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.

11. Will the proposed facility satisfy the requirements of 47 C.F.R. Sections 73.315(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 3.16 mV/m service. Exhibit No.

12. Will the main studio be within the protected 3.16 mV/m field strength contour of this proposal? ☒ Yes ☐ No

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1125. Exhibit 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 73.213 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 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 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 exhibits(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(e) and 73.318.)* Exhibit No. *

*See attached Engineering Exhibit

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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. 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. *

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. *

1:500,000 Sectional Aeronautical Chart

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

(b) the 0.16 mV/m and 1 mV/m predicted contours; and

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

Source: Urban area on map.

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 2,816 sq. km. Population 170,125 (1980 Census)

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.

(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)*

[X] Linearly interpolated 30-second database [ ] 7.5 minute topographic map

(Source: National Geophysical Data Center

[ ] Other *(briefly summarize)*

*See attached Engineering Exhibit

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Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted Distances	
		To the 3.16 mV/m contour (kilometers)	To the 1 mV/m contour (kilometers)
*130	279	26.7	44.2
0	137	19.1	32.6
45	-3 +	8.9	15.8
90	231	24.5	41.1
135	276	26.6	44.0
180	32	9.2	16.3
225	53	11.8	21.2
270	-48 +	8.9	15.8
315	124	18.2	31.2

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

+ HAAT of 30 m assumed

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. Exhibit No.

If No, explain briefly why not. Not in a wilderness area and complies with Section 73.1030 of the FCC Rules. Tower is less than 100 feet above ground. Complies with ANSI C95.1-1982. See attached Engineering Exhibit.

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)* Gerhard J. Straub	Relationship to Applicant *(e.g., Consulting Engineer)* Technical Consultant
Signature	Address HAMMETT & EDISON, INC. CONSULTING ENGINEERS Box 280068 San Francisco, California 94128-0068
Date February 7, 1991	Telephone No. *(Include Area Code)* (415) 342-5200

EMPIRE BROADCASTING CORPORATION

NEW FM STATION
95.9 MHZ, CHANNEL 240A
HEALDSBURG, CALIFORNIA

ENGINEERING EXHIBIT IN SUPPORT OF APPLICATION FOR CONSTRUCTION PERMIT

February 7, 1991

Hammett & Edison, Inc.
Consulting Engineers
San Francisco

NEW FM STATION
95.9 MHZ, CHANNEL 240A
HEALDSBURG, CALIFORNIA

ENGINEERING STATEMENT OF GERHARD J. STRAUB

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by Empire Broadcasting Corporation to prepare the engineering portion of an Application for Construction Permit for a new FM station on Channel 240A, at Healdsburg, California.

PROPOSED OPERATION

It is proposed to locate the transmitting facilities on Bradford Mountain, approximately 11.9 km northwest of Healdsburg, California. It is proposed to operate with full Class A facilities, 6.0 kW effective radiated power at an effective antenna height of 100 meters above average terrain. The proposed 3-bay circularly polarized antenna will be mounted on a guyed tower, with an overall height of 25 meters above ground. Standby generator power will be provided to ensure continued operation during periods of local commercial power failure. Attached figures show the site location and vertical elevation of the proposed operation. It is proposed to operate the transmitter by remote control from a studio and remote control point to be located within the 3.16 mV/m contour.

ALLOCATION CONDITIONS

The following table shows the distances from the proposed transmitter site to all pertinent existing stations or allotments:

Channel	Nearest Allotment	FCC Required Distance	Distance from Proposed Site
237B1	KUIC, Vacaville, CA	48 km	90 km
238A	Allocation, Carmel, CA	31	253
239B	KKHI, San Francisco, CA	113	120
240A	KNTO, Livingston, CA	115	249
241B	KYMX, Sacramento, CA	113	123
242C	KFMI, Eureka, CA	95	243
243B	KOIT-FM, San Francisco, CA	69	112
293A	KXHM, Orland, CA	10	145
294B	KJUG-FM, Tulare, CA	15	452

In all cases the proposed transmitter location complies with the minimum separation distance requirements in Section 73.207 of the FCC Rules.

