## Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by Results Radio of Chico Licensee, LLC, to prepare a technical showing in support of consent to change the community of license of FM Station KMJE (Fac. ID 52526), Channel 268A, from Gridley to Woodland, California. The proposal is contingent on the concurrently filed minor change applications of Deer Creek Broadcasting, LLC, for consent to change the community of license of FM Station KHHZ (Fac. ID 50709), Channel 249B1, from Oroville to Gridley, California, and Maverick Media of Santa Rosa License, LLC, for consent to change the reference coordinates of FM Station KXFX (Fac. ID 22890), Channel 269B1, Santa Rosa, California.

## Background and Purpose

FM Station KMJE is licensed as a full Class A facility, operating at a de-rated power of 140 watts effective radiated power (ERP), with its transmitting antenna radiation center at 602 meters above average terrain (HAAT) and 647 meters above mean sea level (AMSL). It is proposed to change the community of license served by KMJE from Gridley to Woodland, California. The City of Gridley will continue to be served by FM Station KHHZ, which in a contingent proceeding is seeking to change its community of license from Oroville to Gridley, California. In order to facilitate the creation of a suitable site for KMJE to serve Woodland, it is proposed to modify the geographic reference coordinates of FM Station KXFX in a third contingent proceeding.

## Existing Service Area

The entire existing KMJE(FM) coverage area will continue to be well served by at least five unique commercial radio stations. There are three stations that each individually serves 100% of the present KMJE(FM) coverage area:

FM Station KKCY, 103.1 MHz, Channel 276A, Fac. ID 52507, Colusa, California
Station KRCX-FM, 99.9 MHz, Channel 260B, Fac. ID 256513, Marysville, California
Class A Radio Station KFBK, 1530 kHz, Fac. ID 10145, Sacramento, California.

In addition, every area within the existing KMJE(FM) coverage area is also served by at least two of the following stations:

FM Station KQPT, 107.5 MHz, Channel 298B, Fac. ID 51638, Colusa, California
FM Station KARA, 99.1 MHz, Channel 256A, Fac. ID 88177, Williams, California
FM Station KHHZ, 97.7 MHz, Channel 249B1, Fac. ID 50709, Oroville, California,
FM Station KMXI, 95.1 MHz, Channel 236B, Fac. ID 40843, Chico, California
Station KTKZ-FM, 105.5 MHz, Channel 288B, Fac. ID 51220, Dunnigan, California
Class B Radio Station KMYC, 1410 kHz, Fac. ID 40633, Marysville, California
Class B Radio Station KUBA, 1600 kHz, Fac. ID 56365, Yuba City, California.

As noted above, FM Station KHHZ is presently licensed to Oroville but is proposed for Gridley, California, with no changes to its transmitting facilities. Thus, there would be no change to its coverage area.

## Suitability of Allotment Site

Accompanying Figure 1A provides the proposed FCC reference site coordinates for FM Station KMJE, along with a table summarizing the pertinent FCC Rules Section 73.207 spacing allocation conditions. As shown, all required spacing distances are met for the proposed reference site to other relevant facilities.[1] As noted in Figure 1A, this application relies on new reference site coordinates of station KXFX at Santa Rosa (at 38° 27' 41" N, 122° 51' 37" W, NAD27 datum), which change is requested in the concurrently filed contingent KXFX minor change application. As shown in the Technical Statement of that application, all required conditions are met for the proposed reference coordinates to other relevant facilities and the change otherwise meets the Commission's technical requirements.[2]

The map of Figure 1B demonstrates that a full Class A facility located at the reference site would provide FCC F(50,50) 70 dBu service to all of Woodland, California. Woodland is an incorporated city listed in the 2000 U.S. Census and is also the community of license for FM Station KSFM, 102.5 MHz, Channel 273B, FCC Facility ID No. 59598. Figure 1C illustrates the same 70 dBu contour and Woodland city limits in relation to the nearby Sacramento Urbanized Area, which is defined in the 2000 U.S. Census. As shown, Woodland is not located within the Sacramento Urbanized Area, and the contour encompasses much less than 2% of that area.

