

APPLICATION FOR MINOR
MODIFICATION OF WWIO(FM) FCC FILE
NUMBER BLED-20020314AAH FOR
A FM BROADCAST STATION
CHANNEL 205C3 ERP 11.7 KW
H AND V POLARIZED AT 46 M AAT
GEORGIA PUBLIC
TELECOMMUNICATIONS COMMISSION
BRUNSWICK, GEORGIA

KESSLER & GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20070629

Prepared by Ryan Wilhour

KG&A

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TECHNICAL STATEMENT OF RYAN WILHOUR OF THE FIRM OF
KESSLER AND GEHMAN ASSOCIATES, INC., CONSULTING ENGINEERS
IN CONNECTION WITH AN APPLICATION FOR MINOR MODIFICATION OF
WWIO(FM) FCC FILE NUMBER BLED-20020314AAH FOR A FM BROADCAST
STATION CHANNEL 205C3 ERP 11.7 KW H AND V POLARIZED AT 46 M AAT
GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION
BRUNSWICK, GEORGIA

APPLICATION SUMMARY

The Georgia Public Telecommunications Commission (“GPTC”) is the applicant of WWIO(FM) FCC file number BLED-20020314AAH. Upon approval, the instant application will make the following modifications:

- Replace the licensed broadcast antenna with a similar antenna able to handle more power.
- Increase the maximum horizontal and vertical ERP from 7 kW to 11.7 kW.

No other changes are proposed.

ATTACHED FIGURES

In carrying out the engineering studies, the following attached figures were prepared:

- 1) Proposed engineering specifications Exhibit E1.
- 2) Elevation drawing of the antenna system Exhibit E2.
- 3) USGS topographic map showing the transmitter site Exhibit E3.
- 4) Proposed transmitting antenna elevation pattern Exhibit E4.
- 5) Map showing the proposed 1-mV/m contour Exhibit E5.
- 6) Contour protection studies as per §73.509 Exhibit E6.
- 7) Interference studies to TV channel 6 stations within 225 km of transmit site as per §73.525 Exhibit E7.
- 8) Environmental impact / RFR hazard analysis and methodology Exhibit E8.

AREA AND POPULATION ANALYSIS

The area within the proposed 1 mV/m contour demonstrated in Exhibit E5 was generated by a computer which calculates and plots the distances to the contour. The population served by the proposed 1 mV/m contour was determined by using 2000 census data and a computer program which added the population of all census blocks whose centroids fall within the contour. The area and population which would be served by the proposed 1 mV/m contour are 1666.14 km² and 70,350 persons respectively.

ALLOCATION STUDIES

Non-Commercial and Commercial FM Broadcast Stations

The terrain and distances to contours were calculated and plotted electronically using Probe III v3.53 a product of V-Soft Communications.

- Pursuant 47 C.F.R. §73.509 Regarding Contour Overlap Requirements - Exhibit E6 demonstrates that all contour overlap requirements have been met to all non-commercial FM broadcast stations.
- Pursuant 47 C.F.R. §73.207 Regarding Spacing Requirements - The proposed facility meets all spacing requirements to commercial FM broadcast stations by a large margin and thus an exhibit was not prepared.
- Pursuant 47 C.F.R. §73.213(a) Regarding Grandfathered Short Spaced Stations - There are no grandfathered short spaced stations in the vicinity of the proposed station and thus an exhibit was not prepared.
- Pursuant 47 C.F.R. §73.215 Regarding Contour Protection to Commercial Stations – Contour protection is not employed since all spacing requirements of §73.207 were met by a large margin and thus an exhibit was not prepared.

TV Channel 6 Studies

Exhibit E7 demonstrates no full service channel 6 NTSC and ATSC stations that exist within 225 km of the proposed site.

ENVIRONMENTAL IMPACT / RFR HAZARD ANALYSIS

The proposed WWIO(FM) facility has no significant environmental impact as defined in §1.1307 of the FCC Rules. Exhibit E8 demonstrates that the proposed facility generates a power density that is 19.7% of the maximum permissible exposure (“MPE”) limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (“ANSI”). Since the operation of the proposed facility would exceed 5.0% of the MPE limit for General Population/Uncontrolled Exposure at various points on the ground, WWIO(FM) would be considered a “contributor” to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, all sources of RF which contribute to the exceeded area must be analyzed and a composite study must be prepared to demonstrate that the total power density from all contributing sources in the affected areas do not exceed 100% of the allowable MPE.

Since the proposed WWIO(FM) facility is the only significant source of power density in the affected area, the composite power density is equal to the power density produced by the WWIO-FM facility. Therefore, the total power density emanating from the single antenna mounted on the WWIO-FM support structure would be 19.7% of the MPE limits for General Population/Uncontrolled Exposure. Accordingly, the total exposure, which is generated by the WWIO-FM facility alone, would result in exposure levels well below the allowable exposure threshold authorized by the American National Standards Institute and the FCC. 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 licensee will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna.

The tower is completely enclosed within a fence where the nearest point from the base of the tower to any point along the fence is eight feet. The gate is kept locked at all times while unattended.

BLANKETING CONTOUR

The blanketing 115 dBu contour would extend no more than 1.35 km pursuant to §73.318(a) of the FCC rules. If blanketing interference is caused to other communication facilities or the residents of this area, the applicant will take full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of intermodulation) to these and other facilities in existence or authorized or to radio receivers in use prior to the grant of this application.

DECLARATION OF ENGINEER

I, Ryan Wilhour, declare and state that I am a graduate electrical engineer with a Bachelor of Science in Electrical Engineering and my qualifications are a matter of record with the Federal Communication Commission, and that I am an engineer in the firm of Kessler and Gehman Associates, Inc., and that firm has been retained by Georgia Public Telecommunications Commission to prepare the herein application.

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on June 29, 2007

KESSLER AND GEHMAN ASSOCIATES, INC.



