

WSVH-FM CHANNEL 216 (91.1 MHz)  
CLASS C MINOR CHANGE IN  
LICENSED FACILITY APPLICATION  
SAVANNAH, GEORGIA  
*(GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION)*

KESSLER AND GEHMAN ASSOCIATES, INC.  
TELECOMMUNICATIONS CONSULTING ENGINEERS

20070129

*Prepared by William T. Godfrey, Jr.*

*KG&A*

507 N.W. 60th Street, Suite C  
Gainesville, Florida 32607

**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 CHANGE IN LICENSED  
FACILITY APPLICATION TO MAKE CHANGES TO THE GEORGIA PUBLIC  
TELECOMMUNICATIONS COMMISSION (GPTC) NCE-FM BROADCAST FACILITY,  
WSVH-FM CHANNEL 216 CLASS C (BMLED-20050301ABH), SAVANNAH, GEORGIA.**

The firm Kessler and Gehman Associates, Inc., has been retained by the Georgia Public Telecommunications Commission (GPTC), Atlanta, Georgia, in order to prepare engineering studies and the engineering portion of a minor change in licensed facility application for the licensed WSVH-FM Channel 216 Class C non-commercial educational FM (NCE-FM) broadcast facility (BMLED-20050301ABH). This application requests authorization to make changes to the following: 1) transmitter site; 2) antenna height radiation center; 3) antenna system; 4) effective radiated power (ERP); and 5) polarization.

**Discussion**

GPTC is licensed to operate WSVH-FM Channel 216C (91.1 MHz) with a maximum ERP of 100 kW (circular polarization) at an antenna height radiation center of 323 meters above average terrain (AAT) using a nondirectional, Harris model FMH-10AC antenna which is side-mounted on a Media General antenna support structure (ASR No. 1049788). Just a few years ago, GPTC was notified that the tower lease it had with Media General for the WSVH-FM facility was being terminated (Exhibit 23). At that time, GPTC considered moving the WSVH-FM facility from the Media General tower to the WVAN-TV tower in Pembroke, GA which is owned by GPTC. The Pembroke tower is located approximately 32 km west of the Media General tower and the overall height of the tower is only 331 meters above ground level (AGL). Since the WVAN-TV antenna is mounted atop the Pembroke tower, the WSVH-FM antenna height radiation center would have been much lower than the licensed height. Therefore, at the time, relocating to the Pembroke tower would have resulted in a significant loss in service population to the eastern portion of Georgia due

to 32 km move to the west and the reduction in antenna height. Accordingly, GPTC negotiated with Media General to remain on its tower and agreed to pay \$192,800 for the first year's rent and tower strengthening.

As part of the digital transition, GPTC is building a new 437.4 meter (1,435 feet) tower at the WVAN-TV Pembroke site which will take the place of the existing tower. The existing tower will be dismantled once the new tower is built and all antennas have been mounted. The increase in tower height would offset the 32 km relocation from the existing Media General tower and would result in no loss in service population to the eastern portion of Georgia that is so important to GPTC. In fact, the relocation from the existing Media General tower to the new Pembroke tower would significantly serve the public's best interest because the overall service population would increase by almost 40,000 persons and the financial burden resulting from leasing tower space on a non-GPTC tower would be eliminated. The risk of being evicted from the Media General tower as pursued in 2003 (Exhibit 23) would also be eliminated. Accordingly, GPTC respectfully requests authorization for the following: 1) Change from existing Media General tower to the proposed new Pembroke tower (32 km west) which will be owned by GPTC; 2) increase the antenna height radiation center from the licensed height of 324 meters AGL to 427.0 meters AGL (103 m increase) to offset the relocation and improve coverage; 3) change antenna systems from a nondirectional side-mount antenna to a directional top-mount antenna; 4) decrease the ERP from 100 kW to 96 kW to protect the WTLN-FM application; and 5) change from circular polarization to vertical-only polarization as authorized in Section 73.525 of the FCC Rules. Based on an FAA determination (Exhibit 22) as well as TV Channel 6 and FM interference studies, it has been determined that the WSVH-FM facility can be moved to the new Pembroke tower and the antenna height can be increased by 103 meters using a directional antenna with vertical-only polarization.

### **Attached Figures**

The following list is an index of enclosed exhibits produced by calculations and engineering studies of the proposed WSVH-FM Channel 216C facility.

- 1) Proposed Engineering Specifications (Exhibit 1)
- 2) Antenna Data (Exhibit 2)
- 3) Support Structure Profile/Elevation View of Antenna System (Exhibit 3)
- 4) Antenna Azimuth Pattern (Exhibit 4)
- 5) Antenna Azimuth Pattern Relative Field Values (Exhibit 5)
- 6) Antenna Elevation Pattern through 11 degrees (Exhibit 6)
- 7) Antenna Elevation Pattern through 90 degrees (Exhibit 7)
- 8) Antenna Elevation Pattern Tabulation (Exhibit 8)
- 9) USGS 7.5-minute Topographic Map Depicting Proposed Transmitter Location (Exhibit 9)
- 10) 1 mV/m (60 dBuV/m) Protected Contour and Principal Community Depiction (Exhibit 10)
- 11) NCE-FM Area/Population Loss based on FCC contours (Exhibit 11)
- 12) Longley-Rice IX-free Map/Population of Licensed WSVH-FM (Exhibit 12)
- 13) Longley-Rice IX-free Map/Population of Proposed WSVH-FM -38,908 gained (Exhibit 13)
- 14) FM Interference Study (Exhibit 14)
- 15) FM Allocation Study - WTLD-FM APP (Exhibit 15)
- 16) FM Allocation Study - WTLD-FM License (Exhibit 16)
- 17) FM Allocation Study - WATY-FM CP (Exhibit 17)
- 18) FM Allocation Study - WGPH-FM LIC (Exhibit 18)
- 19) FM Allocation Study – Composite (Exhibit 19)
- 20) TV Channel 6 Study – WJBF-TV Channel 6 (Exhibit 20)
- 21) TV Channel 6 Study – WCES-DT Channel 6 – Post Transition (Exhibit 21)
- 22) FAA Determination for New Pembroke Tower (Exhibit 22)
- 23) Media General Eviction Letter (Exhibit 23)

### **Transmitter Location**

The licensed WSVH-FM facility is currently operating on a 331-meter, Media General support structure (ASR No. 1018799) with its antenna side-mounted at a radiation center height of 324-meters AGL. The proposed WSVH-FM facility would operate on a new 437.4-meter,

GPTC support structure (FAA Aeronautical No. 2005-ASO-1781-OE) with its antenna top-mounted at a radiation center height of 427.0 meters AGL. The new structure will replace the existing WVAN-TV tower which is located 1.27 km NNE (18.3°) of Pembroke, GA (Exhibit 9).

### **Principal Community & Boundaries**

The proposed WSVH-FM F(50,50) 60.0 dBuV/m service contour would completely encompass the principal community of Savannah, GA. Referring to Exhibit 10, it can be seen the proposed 32 km move from the existing Media General tower to the proposed new Pembroke tower would have no adverse affect to the Savannah population.

### **Area and population Analysis**

The population served by the proposed 1 mV/m contour (60.0 dBuV/m) was determined using 2004 U.S. Census Estimation data. The area and population within the proposed WSVH-FM 1 mV/m contour is 15,370.70 sq. km and 575,398 persons respectively. The area and population within the licensed WSVH-FM 1 mV/m contour is 17,308.11 sq. km and 624,011 persons respectively. Therefore, it would appear that the proposed facility would result in an area loss of 1,937.41 sq. km and a population loss of 48,613 persons (Exhibit 11); however, the FCC contour method only utilizes 3-16 km terrain profiles; does not consider terrain obstructions; recognizes interference only along the perimeter of the service area; fails to recognize existing interference; does not consider directional receive antennas; does not consider the vertical elevation plane on signals; and does not consider forward scatter or knife-edging. Therefore, the area and population gained or lost would best be calculated using Longley-Rice which does take the aforementioned factors into consideration.

Exhibit 12 is a Longley-Rice, interference-free coverage map depicting the predicted coverage and population served of the licensed WSVH-FM facility. Referring to Exhibit 12, it can be seen that the licensed WSVH-FM facility is predicted to serve an area of 31,205.7 sq. km

and a population of 768,669 persons. Exhibit 13 is a Longley-Rice, interference-free coverage map depicting the predicted coverage and population served of the proposed WSVH-FM facility. Referring to Exhibit 13, it can be seen that the proposed WSVH-FM facility is predicted to serve an area of 30,155.9 sq. km and a population of 807,577 persons. Therefore, the population gained would be 38,908 persons over an area of 1,049.8 sq. km less. The percentage increase in population would be 5.1% ( $38,908/768,669$ ) and the percentage decrease in area would be 3.4% ( $1,049.8/31,205.7$ ).

### **FM Interference Study**

Exhibit 14 depicts the results of an FM-to-FM interference study based on Section 73.509 of the FCC Rules. Referring to Exhibit 14, it can be seen that the proposed WSVH-FM facility would cause no interference to other FM stations. The licensed WSVH-FM facility is authorized to operate with an ERP of 100 kW. Due to the increased antenna height and site change of the proposed WSVH-FM facility, the ERP will have to be reduced from 100 kW to 96 kW in order to protect the WTLD-FM application (BPED-20070111ACX). Again, referring to Exhibit 14, it can be seen that the proposed facility's F(50,10) interfering contour would not overlap with another FM facility's F(50,50) 60.0 dBuV/m protected contour and there are no FM F(50,10) interfering contours that would overlap with the proposed WSVH-FM F(50,50) 60.0 dBuV/m protected contour. Therefore, the parameters proposed in this application satisfy Section 73.509 of the FCC Rules.

### **Allocation Studies**

Exhibit 15 is a pictorial depiction of the contour relationship between the proposed WSVH-FM facility's F(50,50) 60.0 dBuV/m protected (black) and the WTLD-FM (APP) facility's F(50,10) 100.0 dBuV/m interfering contour (red). It can be seen that unacceptable overlap would not exist between the two stations.

Exhibit 16 is a pictorial depiction of the contour relationship between the proposed WSVH-FM facility's F(50,50) 60.0 dBuV/m protected (black) and the licensed WTLD-FM facility's F(50,10) 100.0 dBuV/m interfering contour (red). It can be seen that unacceptable overlap would not exist between the two stations.

Exhibit 17 is a pictorial depiction of the contour relationship between the proposed WSVH-FM facility's F(50,50) 60.0 dBuV/m protected (black) and F(50,10) 54.0 dBuV/m interfering contour (red) and the WATY-FM (CP) facility's F(50,50) 60.0 dBuV/m protected (black) and F(50,10) 54.0 dBuV/m interfering contour (red). It can be seen that unacceptable overlap would not exist between the two stations.

Exhibit 18 is a pictorial depiction of the contour relationship between the proposed WSVH-FM facility's F(50,50) 60.0 dBuV/m protected (black) and F(50,10) 100.0 dBuV/m interfering contour (red) and the licensed WGPH-FM facility's F(50,50) 60.0 dBuV/m protected (black) and F(50,10) 100.0 dBuV/m interfering contour (red). It can be seen that unacceptable overlap would not exist between the two stations.

Exhibit 18 is a composite map depicting the proposed WSVH-FM facility's protected (black) and interfering (green: 1<sup>st</sup> adjacent-channel; red: 2<sup>nd</sup> or 3<sup>rd</sup> adjacent-channel) contours and all the applicable FM facility's protected (black) and interfering (green: 1<sup>st</sup> adjacent-channel; red: 2<sup>nd</sup> or 3<sup>rd</sup> adjacent-channel) contours. Again, it can be seen that unacceptable overlap would not exist between the proposed WSVH-FM and any other FM station.

## **TV Channel 6 Studies**

Section 73.525(4) states that the maximum permissible ERP may be adjusted for vertical polarity as follows:

- (i) If the applicant chooses to use vertically polarized transmissions only, the maximum permissible vertically polarized ERP will be the maximum horizontally polarized

ERP permissible at the same proposed antenna height, calculated without the adjustment for television receiving antenna directivity, multiplied by either: 40 if the predicted interference area lies entirely outside the limits of a city of 50,000 persons or more; or 10 if it does not. Since the interference area would lie entirely outside the limits of a city of 50,000 persons or more, a multiplier of 40 was used. Therefore, the maximum horizontal ERP is 2.4 kW (2.4 kW Horizontal x 40 = 96 kW Vertical-only)

Exhibit 20 is a contour map depicting the WJBF-TV Channel 6 F(50,50) 47.0 dBuV/m protected Grade B contour and the associated F(50,10) 75.0 dBuV/m interfering contour for the proposed WSVH-FM facility using an ERP of only 2.4 kW (Horizontal). Referring to Exhibit 20, it can be seen that there would be no contour overlap between the licensed WJBF-TV Channel 6 facility and the proposed WSVH-FM Channel 216C facility. Therefore, there is no interference area created with the proposed WSVH-FM facility. Accordingly, the parameters proposed in this application satisfy Section 73.525 of the FCC Rules with respect to the WJBF-TV Channel 6 station.

