

predicted to receive new interference, it is predicted that existing interference will be eliminated to slightly over 3 persons. Thus, the proposal complies with the requirement of 47 CFR 73.525(b)(2).

The effective radiated power along all azimuths for the proposed WSGN(FM) operation is 10 times that used in determining the proposed predicted TV channel 6 interference area in accordance with the adjustment for vertical polarization only which is allowed under the provisions of 47 CFR 73.525(e)(4)(i).

Population and Area

The population to be served within the predicted 60 dBu contour was determined by a computer program which sums the population of each 1990 census enumeration district having its centroid within the contour. The area within the 60 dBu contour was determined by a computer program using a root mean square algorithm. The proposed, predicted WSGN(FM) 60 dBu service contour encompasses an area of 2,359 square kilometers within which an estimated 131,235 persons reside.

Environmental Considerations

The proposed facility was evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation." Using Equation (4) on Page 8 of this Bulletin, the "worst-case" (assuming a downward relative field factor of 1) estimated power

density level at the tower base is approximately 7 percent of the ANSI guideline.

Gadsden verifies that access to the tower base will be restricted by a fence which will be kept locked and that appropriate warning signs will be posted. Should it become necessary for workers or other authorized personnel to enter the restricted area and climb the tower, Gadsden verifies that appropriate measures will be taken (including reduction in or shut down of power, as necessary) to assure that no exposure to radiofrequency radiation in excess of the ANSI guidelines will occur.

The proposal appears to be categorically excluded from environmental processing as it appears to qualify for such an exclusion under 47 CFR 1.1306. The proposal involves no new tower construction and the potential for human exposure to radiofrequency radiation is predicted to be within the standards specified in 47 CFR 1.1307(b).



David E. Dickmann

February 20, 1992

TECHNICAL EXHIBIT
AMENDMENT TO
APPLICATION FOR CONSTRUCTION PERMIT
GADSDEN STATE COMMUNITY COLLEGE
RADIO STATION WSGN(FM)
GADSDEN, ALABAMA
CH 218C3 6.3 KW (V, MAX-DA) 159 M

Technical Specifications

Channel	218C3
Frequency	91.5 MHz
Site coordinates	34° 04' 29" North Latitude 86° 01' 11" West Longitude
Site elevation above mean sea level	329.2 m (1080 ft)
Average elevation above mean sea level of standard eight radials, 3-16 kilometers	225.4 m (739 ft)
Overall height of proposed antenna supporting structure with lighting	
Above ground	60.1 m (197 ft)
Above mean sea level	389.3 m (1277 ft)
Height of FM antenna radiation center	
Above ground	54.9 m (180 ft)
Above mean sea level	384.1 m (1260 ft)
Above average terrain	158.7 m (521 ft)
Transmitter	*Continental, type 814R-1
Rated power output	2.5 kW

*Or equivalent

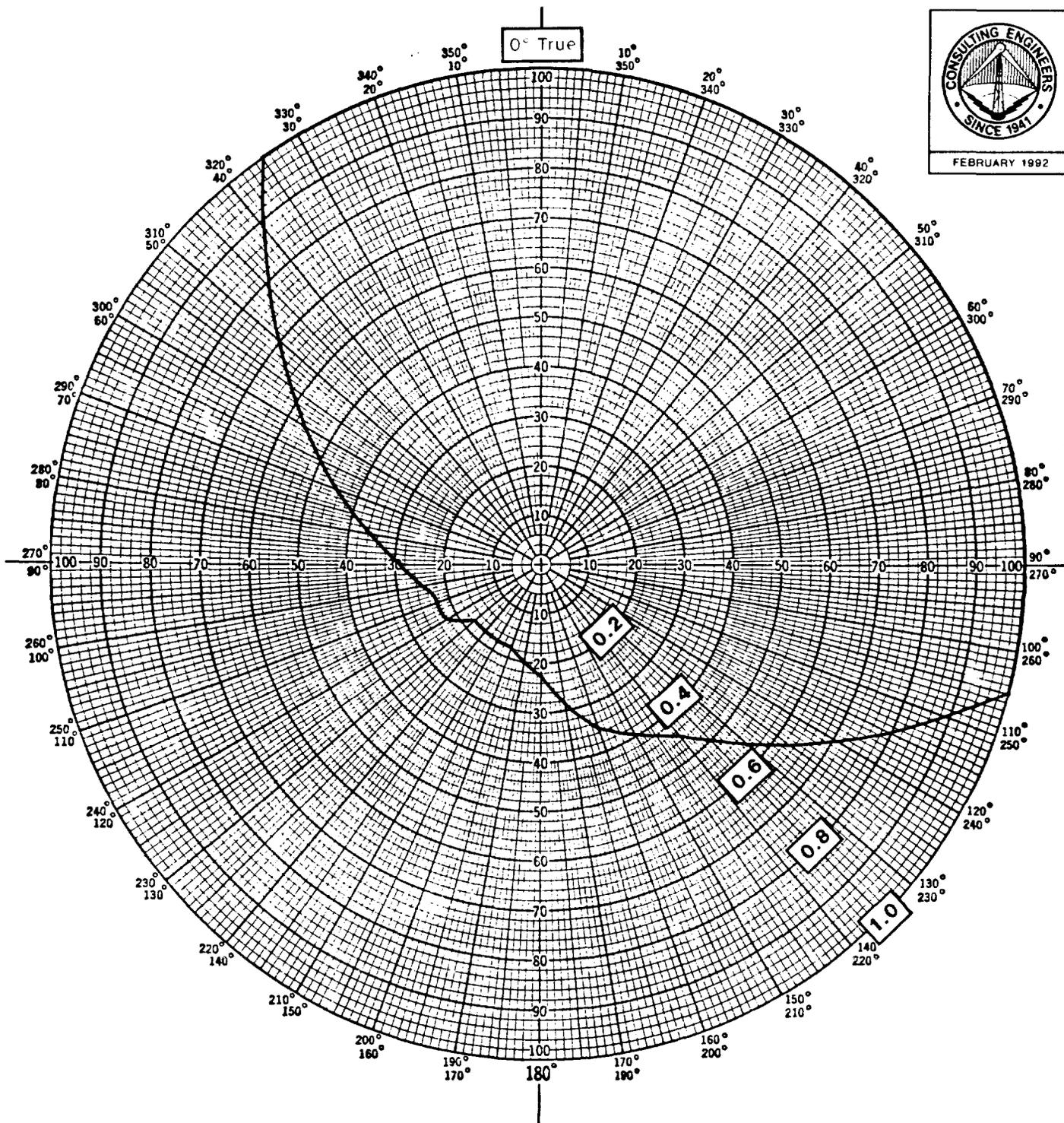
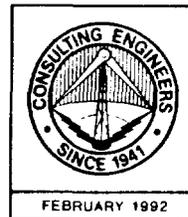
Transmission line	*Andrew, type LDF5-50A
Nominal diameter	2.2 cm (7/8 in)
Length	64 m (210 ft)
Efficiency (0.74 dB loss)	84.3%
Antenna	*Shively, Custom
Number of bays	3
Polarization	Vertical
Estimated power gain	6.0

Proposed Operation

Transmitter output power	1.25 kW
Transmission line loss	0.20 kW
Antenna input power	1.05 kW
Maximum effective radiated power	
Vertical polarization	6.3 kW

*Or equivalent

Figure 2



**PROPOSED HORIZONTAL PLANE RADIATION PATTERN ENVELOPE
(Relative Field)**

GADSDEN STATE COMMUNITY COLLEGE
WSGN(FM) GADSDEN, ALABAMA
CH 218C3 6.3 KW(V,MAX-DA) 159 M

duTreil, Lundin & Rackley, Inc. Washington, D.C.

TECHNICAL EXHIBIT
 AMENDMENT TO
 APPLICATION FOR CONSTRUCTION PERMIT
 GADSDEN STATE COMMUNITY COLLEGE
 RADIO STATION WSGN(FM)
 GADSDEN, ALABAMA
 CH 218C3 6.3 KW (V, MAX-DA) 159 M

Tabulation of Proposed Horizontal
Plane Radiation Pattern Envelope

<u>Azimuth (Degrees True)</u>	<u>Relative Field</u>
0	1.000
10	1.000
20	1.000
30	1.000
40	1.000
50	1.000
60	1.000
70	1.000
80	1.000
90	1.000
100	1.000
110	0.891
120	0.708
130	0.562
140	0.447
150	0.398
160	0.355
170	0.282
180	0.224
190	0.200
200	0.178
210	0.178
220	0.178
230	0.178
240	0.224
250	0.224
260	0.251
270	0.282
280	0.355
290	0.447
300	0.562
310	0.708
320	0.891
330	1.000
340	1.000
350	1.000

Note: Maxima occur over the range from 325° True to 105° True.
 Minima occur over the range from 200° True to 230° True.

