

WACS-DT CHANNEL 8 MINOR
MODIFICATION OF CONSTRUCTION
PERMIT APPLICATION FOR PRE- AND
FINAL POST-TRANSITION DTV OPERATION
DAWSON, GEORGIA
(Georgia Public Telecommunications Commission)

KESSLER AND GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20080225

Prepared by William T. Godfrey, Jr.

KGGA

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Kessler and Gehman Associates, Inc.

Telecommunications Consulting Engineers

ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY, JR. OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH A MINOR MODIFICATION OF CONSTRUCTION PERMIT (BMPEDT-20020923ABC) APPLICATION FOR THE GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION (GPTC) PRE-TRANSITION AND POST-TRANSITION DIGITAL TELEVISION BROADCAST FACILITY, WACS-DT CHANNEL 25, DAWSON, GEORGIA

The firm Kessler and Gehman Associates, Inc. has been retained by the Georgia Public Telecommunications Commission (GPTC), Atlanta, GA to prepare engineering studies and the engineering portion of a minor modification of construction permit application requesting authorization to decrease the overall height of support structure Above Ground Level (AGL), change antenna model and azimuth pattern, increase the antenna height radiation center, and decrease the Effective Radiated Power (ERP) of the authorized (BMPEDT-20020923ABC) WACS-DT Channel 8 digital television broadcast facility. The current construction permit height is based on a side-mount antenna; however, the WACS tower was completely destroyed by a tornado last year and it now makes more sense to mount the digital post-transition antenna on top of the tower. Therefore, the proposed antenna height is greater than the authorized height and the proposed ERP is less than the authorized ERP to compensate for the increased antenna height. The changes proposed in this application are for the pre-transition and final post-transition digital Channel 8 facilities.

Discussion

GPTC is authorized to operate WACS-DT on DTV Channel 8 with an ERP of 6 kW at an antenna height radiation center of 307 meters AGL using a side-mounted, directional antenna. On March 1, 2007 a tornado touched down in Dawson, GA and traveled directly over the WACS site causing the tower to collapse on the transmitter building and completely destroying the antenna. Construction of the new tower is underway.



The GPTC design-build contract calls for a new tower to replace the previous tower. The overall height of the previous tower was 334 meters AGL and the overall height of the new tower will be 329 meters AGL. The land surveying drawings prepared by Sims & Associates on October 17, 2007 determined that the site elevation at the tower base is actually 143 meters Above Mean Sea Level (AMSL) which is greater than the site elevation of 138 meters AMSL depicted in the Antenna Structure Registration (ASRN: 1018782). As a result, the overall height of the tower AGL will only be 329 meters so that the overall height AMSL will not exceed the current FAA authorization. A 7460-1 Form was electronically filed with the FAA on February 8, 2008 to notify the FAA that the tower elevations will be corrected but the overall height AMSL will not change (Exhibit 12 - 2008-ASO-766-OE).

As part of the statewide digital transition project, GPTC awarded an antenna contract to procure a Dielectric model THV-5A8-R C170 top-mount directional antenna for the WACS-DT Channel 8 pre/post-transition facility and a Dielectric model TFU-18JSC P230 side-mount directional antenna for the WACS-TV Channel 25 analog facility. This minor modification of construction permit application requests FCC authorization to make the following changes for the WACS-DT Channel 8 pre/post-transition facility: 1) change antenna system from the authorized Dielectric model THV-13A8-R C170 side-mount, directional antenna to the proposed Dielectric model THV-5A8-R C170 top-mount, directional antenna; 2) increase the antenna height radiation center from the authorized height of 307 meters AGL to the proposed height of 322 meters AGL; 3) decrease the ERP from the authorized 6 kW to the proposed 4.7 kW; and 4) decrease the overall height of the support structure from the authorized height of 334 meters AGL to the proposed 329 meters AGL; however, the overall height of the support structure will remain 472 meters AMSL.

Exhibit 10 is an FCC coverage contour map depicting the authorized F(50,90) 36.0 dBuV/m protected noise limited contour (black contour) and the proposed F(50,90) 36.0 dBuV/m protected noise limited contour (red contour). It can be seen that the proposed noise



limited contour would be completely encompassed by the authorized noise limited contour in all azimuthal directions.

Exhibit 11 is a principal community contour map demonstrating that the proposed WACS-DT Channel 8 F(50,90) 43.0 dBuV/m City Grade contour would completely encompass the principal community of Dawson, GA.

Expedited Processing

The WACS-DT Channel 8 Final DTV TOA facility's F(50,90) 36.0 dBuV/m noise limited contour completely encompasses the proposed WACS-DT Channel 8 facility's F(50,90) 36.0 dBuV/m noise limited contour. Therefore, the proposed facility will not expand the noise limited service contour in any direction beyond that established in Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. Section 73.622(i) ("new DTV Table Appendix B".) Accordingly, this application qualifies for expedited processing.

It should be noted that §VII-DTV Engineering, Item 1(c) of this application is checked "No" because the proposed pre-/post-transition antenna HAAT (333 m) will exceed the DTV reference HAAT for this station as established in 47 C.F.R. Section 73.622 by only two meters (331 m). However, the proposed pre-/post-transition facility's ERP (4.7 kW) is 200 W less than the DTV reference ERP (4.9 kW) for this station as established in 47 C.F.R. Section 73.622 which more than compensates for the two meter disparity. Referring to Exhibit 13, it can be seen that the proposed pre-/post-transition facility's F(50,90) 36.0 dBuV/m noise limited contour (red) is completely encompassed by the DTV reference facility's F(50,90) 36.0 dBuV/m noise limited contour (black).

GPTC is in the process of building its pre-/post-transition facilities for its nine digital television broadcast stations and the construction for the WACS-DT Channel 8 pre-/post-



transition DTV facility is scheduled to be completed in April 2008. Therefore, GPTC requests expedited processing of this application since it qualifies for such under the guidelines established by the Commission and so that it can begin pre-/post-transition DTV operation as soon as possible.

Accordingly, GPTC respectfully requests expedited processing pursuant to §V.D.1. (¶140) of the Report and Order in MB Docket No. 07-91, FCC 07-228 *In the Matter of Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Released on December 31, 2007. This application demonstrates all three of the following requirements and is therefore eligible for expedited processing:

- (1) This application does not seek to expand the station's facilities beyond its final post-transition DTV Table Appendix B facilities;
- (2) This application specifies facilities that match or closely approximate the DTV Table Appendix B facilities (*i.e.*, if the station is unable to build precisely the facilities specified in the new DTV Table Appendix B, then it must apply for facilities that are no more than five percent smaller than its facility specified in Appendix B facilities with respect to predicted population); and
- (3) This application was filed within 45 days of the effective date of the Report and Order.

Transmitter Site

The tower destroyed by the tornado is registered with the FCC; the registration number is 1018782. The overall height AMSL of the new tower will be constructed to the same overall height AMSL as the previous tower but will actually be shorter in length. This is because the land surveying drawings prepared by Sims & Associates on October 17, 2007 determined that the site elevation at the tower base is actually 143.2 meters above mean sea level (AMSL) which is greater than the site elevation of 138.0 meters AMSL depicted in the ASR (1018782). As a result, the overall height of the tower AGL will only be 328.9 meters so that the overall height



AMSL will not exceed the current FAA authorization. An FAA 7460-1 was electronically filed with the FAA on February 8, 2008 to notify the FAA that the elevations will be corrected but the overall height AMSL will not change (Exhibit 12: 2008-ASO-766-OE). The support structure is located at TV Tower Road, 6.2 km NW of Parrott, GA.

Exhibits

Exhibits 1 and 2 represent WACS's administration data, antenna and antenna structure specifications.

Exhibit 3 depicts the profile view of the proposed antenna on the antenna structure with all the appropriate elevations.

Exhibits 4 and 5 display the antenna azimuth pattern azimuth pattern tabulation respectively.

Exhibits 6 (11 deg) and 7 (90 deg) display the elevation pattern and Exhibit 8 displays the elevation pattern tabulation.

Exhibit 9 depicts the location of the WACS-DT site on a 7.5-Minute (Series) Topographic map.

Exhibit 10 is an FCC coverage contour map depicting the authorized F(50,90) 36.0 dBuV/m protected noise limited contour (black contour) and the proposed F(50,90) 36.0 dBuV/m protected noise limited contour (red contour).