Exhibit 21 is a contour map depicting the WCES-DT Channel 6 post-transition facility's F(50,90) 47.0 dBuV/m protected noise limited contour and the associated F(50,10) 75.0 dBuV/m interfering contour for the proposed WSVH-FM facility using an ERP of only 2.4 kW (Horizontal). Referring to Exhibit 21, it can be seen that there would be no contour overlap between the WCES-DT Channel 6 post-transition facility and the proposed WSVH-FM Channel 216C facility. Therefore, there is no interference area created with the proposed WSVH-FM facility. Accordingly, the parameters proposed in this application satisfy Section 73.525 of the FCC Rules with respect to the WCES-DT Channel 6 post-transition facility.

### **Intermediate Frequency Interference (53<sup>rd</sup> & 54<sup>th</sup> Adjacent Channels)**

The proposed WSVH-FM site would meet all separation requirements pertaining to intermediate frequency (IF) interference. The station with the narrowest gap with respect to



distance from the proposed WSVH-FM transmitter site is  $(216 + 53 = \underline{269})$  &  $216 + 54 = \underline{270}$ ) the licensed WYUM-FM Channel 269A facility located approximately 77.49 km from the proposed WSVH-FM transmitter site in Mount Vernon, GA at North Latitude  $32^{\circ} 13' 12''$  and West Longitude  $82^{\circ} 26' 07''$  where a separation of 29 km is required; therefore, the distance is easily met with a margin of 48.49 km.

### **FM Blanketing Interference**

Blanketing is defined as interference to the reception of other broadcast stations which is caused by the presence of an FM broadcast signal of 115 dBu (562 mV/m) or greater signal strength in the area adjacent to the antenna of the transmitting station. The 115 dBu contour is referred to as the blanketing contour and the area within this contour is referred to as the blanketing area. The proposed WSVH-FM Channel 216 blanketing contour extends a maximum of 3.46 km from its transmitter and it is understood that the GPTC must assume full financial responsibility for remedying new complaints of blanketing interference for a period of one year to all broadcast stations within the proposed WSVH-FM blanketing contour.

### **FAA Determination**

The FAA issued a Determination of No Hazard to Air Navigation on December 21, 2006 which revealed that the proposed Pembroke tower would have no substantial adverse affect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. GPTC plans to begin construction of the tower as soon as the FCC issues a construction permit for the proposed WSVH-FM facility. GPTC will notify the FAA when construction begins and will electronically file an FCC antenna structure registration upon completion.

### **Environmental Impact**

The proposed WSVH-FM Channel 216 Class C facility would have no significant environmental impact as defined in §1.1307 of the FCC Rules. The FM transmitter, transmission

line and antenna system would produce a maximum ERP of 96 kW (vertical polarization only). It was determined that the maximum lobe of radiation from the base of the tower would occur at approximately 453.3 feet from the base of the tower (1,466.8-foot radial distance from the antenna center). At approximately 453.3 feet from the base of the tower, the depression angle of the main lobe would be approximately 72.0° below the horizontal. At that point, the relative field is 0.114 and the power density six feet above the ground would be approximately 0.00021 mW/cm<sup>2</sup>. This would only be 0.02% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and only 0.10% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI).

Since operation of the proposed WSVH-FM Channel 216 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 WSVH-FM 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.

### **Certification**

This technical statement was prepared by William T. Godfrey, Jr., Telecommunications Technical 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.

A handwritten signature in blue ink that reads 'William T. Godfrey, Jr.' The signature is written in a cursive style and is positioned above a horizontal line.

WILLIAM T. GODFREY, JR.  
Telecommunications Technical Consultant

31 January, 2007

**WSVH-FM  
SAVANNAH, GEORGIA**

**ENGINEERING SPECIFICATIONS**

**A. Transmitter Site**

Geographic coordinates (NAD 27):

North Latitude ..... **32° 08' 48"**

West Longitude ..... **81° 37' 05"**

Street Address

**1.27 km NNE (18.3 degrees) of Pembroke, GA  
(WVAN Tower)**

**B. Main Studio Site**

Street Address

**260 14<sup>th</sup> Street N.W. Atlanta, Georgia 30318**

**C. Proposed Facility**

NCE-FM Channel

Number ..... **216**

Frequency ..... **91.1 MHz**

Class ..... **C**

**D. Antenna Height**

Height of Site Above Mean Sea Level (AMSL) ..... **29.0 M**

Overall Height of Structure Above Ground ..... **437.4 M**  
(including all appurtenances)

Overall Height of Structure Above Mean Sea Level ..... **466.3 M**  
(including all appurtenances)

Height of Site Above Average Terrain ..... **3.9 M**

Antenna Height Radiation Center (R/C) Above Ground ..... **427.0 M**

Antenna Height R/C Above Average Terrain ..... **430.9 M**

Antenna Height R/C Above Mean Sea Level ..... **456.0 M**

Average of All Non-Odd Radials ..... **25.1 M**

**E. System Parameters – Vertical Polarization:**

Transmitter Power Required ..... **14.30 kW**

Maximum Power Input to Antenna ..... **8.98 kW**

Transmission Line Loss ..... **2.02 dB**

Transmission Line Efficiency ..... **62.7%**

Maximum Antenna Gain in Beam Maximum ..... **10.29 dB**

Maximum Antenna Gain in Horizontal Plane ..... **10.29 dB**

Maximum Effective Radiated Power ..... **19.82 dBk**

In Beam Maximum ..... **96.0 kW**

Maximum Effective Radiated Power ..... **19.82 dBk**

In Horizontal Plane ..... **96.0 kW**

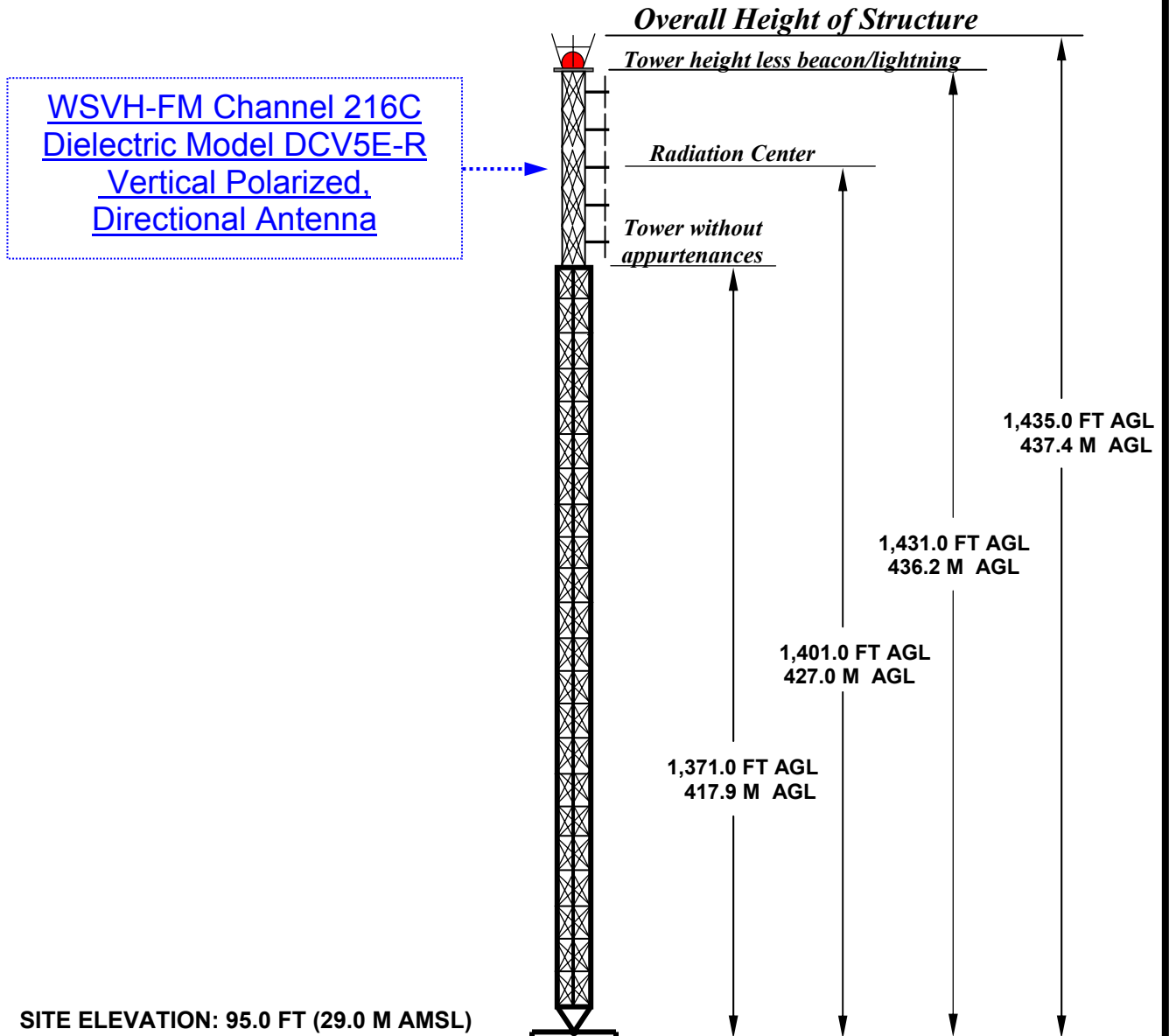
**WSVH-FM**  
*Savannah, Georgia*

**DATA FOR PROPOSED FM  
DIRECTIONAL TRANSMITTING ANTENNA**

- A. **Antenna:** Dielectric Model DCV5E-R, vertically polarized, directional, top-mount FM Antenna.
- B. **Electrical Beam Tilt:** None
- C. **Mechanical Beam Tilt:** None
- D. 

<b><u>Peak Directional Gain</u></b>	<b><u>Horizontal Polarization</u></b>
Maximum:	10.7 (10.29 dBd)
Horizontal:	10.7 (10.29 dBd)
- E. **Length:** 60.0 feet (18.3 meters)
- F. **Transmitter Power Output (TPO):** 14.3 kW
- G. **Transmission Line:** 3-1/8" 50-ohm Heliax®
- H. **Transmission Line Efficiency:** 62.7%
- I. **Transmission Line Length:** 1,500 feet (1,400 V + 100 H)
- J. **Transmission Line Loss:** 0.135 dB/100 ft
- K. **Transmission Line Attenuation:** 2.02 dB

## ELEVATION VIEW



**OVERALL HEIGHT AGL:** 437.4 M  
**OVERALL HEIGHT AMSL:** 466.3 M  
**RADIATION CENTER AGL:** 427.0 M  
**RADIATION CENTER AMSL:** 456.0 M  
**RADIATION CENTER HAAT:** 430.9 M  
**AVG OF ALL NON-ODD RADIALS:** 25.1 M  
**SITE HAAT:** 3.9 M

