

TECHNICAL EXHIBIT  
MINOR MODIFICATION APPLICATION  
STATION WFXG-DT (FACILITY ID 3228)  
AUGUSTA, GEORGIA

OCTOBER 25, 2004

CH 51 37 KW (MAX-DA) 363 M

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AUGUSTA, GEORGIA  
CH 51 37 KW (MAX-DA) 363 M

Technical Narrative

This Technical Exhibit was prepared on behalf of digital television broadcast station WFXG-DT at Augusta, Georgia. Station WFXG-DT is authorized for operation on channel 51 with a directional antenna maximum effective radiated power (ERP) of 1000 kW and an antenna height above average terrain (HAAT) of 363 meters (BPCDT-19991027AAX).

The proposed facility will not result in any extension of the authorized noise-limited contour as shown in Figure 3. Therefore, the proposal meets the terms of the FCC Filing Freeze for digital television stations.<sup>1</sup>

Proposed Facilities

This application proposes ONLY to decrease ERP. There is no proposed change in site, antenna, channel (51) or city of license (Augusta). The site coordinates remain (NAD27): 33-25-00 N, 81-50-06 W. A directional antenna maximum ERP of 37 kW and antenna HAAT of 363 meters are proposed. The FCC antenna structure registration number is 1045869.

Figure 3 is a map showing the predicted noise-limited (41 dBu) and city-grade (48 dBu) contours for the proposed operation, along with the noise-limited contour for the

authorized WFXG-DT operation. The Augusta city limits were derived from information contained in the 2000 U.S. Census for Georgia. The proposal complies with the city coverage requirements of Section 73.625(a).

Nearby Broadcast Facilities

There are no known authorized full service AM stations within 3.2 kilometers of the proposed transmitter site. The WFXG-DT operation is located nearby multiple other broadcast FM and TV stations. Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems that may result from its proposed operation.

Allocation Considerations

Interference calculations have been made using the procedures outlined in the FCC's OET-69 bulletin, using a 2 kilometer grid spacing. The proposed WFXG-DT operation does not cause excessive (greater than 2%, up to 10% total) calculated interference to any analog or DTV assignment. Below is the list of stations considered in the OET-69 analysis.

Stations Potentially Affected by Proposed WFXG-DT							
Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.	
44	960628KL	AIKEN SC	31.2	APP	BPET	-19960628KL	
47	WZRB	COLUMBIA SC	104.2	CP	BNPCT	-20020320ACH	
47	960722KG	COLUMBIA SC	104.2	APP	BPCT	-19960722KG	
49	WBPI-CA	AUGUSTA GA	14.6	APP	BPTTA	-20031030AAG	
50	WGNM-DT	MACON GA	176.9	PLN	DTVPLN	-DTVP1444	
50	WAXN-TV	KANNAPOLIS NC	228.9	LIC	BLCDT	-20020426AAN	
50	WAXN-DT	KANNAPOLIS NC	228.9	PLN	DTVPLN	-DTVP1451	
50	WCBF-TV	CHARLESTON SC	205.9	CP MOD	BMPCDT	-20040419ABK	
50	WCBF-TV	CHARLESTON SC	205.9	LIC	BPRM	-20010827ABK	
51	WSST-TV	CORDELE GA	250.3	CP MOD	BMPCDT	-20000501ABJ	
51	WSST-DT	CORDELE GA	249.4	PLN	DTVPLN	-DTVP1475	
51	WPXA	ROME GA	278.1	LIC	BLCDT	-20020510AAN	
51	WTLK-DT	ROME GA	278.1	PLN	DTVPLN	-DTVP1476	
51	W38DG	TIFTON GA	267.4	LIC	BLTTL	-19890314IK	
51	WAGV	HARLAN KY	401.3	CP MOD	BMPCDT	-20030411AAT	
51	WAGV-DT	HARLAN KY	401.3	PLN	DTVPLN	-DTVP1480	

<sup>1</sup> See August 2004 Filing Freeze PN, DA 04-2446 (MB released Aug. 3, 2004).