Exhibit 11 depicts the proposed WACS-DT F(50,90) 43.0 dBuV/m Principal Community contour, boundaries of the principal community to be served, and the transmitter location with



radials every 45° and demonstrates that the principal community requirement would be satisfied by completely encompassing the entire city limits of Dawson, GA.

Exhibit 12 is a copy of the FAA 7460-1 Form that was electronically filed with the FCC on February 8, 2008.

Environmental Impact

The proposed construction would have no significant environmental impact as defined in §1.1307 of the FCC Rules. The DTV transmitter, 3-1/8 inch (50-ohm) transmission line and antenna system shall produce an ERP of 4.7 kW. Assuming the maximum lobe of radiation were oriented toward the base of the tower, the proposed WACS-DT facility's power density six feet above the ground would be 0.0015 mW/cm². That would only be 0.15% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and only 0.77% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI). Since operation of the proposed WACS-DT Channel 8 facility would not exceed 5.0% of the MPE limit for Occupational/Controlled Exposure or General Population/Uncontrolled Exposure at any point on the ground, the proposed WACS-DT facility would not be considered a "significant contributor" to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, contributions of exposure from other sources were not accounted for in this analysis. It is safe to conclude that the emissions would be insignificant and well within the maximum allowable requirements.

If other antennas are placed on the tower in the future, the applicant will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from electromagnetic radiation emanating from the antenna.



Kessler and Gehman Associates, Inc.

Telecommunications Consulting Engineers

Certification

This technical statement was prepared by William T. Godfrey, Telecommunications Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. He graduated from the University of North Florida with a Bachelor of Arts degree in Criminal Justice and a minor in Mathematics in 1993. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.



KESSLER AND GEHMAN ASSOCIATES, INC.


WILLIAM T. GODFREY, JR.
Telecommunications Technical Consultant

26 February, 2008

WACS-DT Channel 8
Dawson, Georgia

ENGINEERING SPECIFICATIONS

A. Transmitter Site:

Geographic coordinates (NAD27):

| | |
|----------------------|--------------------|
| North Latitude | 31° 56' 15" |
| West Longitude | 84° 33' 15" |

Transmitter Site Address: **Route, 1 Box 75 A Parrott, GA 31777 (6.2 km NW of Parrott, GA)**

B. Main Studio Site Address: 260 14th Street N.W., Atlanta, GA 30318.

C. Proposed Facility:

| | | |
|-------------|-----------------|--------------------|
| DTV Channel | Number | 8 |
| | Frequency | 180-186 MHz |
| | Offset | N/A |

D. Antenna Height:

| | |
|--|--------------|
| Height of Site Above Mean Sea Level (AMSL) | 143 M |
| Overall Height of Structure Above Ground | 329 M |
| (including all appurtenances) | |
| Overall Height of Structure Above Mean Sea Level | 472 M |
| (including all appurtenances) | |
| Height of Site Above Average Terrain | 11 M |
| Antenna Height Radiation Center (R/C) Above Ground | 322 M |
| Antenna Height R/C Above Mean Sea Level | 465 M |
| Average of All Non-Odd Radials | 132 M |
| Antenna Height R/C Above Average Terrain | 333 M |

E. System Parameters – Horizontal Polarization:

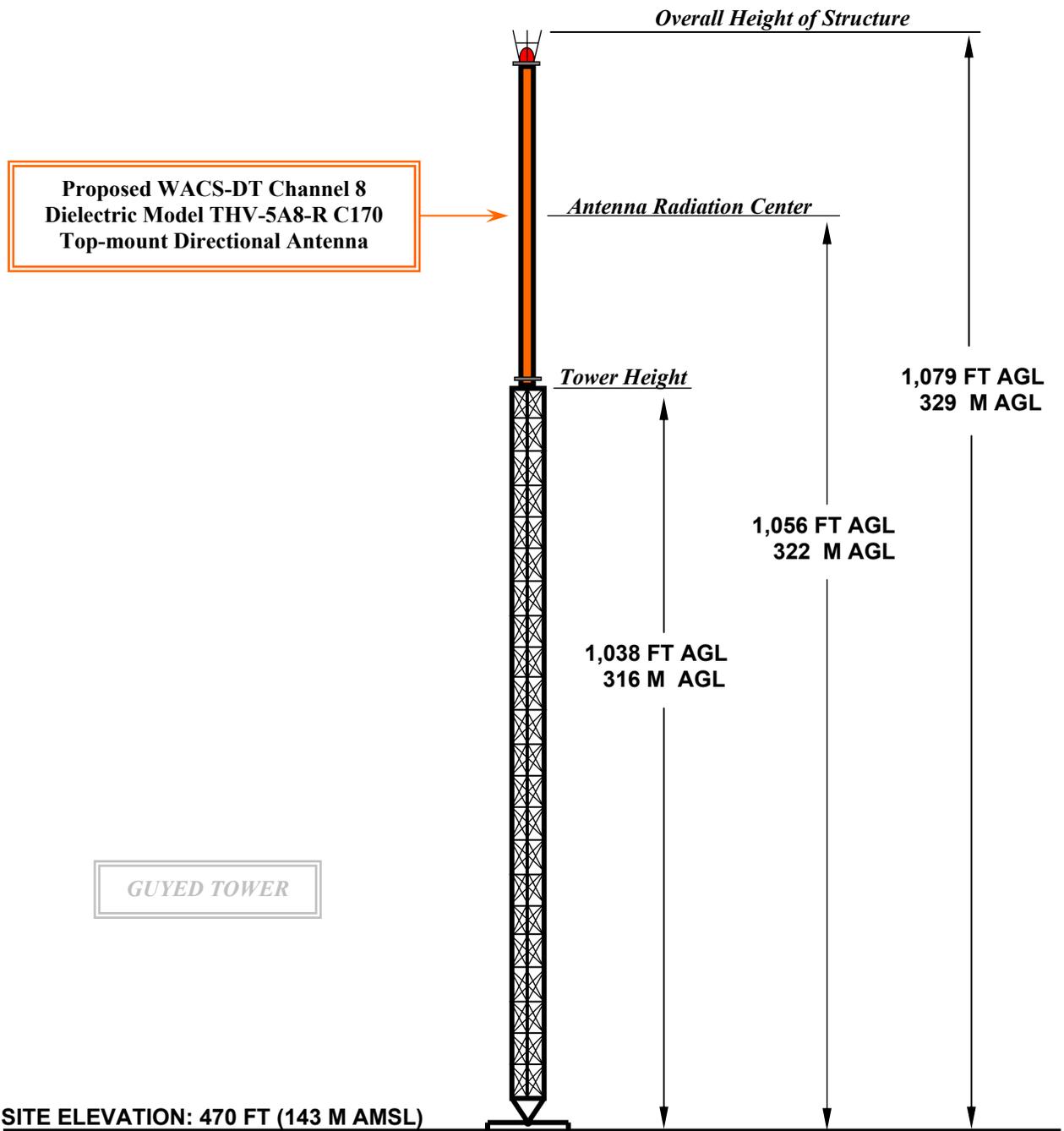
| | |
|--|-----------------|
| Transmitter Power Required | 0.83 kW |
| Maximum Power Input to Antenna | 0.66 kW |
| Total System Loss | 1.74 dB |
| Transmission Line Efficiency | 67.0% |
| Maximum Antenna Gain in Beam Maximum | 9.29 dB |
| Maximum Antenna Gain in Horizontal Plane | 9.08 dB |
| Maximum Effective Radiated Power | 6.72 dBk |
| In Beam Maximum | 4.70 kW |
| Maximum Effective Radiated Power | 6.51 dBk |
| In Horizontal Plane | 4.48 kW |

WACS-DT Channel 8
Dawson, Georgia

**DATA FOR PROPOSED DIRECTIONAL
TRANSMITTING ANTENNA**

- A. **Antenna:** Dielectric Model THV-5A8-R C170, Horizontally Polarized, Directional, Top-mount Antenna.
- B. **Electrical Beam Tilt:** 1.5°
- C. **Mechanical Beam Tilt:** None
- D. **Maximum Power Gain Horizontal Polarization**
Maximum: 8.5 (9.29 dB)
Horizontal: 8.1 (9.08 dB)
- E. **Length:** 37.2 feet (11.3 meters) not including appurtenances.
- F. **TPO:** 0.83 kW
- G. **Null Fill:** 3.5%
- H. **Transmission Line:** 3-1/8" 50 ohm FLEXLine ®
- I. **Transmission Line Loss:** 0.167 dB/100-feet
- J. **Total Transmission Line:** 1,040 feet
- K. **Transmission Line Attenuation:** 1.74 dB