TECHNICAL EXHIBIT
AMENDMENT TO
APPLICATION FOR CONSTRUCTION PERMIT
GADSDEN STATE COMMUNITY COLLEGE
RADIO STATION WSGN(FM)
GADSDEN, ALABAMA
CH 218C3 6.3 KW (V, MAX-DA) 159 M

Tabulation of Average Elevations
and Distances to Coverage Contour

<u>Radial Bearing (deg. T.)</u>	<u>3-16 Kilometer Average Terrain Elevation* (meters AMSL)</u>	<u>Antenna Height Above Average Terrain (meters)</u>	<u>Effective Radiated Power (kW)</u>	<u>Distance to 60 dBU Contour (kilometers)</u>
0	256.8	127.3	6.30	31.9
10	233.0	151.1	6.30	34.6
20	220.5	163.6	6.30	36.0
30	250.7	133.4	6.30	32.6
40	304.4	79.7	6.30	25.7
45	275.1	109.0	6.30	29.8
50	251.7	132.4	6.30	32.5
60	268.0	116.1	6.30	30.7
70	248.8	135.3	6.30	32.8
80	223.3	160.8	6.30	35.7
90	207.2	176.9	6.30	37.3
100	194.4	189.7	6.30	38.4
110	188.6	195.5	5.01	37.0
120	184.5	199.6	3.16	33.6
130	172.5	211.6	2.00	30.9
135	177.1	207.0	1.58	29.0
140	180.0	204.1	1.26	27.3
150	187.6	196.5	1.00	25.5

*Values for standard eight radials obtained from application
BPED-860307MK, others from NGDC 30-second terrain database.

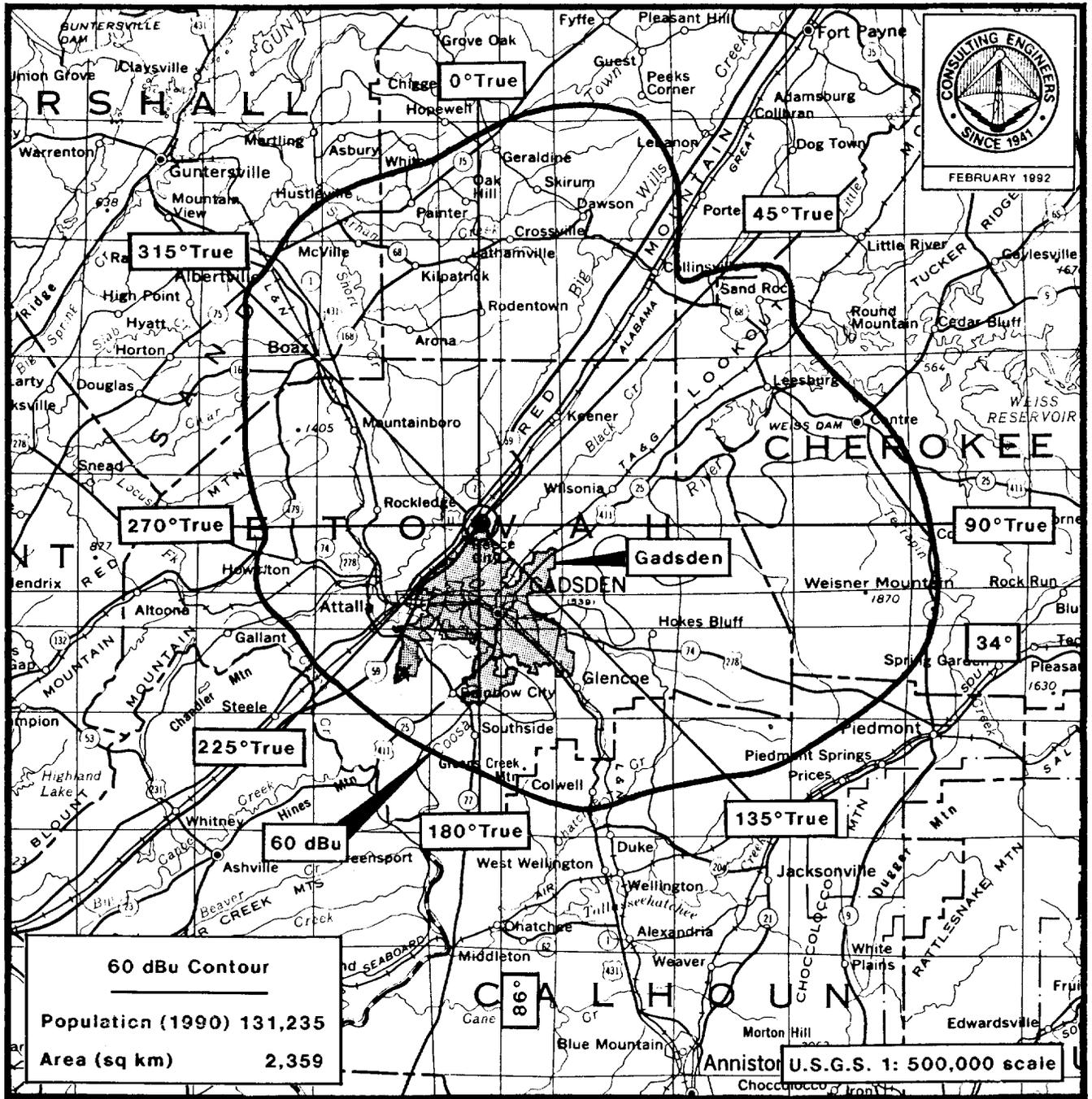
Tabulation of Average Elevations and
Distances to Coverage Contour
Gadsden, Alabama

Figure 4
Sheet 2 of 2

<u>Radial Bearing (deg. T.)</u>	<u>3-16 Kilometer Average Terrain Elevation* (meters AMSL)</u>	<u>Antenna Height Above Average Terrain (meters)</u>	<u>Effective Radiated Power (kW)</u>	<u>Distance to 60 dBu Contour (kilometers)</u>
160	182.6	201.5	0.79	24.5
170	178.1	206.0	0.50	22.2
180	176.7	207.4	0.32	20.0
190	170.9	213.2	0.25	19.1
200	167.9	216.2	0.20	18.2
210	175.8	208.3	0.20	17.8
220	184.8	199.3	0.20	17.4
225	181.8	202.3	0.20	17.6
230	181.8	202.3	0.20	17.6
240	224.7	159.4	0.32	17.6
250	203.3	180.8	0.32	18.8
260	224.6	159.5	0.40	18.7
270	254.7	129.4	0.50	17.7
280	265.4	118.7	0.79	19.2
290	275.7	108.4	1.26	20.6
300	282.6	101.5	2.00	22.2
310	278.4	105.7	3.16	25.2
315	273.8	110.3	3.98	27.0
320	283.1	101.0	5.01	27.3
330	280.5	103.6	6.30	29.1
340	277.6	106.5	6.30	29.5
350	<u>275.9</u>	<u>108.2</u>	6.30	29.7
Average**	225.4	158.7		

*Values for standard eight radials obtained from application
BPED-860307MK, others from NGDC 30-second terrain database.

**Average values based on standard eight radials only.



PREDICTED 60 dBu COVERAGE CONTOUR

GADSDEN STATE COMMUNITY COLLEGE

WSGN(FM) GADSDEN, ALABAMA

CH 218C3 6.3 KW(V,MAX-DA) 159 M

du Treil, Lundin & Rackley, Inc. Washington, D.C.

TECHNICAL EXHIBIT
AMENDMENT TO
APPLICATION FOR CONSTRUCTION PERMIT
GADSDEN STATE COMMUNITY COLLEGE
RADIO STATION WSGN(FM)
GADSDEN, ALABAMA

CH 218C3 6.3 KW (V, MAX-DA) 159 M

Allocation Study

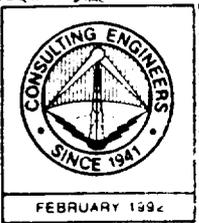
Proposed Transmitter Site: 34° 04' 29" North Latitude
86° 01' 11" West Longitude

<u>Station Considered</u>	<u>Maximum Distance to 60 dBu Contour (km)</u>	<u>Interfering Contour/ Maximum Distance to Interfering Contour (dBu)/(km)</u>	<u>Distance From Proposed WSGN(FM)</u>	
			<u>Required*</u>	<u>Actual</u>
			<u>(km)</u>	<u>(km)</u>
Proposed 217A, Oxford, AL		See Sheet 3		
WAWL(FM), Signal Mountain, TN CH 218A, 0.2 kW (Max-DA), 290 m 35° 09' 42" N/85° 19' 06" W	26.7	40/80.2	127.0	136.7
WAWL(FM) (CP), Red Bank, TN		See Sheet 3		118.5
WUAL-FM, Tuscaloosa, AL		See Sheets 3 and 4		169.0
WWEV(FM), Cumming, GA		See Sheet 3		
WYFD(FM), Decatur, AL CH 219A, 3.0 kW, 115 m 34° 33' 05" N/87° 03' 56" W	25.9	54/38.9	82.8	109.8
Proposed WYFD(FM), Decatur, AL		See Sheet 3		105.7
WLJS(FM), Jacksonville, AL		See Sheet 3		36.5
WKUL(FM), Cullman, AL CH 221A, 3.0 kW, 47 m 34° 10' 34" N/86° 50' 30" W	---	---	42/1	76.7

No intermediate frequency related stations within required separations of 47 CFR 73.207.

1Required separation per 47 CFR 73.207.

*The required distance is the sum of the maximum distance to the protected contour of the desired station and the maximum distance to the interfering contour of the undesired station or the sum of the maximum distance to the interfering contour of the desired station and the maximum distance to the protected contour of the undesired station, whichever figure is greater. Distances employed for WSGN(FM) proposed interfering contours [F(50,10)] are as follows: 80 dBu = 12.7 km, 54 dBu = 56.9 km, 40 dBu = 100.3 km. The distance employed for the WSGN(FM) proposed 60 dBu contour [F(50,50)] is 38.4 km.



