

TECHNICAL EXHIBIT  
MINOR MODIFICATION APPLICATION  
STATION WHKY-DT (FACILITY ID 65919)  
HICKORY, NORTH CAROLINA

JULY 12, 2004

CH 40 600 KW (MAX-DA) 182 M

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Technical Narrative

This Technical Exhibit supports a minor modification application for digital television station WHKY-DT on channel 40 at Hickory, North Carolina. Station WHKY-DT is authorized to operate with a directional antenna maximum effective radiated power (ERP) of 600 kW and an antenna height above average terrain (HAAT) of 183 meters (BPCDT-19991027ABU).

Proposed Facilities

This application proposes to correct the coordinates and ground elevation to match the tower registration information. The directional antenna is also being changed to specify the same antenna that was installed for the STA operation. The corrected NAD27 coordinates are: 35-43-59 N, 81-19-51 W. The proposed maximum ERP remains 600 kW and the antenna HAAT will be slightly reduced to 182 meters, due to recalculation at the corrected coordinates. The FCC antenna structure registration number for the existing tower is 1019297.

Station WHKY (1290 kHz) is the only AM station within 3.2 kilometers (2 miles) of the WHKY-DT transmitter site. The WHKY AM operation is not expected to be adversely impacted by this proposal as the antenna is already installed.

Figure 3 is a map showing the predicted city grade (48 dBu) and noise-limited (41 dBu) contours for the proposed operation. The average elevations from 3.2 to 16.1

kilometers were obtained from the N.G.D.C. 30-second terrain database and used in determining the distances to coverage contours. The Hickory city limits were derived from information contained in the 2000 U.S. Census for North Carolina.

### Allocation Study

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

<b>Stations Potentially Affected by Proposed WHKY-DT</b>						
Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
26	WUNL-TV	WINSTON-SALEM NC	112.0	LIC	BLET-19951030KG	
33	WUNF-TV	ASHEVILLE NC	133.4	LIC	BLET-19980316KE	
36	WCNC-TV	CHARLOTTE NC	45.3	LIC	BLCT-19880914KF	
36	WAPK-CA	KINGSPORT TN	106.2	LIC	BLTTA-20030618AAX	
39	WWWB-DT	ROCK HILL SC	44.2	CP MOD	BMPCDT-20000501ACC	
39	WFTV-DT	ROCK HILL SC	44.2	PLN	DTVPLN-DTVP1104	
39	WBHQ	SUMTER SC	188.3	CP MOD	BMPCDT-20010524AAG	
39	WBHQ	SUMTER SC	187.0	APP	BMPCDT-20040625AAR	
39	WQHB	SUMTER SC	188.3	LIC	BPRM-20000801AAB	
39	WEMT	GREENEVILLE TN	128.8	LIC	BLCT-19860114KF	
39	WEMT	GREENEVILLE TN	128.8	CP	BPCT-20030701AKA	
40	WIRE-CA	ATLANTA GA	347.8	LIC	BLTVL-19960529JC	
40	WIRE-CA	ATLANTA GA	348.2	CP	BPTTA-20040602AAJ	
40	WMGT-DT	MACON GA	389.5	PLN	DTVPLN-DTVP1119	
40	WTVQ-DT	LEXINGTON KY	373.6	PLN	DTVPLN-DTVP1125	
40	WTVQ-TV	LEXINGTON KY	373.6	CP	BPCDT-19991025ADD	
40	WUVC-TV	FAYETTEVILLE NC	214.0	LIC	BLCT-19860630KE	
40	WBSC-TV	ANDERSON SC	147.8	CP	BPCT-19960621KM	
40	WBSC-TV	ANDERSON SC	147.8	LIC	BLCT-19841010KJ	
40	WTAT-TV	CHARLESTON SC	344.8	CP MOD	BMPCDT-20040514AEK	
40	WTAT-DT	CHARLESTON SC	344.8	PLN	DTVPLN-DTVP1139	
40	WDSI-TV	CHATTANOOGA TN	361.9	CP MOD	BMPCDT-19990416KH	
40	WDSI-DT	CHATTANOOGA TN	361.9	PLN	DTVPLN-DTVP1141	
40	WLFB	BLUEFIELD WV	165.3	LIC	BLCT-20001121AIB	
40	WLFB	BLUEFIELD WV	165.3	CP MOD	BMPCT-19960531KE	
41	WIS-DT	COLUMBIA SC	186.3	PLN	DTVPLN-DTVP1173	
41	WSJK-DT	SNEEDVILLE TN	181.1	PLN	DTVPLN-DTVP1174	
41	WDRL-DT	DANVILLE VA	187.8	PLN	DTVPLN-DTVP1177	
41	WKPZ-LP	WYTHEVILLE VA	132.7	LIC	BLTTA-20021210ACE	
42	WTVI	CHARLOTTE NC	75.9	LIC	BLET-19920827KG	
48	WUPN-TV	GREENSBORO NC	136.7	CP	BPCT-20000814ABU	
48	WUPN-TV	GREENSBORO NC	136.7	LIC	BLCT-20020607ABJ	