PROPOSED WACS-DT ELEVATION VIEW



| | |
|------------------------------------|--------------|
| OVERALL HEIGHT AGL: | 329 M |
| OVERALL HEIGHT AMSL: | 472 M |
| RADIATION CENTER AGL: | 322 M |
| RADIATION CENTER AMSL: | 465 M |
| RADIATION CENTER HAAT: | 333 M |
| AVG OF ALL NON-ODD RADIALS: | 132 M |
| SITE HAAT: | 11 M |

COORDINATES (NAD 27):
N. LATITUDE 31° 56' 15"
W. LONGITUDE 84° 33' 15"
Antenna Structure Registration Number:
 1018782

NOTE: NOT TO SCALE

KESSLER AND GEHMAN

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WACS-DT CHANNEL 8

DAWSON, GEORGIA

20080221

EXHIBIT 3

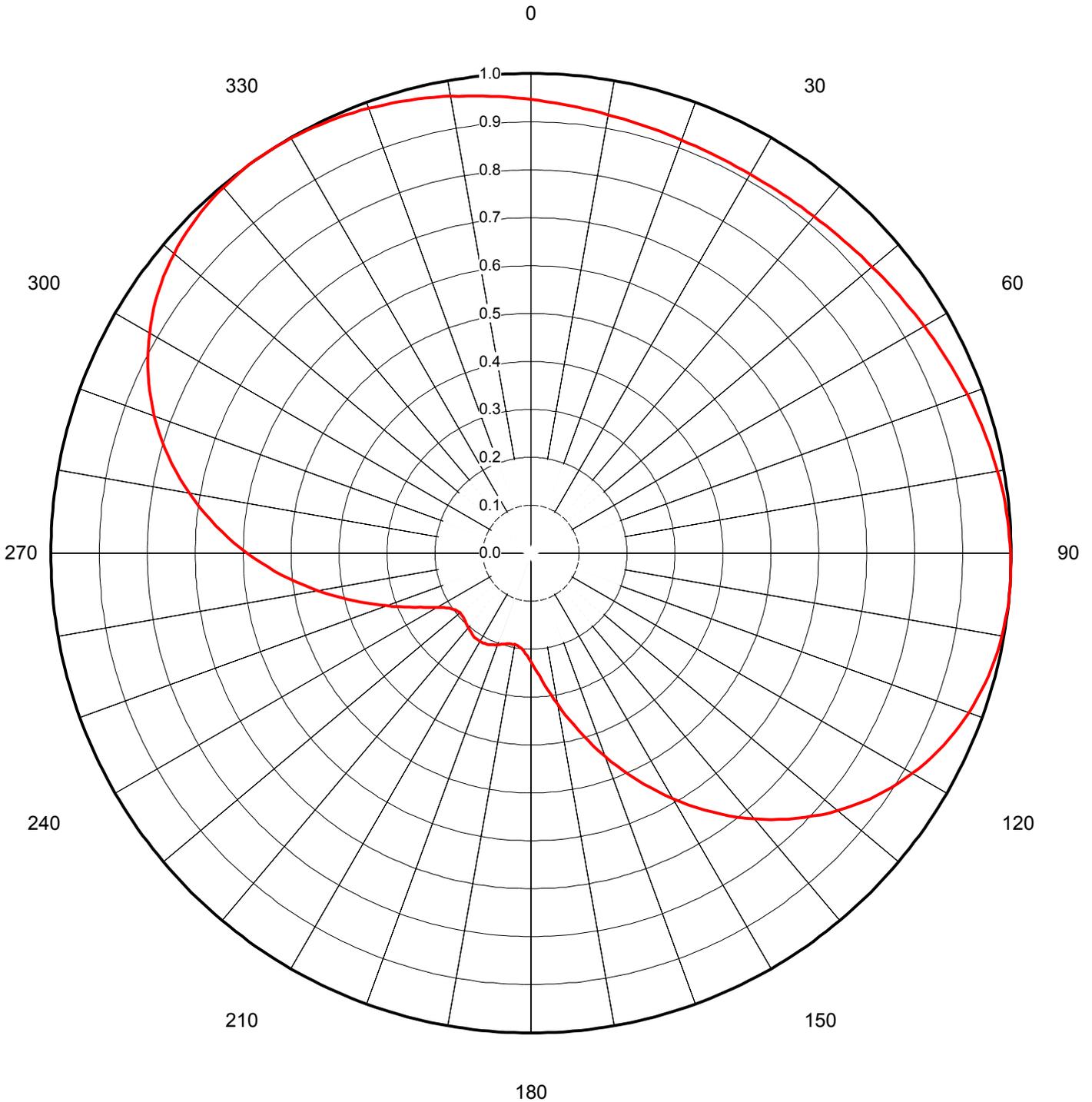


Proposal Number **DCA-10986**
Date **26-May-05**
Call Letters **WACS-DT** Channel **8**
Location **Dawson, GA**
Customer **Georgia Public Television**
Antenna Type **THV-5A8-R C170**

AZIMUTH PATTERN

Gain **1.70** **(2.30 dB)**
Calculated / Measured **Calculated**

Frequency **183.00 MHz**
Drawing # **THV-C170**





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TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **THV-C170**

