

EXHIBIT 12  
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OVERLAP REQUIREMENTS

Zimmer Radio, Inc.  
Joplin, MO

Figure 12.0 is an allocation study showing the interfering contours for the proposed K275BD operating facilities in relation to the protected contours for all FM broadcast and FM translator stations operating on channels 272 through 278 which require protection consideration. As shown in this figure, these proposed operating facilities fail to provide the contour protection required by Section 74.1204(a) of the FCC Rules to second adjacent channel KIXQ(FM) - Joplin, Missouri, which operates on Channel 273C1, and third adjacent channel KWXD(FM) - Asbury, Missouri, which operates on Channel 278C3. As is documented below in more detail, however, the proposed K275BD operating facilities are not likely to result in any actual interference to either KIXQ or KWXD. Thus, based on this lack of interference, Section 74.1204(d) of the FCC Rules permits the attached application to be granted in spite of this prohibited contour overlap.

Section 74.1204(a) of the FCC Rules prohibits any overlap between the proposed K275BD 100 dBu contour and the 60 dBu protected contours for KIXQ and KWXD. Compliance with this requirement, however, is obviously not possible from this site, since the proposed K275BD site is located within the 60 dBu protected contours for both KIXQ and KWXD.<sup>1</sup>

Figure 12.1 is a map exhibit depicting the predicted 100 dBu contour for the proposed K275BD facilities. As shown in this figure, the proposed K275BD 100 dBu contour extends 1100 meters from the proposed site. This figure also shows that there are iso-

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<sup>1</sup>The presently licensed K275BD operating facilities were authorized pursuant to the provisions of Section 74.1204(d) of the FCC Rules since the presently licensed site is also located within the 60 dBu protected contours of both KIXQ and KWXD.

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lated buildings and public highways located within this distance from the proposed site. For this reason, it was necessary to undertake a more detailed analysis to document that there is no population that is predicted to receive interference within this area of prohibited overlap.

As part of this detailed analysis, it was determined that the predicted KWXD signal strength at the proposed site is 63.2 dBu.<sup>2</sup> Based on the 40 dB undesired to desired (“U/D”) signal ratio specified for second and third adjacent stations in Section 74.1204(a)(3) of the FCC Rules, a signal level exceeding 103.2 dBu would be required to cause predicted interference to KWXD. The vertical radiation pattern data for the proposed two bay, 0.75 wavelength spaced, circularly polarized antenna was utilized in conjunction with free space propagation prediction techniques to calculate the distance to the 103.2 dBu contour for the proposed facilities at depression angles ranging from 0° down through 90°. The results of these calculations are tabulated in Table 12.2 and depicted in Figure 12.2, which shows a side view of the predicted 103.2 dBu contour for this proposed antenna system. As shown in this figure, the predicted 103.2 dBu contour for these proposed operating facilities never reaches ground level, with its closest approach being 21.2 meters (70 feet) at a depression angle of 20°. Since, as shown in Figure 12.1, there are no tall buildings or other publicly accessible tall structures located near the proposed site, it is obvious that there is no population within the area where this overlap would result interference being predicted to KWXD. Thus, pursuant to Section 74.1204(d) of the FCC Rules, the attached application can be granted in spite

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<sup>2</sup>These signal strength calculations were made using the F(50,50) curves from Section 73.333 of the FCC Rules and terrain data extracted from the NGDC 30 second terrain database.

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of this prohibited contour overlap, due to the total lack of population within the area of predicted interference.

Because the proposed facilities will be co-located with KIXQ, which uses an antenna which has significantly different vertical radiation characteristics than the proposed K275BD antenna, it would be an extremely complex process to document that no actual interference would occur as the result of this prohibited overlap. The licensee of KIXQ is comfortable, however, that no actual interference will result from the operation of this commonly owned translator from the same tower as second adjacent channel KIXQ. It appears that this situation complies with Section 74.1203(d) of the FCC Rules which permits a fill-in translator operating on a first, second, or third adjacent channel to its primary station to cause limited amounts of interference to the primary station. Additionally, the licensee of KIXQ, which is also the applicant, is providing its consent to accept whatever minimal amounts of interference might result from this prohibited overlap.

