

EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of CAROLINA CHRISTIAN BROADCASTING, INC., licensee of WGGS-DT, Channel 35 in Greenville, South Carolina, in support of its Application for Construction Permit to operate on Channel 16 with its post-transition DTV facility.

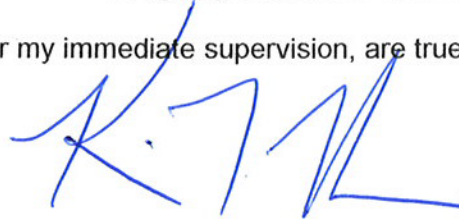
It is proposed to utilize the existing Bogner Channel 16 directional antenna mounted at the 51-meter level of the existing 59-meter tower on which the present WGGS-DT antenna is mounted. Exhibit B provides antenna azimuth and elevation pattern data. Exhibit C is a map upon which the predicted service contours are plotted. As shown, the city of license is completely contained within the proposed 48 dBu service contour. It can be seen in Exhibit D that the proposed 41 dBu contour extends slightly beyond that of the allotment facility assigned to WGGS-DT in Appendix B of the Commission's DTV Table of Allotments. However, at no azimuth does the proposed contour exceed that of the allotment facility by more than five miles. Accordingly, since the station's post-transition DTV Channel (16) is different than its pre-transition DTV Channel (35), the applicant requests a waiver of the current freeze on the filing of such an application. An interference study is included in Exhibit E, and a power density calculation is provided in Exhibit F.

It is not expected that the proposed facility would cause objectionable interference to any other broadcast or non-broadcast station authorized to operate at or near the WGGS-DT site.

However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

Since no change in overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. Due to the diminutive height of the tower and its proximity to the nearest airport runway, FCC Antenna Structure Registration is not required. This conclusion is supported by the Commission's TOWAIR Program.

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.



KEVIN T. FISHER

March 13, 2008

## HORIZONTAL RELATIVE FIELD PATTERN

PROPOSED WGGS-DT  
CHANNEL 16 - GREENVILLE, SOUTH CAROLINA

<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>	<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>
0	0.745	19.8	180	0.920	21.7
10	0.800	20.5	190	0.935	21.8
20	0.840	20.9	200	0.965	22.1
30	0.880	21.3	210	0.975	22.2
40	0.900	21.5	220	0.975	22.2
50	0.950	22.0	230	0.955	22.0
60	0.965	22.1	240	0.925	21.7
70	0.960	22.1	250	0.890	21.4
80	0.940	21.9	260	0.845	20.9
90	0.915	21.6	270	0.810	20.6
100	0.920	21.7	280	0.765	20.1
110	0.940	21.9	290	0.690	19.2
120	0.980	22.2	300	0.610	18.1
130	0.995	22.3	310	0.570	17.5
140	1.000	22.4	320	0.550	17.2
150	0.995	22.3	330	0.570	17.5
160	0.970	22.1	340	0.620	18.2
170	0.935	21.8	350	0.685	19.1