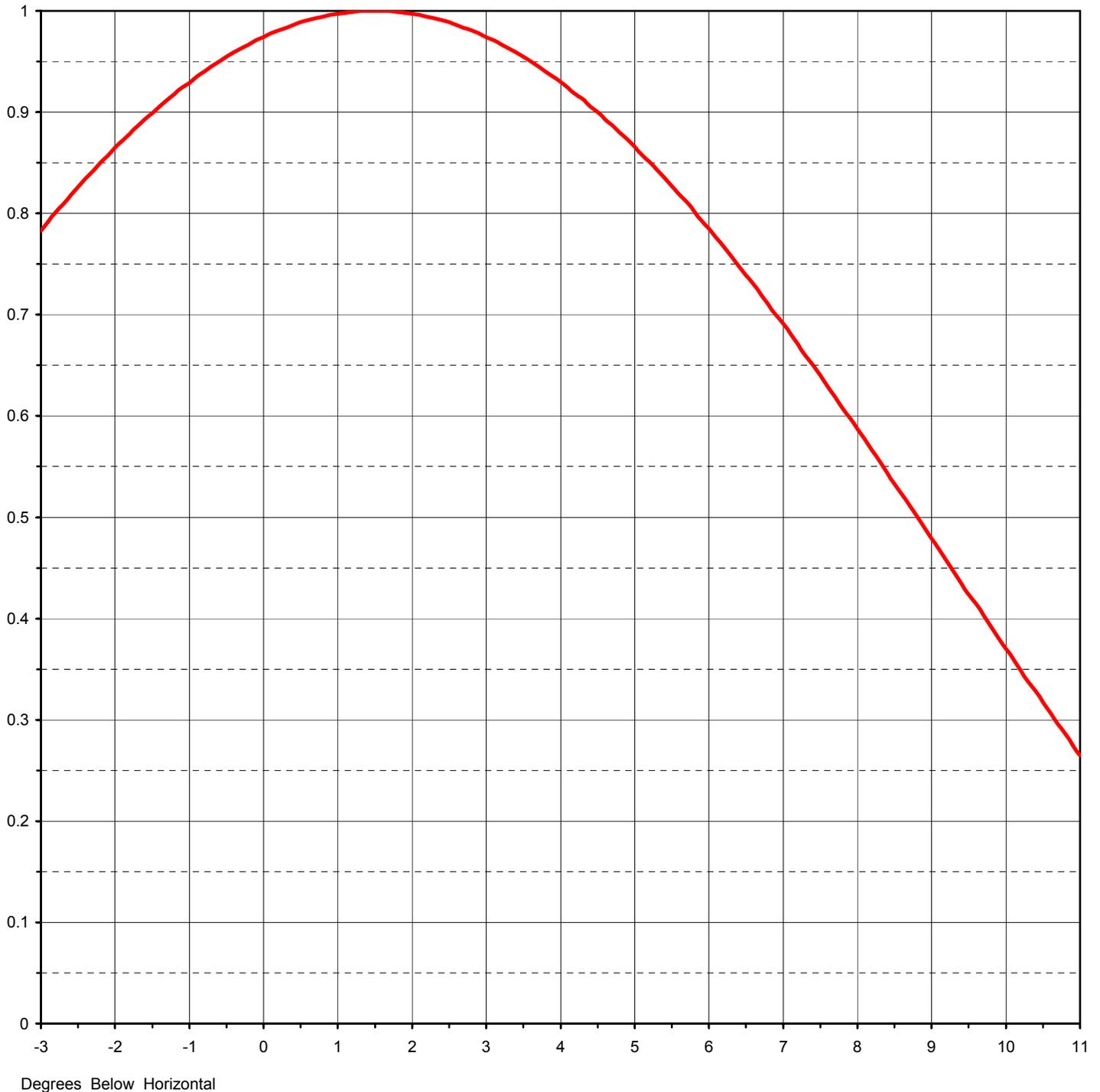
| Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 0.946 | 45 | 0.921 | 90 | 0.999 | 135 | 0.782 | 180 | 0.226 | 225 | 0.196 | 270 | 0.591 | 315 | 0.987 |
| 1 | 0.944 | 46 | 0.923 | 91 | 0.999 | 136 | 0.771 | 181 | 0.220 | 226 | 0.195 | 271 | 0.605 | 316 | 0.989 |
| 2 | 0.942 | 47 | 0.924 | 92 | 1.000 | 137 | 0.759 | 182 | 0.214 | 227 | 0.194 | 272 | 0.618 | 317 | 0.991 |
| 3 | 0.940 | 48 | 0.925 | 93 | 1.000 | 138 | 0.747 | 183 | 0.210 | 228 | 0.193 | 273 | 0.632 | 318 | 0.993 |
| 4 | 0.938 | 49 | 0.927 | 94 | 1.000 | 139 | 0.735 | 184 | 0.205 | 229 | 0.193 | 274 | 0.646 | 319 | 0.995 |
| 5 | 0.936 | 50 | 0.928 | 95 | 1.000 | 140 | 0.723 | 185 | 0.202 | 230 | 0.193 | 275 | 0.659 | 320 | 0.996 |
| 6 | 0.935 | 51 | 0.930 | 96 | 0.999 | 141 | 0.710 | 186 | 0.199 | 231 | 0.194 | 276 | 0.672 | 321 | 0.997 |
| 7 | 0.933 | 52 | 0.931 | 97 | 0.999 | 142 | 0.698 | 187 | 0.197 | 232 | 0.195 | 277 | 0.685 | 322 | 0.998 |
| 8 | 0.931 | 53 | 0.933 | 98 | 0.998 | 143 | 0.685 | 188 | 0.195 | 233 | 0.197 | 278 | 0.698 | 323 | 0.999 |
| 9 | 0.930 | 54 | 0.935 | 99 | 0.997 | 144 | 0.672 | 189 | 0.194 | 234 | 0.199 | 279 | 0.710 | 324 | 1.000 |
| 10 | 0.928 | 55 | 0.936 | 100 | 0.996 | 145 | 0.659 | 190 | 0.193 | 235 | 0.202 | 280 | 0.723 | 325 | 1.000 |
| 11 | 0.927 | 56 | 0.938 | 101 | 0.995 | 146 | 0.646 | 191 | 0.193 | 236 | 0.205 | 281 | 0.735 | 326 | 1.000 |
| 12 | 0.925 | 57 | 0.940 | 102 | 0.993 | 147 | 0.632 | 192 | 0.193 | 237 | 0.210 | 282 | 0.747 | 327 | 1.000 |
| 13 | 0.924 | 58 | 0.942 | 103 | 0.991 | 148 | 0.618 | 193 | 0.194 | 238 | 0.214 | 283 | 0.759 | 328 | 1.000 |
| 14 | 0.923 | 59 | 0.944 | 104 | 0.989 | 149 | 0.605 | 194 | 0.195 | 239 | 0.220 | 284 | 0.771 | 329 | 0.999 |
| 15 | 0.921 | 60 | 0.946 | 105 | 0.987 | 150 | 0.591 | 195 | 0.196 | 240 | 0.226 | 285 | 0.782 | 330 | 0.999 |
| 16 | 0.920 | 61 | 0.948 | 106 | 0.984 | 151 | 0.577 | 196 | 0.197 | 241 | 0.233 | 286 | 0.793 | 331 | 0.998 |
| 17 | 0.919 | 62 | 0.950 | 107 | 0.981 | 152 | 0.563 | 197 | 0.199 | 242 | 0.240 | 287 | 0.804 | 332 | 0.997 |
| 18 | 0.918 | 63 | 0.952 | 108 | 0.978 | 153 | 0.549 | 198 | 0.200 | 243 | 0.249 | 288 | 0.814 | 333 | 0.996 |
| 19 | 0.917 | 64 | 0.954 | 109 | 0.974 | 154 | 0.535 | 199 | 0.202 | 244 | 0.257 | 289 | 0.824 | 334 | 0.995 |
| 20 | 0.917 | 65 | 0.956 | 110 | 0.971 | 155 | 0.521 | 200 | 0.203 | 245 | 0.267 | 290 | 0.834 | 335 | 0.994 |
| 21 | 0.916 | 66 | 0.958 | 111 | 0.967 | 156 | 0.507 | 201 | 0.205 | 246 | 0.276 | 291 | 0.844 | 336 | 0.993 |
| 22 | 0.915 | 67 | 0.960 | 112 | 0.963 | 157 | 0.492 | 202 | 0.206 | 247 | 0.287 | 292 | 0.853 | 337 | 0.991 |
| 23 | 0.915 | 68 | 0.963 | 113 | 0.958 | 158 | 0.478 | 203 | 0.207 | 248 | 0.297 | 293 | 0.862 | 338 | 0.990 |
| 24 | 0.914 | 69 | 0.965 | 114 | 0.953 | 159 | 0.464 | 204 | 0.209 | 249 | 0.309 | 294 | 0.871 | 339 | 0.988 |
| 25 | 0.914 | 70 | 0.967 | 115 | 0.948 | 160 | 0.450 | 205 | 0.210 | 250 | 0.320 | 295 | 0.880 | 340 | 0.987 |
| 26 | 0.913 | 71 | 0.969 | 116 | 0.943 | 161 | 0.437 | 206 | 0.211 | 251 | 0.332 | 296 | 0.888 | 341 | 0.985 |
| 27 | 0.913 | 72 | 0.971 | 117 | 0.937 | 162 | 0.423 | 207 | 0.211 | 252 | 0.344 | 297 | 0.896 | 342 | 0.983 |
| 28 | 0.913 | 73 | 0.973 | 118 | 0.931 | 163 | 0.409 | 208 | 0.212 | 253 | 0.357 | 298 | 0.904 | 343 | 0.981 |
| 29 | 0.913 | 74 | 0.975 | 119 | 0.924 | 164 | 0.396 | 209 | 0.212 | 254 | 0.369 | 299 | 0.911 | 344 | 0.979 |
| 30 | 0.912 | 75 | 0.977 | 120 | 0.918 | 165 | 0.383 | 210 | 0.212 | 255 | 0.383 | 300 | 0.918 | 345 | 0.977 |
| 31 | 0.913 | 76 | 0.979 | 121 | 0.911 | 166 | 0.369 | 211 | 0.212 | 256 | 0.396 | 301 | 0.924 | 346 | 0.975 |
| 32 | 0.913 | 77 | 0.981 | 122 | 0.904 | 167 | 0.357 | 212 | 0.212 | 257 | 0.409 | 302 | 0.931 | 347 | 0.973 |
| 33 | 0.913 | 78 | 0.983 | 123 | 0.896 | 168 | 0.344 | 213 | 0.211 | 258 | 0.423 | 303 | 0.937 | 348 | 0.971 |
| 34 | 0.913 | 79 | 0.985 | 124 | 0.888 | 169 | 0.332 | 214 | 0.211 | 259 | 0.437 | 304 | 0.943 | 349 | 0.969 |
| 35 | 0.914 | 80 | 0.987 | 125 | 0.880 | 170 | 0.320 | 215 | 0.210 | 260 | 0.450 | 305 | 0.948 | 350 | 0.967 |
| 36 | 0.914 | 81 | 0.988 | 126 | 0.871 | 171 | 0.309 | 216 | 0.209 | 261 | 0.464 | 306 | 0.953 | 351 | 0.965 |
| 37 | 0.915 | 82 | 0.990 | 127 | 0.862 | 172 | 0.297 | 217 | 0.207 | 262 | 0.478 | 307 | 0.958 | 352 | 0.963 |
| 38 | 0.915 | 83 | 0.991 | 128 | 0.853 | 173 | 0.287 | 218 | 0.206 | 263 | 0.492 | 308 | 0.963 | 353 | 0.960 |
| 39 | 0.916 | 84 | 0.993 | 129 | 0.844 | 174 | 0.276 | 219 | 0.205 | 264 | 0.507 | 309 | 0.967 | 354 | 0.958 |
| 40 | 0.917 | 85 | 0.994 | 130 | 0.834 | 175 | 0.267 | 220 | 0.203 | 265 | 0.521 | 310 | 0.971 | 355 | 0.956 |
| 41 | 0.917 | 86 | 0.995 | 131 | 0.824 | 176 | 0.257 | 221 | 0.202 | 266 | 0.535 | 311 | 0.974 | 356 | 0.954 |
| 42 | 0.918 | 87 | 0.996 | 132 | 0.814 | 177 | 0.249 | 222 | 0.200 | 267 | 0.549 | 312 | 0.978 | 357 | 0.952 |
| 43 | 0.919 | 88 | 0.997 | 133 | 0.804 | 178 | 0.240 | 223 | 0.199 | 268 | 0.563 | 313 | 0.981 | 358 | 0.950 |
| 44 | 0.920 | 89 | 0.998 | 134 | 0.793 | 179 | 0.233 | 224 | 0.197 | 269 | 0.577 | 314 | 0.984 | 359 | 0.948 |