51	WFMY-TV	GREENSBORO NC	328.1	CP MOD	BMPCDT	-20010831ACE
51	WFMY-DT	GREENSBORO NC	328.1	PLN	DTVPLN	-DTVP1484
51	WSQY-LP	SPARTANBURG SC	169.7	CP	BPTTL	-20000929AET
52	WCSC-DT	CHARLESTON SC	206.1	PLN	DTVPLN	-DTVP1518
54	WFXG	AUGUSTA GA	0.0	LIC	BLCT	-19910603KN

From the above list of stations considered, the table below shows the calculated interference caused to each station. Only stations that are predicted to receive interference from the proposed WFXG-DT operation are shown in the interference table.

Study Station	Baseline	Net Population Change/Interference
51 WPXA-DT ROME GA (LIC)	3,421,674	-1,085 (0.0%) <b>Less Net Interference</b>
51 WPXA-DT ROME GA (PLN)	3,421,674	-729 (0.0%) <b>Less Net Interference</b>
51 WFMY-DT GREENSBORO NC (PLN)	2,851,313	0 (0.0%) New Interference

The proposed WFXG-DT operation does not cause calculated interference to any other analog or DTV station. Therefore, it is believed the proposal complies with the FCC’s “de minimis” interference policy.

With respect to Class A TV station protection, the proposal has been evaluated according to the requirements of Section 73.613 of the FCC Rules. The analysis reveals no potential impact to any Class A station.

Radiofrequency Electromagnetic Field Exposure

The proposed WFXG-DT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed antenna is located 323 meters above ground level with a maximum ERP of 37 kW. A conservative relative field value of 0.15 was assumed for the antenna’s downward radiation (see Figure 2C). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.0003 mW/cm<sup>2</sup>. This is less than 1.0 % of the FCC’s recommended limit of 0.46 mW/cm<sup>2</sup> for channel 51 for an “uncontrolled” environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner as part of the tower registration process.



Jonathan N. Edwards

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
(941) 329-6000

October 25, 2004



Tower Reg. No. 1045869

474 m AMSL  
(1555 ft AMSL)

352 m  
(1155 ft)

Proposed WFXG DTV-51 Antenna

Radiation Center  
445 m AMSL  
(1460 ft AMSL)

323 m  
(1060 ft)

Site Coordinates:  
33° 25' 00" N  
81° 50' 06" W  
(NAD 27)

122 m AMSL  
(400 ft AMSL)

Not to Scale

## ANTENNA AND SUPPORTING STRUCTURE

STATION WFXG-DT  
AUGUSTA, GEORGIA

CH 51 37 KW (MAX-DA) 363 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 2A



Proposal Number  
Date **22 Oct 2004** Revision  
Call Letters **WFXG-DT** Channel **51**  
Location **Augusta, GA**  
Customer  
Antenna Type **TFU-28DSC/VP-R CT150**

