

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of CAROLINA CHRISTIAN BROADCASTING, INC., licensee of full-power digital television station WGGS-DT, Channel 16 in Greenville, South Carolina, in support of its application for modification of Construction Permit BMPCDT-20120827AEA to specify a reduction in effective antenna height and a change in antenna make and model. No change in site location or effective radiated power is proposed herein.

It is proposed to mount a new ERI directional antenna atop the WGGS-DT tower. The new antenna will have a center of radiation 45 meters above ground and the overall height of the tower (with appurtenances) will be 56.4 meters, a reduction of 6 meters in antenna height and a reduction of nearly 3 meters in overall tower height.

Azimuth and elevation pattern data for the proposed ERI antenna are provided in Exhibit B. Exhibit C is a map upon which the predicted service contours are plotted. As shown, the community of Greenville is completely encompassed by the proposed 48 dBu city-grade service contour. The authorized and proposed service contours are plotted in Exhibit D. From this exhibit, it can be seen that the newly proposed service contour is completely contained within that authorized to WGGS-DT in BMPCDT-20120827AEA, meaning that this proposal meets the requirements of the current Commission freeze on the filing of digital television modification applications. In addition, and for the same reason, no interference study is provided herein. A power density calculation appears as Exhibit E.

EXHIBIT A

Due to the diminutive height of the existing WGGG-DT tower (and the reduction in overall height proposed) and because no change in the location of the tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, and for the same reasons, antenna structure registration of the tower with the Federal Communications Commission is not required. This conclusion is supported by the FCC's TOWAIR software.

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 flourish at the end.

KEVIN T. FISHER

May 15, 2013

AZIMUTH PATTERN

TYPE:

ATW-CX

Frequency:

16 (DTV)

Directivity:

Numeric

dB

Location:

Greenville, SC

Peak(s) at:

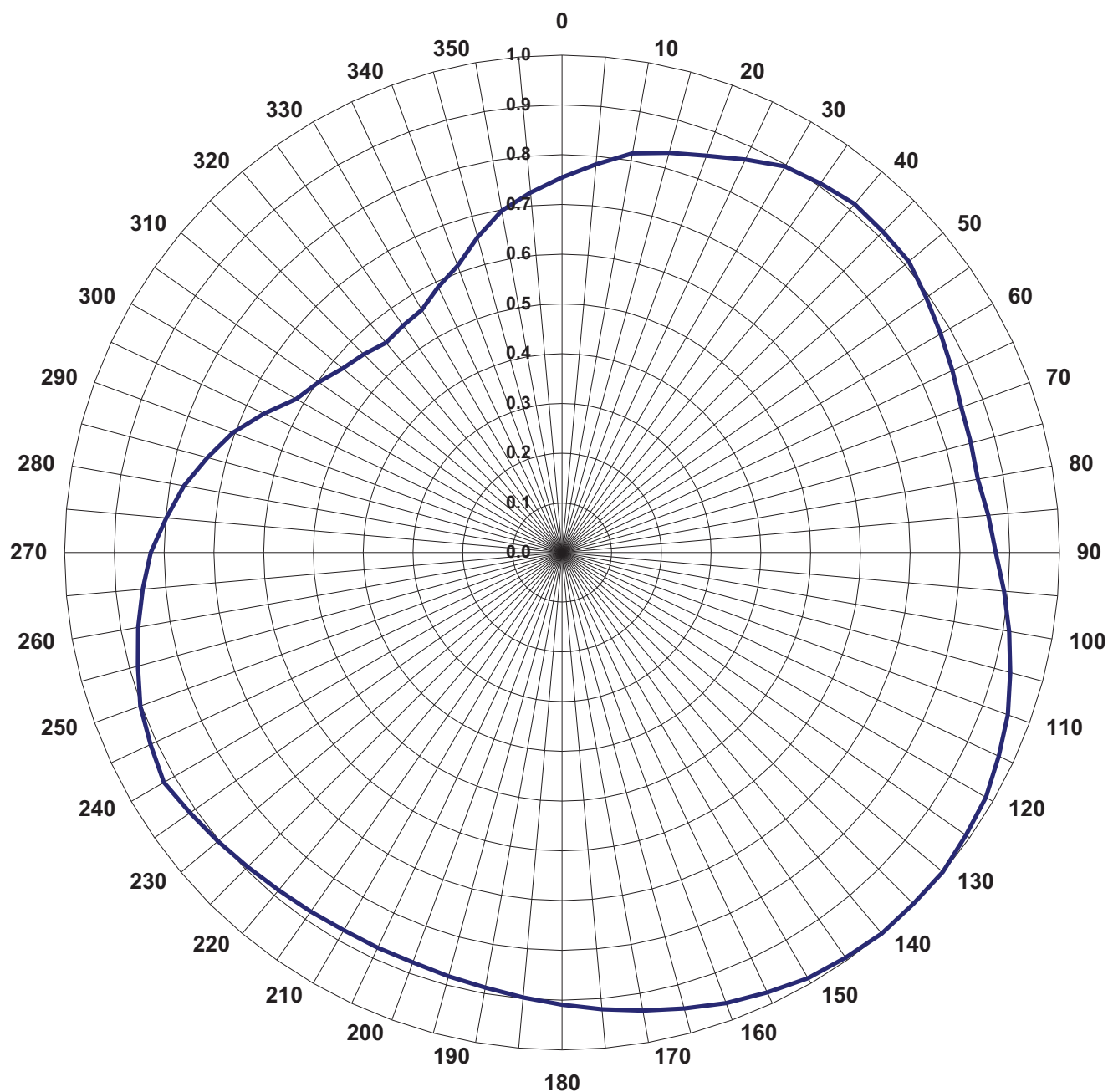
1.38

1.41

Polarization:

Horizontal

Note: Pattern shape and directivity may vary with
channel and mounting configuration.