Proposal Number **DCA-10986**
Date **26-May-05**
Call Letters **WACS-DT** Channel **8**
Location **Dawson, GA**
Customer **Georgia Public Television**
Antenna Type **THV-5A8-R C170**

ELEVATION PATTERN

| | | | |
|------------------------|-------------------------|-----------|-------------------|
| RMS Gain at Main Lobe | 5.00 (6.99 dB) | Beam Tilt | 1.50 deg |
| RMS Gain at Horizontal | 4.70 (6.72 dB) | Frequency | 183.00 MHz |
| Calculated / Measured | Calculated | Drawing # | 05V050150 |

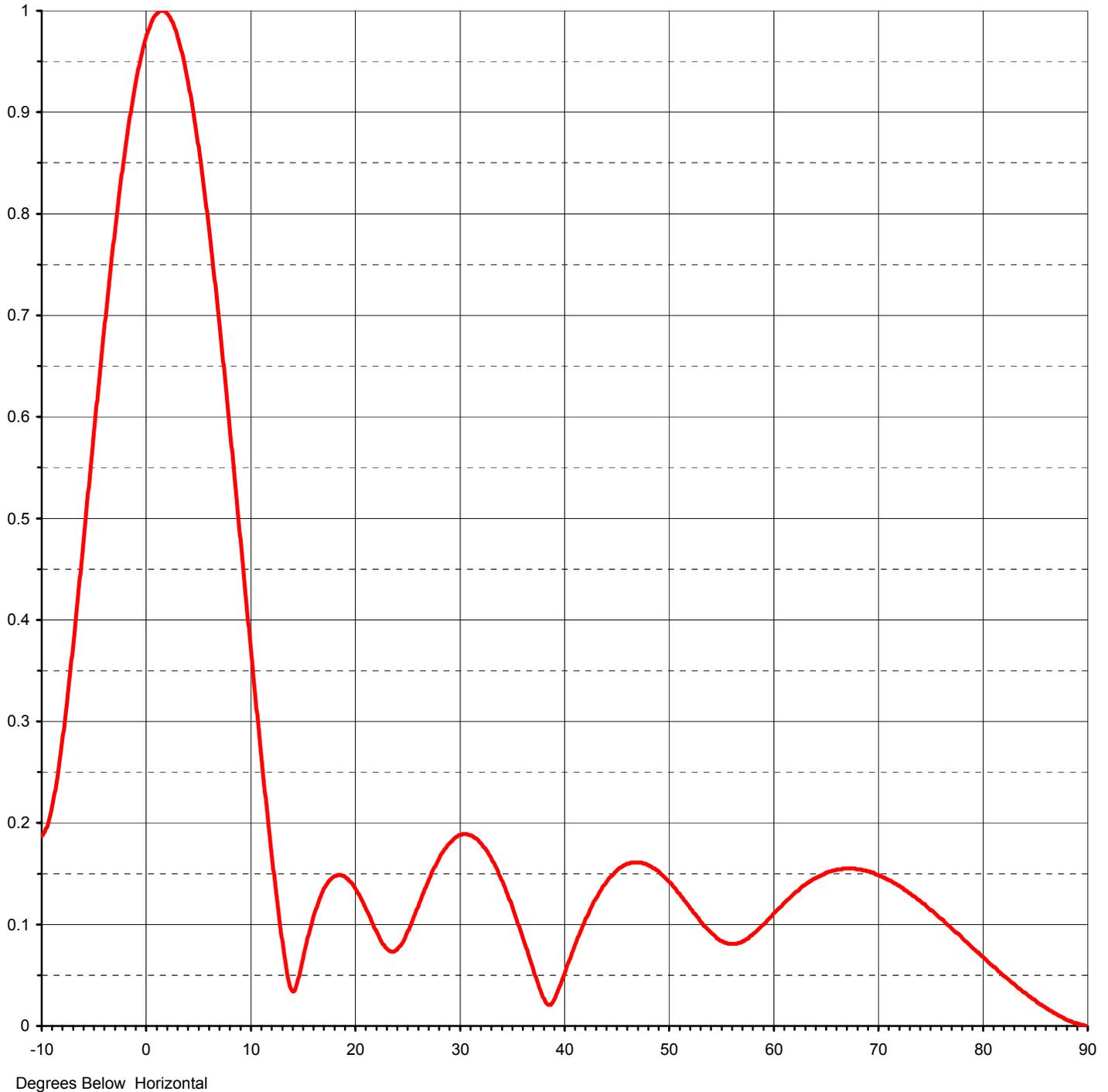




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ELEVATION PATTERN

| | | | |
|------------------------|-------------------------|-----------|---------------------|
| RMS Gain at Main Lobe | 5.00 (6.99 dB) | Beam Tilt | 1.50 deg |
| RMS Gain at Horizontal | 4.70 (6.72 dB) | Frequency | 183.00 MHz |
| Calculated / Measured | Calculated | Drawing # | 05V050150-90 |