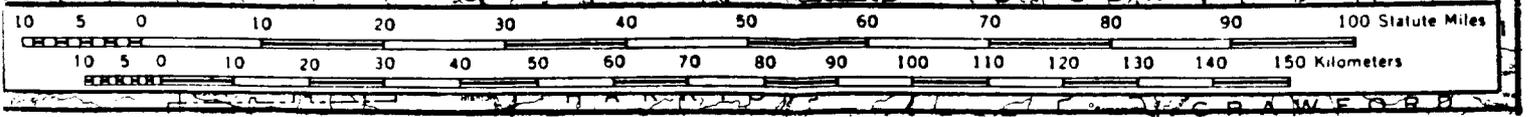
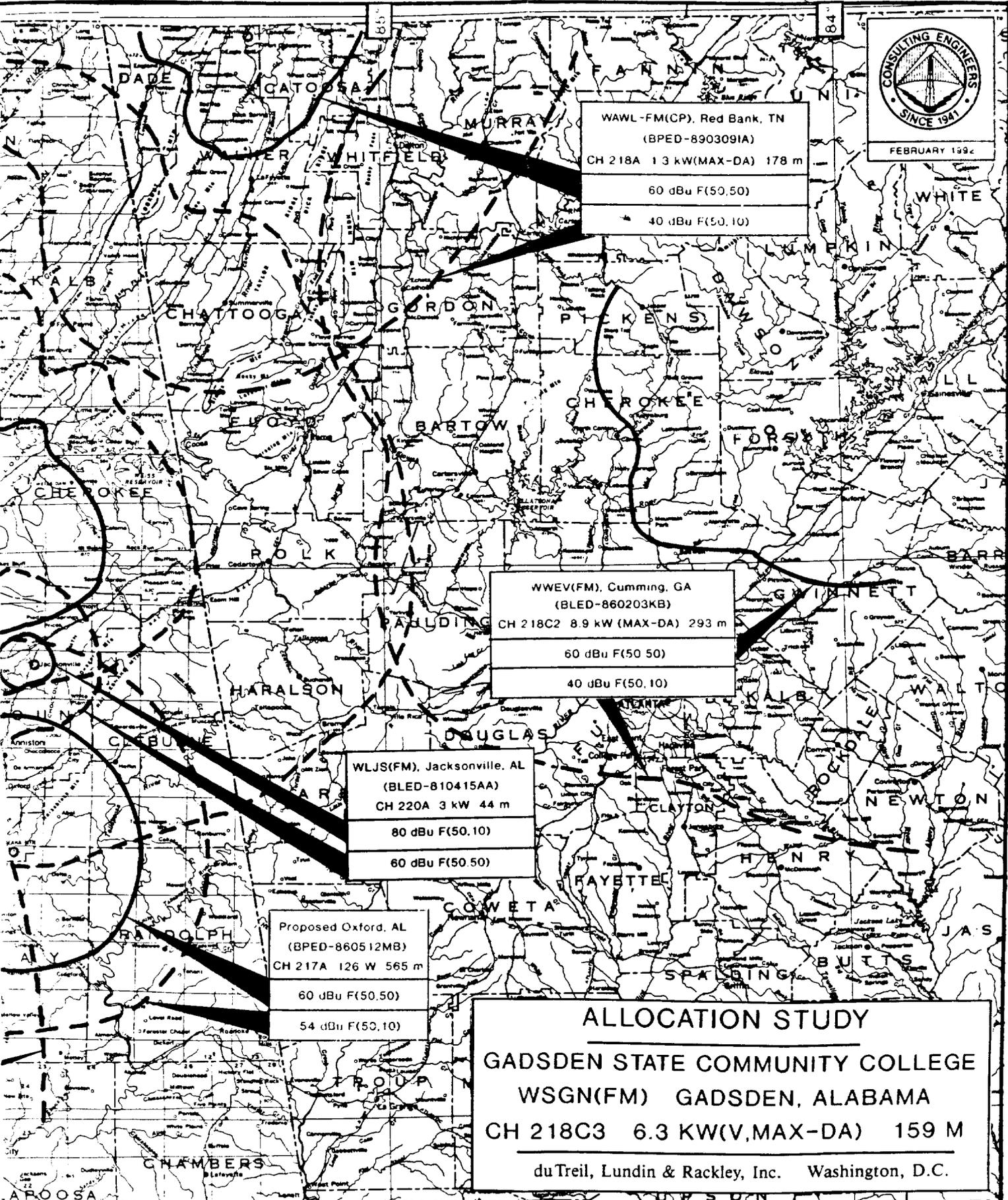
WAWL-FM(CP), Red Bank, TN
(BPED-890309IA)
CH 218A 1.3 kW(MAX-DA) 178 m
60 dBu F(50,50)
40 dBu F(50,10)

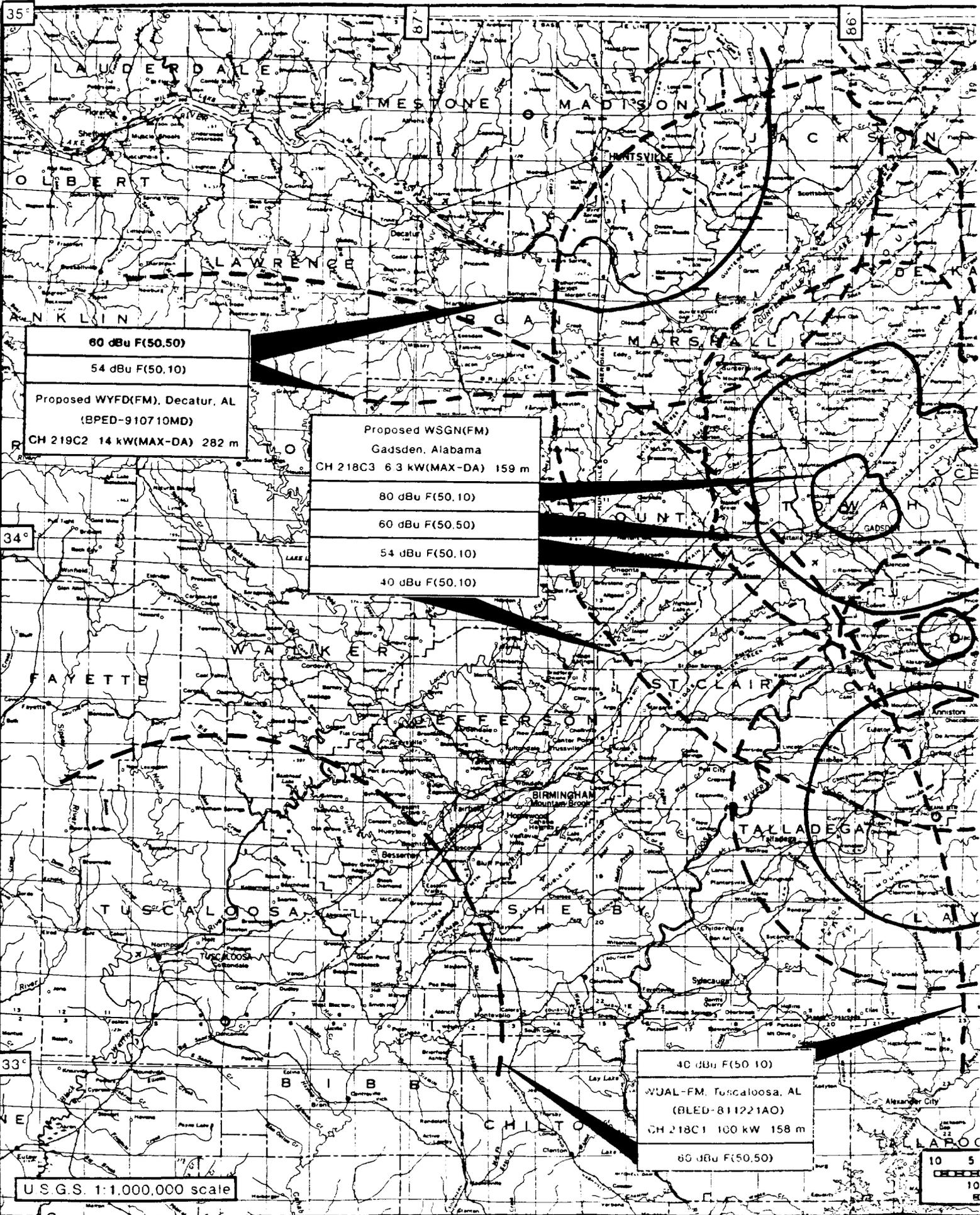
WWEV(FM), Cumming, GA
(BLED-860203KB)
CH 218C2 8.9 kW (MAX-DA) 293 m
60 dBu F(50,50)
40 dBu F(50,10)

WLJS(FM), Jacksonville, AL
(BLED-810415AA)
CH 220A 3 kW 44 m
80 dBu F(50,10)
60 dBu F(50,50)

Proposed Oxford, AL
(BPED-860512MB)
CH 217A 126 W 565 m
60 dBu F(50,50)
54 dBu F(50,10)

ALLOCATION STUDY
GADSDEN STATE COMMUNITY COLLEGE
WSGN(FM) GADSDEN, ALABAMA
CH 218C3 6.3 KW(V,MAX-DA) 159 M
duTreil, Lundin & Rackley, Inc. Washington, D.C.