**Horizontal Polarization**  
**Peak Gain: 32.0**

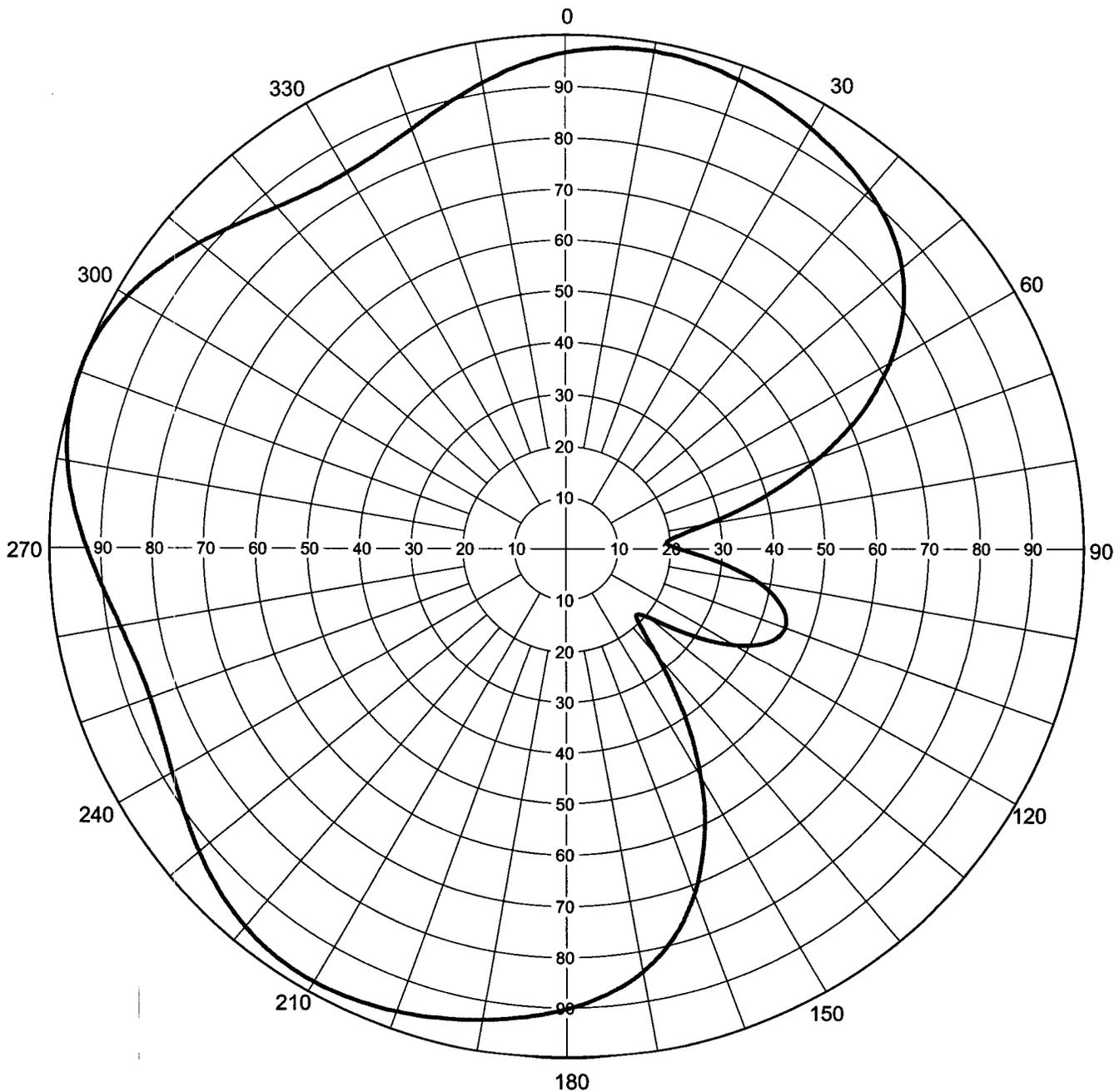
**AZIMUTH PATTERN**

Gain  
Calculated / Measured

**1.50 (1.76 dB)**  
**Calculated**

Frequency  
Drawing #

**695 MHz**  
**TFU-CT150-51**



Remarks:



Proposal Number  
Date **22 Oct 2004**  
Call Letters **WFXG-DT** Channel **51**  
Location **Augusta, GA**  
Customer  
Antenna Type **TFU-28DSC/VP-R CT150**