## Coverage of Woodland by Proposed Facility

It is proposed to construct the actual KMJE(FM) transmitting facility at the reference site coordinates, operating at 6 kilowatts ERP, with the transmitting antenna radiation center at 54.0 meters HAAT, 67.0 meters AMSL, and 57.2 meters above ground level. Accompanying Figure 2 demonstrates 70 dBu principal community coverage of Woodland.

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[1] Additionally, the proposed change would be mutually exclusive with the presently licensed KMJE(FM) operation on the basis of FCC Rules Section 73.207 spacing requirements for Class A to Class A facilities. That section requires an allotment spacing of 115 kilometers, while the KMJE(FM) licensed and proposed sites are separated by only 70 kilometers.

[2] In connection with the KMJE application, Maverick Media is seeking a change in the KXFX reference coordinates pursuant to the policy established in *Gunnison, et al., Memorandum Opinion & Order*, 20 FCC Rcd 5908 (2005). Pursuant to the *Gunnison* policy (see ¶¶ 14-15) and the procedures of the *Streamlining Order*, the applicant further requests that the FCC, in conjunction with action on the KMJE application, reestablish KXFX's currently licensed coordinates as its protected site.

While the FCC F(50,50) 70 dBu contour covers just 58.6% of Woodland land area, there is no intervening terrain that would obstruct line-of-sight service. The FCC Rules and present policy allow an alternative showing to establish community of license coverage in cases where exceedingly flat or rough terrain is present, which departs widely from a 50-meter terrain roughness value.[3] The distance to the coverage contour using the alternate method must exceed that of the FCC F(50,50) method by more than 10% in order to be considered.

The accompanying Figure 2A shows the city limits of Woodland and the plotted FCC F(50,50) 70 dBu contour for the proposed KMJE operation. Additionally, the 70 dBu coverage contour produced by the ITS Irregular Terrain Model (ITM, Longley-Rice)[4] is indicated, extending through Woodland over an arc of 325°T to 11°T, beyond the plotted FCC F(50,50) 70 dBu contour. Figure 2B provides a summary of terrain roughness calculations and distances to the FCC and ITS ITM contours, including a calculation of percent distance increase for the ITS ITM method.

For all radials except in the range 325°T to 331°T, calculated terrain roughness falls below the FCC 20-meter threshold, characterizing exceedingly flat terrain, and all distances measured to the ITS ITM 70 dBu contour exceed those of the FCC F(50,50) 70 dBu contour by much more than the required 10% of FCC F(50,50) method distance. For the radials in the 325°T to 331°T range, the 4-degree arc segment 327°T to 331°T extends over a small area of Woodland that is not already contained within the FCC F(50,50) 70 dBu contour. The area of Woodland included in this arc is small, representing less than 3% of the total land area of Woodland. Thus, the method outlined demonstrates at least 97% coverage of Woodland, which is well above the 80% FCC policy figure.

Accompanying Figure 2C compares the licensed KMJE coverage area and population with the proposed coverage area and population. The figures shown are based on FCC F(50,50) 70 and 60 dBu contour projections using 2000 U.S. Census data. As shown, while coverage area decreases in both cases, 70 dBu population increases by 766% and 60 dBu population increases by 247%.

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[3] The specific procedure used by the FCC to determine terrain roughness, as well as a summary of necessary elements to be included in an alternative community of license coverage showing, are stated in a letter from the Commission to Station KMAJ-FM, Topeka, Kansas, dated August 8, 2002, referring to a pending FM application at that time, FCC File No. BPH-20000316ACF.

[4] Version 1.2.2, by Longley and Rice, dated August 1984. This algorithm is commonly referred to as "Longley-Rice" and the same version is employed by the FCC for OET-69 allocation analysis of digital television facilities. Because of the complexity of the associated algorithms, long-form sample calculations are not practical to provide, but application of the method is well known to the FCC and within the industry. Parameters employed for the algorithm run are as follows: 3-second USGS terrain data, 50% location variability, 50% time variability, 50% confidence factor, Continental Temperate climate, atmospheric refractivity 301 units, ground conductivity 0.005 Siemens/meter, and ground permittivity constant 15.