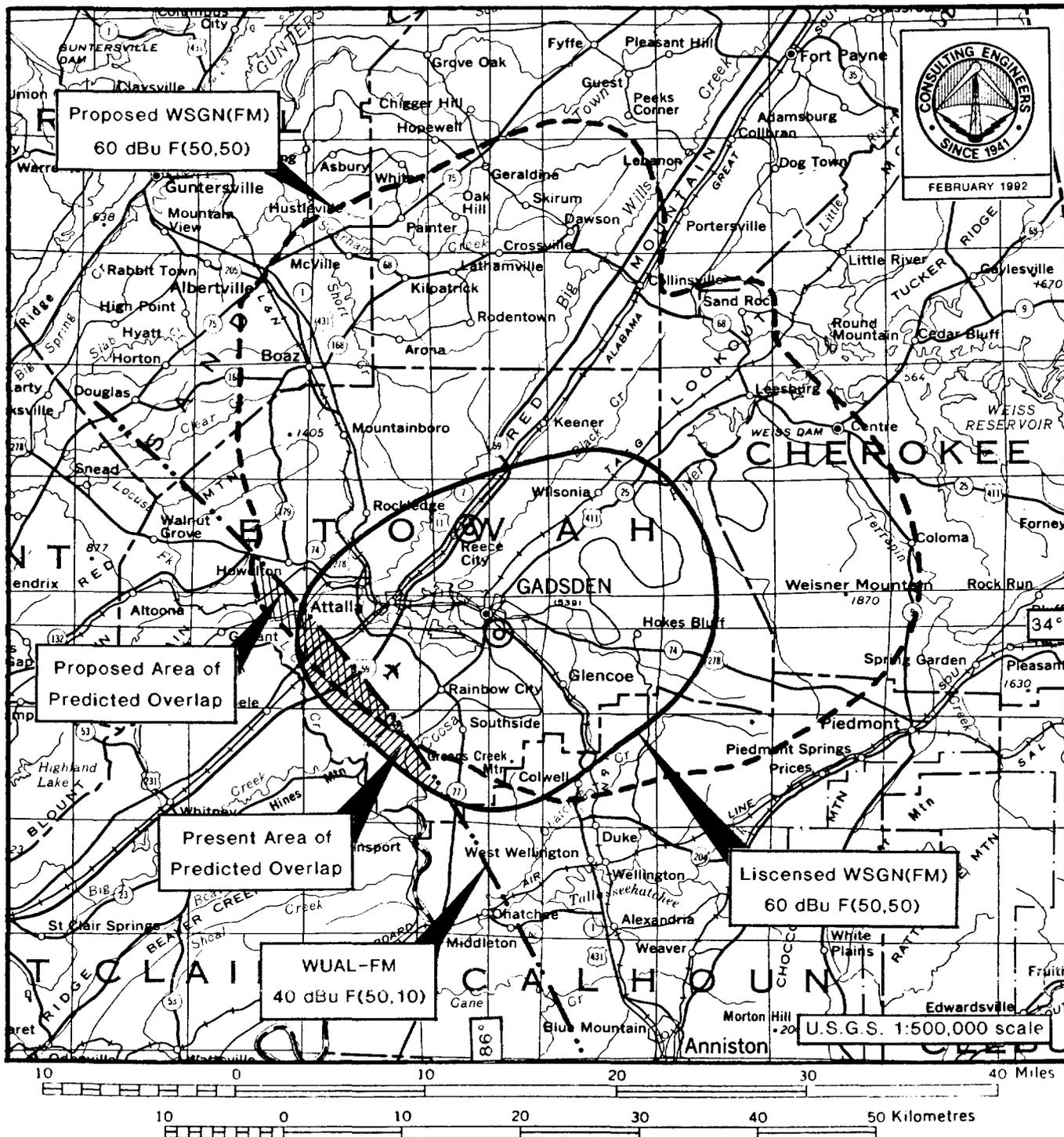
60 dBu F(50,50)
 54 dBu F(50,10)
 Proposed WYFD(FM), Decatur, AL
 (BPED-910710MD)
 CH 219C2 14 kW(MAX-DA) 282 m

Proposed WSGN(FM)
 Gadsden, Alabama
 CH 218C3 6.3 kW(MAX-DA) 159 m
 80 dBu F(50,10)
 60 dBu F(50,50)
 54 dBu F(50,10)
 40 dBu F(50,10)

40 dBu F(50,10)
 WUAL-FM, Tuscaloosa, AL
 (BLED-811221AO)
 CH 218C1 100 kW 158 m
 60 dBu F(50,50)

U.S.G.S. 1:1,000,000 scale

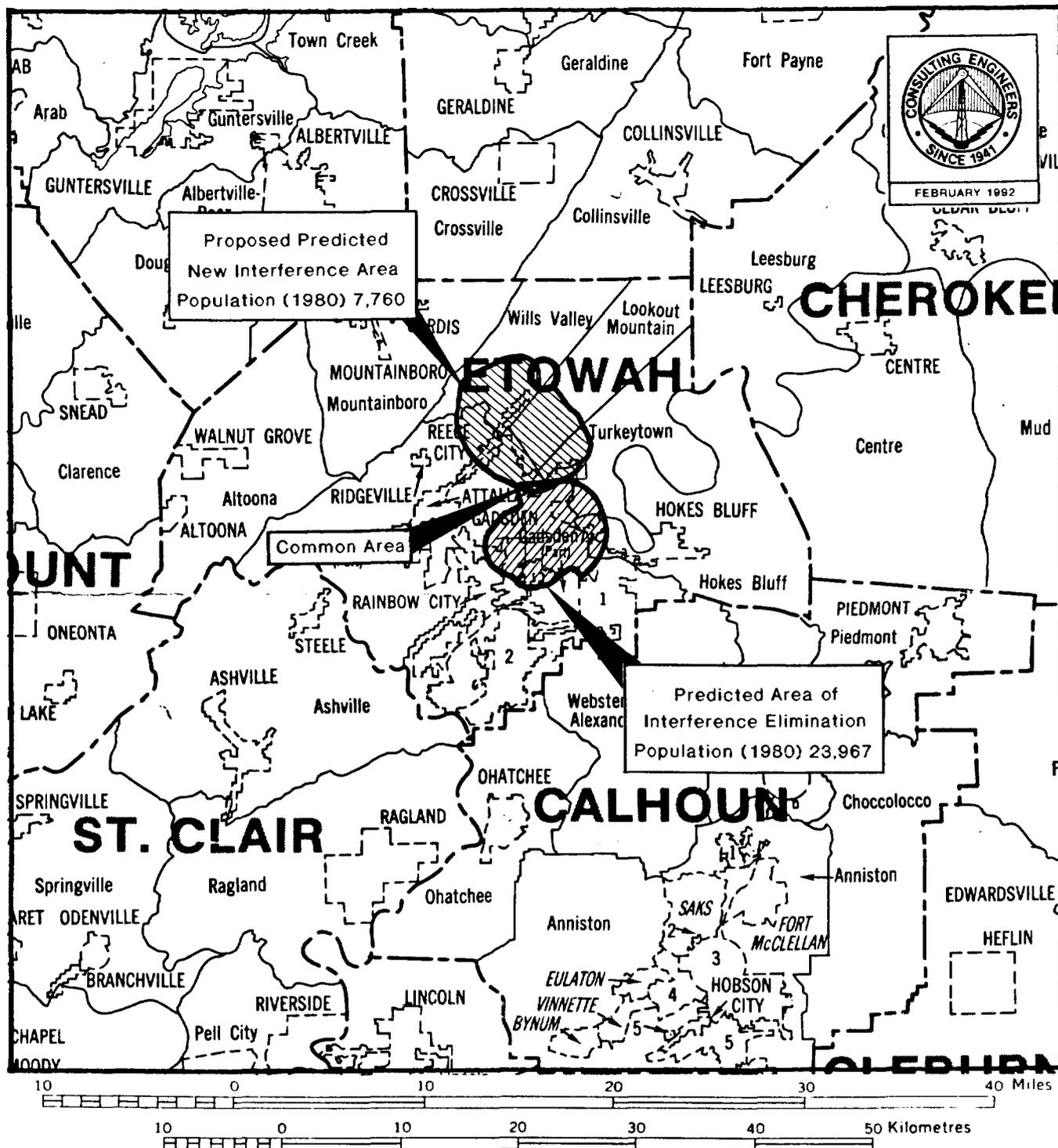
10 5
 10
 E



ALLOCATION STUDY

GADSDEN STATE COMMUNITY COLLEGE
WSGN(FM) GADSDEN, ALABAMA
CH 218C3 6.3 KW(V.MAX-DA) 159 M

duTreil, Lundin & Rackley, Inc. Washington, D.C.