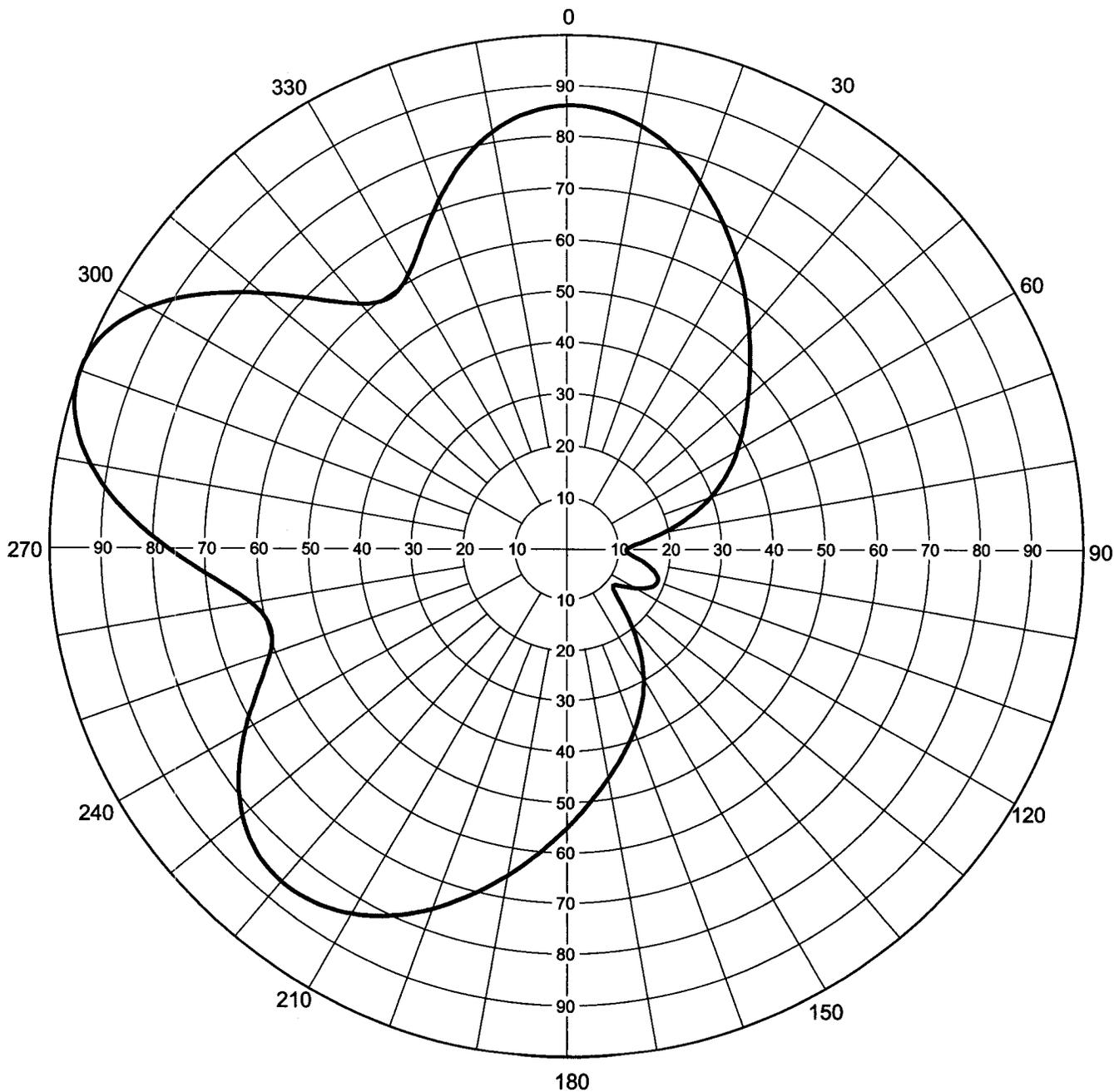
**Vertical Polarization**  
**Peak Gain: 8.0**