TERRAIN AND COVERAGE DATA

The locations of the 3.16 and 1.0 mV/m field strength contours for the proposed operation have been determined in accordance with the procedures specified in the FCC Rules. The average elevations of terrain were determined by use of the National Geophysical Data Center 30-second point topography data base. I have examined the pertinent USGS topographical quadrangle maps, and believe that the terrain data utilized are correct.

Due to the extreme variation in terrain near the proposed site, and in keeping with the Commission's policy of using as many radials as necessary to accurately establish the locations of field strength contours, the required contours have been projected every 5° of azimuth. Only the average elevations of the cardinal radials were used to determine the height above average terrain. Where the height above average terrain along a given radial was less than 30 meters, 30 meters was assumed for the projection of the contour.

The proposed operation would provide a field strength in excess of 3.16 mV/m over the entire community of Healdsburg. The land area within the 1 mV/m contour was determined to be 2,816 square kilometers by polar integration. The population within this contour was determined to be 170,125 persons by summing the populations of all enumeration districts in the 1980 Census of the United States whose centroids lie within the contour.

OTHER NEARBY STATIONS

There are no existing broadcast facilities within 10 km of the proposed site. The proposed site is in a sparsely populated area and the blanketing contour is calculated to extend only 0.97 km. As a result, no interference problems are anticipated. The applicant accepts 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 the application.

ENVIRONMENTAL CONSIDERATIONS

Grant of this application is not considered to be a major environmental action as defined by Section 1.1307 of the FCC Rules. The proposed operation will comply with all the requirements of FCC Rules, Section 73.1030, concerning protection of radio astronomy, radio research, and FCC monitoring stations.

The proposed facilities would comply with ANSI C95.1-1982 Guidelines for Human Exposure to Non-Ionizing Electromagnetic Radiation. Calculations made in accordance with

procedures and formulas contained in FCC OST Bulletin No. 65 show that proposed operation would contribute less than 5 percent of the ANSI Standard at 2 meters above ground, assuming typical FM antenna performance of 20 percent downward radiation. The applicant acknowledges its responsibility to establish appropriate preventive measures to avoid occupational exposure conditions in excess of ANSI Guidelines.

LIST OF FIGURES

In carrying out these engineering studies, the following attached figures were prepared by me or under my direct supervision:

1. Engineering specifications of proposed operation
2. Maps showing proposed site
3. Antenna elevation drawing
4. Tabulation of terrain and proposed coverage
5. Map showing proposed coverage.

HAMMETT & EDISON, INC.
Consulting Engineers

Gerhard J. Straub

February 7, 1991

AFFIDAVIT

State of California)
) ss:
County of San Mateo)

Gerhard J. Straub, being first duly sworn upon oath, deposes and says:

1. That he is a qualified engineer and is employed by the firm of Hammett & Edison, Inc., Consulting Engineers, with offices located near the city of San Francisco, California,

2. That he graduated from the Massachusetts Institute of Technology with a Bachelor of Science degree in Aeronautics and Astronautics (Avionics Option) in 1982, was employed from 1982 to 1989 in the field of electronic design and radio frequency engineering at companies including E-Systems, Sperry, and the Ball Corporation, and has been associated with the firm of Hammett & Edison, Inc., since April 1989,

3. That the firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by Empire Broadcasting Corporation to prepare the engineering portion of an Application for Construction Permit for a new FM station on Channel 240A, at Healdsburg, California,

4. That he has carried out such engineering work and that the results thereof are attached hereto and form a part of this affidavit, and

5. That the foregoing statement and the report regarding the aforementioned engineering work are true and correct of his own knowledge except such statements made therein on information and belief, and as to such statements, he believes them to be true.