**Bogner Broadcast Equipment Corp.**  
401 Railroad Avenue, Westbury, N.Y. 11590  
Tel: (516) 997-7800

**BOGNER<sup>(®)</sup>**  
UHF high power antennas  
B series, catalog 201

Calculated vertical  
plane pattern

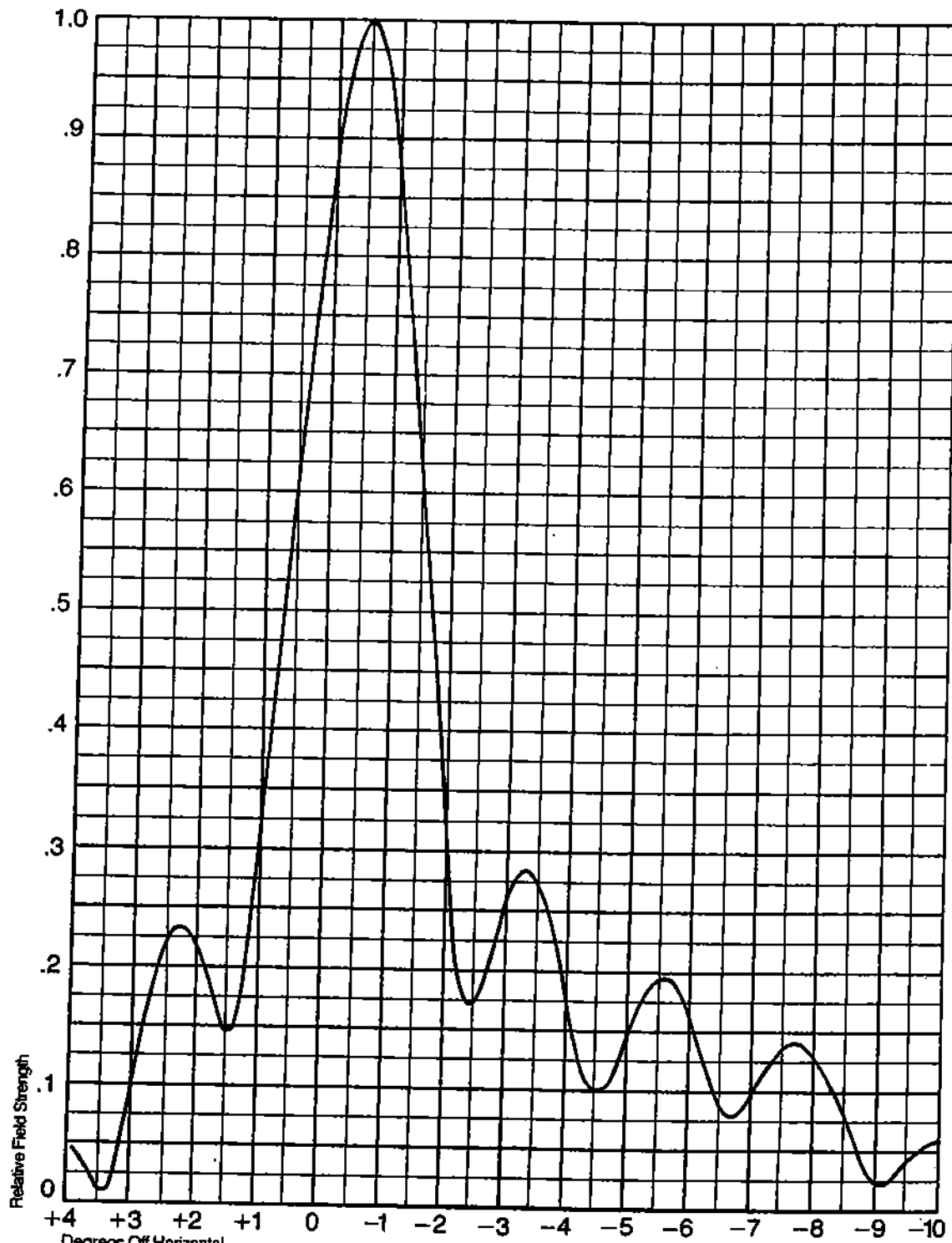