### COORDINATES (NAD 27):

**N. LATITUDE** 32° 08' 48"  
**W. LONGITUDE** 81° 37' 05"

FAA Aeronautical Study Number:  
 2005-ASO-1781-OE

**NOTE: NOT TO SCALE**

**KESSLER AND GEHMAN**

TELECOMMUNICATIONS CONSULTING ENGINEERS

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Gainesville, Florida 32607

**WSVH-FM CHANNEL 216C**

SAVANNAH, GEORGIA

20070124

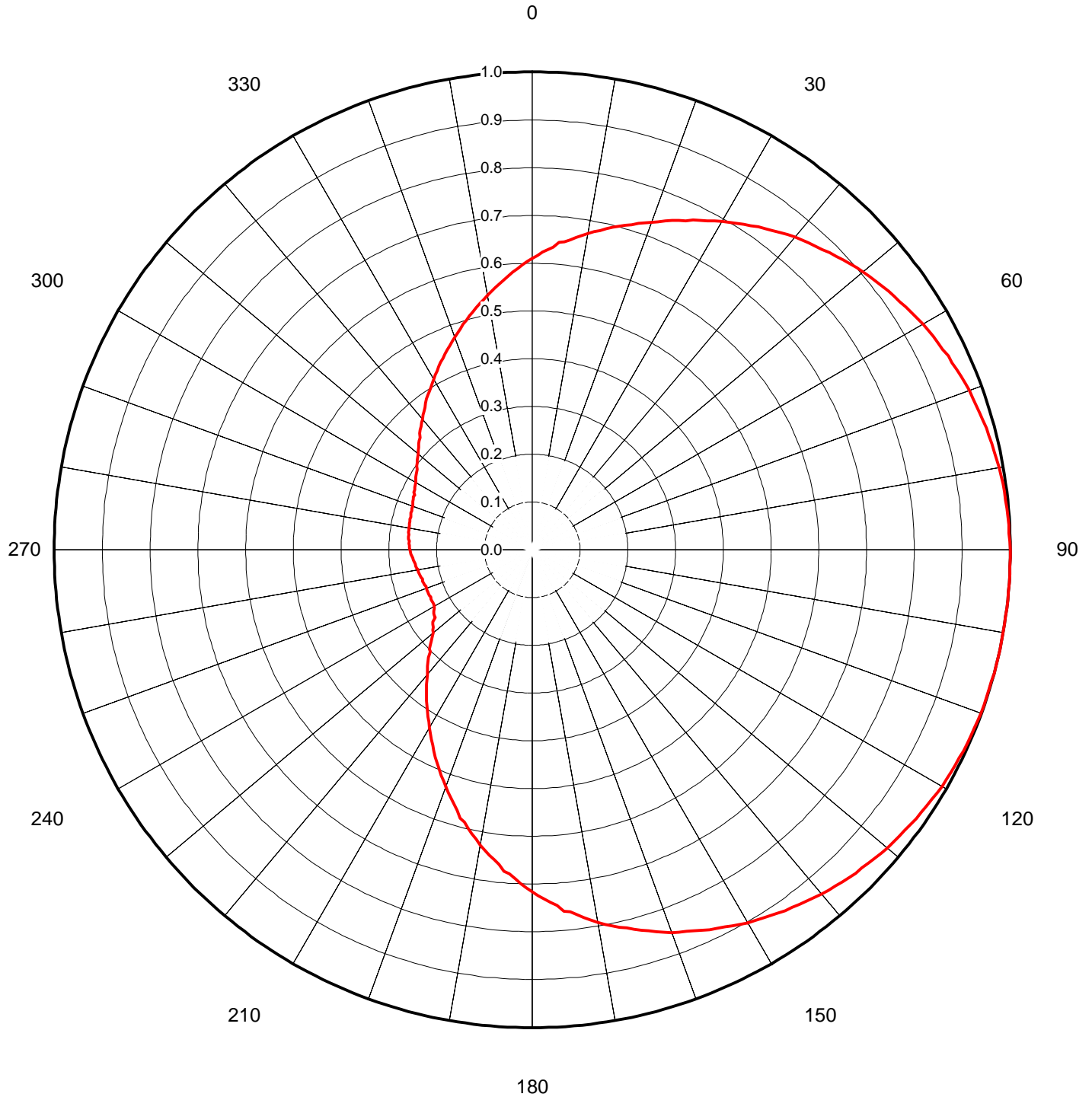
EXHIBIT 3

Proposal Number **C-00892**      Revision: **1**  
Date **14-Dec-06**  
Call Letters **WSVH**  
Location **Savannah, GA**  
Customer  
Antenna Type **DCV5E-R**

**AZIMUTH PATTERN/VERTICAL POLARIZATION**

Gain **2.10**      **( 3.22 dB)**  
Calculated / Measured      **Calculated**

Frequency **91.90 MHz**  
Drawing # **PROTECT**





Proposal Number  
Date  
Call Letters  
Location  
Customer  
Antenna Type

**C-00892**  
**14-Dec-06**  
**WSVH**  
**Savannah, GA**  
**DCV5E-R**

Revision:

## TABULATION OF VERTICAL AZIMUTH PATTERN

Azimuth Pattern Drawing #

**PROTECT**

Angle	Field	(dB)
0	0.610	-(4.293)
10	0.672	-(3.453)
20	0.729	-(2.745)
30	0.793	-(2.015)
40	0.854	-(1.371)
50	0.904	-(0.877)
60	0.944	-(0.501)
70	0.973	-(0.238)
80	0.992	-(0.070)
85	0.997	-(0.026)
90	1.000	(0.000)
100	1.000	(0.000)
110	0.999	-(0.009)
120	0.990	-(0.087)
130	0.970	-(0.265)
140	0.941	-(0.528)
150	0.901	-(0.906)
160	0.852	-(1.391)
170	0.792	-(2.025)
180	0.716	-(2.902)
190	0.627	-(4.055)
200	0.528	-(5.547)
210	0.429	-(7.351)
220	0.341	-(9.345)
230	0.271	-(11.341)
240	0.236	-(12.542)
245	0.234	-(12.616)
250	0.235	-(12.579)
255	0.238	-(12.468)
260	0.243	-(12.288)
270	0.256	-(11.835)
275	0.260	-(11.701)
280	0.262	-(11.634)
285	0.263	-(11.601)
290	0.266	-(11.502)
295	0.271	-(11.341)
300	0.281	-(11.026)
310	0.311	-(10.145)
320	0.357	-(8.947)
330	0.412	-(7.702)
340	0.473	-(6.503)
350	0.540	-(5.352)

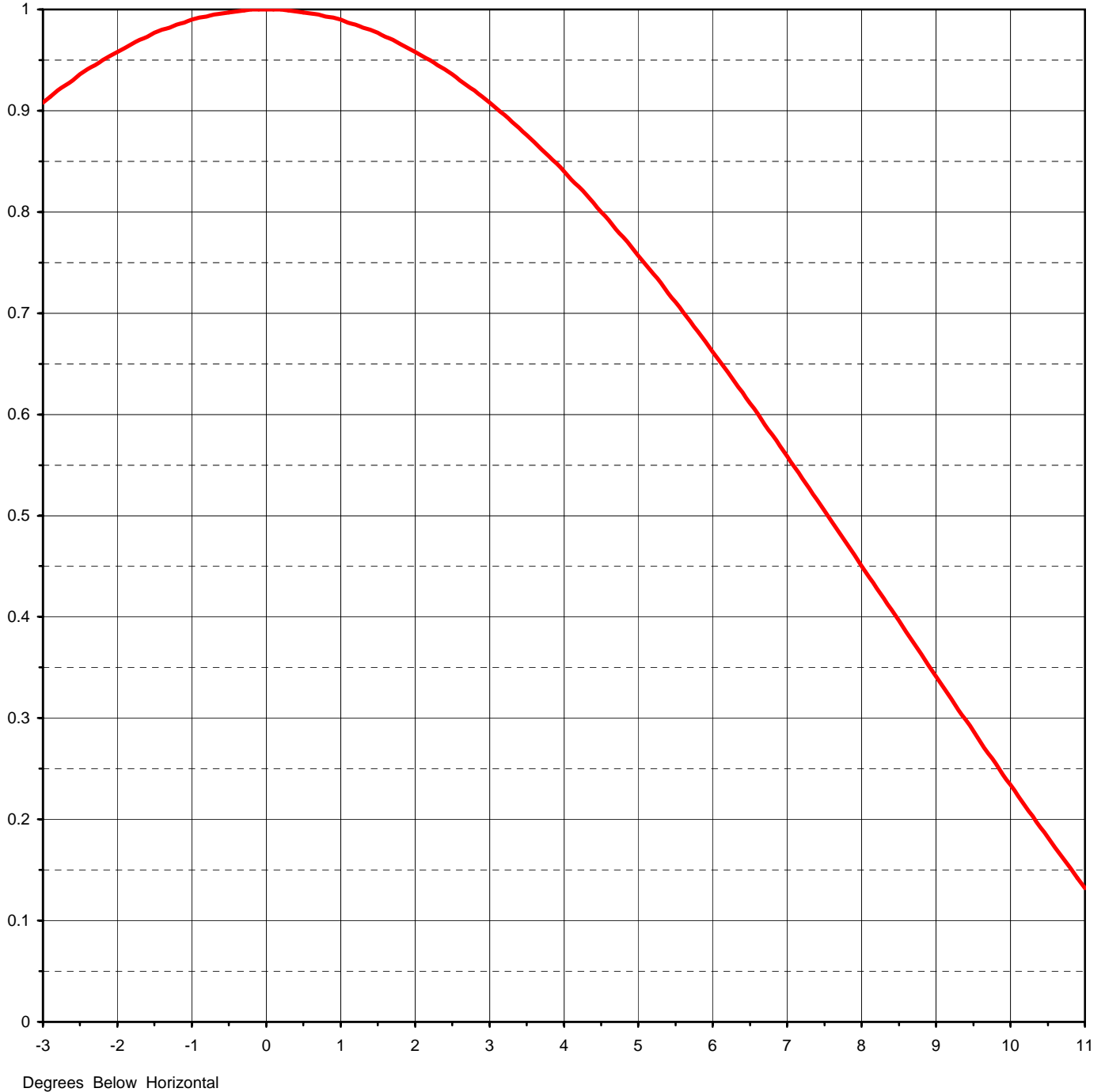




Proposal Number	<b>C-00892-1</b>	Revision:	<b>1</b>
Date	<b>14-Dec-06</b>		
Call Letters	<b>WSVH</b>		
Location	<b>Savannah, GA</b>		
Customer			
Antenna Type	<b>DCV5E-R</b>		

## ELEVATION PATTERN

RMS Gain at Main Lobe	<b>5.10 ( 7.08 dB )</b>	Beam Tilt	<b>0.00 deg</b>
RMS Gain at Horizontal	<b>5.10 ( 7.08 dB )</b>	Frequency	<b>91.90 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>05V051000</b>

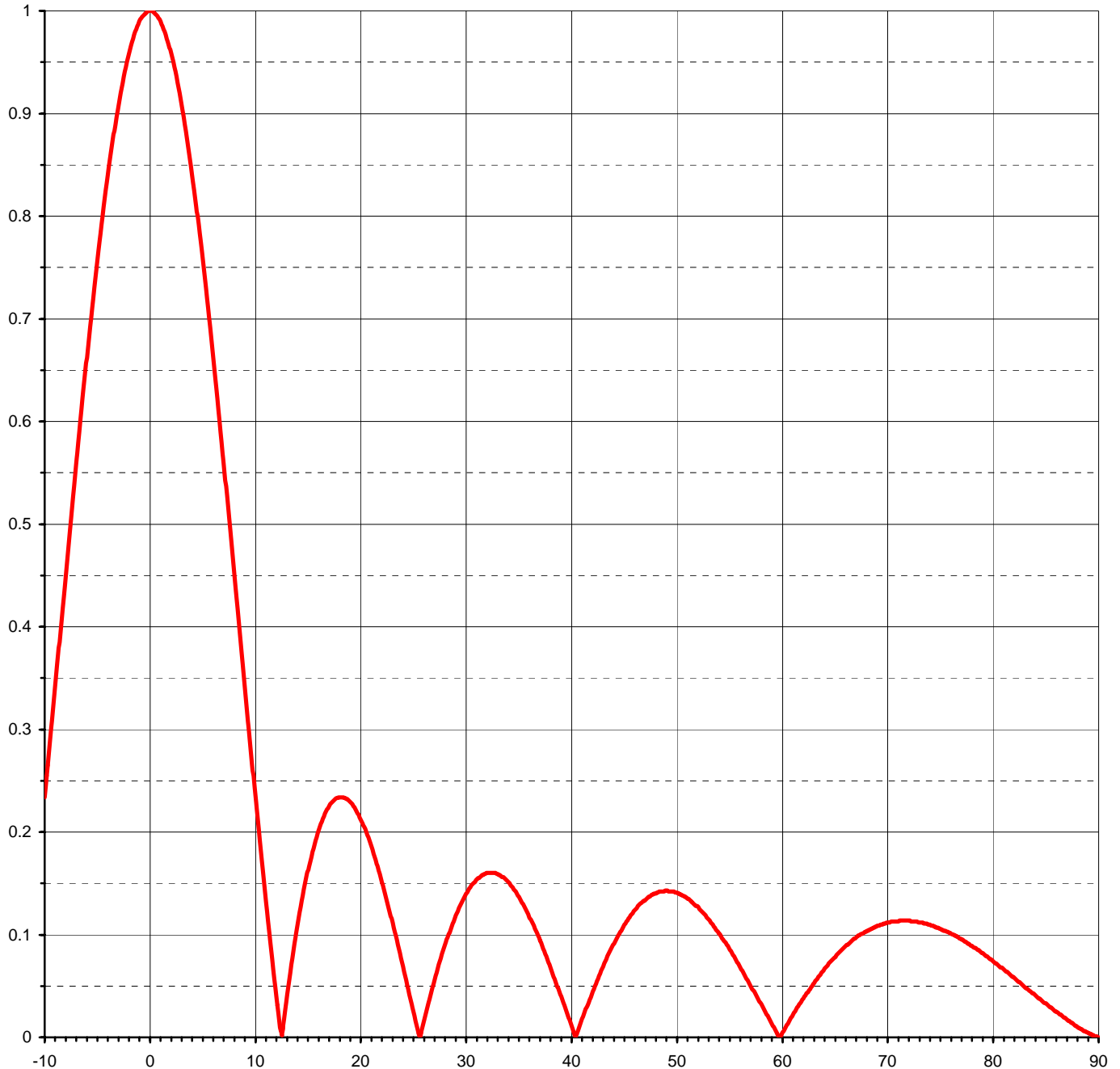




Proposal Number	<b>C-00892-1</b>	Revision:	<b>1</b>
Date	<b>14-Dec-06</b>		
Call Letters	<b>WSVH</b>		
Location	<b>Savannah, GA</b>		
Customer			
Antenna Type	<b>DCV5E-R</b>		

