

**MULLANEY ENGINEERING, INC.**

9049 SHADY GROVE COURT  
GAITHERSBURG, MD 20877

301 921-0115

**ENGINEERING EXHIBIT EE:**

**RADIO STATION KSET  
MAGIC MEDIA INCORPORATED  
EL PASO, TEXAS  
Ch. 234C 100 KW 362.5 M HAAT**

**DECEMBER 20, 1993**

**ENGINEERING STATEMENT IN SUPPORT OF  
AN APPLICATION FOR AN  
INCREASE IN ERP & HAAT  
AND UPGRADE TO CLASS C FACILITIES  
(INCLUDING CORRECTION OF COORDINATES)**

MULLANEY ENGINEERING, INC.

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MAGIC MEDIA INCORPORATED  
EL PASO, TEXAS  
Ch. 234C 100 KW 362.5 M HAAT

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(included with permission of KINT-FM)

‡ - Existing Broadcast Tower, Topo Not Required.

<b>Section V-B - FM BROADCAST ENGINEERING DATA</b>	<b>FOR COMMISSION USE ONLY</b> File No. _____ ASB Referral Date _____ Referred by _____
--	--

Name of Applicant

**Magic Media Incorporated**

Call letters (if issued)

**KSET**

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 type="checkbox"/> Modify existing construction permit for main facility | <input type="checkbox"/> Modify existing construction permit for auxiliary facility |
| <input checked="" 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 checked="" type="checkbox"/> Antenna height above average terrain | <input type="checkbox"/> Frequency                           |
| <input checked="" type="checkbox"/> Antenna location                     | <input checked="" type="checkbox"/> Class                    |
| <input type="checkbox"/> Main Studio location                            | <input type="checkbox"/> Other (Summarize briefly)           |

File Number(s) BLH 830610AA

1. Allocation:

Channel No.	Principal community to be served:		
	City	County	State
234	El Paso	El Paso	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 type="checkbox"/> C1 | <input checked="" type="checkbox"/> C |                             |

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. **On Comanche peak, Franklin mountains in city of El Paso, TX (El Paso County)**
- (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      °      '      "	Longitude      °      '      "
31      47      34	106      28      47

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. KDBC-TV, KBNA, KPRR, KVER, KXCR

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.

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 2)

4. Does the application propose to correct previous site coordinates?  Yes  No

If Yes, list old coordinates.

Latitude	31°	47'	34"	Longitude	106°	28'	49"
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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. **Already approved**

Exhibit No.

Date \_\_\_\_\_ Office where filed \_\_\_\_\_

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) <u>None</u>	_____	_____
(b) _____	_____	_____

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

- (1) of site above mean sea level: 1524 meters
- (2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and 28 FT 88 meters
- (3) of the top of supporting structure above mean sea level [(a)(1) + (a)(2)] 1612 meters

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

- (1) above ground 17 FT 54 meters (H)
- 54 meters (V)
- (2) above mean sea level [(a)(1) + (b)(1)] 5177 1578 meters (H)
- 1578 meters (V)
- (3) above average terrain 119 FT 363 meters (H)
- 363 meters (V)

8. Attach as an Exhibit sketch(es) of the supporting structure, labelling all elevations required in Question 7 above, except item 7(b)(3). 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. EE

fig. 3

9. Effective Radiated Power:

(a) ERP in the horizontal plane 96.9 kw (H) 96.9 kw (V)

(b) Is beam tilt proposed?  15/5% null fill

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.

100 kw (H) 100 kw (V)

Exhibit No. EE

fig. 6

Polarization

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 the relative field.

Exhibit No.  
 Yes  No

11. Will the proposed facility satisfy the requirements of 47 C.F.R. Sections 73.316(a) and (b)?

Yes  No

If No, attach as an Exhibit a request for waiver and justification therefor, including amounts and percentages of population and area that will not receive 0.16 mV/m service.

Exhibit No.  
 Yes  No

12. Will the main studio be within the protected 0.16 mV/m field strength contour of this proposal?

Yes  No

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1126.

Exhibit No.  
 Yes  No

13. (a) Does the proposed facility satisfy the requirements of 47 C.F.R. Section 73.207?

Yes  No

(b) If the answer to (a) is No, does 47 C.F.R. Section 73.218 apply?

Yes  No

(c) If the answer to (b) is Yes, attach as an Exhibit a justification, including a summary of previous waivers.

Exhibit No.

(d) If the answer to (a) is No and 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.

(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:

Exhibit No.

- (1) Protected and interfering contours, in all directions (360°), for the proposed operation.
- (2) Protected and interfering contours over pertinent areas 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 the 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 exhibit(s).

14. 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(a) and 73.318.)

Exhibit No.  
 EE

15. 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 V (D). The map must further 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.

Exhibit No.  
DNA

Existing broadcast site, topo not required

16. Attach as an Exhibit (name 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.  
EE

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

(b) the 8.16 mV/m and 1 mV/m predicted contours; and

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

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

Area 11.020 sq. km. Population 593,279 (1990 census)  
U.S. land only

18. 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.

DNA

(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.

19. Terrain and coverage data (to be calculated in accordance with 47 C.F.R. Section 73.313)

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

Linearly Interpolated 30-second database  7.5 minute topographic map

(Source: NGDC)

Other (briefly summarize)

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 5)

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 8 to 18 km (meters)	Predicted Distances	
		To the 0.18 mV/m contour (kilometers)	To the 1 mV/m contour (kilometers)
City 120	456.1	59.4	83.8
0	56.5	24.6	41.2
45	385.6	55.5	78.7
90	385.0	55.4	78.7
135	457.0	59.5	84.0
180	448.4	59.1	83.4
225	432.2	58.1	82.1
270	381.4	55.2	78.4
315	353.8	53.6	76.3

\*Radial through principal community, if not one of the major radials. This radial should NOT be included in the calculation of HAAT.

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

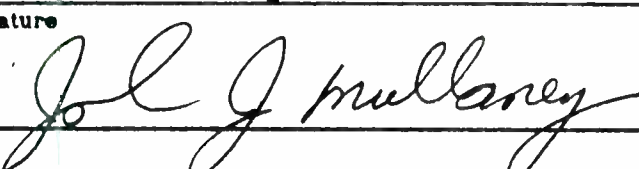
Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact?  Yes  No

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

If No, explain briefly why not. See exhibit EE

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) <b>John J. Mullaney</b>	Relationship to Applicant (e.g., Consulting Engineer) <b>Consultant</b>
Signature 	Address (Include ZIP Code) <b>Mullaney Engineering 9049 Shady Grove Court Gaithersburg, MD. 20877</b>
Date <b>12/20/93</b>	Telephone No. (Include Area Code) <b>(301) 925-0115</b>

**MULLANEY ENGINEERING, INC.**

**DECLARATION**

I, John J. Mullaney, declare and state that I am a graduate electrical engineer with a B.E.E. and my qualifications are known to the Federal Communications Commission, and that I am an engineer in the firm of Mullaney Engineering, Inc., and that firm has been retained by Magic Media Incorporated, licensee of KSET in El Paso, TX to prepare an application for modification of facilities.

All facts contained herein are true of my own knowledge except where stated to be on information or belief, and as to those facts, I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

  
John J. Mullaney

Executed on the 20th day of December 1993.



**MULLANEY ENGINEERING, INC.**

**ENGINEERING EXHIBIT EE:**

**RADIO STATION KSET  
MAGIC MEDIA INCORPORATED  
EL PASO, TEXAS  
Ch. 234C 100 KW 362.5 M HAAT**

**NARRATIVE STATEMENT:**

**I. GENERAL:**

This engineering statement has been prepared on behalf of Magic Media Incorporated, licensee of KSET in El Paso, TX. The purpose of this statement is to request a Construction Permit authorizing an increase in ERP & HAAT and an upgrade via a 301 to Class C facilities. KSET will continue to operate on FM Channel 234C at El Paso, TX. The modified facility will operate with an ERP of 100 KW and an HAAT of 362.5 Meters which easily exceed the minimum for Class C facilities. This application also corrects the coordinates of the tower KSET has been operating on since 1983 to conform to those of the five other broadcast facilities sharing the tower.

The application is not a major environmental action, as defined by Section 1.1307 of the Commission's Rules. The proposed facility is in full compliance with the FCC / ANSI Radiation Guidelines.

Answers to questions contained in F.C.C. Form 301, Section V-B, are incorporated in the following paragraphs and figures.

II. ENGINEERING DISCUSSION:

A. Proposed/Existing Location:

KSET proposes to remain on the same tower its has been using for the past 10 years. That tower is located on Comanche Peak. A topographic map showing the site is not required since an existing broadcast tower is being used. The geographic coordinates are:

Latitude: 31<sup>o</sup> 47' 34"  
Longitude: 106<sup>o</sup> 28' 47" (corrected -2")

The city of license, El Paso, TX, is located approximately 3.2 kilometers to the southeast of the site. The Regional Office of the FAA was not notified of this proposal since the tower is already approved.

B. Antenna System and Tower:

A dual polarized 6-bay FM antenna will be side mounted on an existing tower with an overall height of 88 Meters AGL (includes lighting). Figure 3 is a sketch of the tower.

Figure 5 is a plot of the proposed vertical radiation pattern which incorporates 1<sup>o</sup> of beam tilt and some null fill-in. The antenna has a non-directional H/V power gain of 3.59 max & 3.477 at the horizontal.

The antenna will be fed by 76.2 Meters (250 Feet) of 4" coaxial cable, with a rated efficiency of 96.1 percent for this length.

C. Transmitter:

KSET plans to install a new type accepted 30 KW FM transmitter. The transmitter will be operated at 29 KW which is within its rated power.

**D. Effective Radiated Power:**

Giving consideration for the maximum antenna gain, transmitter power and line loss, the maximum Effective Radiated Power is 100 KW for the Horizontal and 100 KW for the Vertical Component.

**E. Channel Allocation:**

Figure 4 is a channel allocation study from the proposed / existing site. This application is in full compliance with Section 73.207(a) for Class C operation. Additional Mexican concurrence is not required since internationally KSET was already considered a full Class C.