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 WHKY-DT operation are shown in the interference table.

Study Station			Baseline	Net Population Change/Interference
26	WUNL-TV	WINSTON-SALEM NC (LIC)	1,771,431	90 (0.0%) New Interference
36	WCNC-TV	CHARLOTTE NC (LIC)	2,444,026	5,760 (0.2%) New Interference
39	WWWB-DT	ROCK HILL SC (CPM)	2,244,803	12,539 (0.6%) New Interference
39	WWWB-DT	ROCK HILL SC (PLN)	2,244,803	12,110 (0.5%) New Interference
40	WUVC-TV	FAYETTEVILLE NC (LIC)	2,336,849	-6,772 (-0.3%) Less Interference
40	WBSC-TV	ANDERSON SC (CP)	1,083,466	1,753 (0.2%) New Interference
40	WBSC-TV	ANDERSON SC (LIC)	1,032,827	2,806 (0.3%) New Interference
40	WLFB	BLUEFIELD WV (LIC)	515,993	165 (0.0%) New Interference
40	WLFB	BLUEFIELD WV (CPM)	577,774	87 (0.0%) New Interference
42	WTVI	CHARLOTTE NC (LIC))	1,816,819	6,911 (0.4%) New Interference

The proposed WHKY-DT operation does not cause calculated interference to any other analog, digital or Class A station. Therefore, it is believed the proposal complies with the FCC's "de minimis" interference policy.

#### Radiofrequency Electromagnetic Field Exposure

The proposed WHKY-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 Andrew antenna is located 140.7 meters above ground level. The maximum ERP is 600 kW. Based on the vertical elevation pattern in Figure 2, the "worst-case" calculated power density will occur at a downward angle of 77 degrees from the proposed antenna radiation center. At this location and at 2 meters above ground level (a distance of 142.4 meters from the antenna center of radiation) and assuming a relative field of 0.142, the power density is calculated to be 0.02 mW/cm<sup>2</sup> or 4.8 percent of the FCC's recommended limit of 0.42 mW/cm<sup>2</sup> for channel 40 for an "uncontrolled" environment.

Therefore, it is believed that proposed WHKY-DT operation is in compliance with the FCC's RFR guidelines.

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.