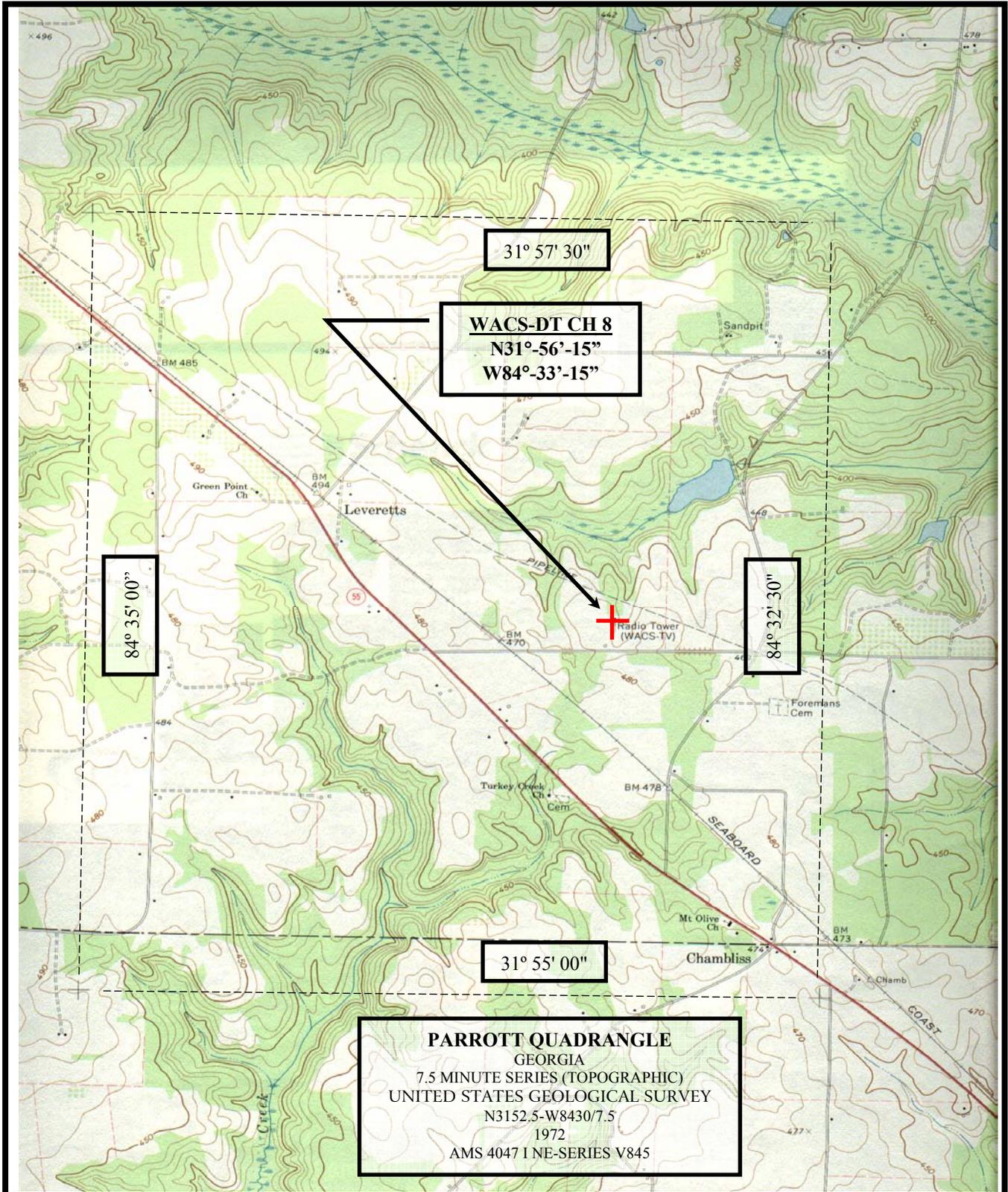


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TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **05V050150-90**

| Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -10.0 | 0.187 | 2.4 | 0.991 | 10.6 | 0.317 | 30.5 | 0.189 | 51.0 | 0.131 | 71.5 | 0.141 |
| -9.5 | 0.196 | 2.6 | 0.986 | 10.8 | 0.296 | 31.0 | 0.188 | 51.5 | 0.124 | 72.0 | 0.138 |
| -9.0 | 0.216 | 2.8 | 0.981 | 11.0 | 0.275 | 31.5 | 0.185 | 52.0 | 0.118 | 72.5 | 0.134 |
| -8.5 | 0.245 | 3.0 | 0.974 | 11.5 | 0.225 | 32.0 | 0.181 | 52.5 | 0.111 | 73.0 | 0.131 |
| -8.0 | 0.283 | 3.2 | 0.967 | 12.0 | 0.177 | 32.5 | 0.175 | 53.0 | 0.104 | 73.5 | 0.127 |
| -7.5 | 0.327 | 3.4 | 0.959 | 12.5 | 0.132 | 33.0 | 0.167 | 53.5 | 0.098 | 74.0 | 0.123 |
| -7.0 | 0.374 | 3.6 | 0.950 | 13.0 | 0.091 | 33.5 | 0.157 | 54.0 | 0.093 | 74.5 | 0.119 |
| -6.5 | 0.425 | 3.8 | 0.940 | 13.5 | 0.056 | 34.0 | 0.146 | 54.5 | 0.088 | 75.0 | 0.114 |
| -6.0 | 0.478 | 4.0 | 0.930 | 14.0 | 0.035 | 34.5 | 0.133 | 55.0 | 0.084 | 75.5 | 0.110 |
| -5.5 | 0.531 | 4.2 | 0.918 | 14.5 | 0.041 | 35.0 | 0.120 | 55.5 | 0.082 | 76.0 | 0.105 |
| -5.0 | 0.585 | 4.4 | 0.906 | 15.0 | 0.063 | 35.5 | 0.105 | 56.0 | 0.081 | 76.5 | 0.101 |
| -4.5 | 0.637 | 4.6 | 0.893 | 15.5 | 0.085 | 36.0 | 0.090 | 56.5 | 0.081 | 77.0 | 0.096 |
| -4.0 | 0.688 | 4.8 | 0.880 | 16.0 | 0.104 | 36.5 | 0.075 | 57.0 | 0.083 | 77.5 | 0.092 |
| -3.5 | 0.737 | 5.0 | 0.866 | 16.5 | 0.120 | 37.0 | 0.059 | 57.5 | 0.086 | 78.0 | 0.087 |
| -3.0 | 0.783 | 5.2 | 0.851 | 17.0 | 0.133 | 37.5 | 0.043 | 58.0 | 0.089 | 78.5 | 0.082 |
| -2.8 | 0.801 | 5.4 | 0.835 | 17.5 | 0.142 | 38.0 | 0.029 | 58.5 | 0.094 | 79.0 | 0.077 |
| -2.6 | 0.818 | 5.6 | 0.819 | 18.0 | 0.147 | 38.5 | 0.021 | 59.0 | 0.099 | 79.5 | 0.072 |
| -2.4 | 0.834 | 5.8 | 0.802 | 18.5 | 0.149 | 39.0 | 0.024 | 59.5 | 0.104 | 80.0 | 0.068 |
| -2.2 | 0.850 | 6.0 | 0.785 | 19.0 | 0.148 | 39.5 | 0.036 | 60.0 | 0.110 | 80.5 | 0.063 |
| -2.0 | 0.865 | 6.2 | 0.767 | 19.5 | 0.143 | 40.0 | 0.049 | 60.5 | 0.115 | 81.0 | 0.058 |
| -1.8 | 0.879 | 6.4 | 0.748 | 20.0 | 0.137 | 40.5 | 0.063 | 61.0 | 0.120 | 81.5 | 0.054 |
| -1.6 | 0.893 | 6.6 | 0.730 | 20.5 | 0.128 | 41.0 | 0.077 | 61.5 | 0.125 | 82.0 | 0.049 |
| -1.4 | 0.906 | 6.8 | 0.710 | 21.0 | 0.118 | 41.5 | 0.090 | 62.0 | 0.130 | 82.5 | 0.045 |
| -1.2 | 0.918 | 7.0 | 0.691 | 21.5 | 0.107 | 42.0 | 0.102 | 62.5 | 0.134 | 83.0 | 0.041 |
| -1.0 | 0.929 | 7.2 | 0.671 | 22.0 | 0.095 | 42.5 | 0.114 | 63.0 | 0.138 | 83.5 | 0.037 |
| -0.8 | 0.940 | 7.4 | 0.650 | 22.5 | 0.085 | 43.0 | 0.124 | 63.5 | 0.142 | 84.0 | 0.033 |
| -0.6 | 0.950 | 7.6 | 0.629 | 23.0 | 0.077 | 43.5 | 0.133 | 64.0 | 0.145 | 84.5 | 0.029 |
| -0.4 | 0.959 | 7.8 | 0.608 | 23.5 | 0.073 | 44.0 | 0.140 | 64.5 | 0.148 | 85.0 | 0.025 |
| -0.2 | 0.967 | 8.0 | 0.587 | 24.0 | 0.075 | 44.5 | 0.147 | 65.0 | 0.151 | 85.5 | 0.021 |
| 0.0 | 0.974 | 8.2 | 0.566 | 24.5 | 0.081 | 45.0 | 0.152 | 65.5 | 0.152 | 86.0 | 0.018 |
| 0.2 | 0.981 | 8.4 | 0.544 | 25.0 | 0.091 | 45.5 | 0.156 | 66.0 | 0.154 | 86.5 | 0.015 |
| 0.4 | 0.986 | 8.6 | 0.523 | 25.5 | 0.103 | 46.0 | 0.159 | 66.5 | 0.154 | 87.0 | 0.012 |
| 0.6 | 0.991 | 8.8 | 0.501 | 26.0 | 0.116 | 46.5 | 0.161 | 67.0 | 0.155 | 87.5 | 0.009 |
| 0.8 | 0.994 | 9.0 | 0.479 | 26.5 | 0.129 | 47.0 | 0.161 | 67.5 | 0.155 | 88.0 | 0.006 |
| 1.0 | 0.997 | 9.2 | 0.457 | 27.0 | 0.141 | 47.5 | 0.161 | 68.0 | 0.154 | 88.5 | 0.004 |
| 1.2 | 0.999 | 9.4 | 0.435 | 27.5 | 0.153 | 48.0 | 0.159 | 68.5 | 0.153 | 89.0 | 0.002 |
| 1.4 | 1.000 | 9.6 | 0.414 | 28.0 | 0.163 | 48.5 | 0.156 | 69.0 | 0.152 | 89.5 | 0.001 |
| 1.6 | 1.000 | 9.8 | 0.403 | 28.5 | 0.172 | 49.0 | 0.153 | 69.5 | 0.151 | 90.0 | 0.000 |
| 1.8 | 0.999 | 10.0 | 0.381 | 29.0 | 0.179 | 49.5 | 0.148 | 70.0 | 0.149 | | |
| 2.0 | 0.997 | 10.2 | 0.360 | 29.5 | 0.184 | 50.0 | 0.143 | 70.5 | 0.146 | | |
| 2.2 | 0.994 | 10.4 | 0.338 | 30.0 | 0.188 | 50.5 | 0.137 | 71.0 | 0.144 | | |