**F. Terrain Profile Data & Coverage:**

Terrain profile data was extracted from NGDC 30 Second Digitized Terrain Data Base provided out of Boulder, Colorado. Seventy-two bearings (every 5 degrees) were used to obtain the proposed coverage data. The standard eight bearings (every 45 degrees) were used to obtain the proposed HAAT. Because of the close proximity to Mexico the averages on the 180 & 225 degree radials were terminated at the border in accordance with the rules.

The predicted service contours, as shown in Figure 2 of the attached report, were computed using a mathematical model adapted for computer use of the data shown in Figure 1 of Section 73.333. This is the Commission's computer program TV FM FS REPORT RS-76-01, dated January 1976.

Figure 2-A is a tabulation of the distances to the 70 dBu (3.16 mV/M - City Grade) & 60 dBu (1.0 mV/M - Primary) contours in Metric Units (Meters/Kilometers).

**G. Terrain Profile to City of License:**

The N-120-E radial is the direct path to the City of License. From the site the 3.16 mV/M City Grade Contour will completely encompass the City of License without major terrain obstruction.

**H. Coverage Area and Population:**

The area contained within the 60 dbu (1.0 mV/m) contour is 11,020 square kilometers and has been computed mathematically (U.S. land area only).

The U.S. population within this contour is 593,279 persons and was obtained through a computerized analysis of the census designated places population data contained in the 1990 Census.

**I. FM Blanketing Contour:**

KSET recognizes its obligation to resolve related interference complaints for a one year period within its 115 dBu "FM Blanketing Contour" as required by Section 73.318 of the FCC Rules.

The radius around the base of the tower in which Blanketing interference is possible is fairly small (see Figure 2-A) and is in a sparsely populated area. Given that the station is only slightly increasing its power from its existing site, no problems are anticipated.

**J. Other Services in Area:**

There are NO known AM Broadcast Stations within 3.2 kilometers of the site.

This tower is currently used by KDBC-TV (aux), KBNA-FM, KPRR(FM), KVER(FM), & KXCR(FM). In addition, there are

numerous other facilities in the immediate area.

There are numerous other FM or TV transmitters within 10 kilometers (6.2 miles) of the proposed site, however, based on the type of transmitter proposed, and the frequency & power involved no intermodulation interference problems with existing transmitting facilities is expected. In the unlikely event some problems would occur, KSET will investigate and correct such cases in accordance with the Commission's Rules. Again, it should be understood that this increase in power is not expected to significantly change the status quo.

**K. Environmental Assessment Statement:**

KSET believes its proposal will not significantly affect the environment since it does not meet any of the criteria specified in Section 1.1307 of the rules. It should be understood that this is the existing tower that KSET has been using for the past 10 years. There is no change in tip height proposed. Consequently, the only remaining issue is that of R.F. Exposure. Specifically the proposed facility:

1. Will NOT involve the exposure of workers or the general public to levels of radiofrequency radiation in excess of the "Radio Frequency Protection Guide" recommended by ANSI (C95-1-1982).

The following is a more detailed discussion of this protection standard:

a. National Environmental Policy Act of 1969:

In 1969, Congress enacted the National Environmental Policy Act (NEPA), which requires the FCC to evaluate the potential environmental significance of the facilities it regulates and authorizes. Human exposure to Radio Frequency (RF) radiation has been identified as an issue the FCC must consider.

Beginning with the filing of applications after January 1, 1986, broadcast stations are required to "certify compliance" with FCC prescribed guidelines on human exposure to RF radiation. The FCC is using as its processing guidelines, the American National Standards Institute's (ANSI) RF radiation protection guides (ANSI C95.1-1982). These exposure limits are expressed in terms of milli-watts per square centimeter.

These exposure limits are time-averaged over any six minute period and vary depending upon the frequency involved:

Frequency Range (MHz) *****	Power Density (mW/sq.cm) *****	
0.3 to 3	100	AM
3 to 30	$900/(\text{Freq}^2)$	
30 to 300	1.0	VHF TV & FM
300 to 1,500	$\text{Freq}/300$	UHF TV
1500 to 100,000	5.0	

(same as ANSI standard)

KSET recognizes that compliance with the above criteria at sites involving multiple AM, FM and/or TV facilities is based upon the contributions of all such facilities. As previously discussed, KSET is just one of several broadcasting facilities operating from the same tower and one of many facilities in the immediate area of Comanche Peak.

#### FM BROADCAST STATIONS

For FM Broadcast Stations the following formula is used:

$$D = \frac{\text{SQRT}( F^2 * [ \text{HERP} + \text{VERP} ] )}{1.667 * \text{SQRT}(\text{PD}) * 3.2808}$$

Where:

- D = the closest distance in meters that a human should come to an operating antenna (to obtain feet multiply by 3.2808)
- F = typical relative field factor in downward direction ( F = 1 is worst case main lobe)
- HERP = Horizontal ERP in watts (above a dipole)
- VERP = Vertical ERP in watts (above a dipole)
- PD = highest Power Density in milli-watts/cm<sup>2</sup>
- SQRT = Square Root
- Freq = Frequency in mega-cycles/sec. (mHz)

#### Evaluation of only KSET

The vertical radiation pattern of the FM antenna specified in this application is narrow and therefore the power density as seen by an observer on the ground near the base of the tower will be less than 10 percent of the total ERP or 10 KW.

MULLANEY ENGINEERING, INC.

The application of the above equation (assuming maximum ERP), in our case, for a frequency of 94.7 MHz and a Power Density of 1.0 milli-watts results in a minimum distance of 81.8 meters (269 feet) from the antenna. Inasmuch as the center element on the antenna will be only 54 meters (177 feet) above ground level, it is not obvious that this facility is safe.

However, in early 1993, a complete R.F. Exposure study was conducted on behalf of KINT-FM which is also a licensee on this mountain top. Consequently, rather than repeat an expensive and time consuming study again KSET has obtained permission from KINT-FM to include copies of its analysis as an attachment to the KSET application for modification of facilities. KSET is reimbursing KINT-FM for a portion of the costs incurred.

The KSET facility is indicated as location IV (old TV Ch. 4 site) in the KINT-FM report. In that report, it was determined that all of the locations are sufficiently below the ANSI limit so as not to pose a hazard to humans. While KSET is now proposing an increase in power from 61 to 100 kW this fact will not significantly change the underlining result of the report .. the KSET site is below the ANSI limit. The report also clearly documents the very remote nature of the site and that more than adequate signs in both english and spanish have been posted to save guard the general public.



### Workers

Workers employed to climb the tower or work in a potential over-exposure location will not be permitted to enter the work area until cleared by the station manager or other responsible person. Appropriate warning signs are posted to insure safety. In addition, KSET has established and enforces work rules and safety procedures applicable in a potential over-exposure area. The rules establish how close a worker can get to the antenna when it is operating at normal power and specify the power reduction required in order to make other locations safe. It is recognized that maintenance or installation work on or near the antenna may require the station to completely shutdown or switch temporarily to an auxiliary antenna or an auxiliary transmitter site. All employees, contract and other persons having access to areas of potential exposure will be required to review a joint site management guide indicating they are aware of and will comply with all safety rules. In the instance of a multiple use site, a single site access policy incorporating the above philosophy will be established. All procedures will be reviewed & updated as necessary on a yearly basis or earlier if circumstances warrant.

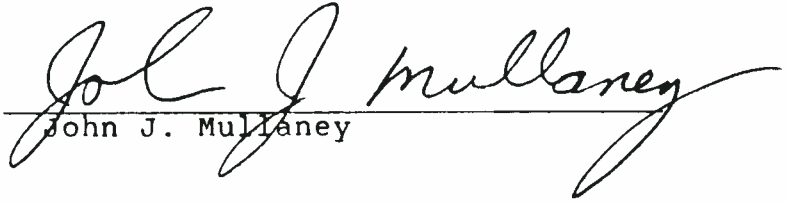
RADIO STATION KSET (12/93)  
Ch. 234C - EL PASO, TX

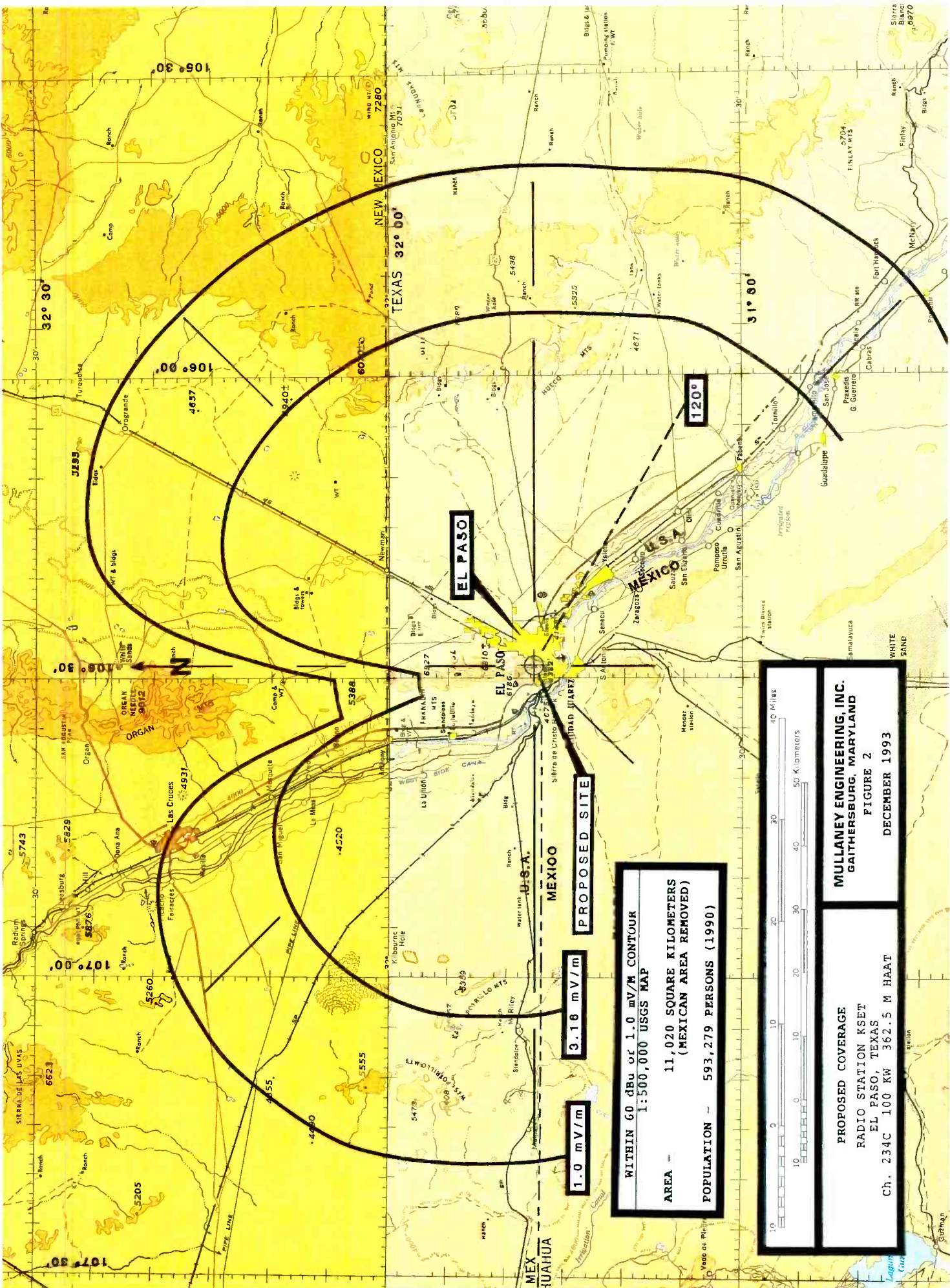
MULLANEY ENGINEERING, INC.