## FCC Rules Section 73.215 Contour Protection

FCC Rules Section 73.215 processing is requested, due to the 81.3-kilometer spacing between the proposed site and the licensed transmitting facilities of FM Station KXFX (as shown in accompanying Figure 1A). This spacing is less than the 96 kilometers needed for full spacing, but is greater than the FCC Rules Section 73.215 minimum spacing of 72 kilometers between first-adjacent Class A and Class B1 stations. Accompanying Figure 3 demonstrates contour protection between the proposed KMJE facility and the licensed KXFX facility.

## Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the Class A facilities of FM Station KMJE may be reallocated to serve the City of Woodland, California, in accordance with FCC technical rules and policies for such a proposal.

## List of Figures

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

1. Proposed reference site, pertinent spacing conditions, and urbanized area map
2. Coverage of Woodland, California, by proposed transmitting facility
3. Demonstration of FCC Rules Section 73.215 contour protection of FM Station KXFX.


William F. Hammett, P.E.

January 19, 2007

## FM Station KMJE • 101.5 MHz, Channel 268A • Gridley to Woodland, California

## Proposed Change in Community of License
## Summary of FCC Rules §73.207 Allocation Conditions

Reference Site Coordinates: 38° 34' 45.4" N
(NAD27) 121° 43' 58.1" W

| Facility | Channel | Community of License | Required Separation | Actual Separation |
|---|---|---|---|---|
| KALX | 214A | Berkeley, CA | 10 km | 89.9 km |
| KXPR | 215B | Sacramento, CA | 15 | 26.3 |
| KXTS | 265A | Calistoga, CA | 31 | 78.9 |
| KHYL | 266B | Auburn, CA | 69 | 68.7* |
| KIOI | 267B | San Francisco, CA | 113 | 116.4 |
| KAMB | 268B | Merced, CA | 178 | 189.3 |
| KTKE | 268A | Truckee, CA | 115 | 156.6 |
| KEKA-FM | 268C | Eureka, CA | 226 | 287.5 |
| KXFX | 269B1 | Santa Rosa, CA | 96 | 99.2† |
| | 269B1 | Santa Rosa, CA | 96 | 81.3‡ |
| KKIQ | 269A | Livermore, CA | 72 | 109.4 |
| KCCL-FM | 270B | Shingle Springs, CA | 69 | 75.4 |
| KDFC-FM | 271B | San Francisco, CA | 69 | 105.0 |