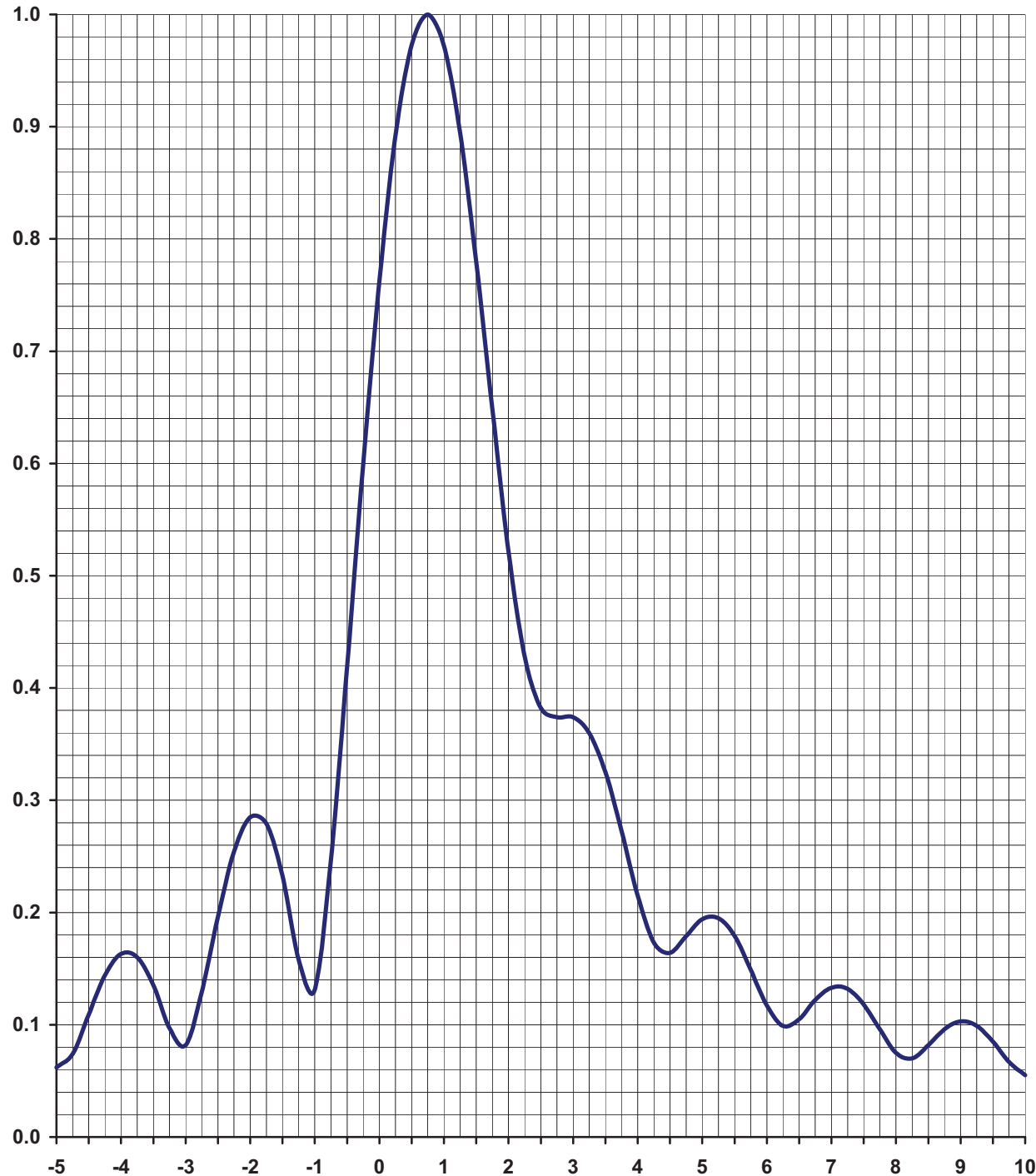


TABULATED DATA FOR AZIMUTH PATTERN**TYPE: ATW-CX**

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	0.754	-2.09	92	0.880	-1.19	184	0.900	-1.15	276	0.794	-1.91
2	0.766	-1.99	94	0.888	-1.17	186	0.896	-1.17	278	0.783	-1.99
4	0.778	-1.91	96	0.896	-1.15	188	0.892	-1.19	280	0.772	-2.09
6	0.790	-1.82	98	0.905	-1.12	190	0.888	-1.20	282	0.758	-2.20
8	0.802	-1.73	100	0.913	-1.08	192	0.886	-1.21	284	0.745	-2.32
10	0.815	-1.67	102	0.921	-1.03	194	0.883	-1.22	286	0.731	-2.43
12	0.821	-1.60	104	0.929	-0.98	196	0.881	-1.22	288	0.718	-2.55
14	0.828	-1.55	106	0.937	-0.93	198	0.879	-1.22	290	0.704	-2.67
16	0.835	-1.49	108	0.946	-0.87	200	0.877	-1.21	292	0.687	-2.79
18	0.842	-1.44	110	0.954	-0.80	202	0.877	-1.21	294	0.670	-2.93
20	0.849	-1.40	112	0.960	-0.73	204	0.877	-1.20	296	0.652	-3.05
22	0.858	-1.37	114	0.966	-0.66	206	0.877	-1.20	298	0.635	-3.17
24	0.868	-1.34	116	0.972	-0.58	208	0.877	-1.19	300	0.617	-3.29
26	0.877	-1.32	118	0.978	-0.51	210	0.877	-1.19	302	0.609	-3.40
28	0.887	-1.29	120	0.984	-0.44	212	0.879	-1.18	304	0.601	-3.50
30	0.896	-1.27	122	0.987	-0.36	214	0.880	-1.18	306	0.593	-3.61
32	0.900	-1.26	124	0.990	-0.30	216	0.882	-1.18	308	0.584	-3.69
34	0.904	-1.24	126	0.993	-0.23	218	0.884	-1.18	310	0.576	-3.77
36	0.907	-1.23	128	0.996	-0.18	220	0.886	-1.18	312	0.571	-3.84
38	0.911	-1.22	130	0.999	-0.12	222	0.889	-1.18	314	0.566	-3.89
40	0.915	-1.21	132	0.999	-0.08	224	0.893	-1.18	316	0.561	-3.92
42	0.914	-1.21	134	0.999	-0.04	226	0.896	-1.18	318	0.556	-3.94