III. SUMMARY:

Magic Media Incorporated, licensee of KSET in El Paso, TX, proposes to increase ERP & HAAT and to upgrade to Class C facilities via a 301. This engineering proposal is in full compliance with the Commission's Rules.

December 20, 1993.

  
\_\_\_\_\_  
John J. Mullaney

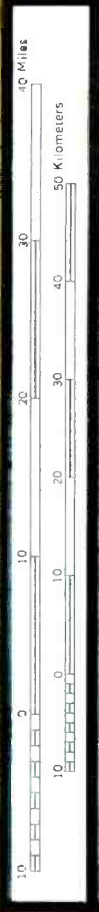


**WITHIN 60 dBu of 1.0 mV/M CONTOUR**  
**1:500,000 USGS MAP**  
**AREA - 11,020 SQUARE KILOMETERS**  
**(MEXICAN AREA REMOVED)**  
**POPULATION - 593,279 PERSONS (1990)**

**1.0 mV/m**

**3.16 mV/m**

**120°**



**PROPOSED COVERAGE**  
**RADIO STATION KSET**  
**EL PASO, TEXAS**  
**Ch. 234C 100 KW 362.5 M HAAT**

**MULLANEY ENGINEERING, INC.**  
**GAITHERSBURG, MARYLAND**  
**FIGURE 2**  
**DECEMBER 1993**

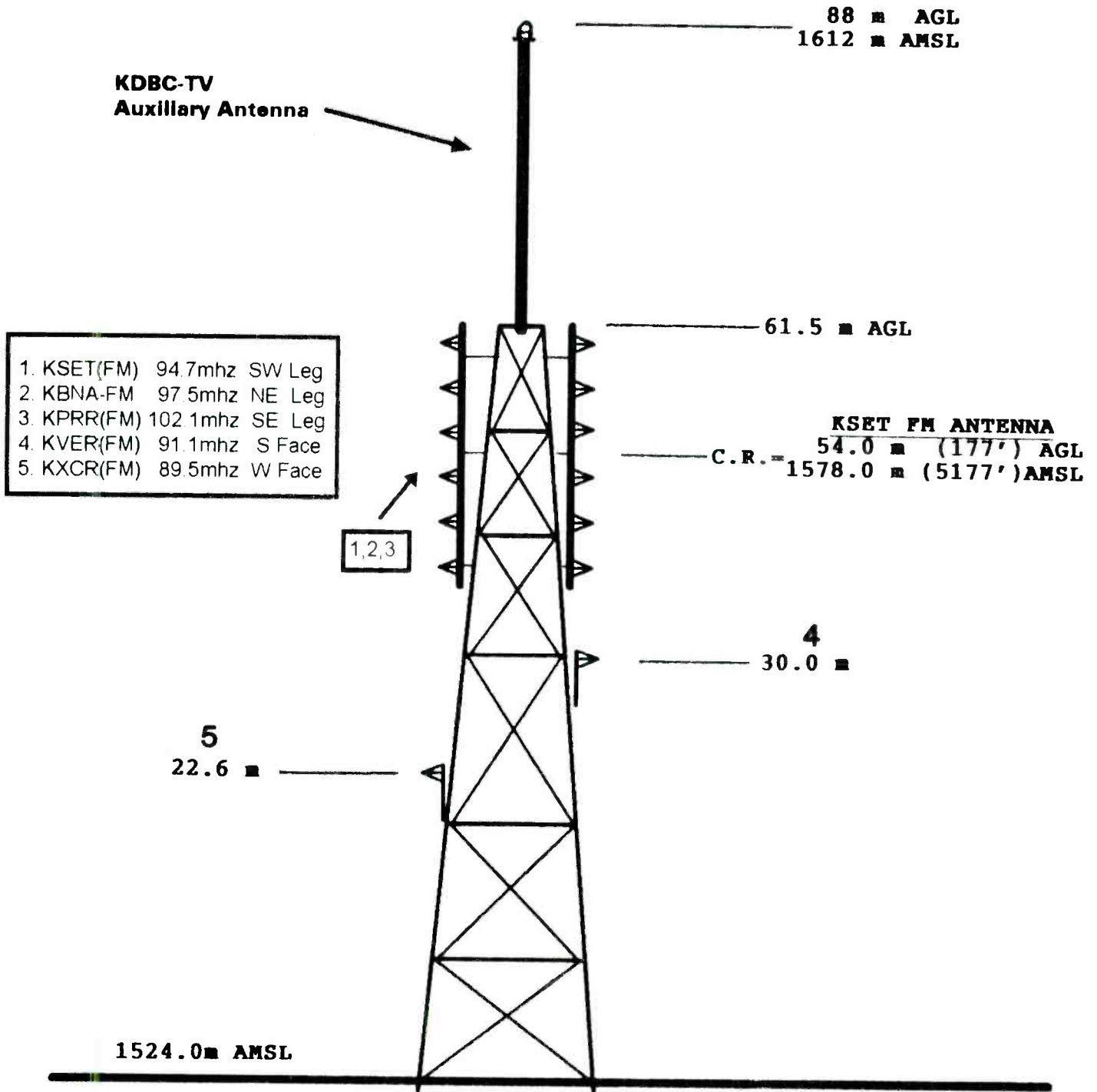


PAINTING & LIGHTING IN ACCORDANCE  
WITH F.A.A. SPECIFICATIONS.

NOT TO SCALE OR SHAPE

N. LAT.: 31° 47' 34"  
W. LON.: 106° 28' 47" NAD 27

N. LAT.: 31° 47' 34.388"  
W. LON.: 106° 28' 48.954" NAD 83



**VERTICAL TOWER SKETCH**

RADIO STATION KSET  
EL PASO, TEXAS  
Ch. 234C 100 KW 362.5 M HAAT

**MULLANEY ENGINEERING, INC.**  
GAITHERSBURG, MARYLAND

FIGURE 3  
DECEMBER 1993

\*\*\*\*\* FM CHANNEL STUDY NO. 1 - MULLANEY ENGINEERING, INC. GAITHERSBURG, MARYLAND - 20-DEC-93 09:49:15 \*\*\*\*\*  
 \*\*\*\*\*  
 \*\*\*\*\* LAST UPDATE: 931209 \*\*\*\*\*

KSET	234 C	FM	POLARIZATION	ERP (KW)	HAAT	RCAMSL
EL PASO TX US				HOR PLM BW TILT	(METER)	(METER)
31.4734 106.2847 (D.MMSS)			HORIZONTAL	100.000 0.000	362.5	1578
			VERTICAL	100.000 0.000	362.5	1578

\*\*\*\*\*  
 \*\*\*THE MEXICAN BORDER IS 5.0 KM ON A BEARING OF 183.5 DEG. TRUE\*\*\*  
 \*\*\*\*\*

AZIMUTH		CALL	STS	FILE NUMBER	CITY	ST C	LAT (D.MMSS)	LONG	REL CHN	ERP (KW)		HAAT (M)	D I-CON	P-CON	IR	IC	REZLT	
FROM	TO									HORZ	VERT							F5010 (KM)
21.2	201.5		VAC		Alamosord NM A	32.5642	105.5647	2ND 232C3	H	V	0							137.3 96.
21.2	201.5	KYEE	LIC	BLH840726DA	Alamosord NM A	32.5642	105.5647	2ND 232A	3.00H3.00V	-116								137.3 95.
293.3	112.6	KDEM	LIC	BLH7744	Deming NM A	32.1505	107.4528	2ND 232A	3.00H3.00V	59								131.0 95.
305.8	124.8	KSCQ	LIC	BLH920908KA	Silver Ci NM A	32.5040	108.1418	1ST 233A	0.57H0.57V	313								202.5 165.
305.8	124.8	KSCQ	DEL	RM8152	Silver Ci NM A	32.5040	108.1418	1ST 233A	H	V	0							202.5 165.
270.0	90.0	KSET	LIC	BLH830610AA	El Paso TX A	31.4734	106.2849	CD 234C1	61.H 61.V	299								0.1 270. -
59.9	241.4	KBIMFM	LIC	BLH3229	Roswell NM A	33.0320	103.4912	1ST 235C	100.H 89.V	573								286.7 241.
135.2	315.6		VAC		Balderas CH M	31.0049	105.3445	2ND 236B	H	V								121.6 105.