Ryan Wilhour
Consulting Engineer

ENGINEERING SPECIFICATIONS

A. Transmitter Site (NAD 27)

FCC Tower Reg. Number N/A

North Latitude 31 ° 11 ' 20 "

West Longitude 81 ° 29 ' 05 "

B. Proposed Facility
Channel

Number 205C3

C. Antenna Height

Height of Site Above Mean Sea Level (AMSL) 5 m

Overall Height of Structure Above Ground 49 m

(including all appurtenances)

Overall Height of Structure Above Mean Sea Level 54 m

(including all appurtenances)

Average Terrain 2 m

Height of Site Above Average Terrain 3 m

Effective Height of Antenna Above Ground 43 m

Effective Height of Antenna Above Average Terrain 46 m

Effective Height of Antenna Above Mean Sea Level 48 m

D. Proposed ERP

Polarization

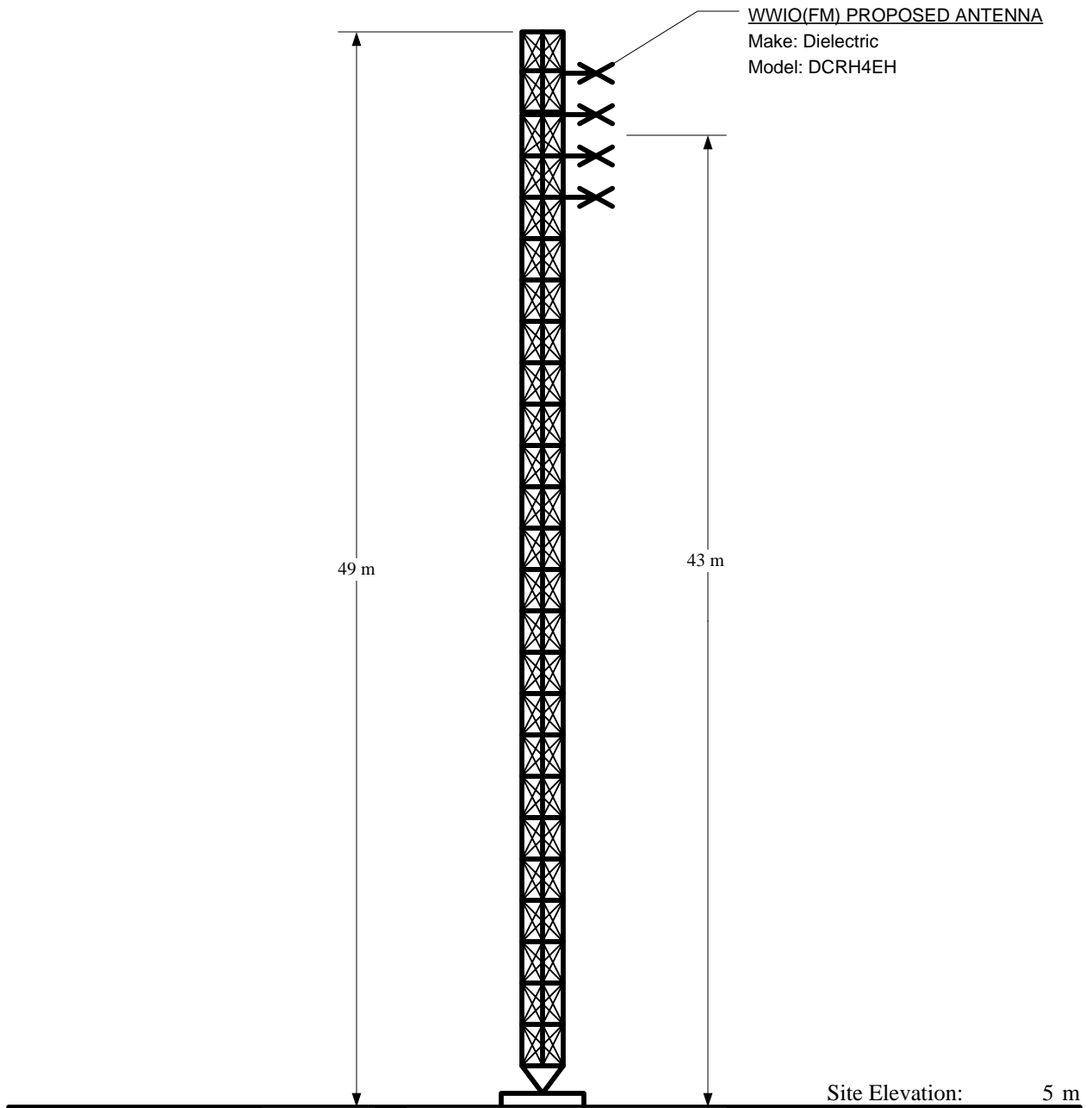
Horizontal

Vertical

Effective Radiated Power

11.7 kW

11.7 kW



Overall Height AMSL:	49 m
Overall Height AMSL:	54 m
Radiation Center AGL:	43 m
Radiation Center AMSL:	48 m
Radiation Center HAAT:	46 m
Average Terrain:	2 m

NAD 27 Coordinates:	
N. Latitude:	31° 11' 20"
W. Longitude:	81° 29' 5"