84° 35' 00"

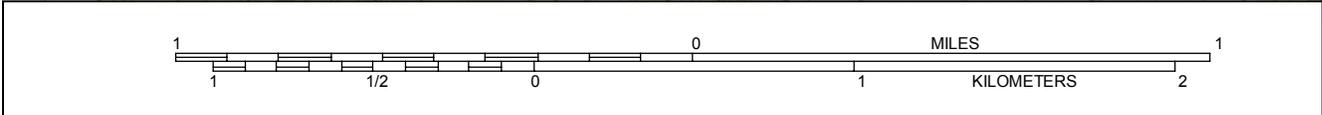
31° 57' 30"

WACS-DT CH 8
N31°-56'-15"
W84°-33'-15"

84° 32' 30"

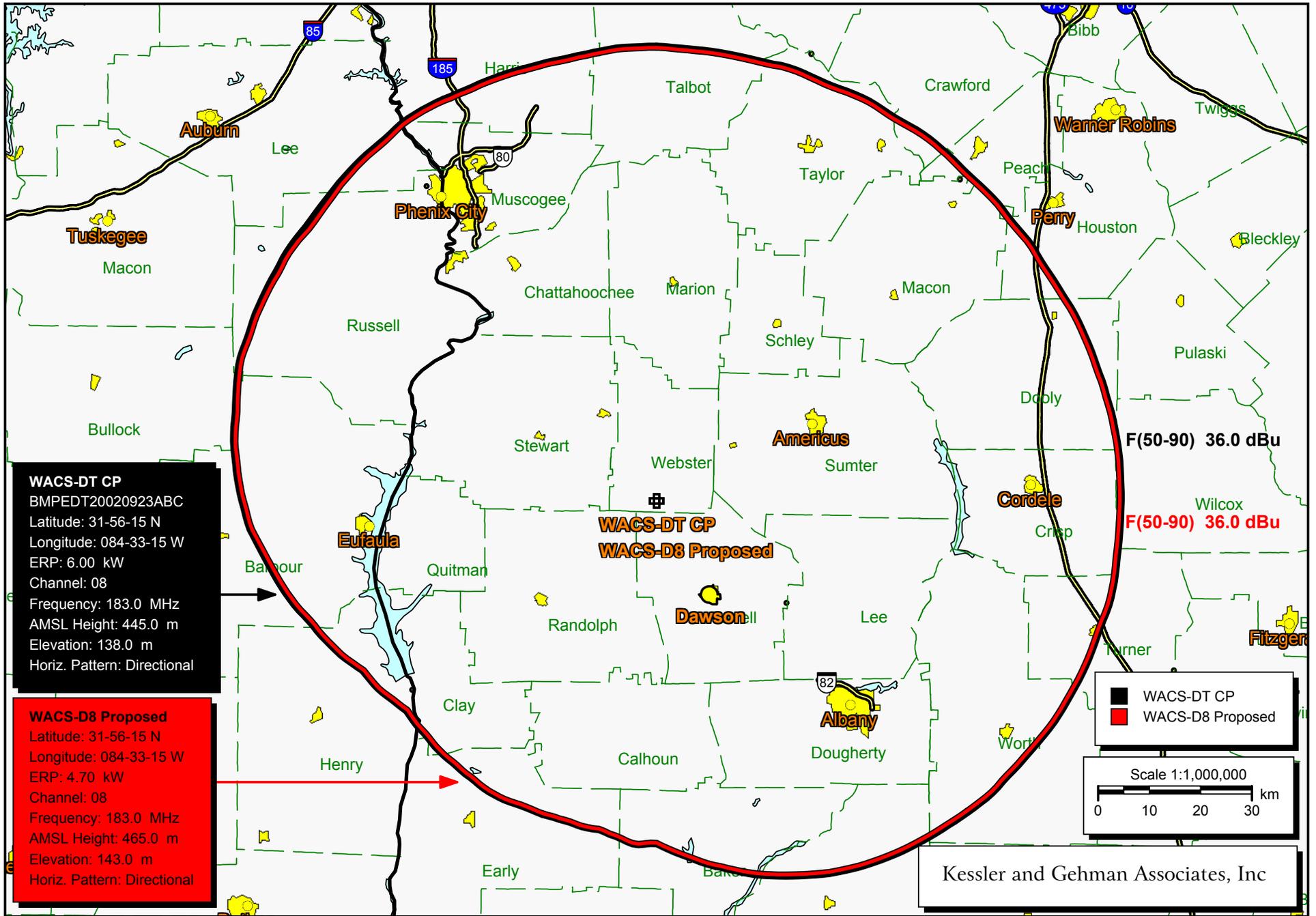
31° 55' 00"

PARROTT QUADRANGLE
 GEORGIA
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 UNITED STATES GEOLOGICAL SURVEY
 N3152.5-W8430/7.5
 1972
 AMS 4047 I NE-SERIES V845