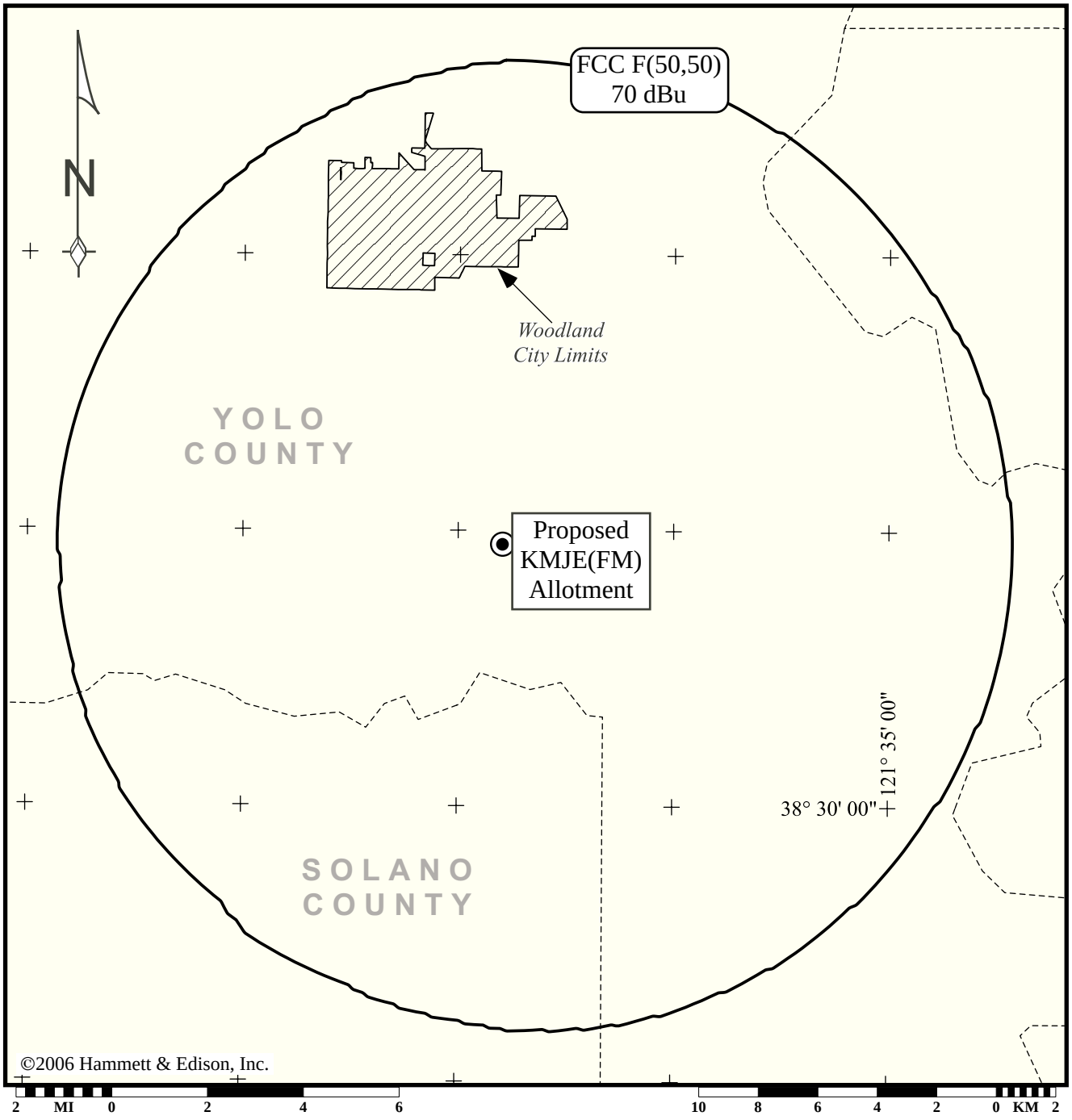
* Rounds to 69 kilometers.

† The 99.2 km actual separation to the KXFX allotment site is fully spaced, based on the coordinates sought in the contingent KXFX minor change application, in accordance with FCC policy clarified in March 2005 *Memorandum Opinion and Order* to Media Bureau Docket 03-144. See additional explanation accompanying this Engineering Exhibit.

‡ The 81.3 km spacing between the proposed KMJE site and the currently licensed site of KXFX (the site to which KXFX will return on grant of the contingent KMJE minor change application), as shown in the engineering narrative at page 3, meets the requirements of processing under § 73.215 (see Fig. 3).

**FM Station KMJE • 101.5 MHz, Channel 268A • Gridley to Woodland, California**

## Proposed Change in Community of License
## Map of FCC Rules §73.315 Coverage Requirement
## Fully-Spaced Allotment Facilities