FCC Tower Registration Number:	N/A
FAA Aeronautical Study Number:	N/A

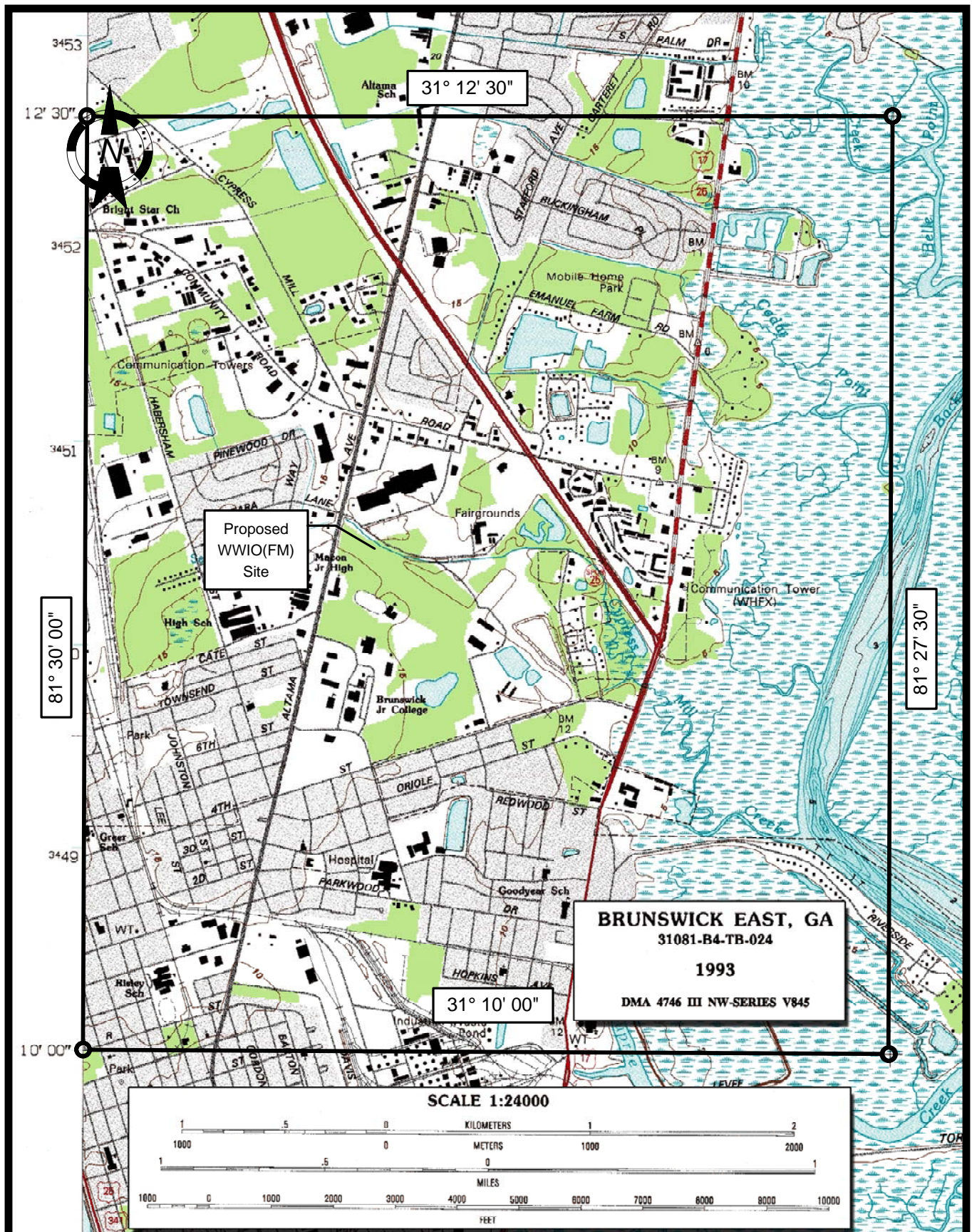
NOTE: NOT TO SCALE

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EXHIBIT E2



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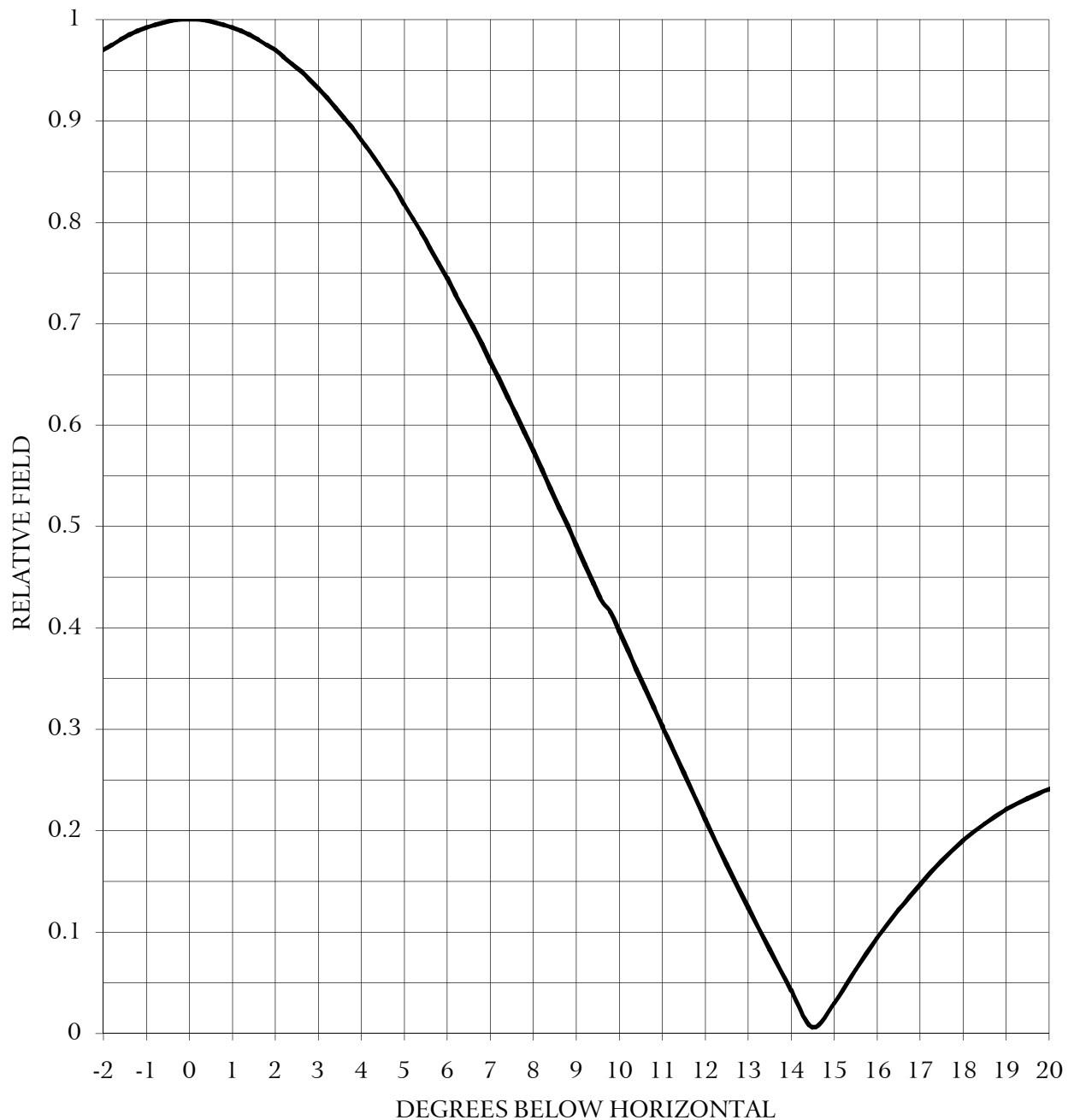
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EXHIBIT E3