## ELEVATION PATTERN

RMS Gain at Main Lobe	<b>5.10 ( 7.08 dB )</b>	Beam Tilt	<b>0.00 deg</b>
RMS Gain at Horizontal	<b>5.10 ( 7.08 dB )</b>	Frequency	<b>91.90 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>05V051000-90</b>



Degrees Below Horizontal



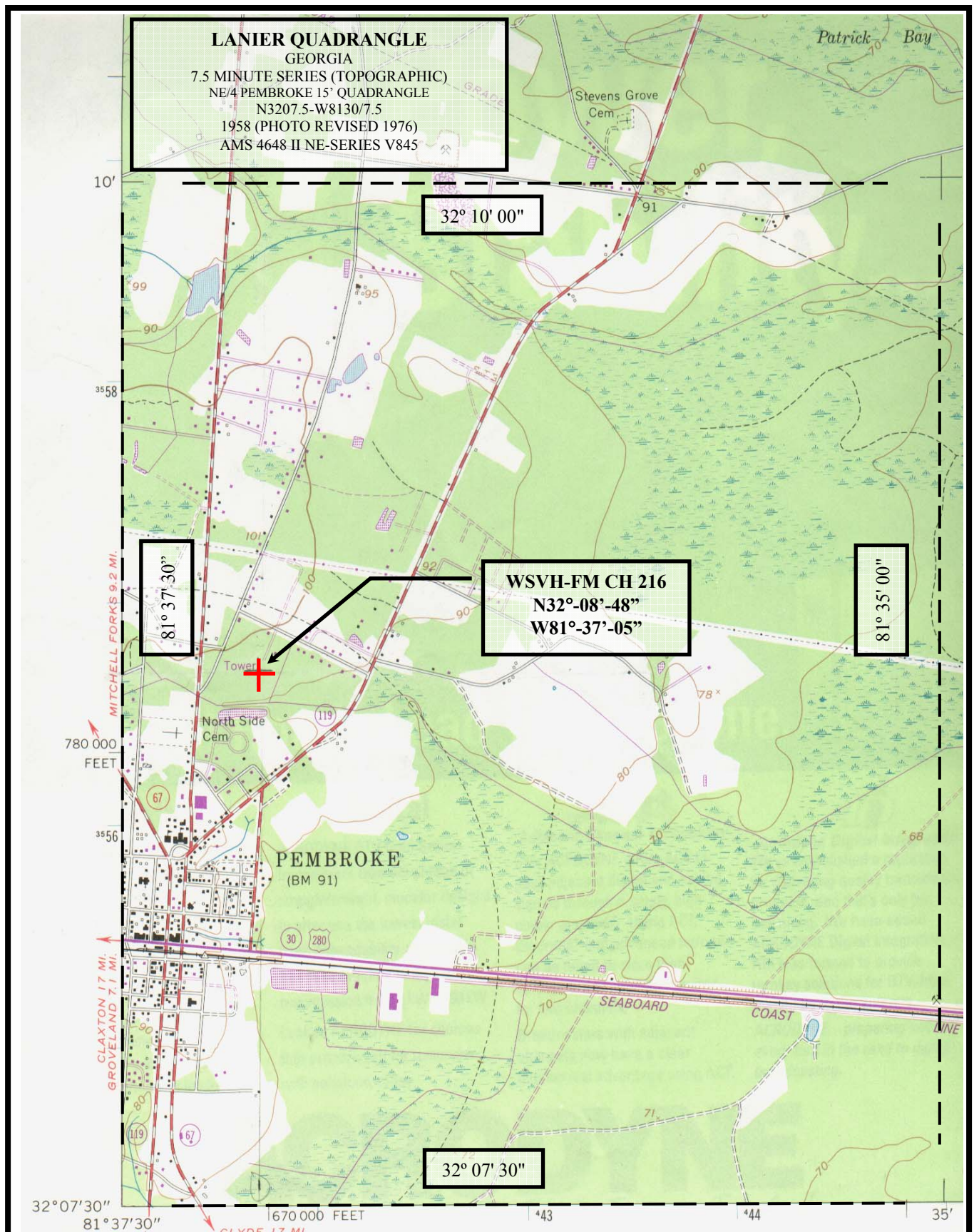
Proposal Number **C-00892-1**  
Date **14-Dec-06**  
Call Letters **WSVH**  
Location **Savannah, GA**  
Customer  
Antenna Type **DCV5E-R**

Revision: **1**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **05V051000-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.234	2.4	0.941	10.6	0.182	30.5	0.146	51.0	0.136	71.5	0.114
-9.5	0.287	2.6	0.930	10.8	0.162	31.0	0.153	51.5	0.132	72.0	0.114
-9.0	0.341	2.8	0.920	11.0	0.142	31.5	0.157	52.0	0.128	72.5	0.113
-8.5	0.396	3.0	0.908	11.5	0.094	32.0	0.160	52.5	0.122	73.0	0.112
-8.0	0.450	3.2	0.896	12.0	0.049	32.5	0.160	53.0	0.116	73.5	0.111
-7.5	0.505	3.4	0.883	12.5	0.006	33.0	0.159	53.5	0.110	74.0	0.110
-7.0	0.559	3.6	0.869	13.0	0.034	33.5	0.156	54.0	0.103	74.5	0.108
-6.5	0.611	3.8	0.855	13.5	0.071	34.0	0.152	54.5	0.095	75.0	0.106
-6.0	0.662	4.0	0.840	14.0	0.104	34.5	0.146	55.0	0.087	75.5	0.104
-5.5	0.711	4.2	0.825	14.5	0.133	35.0	0.138	55.5	0.079	76.0	0.101
-5.0	0.757	4.4	0.809	15.0	0.159	35.5	0.130	56.0	0.070	76.5	0.098
-4.5	0.800	4.6	0.792	15.5	0.181	36.0	0.120	56.5	0.061	77.0	0.095
-4.0	0.840	4.8	0.775	16.0	0.199	36.5	0.109	57.0	0.052	77.5	0.092
-3.5	0.876	5.0	0.757	16.5	0.213	37.0	0.097	57.5	0.043	78.0	0.089
-3.0	0.908	5.2	0.739	17.0	0.223	37.5	0.084	58.0	0.034	78.5	0.085
-2.8	0.920	5.4	0.720	17.5	0.230	38.0	0.071	58.5	0.024	79.0	0.082
-2.6	0.930	5.6	0.701	18.0	0.234	38.5	0.057	59.0	0.015	79.5	0.078
-2.4	0.941	5.8	0.682	18.5	0.233	39.0	0.042	59.5	0.006	80.0	0.074
-2.2	0.950	6.0	0.662	19.0	0.230	39.5	0.028	60.0	0.003	80.5	0.070
-2.0	0.958	6.2	0.642	19.5	0.224	40.0	0.014	60.5	0.012	81.0	0.066
-1.8	0.966	6.4	0.622	20.0	0.214	40.5	0.001	61.0	0.020	81.5	0.062
-1.6	0.973	6.6	0.601	20.5	0.203	41.0	0.015	61.5	0.029	82.0	0.058
-1.4	0.980	6.8	0.580	21.0	0.189	41.5	0.029	62.0	0.037	82.5	0.054
-1.2	0.985	7.0	0.559	21.5	0.173	42.0	0.042	62.5	0.044	83.0	0.049
-1.0	0.990	7.2	0.537	22.0	0.155	42.5	0.055	63.0	0.052	83.5	0.045
-0.8	0.993	7.4	0.516	22.5	0.136	43.0	0.067	63.5	0.059	84.0	0.041
-0.6	0.996	7.6	0.494	23.0	0.116	43.5	0.079	64.0	0.065	84.5	0.037
-0.4	0.998	7.8	0.472	23.5	0.095	44.0	0.089	64.5	0.073	85.0	0.033
-0.2	1.000	8.0	0.450	24.0	0.073	44.5	0.099	65.0	0.078	85.5	0.029
0.0	1.000	8.2	0.428	24.5	0.051	45.0	0.108	65.5	0.084	86.0	0.025
0.2	1.000	8.4	0.407	25.0	0.029	45.5	0.116	66.0	0.089	86.5	0.021
0.4	0.998	8.6	0.385	25.5	0.008	46.0	0.123	66.5	0.093	87.0	0.017
0.6	0.996	8.8	0.363	26.0	0.013	46.5	0.129	67.0	0.097	87.5	0.014
0.8	0.993	9.0	0.341	26.5	0.033	47.0	0.133	67.5	0.101	88.0	0.010
1.0	0.990	9.2	0.319	27.0	0.052	47.5	0.137	68.0	0.104	88.5	0.007
1.2	0.985	9.4	0.298	27.5	0.071	48.0	0.140	68.5	0.106	89.0	0.004
1.4	0.980	9.6	0.276	28.0	0.087	48.5	0.142	69.0	0.109	89.5	0.002
1.6	0.973	9.8	0.265	28.5	0.102	49.0	0.143	69.5	0.110	90.0	0.000
1.8	0.966	10.0	0.244	29.0	0.116	49.5	0.142	70.0	0.112		
2.0	0.958	10.2	0.223	29.5	0.128	50.0	0.141	70.5	0.113		
2.2	0.950	10.4	0.203	30.0	0.138	50.5	0.139	71.0	0.113		