Gerhard J. Straub

Subscribed and sworn to before me this 7th day of February, 1991

OFFICIAL SEAL
ERNEST B. MONTANER
NOTARY PUBLIC · CALIFORNIA
SAN MATEO COUNTY
My Comm Expires June 3 1991

NEW FM STATION
95.9 MHZ, CHANNEL 240A
HEALDSBURG, CALIFORNIA

ENGINEERING SPECIFICATIONS OF PROPOSED OPERATION

A. Transmitter Site

North Latitude	38° 40' 52"
West Longitude	122° 58' 10"

2.3 km northwest of the intersection of Dry Creek Road and Mountain View Ranch Road, Sonoma County, California

B. Studio & Remote Control Point

To be located within 3.16 mV/m contour

C. Equipment

Transmitter	Type accepted	5.0 kW
Transmission line	Andrew, Type HJ7-50A, 1 5/8" Heliax	30 m
Tower	Guyed tower	25 m
Antenna	Jampro, Type JMPC-3	3 bay
Standby Generators	To be determined	

D. Height

Height of site above mean sea level	323 m
Height of tower above site	25 m
Overall height above mean sea level	348 m
Height of average terrain above mean sea level	243 m
Height of site above average terrain	80 m
Effective height of antenna above site	20 m
Effective height of antenna above average terrain	100 m
Effective height of antenna above mean sea level	343 m