ELEVATION PATTERN

Beam Tilt 0.00 deg
Frequency 88.9 MHz



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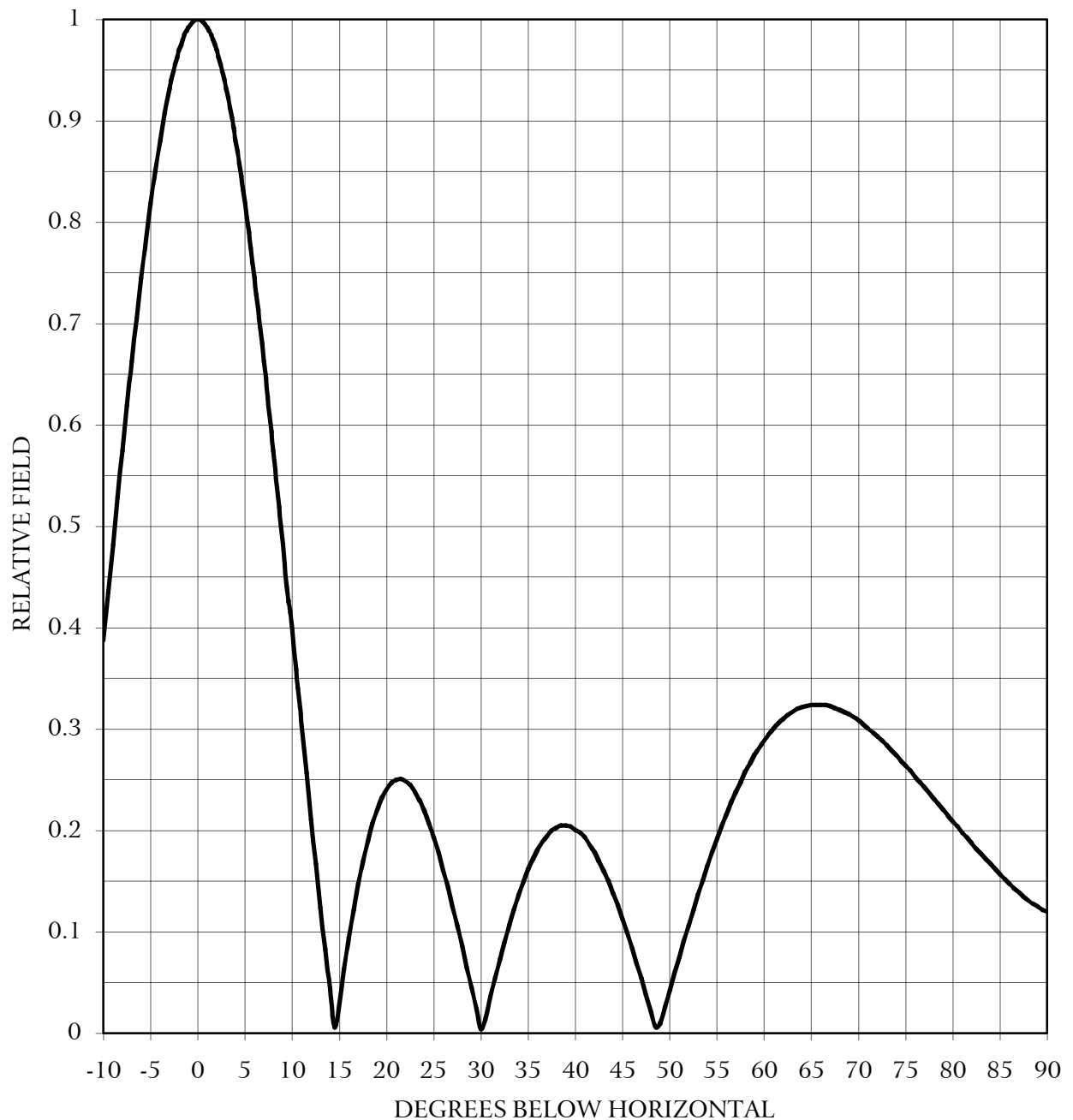
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EXHIBIT E4A

ELEVATION PATTERN

Beam Tilt 0.00 deg
Frequency 88.9 MHz



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EXHIBIT E4B

Kessler and Gehman Associates, Inc.

