

# Section V-B - FM BROADCAST ENGINEERING DATA

## FOR COMMISSION USE ONLY

File No. \_\_\_\_\_  
 ASB Referral Date \_\_\_\_\_  
 Referred by \_\_\_\_\_

Name of Applicant

Pacifica Foundation

Call letters (if issued)

KPFT

Is this application being filed in response to a window? ☐ Yes ☒ No

If Yes, specify closing date: \_\_\_\_\_

Purpose of Application: (check appropriate boxes)

- |   |   |
|---|---|
| <input type="checkbox"/> Construct a new (main) facility                                  | <input type="checkbox"/> Construct a new auxiliary facility                         |
| <input checked="" type="checkbox"/> Modify existing construction permit for main facility | <input type="checkbox"/> Modify existing construction permit for auxiliary facility |
| <input type="checkbox"/> Modify licensed main facility                                    | <input type="checkbox"/> Modify licensed auxiliary facility                         |

If purpose is to modify, indicate below the nature of change(s) and specify the file number(s) of the authorizations affected.

- |   |  |
|---|--|
| <input type="checkbox"/> Antenna supporting-structure height  | <input checked="" type="checkbox"/> Effective radiated power |
| <input type="checkbox"/> Antenna height above average terrain | <input type="checkbox"/> Frequency                           |
| <input type="checkbox"/> Antenna location                     | <input type="checkbox"/> Class                               |
| <input type="checkbox"/> Main Studio location                 | <input type="checkbox"/> Other (Summarize briefly)           |

File Number(s) BMPED-960624TA

### 1. Allocation:

Channel No.	Principal community to be served		
211	City Houston	County Harris	State TX

Class (check only one box below)

- |                             |  |                            |                             |
|-----------------------------|--|----------------------------|-----------------------------|
| <input type="checkbox"/> A  | <input type="checkbox"/> B1            | <input type="checkbox"/> B | <input type="checkbox"/> C3 |
| <input type="checkbox"/> C2 | <input checked="" type="checkbox"/> C1 | <input type="checkbox"/> C | <input type="checkbox"/> D  |

### 2. Exact location of antenna.

(a) Specify address, city, county and state. If no address, specify distance and bearing relative to the nearest town or landmark.

7516 Fairbanks - North Houston Road, Houston, Harris County, Texas

(b) Geographical coordinates (to nearest second). If mounted on element of an AM array, specify coordinates of center of array. Otherwise, specify tower location. Specify South Latitude or East Longitude where applicable; otherwise, North Latitude or West Longitude will be presumed.

Latitude	29 °	53	14	Longitude	95 °	31	22
----------	------	----	----	-----------	------	----	----

3. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)? ☒ Yes ☐ No

If Yes, give call letter(s) or file number(s) or both.

Various 450/950 Services

If proposal involves a change in height of an existing structure, specify existing height above ground level including antenna, all other appurtenances, and lighting, if any. N/A

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4. Does the application propose to correct previous site coordinates?

☐ Yes ☒ No

If Yes, list old coordinates.

Latitude	0	Longitude	0
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5. Has the FAA been notified of the proposed construction?

☒ Yes ☐ No

If Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available. FAA Determination # 80ASW17690E

Exhibit No.

Date January 31, 1996 Office where filed Southwest Region, Ft. Worth

6. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

Landing Area	Distance (km)	Bearing (degrees True)
(a) _____	_____	_____
(b) _____	_____	_____

7. (a) Elevation: (to the nearest meter)

(1) of site above mean sea level;

33 meters

(2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and

248 meters

(3) of the top of supporting structure above mean sea level [(aX1) + (aX2)]

281 meters

(b) Height of radiation center: (to the nearest meter) H = Horizontal; V = Vertical

(1) above ground

200 meters (H)200 meters (V)

(2) above mean sea level [(aX1) + (bX1)]

233 meters (H)233 meters (V)

(3) above average terrain

205 meters (H)205 meters (V)

8. Attach as an Exhibit sketch(es) of the supporting structure, labelling all elevations required in Question 7 above, except item 7(bX3). If mounted on an AM directional-array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No.

No Change from  
BMPED-960624IA

9. Effective Radiated Power:

(a) ERP in the horizontal plane

100 kw (H\*) 100 kw (V\*)

(b) Is beam tilt proposed?

☐ Yes ☒ No

If Yes, specify maximum ERP in the plane of the tilted beam, and attach as an Exhibit a vertical elevational plot of radiated field.

Exhibit No.

\_\_\_\_\_ kw (H\*) \_\_\_\_\_ kw (V\*)

\*Polarization

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10. Is a directional antenna proposed?

☐ Yes ☒ No

If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s) and tabulations of horizontally and vertically polarized radiated components in terms of relative field.

Exhibit No.

11. Will the main studio be located within the 70 dBu or 3.16 mV/m contour?

☒ Yes ☐ No

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1125.

Exhibit No.

12. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast *(except citizens band or amateur)* radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any proposed or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference?

☒ Yes ☐ No

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. *(See 47 C.F.R. Sections 73.315(b), 73.316(d) and 73.318.)* See Engineering Statement

Exhibit No.

13. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction D for Section V. Further, the map must clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers. No Change from BMPED-960624IA

Exhibit No.

14. Attach as an Exhibit *(note the source)* a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.

Figure 1

(a) the proposed transmitter location, and the radials along with profile graphs have been prepared;

(b) the 1 mV/m predicted contour and, for noncommercial educational applicants applying on a commercial channel, the 3.16 mV/m contour; and

(c) the legal boundaries of the principal community to be served.

15. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mV/m contour.

Area 12,967 sq. km.

Population 3,404,696

16. Attach as an Exhibit a map *(Sectional Aeronautical charts where obtainable)* showing the present and proposed -1 mV/m (60 dbu) contours.

Exhibit No.

Figure 2

Enter the following from Exhibit above:

Gain Area 4302 sq. km.

Loss Area                      sq. mi.

Percent change (gain area plus loss area as percentage of present area) 49.6 %.

If 50% or more this constitutes a major change. Indicate in question 2(c), Section I, accordingly.

17. For an application involving an auxiliary facility only, attach as an Exhibit a map (Sectional Aeronautical Chart or equivalent) that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.

N/A

(a) the proposed auxiliary 1 mV/m contour; and

(b) the 1 mV/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license. See 47 C.F.R. Section 73.1675. (File No.: \_\_\_\_\_)

18. Terrain and coverage data (to be calculated in accordance with 47 C.F.R. Section 73.3131).

Source of terrain data: (check only one box below)

☒ Linearly interpolated 30-second database

☐ 7.5 minute topographic map

(Source: N.G.D.C.)

☐ Other (briefly summarize) \_\_\_\_\_

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted Distances to the 1 mV/m contour (kilometers)
0	199.4	63.7
45	202.7	64.1
90	210.2	64.8
135	215.7	65.3
180	209.9	64.7
225	205.1	64.3
270	198.1	63.6
315	197.0	63.5

#### Allocation Studies

(See Subpart C of 47 C.F.R. Part 73)

19. Is the proposed antenna location within 320 kilometers (199 miles) of the common border between the United States and Mexico?

☐ Yes ☒ No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Agreement between the United States of America and the United Mexican States concerning Frequency Modulation Broadcasting in the 88 to 108 MHz band.