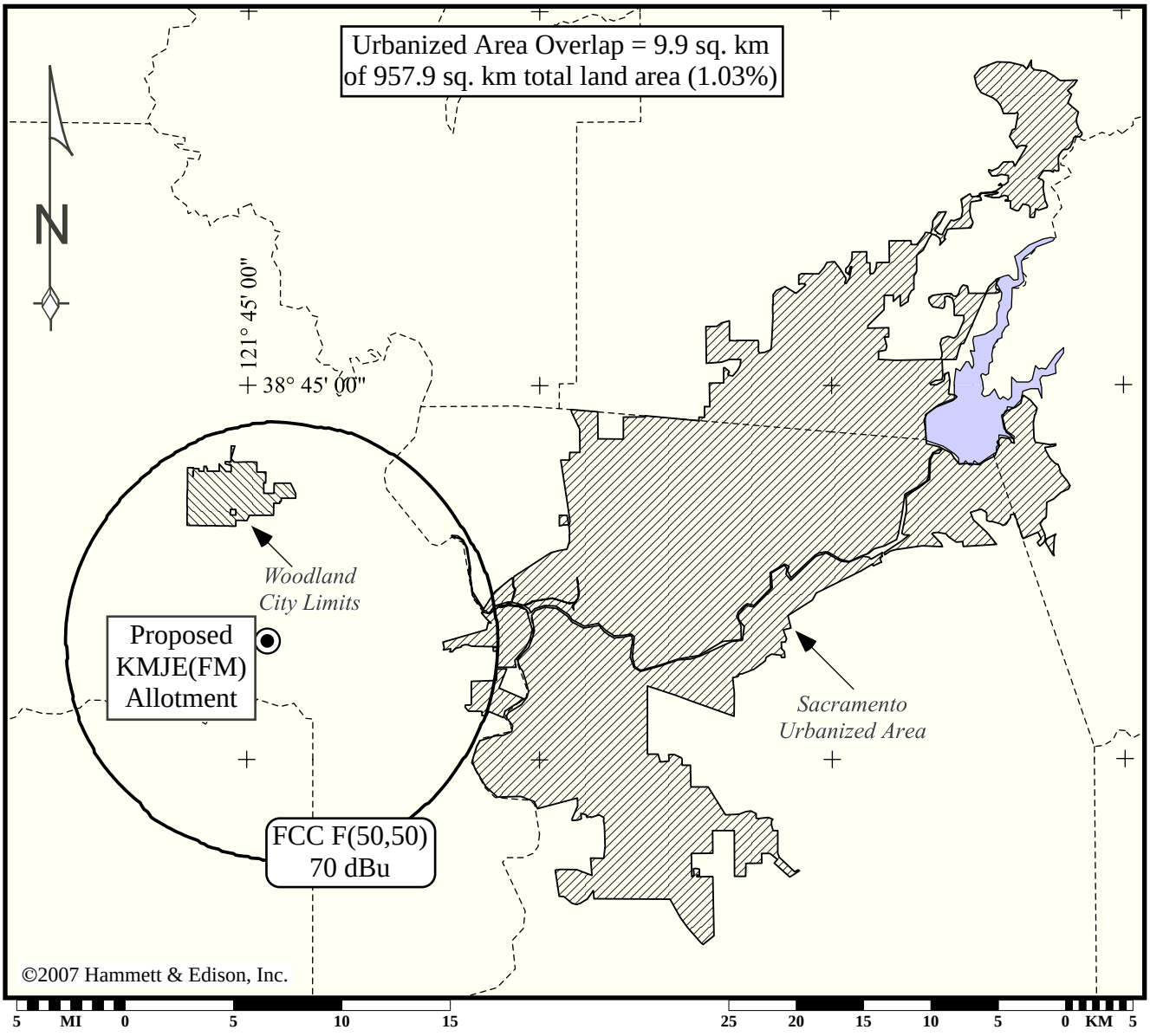

Note: Assumes 6 kW ERP (nondirectional) at 100 m HAAT (113 m AMSL)
Reference Site Coordinates: 38° 34' 45.4" N, 121° 43' 58.1" W (NAD27)

Transverse Mercator map projection. Map data taken from Sectional Aeronautical Charts, published by the National Ocean Survey. Geographic coordinate marks shown at 5-minute increments. County lines and city limits shown taken from U.S. Census Bureau TIGER/Line 2000 data.