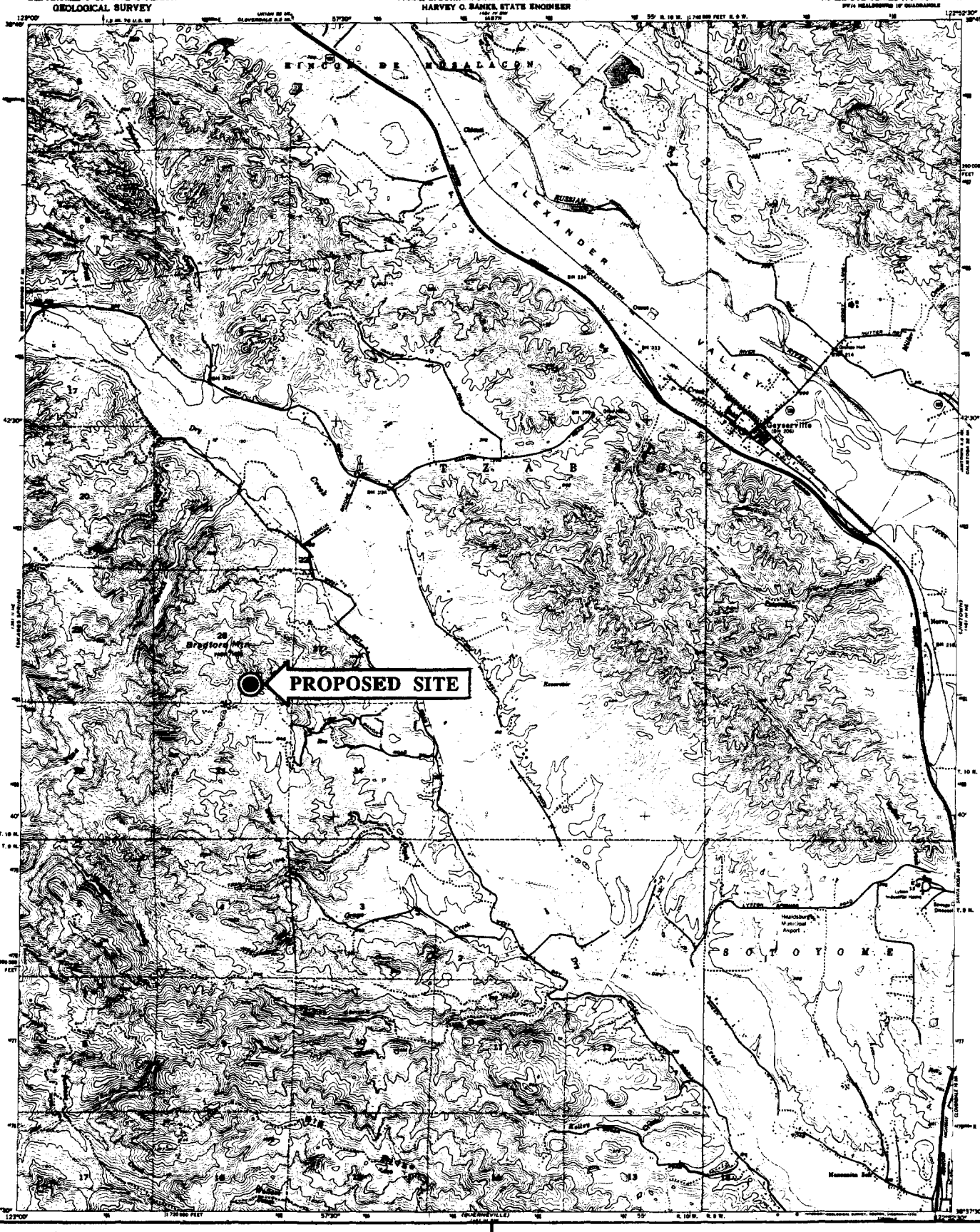
E. Operation

Transmitter output (FCC rounded)	4.2 kW
Transmission line efficiency	95.5 %
Antenna power gain, horizontal and vertical polarizations	1.5
Effective radiated power, horizontal and vertical polarizations	6.0 kW