WWIO-FM

Proposed

Latitude: 31-11-20 N

Longitude: 081-29-05 W

ERP: 11.70 kW

Channel: 205

AMSL Height: 48.0 m

Horiz. Pattern: Omni

Prop Model: None

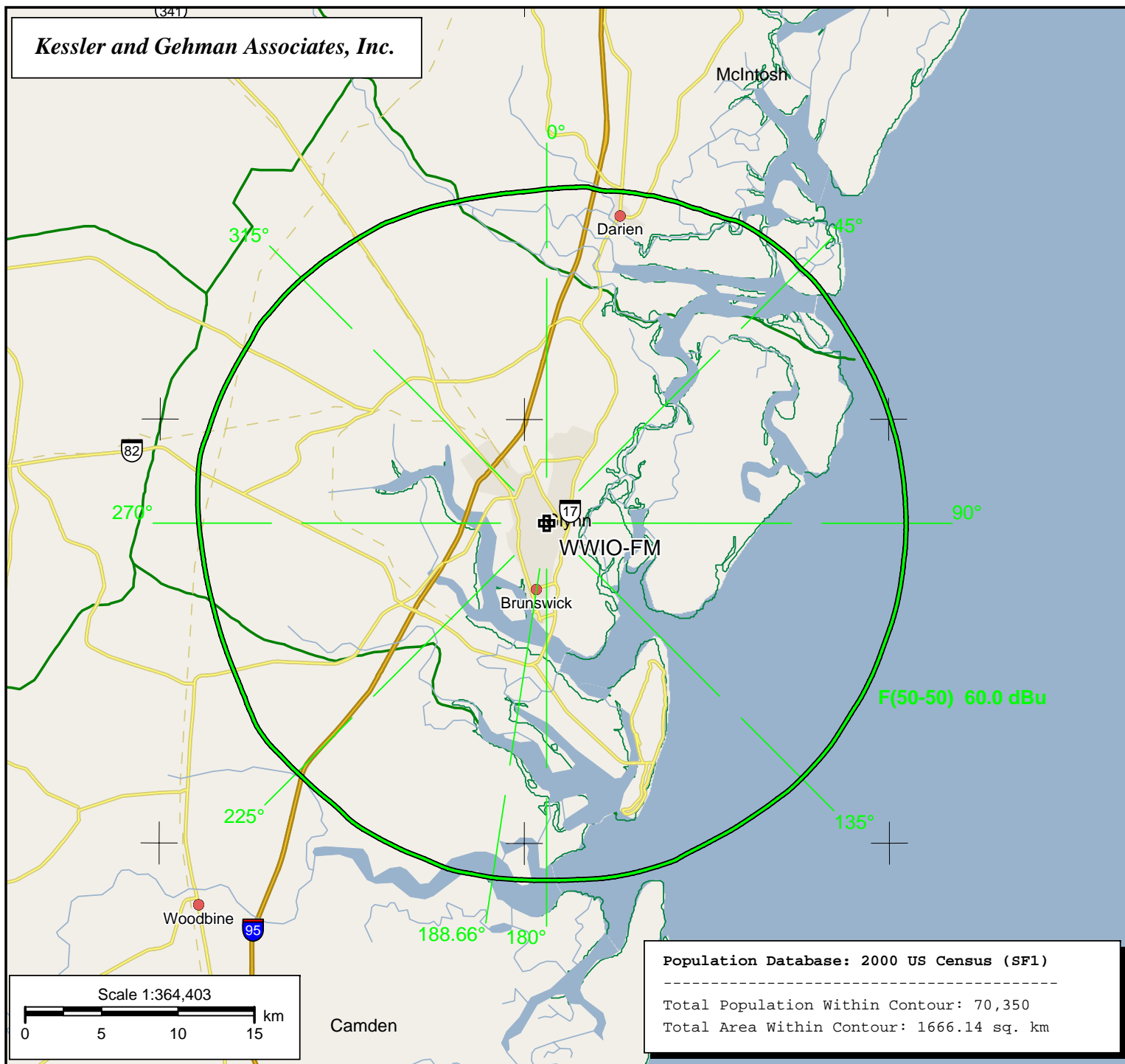


Exhibit E5

Kessler and Gehman Associates, Inc.