**FM Station KMJE • 101.5 MHz, Channel 268A • Gridley to Woodland, California**

**Proposed Change in Community of License**
**Map Showing 70 dBu Coverage of Sacramento Urbanized Area**
**by Proposed KMJE(FM) Woodland Allotment**

**Proposed Allotment: 6 kW ERP, C.O.R. 100 meters HAAT, 113 meters AMSL**

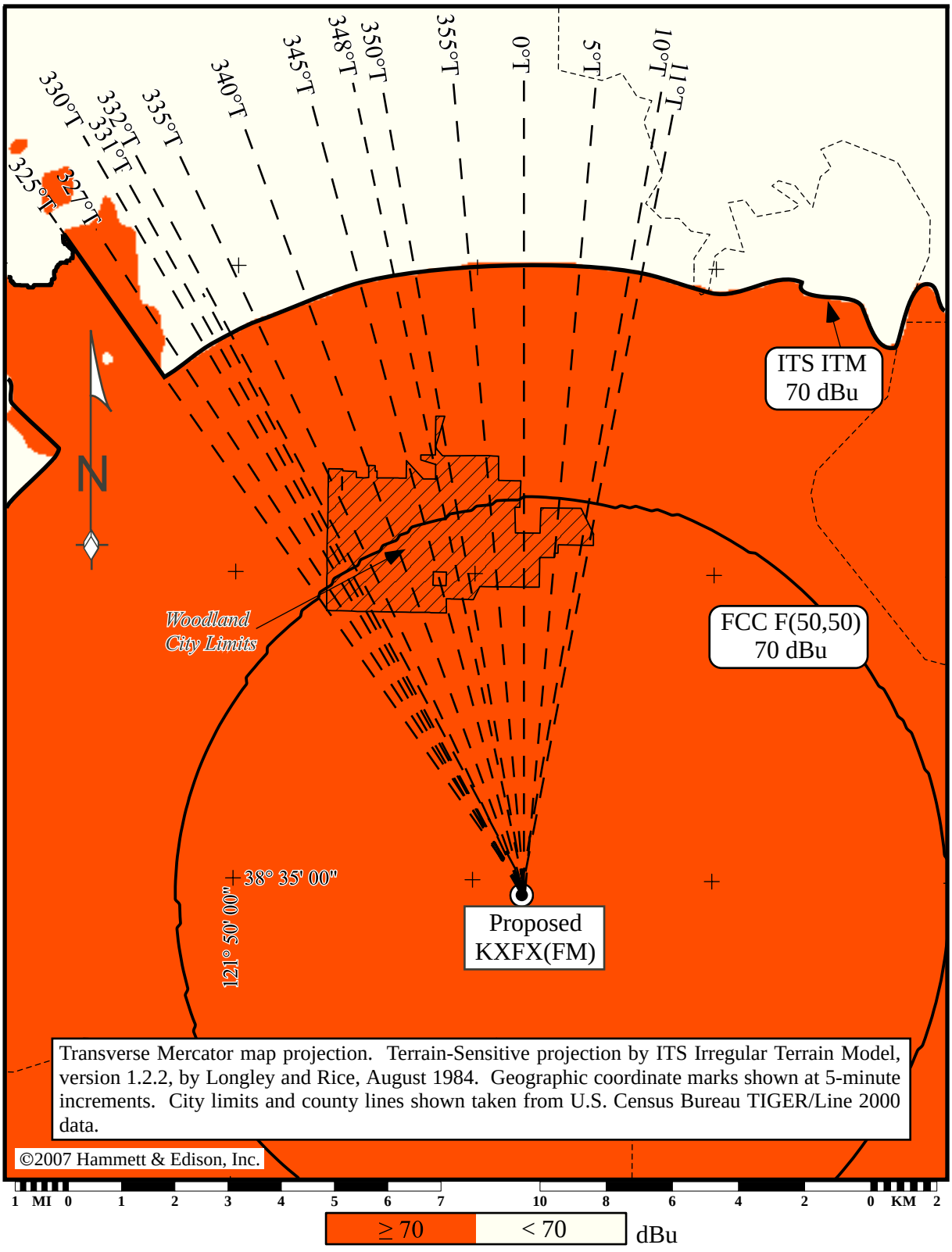



Lambert conformal conic map projection. Map data taken from Sectional Aeronautical Charts, published by the National Ocean Survey. Geographic coordinate marks shown at 15-minute increments. County lines and city limits shown taken from U.S. Census Bureau TIGER/Line 2000 data. Urbanized area from 2000 U.S. Census cartographic boundary files.