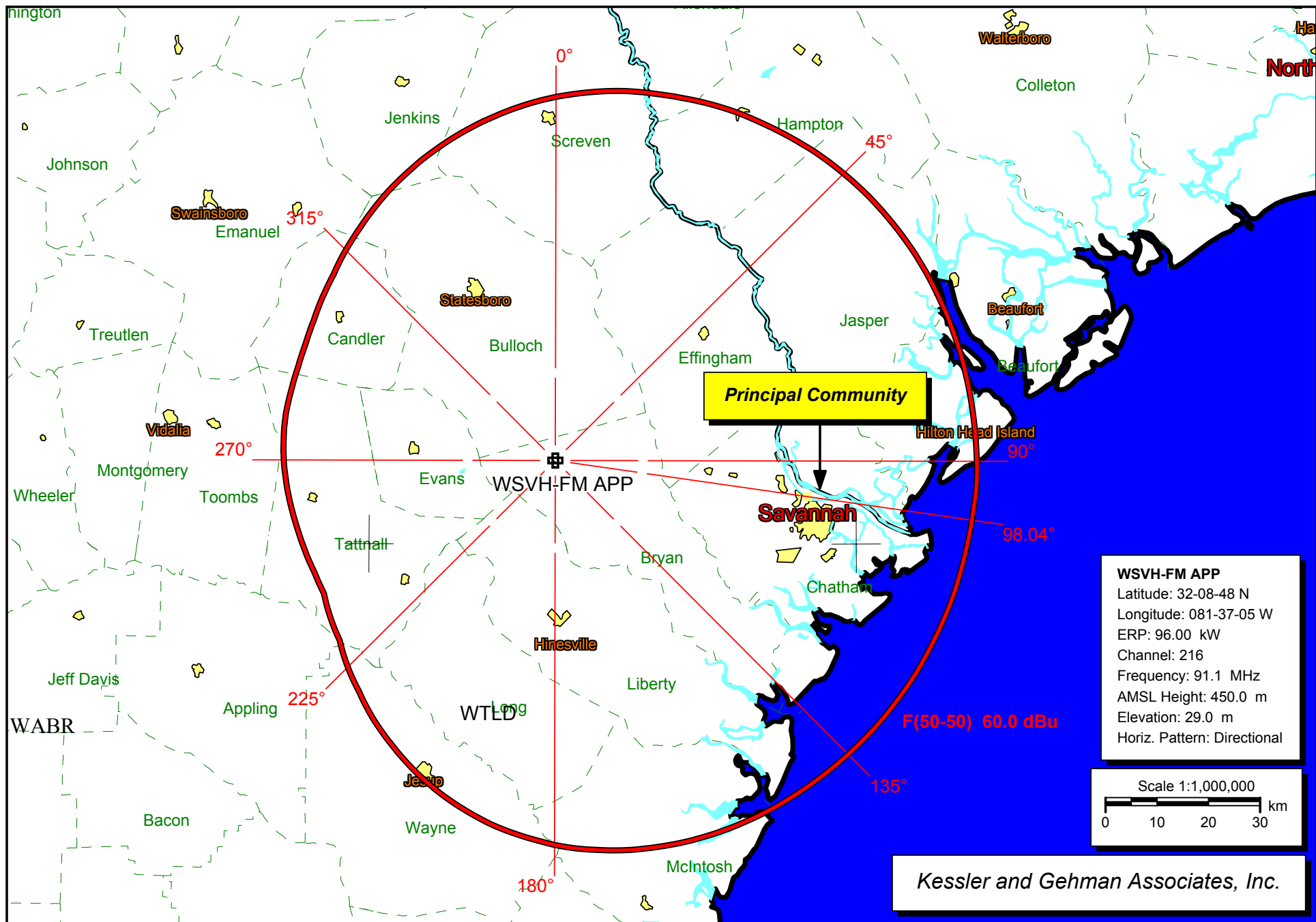
**KESSLER AND GEHMAN**  
TELECOMMUNICATIONS CONSULTING ENGINEERS  
507 N.W. 60th Street, Suite C  
Gainesville, Florida 32607

**WSVH-FM CHANNEL 216C**  
**SAVANNAH, GEORGIA**

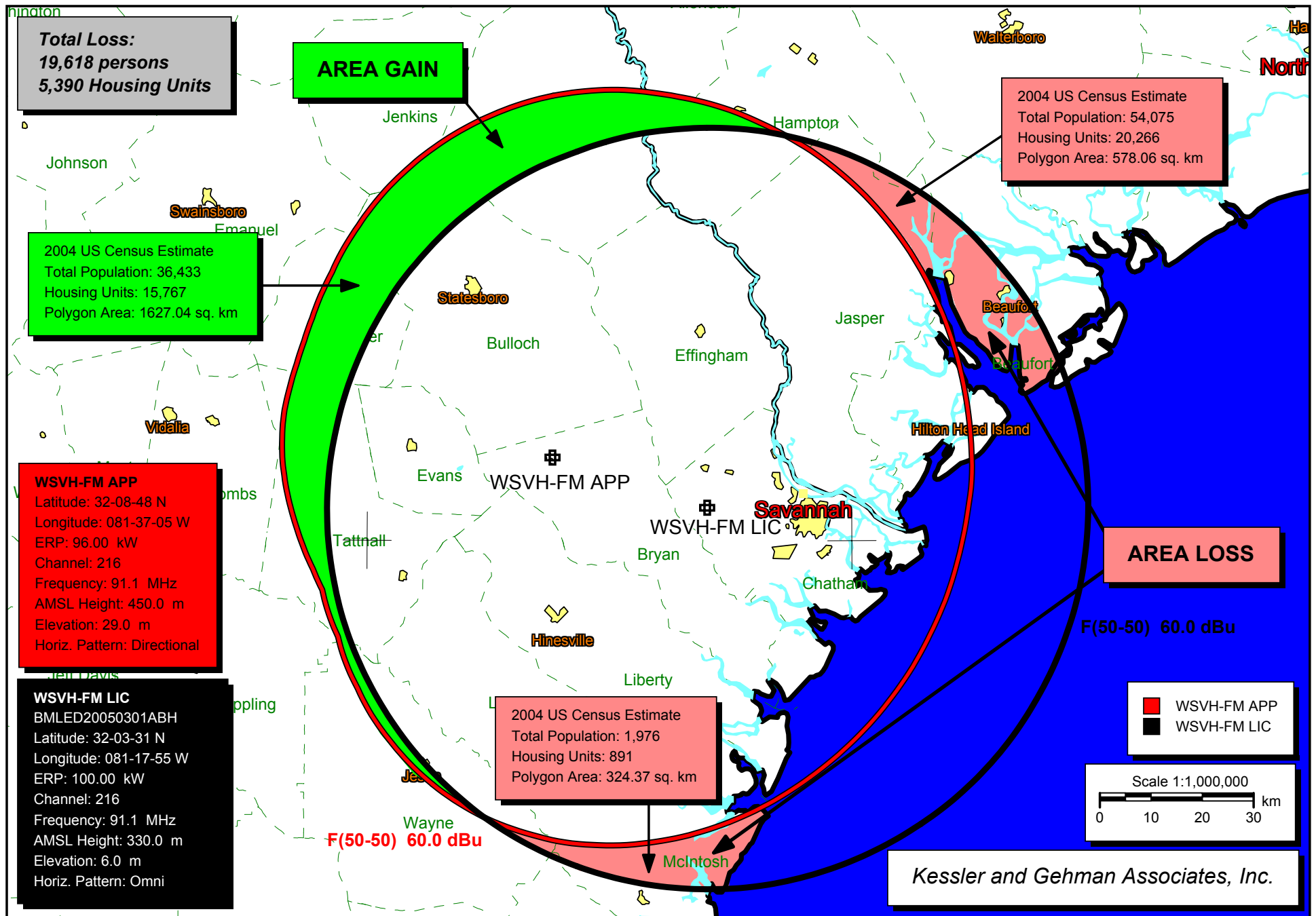
20070124

EXHIBIT 9

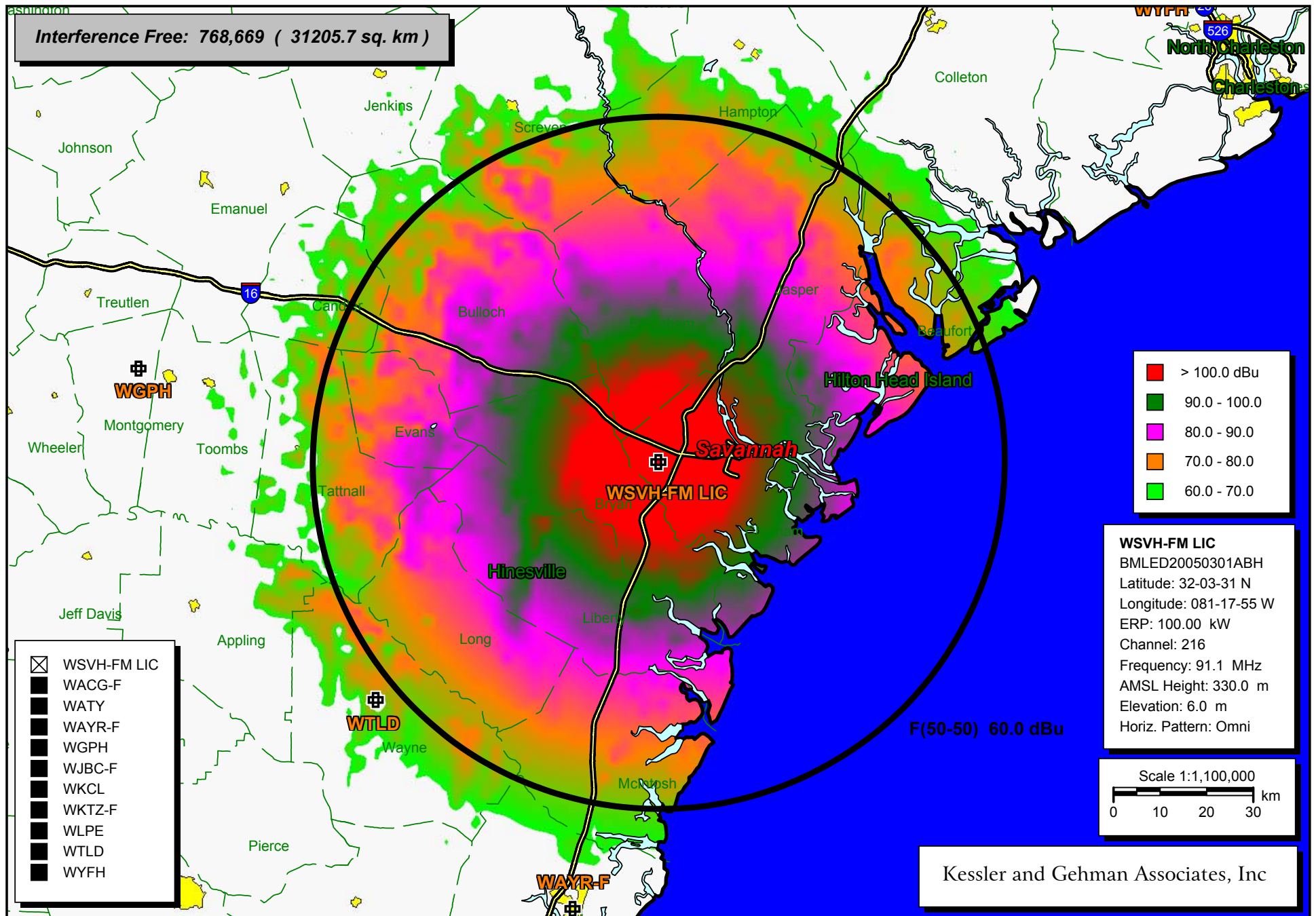




WSVH-FM Channel 216C (APP) F(50,50) 60.0 dBu/m Protected Service Contour

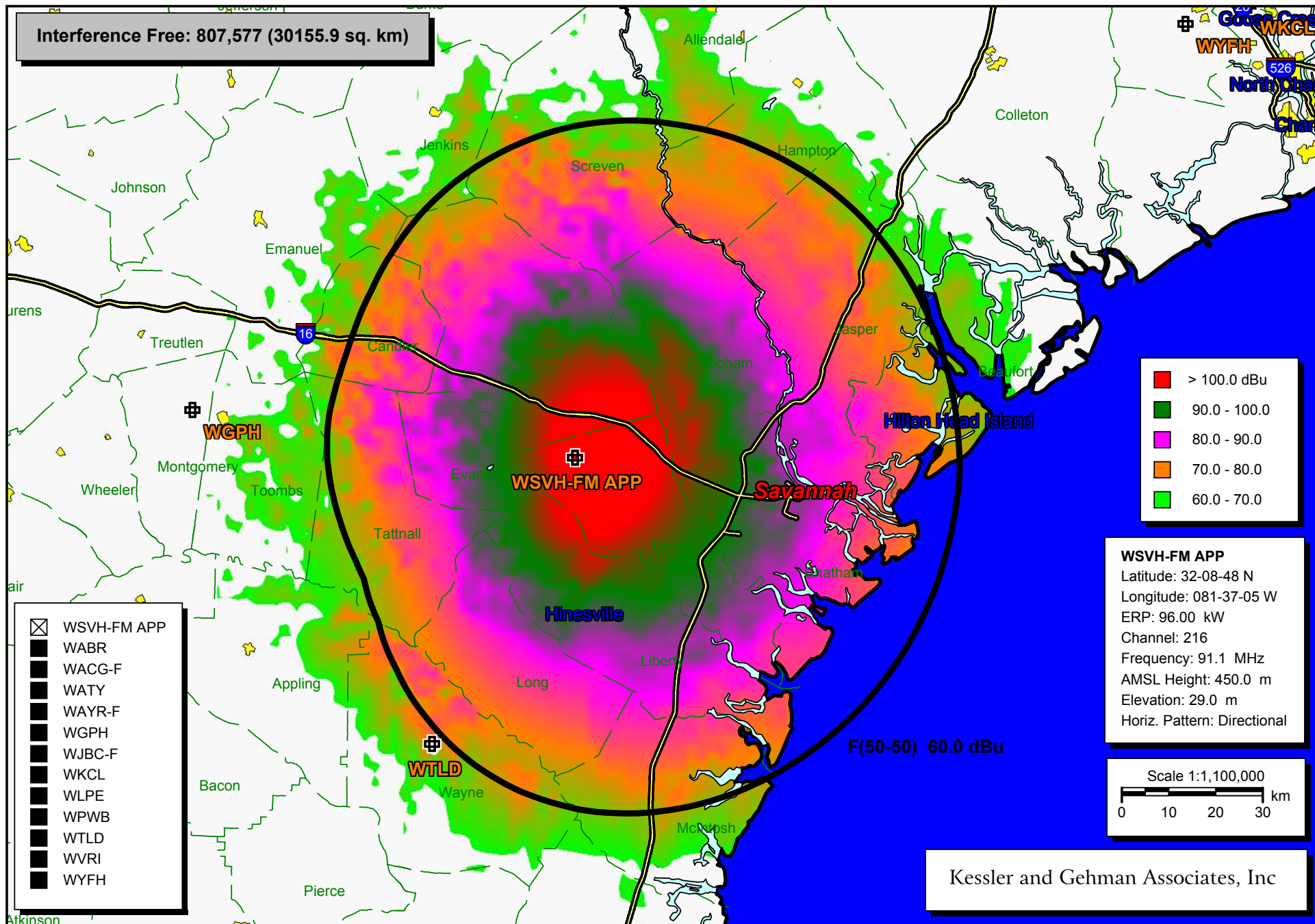


Area/Population Gain & Loss



Longley-Rice Interference-Free Coverage Map and Interference-Free Service Population





Longley-Rice Interference-Free Coverage Map and Interference-Free Service Population



WSVH-FM CH 216C Top-Mounted on WVAN Tower (Actual Height)

FM Interference Study

REFERENCE  
32 08 48.0 N.  
81 37 05.0 W.