Co-Channel Contour Overlap Map

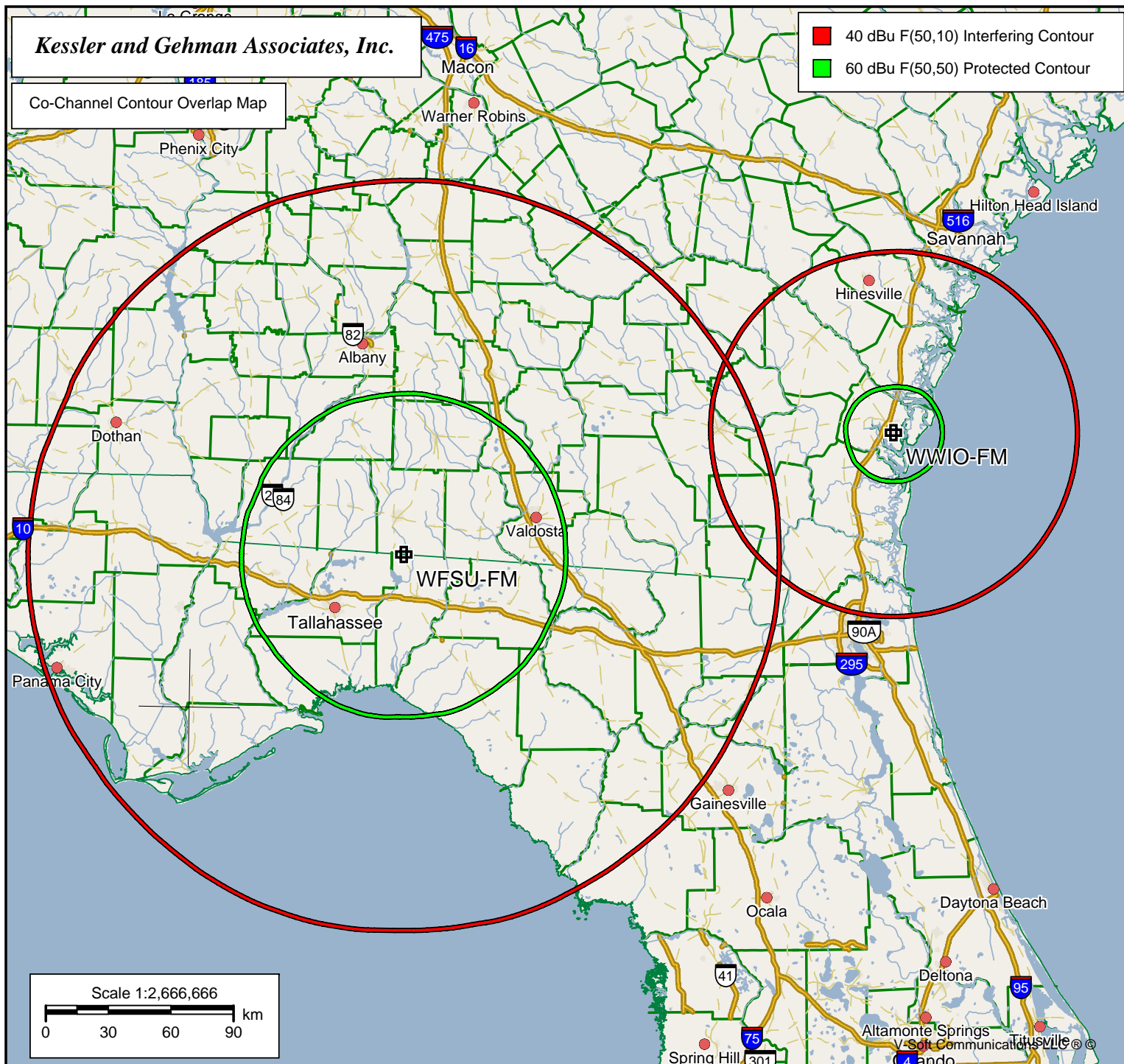
- 40 dBu F(50,10) Interfering Contour
- 60 dBu F(50,50) Protected Contour

WWIO-FM

Proposed
Latitude: 31-11-20 N
Longitude: 081-29-05 W
ERP: 11.70 kW
Channel: 205
AMSL Height: 48.0 m
Horiz. Pattern: Omni
Prop Model: None

WFSU-FM

BLED19950120KD
Latitude: 30-40-13 N
Longitude: 083-56-26 W
ERP: 95.00 kW
Channel: 205
AMSL Height: 427.0 m
Horiz. Pattern: Omni
Prop Model: None

