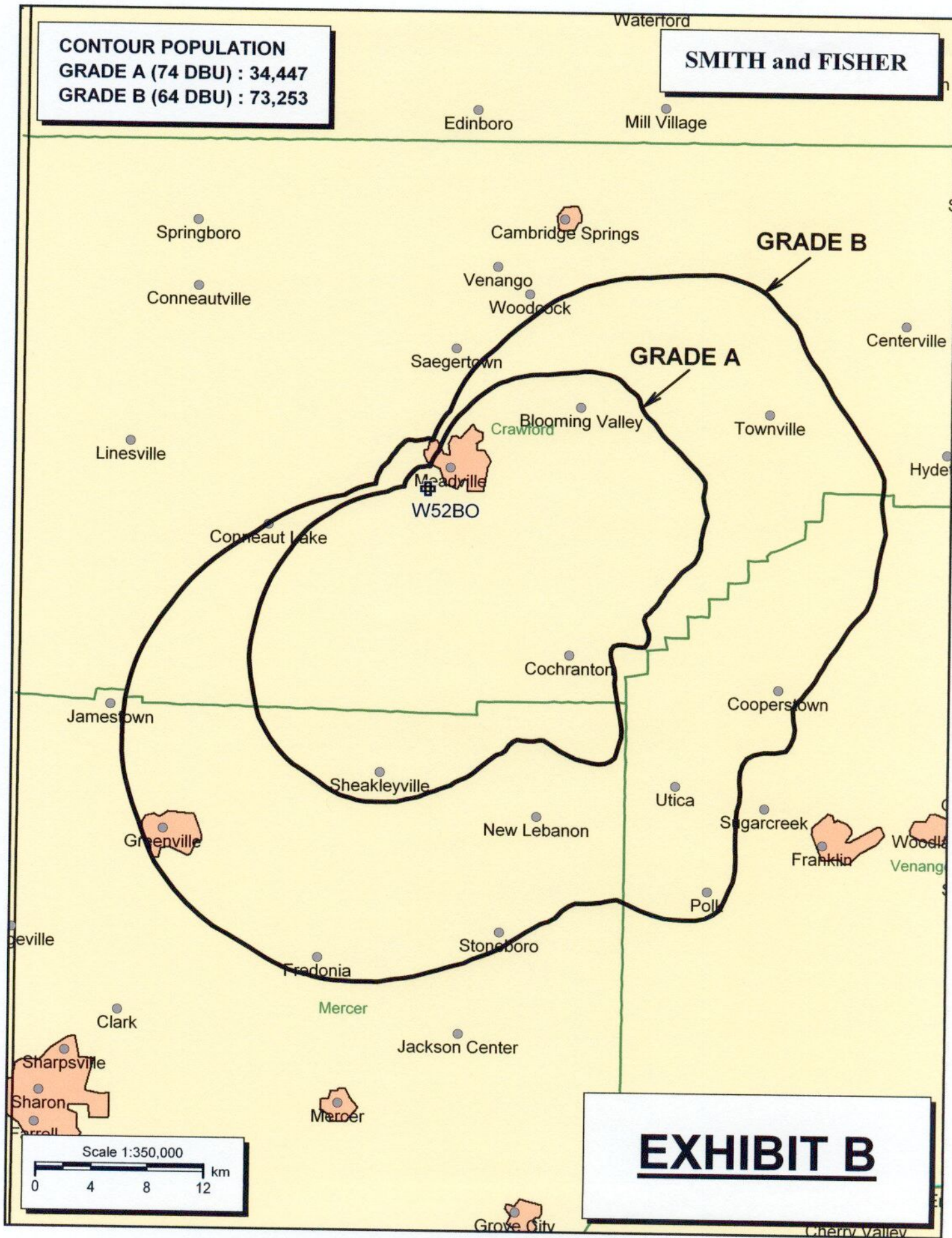
A handwritten signature in blue ink, appearing to read 'K. T. Fisher', with a stylized, sweeping flourish at the end.

KEVIN T. FISHER

March 23, 2007

**CONTOUR POPULATION**  
**GRADE A (74 DBU) : 34,447**  
**GRADE B (64 DBU) : 73,253**

**SMITH and FISHER**





## PROPOSED OPERATING PARAMETERS

PROPOSED TELEVISION TRANSLATOR W52BO  
CHANNEL 40 - MEADVILLE, PENNSYLVANIA

Transmitter Power Output:	1.0 kw
Transmission Line Efficiency:	59.4%
Antenna Power Gain – Toward Horizon:	32.0
Antenna Power Gain – Main Lobe:	32.0
Effective Radiated Power – Toward Horizon:	19.0 kw
Effective Radiated Power – Main Lobe:	19.0 kw
Transmitter Make and Model:	Type-accepted
Rated Output	1.0 kw
Transmission Line Make and Model:	Andrew HJ7-50A
Size and Type:	1-5/8" air heliax
Length:	417 feet
Antenna Make and Model:	MCI 955314
Orientation	95° T
Beam Tilt	None
Radiation Center Above Ground:	118 meters
Radiation Center Above Mean Sea Level:	549 meters