Exhibit No.

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20. Is the proposed antenna location within 320 kilometers of the common border between the United States and Canada?

☐ Yes ☒ No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Working Agreement for Allocation of FM Broadcasting Stations on Channels 201-300 under The Canada-United States FM Agreement of 1947.

Exhibit No.

21. If the proposed operation is for a channel in the range from channel 201 through 220 (88.1 through 91.9 MHz), or if this proposed operation is for a class D station in the range from Channel 221 through 300 (92.1 through 107.9 MHz), attach as an Exhibit a complete allocation study to establish the lack of prohibited overlap of contours with other U.S. stations. The allocation study should include the following:

Exhibit No.

Figure 4

- (a) The normally protected interference-free and the interfering contours for the proposed operation along all azimuths.
- (b) Complete normally protected interference-free contours of all other proposals and existing stations to which objectionable interference would be caused.
- (c) Interfering contours over pertinent arcs of all other proposals and existing stations from which objectionable interference would be received.
- (d) Normally protected and interfering contours over pertinent arcs, of all other proposals and existing stations, which require study to show the absence of objectionable interference.
- (e) Plot of the transmitter location of each station or proposal requiring investigation, with identifying call letters, file numbers and operating or proposed facilities.
- (f) When necessary to show more detail, an additional allocation study will be attached utilizing a map with a larger scale to clearly show interference or absence thereof.
- (g) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
- (h) The name of the map(s) used in the Exhibit(s).

22. With regard to any stations separated by 53 or 54 channels (10.6 or 10.8 MHz) attach as an Exhibit information required in 1/ *separation requirements involving intermediate frequency (i.f.) interference*.

Exhibit No.

Figure 4

23.(a) Is the proposed operation on Channel 218, 219, or 220?

☐ Yes ☒ No

(b) If the answer to (a) is yes, does the proposed operation satisfy the requirements of 47 C.F.R. Section 73.207?

☐ Yes ☐ No

(c) If the answer to (b) is yes, attach as an Exhibit information required in 1/ regarding separation requirements with respect to stations on Channels 221, 222 and 223.

Exhibit No.

(d) If the answer to (b) is no, attach as an Exhibit a statement describing the short spacing(s) and how it or they arose.

Exhibit No.

1/ A showing that the proposed operation meets the minimum distance separation requirements. Include existing stations, proposed stations, and cities which appear in the Table of Allotments; the location and geographic coordinates of each antenna, proposed antenna or reference point, as appropriate; and distance to each from proposed antenna location.

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(e) If authorization pursuant to 47 C.F.R. Section 73.215 is requested, attach as an Exhibit a complete engineering study to establish the lack of prohibited overlap of contours involving affected stations. The engineering study must include the following: N/A

Exhibit No.

- (1) Protected and interfering contours, in all directions (360 ), for the proposed operation.
- (2) Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as transmitter location.
- (3) When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur.
- (4) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
- (5) The official title(s) of the map(s) used in the exhibits(s).

24. Is the proposed station for a channel in the range from Channel 201 to 220 (88.1 through 91.9 MHz) and the proposed antenna location within the distance to an affected TV Channel 6 station(s) as defined in 47 C.F.R. Section 73.525?

☒ Yes ☐ No

If Yes, attach as an Exhibit either a TV Channel 6 agreement letter dated and signed by both parties or a map and an engineering statement with calculations demonstrating compliance with 47 C.F.R. Section 73.525 for each affected TV Channel 6 station. See Engineering Statement and Figure 7

Exhibit No.

25. Is the proposed station for a channel in the range from Channel 221 to 300 (92.1-107.9 MHz)?

☐ Yes ☒ No

If Yes, attach as an Exhibit information required in 1/. (Except for Class D (secondary) proposals.)

Exhibit No.

26. Environmental Statement (See 47 C.F.R. Section 1.1301 et seq.)

Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact?

☐ Yes ☒ No

If you answer Yes, submit as an Exhibit an Environmental Assessment required by Section 1.1311.

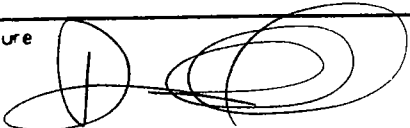
Exhibit No.

If No, explain briefly why not.

See Engineering Statement

## CERTIFICATION

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined the foregoing and found it to be accurate and true to the best of my knowledge and belief.

Name (Typed or Printed) Donald E. Mussell Jr. NCE	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer
Signature 	Address (Include ZIP Code) 415 Emerald Forest Lane Bonny Doon, CA 95060
Date April 29, 1997	Telephone No. (Include Area Code) (408) 457-8098

## **ENGINEERING STATEMENT**

### **INTRODUCTION**

This engineering statement, along with Section V-B of FCC Form 340 to which it is attached, furnishes technical data in support of an application by the Pacifica Foundation to modify the facilities of KPFT, Houston, Texas (Construction Permit BPED-960624IA and License BLED-860428KA).

The instant application proposes to utilize an existing tower in northwest Houston, Texas. The instant application proposes to utilize an antenna height of 229 meters above average terrain, 346 meters above mean sea level, and a circularly polarized non-directional antenna with an effective radiated power of 100 kilowatts.

All calculations, contours and other technical information contained in this statement have been determined in accordance with the existing rules of the Federal Communications Commission.

### **ALLOCATION CONSIDERATIONS**

Figure 4 presents the result of a detailed channel allocation and interference study. This exhibit demonstrates that the use of Channel 211 with the facilities proposed at the location proposed meet all separation requirements with respect to all known existing and proposed broadcast stations, except for KACC (Channel 209), Alvin, Texas (BLED-931110KA), and KJIC (Channel 213), Santa Fe, Texas (BMPED-870921KA). The applicant requests a waiver of 47 CFR 73.509(c) in order to receive second-adjacent channel overlap over a limited area and thereby allow a substantial increase in service to other areas. A frequency availability study was conducted, and there is no other possible frequency available to the applicant. The exact areas of overlap are depicted in Figures 5, 6 and 8, and the overlap with respect to Census Blocks is depicted in Figure 9.

#### **Discussion of Proposed Overlap**

The instant application qualifies for processing under the commission's policy of waiving small amounts of received overlap to better serve the public's interest. The public interest benefits in this proposal decisively outweigh the very slight overlap that the KPFT interference-free contour will receive.

In Educational Information Corporation, ("WCPE"), 6 FCC Rcd 2207 (1991) the Commission re-examined its policy with respect to waivers of Section 73.509 for second and third-channel overlaps and held that:

Second or third adjacent channel overlap may result in the replacement of one signal by another (not a complete loss of service) and is confined to a very small area around the transmitter of the interfering station. In addition, the potential for such interference to occur depends to a great extent on the quality of the receivers used within the affected area.

The Commission has long recognized the unique characteristics of the noncommercial service and the need for flexibility to respond to the growing demand for such service. We are also more sensitive today to the increasing limitations within the reserved band which reflect the increased demand for service over the last thirty years. For these reasons, we are now inclined to grant waivers of second or third adjacent channel overlap in circumstances such as WCPE's, where the benefit of increased noncommercial educational service so heavily outweighs the potential for interference in very small areas.