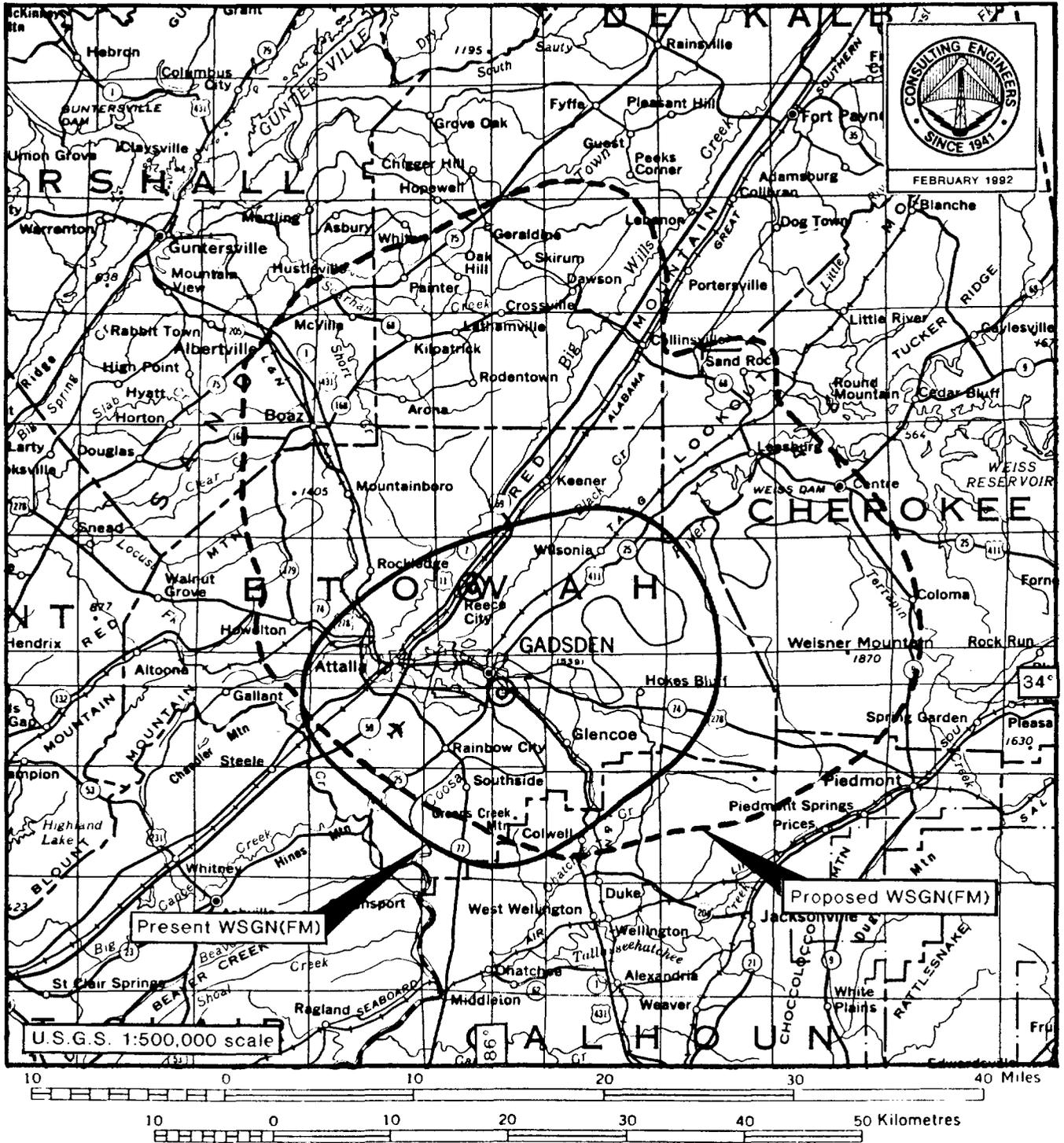
TV CHANNEL 6 PROTECTION STUDY

GADSDEN STATE COMMUNITY COLLEGE

WSGN(FM) GADSDEN, ALABAMA

CH 218C3 6.3 KW(V,MAX-DA) 159 M

duTreil, Lundin & Rackley, Inc. Washington, D.C.



PREDICTED 60 DBU COVERAGE COMPARISON

GADSDEN STATE COMMUNITY COLLEGE

WSGN(FM) GADSDEN, ALABAMA

CH 218C3 6.3 KW(V,MAX-DA) 159 M

duTreil, Lundin & Rackley, Inc. Washington, D.C.

33° 50' 00"

PROPOSED
SITE

JACKSONVILLE

Jacksonville

Eastwood
High Sch

Vocational
Sch

Shelton
Lakes

SCALE 1:24 000

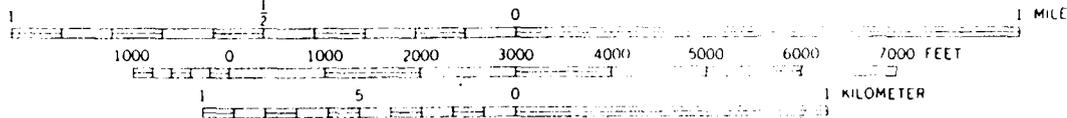
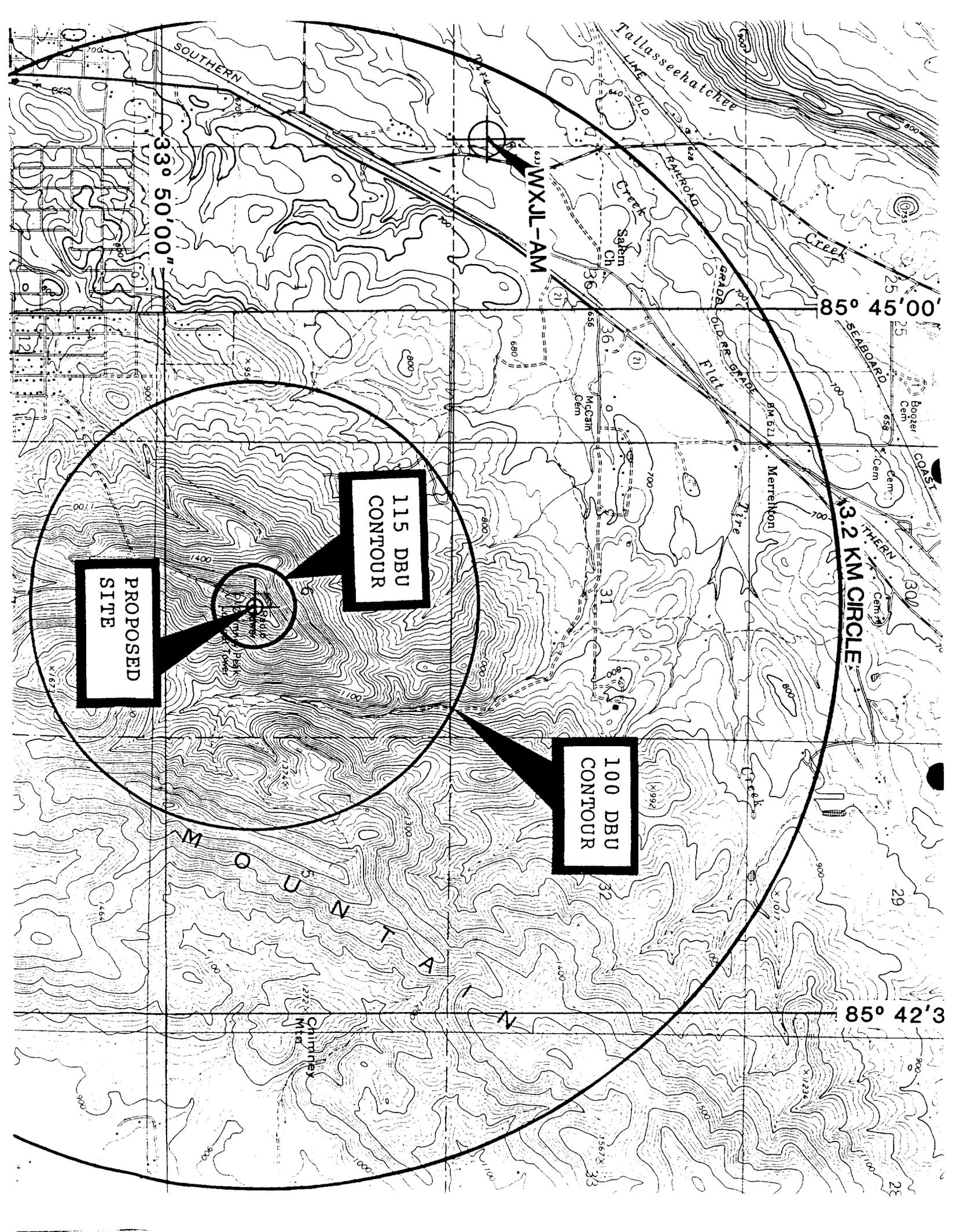


Figure 4A
 WLJS (FM) CH. 220A 100 DBU CONTOUR
 SUPPLEMENTAL ENGINEERING STATEMENT IN RE:
 APPLICATION FOR MAJOR CHANGES WSGN (FM) CH. 217C2 91.3 MHZ
 15 KW (VERT) 0.84 KW (HORIZ) 158.7 METERS HAAT
 FCC FILE NO. ARN-860307MK
 GADSDEN STATE COMMUNITY COLLEGE
 GADSDEN, ALABAMA

Prepared By
 Communications Engineering Services, P.C.
 Arlington, Virginia

Richard L. Biby
 November, 1986



33° 50' 00"

WXL-AM

85° 45' 00"