If it is deemed to be necessary, a waiver of Section 74.1204(a) of the FCC Rules is respectfully requested with regard to this second and third adjacent channel overlap with KIXQ and KWND.

Table 12.0 is an FM spacing study which demonstrates that the proposed modified K275BD facilities will comply with the intermediate frequency separation requirements outlined in Section 73.207 of the FCC Rules with regard to all existing or proposed stations operating on FM Channels 221 and 222.

TABLE 12.0

## FM ALLOCATION STUDY - CHANNEL 275A (102.9 MHz) - JOPLIN, MO

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 ZIMMER RADIO, INC.  
 JOPLIN, MO

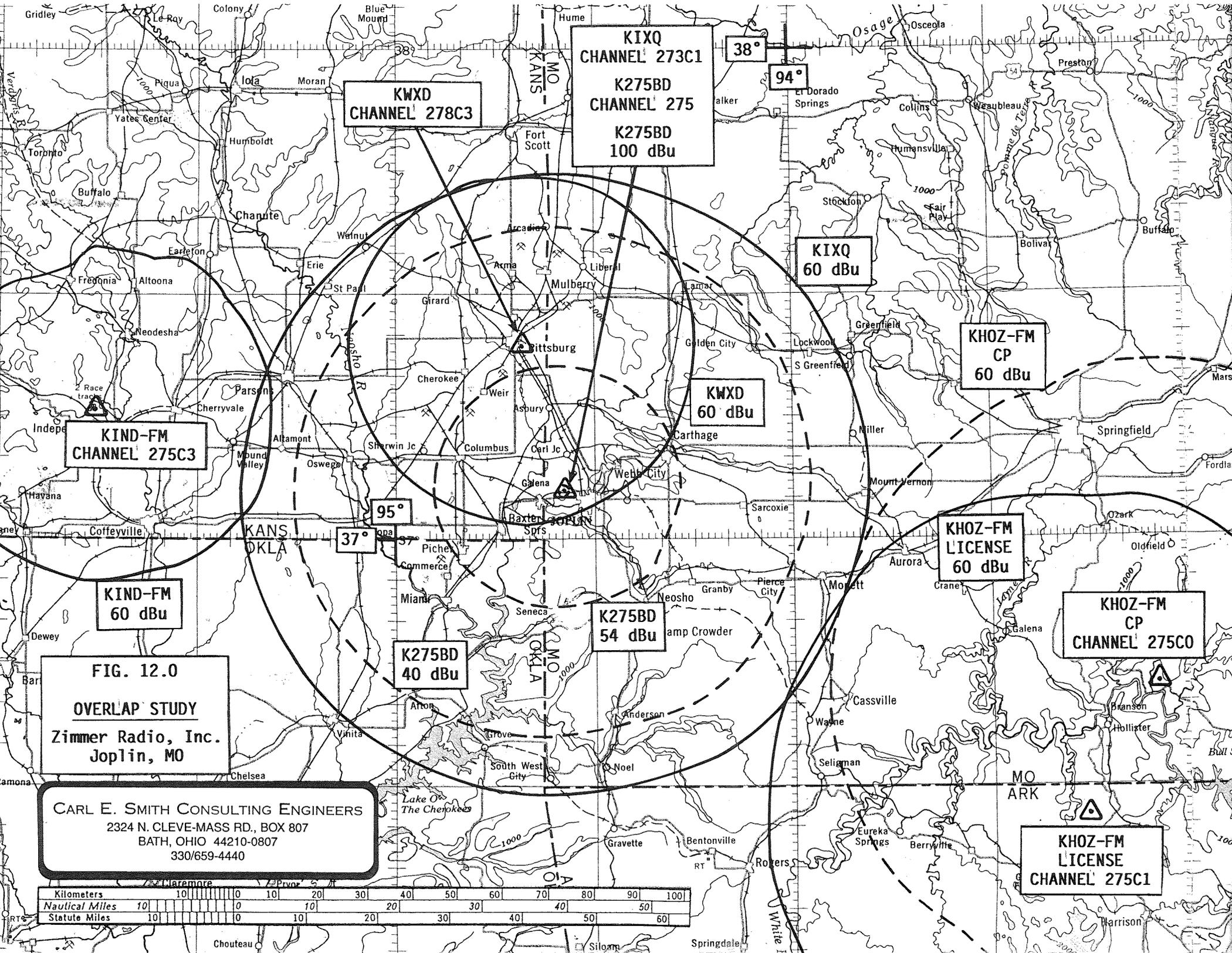
STUDY COORDINATES: 37/05/49 94/34/25

STATION	LOCATION	CHANNEL	CLASS	SPACING (km)	REQUIRED SPACING* (km)	NOTES
KQSM-FM	FAYETTEVILLE, AR	221	C3	119.62	12.0	1
KREU	ROLAND, OK	222	A	175.43	10.0	1