\*\*\*\*\*

<b>CHANNEL ALLOCATION STUDY</b> RADIO STATION KSET EL PASO, TEXAS Ch. 234C 100 KW 362.5 M HAAT	<b>MULLANEY ENGINEERING, INC.</b> GAITHERSBURG, MARYLAND <b>FIGURE 4</b> <b>DECEMBER 1993</b>
---	--

ELECTRONICS RESEARCH, INC.  
100 MARKET STREET  
NEWBURGH, IN. 47630

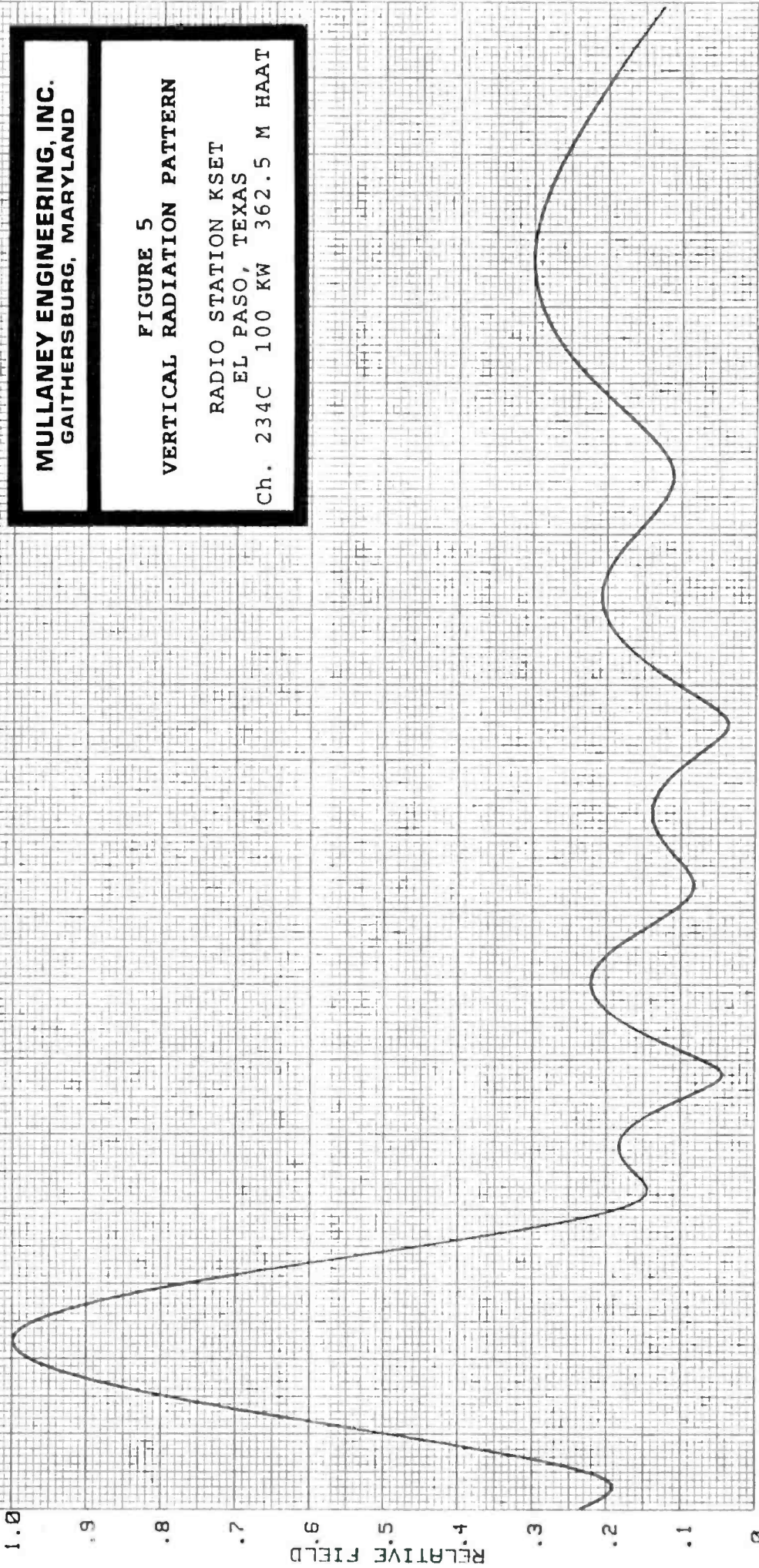
FIGURE 500

THEORETICAL  
VERTICAL PLANE RELATIVE FIELD

6 ROTOTILLER ELEMENTS WITH -1 DEGREE(S) BEAM TILT  
15 PERCENT FIRST NULL FILL  
5 PERCENT SECOND NULL FILL

12-10-93  
ELEMENT SPACING:  
120 WAVELENGTH

POWER GAIN IS 3.477 IN THE HORIZONTAL PLANE(3.590 IN THE MAX.)



DEGREES RELATIVE TO HORIZONTAL PLANE

**MULLANEY ENGINEERING, INC.**

9049 SHADY GROVE COURT  
GAITHERSBURG, MD 20877

301 921-0115

**ENGINEERING EXHIBIT EE-LIC-1:**

**PASO DEL NORTE BROADCASTING CORPORATION  
RADIO STATION KINT-FM  
EL PASO, TEXAS  
Ch. 230C 100 KW-DA 433 M HAAT**

**FEBRUARY 24, 1993**

**SUPPLEMENTAL**

**ENGINEERING STATEMENT IN SUPPORT OF A  
LICENSE APPLICATION**

**C.P. BPH-910924IE**

**Copyright 1993**



**MULLANEY ENGINEERING, INC.**

**ENGINEERING EXHIBIT EE-LIC-1:**

**PASO DEL NORTE BROADCASTING CORPORATION  
RADIO STATION KINT-FM  
EL PASO, TEXAS  
Ch. 230C 100 KW-DA 433 M HAAT**

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1. Declaration of Engineer.
2. Narrative Statement.
3. Figure 1 - General Area Map.
4. Figure 2 - List of Towers Within 1 Mile.
5. Figure 3 - Detailed Topographic Map.
6. Figure 4 - Description of Site Photographs.
7. Figure 4a-4g - Site Access Photographs.

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This statement and associated photographs are the property of Mullaney Engineering and Paso Del Norte Broadcasting Corporation. They may not be copied and/or used in any other filing before the Federal Communications Commission without prior written approval.

**MULLANEY ENGINEERING, INC.**

**DECLARATION**

I, John J. Mullaney, declare and state that I am a graduate electrical engineer with a B.E.E. and my qualifications are known to the Federal Communications Commission, and that I am an engineer in the firm of Mullaney Engineering, Inc., and that firm has been retained by Paso Del Norte Broadcasting Corporation, permittee of Radio Station KINT-FM on Ch. 230C at El Paso, Texas to prepare a supplemental exhibit in support of its application for license of its newly constructed FM facilities.

All facts contained herein are true of my own knowledge except where stated to be on information or belief, and as to those facts, I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

  
John J. Mullaney

Executed on the 24th day of February 1993.

**ENGINEERING EXHIBIT EE-LIC-1:**

**PASO DEL NORTE BROADCASTING CORPORATION  
RADIO STATION KINT-FM  
EL PASO, TEXAS  
Ch. 230C 100 KW-DA 433 M HAAT**

**NARRATIVE STATEMENT:**

This engineering statement has been prepared on behalf of Paso Del Norte Broadcasting Corporation, licensee of Radio Station KINT-FM on Ch. 230C at El Paso, Texas. The purpose of this statement is to supplement its currently pending license application (filed 1/26/93) to clarify the steps taken to restrict access to its antenna site.

On February 3, 1993, the Chief of the FM Branch, issued a letter to KINT(FM) questioning the description concerning the site access. This statement is intended to respond directly to that letter.

**Original Construction Permit Application**

In the Fall of 1991, Mullaney Engineering prepared the original 301 application, requesting the facilities just recently constructed, on behalf of KEZB, Inc., licensee of KEZB-FM (now KINT-FM). It should be understood that subsequent to the filing of the 301 and prior to the recent construction the FM facilities were acquired by Paso Del Norte Broadcasting Corporation and the call letters changed to KINT-FM.

In the original 301 application, the following statement was made by Mullaney Engineering based upon information obtained from KEZB's chief engineer (no longer employed by current licensee):

"KEZB hereby certifies that the proposed site is located at an established electronic site that is completely surrounded by two fences with a locked gate(s)sic. The fences are posted with the "RF Warning" signs distributed by the NAB in both English & Spanish. The fence prevents members of the general public from being within at least 1000 feet of the antennas. In addition, the FM & TV antennas are located at least 700 feet higher in elevation and therefore, members of the general public will never be exposed to the full ERP of any antenna. The road leading to the site is extremely rugged and is only accessible by a four-wheel drive vehicle."

It should be understood that at the time this statement was made, no one from Mullaney Engineering had ever visited the site and therefore, as in most situations involving the preparation of an application, Mullaney Engineering had to rely on information supplied by local station personnel. Since that time, Mullaney Engineering has had one of its own engineers visit both the AM & FM/TV sites. While the above site access description is generally accurate we wish to clarify that there is only one gate with a small fence [not two fences] that extends at least 12 feet on either side. The fence stops at either side of the road at a point where vehicle traffic is impeded by natural terrain barriers. Thus we wish to clarify that the fence as described in the original

application does not surround the site.

While access to the site is not limited completely by a fence, nevertheless access to the site is and has always been adequately restricted by the combination of a locked gate, fencing and natural barriers as depicted by photographs later in this exhibit.

#### **Current Situation Regarding Inadvertent Access**

KINT-FM hereby certifies that the site is located in a remote area. While no fence completely surrounds the site, KINT-FM believes that the existing rugged terrain features are sufficient to discourage "inadvertent access". Access along the only driveable path is controlled by a locked gate and small fence which limits vehicle traffic. The gate is posted with the NAB warning signs in both English and Spanish. The roadway leading to the tower sites is not maintained and contains many large pot-holes with large rocks sticking up out of the ground. In our personal opinion, a four wheel drive vehicle with above average ground clearance is required for safe passage along this pathway. The KINT-FM transmitter building, as are several other locations, is posted with the NAB warning signs. The rough and almost vertical sloping terrain renders the possibility of fencing the entire site impractical. The closest occupied structure (excluding broadcast structures) is approximately 0.55 miles from the KINT-FM tower.