115 DBU
CONTOUR

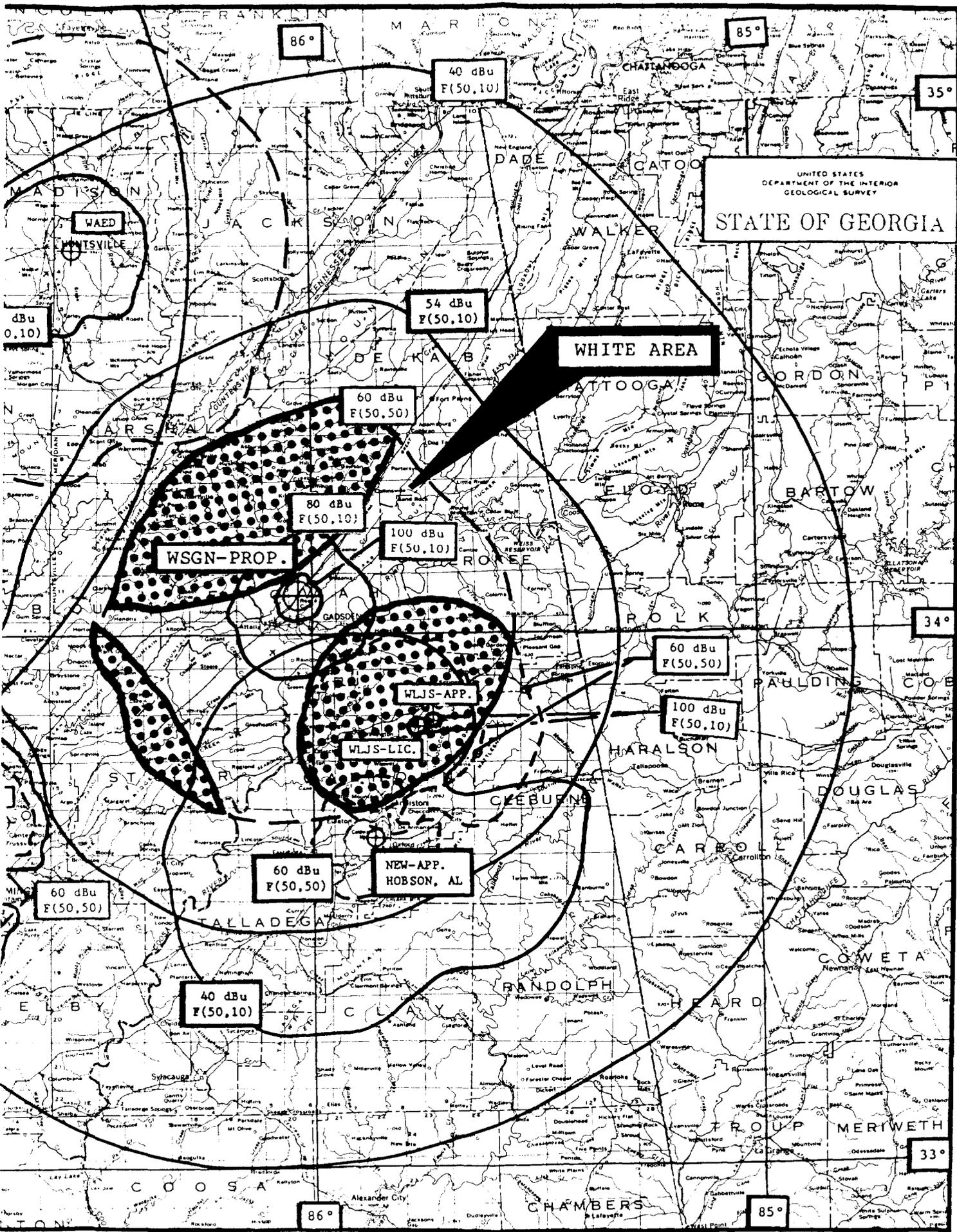
PROPOSED
SITE

100 DBU
CONTOUR

3.2 KM CIRCLE

MOUNTAIN

85° 42' 3"



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF GEORGIA

WHITE AREA

WSGN-PROP.

WLJS-APP.

WLJS-LIC.

NEW-APP.
HOBSON, AL

60 dBu
F(50,50)

60 dBu
F(50,50)

40 dBu
F(50,10)

60 dBu
F(50,50)

100 dBu
F(50,10)

40 dBu
F(50,10)

54 dBu
F(50,10)

60 dBu
F(50,50)

100 dBu
F(50,10)

dBu
0,10)

STATE OF ALABAMA

Scale 1:1,000,000
1 inch equals approximately 16 miles

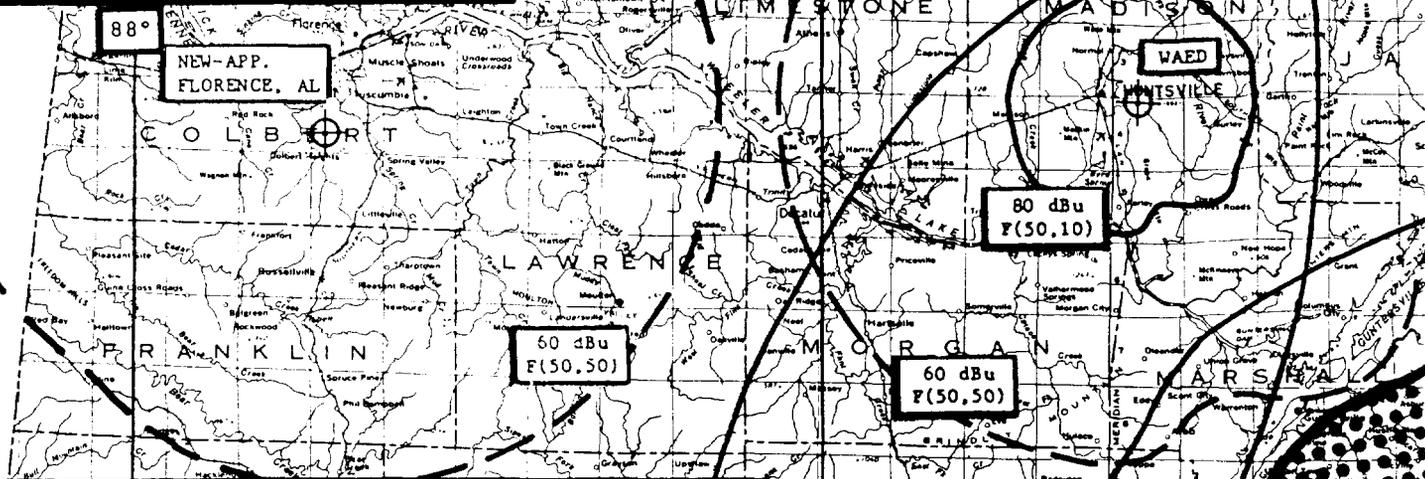
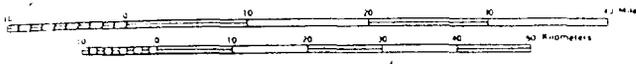
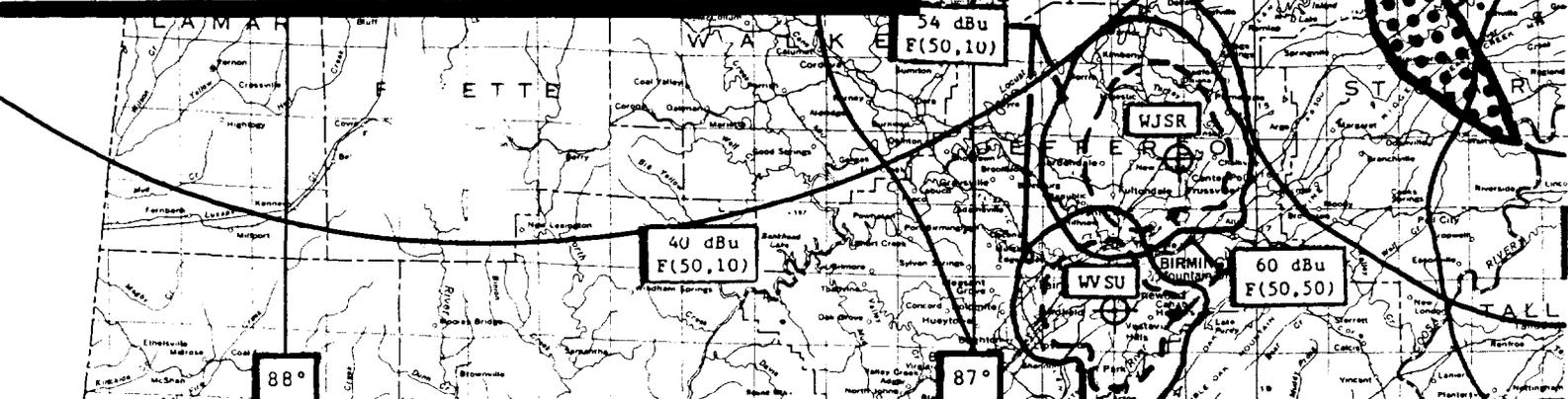


Figure 6
"WHITE AREA" SHOWING
SUPPLEMENTAL ENGINEERING STATEMENT IN RE:
APPLICATION FOR MAJOR CHANGES WSGN (FM) CH. 217C2 91.3 MHZ
15 KW (VERT) 0.84 KW (HORIZ) 158.7 METERS HAAT
FCC FILE NO. ARN-860307MK
GADSDEN STATE COMMUNITY COLLEGE
GADSDEN, ALABAMA

Prepared By
Communications Engineering Services, P.C.
Arlington, Virginia

Richard L. Biby
November, 1986



LEGEND

CALL	STATUS	REF. #	LOCATION	CH/CL	ERP	HAAT
WAED	CP	BPED-1618	Huntsville, AL	215C	7.0 kW	295 m
WJRSR	LIC	BLED-840420DM	Birmingham, AL	216A	0.23	59
WVSU	LIC	BLED-840420DM	Birmingham, AL	216A	0.12	66
NEW	APP	-851003MB	Hobson City, AL	217A	0.10	141
NEW	APP	BPED-841017IA	Florence, AL	217C2	30.0	183
WLJS	LIC	BLED-810415AA	Jacksonville, AL	220A	3.0	44
WLJS	APP		Jacksonville, AL	220A	0.32	308

----- F(50,50) Service Contours
----- F(50,10) Interference Contours

Section VI

Equal Employment Opportunity Program

1. Does the applicant propose to employ five or more fulltime employees? N/A YES NO

If the answer is Yes, the applicant must include an EEO program called for in the separate 5 Point Model EEO Program [FCC Form 396 (A)].