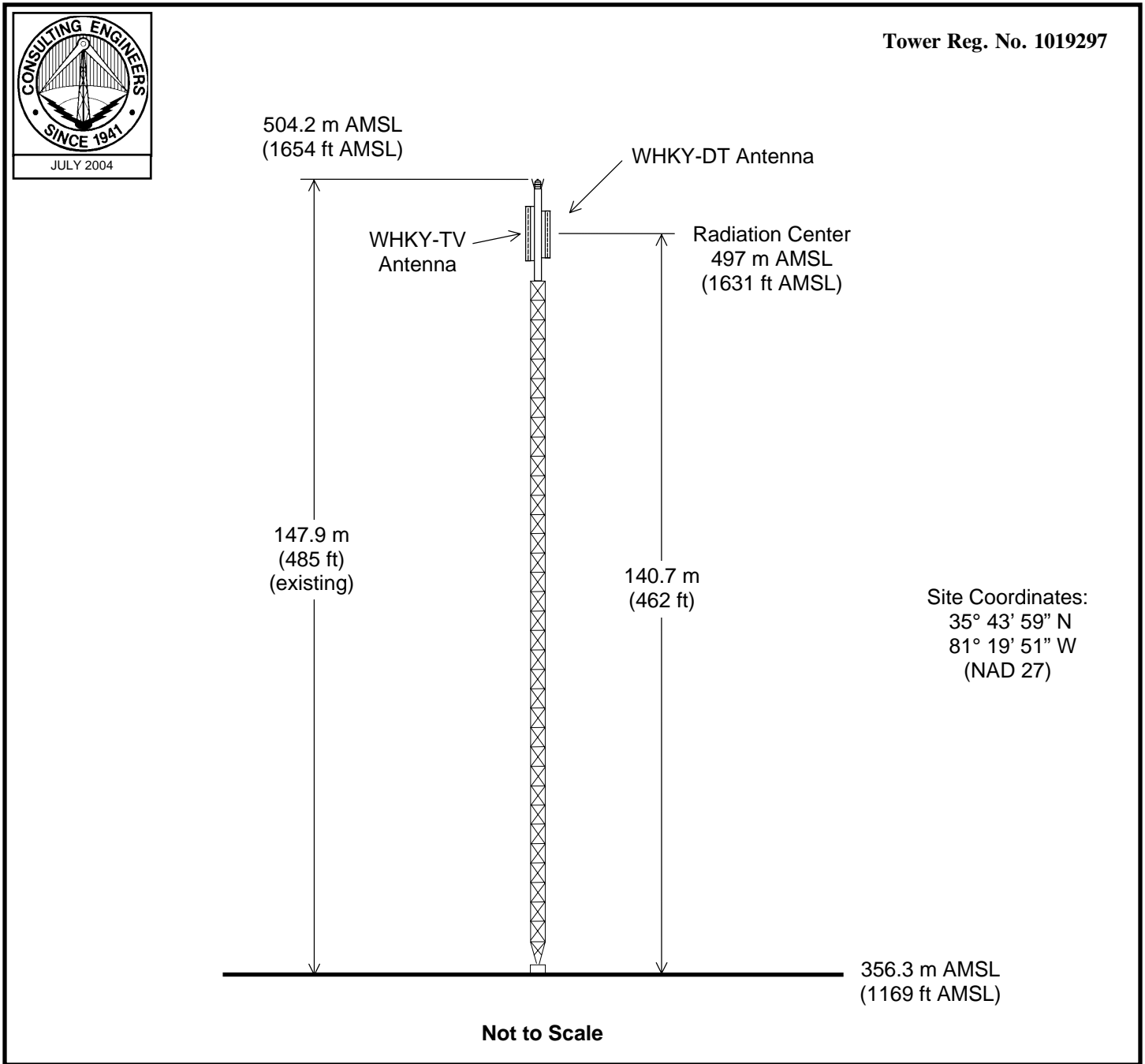


Jonathan N. Edwards

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Sarasota, Florida 34237  
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July 12, 2004