Despite the precautions taken to restrict access, the path is used from time to time by athletes training for cross country and mountain walks & runs. The warning signs make these people aware of the potential hazards of traversing the pathway. It should be understood that these people do not remain in the site area for more than

a few minutes. KINT-FM has instructed its employees to take the time to personally tell these people of the potential hazards when they discover them on the property.

#### Documentation of Remote Nature of Site

In order to eliminate any possible confusion about the truly remote nature of the site KINT's Chief Engineer, Bruce Crow, has supplied several photographs that have been incorporated herein.

First it should be understood that KINT-FM has recently co-located on a broadcast tower utilized by two full service TV stations and by one other commercial FM station operating under limited program test authority. In addition, its newly constructed facility is approximately 200 feet from a second tower utilized by two other commercial FM stations. Both towers are located at what is called "Comanche Peak" and there are a total of 15 full service FM or TV facilities located on at least 5 different towers within a radius of 0.63 miles of the KINT-FM tower. In order to drive to the KINT-FM facility one must pass several of these other facilities before it reaches the KINT-FM tower.

The following items are submitted in documentation of the remote nature of the site:

Figure 1 - is a general area map showing the location of the Comanche Peak Electronic Site and its associated tower sites. The peak is located near the southern tip of the Franklin Mountains on the west side of El Paso, Texas.

Figure 2 - is a list of all known broadcast facilities within a radius of 1 mile of the KINT-FM tower site. The main tower locations have been labeled I, II, III, IV & V.

Figure 3 - is an enlarged copy of the 7-1/2' topographic map showing Comanche Peak and the five main towers from Figure 2 (highlighted in "pink"). The only driveable access path to the site has been highlighted in "green". In addition, the approximate location & direction where each photograph was taken is highlighted in "yellow".

Figure 4 - is a description of the 13 various photographs labeled A through M on Figures 4-a to 4-f.

Photograph A shows Comanche Peak and was taken from a spot approximately 1.25 miles southwest. The photo clearly shows towers I, II & IV. It should be understood that tower II is the location of KINT-FM.

Photograph B shows the entrance to the unpaved access path leading to the site. Again towers I, II & III are clearly visible. Note the large metal pipe that protrudes out of the ground in the middle of the access path making driving dangerous. This location is approximately 1.65 miles (direct line) from the peak. It should be noted that at some time in the recent past, a chain used to be stretched across the road at this location to limit access to the path leading to the peak. This was most likely the 2nd "gate" referenced in the original application for C.P.

Photograph C shows the chain link gate which is normally locked & which is posted with the NAB warning signs in both English & Spanish. The fence on either side of the gate is intended to discourage vehicle traffic. This location is approximately 0.4 miles from the beginning of the path at the paved roadway and is 0.45 miles from the peak. Tower V is visible in the background.

Photograph D shows the beginning of the path in the upper left portion of the photo and the winding pathway leading to the gate. Photos C & D were taken at the same location but in different directions.

Photograph E shows the typical terrain along the path. In this instance, the left side is towards the peak and is clearly up a steep incline which is very rocky. The right side is a downward slope towards the city.

Photograph F shows the steep incline and rocky terrain one must traverse to walk to the site not using the pathway. The photo was taken from a location which is 0.18 miles from and 450 feet below the peak.

Photograph G shows the path as it approaches and leaves the location of tower IV. Note the hairpin turn that a vehicle must make as well as the steepness of the pathway. This location is 0.28 miles from the peak.



Photograph H shows towers IV & V and the associated hairpin turn of photo G. The steepness of the terrain is clearly evident.

Photograph I shows the pathway connecting tower IV with the location of towers II & III. The English & Spanish warning signs are located on the stone wall on the right side of the picture.

Photograph J shows the close proximity of tower II (KINT-FM) and tower III. This photo again clearly shows the steep terrain surrounding the peak. The photo was taken from a location which is 0.13 miles from and 100 feet below the peak.

Photographs K & L show the building and warning signs which are prominently posted on the transmitter buildings associated with towers II (KINT-FM) & III.

Photograph M was taken from the approximate three-quarter point along the pathway leading to the peak. It shows the beginning of the pathway and the location of the locked chain link gate with warning signs. It should be noted that the gate is 900 feet lower in elevation than base elevation of the KINT-FM tower. The sketch at the top of the photo is intended to emphasize the meandering nature of the pathway leading to the peak. The closest occupied structure (excluding broadcast structures) is approximately 0.55 miles from the KINT-FM tower.

### **R.F. Exposure Measurements**

In accordance with its application, KINT-FM has arranged to make R.F. Measurements in and around its site. Due to construction activity at the site these measurements have been delayed. The measurements are scheduled to begin on March 1, 1993. These measurements will be used to update the site access restrictions currently in effect. During the time that KINT-FM was constructing its facilities it coordinated a power decrease by all adjacent FM & TV facilities to insure the safety of workers. The facility is in a restricted location with no immediate access to members of the general public.

### **Spurious Measurements**

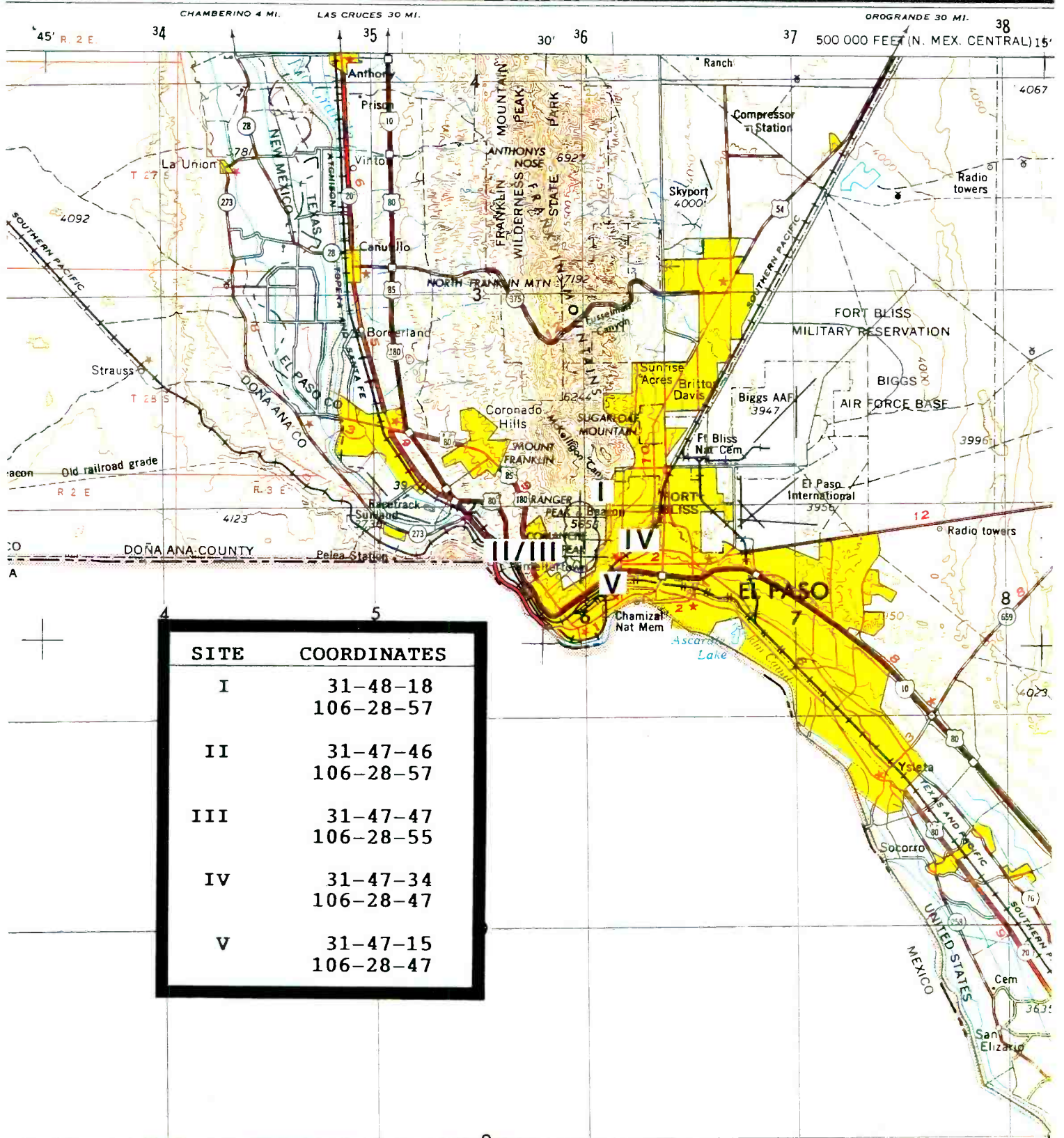
During the same time frame as the R.F. Measurements a complete set of spurious measurements will also be taken. It has come to the attention of KINT-FM that some spurs do exist. However, it is presently unclear which transmitters are generating the spurs and whether these spurs are the result of "new" construction by KINT-FM or the "new" construction by KAMZ or if they were present prior to any new construction. KINT-FM has coordinated with all of the broadcast licensees and hopes to receive their full cooperation.

**SUMMARY**

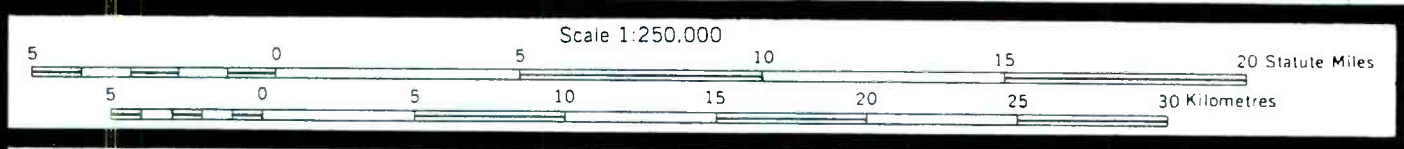
KINT-FM believes that its site is sufficiently restricted & posted in English and Spanish to prevent inadvertent access by members of the general public. It also believes and will soon fully document that the immediate environment around the site is within the R.F. exposure guidelines for workers.