Section VII

Certification

1. Has or will the applicant comply with the public notice requirement of Section 73.3580 of the Commission's Rules? YES NO

The APPLICANT hereby waives any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations, and that all exhibits are a material part hereof and are incorporated herein.

The APPLICANT represents that this application is not filed for the purpose of impeding, obstructing, or delaying determination on any other application with which it may be in conflict.

In accordance with Section 1.65 of the Commission's Rules, the APPLICANT has a continuing obligation to advise the Commission, through amendments, of any substantial and significant changes in information furnished.

**WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND IMPRISONMENT.
U.S. CODE, TITLE 18, Section 1001.**

I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Signed and dated this 24th day of November, 19 86.

Gadsden State Community College
Name of Applicant

Robert W. Howard
Signature

by Robert W. Howard

President
Title

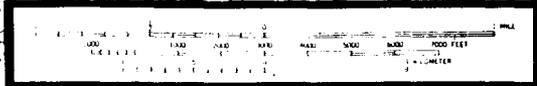
**FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT
AND THE PAPERWORK REDUCTION ACT**

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The principal purpose for which the information will be used is to determine if the benefit requested is consistent with the public interest. The staff, consisting variously of attorneys, accountants, engineers, and application examiners, will use the information to determine whether the application should be granted, denied, dismissed, or designated for hearing. If all the information requested is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Accordingly, every effort should be made to provide all necessary information. Your response is required to obtain the requested Permit.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

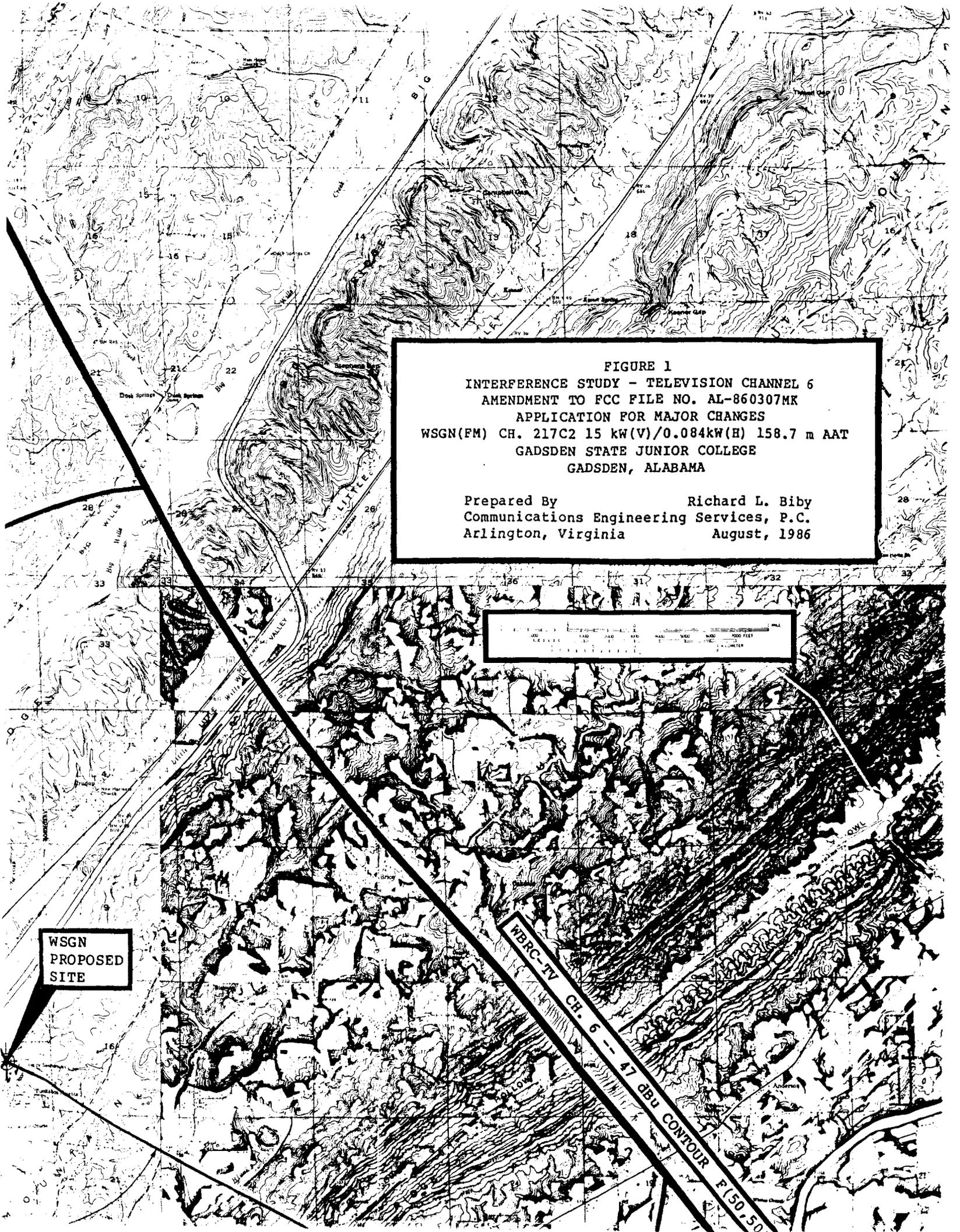
FIGURE 1
INTERFERENCE STUDY - TELEVISION CHANNEL 6
AMENDMENT TO FCC FILE NO. AL-860307MK
APPLICATION FOR MAJOR CHANGES
WSGN(FM) CH. 217C2 15 kW(V)/0.084kW(H) 158.7 m AAT
GADSDEN STATE JUNIOR COLLEGE
GADSDEN, ALABAMA

Prepared By **Richard L. Biby**
Communications Engineering Services, P.C.
Arlington, Virginia August, 1986



WSGN
PROPOSED
SITE

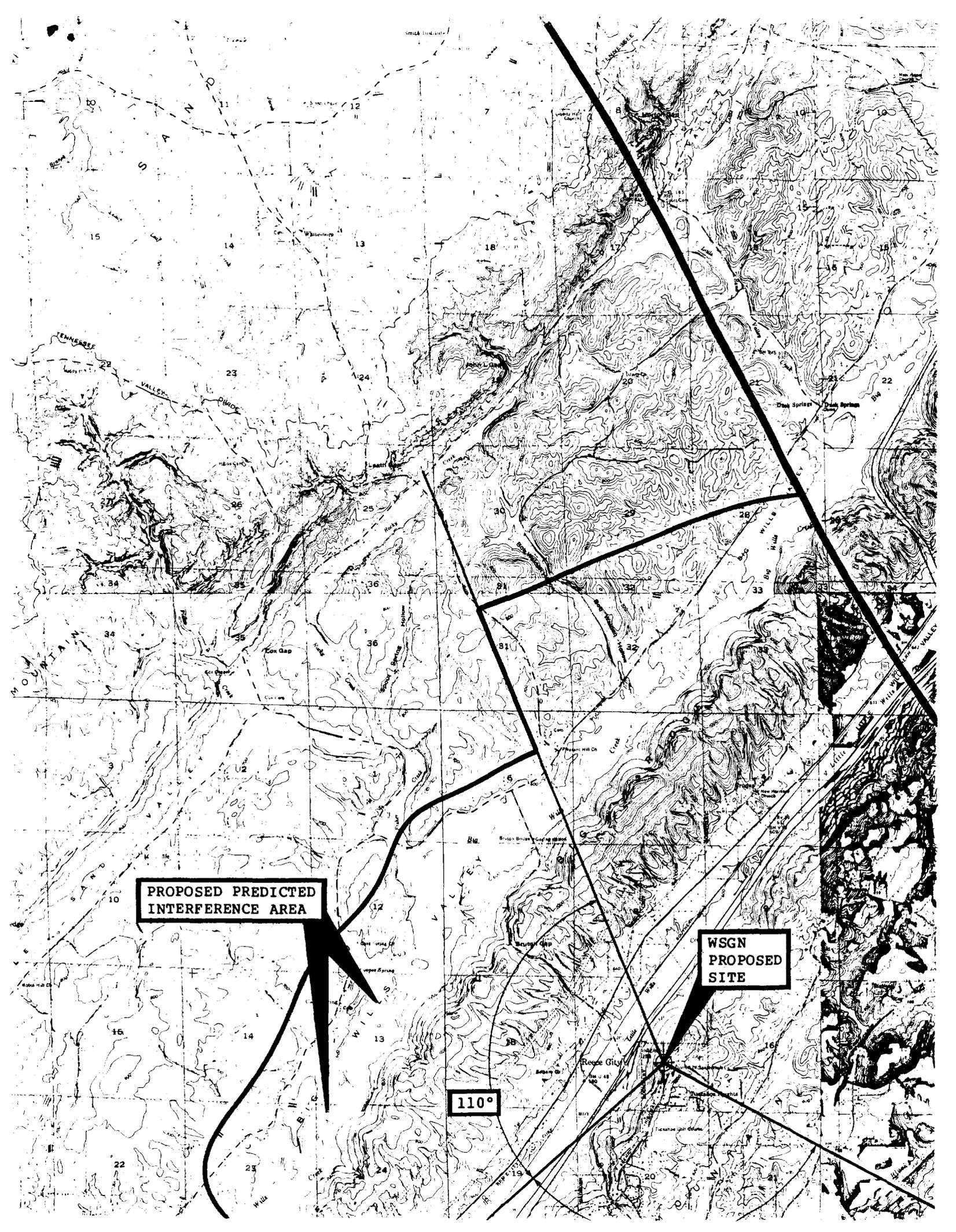
WBRC-TV CH. 6
47 dBu CONTOUR F(50.50)