\* Required Spacing Per Section 73.207 of The FCC Rules

## Notes:

- |                                      |                                  |
|--------------------------------------|----------------------------------|
| 1 - Applied For Under Section 73.215 | 7 - Pending Application          |
| 2 - Construction Permit              | 8 - Petition For Reconsideration |
| 3 - Channel Deletion Proposed        | 9 - Proposed Rulemaking          |
| 4 - Move From This Channel Ordered   | 10 - Rulemaking Petition         |
| 5 - Move to This Channel Ordered     | 11 - Short-Spaced                |
| 6 - One Step Reference Site          | 12 - Vacant Allotment            |



**KWXD  
CHANNEL 278C3**

**KIXQ  
CHANNEL 273C1  
K275BD  
CHANNEL 275  
K275BD  
100 dBu**

**KIXQ  
60 dBu**

**KHOZ-FM  
CP  
60 dBu**

**KIND-FM  
CHANNEL 275C3**

**KWXD  
60 dBu**

**KHOZ-FM  
LICENSE  
60 dBu**

**KHOZ-FM  
CP  
CHANNEL 275C0**

**KIND-FM  
60 dBu**

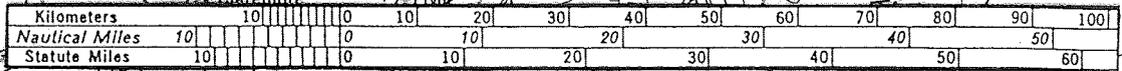
**K275BD  
54 dBu**

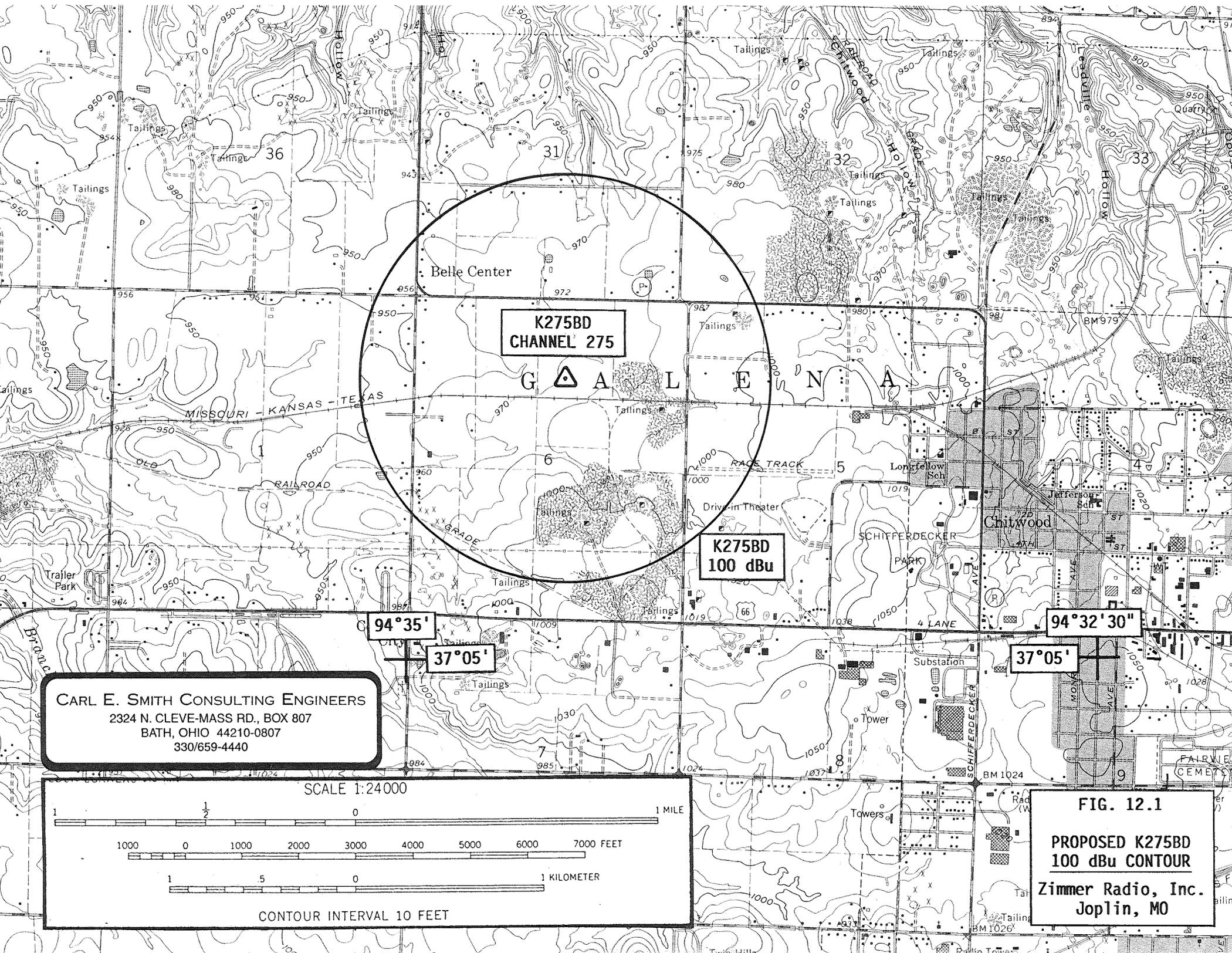
**K275BD  
40 dBu**

**FIG. 12.0  
OVERLAP STUDY  
Zimmer Radio, Inc.  
Joplin, MO**

**CARL E. SMITH CONSULTING ENGINEERS  
2324 N. CLEVE-MASS RD., BOX 807  
BATH, OHIO 44210-0807  
330/659-4440**

**KHOZ-FM  
LICENSE  
CHANNEL 275C1**





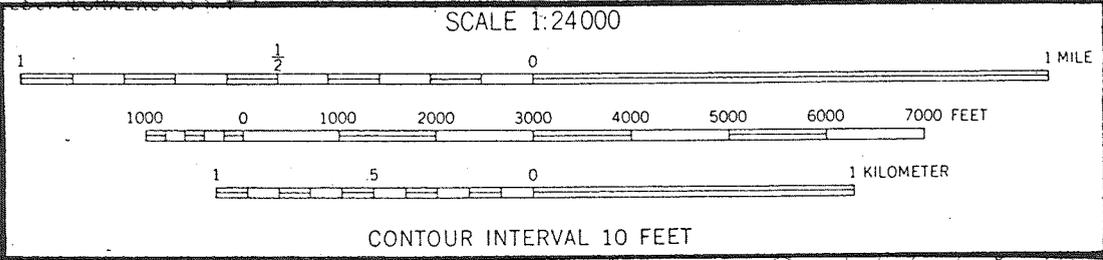
**K275BD  
CHANNEL 275**

**K275BD  
100 dBu**

**94°35'**  
**37°05'**

**94°32'30"**  
**37°05'**

**CARL E. SMITH CONSULTING ENGINEERS**  
2324 N. CLEVE-MASS RD., BOX 807  
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**FIG. 12.1**  
**PROPOSED K275BD  
100 dBu CONTOUR**  
Zimmer Radio, Inc.  
Joplin, MO