6 FCC Rcd 2208

The waiver requested in this application satisfies the criteria established in WCPE. The overlap is exclusively with second adjacent channel stations. No co-channel or first-adjacent channel overlap is involved (Compare Board of Education of City of Atlanta, 3 CR 798 (1996)). The overlap is exclusively overlap received. No overlap will be caused to KACC or KJIC. The benefit of increased service heavily outweighs the potential for interference in small areas. Grant of the application will increase KPFT's service area from 8,665 square kilometers to 12,967 square kilometers, an increase of 49.6% of its presently authorized service area. The increased service will bring KPFT's programming to a total population of 3,404,696, an increase of nearly 249,705 people, nearly an 8% increase.

The gains to be realized by the proposal are subject to areas of received overlap affecting a total of 215.88 square kilometers and a population of 31,602 persons. In the aggregate, the overlap areas consist of 1.7% of the proposed service area and 0.94 percent of the population proposed to be served. Thus, if the overlap areas are subtracted from the total increase, the proposal would extend service to some 12,812 square kilometers and a population of 3,373,094, a gain of 4,086 square kilometers in area and 218,103 in population. Compare Saddleback Community College, 4 CR 1156 (1996) (waiver denied when applicant would receive prohibited second-adjacent overlap corresponding to 3.6% of the population and 2.1% of the area within the proposed 60 dBu contour).



With the exception of the overlap areas identified, the proposal will comply with all relevant requirements, including minimum distance separation requirements for stations 53 or 54 channels removed. See Figure 4.

### **ELEVATION AND CONTOUR DATA**

The average elevations from three to sixteen kilometers from the proposed site were derived using a linearly interpolated 30 second database, using data sourced from the N.G.D.C. The calculation of average terrain was computed utilizing 8 radials evenly spaced in accordance with 47 C.F.R 73.313 of the FCC rules. Figure 3 is a tabulation of average elevations, effective antenna heights and distances to the 60 dBu FCC 50/50 contour.

### **CHANNEL 6 INTERFERENCE STUDY**

In accordance with Section 73.525(a)(1) of the commission's rules, a study was conducted to determine whether the proposed facilities would affect any existing or proposed Channel 6 operations. The closest Channel 6 Television station is:

KFDM-TV Beaumont, Texas Ch. 06- 100 KW.....152.29Kilometers

According to 73.525(a)(1), for Channel 211 operations, 196 Kilometers is the cut-off for Channel 6 Television station to be considered "affected". The KFDM-TV Grade "B" (47 dBu) contour is 48.6 kilometers distant @ 80.9 Degrees true, and the 67 dbu interference contour for the proposed facility extends 38.5 kilometers towards the KFDM-TV Grade B contour, resulting in an 10.1 kilometer clearance. Figure 8 illustrates this separation. As there are no other Channel 6 operations within 196 Kilometers of the proposed transmitter site it is believed that the facilities proposed in the instant application are in compliance with all aspects of Section 73.525 of the FCC Rules.

### **AERONAUTICAL AND ENVIRONMENTAL IMPACT CONSIDERATIONS**

The existing antenna is side mounted on an existing tower in northwest Houston, Texas. The existing tower is 248 meters overall above ground, and 281 meters overall above mean sea level. The existing 13-Bay circularly polarized, half-wave spaced non-directional antenna is side-mounted, and the center of radiation is 200 meters above ground, 233 meters above mean sea level. The ground elevation at the tower is 33 meters above mean sea level.

The nearest Airfield is the Houston International Airport, located 20.4 kilometers northwest @ 59 degrees true.

According to information supplied by the applicant, the proposed site is not a subject of controversy on environmental grounds. The site is not believed to be near any official designated wilderness area, wildlife preserve, or any culturally, historically, architecturally or archaeologically significant feature.

The site is not located in a floodplain, and no change in the character of the site is proposed as a part of the construction. No change in grade or land surface is proposed. The site will experience little or no change in human presence as a result of the proposed construction.

### **NON-IONIZING RADIATION CALCULATIONS**

In accordance with section 1.1307(b) of the Commission's rules, an assessment was made of the proposed facility's radio frequency radiation levels. Table 1 of OST Bulletin No.65, dated October 1985 was utilized to determine that the proposed facility would not exceed any standards for radio frequency radiation as defined by ANSI C95.1-1982.

The applicant is proposing to utilize an existing tower. The proposed location has a number of two-way radio service antennas on the tower. An analysis was performed of proposed facility at the site using the outline given in OST Bulletin 65 dated October, 1985.

The analysis was performed by making certain assumptions, then calculating the power density at a height of two meters, which represents the height of an average person, then finding the percentage of the allowable level.

**The following assumptions were made for the analysis of RF at the site:**

1. All FM Radio and Television facilities within 60 meters of the tower are included in the calculations;
2. All radiation is considered circularly polarized, except for those emissions that are known to be horizontal only or vertical only;
3. Worst case downward radiation was used.

4. S, the power density at two meters above ground, was calculated using the following formula:

$$S = \frac{(0.64)(1.64)(\text{Power})(1000)}{(\text{PI})(\text{Distance}^{**2})}$$

Where:

S = Power Density in Milliwatts/SQ. CM

PI = 3.1416

Power = Effective Radiated Power in Watts

Distance = From Two Meters above the base of the tower to COR in CM

\*\*2 = To the second power (Squared)

Figure 1 provides the results of this analysis and clearly demonstrates that the addition of the proposed facility will not pose a radiation hazard.

**FIGURE 1**

<u>STATION</u>	<u>HEIGHT</u>	<u>POWER</u>	<u>MW/SQ.CM</u>	<u>LIMIT</u>	<u>PERCENTAGE</u>
Proposed	198 Meters	200 kW	0.1094	1.000	10.947 %
450 Mhz	243 Meters	.52 kW	0.0003	1.500	0.020 %
895 Mhz	243 Meters	3.45 kW	0.0020	2.983	0.067 %
<b>TOTAL:</b>					<b>11.034 %</b>

The total radiation is 11.034 % of the ANSI limit. Thus, the addition of the new proposal to the site will not exceed the ANSI radiation hazard standard. The proposed site is within a very sparsely populated area. Only authorized service personnel are allowed on the site.


The applicant will, in coordination with the other users of the site, reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radio frequency radiation in excess of FCC guidelines.