Figure 1



## PROPOSED ANTENNA AND SUPPORTING STRUCTURE

STATION WHKY-DT

HICKORY, NORTH CAROLINA

CH 40 600 KW (MAX-DA) 182 M

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



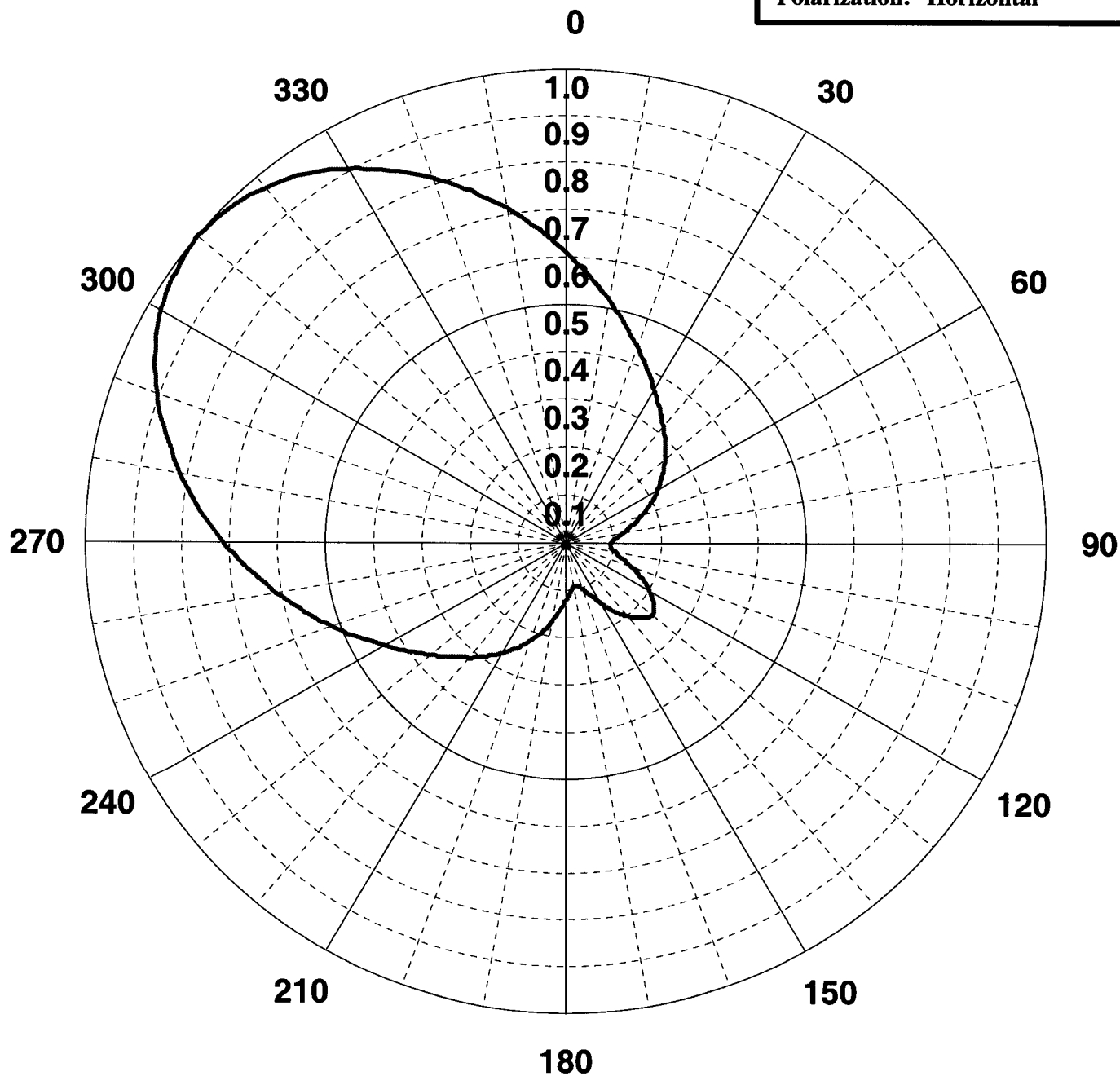
**ANDREW**

Channel: 40

Type: ALP-N

Gain: 3.77 (5.76 dB)