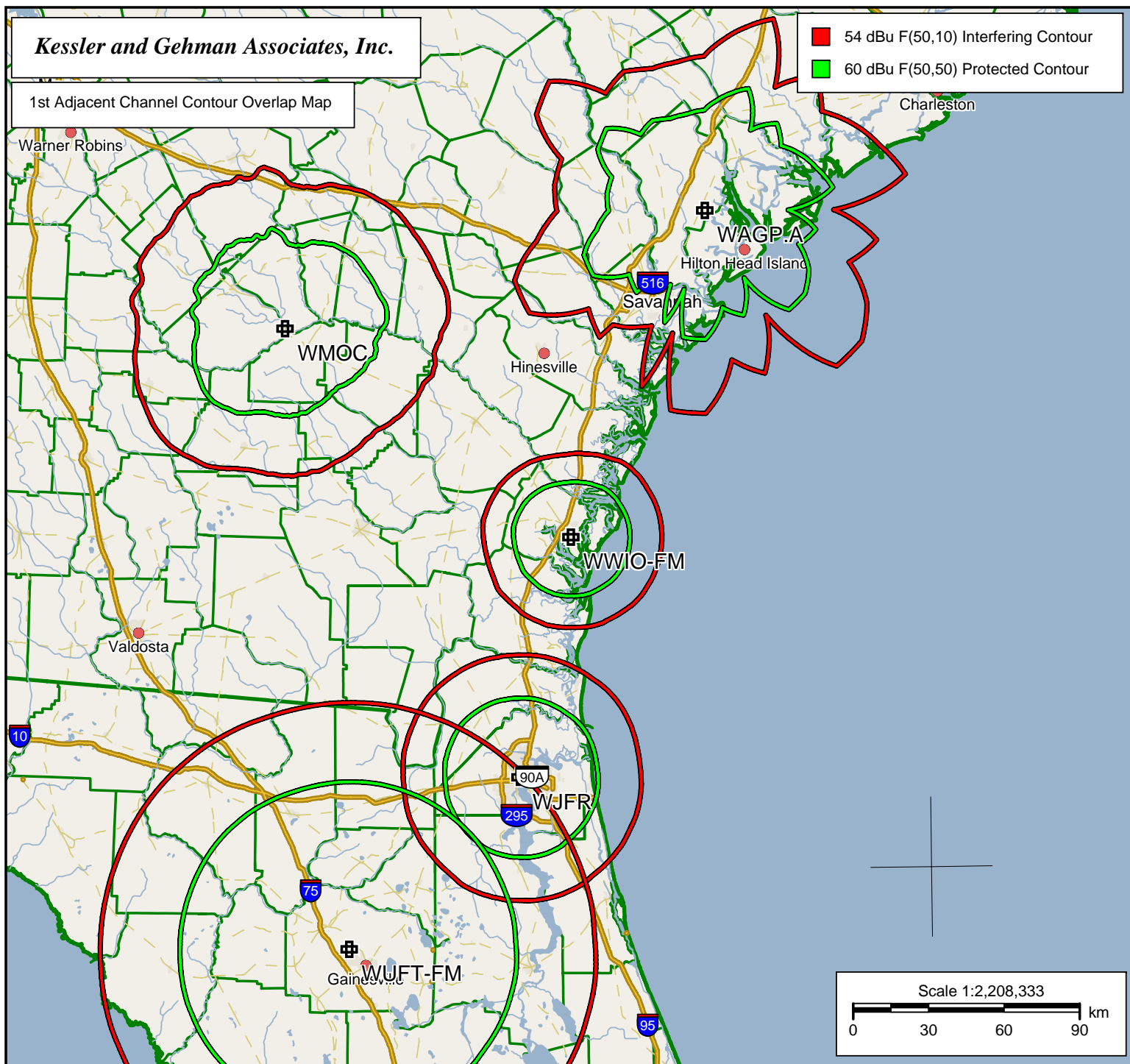


Scale 1:2,666,666
0 30 60 90 km

Exhibit E6A

Kessler and Gehman Associates, Inc.

1st Adjacent Channel Contour Overlap Map



54 dBu F(50,10) Interfering Contour
60 dBu F(50,50) Protected Contour

WWIO-FM

Proposed
Latitude: 31-11-20 N
Longitude: 081-29-05 W
ERP: 11.70 kW
Channel: 205
AMSL Height: 48.0 m
Horiz. Pattern: Omni
Prop Model: None

WJFR

BLED19870928KC
Latitude: 30-19-43 N
Longitude: 081-41-42 W
ERP: 8.00 kW
Channel: 204
AMSL Height: 113.0 m
Horiz. Pattern: Omni
Prop Model: None

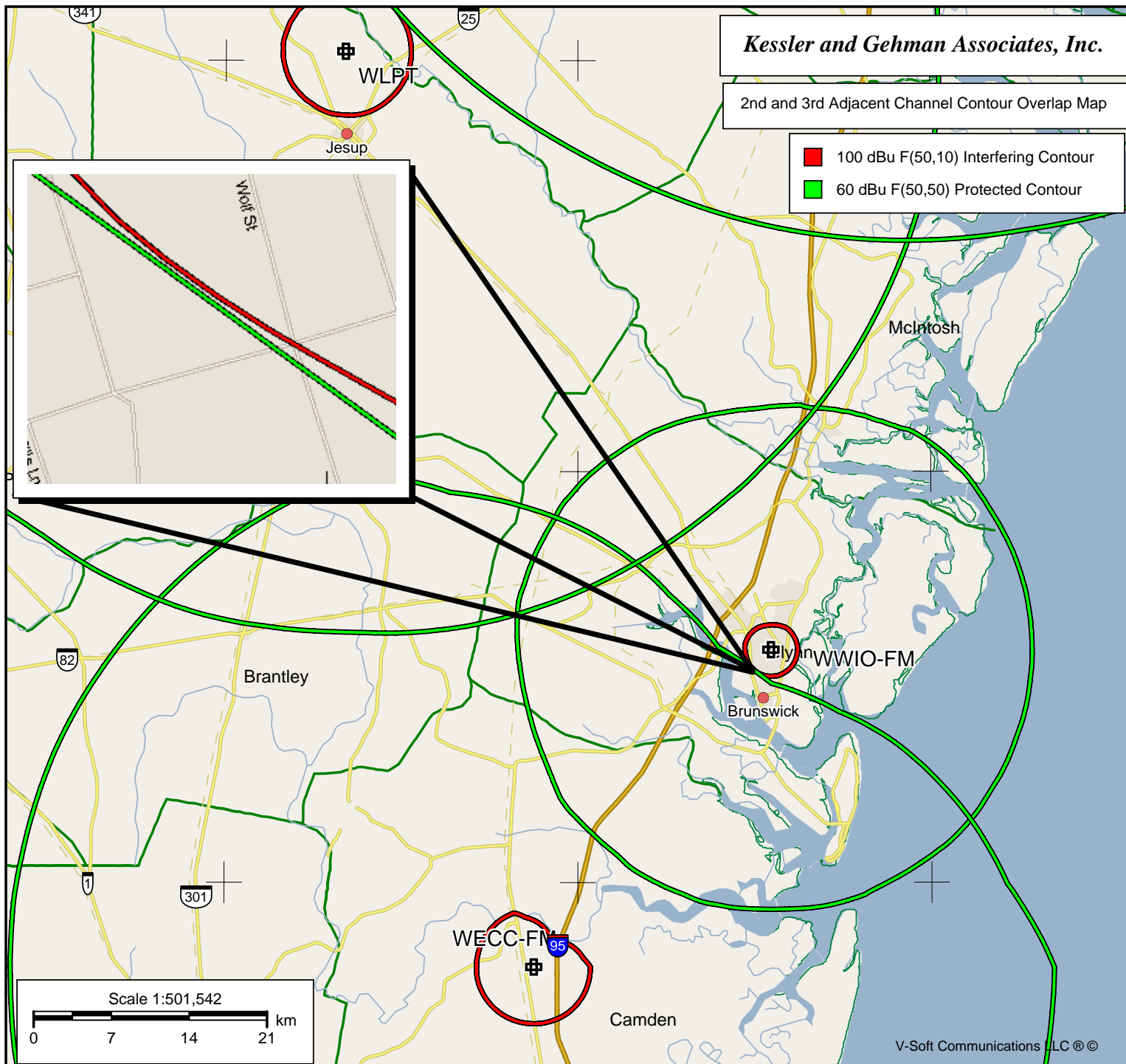
WMOC

BLED19970818KA
Latitude: 31-55-48 N
Longitude: 082-41-06 W
ERP: 50.00 kW
Channel: 204
AMSL Height: 113.0 m
Horiz. Pattern: Omni
Prop Model: None