February 24, 1993.

  
\_\_\_\_\_  
John J. Mullaney



SITE	COORDINATES
I	31-48-18 106-28-57
II	31-47-46 106-28-57
III	31-47-47 106-28-55
IV	31-47-34 106-28-47
V	31-47-15 106-28-47



**GENERAL AREA MAP**  
 RADIO STATION KINT  
 EL PASO, TEXAS  
 CH. 230C      100 KW      433.4 M HAAT

**MULLANEY ENGINEERING, INC.**  
 GAITHERSBURG, MARYLAND  
**FIGURE 1**  
**FEBRUARY 1993**

February 22, 1993

Site survey program within 1.0 mi

Title: KINT - EL PASO, TX

Coordinates: 31-47-46 106-28-57

Type	Call sign	Chan	Auth	Height (ft)	Power (kW)	City	State	Bear. (deg)	Dist. (mi)	
PL						Comanche Peak	TX	40.4	.05	
PL						Ranger Peak	TX	.1	.61	
TV	KTSM-TV	9	LIC	1910	316	EL PASO	TX	.1	.61	
FM	KTSM-FM	260	LIC	1821	100	EL PASO	TX	.1	.63	
FM	KAMZ	226	CP	1421	100	EL PASO	TX	.0	.00	
FM	KINT-FM	230	CP	1421	100	EL PASO	TX	.0	.00	
TV	KDBC	4	LIC	1560	100	EL PASO	TX	.0	.00	
TV	KINT-TV	26	LIC	1500	2250	EL PASO	TX	.0	.00	
TV	NEW-T	56	APP	1194	47.4	EL PASO	TX	.0	.00	
FM	KLAQ	238	LIC	1391	100	EL PASO	TX	59.5	.04	
FM	KHEY-FM	242	LIC	1391	100	EL PASO	TX	59.5	.04	
FM	KINT-FM	230	LIC	1210	96	EL PASO	OLD LOCATION	TX	149.3	.22
FM	KSET	234	LIC	980	61	EL PASO	TX	150.6	.26	
FM	KSET	234	CP	1194	100	EL PASO	TX	147.5	.27	
FM	KXCR	208	LIC	1093	.18	EL PASO	TX	144.8	.28	
FM	KVER	216	CP	1115	.14	EL PASO	TX	144.8	.28	
FM	KAMZ	226	LIC	1190	30	EL PASO	OLD LOCATION	TX	144.8	.28
FM	KBNA-FM	248	LIC	1088	100	EL PASO	TX	144.8	.28	
FM	KPRR	271	LIC	1190	100	EL PASO	TX	144.8	.28	
TV	NEW-T	20	APC	1048	.68	EL PASO	TX	144.8	.28	
TV	NEW-T	20	APC	1048	.68	EL PASO	TX	144.8	.28	
TV	NEW-T	20	APC	1048	.68	EL PASO	TX	144.8	.28	
TV	NEW-T	32	APC	1038	2.71	EL PASO	TX	144.8	.28	
TV	NEW-T	32	APC	1058	17.6	EL PASO	TX	144.8	.28	
TV	NEW-T	32	APC	1038	2.71	EL PASO	TX	144.8	.28	
TV	NEW-T	32	APC	1114	17.4	EL PASO	TX	144.8	.28	
FM	KTEP	203	LIC	328	94	EL PASO	TX	162.2	.58	
TV	KVIA-TV	7	LIC	870	316	EL PASO	TX	164.7	.62	
TV	KCOS	13	LIC	870	224	EL PASO	TX	164.7	.62	

LIST OF TOWERS

RADIO STATION KINT  
EL PASO, TEXAS

CH. 230C 100 KW 433.4 M HAAT

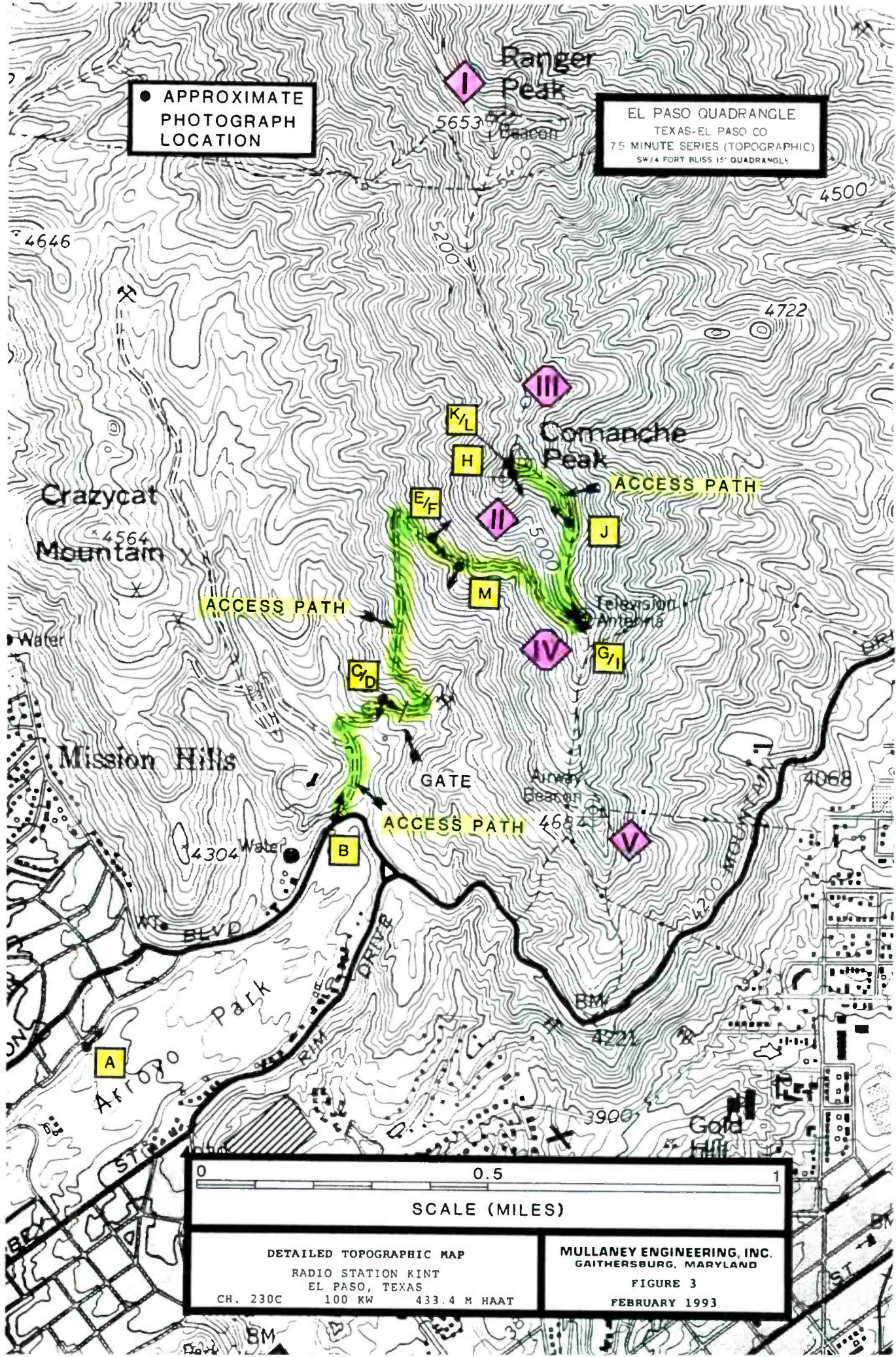
MULLANEY ENGINEERING, INC.  
GAITHERSBURG, MARYLAND

FIGURE 2

FEBRUARY 1993

● APPROXIMATE PHOTOGRAPH LOCATION

EL PASO QUADRANGLE  
TEXAS-EL PASO CO  
7.5 MINUTE SERIES (TOPOGRAPHIC)  
SW 1/4 FORT BLISS 15' QUADRANGLE



0 0.5 1	
SCALE (MILES)	
DETAILED TOPOGRAPHIC MAP	MULLANEY ENGINEERING, INC.
RADIO STATION KINT	GAITHERSBURG, MARYLAND
EL PASO, TEXAS	FIGURE 3
CH. 230C 100 KW 433.4 M HAAT	FEBRUARY 1993

## DESCRIPTIONS OF SITE PHOTOGRAPHS

- A - GENERAL VIEW OF MOUNTAIN
- B - ENTRANCE TO UNPAVED ACCESS PATH ASCENDING MOUNTAIN
- C - GATE ACROSS ACCESS PATH; 0.4 MILES UP MOUNTAIN FROM ENTRANCE; TOWER V & AIRWAY BEACON IN BACKGROUND \*\*\*
- D - VIEW FROM AREA OF GATE TOWARD ACCESS PATH ENTRANCE
- E - ACCESS PATH; 0.9 MILES UP MOUNTAIN FROM ENTRANCE
- F - VIEW OF TOWER II AND INTERVENING TERRAIN FROM POINT 0.9 MILES UP FROM ENTRANCE ON ACCESS PATH
- G - TOWER IV AND SWITCH-BACK IN ACCESS PATH
- H - VIEW OF SWITCH-BACK, TOWER IV & AIRWAY BEACON FROM TOWER II
- I - TOWER II FROM SWITCH-BACK AT TOWER IV; 1.3 MILES FROM ACCESS PATH ENTRANCE
- J - VIEW OF TOWER II; 1.6 MILES FROM ENTRANCE TO ACCESS PATH
- K - KINT(FM/TV) TRANSMITTER BUILDING / TOWER II; 1.9 MILES FROM ACCESS PATH ENTRANCE \*\*\*
- L - KHEY/KLAQ TRANSMITTER BUILDING / TOWER III; 1.9 MILES FROM ACCESS PATH ENTRANCE \*\*\*
- M - VIEW OF ACCESS PATH & ENTRANCE FROM 400 FEET BELOW BASE OF TOWER II