CH# 216C - 91.1 MHz, Pwr= 96 kW, HAAT=430.9 M, COR= 456 M  
Average Protected F(50-50)= 81.63 km

DISPLAY DATES  
DATA 01-26-07  
SEARCH 01-29-07

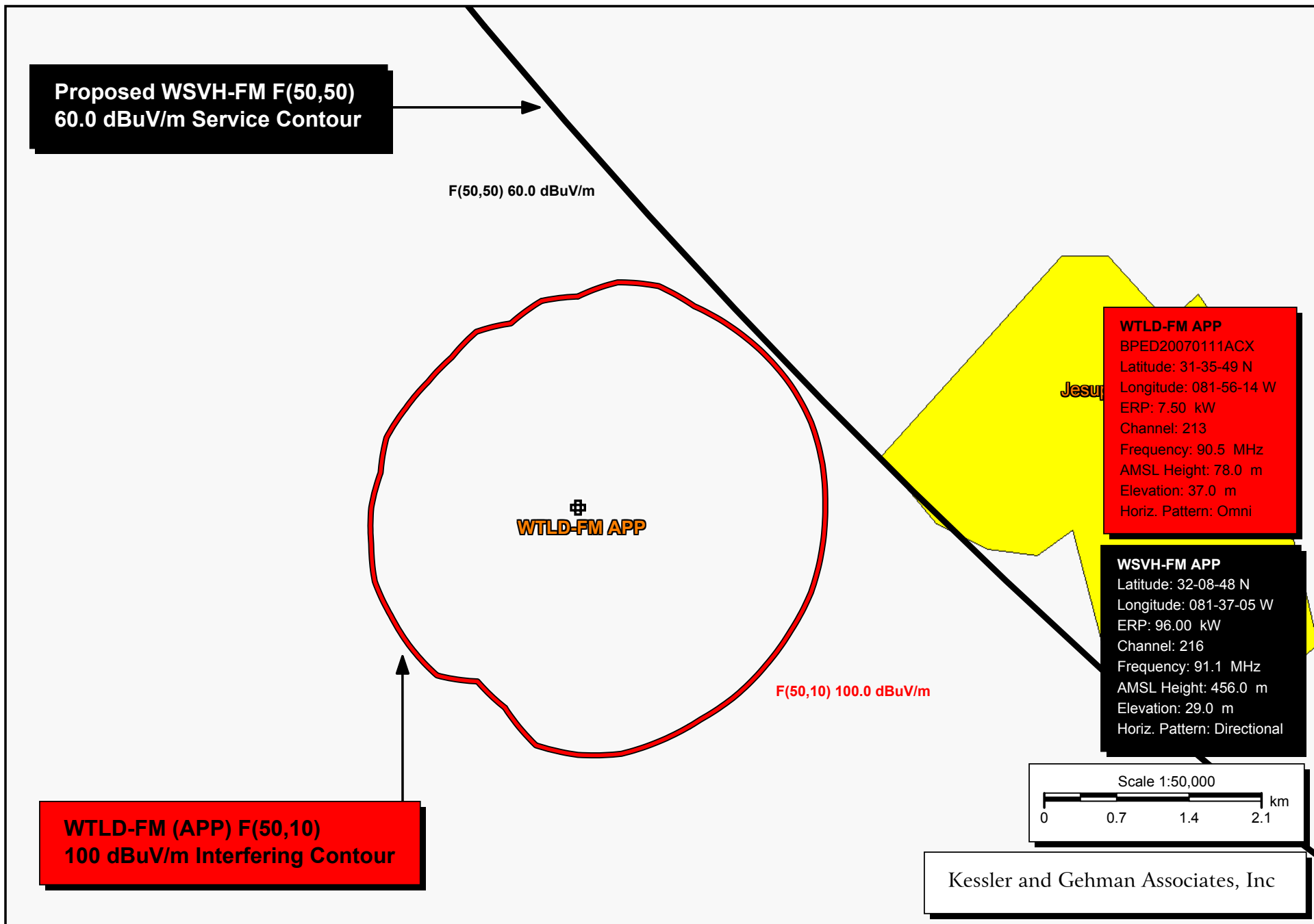
CH CITY	CALL	TYPE STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
06+2C Augusta	WJBF	LI GA	HY 351.9 171.7	141.06 BLCT20040130AOR	33 24 20.0 81 50 01.0	100.000 495	564	121.5 Media General	162.1R	-21.0M Communicatio
213C3 Jesup	WTLD	APP GA	NCX 206.3 26.2	68.03 BPED20070111ACX	31 35 49.0 81 56 14.0	7.500 52	2.3 78	22.1 Wtld 90.5	0.22 Fm	38.67
213A Jesup	WTLD	LIC GA	CX 206.3 26.2	68.03 BLED20020305AAO	31 35 49.0 81 56 14.0	6.000 52	2.1 78	21.0 Resurrection House	0.34	39.81 Ministr
217C3 Folkston	WATY	CP GA	DCX 195.2 15.0	146.09 BPED20061016ADP	30 52 29.0 82 01 10.0	12.000 90	49.4 114	31.5 Okefenokee Educational Fou	26.50	11.28
218C2 Vidalia	WGPB	LIC GA	CN 277.0 96.6	81.96 BLED19950426KB	32 14 02.0 82 28 52.0	40.000 152	5.7 225	50.5 Augusta Radio Fellowship I	23.02	26.76
218A Brunswick	AP3514	APP GA	CX 174.5 354.6	102.66 BNPED20000222ACH	31 13 30.0 81 30 52.0	0.440 37	1.5 39	8.6 Gospel Radio Ministries, I	24.92	83.87
214C3 Brunswick	WAYR-FM	LIC GA	DCX 173.5 353.6	106.29 BLED20031104AAN	31 11 39.0 81 29 30.0	14.000 100	2.8 103	28.5 Good Tidings Trust, Inc	27.02	67.54
217A Folkston	WATY	LIC GA	C 195.2 15.0	146.09 BLED20000428ABP	30 52 29.0 82 01 10.0	0.600 92	23.0 116	15.4 Okefenokee Educational Fou	52.91	27.41
216C2 Tifton	WABR	LIC GA	DCN 248.6 67.5	195.07 BLED19880211KC	31 29 30.0 83 31 49.0	26.489 76	110.6 172	35.0 Georgia Public Telecommuni	32.52	33.41
215C2 Jacksonville	WKTZ-FM	LIC FL	CN 178.5 358.6	207.39 BLED19870715KA	30 16 36.0 81 33 47.0	50.000 141	76.7 148	50.9 Jones College	55.33	45.40
269A Mount Vernon	WYUM	LIC GA	CX 276.3 95.8	77.50 BLH20011113ACM	32 13 12.0 82 26 07.0	3.600 130	41.2 203	121.2 Vidalia Communications Cor	29.0R	48.5M
217C1 Columbia	WLTR	LIC SC	C 16.0 196.3	227.75 BMLD20041208AAT	34 07 07.0 80 56 12.0	100.000 232	101.6 331	69.5 South Carolina Educational	51.81	48.80
06Z2 Wren	LMWCES	AP GA	DHN 333.4 153.0	138.35 BPRM20060619ABI	33 15 33.0 82 17 09.0	30.000 436	551	49.2 Test	84.9R	53.5M
269A Mount Vernon	ALLO	USE GA		271.9 91.4	88.18	6.000 100	41.2 167	121.2	29.0R	59.2M
Applications filed during the filing window must specify Class A facilities										
214C2 Augusta	WACG-FM	LIC GA	CN 351.7 171.6	140.98 BLED19890911KC	33 24 15.0 81 50 19.0	25.000 122	4.9 200	46.0 Georgia Public Telecommuni	67.32	86.84
214C2 Augusta	WACG-FM	CP GA	HX 351.7 171.6	141.05 BPED20051014AAE	33 24 18.0 81 50 15.0	3.700 421	3.8 499	49.5 Georgia Public Telecommuni	68.53	83.40
214C2 North Charleston	WYFH	LIC SC	DCN 54.4 235.1	159.22 BLED19911016KA	32 58 23.0 80 13 54.0	50.000 150	6.0 158	52.3 Bible Broadcasting Network	72.85	95.54

Terrain database is USGS 03 SEC

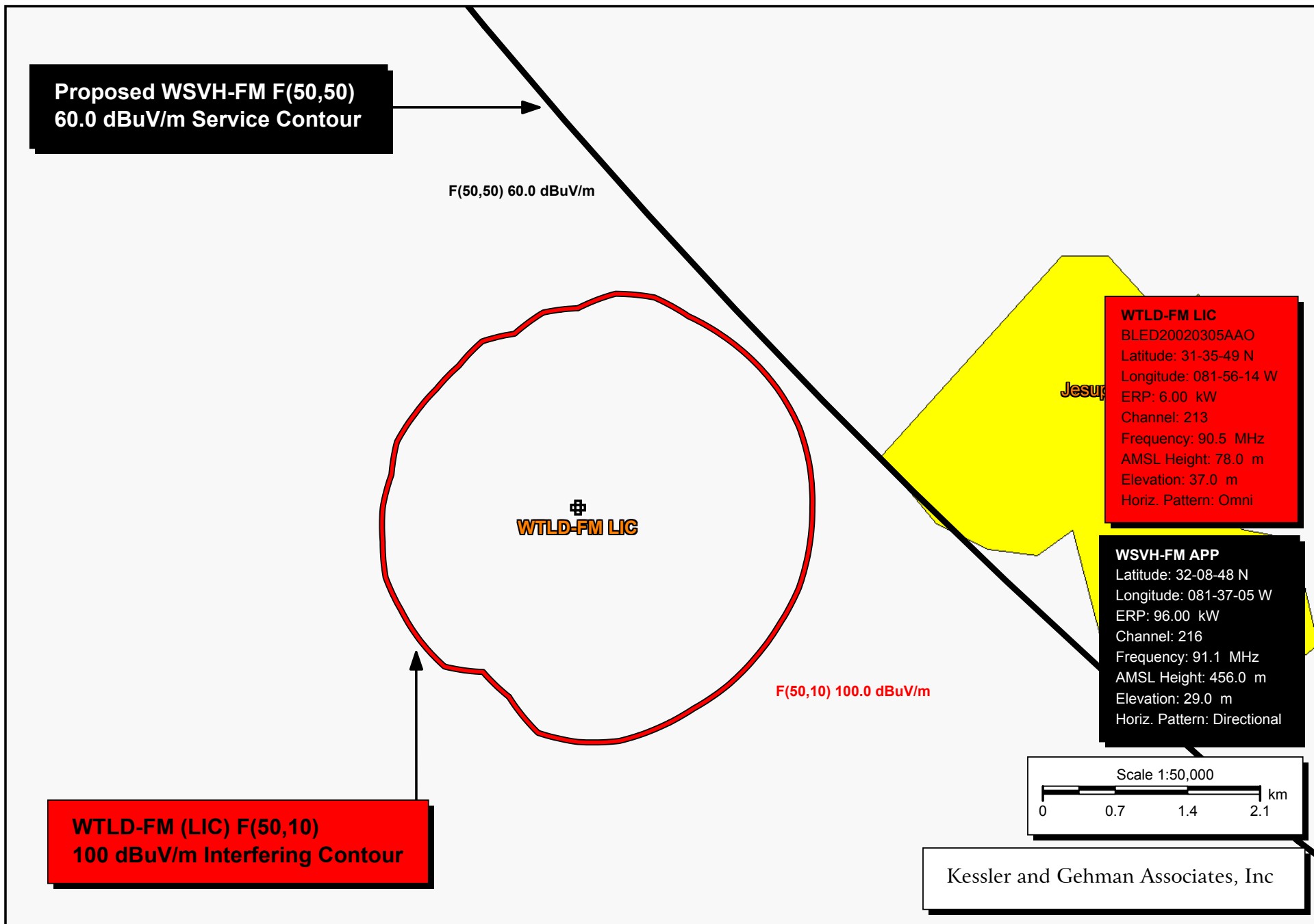
ERP and HAAT are on direct line to and from reference station.