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF CALIFORNIA
GOODWIN J. KNIGHT, GOVERNOR
FRANK B. DURKEE, DIRECTOR OF PUBLIC WORKS
HARVEY O. BANKS, STATE ENGINEER

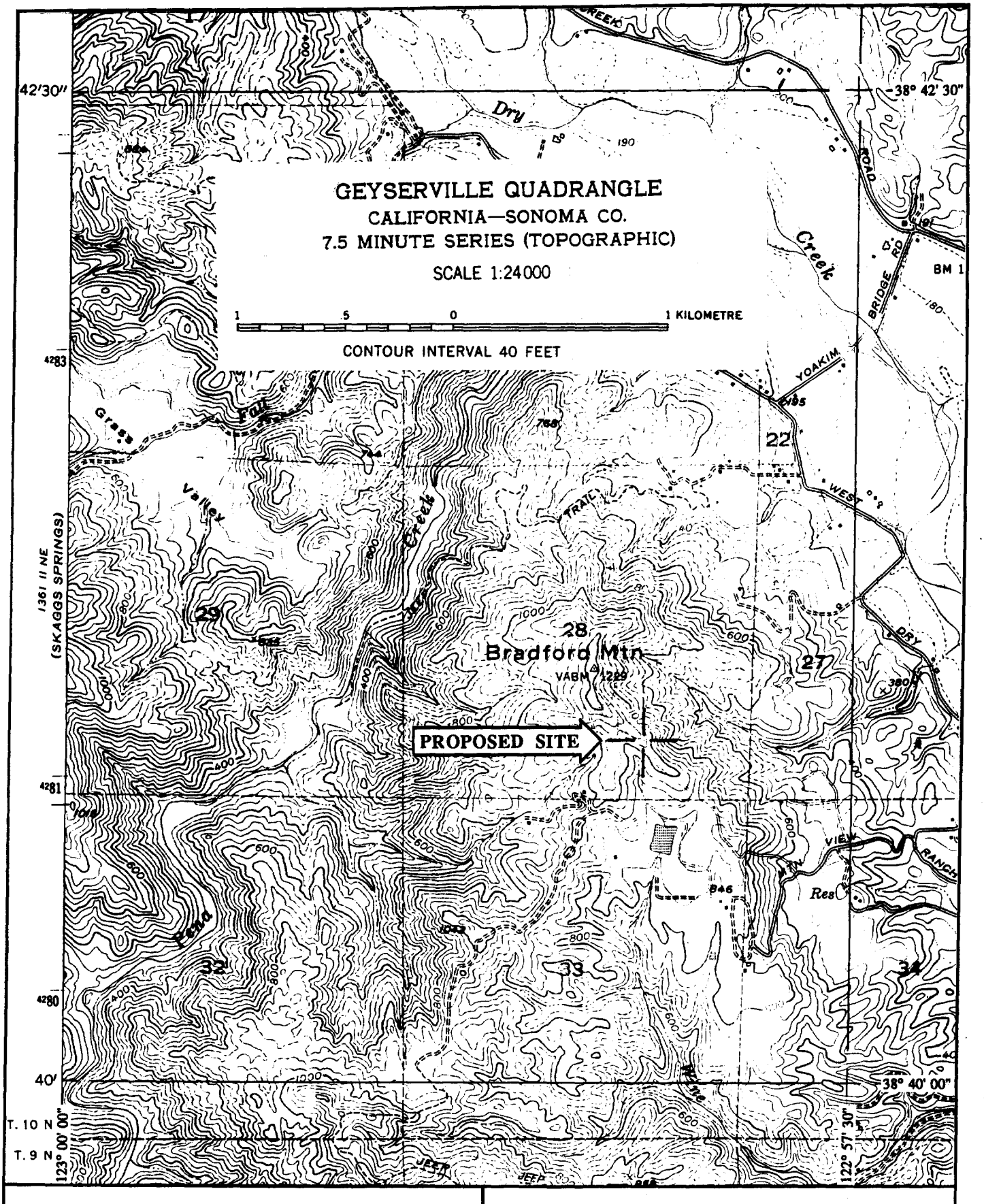
GEYSERVILLE QUADRANGLE
CALIFORNIA—SONOMA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