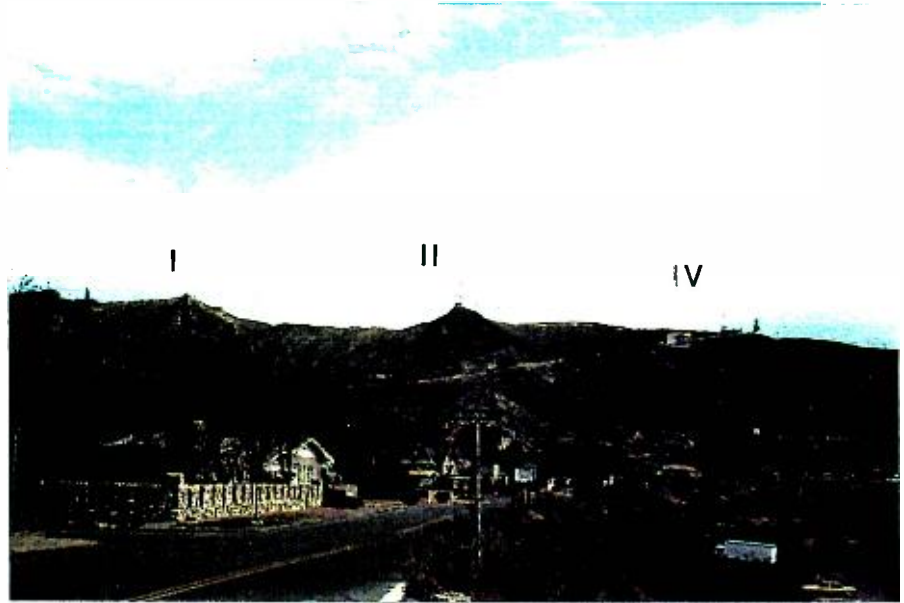
\*\*\* - NOTE R.F. WARNING SIGNS (ENGLISH & SPANISH)  
READILY VISIBLE

### DESCRIPTIONS OF SITE PHOTOGRAPHS

RADIO STATION KINT  
EL PASO, TEXAS  
CH. 230C      100 KW      433.4 M HAAT

**MULLANEY ENGINEERING, INC.**  
GAITHERSBURG, MARYLAND

FIGURE 4  
FEBRUARY 1993



A



POLE

B

<p>SITE ACCESS PHOTOGRAPHS          RADIO STATION KINT          EL PASO, TEXAS          CH. 230C      100 KW      433.4 M HAAT</p>	<p>MULLANEY ENGINEERING, INC.          GAITHERSBURG, MARYLAND          FIGURE 4-a          FEBRUARY 1993</p>
--	--





\*\*\*

C



D

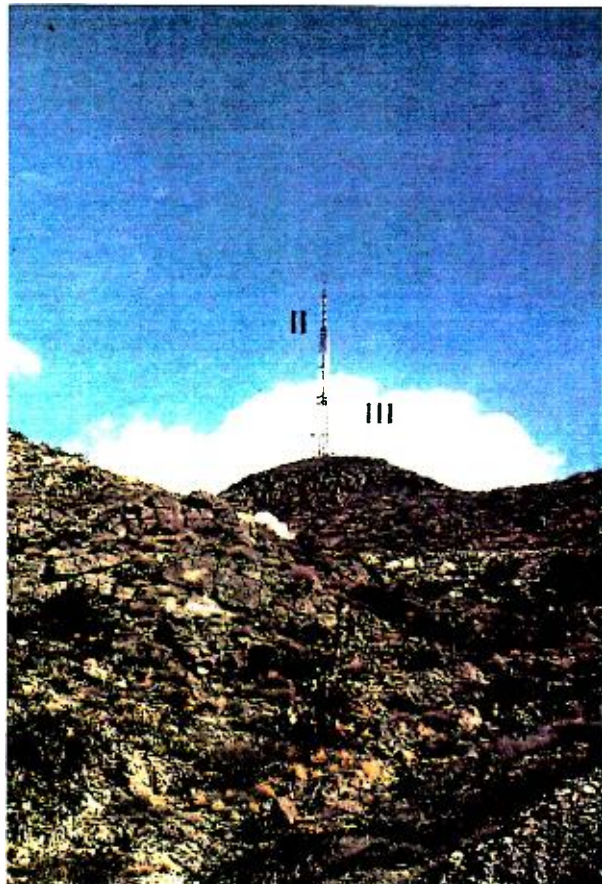
SITE ACCESS PHOTOGRAPHS  
RADIO STATION KINT  
EL PASO, TEXAS  
CH. 230C      100 KW      433.4 M HAAT