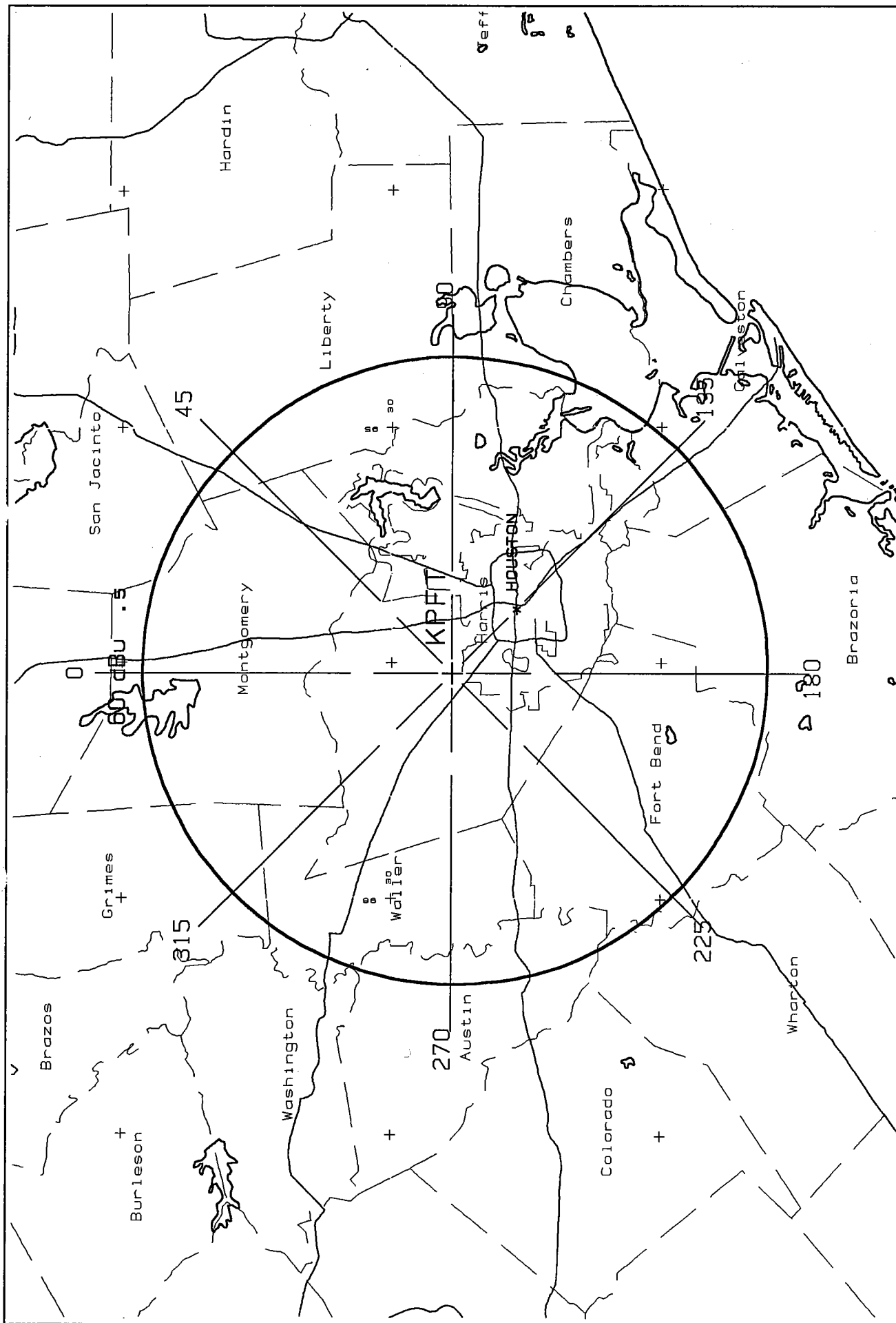
## **ELECTROMAGNETIC COMPATIBILITY AND BLANKETING**

There are no additional broadcast facilities located within 60 meters of the proposed transmitting site. No adverse interaction is expected to occur between the proposed facility and any other existing or proposed facilities. Applicant acknowledges its responsibility to correct any problems caused by intermodulation interference resulting from its proposed operation of Channel 211 and certifies that it will assume full financial responsibility for resolving any interference related problems.

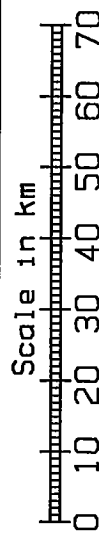
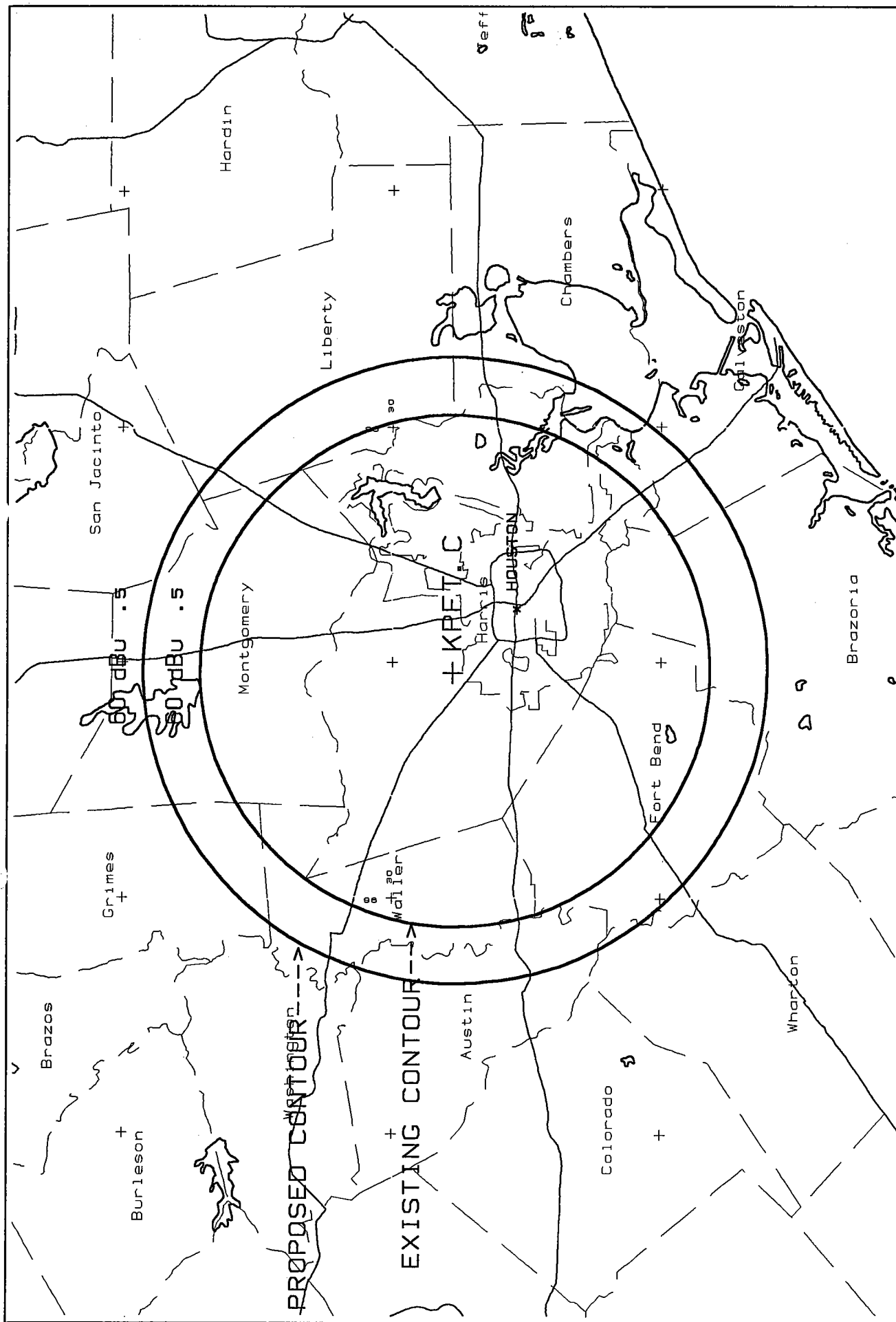
The 115 dBu blanketing contour extends 1.59 km from the proposed site covering an area that is lightly populated. Should any blanketing interference arise, the applicant will work to solve the problem in an expedient manner and will take full financial responsibility for the resolution of all complaints for a period of one year following commencement of program tests. After the first year, applicant will continue to provide technical information and assistance to any complainants. No specific procedure is proposed as each case will be handled as the circumstances dictate.