**FM Station KMJE • 101.5 MHz, Channel 268A • Gridley to Woodland, California**

**Supplemental Showing of Proposed Coverage of Community of License with Plotted FCC F(50,50) and ITS ITM (Longley-Rice) 70 dBu Contours**

**Proposed KMJE(FM): 6 kW ERP, C.O.R. 67.0 m AMSL, Nondirectional**




ITS ITM (Longley-Rice) Prediction Model


HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

## FM Station KMJE • 101.5 MHz, Channel 268A • Gridley to Woodland, California

## Supplemental Showing of Proposed License Community Coverage

## Tabulation of Terrain Roughness (Δh), Distance to FCC F(50,50) 70 dBu Contour, and Distance to ITS ITM (Longley-Rice) 70 dBu Contour

| Azimuth | Terrain Roughness (Δh)[1] | Distance to 70 dBu Contour | | Percent Increase[4] |
|---|---|---|---|---|
| | | FCC F(50,50)[2] | ITS ITM (Longley-Rice)[3] | |
| 325°T | 50.0[5] m | 10.9 km | 19.0 km | 174% |
| 327 | 36.7[5] | 11.0 | 19.1 | 174 |
| 330 | 25.6[5] | 11.1 | 19.3 | 174 |
| 331 | 21.1[5] | 11.1 | 19.2 | 173 |
| 332 | 15.0 | 11.1 | 19.3 | 174 |
| 335 | 17.0 | 11.3 | 19.2 | 170 |
| 340 | 14.0 | 11.4 | 19.1 | 168 |
| 345 | 12.0 | 11.6 | 19.1 | 165 |
| 348[6] | 10.0 | 11.6 | 19.1 | 165 |
| 350 | 9.0 | 11.7 | 19.0 | 162 |
| 355 | 8.0 | 11.8 | 19.2 | 163 |
| 0 | 5.9 | 12.1 | 19.1 | 158 |
| 5 | 4.0 | 12.1 | 19.1 | 158 |
| 10 | 4.0 | 12.1 | 19.1 | 158 |
| 11 | 4.0 | 12.1 | 19.0 | 157 |

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1 Terrain roughness (Δh) calculated in accordance with 47 C.F.R. Section 73.313(h), using 10 points/kilometer. Generally must be less than 20 m or greater than 100 m.

2 Distances to FCC Contours calculated in accordance with 47 C.F.R. Section 73.313(c) and 73.313(d) using 30-second NGDC terrain data.

3 Distance to contour using ITS Irregular Terrain Model (Longley-Rice) calculations. See Engineering Statement for description of parameters employed.

4 Increase in contour distance versus FCC F(50,50) projection. Must be greater than 110%.

5 See text for discussion of 325°T – 331°T radials.

6 Radial through center of Woodland.

**FM Station KMJE • 101.5 MHz, Channel 268A • Gridley to Woodland, California**

**Area and Population Figures**
**Existing Licensed and Proposed Facilities FCC F(50,50) Coverage Projections**

**Based on 2000 U.S. Census Tabulations**

Licensed KMJE, Gridley, California
FCC File No. BLH-19961119KB 140 watts ERP, C.O.R. 647 m AMSL, Nondirectional

70 dBu: 12,654 persons
723.4 sq. km land area

60 dBu: 134,313 persons
2,437.6 sq. km land area

Proposed KMJE, Woodland, California
6 kilowatts ERP, C.O.R. 67 m AMSL, Nondirectional