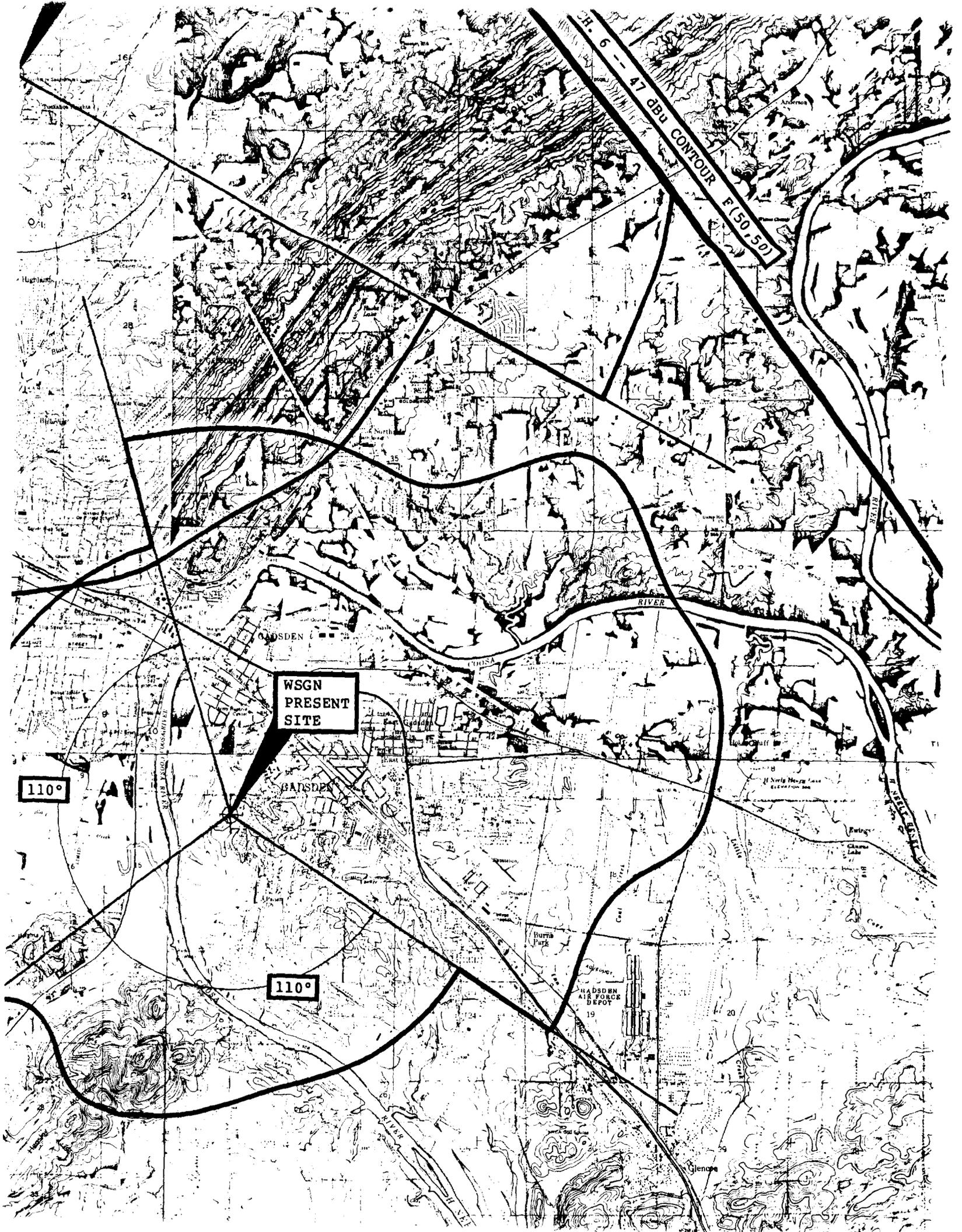


**PROPOSED PREDICTED
INTERFERENCE AREA**

**WSGN
PROPOSED
SITE**

110°





CH. 6 - 47 DBR CONTOUR F(50.50)

WSGN
PRESENT
SITE

110°

110°

GADSDEN

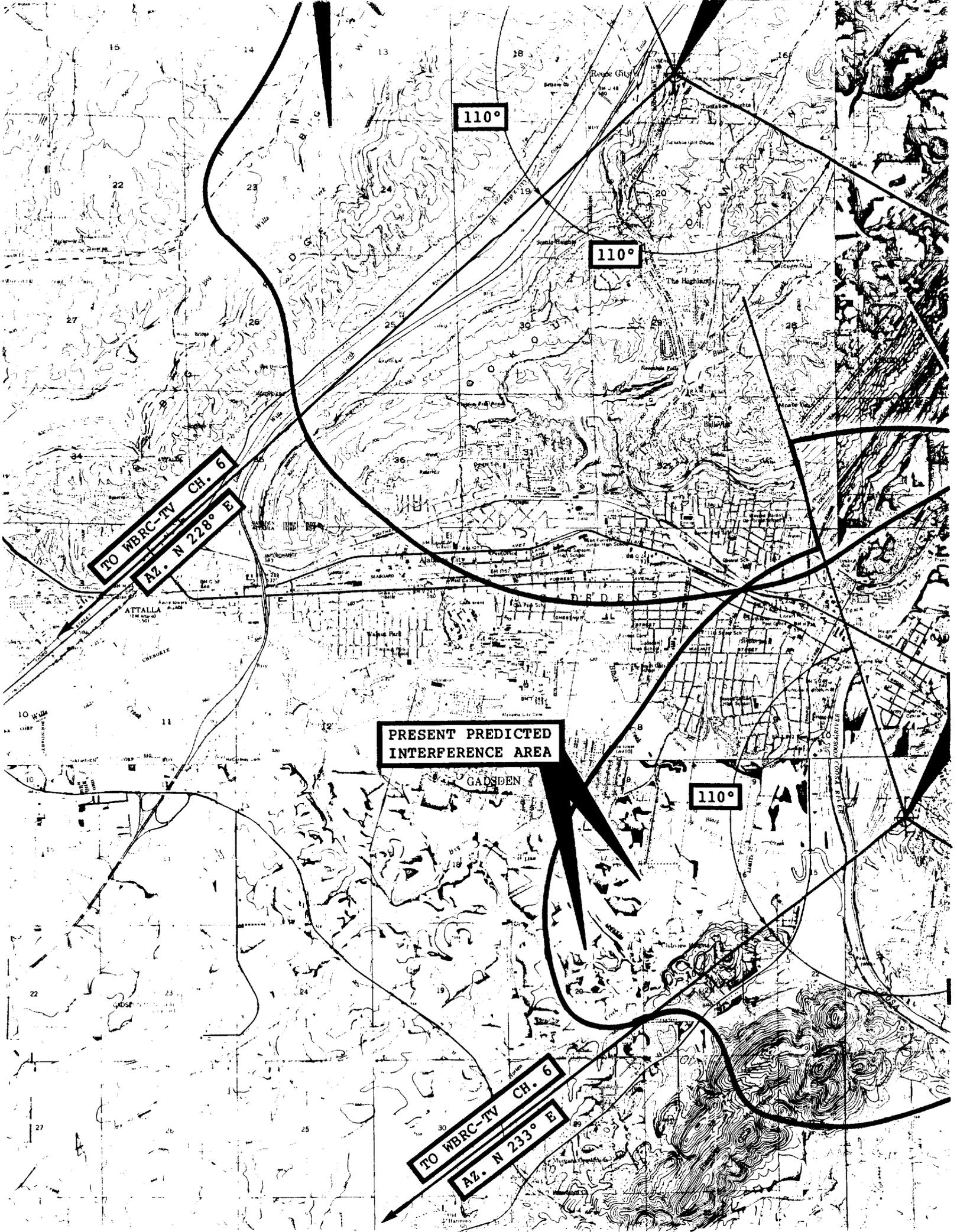
GADSDEN

GADSDEN
AIR FORCE
DEPOT

HURTS
PARK

GADSDEN
RIVER

Glenora



TO WBRC-TV CH. 6
AZ. N 228° E

PRESENT PREDICTED
INTERFERENCE AREA

TO WBRC-TV CH. 6
AZ. N 233° E

110°

110°

110°