MULLANEY ENGINEERING, INC.  
GAITHERSBURG, MARYLAND

FIGURE 4-b  
FEBRUARY 1993



E



F

**SITE ACCESS PHOTOGRAPHS**

RADIO STATION KINT  
EL PASO, TEXAS  
CH. 230C      100 KW      433.4 M HAAT

**MULLANEY ENGINEERING, INC.**  
GAITHERSBURG, MARYLAND

FIGURE 4-c  
FEBRUARY 1993



G



H

**SITE ACCESS PHOTOGRAPHS**

RADIO STATION KINT  
EL PASO, TEXAS

CH. 230C      100 KW      433.4 M HAAT

**MULLANEY ENGINEERING, INC.**  
GAITHERSBURG, MARYLAND

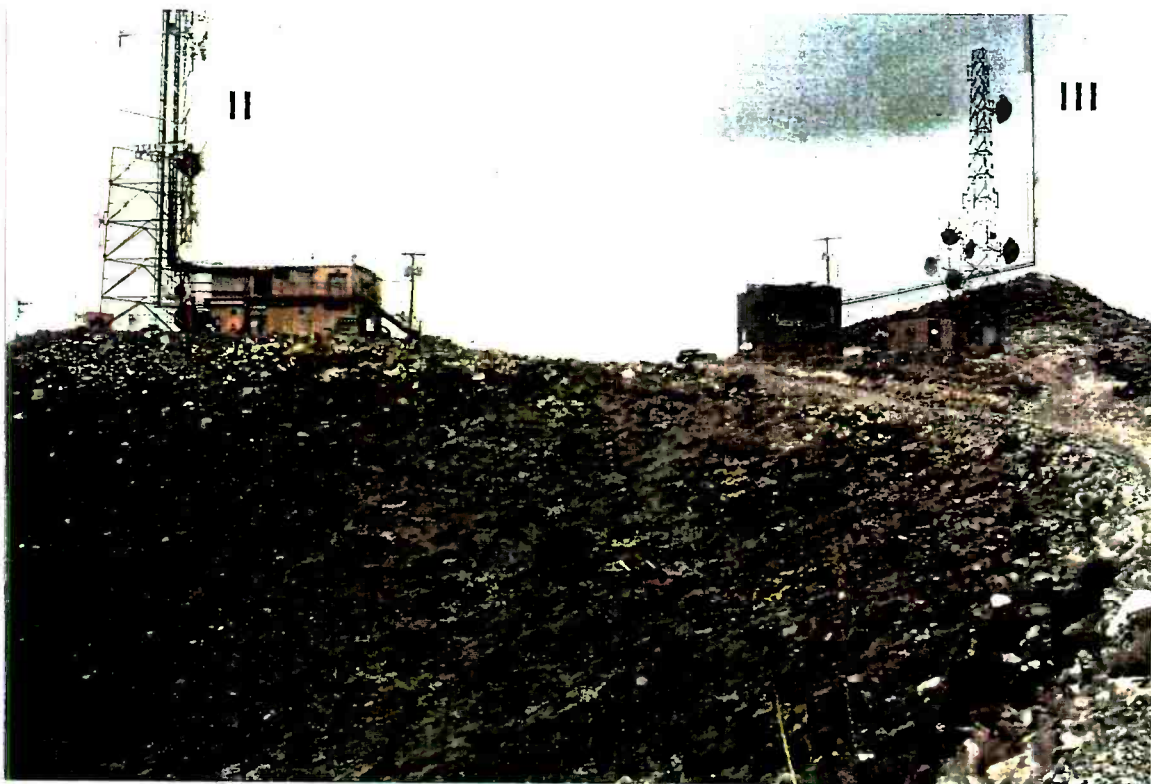
FIGURE 4-d

FEBRUARY 1993



\*\*\*

I



J

**SITE ACCESS PHOTOGRAPHS**

RADIO STATION KINT  
EL PASO, TEXAS

CH. 230C      100 KW      433.4 M HAAT

**MULLANEY ENGINEERING, INC.**  
GAITHERSBURG, MARYLAND

FIGURE 4-e  
FEBRUARY 1993



\*\*\*  
K



II  
\*\*\*  
L

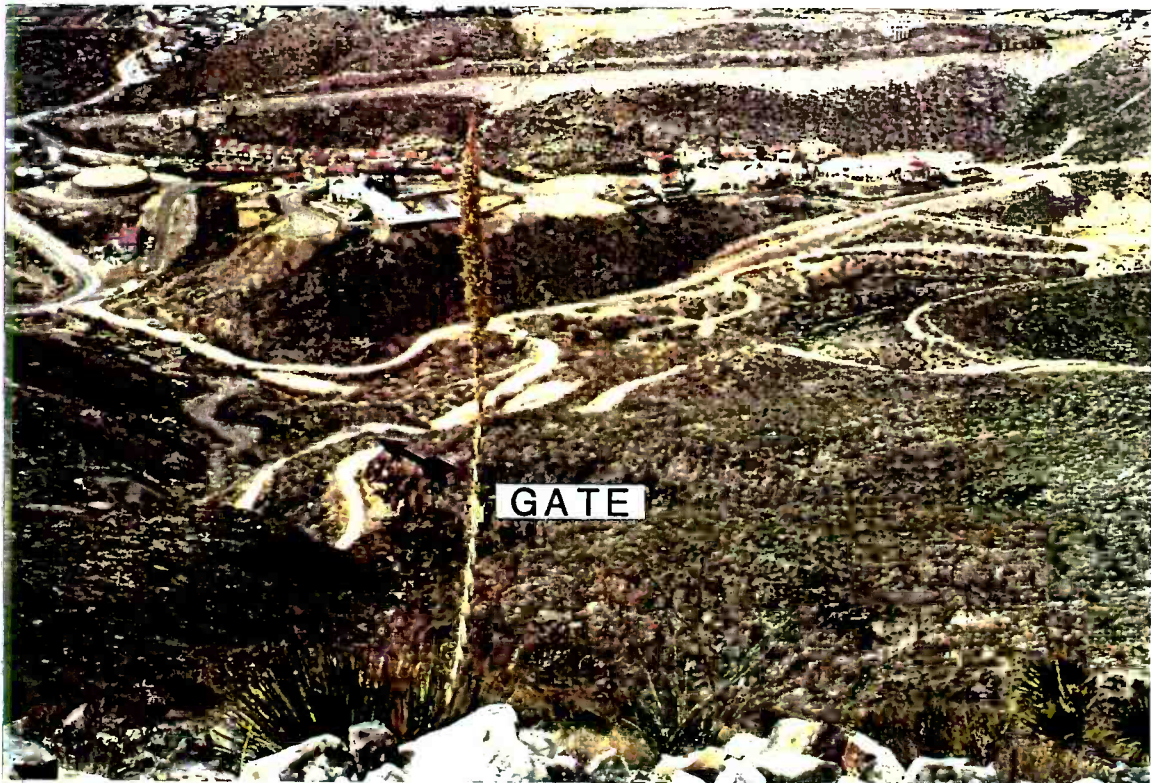
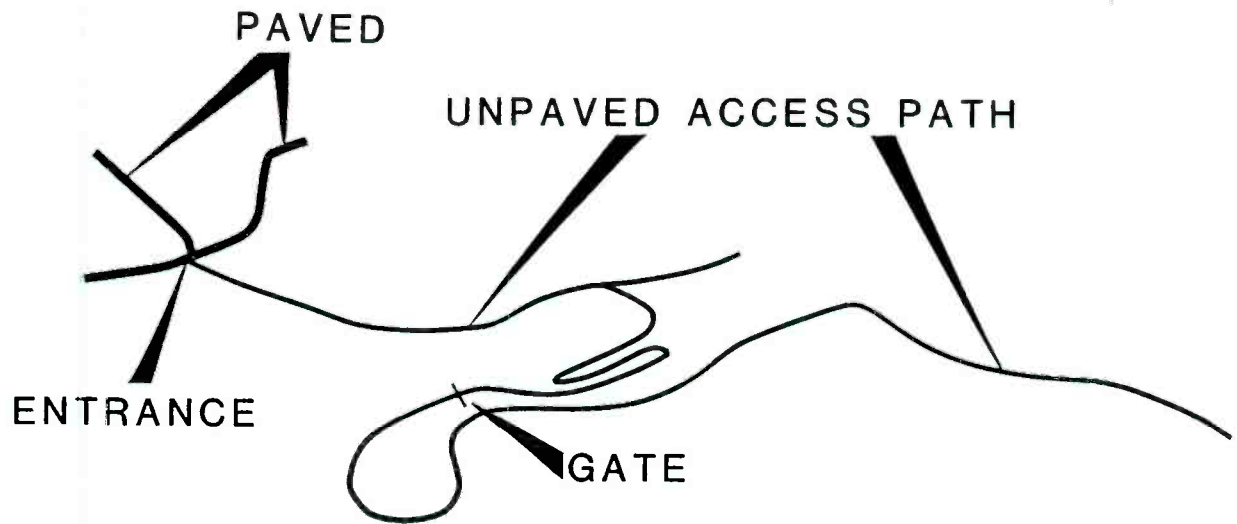
**SITE ACCESS PHOTOGRAPHS**

RADIO STATION KINT  
EL PASO, TEXAS

CH. 230C      100 KW      433.4 M HAAT

**MULLANEY ENGINEERING, INC.**  
GAITHERSBURG, MARYLAND

FIGURE 4-f  
FEBRUARY 1993



M

**SITE ACCESS PHOTOGRAPHS**

RADIO STATION KINT  
EL PASO, TEXAS

CH. 230C      100 KW      433.4 M HAAT

**MULLANEY ENGINEERING, INC.**  
GAITHERSBURG, MARYLAND

FIGURE 4-g

FEBRUARY 1993

**MULLANEY ENGINEERING, INC.**

9049 SHADY GROVE COURT  
GAITHERSBURG, MD 20877

301 921-0115

**ENGINEERING EXHIBIT EE-LIC-2:**

**PASO DEL NORTE BROADCASTING CORPORATION  
RADIO STATION KINT-FM  
EL PASO, TEXAS  
Ch. 230C 100 KW-DA 433 M HAAT**

**MARCH 27, 1993**

**SUPPLEMENTAL**

**ENGINEERING STATEMENT IN SUPPORT OF A  
LICENSE APPLICATION**

**C.P. BPH-910924IE**

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**MULLANEY ENGINEERING, INC.**

**DECLARATION**

I, John J. Mullaney, declare and state that I am a graduate electrical engineer with a B.E.E. and my qualifications are known to the Federal Communications Commission, and that I am an engineer in the firm of Mullaney Engineering, Inc., and that firm has been retained by Paso Del Norte Broadcasting Corporation, permittee of Radio Station KINT-FM on Ch. 230C at El Paso, Texas to prepare a supplemental exhibit in support of its application for license of its newly constructed FM facilities.

All facts contained herein are true of my own knowledge except where stated to be on information or belief, and as to those facts, I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

  
John J. Mullaney

Executed on the 27th day of March 1993.

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This statement and associated information are the property of Mullaney Engineering, Willoughby & Voss, and Paso Del Norte Broadcasting Corporation. They may not be copied and/or used in any other filing before the Federal Communications Commission without prior written approval.



ENGINEERING EXHIBIT EE-LIC-2:

PASO DEL NORTE BROADCASTING CORPORATION  
RADIO STATION KINT-FM  
EL PASO, TEXAS  
Ch. 230C 100 KW-DA 433 M HAAT

NARRATIVE STATEMENT:

This engineering statement has been prepared on behalf of Paso Del Norte Broadcasting Corporation, licensee of Radio Station KINT-FM on Ch. 230C at El Paso, Texas. The purpose of this statement is to supplement its currently pending license application (filed 1/26/93) regarding the potential for R.F. Exposure at its joint use site.

**Inadvertent Access / Remote Nature of Site  
Exhibit EE-LIC-1**

In exhibit EE-LIC-1, dated February 24, 1993, KINT supplied numerous photographs concerning the remoteness of its FM site. KINT-FM believes that its site is sufficiently restricted & posted in English and Spanish to prevent inadvertent access by members of the general public.

**Potential for R.F. Exposure - Exhibit EE-LIC-2**

On March 3 & 4, 1993, the firm of Willoughby & Voss conducted extensive on-site R.F. Exposure measurements. Their report consisting of approximately 70 pages of discussion and measurement tapes is attached hereto. Measurements were taken on tower sites II, III & IV (as

numbered in EE-LIC-1). Sites I & V were not measured since they were sufficiently removed from immediate proximity.

Location *****	Stations *****
II	KINT-FM/TV26, KDBC-TV4, KAMZ (new TV Ch. 4 site)
III	KLAQ, KHEY
IV	KSET, KXCR, KVER, KBNA, KPRR (old TV Ch. 4 site)

### Summary of R.F. Measurements

The measurements started at the access gate (Photo B) and continued along the access path to the KINT site (Photos K/L). With the single exception of a very localized point some 150' north of the old TV Ch. 4 tower the access path was well below 1 mW/sq.cm. The majority of the access path is less than 0.08 mW/sq.cm. This single localized hot spot read 0.99 mW/sq.cm. It should be noted that this localized hot spot is at least 1200 feet from the KINT tower site. In any event, a sign has been ordered to mark this location.

A zig-zag pattern was made in the parking area of the KINT & KLAQ/KHEY tower sites (location II & III). The highest recorded level was 0.48 mW/sq.cm.

A second localized hot spot was detected at the base of the KLAQ/KHEY tower. The R.F. ground strap at the base of the tower had come loose. The highest recorded level was 2.72 mW/sq.cm. When the ground straps were reconnected these hot spots were substantially reduced. However, no climbing is recommended with both stations are in operation. The tower is posted.

Measurements taken around the new TV Ch. 4 / KINT building and tower indicated a power density of less than 0.44 mW/sq.cm. Measurements were also made on the KINT tower by a tower climber. Based upon these measurements it was determined that workers may work safely up to a height of 175' above ground on the KINT tower.

Measurements made in the KHEY building indicated a power density of 0.66 mW/sq.cm. This is well below the limit.

Measurements made in the KLAQ building indicate a single hot spot of 1.87 mW/sq.cm. at the auxiliary RCA transmitter. A placard appears on the access door, warning of this hot spot.

Measurements taken around the old TV Ch. 4 building and tower indicated power density of less than 0.5 mW/sq.cm. Since a ramp provides relatively easy access to the roof of the building additional measurements were made there. The highest reading of 0.96 mW/sq.cm. was emanating from a rusted pipe. While not a hazard this pipe is scheduled for removal. Particular attention was paid to those areas likely to be used by maintenance personnel, not only on the roof tops but also around several equipment buildings and catwalks. No levels, which exceed the ANSI limit were recorded. Measurements of the old TV Ch. 4 tower indicate that no climbing should be permitted while all of the stations are in operation.

#### CONCLUSION

The joint site at which KINT-FM operates is fully compliant with the FCC policy on R.F. Exposure contained in OST Bulletin 65 regarding both the general public and workers. The R.F. measurement report only indicated a very minor amount of work was necessary to eliminate all potential for a hazard.

At the present time there is a coordination agreement (unwritten) between all of the FM & TV stations located in the immediate area. This agreement was used successfully by KINT-FM during the construction of its new facilities in December 1992. During that construction various stations either shut-down or reduced power to avoid an over exposure condition. KDBC-TV Channel 4 is in the process of incorporating the conclusions and recommendations from the recent R.F. Measurement Survey (by Willoughby & Voss) in to a site access policy. KDBC was selected since they control the master lease for the land on which each of the towers is located. The policy will indicate how high a worker can climb on each of the towers (based upon measurements) during times that all of the stations are operating at full power. It will also indicate that work on the tower above these indicated heights will require a power reduction or a total shut down.

March 27, 1993.

  
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