**Respectfully Submitted,  
Broadcast Engineering Services**

  
**Donald E. Mussell Jr. NCE**  
**April 29, 1997**



Scale in km 0 10 20 30 40 50 60 70	PROPOSED KPFT 211C1 100kW N. Lat. 29 53 14 W. Lng. 95 31 22	FIGURE 1 Pacifica Foundation
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KPFT Modification to BMPED-960624IA

N. Lat. 29 53 14 W. Lng. 95 31 22

FIGURE 2

Pacifica Foundation

FIGURE 3  
Elevation and Contour Data  
Proposed Minor Change  
KPFT(FM) Houston, Texas

ERP = 100 kW  
FM - 2-6 Tables

Azimuth Deg T.	Ave. Elev. 3 to 16 km Meters AMSL	Effective Antenna Height Meters AAT	ERP (dBk)	F(50-50) Distance to 60 dBu Contour km
0	33.6	199.4	20.000	63.7
45	30.3	202.7	20.000	64.1
90	22.8	210.2	20.000	64.8
135	17.3	215.7	20.000	65.3
180	23.1	209.9	20.000	64.7
225	27.9	205.1	20.000	64.3
270	34.9	198.1	20.000	63.6
315	36.0	197.0	20.000	63.5

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Ave. = 28.2 M                      204.8 M

Antenna Radiation Center AMSL = 233.0 M

Geographic Coordinates:

North latitude: 29 53 14  
West longitude: 95 31 22

04-27-1997

## Broadcast Engineering Services

(408) 457-8098

CH# 211C1 - 90.1 MHz

## FIGURE 4 - ALLOCATION STUDY

INTERFERENCE CHECKS WITH KPFT.C, HOUSTON, TX at N. LAT. 29 53 14 W. LNG. 95 31 22

PWR = 100 kW H.A.A.T. = 205 M C.O.R. = 233 M AMSL

Protected F(50-50) 60 dBu = 64.27 km

F(50-10) 40 dBu = 162.4 54 dBu = 95.19 80 dBu = 27.9 100 dBu = 8.33

CH#	CALL	TYPE	* IN *	* OUT *	BEARING	DISTANCE	LAT.	PWR(kW)	INT(km)	PRO(km)
CITY	STATE	LICENSEE			<---		LNG.	HAAT(M)	COR(M)	FILE #
209C2	KTXB	LI VN	91.2	100.9	79.8	168.71 km	30 09 27	9.00	13.23	39.92
Beaumont	TX	Family Stations, Inc.			259.8	104.83 Mi	93 48 06	173.0	175	BLED900205KA
FCC Comment > Vertically Polarized Only										
209A	AP209 *	AP CN	28.1	53.8	289.4	96.02 km	30 10 28	0.25	4.46	14.48
Brenham	TX	American Family Associatio			109.4	59.66 Mi	96 27 43	121.7*	221	BPED970304MB
> Reference HAAT at 289.4 degrees = 196.6 M, Pwr.= 100 kW, Pro. contour = 63.49 km, Int. contour = 27.78 km										
209A	KACC *	LI CN	-11.6	5.7	150.2	62.20 km	29 24 01	5.60	8.79	27.60
Alvin	TX	Alvin Community College			330.2	38.65 Mi	95 12 13	98.3*	109	BLED931110KA
> Reference HAAT at 150.2 degrees = 213.4 M, Pwr.= 100 kW, Pro. contour = 65.05 km, Int. contour = 28.89 km										
210A	ALOPEN	AL N	84.6	69.1	242.8	192.62 km	29 05 30	6.00	43.74	28.29
Cuero	TX	14185			62.8	119.69 Mi	97 17 19	100.0	0	
FCC Comment > International Class A with respect to Mexico. A noncommercial educational application for this allotment which meets the spacing requirements of Section 73.207 with respect to Mexican stations and allotments, and which does not propose an ERP in excess of 3.0 kW nor facilities in excess of 3.0 kW ERP at 100 meters HAAT, may be granted without obtaining Mexican concurrence prior to grant.										
EFFECTIVE 9-10-62.										
211C1	KPFT	LI CY	-211.8	-214.0	340.1	4.32 km	29 55 26	100.00	151.81	55.97
Houston	TX	Pacifica Foundation			160.1	2.68 Mi	95 32 17	132.0	166	BLED860428KA
211C3	KSAU	LI CN	60.8	18.2	22.7	209.34 km	31 37 45	3.50	84.30	28.72
Nacogdoches	TX	Stephen F. Austin State Un			202.7	130.08 Mi	94 40 44	137.0	246	BLED890731KA
212C1	KBJS.C	CP DCN	86.5	84.6	4.7	241.83 km	32 03 40	19.00	91.07	62.02
Jacksonville	TX	East Texas Media Associati			184.7	150.27 Mi	95 18 50	392.0	525	BPED930107JD
FCC Comment > FROM CHANNEL 212A										
212C1	KBJS.A	AP DCN	86.5	84.6	4.7	241.83 km	32 03 40	19.00	91.07	62.02
Jacksonville	TX	East Texas Media Associati			184.7	150.27 Mi	95 18 50	392.0	525	BMPED970210IA
FCC Comment > From Channel 212A										
213C2	AP213	AP DVN	52.8	60.4	92.2	131.82 km	29 50 29	20.00	14.73	43.54
Fannett	TX	American Family Associatio			272.2	81.91 Mi	94 09 34	146.0	146	BPED970219MD
FCC Comment >										



CH#	CALL	TYPE	* IN *	* OUT *	BEARING	DISTANCE	LAT.	PWR(kW)	INT(km)	PRO(km)
CITY	STATE	LICENSEE			<---		LNG.	HAAT(M)	COR(M)	FILE #

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## Vertical Polarization Only

213C2	AP213	AP DVN	52.8	60.4	92.2	131.82 km	29 50 29	20.00	14.73	43.54
Fannett		TX American Family Associatio			272.2	81.91 Mi	94 09 34	146.0	146	BPED970203MB

FCC Comment > Vertical Polarization Only

213C3	KJIC *	LI CN	-6.7	5.2	157.0	70.87 km	29 17 56	6.00	12.55	36.85
Santa Fe		TX Community Radio, Inc.			337.0	44.04 Mi	95 14 11	181.8*	189	BLED931203KA

> Reference HAAT at 157 degrees = 213.2 M, Pwr.= 100 kW, Pro. contour = 65.03 km, Int. contour = 28.87 km

213A	KSHU *	LI CN	21.6	43.8	358.4	91.67 km	30 42 50	3.00	6.32	19.97
Huntsville		TX Sam Houston State Universi			178.4	56.96 Mi	95 32 58	70.1*	173	BLED870921KA

> Reference HAAT at 358.4 degrees = 199.2 M, Pwr.= 100 kW, Pro. contour = 63.73 km, Int. contour = 27.95 km