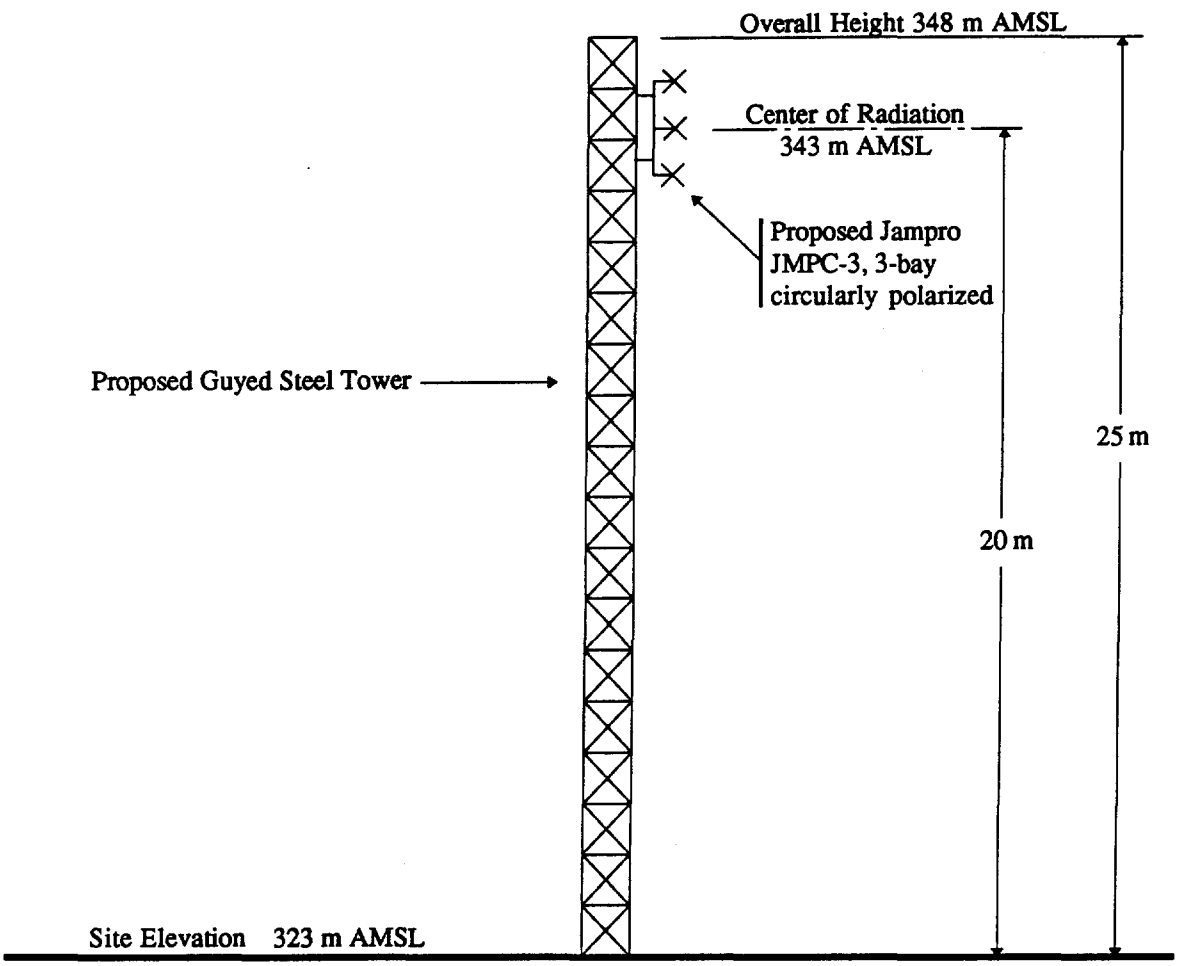
1 MILES 0 1 2

1 KM 0 1 2 3

HAMMETT & EDISON, INC. CONSULTING ENGINEERS SAN FRANCISCO	NEW FM STATION 95.9 MHZ, CHANNEL 240A HEALDSBURG, CALIFORNIA	PROPOSED SITE
		910207 FIGURE 2A



HAMMETT & EDISON, INC. CONSULTING ENGINEERS SAN FRANCISCO	NEW FM STATION 95.9 MHZ, CHANNEL 240A HEALDSBURG, CALIFORNIA	**PROPOSED SITE** 910207 FIGURE 2B



North Latitude 38° 40' 52"
West Longitude 122° 58' 10"

DRAWING NOT TO SCALE

TOWER TO BE PAINTED AND LIGHTED IN ACCORDANCE WITH FAA REQUIREMENTS		**ANTENNA ELEVATION**
HAMMETT & EDISON, INC. CONSULTING ENGINEERS SAN FRANCISCO	**NEW FM STATION 95.9 MHZ, CHANNEL 240A HEALDSBURG, CALIFORNIA**	**910207** **FIGURE 3**