WAGP.A

BPED20070604ACR
Latitude: 32-21-27.10 N
Longitude: 080-55-11.20 W
ERP: 100.00 kW
Channel: 204
AMSL Height: 105.4 m
Horiz. Pattern: Directional
Prop Model: None

Exhibit E6B



WWIO-FM
Proposed
Latitude: 31-11-20 N
Longitude: 081-29-05 W
ERP: 11.70 kW
Channel: 205
AMSL Height: 48.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

WECC-FM
BLED20051202AJY
Latitude: 30-55-54 N
Longitude: 081-42-30 W
ERP: 30.00 kW
Channel: 207
AMSL Height: 150.0 m
Horiz. Pattern: Directional
Prop Model: None

Exhibit E6C

Spacing Mode

REFERENCE					DISPLAY DATES
31 11 20 N			CLASS = C3		DATA 6-28-07
81 29 05 W			Current Spacings		SEARCH 6-28-07
----- Channel 205 - 88.9 MHz -----					
Call	Channel	Location	FCC File No.		Distance
---	---	---	---		--- km

0 TV Records within 225.00 km distance of
31° 11' 20.00" N, 81° 29' 5.00 " W

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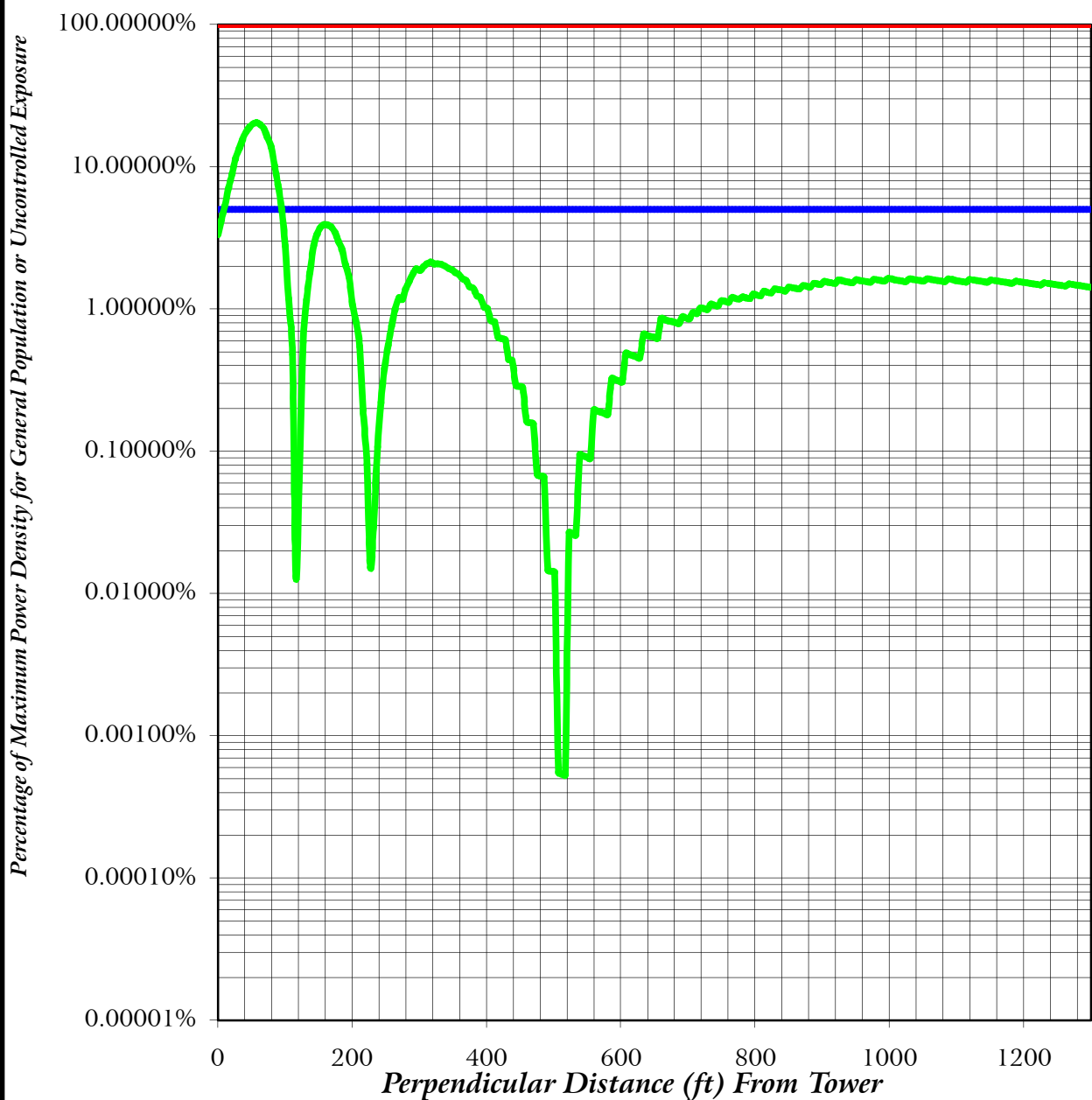
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EXHIBIT E7

FAR FIELD EXPOSURE TO RF EMISSIONS



- Maximum Allowable General Population or Uncontrolled Exposure
- 5 % of Maximum General Population or Uncontrolled Exposure
- Percentage of Maximum General Population or Uncontrolled Exposure

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EXHIBIT E8



METHODOLOGY AND EXPLANATION OF
ENVIRONMENTAL IMPACT / RADIO FREQUENCY RADIATION
HAZARD ANALYSIS

A theoretical analysis has been conducted of the human exposure to radio frequency radiation ("RFR") using the calculation methodology described in *OET Bulletin 65, Edition 97-01*. The RFR analysis is conducted pursuant to the following methodology:

Terrain¹ extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

¹ Terrain extraction is based upon a 3 arc second point spacing terrain database.