• affixed to TV6 Margin= no direct-line contour overlap.

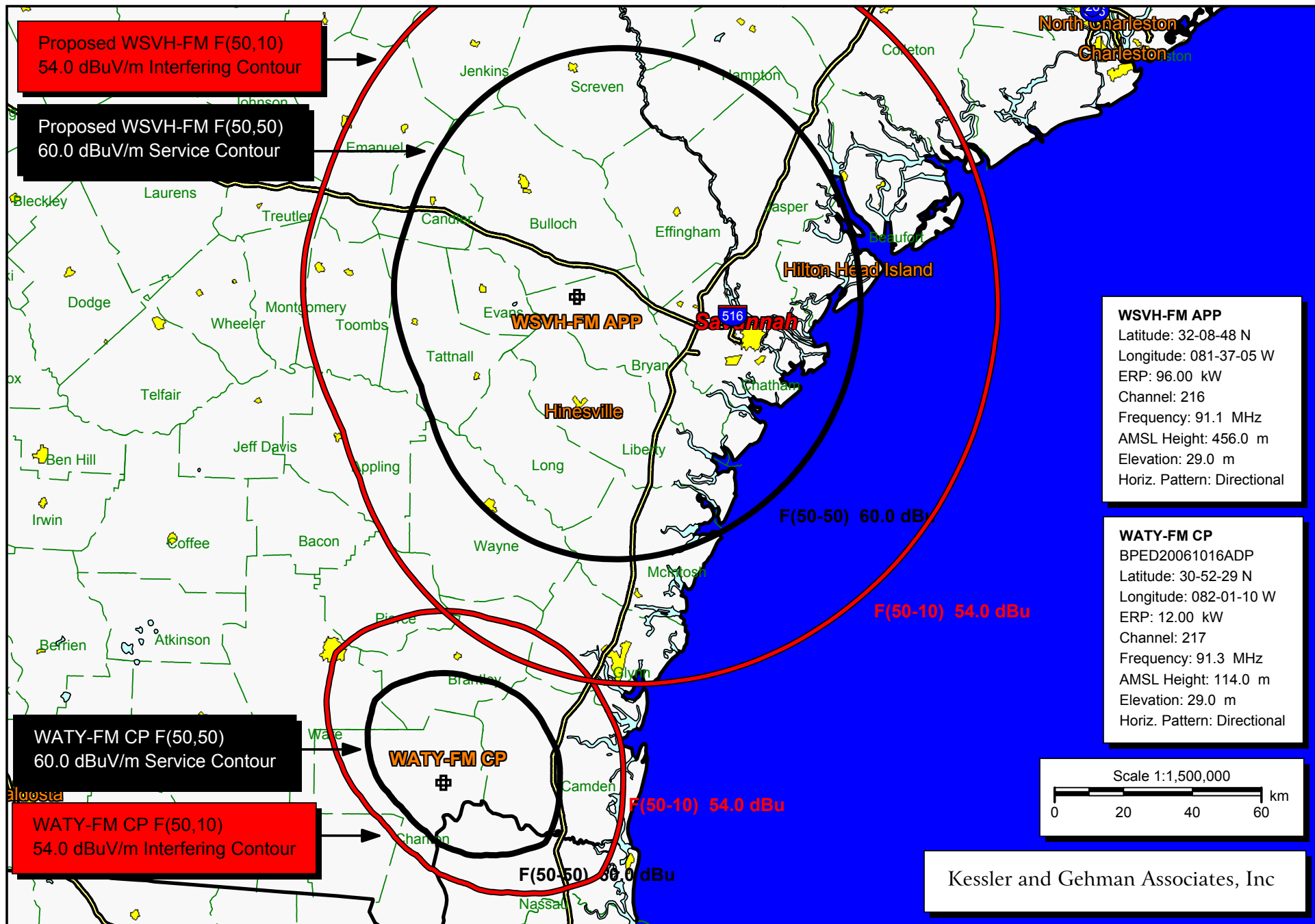
"\*"affixed to 'IN' or 'Out' values = site inside protected contour.



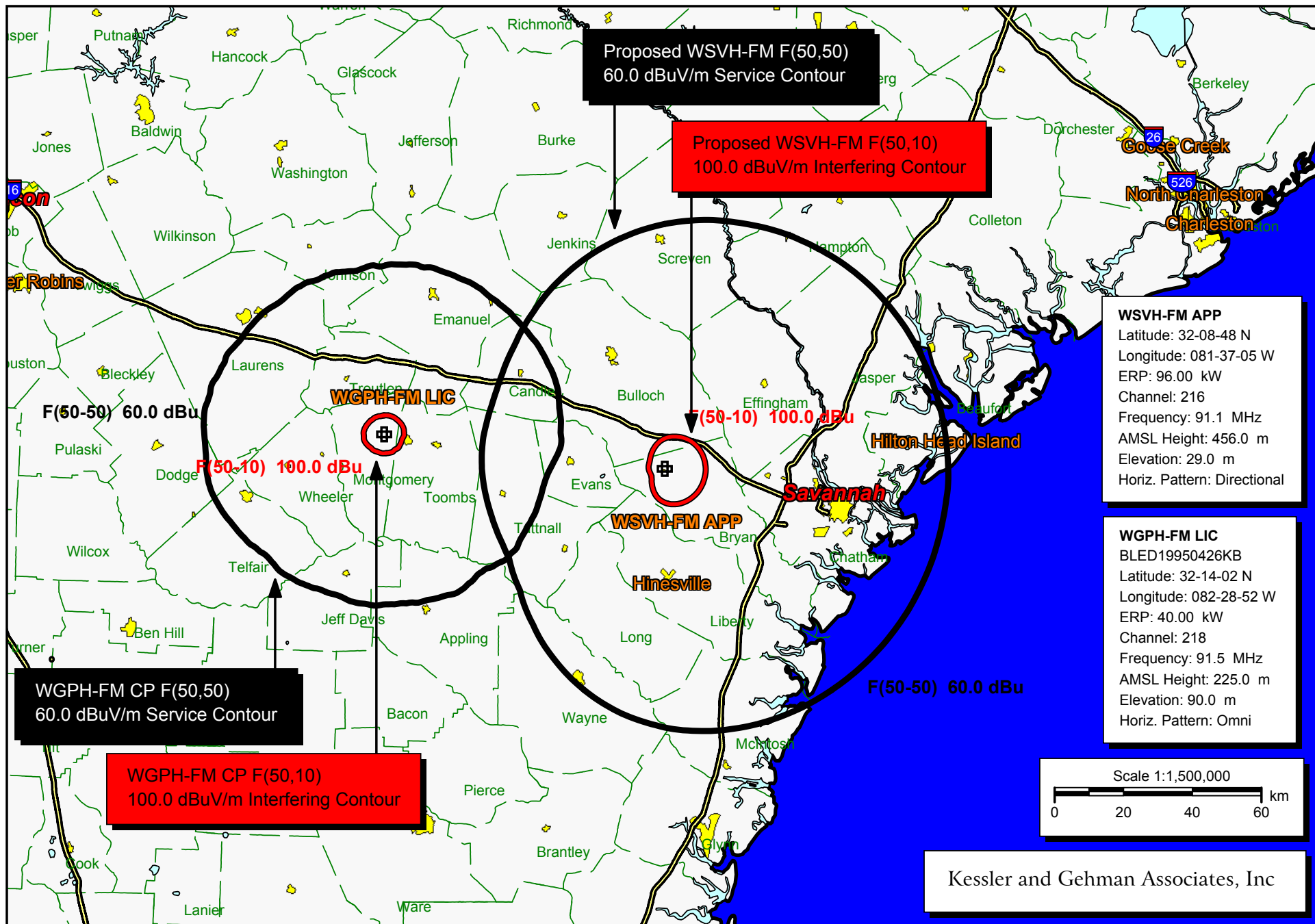
Proposed WSVH-FM F(50,50) 60 dBu Service Contour & WTLD-FM (APP) F(50,10) 100 dBu Interfering Contour EXHIBIT 15



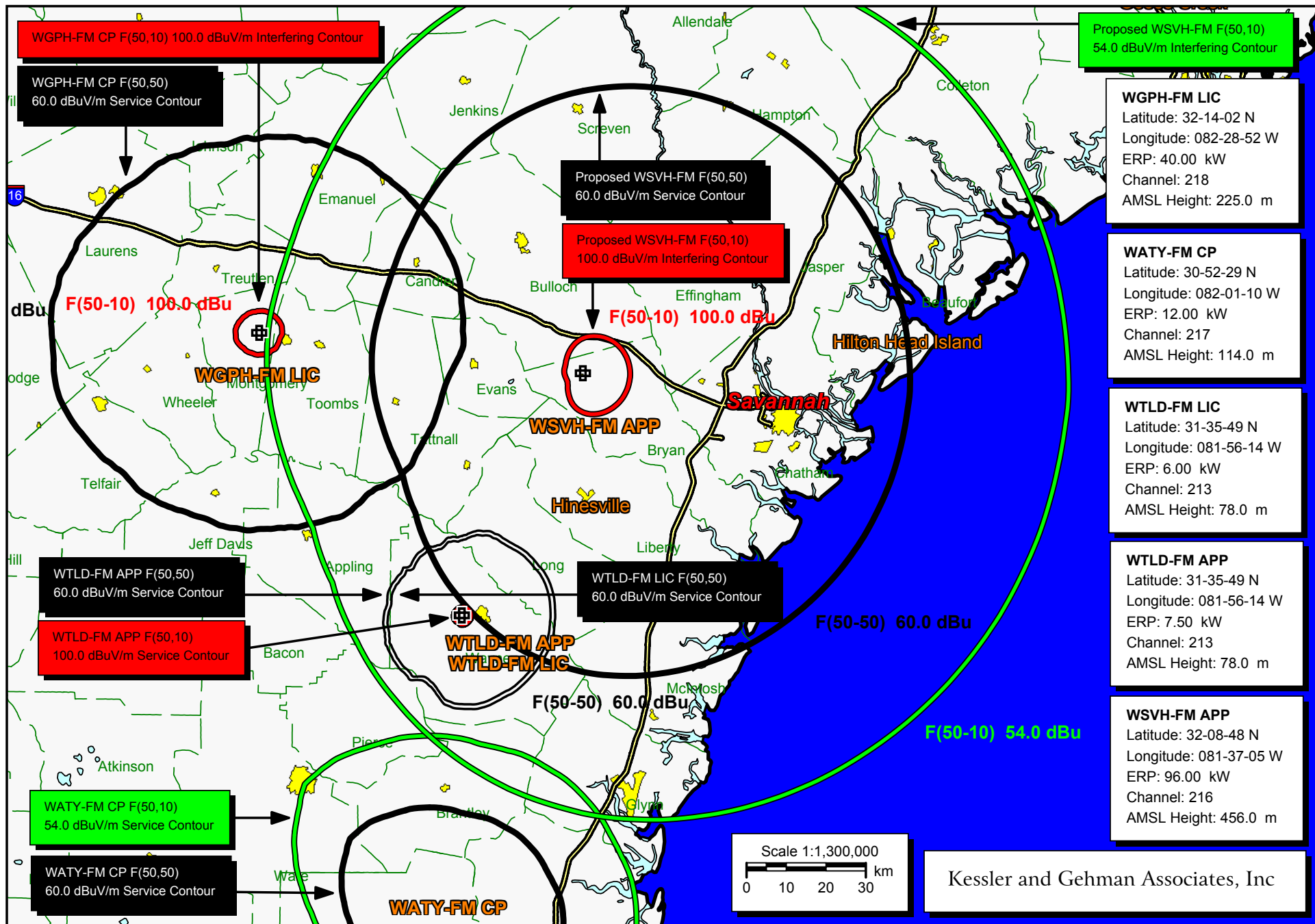
Proposed WSVH-FM F(50,50) 60 dBu Service Contour & WTLD-FM (LIC) F(50,10) 100 dBu Interfering Contour