**AZIMUTH PATTERN**

Gain  
Calculated / Measured

**2.50 (3.98 dB)**  
**Calculated**

Frequency **695 MHz**  
Drawing # **TFU-CT250-51**



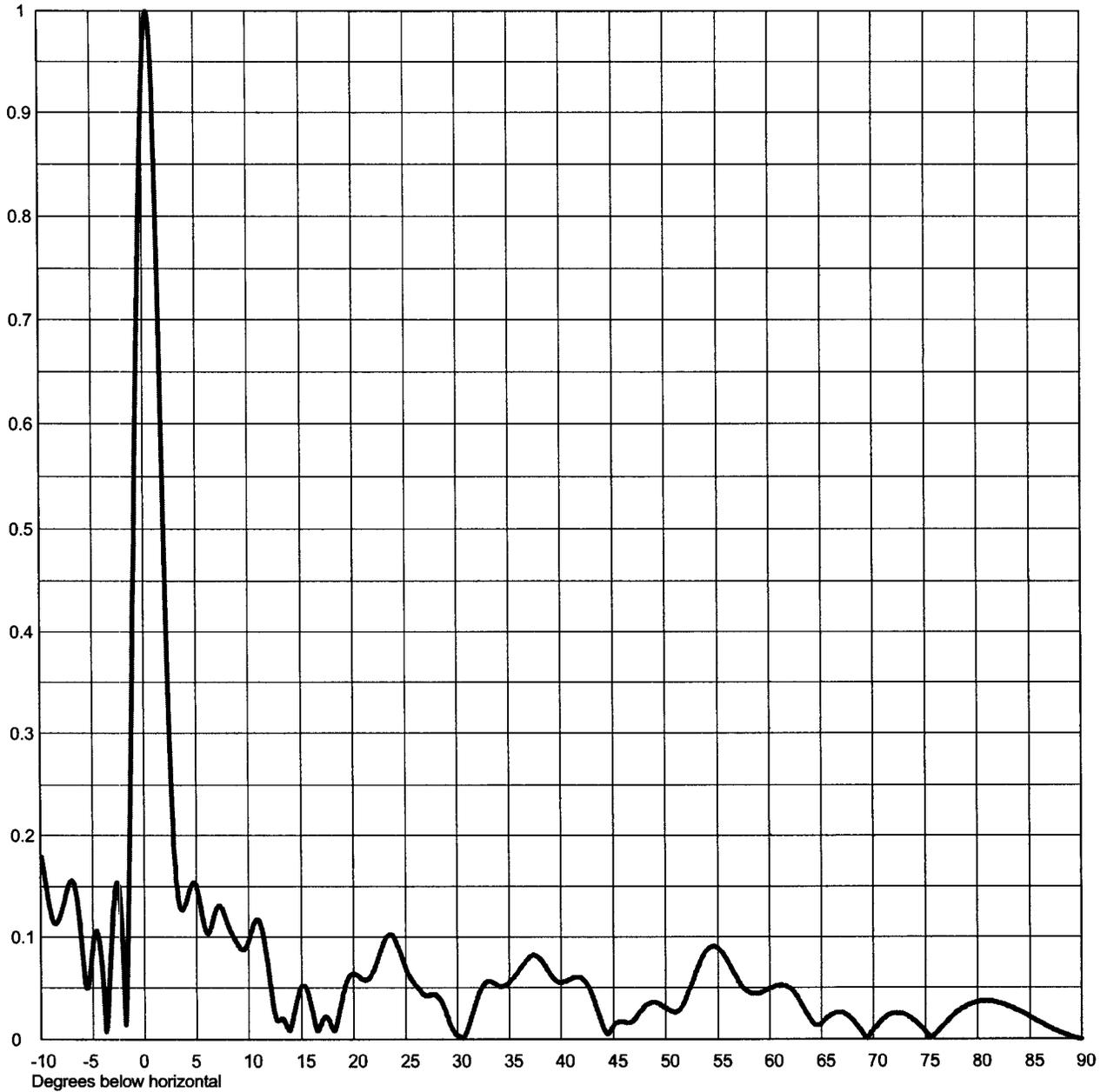
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Proposal Number  
Date **22 Oct 2004**  
Call Letters **WFXG-DT** Channel **51**  
Location **Augusta, GA**  
Customer  
Antenna Type **TFU-28DSC/VP-R CT150**