Polarization: Horizontal

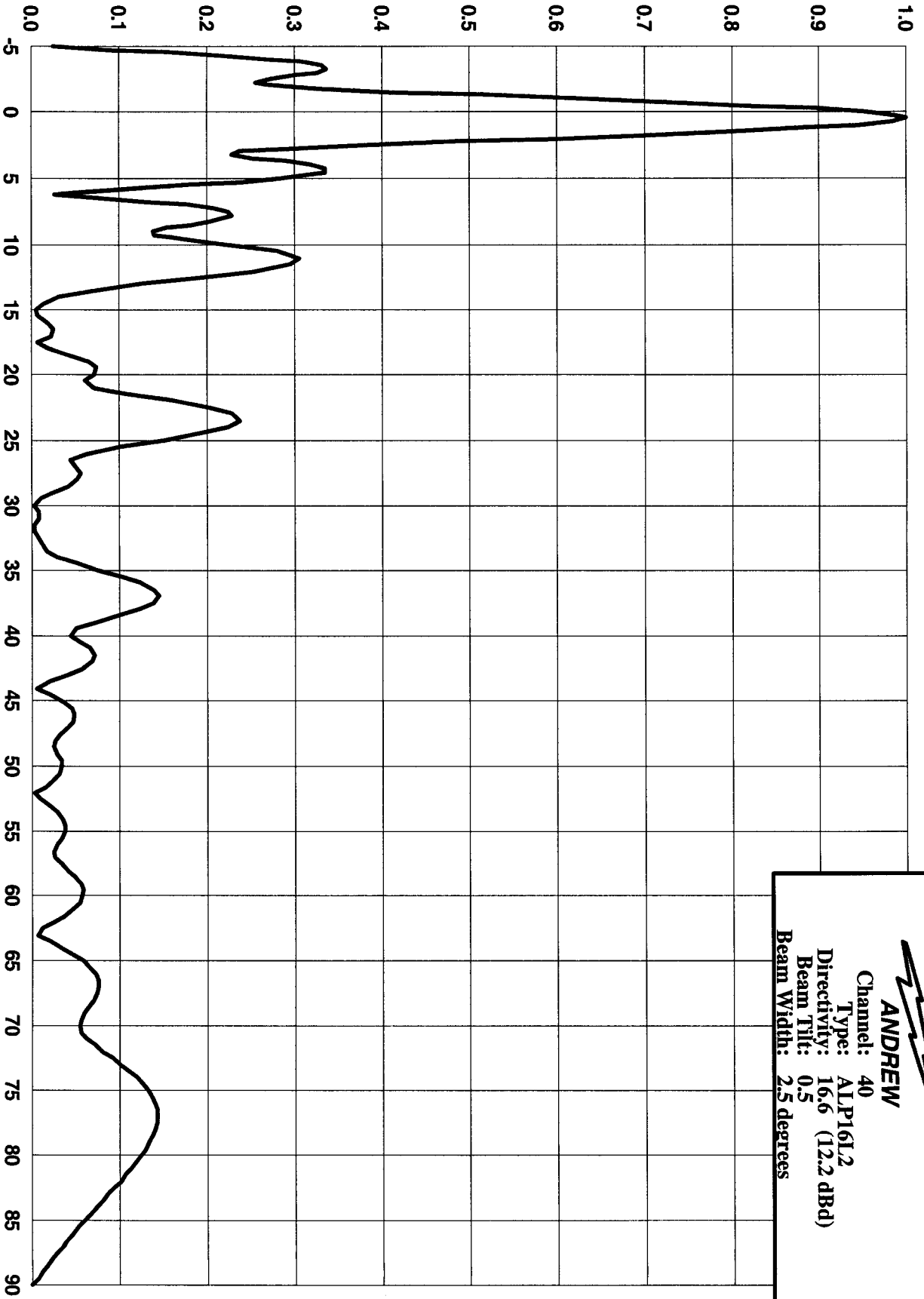


ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

Company:  
Site:  
Proposal Number:



Figure 2  
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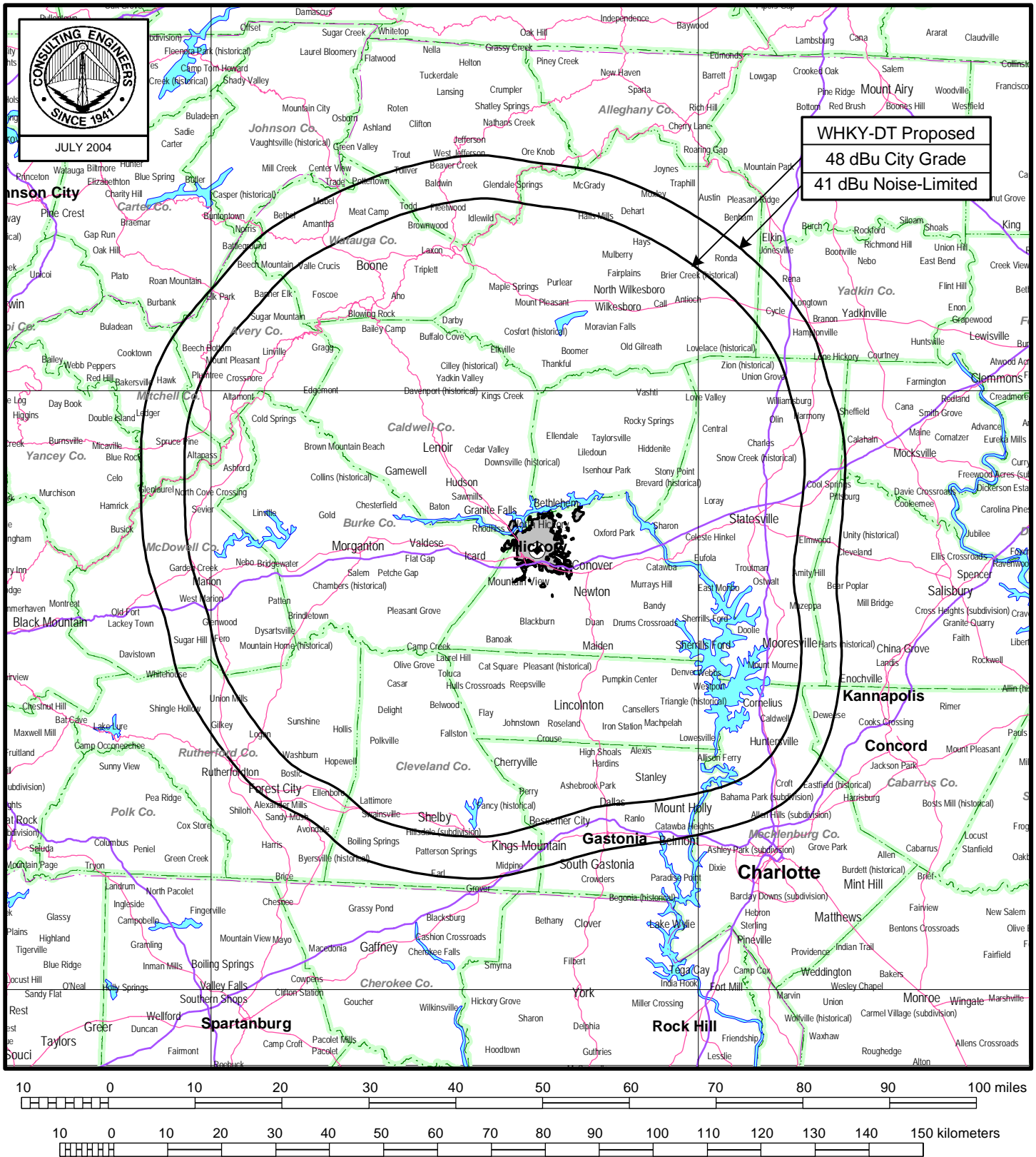


Channel: 40  
Type: ALP16L2  
Directivity: 16.6 (12.2 dBd)  
Beam Tilt: 0.5  
Beam Width: 2.5 degrees

ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

Company:  
Site:  
Proposal Number:

Figure 3



## PREDICTED COVERAGE CONTOURS

STATION WHKY-DT

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du Treil, Lundin & Rackley, Inc Sarasota, Florida