NEW FM STATION
95.9 MHZ, CHANNEL 240A
HEALDSBURG, CALIFORNIA

TERRAIN AND COVERAGE DATA
PROPOSED OPERATION

Azimuth	Average Elevation[1] (3 to 16 km)	Antenna Height Above Average Terrain[2]	Effective Radiated Power[3]	Distance to Contours[4] 3.16 mV/m	Distance to Contours[4] 1 mV/m
N 0° E [5]	206 m	137 m	6.0 kW	19.1 km	32.6 km
5	219	124	6.0	18.2	31.2
10	245	98	6.0	16.0	28.0
15	238	105	6.0	16.6	28.9
20	264	79	6.0	14.2	25.3
25	272	71	6.0	13.5	24.1
30	281	62	6.0	12.7	22.8
35	302	41	6.0	10.4	18.5
40	318	25	6.0	8.9	15.8
45 [5]	346	-3	6.0	8.9	15.8
50	359	-16	6.0	8.9	15.8
55	327	16	6.0	8.9	15.8
60	327	16	6.0	8.9	15.8
65	302	41	6.0	10.4	18.5
70	240	103	6.0	16.4	28.7
75	199	144	6.0	19.6	33.4
80	143	200	6.0	22.9	38.8
85	118	225	6.0	24.2	40.7
90 [5]	112	231	6.0	24.5	41.1
95	99	244	6.0	25.1	41.9
100	85	258	6.0	25.8	42.8
105	90	253	6.0	25.6	42.5
110	93	250	6.0	25.4	42.3
115	73	270	6.0	26.3	43.6
120	81	262	6.0	26.0	43.1
125	80	263	6.0	26.0	43.1
130 [6]	64	279	6.0	26.7	44.2
135 [5]	67	276	6.0	26.6	44.0
140	82	261	6.0	25.9	43.0
145	112	231	6.0	24.5	41.1
150	143	200	6.0	22.9	38.8
155	170	173	6.0	21.5	36.5
160	202	141	6.0	19.4	33.1
165	222	121	6.0	18.0	30.8
170	255	88	6.0	15.0	26.6
175	287	56	6.0	12.2	21.8

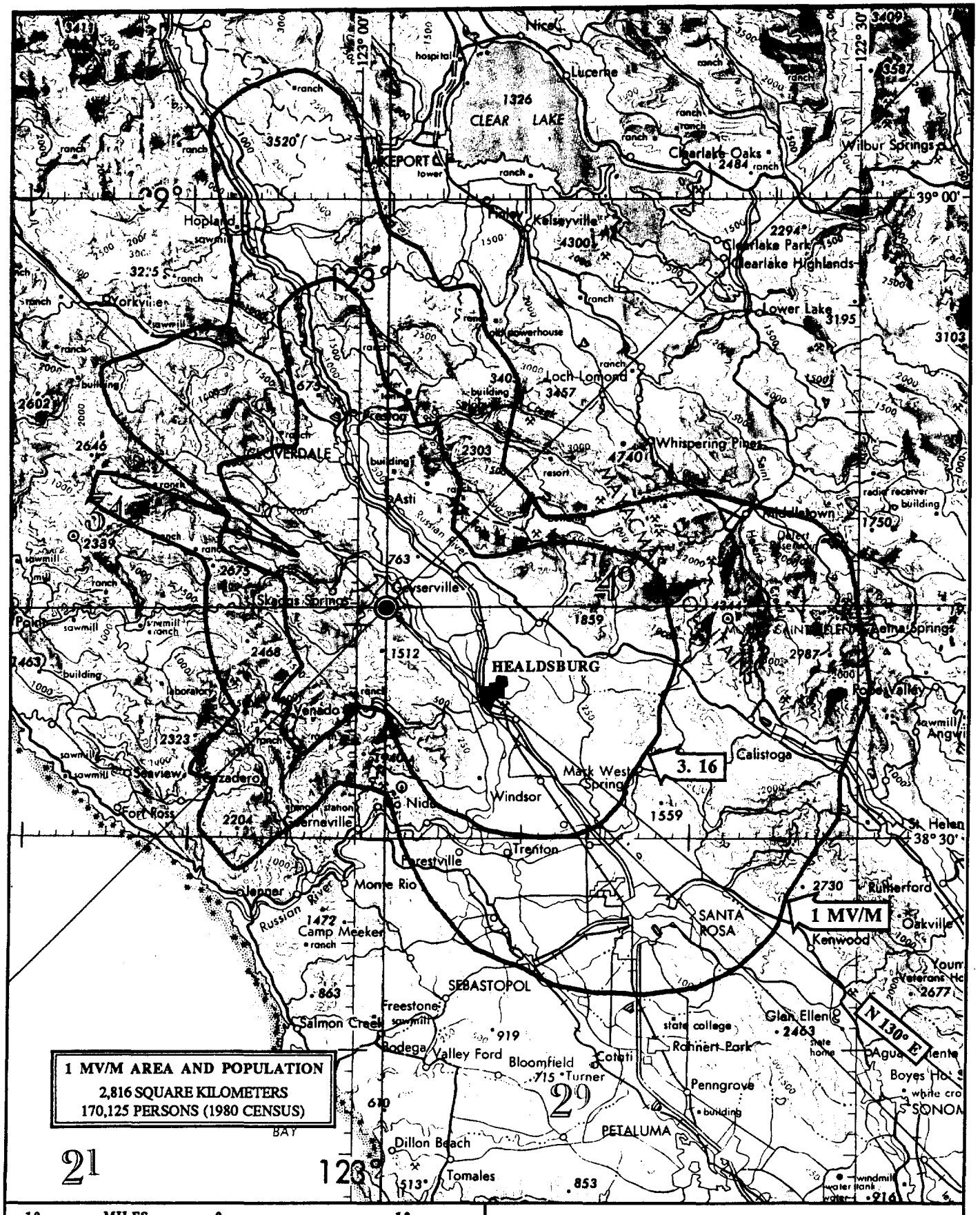
1 NGDC 30-Second Topography Database
2 343 m Effective Height minus Average Elevation
3 Full Class A facilities
4 FCC Rules, Section 73.333, Figure 1
5 Used to calculate Average Terrain
6 Radial through Healdsburg