**Model BU( )28**

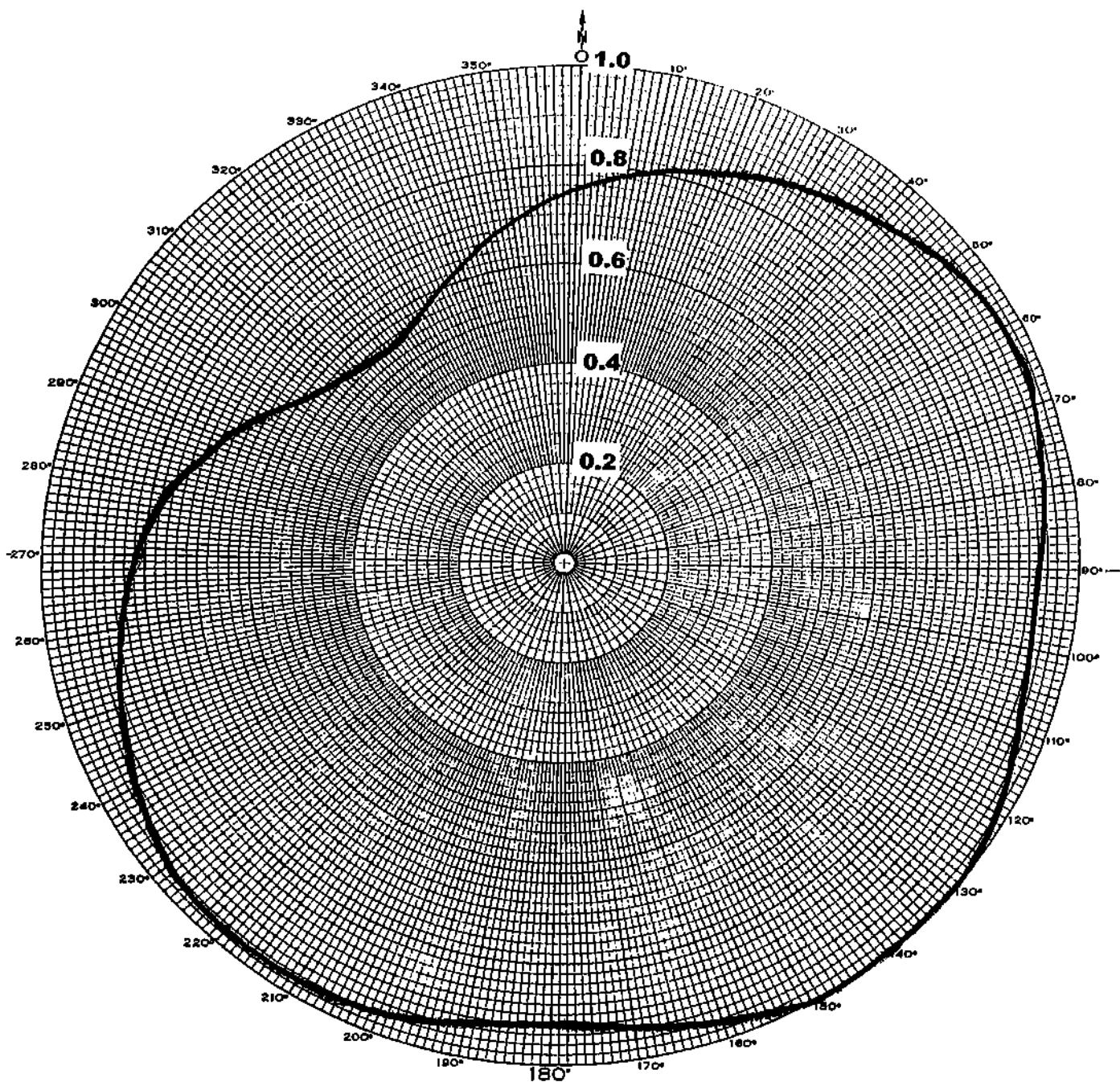
Power Gain: 29.4 (14.7 dB)

Hor. Gain: 24.3 (13.8 dB)

— 1/2° Electrical Beam tilt

**EXHIBIT B-1**  
**ANTENNA ELEVATION PATTERN**  
**PROPOSED WGGS-DT**  
**CHANNEL 16 – GREENVILLE, SOUTH CAROLINA**  
**SMITH AND FISHER**