TABLE 12.2

PROPOSED 103.2 DBU CONTOUR

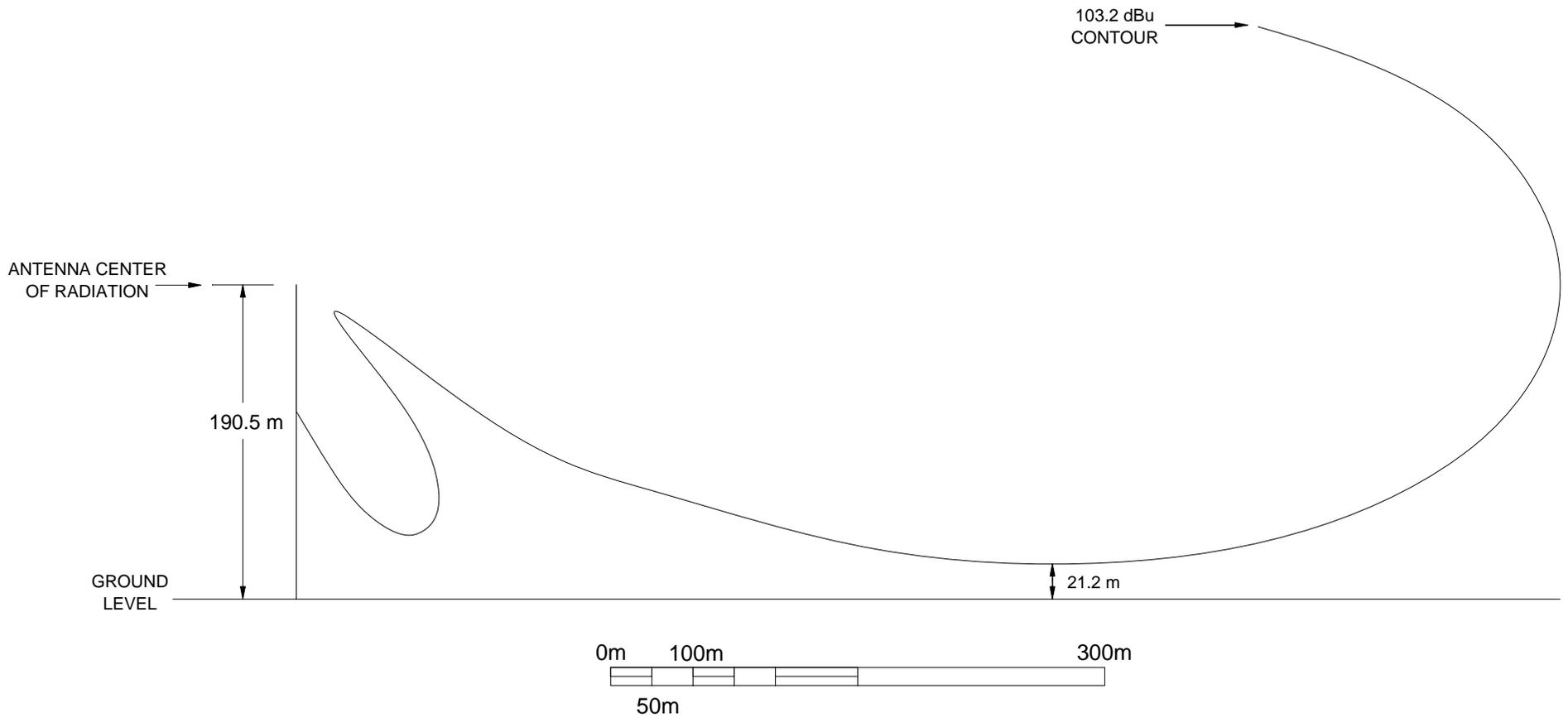
Zimmer Radio, Inc.

Joplin, MO

<u>Depression Angle (Degrees)</u>	<u>Relative Field</u>	<u>ERP (dBk)</u>	<u>103.2 dBu Contour* (Meters)</u>
0	1.000	-6.02	767.4
5	0.975	-6.24	748.2
10	0.902	-6.92	691.8
15	0.788	-8.09	604.6
20	0.645	-9.83	494.9
25	0.486	-12.29	372.8
30	0.325	-15.78	249.5
35	0.174	-21.21	133.5
40	0.042	-33.56	32.2
45	0.065	-29.76	49.9
50	0.149	-22.56	114.3
55	0.196	-20.18	150.3
60	0.216	-19.23	165.8
65	0.218	-19.25	167.3
70	0.203	-19.87	155.8
75	0.176	-21.11	135.1
80	0.143	-22.91	109.8
85	0.110	-25.19	84.4
90	0.100	-26.02	76.7

ERP = 250 Watts = -6.02dBk

\* - Contour distance calculated using free space calculation techniques.



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FIG. 12.2

PROPOSED K275BD  
 103.2 dBu CONTOUR

ZIMMER RADIO, INC.  
 JOPLIN, MO