## i.f. RELATIONSHIPS:

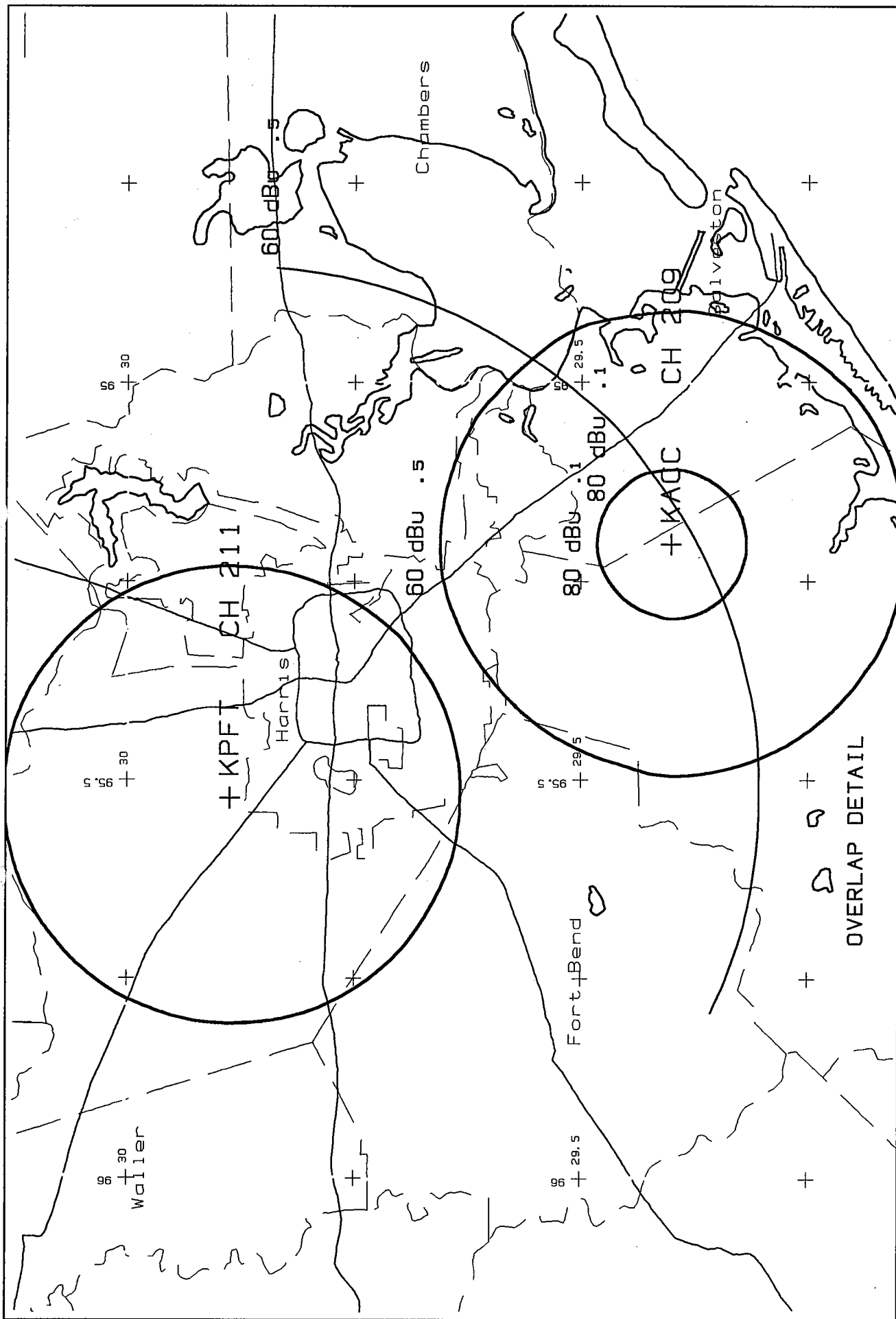
264C	KRTXFM	LI CN	41.0 R	56.8 M	79.3	97.82 km	30 03 05	100.00	13.64	91.63
Winnie		TX Tichenor License Corporati			259.3	60.78 Mi	94 31 37	595.0	609	BLH961226KD

FCC Comment > From Channel 264C2 Jasper, Tx, per D90-90

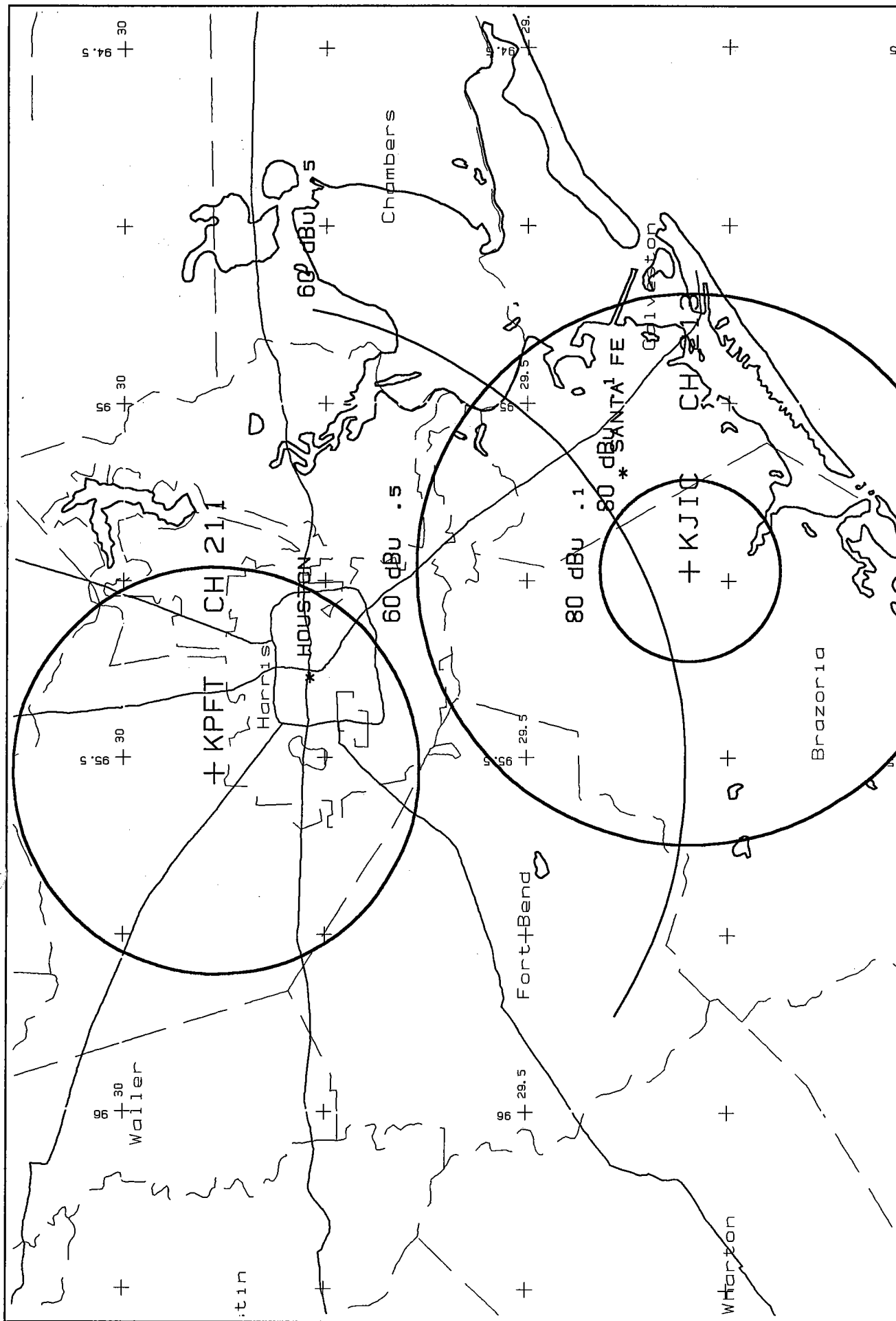
- Nearest CH 6 Grade B =KFDMTVat 48.6 km