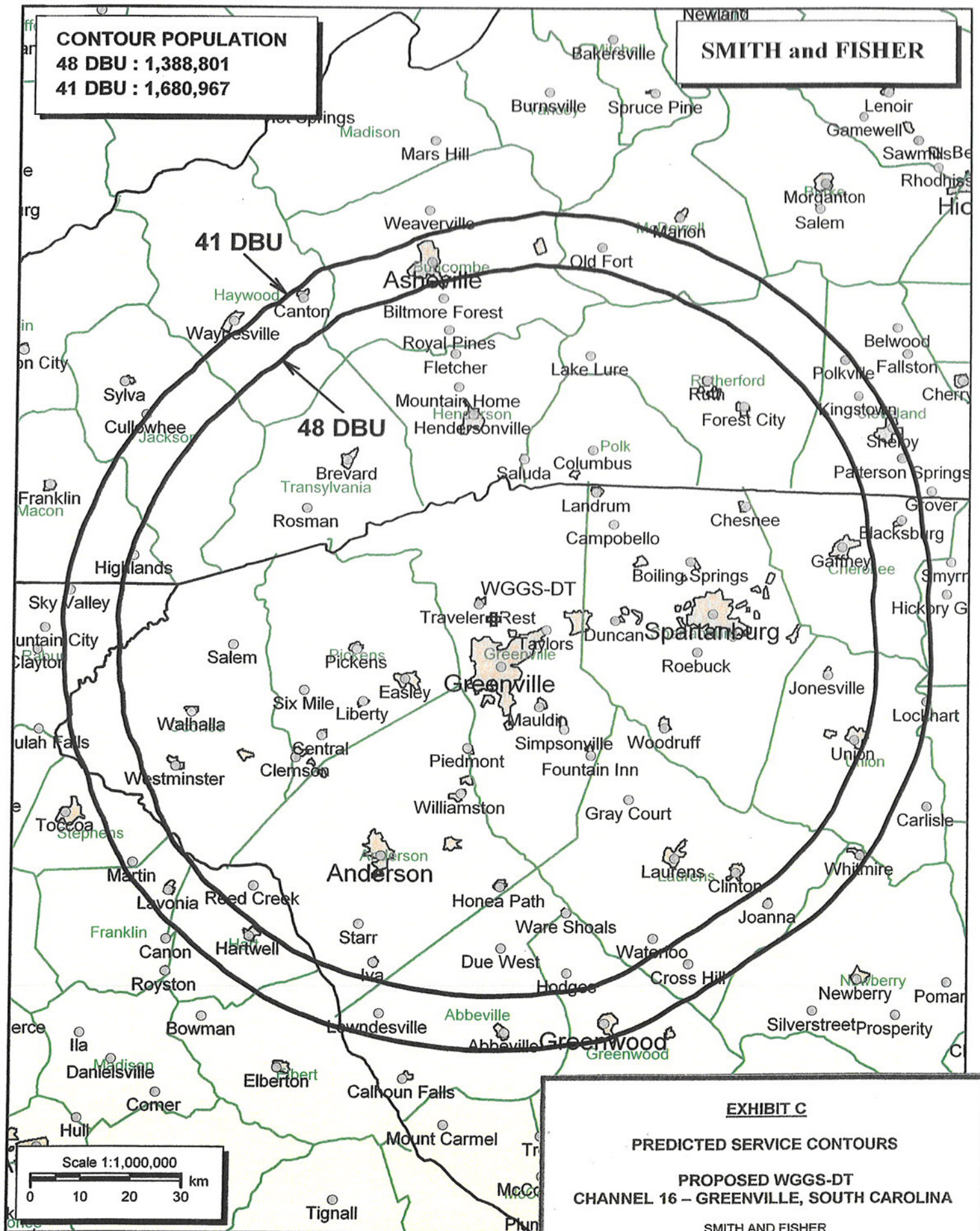
**EXHIBIT B-2**

**ANTENNA AZIMUTH PATTERN**

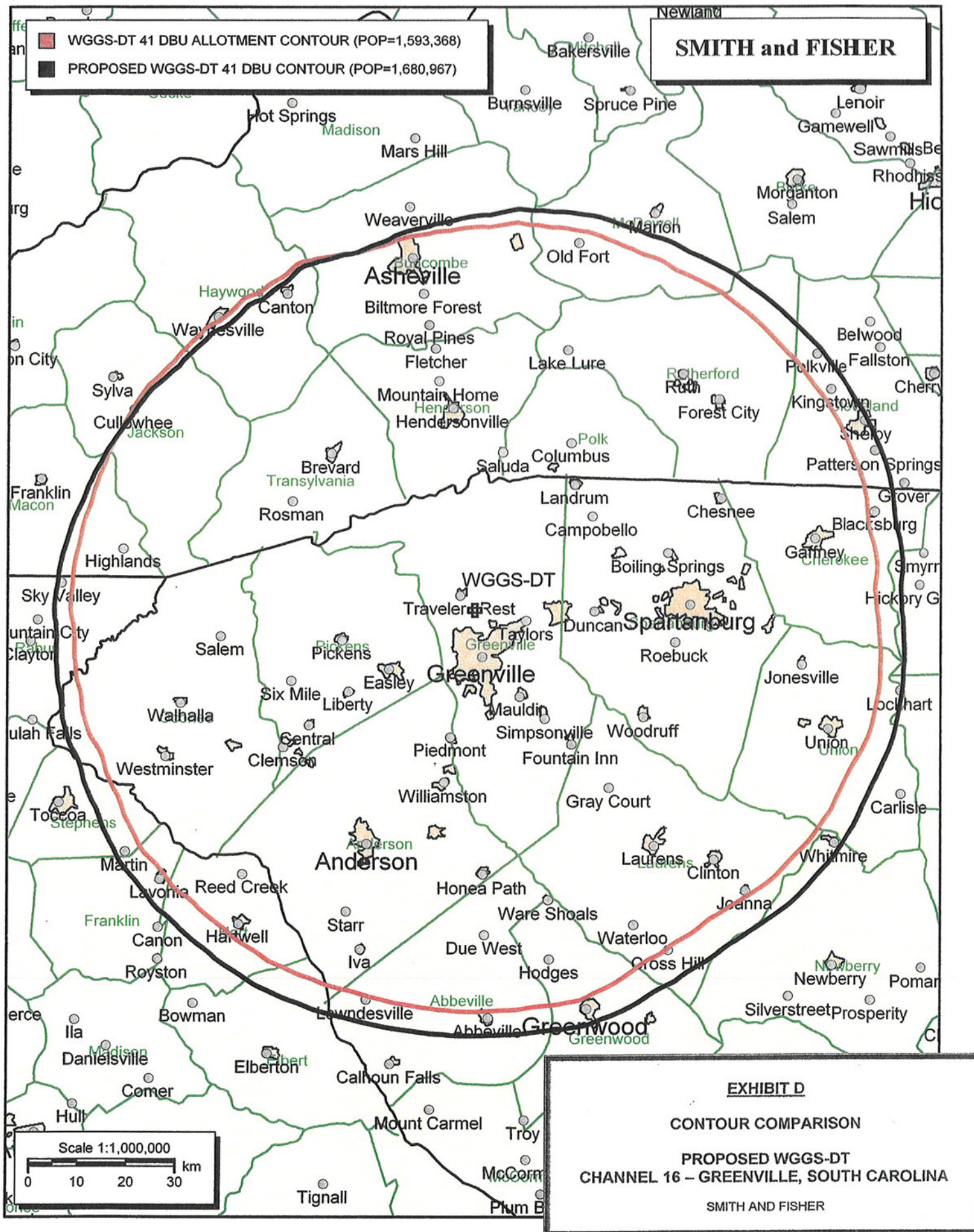
**PROPOSED WGGG-DT  
CHANNEL 16 - GREENVILLE, SOUTH CAROLINA**

**SMITH AND FISHER**









INTERFERENCE STUDY  
PROPOSED WGGS-DT  
CHANNEL 16 – GREENVILLE, SOUTH CAROLINA

The instant application specifies an ERP of 175 kw (directional) at 360 meters above average terrain, which we have determined to be allowable under the FCC's recently approved interference standards with respect to various digital television facilities as they will exist on or before February 17, 2009, the date by which all stations must operate with the parameters recently adopted in the Commission's DTV Table of Allotments.

In evaluating the interference effect of this proposal, we have relied upon the V-Soft Communications "Probe III" computer program, which has been found generally to mimic the FCC's program. In conducting our studies, we employed a cell size of 2.0 kilometers and an increment spacing of 1.0 kilometer along each radial. In addition, we utilized the 2000 U.S. Census. Changes in interference caused by proposed WGGS-DT to other pertinent stations are tabulated in Exhibit E-2.

As shown, the proposed WGGS-DT facility would not contribute more than 0.5% interference (beyond that which is caused by the allotted WGGS-DT facility) to the service population of any potentially affected post-transition DTV station.