NEW FM STATION
95.9 MHZ, CHANNEL 240A
HEALDSBURG, CALIFORNIA

TERRAIN AND COVERAGE DATA
PROPOSED OPERATION

Azimuth	Average Elevation[1] (3 to 16 km)	Antenna Height Above Average Terrain[2]	Effective Radiated Power[3]	Distance to Contours[4] 3.16 mV/m	Distance to Contours[4] 1 mV/m
N 180° E [5]	311 m	32 m	6.0 kW	9.2 km	16.3 km
185	315	28	6.0	8.9	15.8
190	331	12	6.0	8.9	15.8
195	327	16	6.0	8.9	15.8
200	301	42	6.0	10.5	18.8
205	287	56	6.0	12.2	21.8
210	257	86	6.0	14.8	26.3
215	262	81	6.0	14.4	25.6
220	265	78	6.0	14.1	25.2
225 [5]	290	53	6.0	11.8	21.2
230	284	59	6.0	12.5	22.3
235	321	22	6.0	8.9	15.8
240	348	-5	6.0	8.9	15.8
245	374	-31	6.0	8.9	15.8
250	443	-100	6.0	8.9	15.8
255	439	-96	6.0	8.9	15.8
260	410	-67	6.0	8.9	15.8
265	416	-73	6.0	8.9	15.8
270 [5]	391	-48	6.0	8.9	15.8
275	364	-21	6.0	8.9	15.8
280	388	-45	6.0	8.9	15.8
285	309	34	6.0	9.5	16.8
290	249	94	6.0	15.6	27.5
295	247	96	6.0	15.8	27.8
300	319	24	6.0	8.9	15.8
305	235	108	6.0	16.9	29.3
310	207	136	6.0	19.1	32.5
315 [5]	219	124	6.0	18.2	31.2
320	229	114	6.0	17.4	30.1
325	233	110	6.0	17.1	29.6
330	244	99	6.0	16.1	28.2
335	213	130	6.0	18.6	31.8
340	46	297	6.0	27.6	45.3
345	21	322	6.0	28.7	46.8
350	14	329	6.0	29.0	47.3
355	60	283	6.0	26.9	44.4
Average	243 m	100 m			

1 NGDC 30-Second Topography Database
2 343 m Effective Height minus Average Elevation
3 Full Class A facilities
4 FCC Rules, Section 73.333, Figure 1
5 Used to calculate Average Terrain



HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

NEW FM STATION
95.9 MHZ, CHANNEL 240A
HEALDSBURG, CALIFORNIA

PROPOSED COVERAGE

6 KW EFFECTIVE RADIATED POWER
100 M ABOVE AVERAGE TERRAIN

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FIGURE 5