44	0.913	-1.20	136	1.000	-0.02	228	0.899	-1.18	320	0.551	-3.94
46	0.912	-1.19	138	1.000	-0.01	230	0.903	-1.18	322	0.554	-3.94
48	0.911	-1.19	140	1.000	0.00	232	0.907	-1.19	324	0.556	-3.92
50	0.910	-1.18	142	0.998	-0.01	234	0.911	-1.19	326	0.558	-3.89
52	0.904	-1.18	144	0.995	-0.02	236	0.915	-1.20	328	0.561	-3.84
54	0.897	-1.18	146	0.993	-0.04	238	0.920	-1.21	330	0.563	-3.77
56	0.891	-1.18	148	0.990	-0.08	240	0.924	-1.21	332	0.573	-3.69
58	0.885	-1.18	150	0.988	-0.12	242	0.919	-1.22	334	0.584	-3.61
60	0.879	-1.18	152	0.983	-0.18	244	0.915	-1.23	336	0.594	-3.50
62	0.874	-1.18	154	0.978	-0.23	246	0.911	-1.24	338	0.604	-3.40
64	0.869	-1.18	156	0.974	-0.30	248	0.906	-1.26	340	0.614	-3.29
66	0.864	-1.18	158	0.969	-0.36	250	0.902	-1.27	342	0.631	-3.17
68	0.859	-1.18	160	0.964	-0.44	252	0.895	-1.29	344	0.648	-3.05
70	0.854	-1.19	162	0.958	-0.51	254	0.887	-1.32	346	0.665	-2.93
72	0.853	-1.19	164	0.952	-0.58	256	0.880	-1.34	348	0.682	-2.79
74	0.852	-1.20	166	0.946	-0.66	258	0.872	-1.37	350	0.698	-2.67
76	0.851	-1.20	168	0.941	-0.73	260	0.865	-1.40	352	0.709	-2.55
78	0.850	-1.21	170	0.935	-0.80	262	0.857	-1.44	354	0.720	-2.43
80	0.849	-1.21	172	0.930	-0.87	264	0.849	-1.49	356	0.731	-2.32
82	0.853	-1.22	174	0.924	-0.93	266	0.842	-1.55	358	0.742	-2.20
84	0.858	-1.22	176	0.919	-0.98	268	0.834	-1.60	360	0.754	-2.09
86	0.863	-1.22	178	0.914	-1.03	270	0.827	-1.67			
88	0.867	-1.21	180	0.909	-1.08	272	0.816	-1.73			
90	0.872	-1.20	182	0.905	-1.12	274	0.805	-1.82			