A Longley-Rice interference study also reveals that the proposed WGGS-DT facility does not cause significant (0.5%) interference within the protected service contour of any potentially affected Class A low power television station.

Therefore, this proposal meets the FCC's *de minimis* interference standards for DTV operations.



EXHIBIT E-2

## INTERFERENCE STUDY SUMMARY

PROPOSED WGGS-DT  
CHANNEL 16 – GREENVILLE, SOUTH CAROLINA

<u>Call Sign</u>	<u>City, State</u>	<u>CH.</u>	<u>Coverage Population</u>	<u>Interference Population From WGGS-DT*</u>	<u>%</u>
WPDE-DT BCCDT-0030121ADB	Florence, SC	16	1,635,504	2,275	0.1
WGXA-DT Allotment	Macon, GA	16	681,868	961	0.1
WNSC-DT Allotment	Rock Hill, SC	15	1,608,526	217	<0.1
WUNE-DT Allotment	Linville, NC	17	1,129,466	1,131	0.1
WELF-DT Allotment	Dalton, GA	16	1,189,245	237	<0.1

\*above that caused by WGGS-DT as allotted

POWER DENSITY CALCULATION

PROPOSED WGGS-DT  
CHANNEL 16 – GREENVILLE, SOUTH CAROLINA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Greenville facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 175 kw, an antenna radiation center 51 meters above ground, and the elevation pattern of the Bogner antenna, maximum power density two meters above ground of  $0.0086 \text{ mw/cm}^2$  is calculated to occur 6 meters southeast of the base of the tower. Since this is only 2.7 percent of the  $0.32 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 16 (482-488 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational ground-level 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.