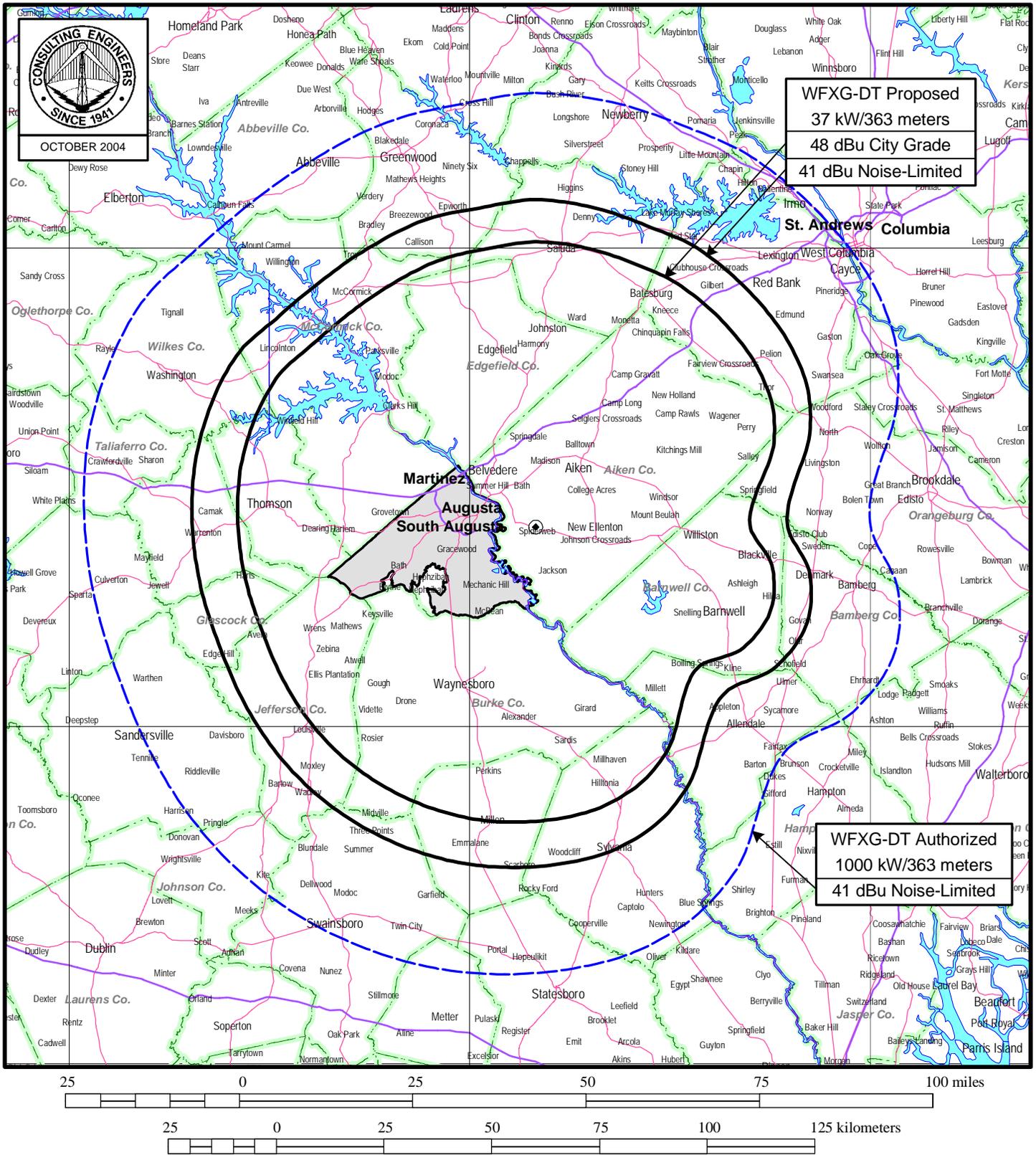
**ELEVATION PATTERN**

RMS Gain at Main Lobe	<b>24.5 (13.89 dB)</b>	Beam Tilt	<b>0.50 Degrees</b>
RMS Gain at Horizontal	<b>21.1 (13.24 dB)</b>	Frequency	<b>695.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>28Q24505-90</b>



Remarks:

Figure 3



**PREDICTED F(50,90) COVERAGE CONTOURS**

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du Treil, Lundin & Rackley, Inc Sarasota, Florida