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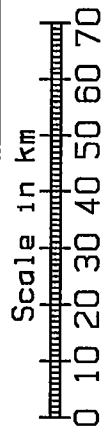
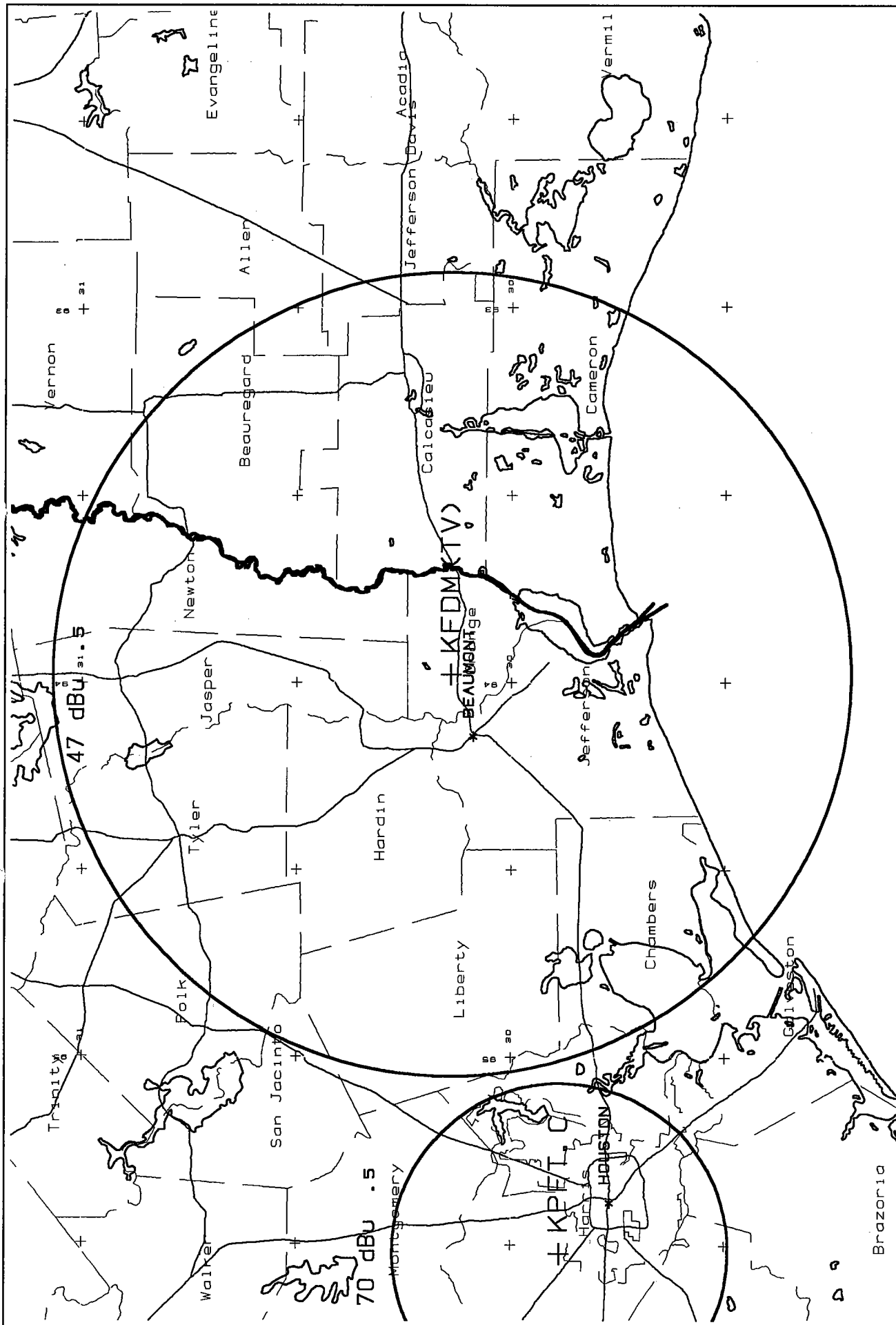
\* Uses actual antenna radial HAAT and power toward reference



**FIGURE 5**  
 KPFT Proposed 211C1 100kW  
 KACC BLED931110KA 209A 5.6kW  
 Pacifica Foundation - KPFT



Scale in km		KPFT Proposed		211C1 100kW		FIGURE 6	
0 10 20 30 40		KJIC		BLED931203KA 213C3 6kW		Pacifica Foundation - KPFT	