ELEVATION PATTERN

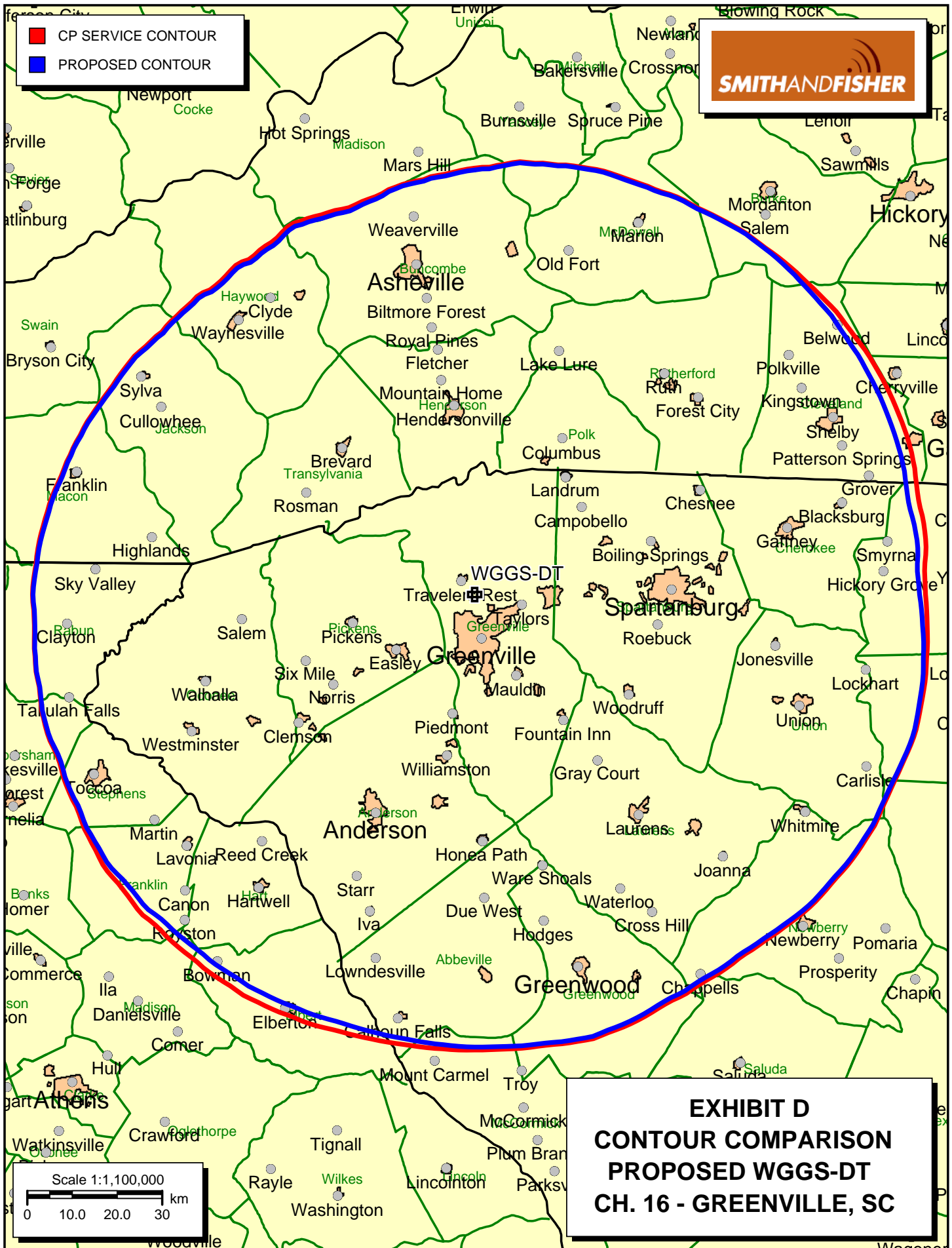
TYPE:	ATW28H3H		Frequency:	16 (DTV)
Directivity:	Numeric	dBd	Location:	Greenville, SC
Main Lobe:	28.00	14.47	Beam Tilt:	0.75
Horizontal:	16.30	12.12	Polarization:	Horizontal



**CONTOUR POPULATION
2010 U.S. CENSUS DATA**
48 DBU : 1,769,469 (821,832 HH)
41 DBU : 2,085,348 (975,985 HH)



**EXHIBIT C
PREDICTED SERVICE CONTOURS
PROPOSED WGGs-DT
CH. 16 - GREENVILLE, SC**



POWER DENSITY CALCULATION

PROPOSED WGGS-DT
CHANNEL 16 – GREENVILLE, SOUTH CAROLINA
[MODIFICATION OF BMPCDT-20120827AEA]

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 550 kW, an antenna radiation center 45.1 meters above ground, and the specific elevation pattern for the proposed ERI antenna, maximum power density two meters above ground of 0.021 mW/cm^2 is calculated to occur 9 meters south-southeast of the base of the tower. Since this is only 6.5 percent of the 0.32 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 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.