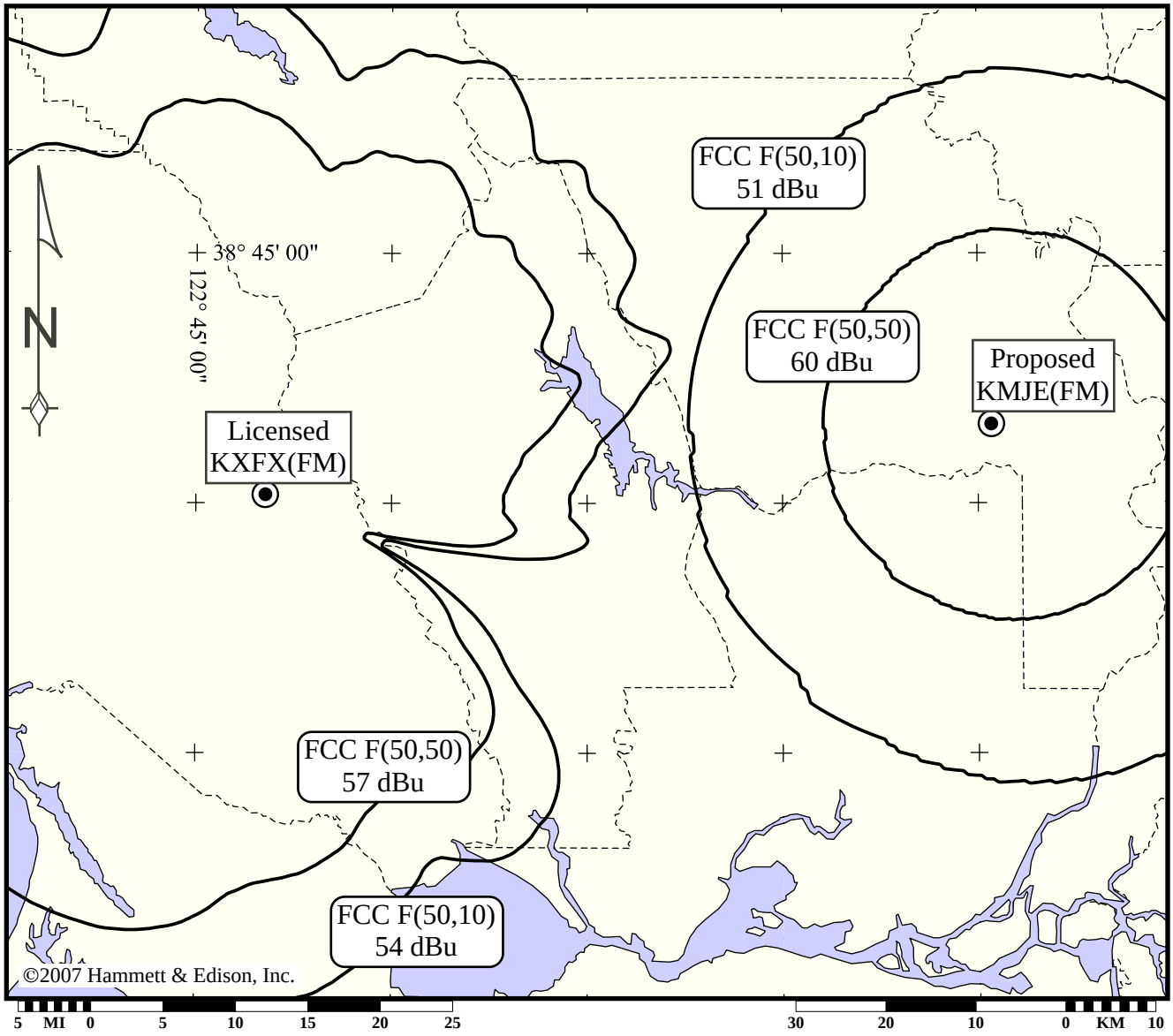
70 dBu: 96,966 persons (+766% vs. licensed)
439.7 sq. km land area (-39.2%)

60 dBu: 332,039 persons (+247%)
1,409.3 sq. km land area (-42.2%)

## FM Station KMJE • 101.5 MHz, Channel 268A • Gridley to Woodland, California

## Map Demonstrating FCC Rules §73.215 Contour Protection

Proposed KMJE(FM): 6 kW ERP, C.O.R. 67.0 meters AMSL, Nondirectional
Protected KXFX(FM): Licensed, FCC File No. BLH-19920818KG
2.2 kW ERP, C.O.R. 546 meters AMSL, Directional
Existing §73.215 authorization




Lambert conformal conic map projection. Map data taken from Sectional Aeronautical Charts, published by the National Ocean Survey. Geographic coordinate marks shown at 15-minute increments. County lines shown taken from U.S. Census Bureau TIGER/Line 2000 data.