\*line of symmetry = 140° T

CONTOUR OVERLAP AND  
LONGLEY-RICE INTERFERENCE STUDIES  
PROPOSED TELEVISION TRANSLATOR W52BO  
CHANNEL 40 - MEADVILLE, PENNSYLVANIA

We conducted a computer analysis of the interference situation for the proposed facility, the results of which are shown in Exhibit D-2. The study is based on contour protection requirements of Sections 74.705, 74.706, and 74.707 of the FCC's Rules with respect to analog full-power, digital full-power, and low power television stations, respectively. It concludes that the facility proposed herein meets these requirements except in four instances: W65DJ (appl.), Channel 40 in Erie, Pennsylvania; WPCB-TV, Channel 40 in Greensburg, Pennsylvania; WHIZ-DT, Channel 40 in Zanesville, Ohio; and, WKBN-DT, Channel 41 in Youngstown, Ohio.

It is important to note that the W65DJ application (BPTTL-20020307ABH), filed by MS Communications and seeking to move the station from Channel 65 in Houghton Lake, Michigan, to Channel 40 in Erie, Pennsylvania, under the Commission's displacement policy, was dismissed by the FCC on December 28, 2005.

We then conducted detailed interference studies using the Longley-Rice methodology contained in the Commission's *OET Bulletin No. 69*, with respect to the other facilities of concern. The software utilizes a 1.0-square kilometer cell size, calculates signal strength at 0.1 kilometer increments along each radial studied, and employs the 1990 U.S. Census to count population within cells. In addition, the program does not attribute interference to the proposed facility in cells within the protected station's service contour where interference from another source (other than proposed W52BO) already is predicted to exist (also known as "masking"). The results of these

EXHIBIT D-1

studies are summarized in Exhibit D-3. It concludes that the facility proposed herein causes no significant new interference to any of the stations of concern.

As a result, waivers of Section 74.705 of the Commission's Rules with respect to interference to WPCB-TV and Section 74.706 of the Rules with regard to WHIZ-DT and WKBN-DT are requested and believed to be justified based on the aforementioned Longley-Rice studies.

SMITH AND FISHER

EXHIBIT D-2

PROPOSED W52BO  
CHANNEL 44 - MEADVILLE, PA

REFERENCE

41 37 39 N  
80 10 15 W

LPTV Pwr = 19 kW, HAMS L COR= 550 M

DISPLAY DATES  
DATA - 03-08-07  
SEARCH 03-22-07

..... Channel 40-, 626 MHz .....

Call	Channel	Location	Dist	Azi	FCC	Margin
WPCBTB LI	40+	Greensburg	PA 140.97	166.5	> 197.85	-56.88
WKBN-D CP	41	Youngstown	OH 74.82	212.1	> 114.46	-39.64
WHIZ-D CPM	40	Zanesville	OH 243.03	219.6	> 271.43	-28.40
W65DJ AP	40-	Erie	PA 54.76	20.0	> 080.83	-26.07
W40BS CP	40	Renovo	PA 205.72	99.3	> 173.75	31.97
WNYB LI	26+	Jamestown	NY 115.43	42.1	> 071.47	43.96
WDLI-D LI	39	Canton	OH 134.99	242.3	> 088.15	46.84
NEW AP	40	Cleveland	OH 127.85	264.2	> 072.59	55.26
WVIZ LI	25+	Cleveland	OH 134.86	256.8	> 079.31	55.55
WVIZ CP	25+	Cleveland	OH 134.88	256.8	> 078.51	56.37
WIVB-D LI	39	Buffalo	NY 171.59	47.5	> 109.07	62.52

## INTERFERENCE SUMMARY

PROPOSED TELEVISION TRANSLATOR W52BO  
CHANNEL 40 - MEADVILLE, PENNSYLVANIA

<u>Call Sign</u>	<u>Status</u>	<u>City, State</u>	<u>Ch.</u>	<u>Grade B Population</u>	<u>Unmasked Interference From Proposed Facility</u>	<u>%</u>
WPCB-TV BLCT-19990706KF	Lic.	Greensburg, PA	40	2,825,106	5,612	0.2
WHIZ-DT BMPCDT-20020314AAE	CP	Zanesville, OH	40	702,678	0	0
WKBN-DT BPCDT-19991025ACU	CP	Youngstown, OH	41	5,125,477	0	0



## POWER DENSITY CALCULATION

PROPOSED TELEVISION TRANSLATOR W52BO  
CHANNEL 40 - MEADVILLE, PENNSYLVANIA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Meadville facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 19.0 kw, an antenna radiation center 118 meters above ground, and the vertical pattern of the MCI antenna, maximum power density two meters above ground of  $0.00011 \text{ mw/cm}^2$  is calculated to occur 94 meters southeast of the base of the tower. Since this is less than 0.1 percent of the  $0.42 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 40 (626-632 MHz), this proposal may be excluded from consideration with respect to public exposure to nonionizing 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 nonionizing radiation.