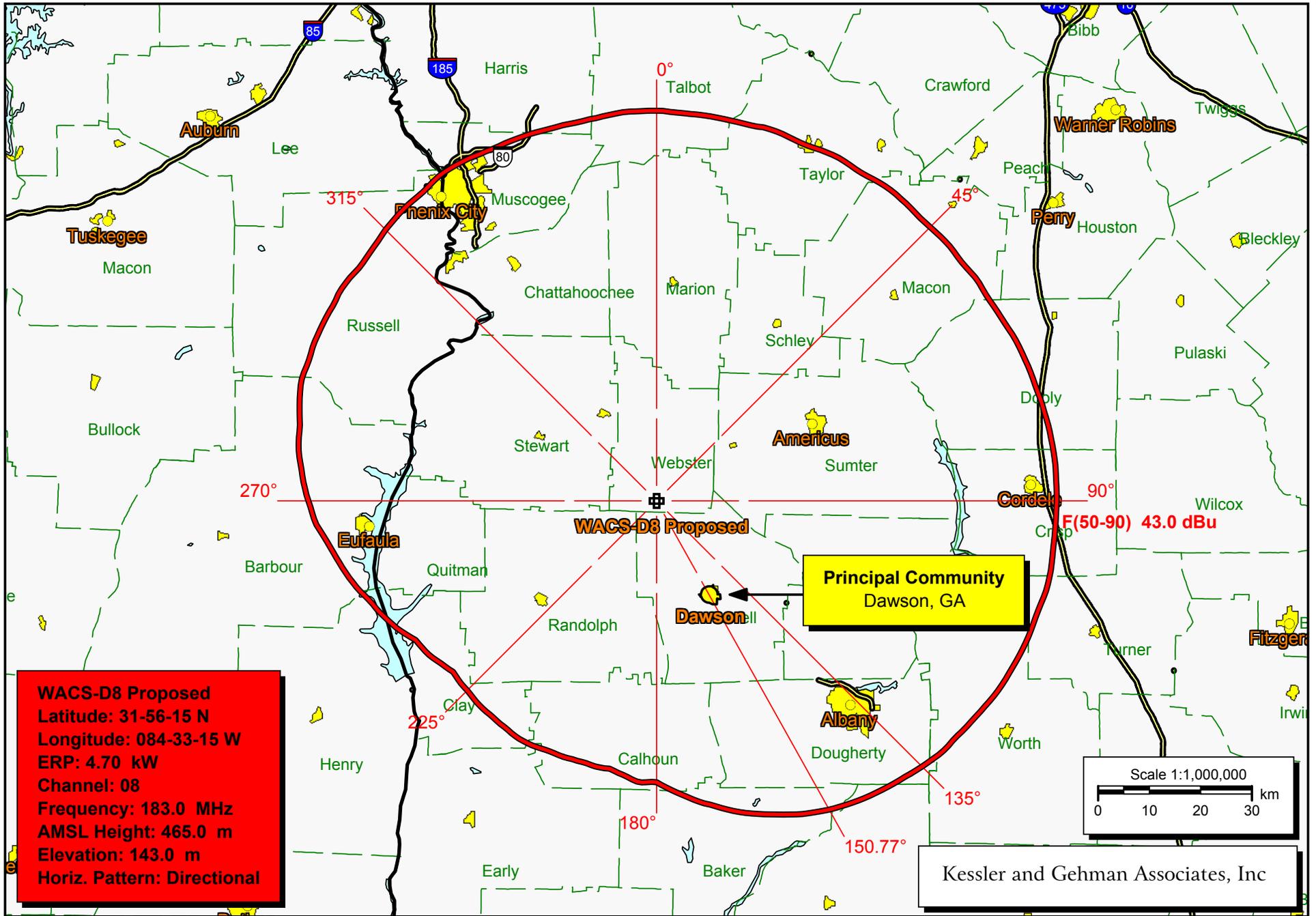


KESSLER AND GEHMAN
 TELECOMMUNICATIONS CONSULTING ENGINEERS
 507 N.W. 60th Street, Suite C
 Gainesville, Florida 32607

WACS-DT CHANNEL 8
Dawson, Georgia
 20080222
 EXHIBIT 9



Authorized WACS-DT Channel 8 (black) vs. Proposed WACS-DT Channel 8 (red)



Proposed WACS-DT Channel 8 F(50,90) 43.0 dBuV/m Principal Community Contour

Notice of Proposed Construction or Alteration - Off Airport

Project Name: GEORG-000087837-08

Sponsor: Georgia Public Telecommunications Commission

Details for Case : WACS Tower

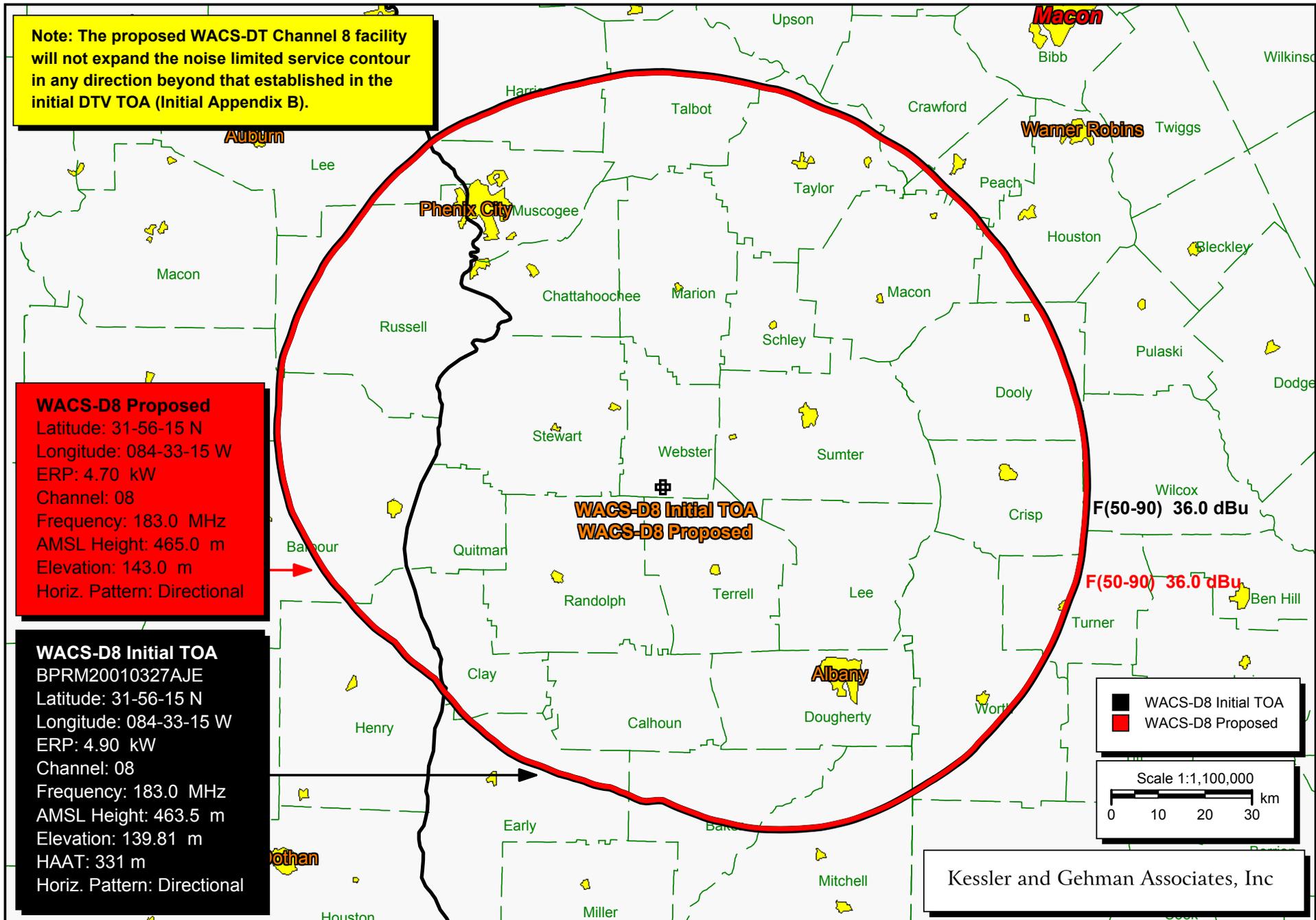
[Show Project Summary](#)

| Case Status | |
|-----------------------------|----------------------------------|
| ASN: 2008-ASO-766-OE | Date Accepted: 02/08/2008 |
| Status: Accepted | Date Determined: |
| | Letters: None |

| Construction / Alteration Information | Structure Summary |
|---|--------------------------------------|
| Notice Of: Alteration | Structure Type: Antenna Tower |
| Duration: Permanent | Structure Name: WACS Tower |
| <i>if Temporary :</i> Months: Days: | FCC Number: 1018782 |
| Work Schedule - Start: 01/07/2008 | Prior ASN: |
| Work Schedule - End: 03/21/2008 | |
| State Filing: Not filed with State | |

| Structure Details | Common Frequency Bands |
|--|--|
| Latitude: 31° 56' 16" N | Low Freq High Freq Freq Unit ERP ERP Unit |
| Longitude: 84° 33' 15" W | |
| Horizontal Datum: NAD83 | |
| Site Elevation (SE): 470 (nearest foot) | |
| Structure Height (AGL): 1079 (nearest foot) | |
| Marking/Lighting: Red lights and paint | |
| <i>Other :</i> | |
| Nearest City: Parrott | |
| Nearest State: Georgia | |
| Description of Location: Located off of TV Tower Road approximately 6.2 km NW (321.7 deg) of Parrott, GA. | |
| Description of Proposal: The WACS tower was torn down by a tornado on March 1, 2007 and a new tower is being constructed to replace it. The overall height of the WACS tower was 1,096 ft AGL and the overall height of the new replacement tower will only be 1,079 ft AGL | |

| Specific Frequencies |
|--|
| Low Freq High Freq Freq Unit ERP ERP Unit |
| 180 186 MHz 5 KW |
| 536 542 MHz 90 KW |



WACS-DT CH 8 assigned in Initial DTV TOA (Black) vs. Proposed WACS-DT CH 8 Pre-/Post-Transition (Red) EXHIBIT 13