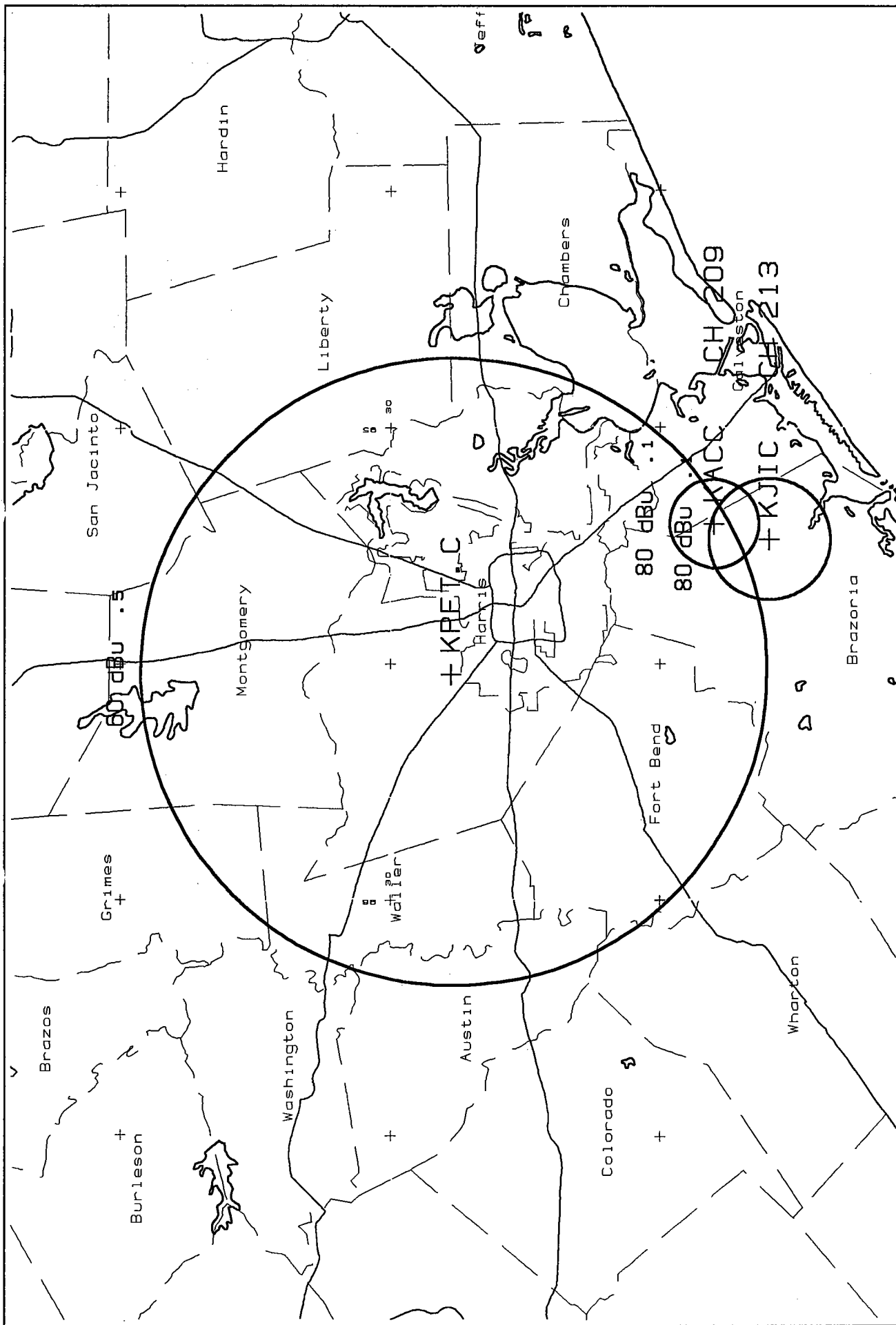


KFDM TV 06- 100kW Beaumont, Texas

N. Lat. 30 08 24 W. Lng. 93 58 44

FIGURE 7

Pacifica Foundation - KPFT



Scale in km

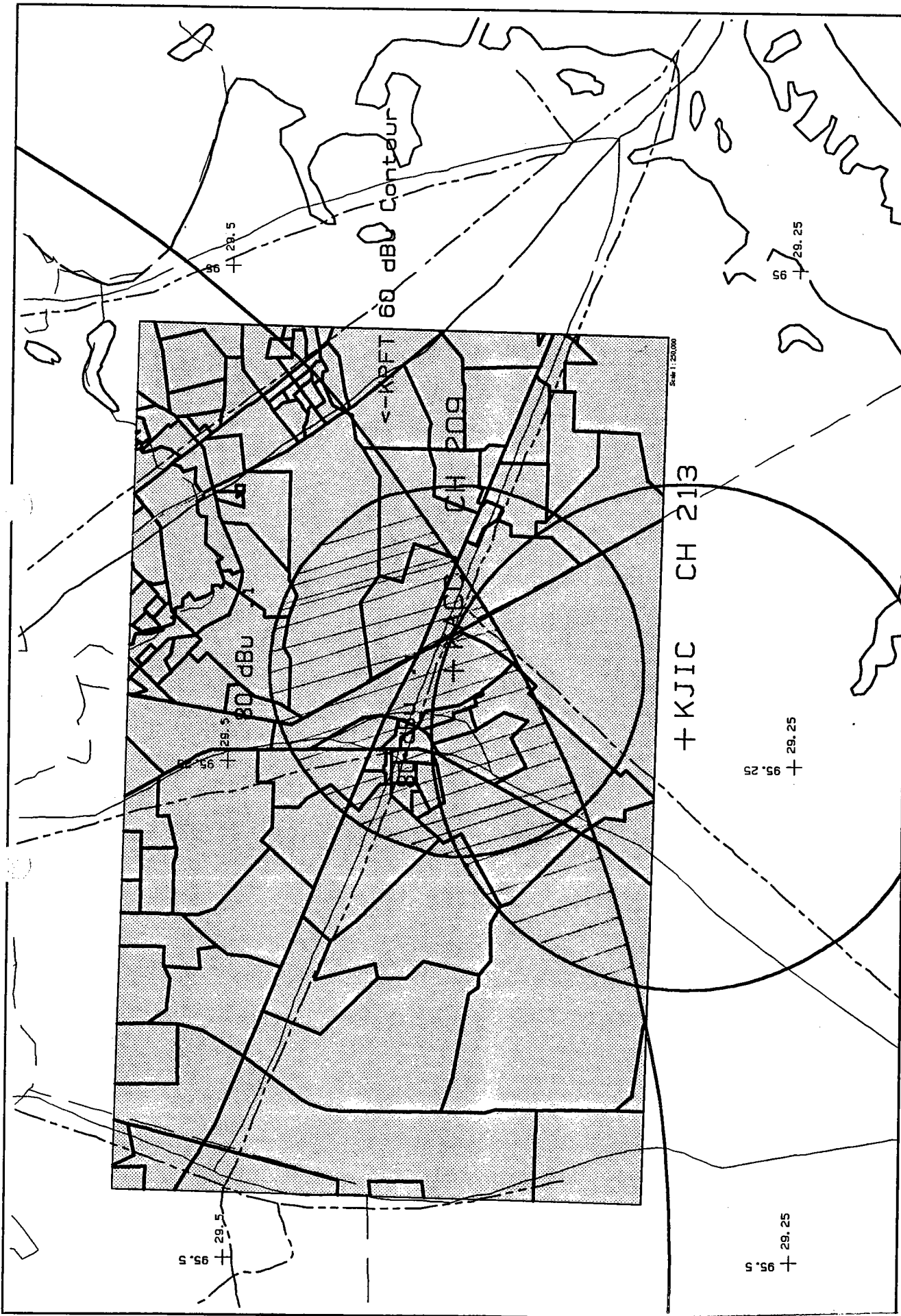
0 10 20 30 40 50 60 70

PROPOSED KPFT 211C1 100kW

N. Lat. 29 53 14 W. Lng. 95 31 22

FIGURE 8

Pacifica Foundation - KPFT



**AFFIDAVIT AND QUALIFICATIONS OF  
DONALD E. MUSSELL JR.**

State of California                    )  
Bonny Doon                            )  
County of Santa Cruz                )

Donald E. Mussell Jr. affirms that he is a consulting radio and electronics engineer; that he is Certified as a Broadcast Engineer, Class 1, by the National Association of Radio and Telecommunications Engineers, Inc.; That he is recognized as a Broadcast Technologist by the Society of Broadcast Engineers; That he held a First Class Radiotelephone License from 1975 until 1985, when it was replaced by a lifetime General Class Radiotelephone license (PG-12-20588), issued by the Federal Communications Commission in January of 1985; that the foregoing report was prepared by him or under his direction; and that the statements contained therein are true to his own personal knowledge except those stated to be on information and belief, and as to those statements, he verily believes them to be true.

A handwritten signature in black ink, consisting of a large capital 'D' followed by a series of loops and a horizontal stroke at the end.

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Donald E. Mussell Jr. NCE  
April 29, 1997