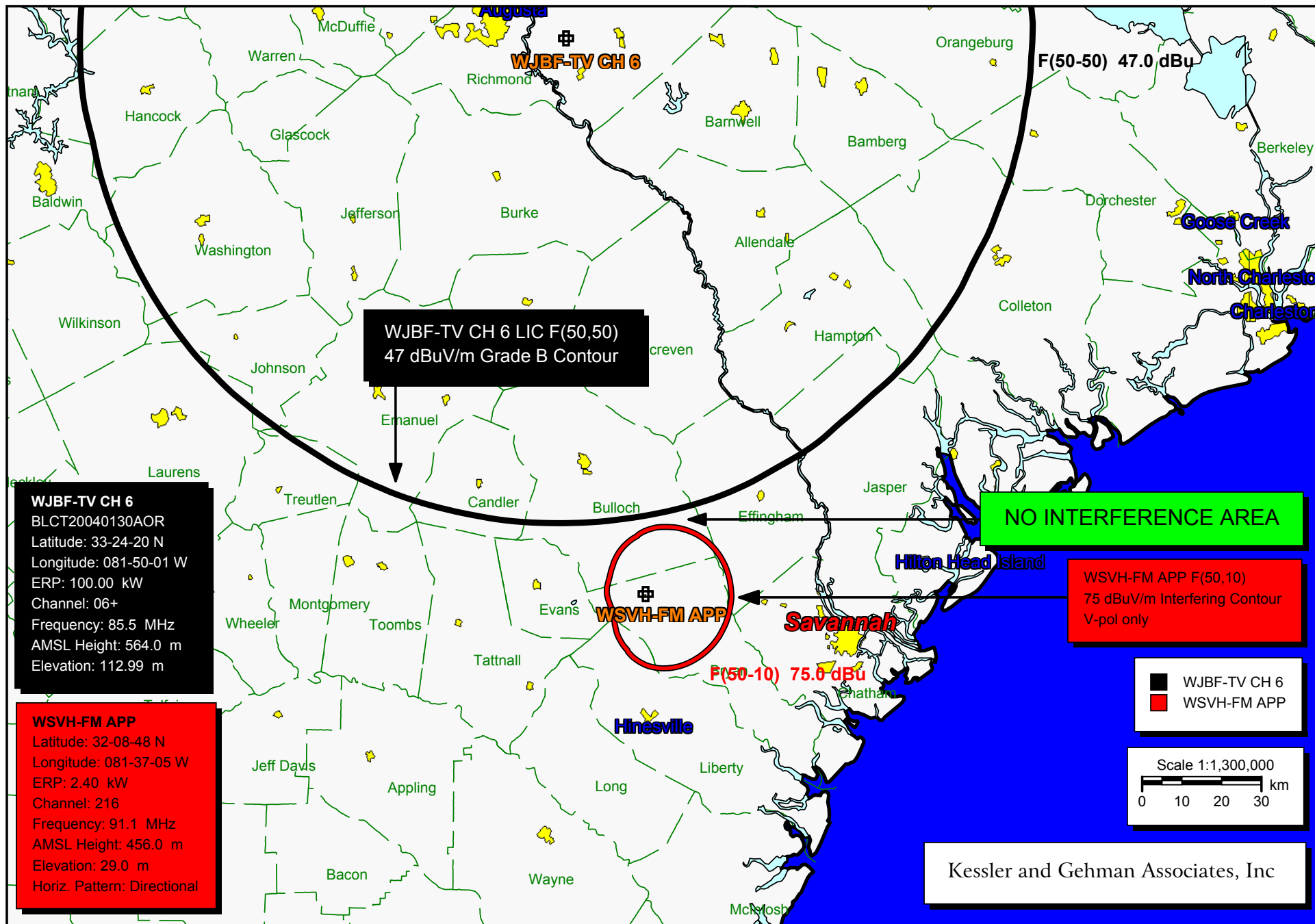


Proposed WSVH-FM Contours & WATY-FM (CP) Contours



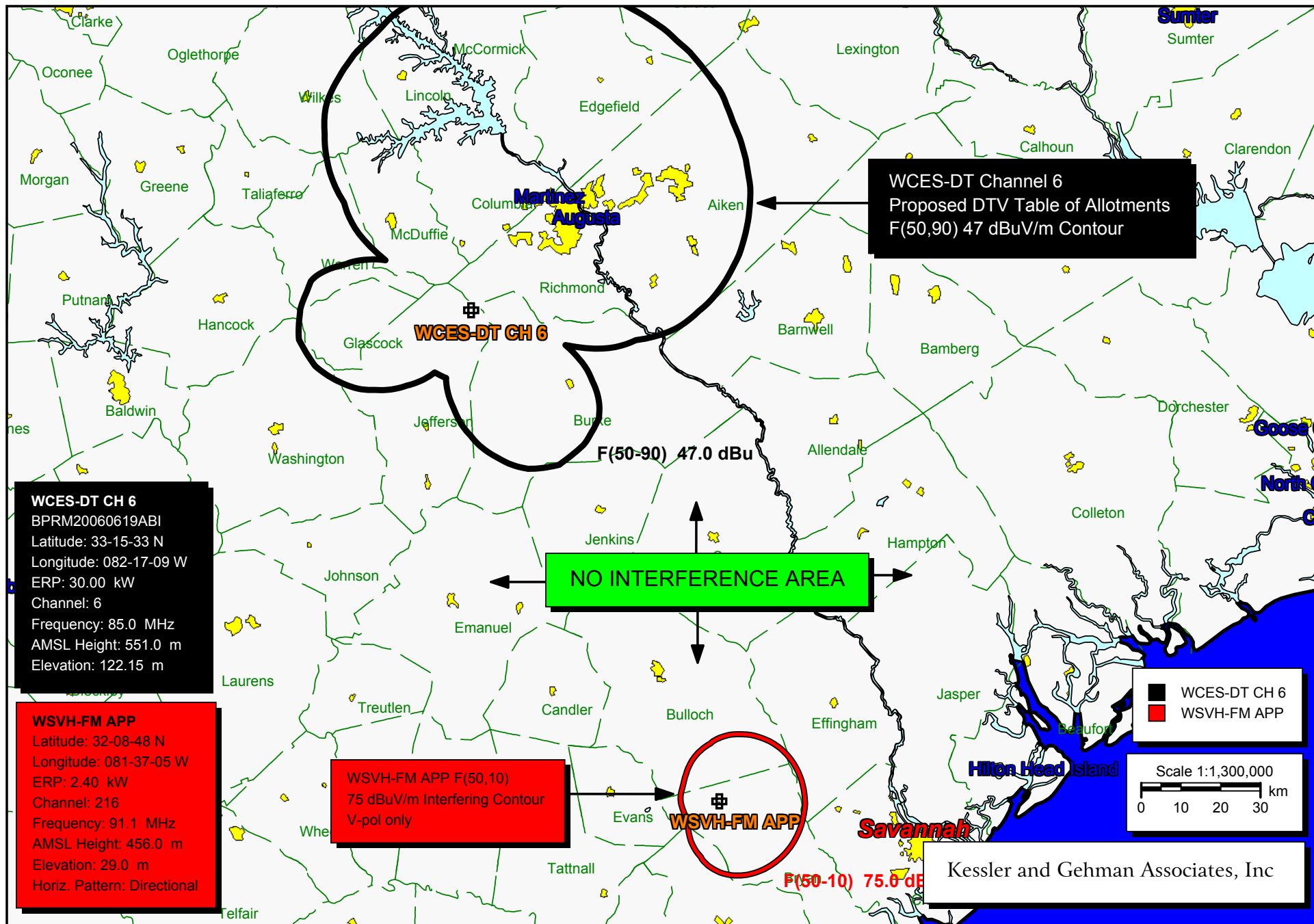
Proposed WSVH-FM Contours & Licensed WGPB-FM Contours





TV Channel 6 Study (WSVH-FM APP & WJBF-TV CH 6 LIC)





TV Channel 6 Study (WSVH-FM APP & WJBF-TV CH 6 LIC)





Federal Aviation Administration  
Air Traffic Airspace Branch, ASW-520  
2601 Meacham Blvd.  
Fort Worth, TX 76137-0520

Aeronautical Study No.  
2005-ASO-1781-OE  
Prior Study No.  
1961-ASW-87-OE

Issued Date: 12/21/2006

MARK FEHLIG  
GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION  
260 14TH STREET N W  
ATLANTA, GA 30318

**\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has completed an aeronautical study under the provisions of 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Antenna Tower
Location:	PEMBROKE, GA
Latitude:	32-8-49.00 N NAD 83
Longitude:	81-37-4.00 W
Heights:	1435 feet above ground level (AGL) 1530 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory Circular 70/7460-1 AC 70/7460-1K Change 1, Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked), 4, 5(Red), & 12

It is required that the enclosed FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

☒ At least 10 days prior to start of construction  
(7460-2, Part I)

☒ Within 5 days after the construction reaches its greatest height  
(7460-2, Part II)

See attachment for additional condition(s) or information.

This determination expires on 06/21/2008 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before January 20, 2007. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted in triplicate to the Manager, Airspace and Rules Division - Room 423, Federal Aviation Administration, 800 Independence Ave, Washington, D.C. 20591.

This determination becomes final on January 30, 2007 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Office of Airspace and Rules via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (202)267-9219. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2005-ASO-1781-OE.

**Signature Control No: 418298-515667**

(DNH)

Kevin P. Haggerty  
Manager, Obstruction Evaluation Service

Attachment(s)  
Additional Information  
Frequency Data

7460-2 Attached

**Additional Information for ASN 2005-ASO-1781-OE**

AERONAUTICAL STUDY  
2005-ASO-1781-OE

The proposed structure would be located approximately 13.00 nautical miles east of the Clayton-Evans County (CWV) Airport Reference Point. The structure, as proposed, will exceed the standard for determining obstructions to air navigation contained in Part 77, Subpart C, of the Federal Aviation Regulations as follows:

Exceeds FAR Part 77.23 (a)(1) by 935 feet, a height more than 500 feet above ground level.

Details of the structure were circularized to the aeronautical public for comment. There were no objections received during the comment period.

The impact on arrival, departure, and en route procedures for aircraft operating under VFR/IFR conditions at existing and planned public use airports, as well as aeronautical facilities, was considered during the analysis of the structure. The aeronautical study disclosed that the structure, at a height of 1530 feet above mean sea level (AMSL), would have no adverse effect upon any terminal or en route instrument procedure or altitude.

The cumulative impact resulting from the structure, when combined with the impact of other existing or proposed structures was considered and found to be acceptable.

Therefore, it is determined that the structure will have no substantial adverse effect upon the safe and efficient utilization of the navigable airspace by aircraft or on the operation of navigational facilities and will not be a hazard to air navigation.

This is an extension to the originally study issued July 11, 2005.

//////////////////END OF COMMENTS//////////////////

Frequency Data for ASN 2005-ASO-1781-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
91.1	0	MHz	100	KW
186	192	MHz	316	KW
210	216	MHz	20	KW



**Kenneth E. Campbell**  
Property Manager

January 30, 2003

Mr. Mark G. Fehlig  
Director of Engineering  
Georgia Public Broadcasting  
260 14<sup>th</sup> Street, NW  
Atlanta, GA 30318

Dear Mr. Fehlig:

Reference the Tower and Transmitter Site Lease Agreement dated December 21, 1997, between Media General Operations, Inc., formerly known as WSAV, Inc. and Georgia Public Telecommunications Commission relative to the tower located on Little Neck Road in Savannah, GA.

This letter is to notify you that effective September 30, 2003, the above referenced lease shall be terminated and all equipment shall be removed from the premises no later than fifteen days after the termination date.

Please do not hesitate to contact me at (804) 649-6357 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Campbell", written over a horizontal line.

Kenneth E. Campbell