

TECHNICAL EXHIBIT  
APPLICATION FOR MINOR CHANGE  
MODIFICATION OF CONSTRUCTION PERMIT  
STATION KOBR-DT (FACILITY ID 62272)  
ROSWELL, NEW MEXICO

OCTOBER 29, 2002

CH 38    820 KW    499 M

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Technical Narrative

This Technical Exhibit supports a minor change application to modify the construction permit (CP) of digital television (DTV) station KOBR-DT at Roswell, New Mexico. Station KOBR-DT is currently authorized to operate on channel 38 (BPCDT-19991029AEY, Facility ID 62272).

According to the FCC database, station KOBR-DT is authorized to use an Andrew ATW28H3-HSO-38 non-directional antenna system. The antenna incorporates an electrical beam tilt of 0.75 degree. The DTV effective radiated power (ERP) is 820 kilowatts (kW). The antenna height above average terrain (HAAT) is 502 meters. The antenna center of radiation is 1800 meters above mean sea level (AMSL). The transmitter site coordinates are 33-22-32, 103-46-05 (NAD-27). The FCC tower registration number for the supporting structure is 1004617.

This minor change application is filed to reflect corrections to the existing tower coordinates and elevations based on information provided by a local surveyor. The Federal Aviation Administration (FAA) Southwest Regional Office was notified of the corrections and issued a determination of no hazard to air navigation in FAA Aeronautical Study Number 2002-ASW-3385-OE. The FCC tower registration (#1004617) for the structure has been updated to reflect the new information. Figure 1 is a sketch of the structure showing the correct information. The tower corrections result in minor changes to the

coordinates and a small reduction in antenna HAAT. The revised coordinates are 33-22-31, 103-46-12 (NAD-27). The corrected ground elevation at the tower base is 1362.2 meters AMSL. The overall height of the existing structure is unchanged at 490.7 meters above ground level (AGL). The antenna center of radiation is unchanged at 435.9 meters AGL, but is reduced to 1798 meters AMSL. The revised antenna HAAT is 499 meters based on use of a 3 second digitized terrain database. There is no change in channel (38), DTV ERP (820 kW) or city of assignment (Roswell, NM). There is no actual change to the authorized KOBR-DT operation, only minor corrections to the site coordinates and antenna height based on recent surveyor information.

The KOBR-DT transmitter site is approximately 302 kilometers from the closest point of the Mexican border. It is believed the small change in KOBR-DT's site coordinates and antenna HAAT do not require coordination with Mexico. However, if the FCC disagrees, coordination of the corrected KOBR-DT operation with Mexico is requested.

The KOBR-DT site is more than 1700 kilometers from the closest point of the Canadian border. The closest FCC monitoring station is at Douglas, Arizona, approximately 590 kilometers to the west-southwest. The closest point of the National Radio Quiet Zone (VA/WV) is more than 2100 kilometers to the east-northeast. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 700 kilometers to the north. The closest radio astronomy site operating on TV channel 37 is at Fort Davis, Texas, approximately 305 kilometers to the south. These separations are considered sufficient to not be a coordination concern.

The KOBR-DT transmitter site is also used for the KOBR(TV) analog (NTSC) operation on channel 8. There are no other AM, FM or TV stations in the vicinity.

DTV channel 38 at the KOBR-DT site has been studied using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid. The KOBR-DT operation complies with the FCC's interference standards with respect to other analog full service TV assignments and digital television (DTV) allotments and assignments.

Pertinent low power television (LPTV) stations that qualify for Class A consideration and are operating within the FCC's core band (ie, 2-51) have been examined. There are no known Class A TV assignments of concern for allocation purposes.

Figure 3 is a map showing the predicted 48 dBu principal city contour and 41 dBu service contour for the revised KOB-RT operation. The extent of the contours is based on the FCC's normal prediction method using the F(50,90) propagation curves and a 3 second digitized terrain database. The predicted 48 dBu contour encompasses all of the Roswell city limits as required by the FCC rules. The estimated population (2000 Census) within the predicted 41 dBu contour is 159,093 people.

The KOB-RT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the antenna is located 435.9 meters above ground level. The DTV ERP is 820 kW a relative field value of 0.2 was assumed for the antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is 0.0058 mW/cm<sup>2</sup>. This is less than 2% of the FCC's recommended limit of 0.41 mW/cm<sup>2</sup> for channel 38 for an "uncontrolled" environment. The calculated power density is 0.3% of the FCC's recommended limit for a "controlled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site an agreement will control access. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. The KOB-RT operation appears to be otherwise categorically excluded from environmental processing.

If there are questions concerning the technical portion of this application,  
please contact the office of the undersigned.

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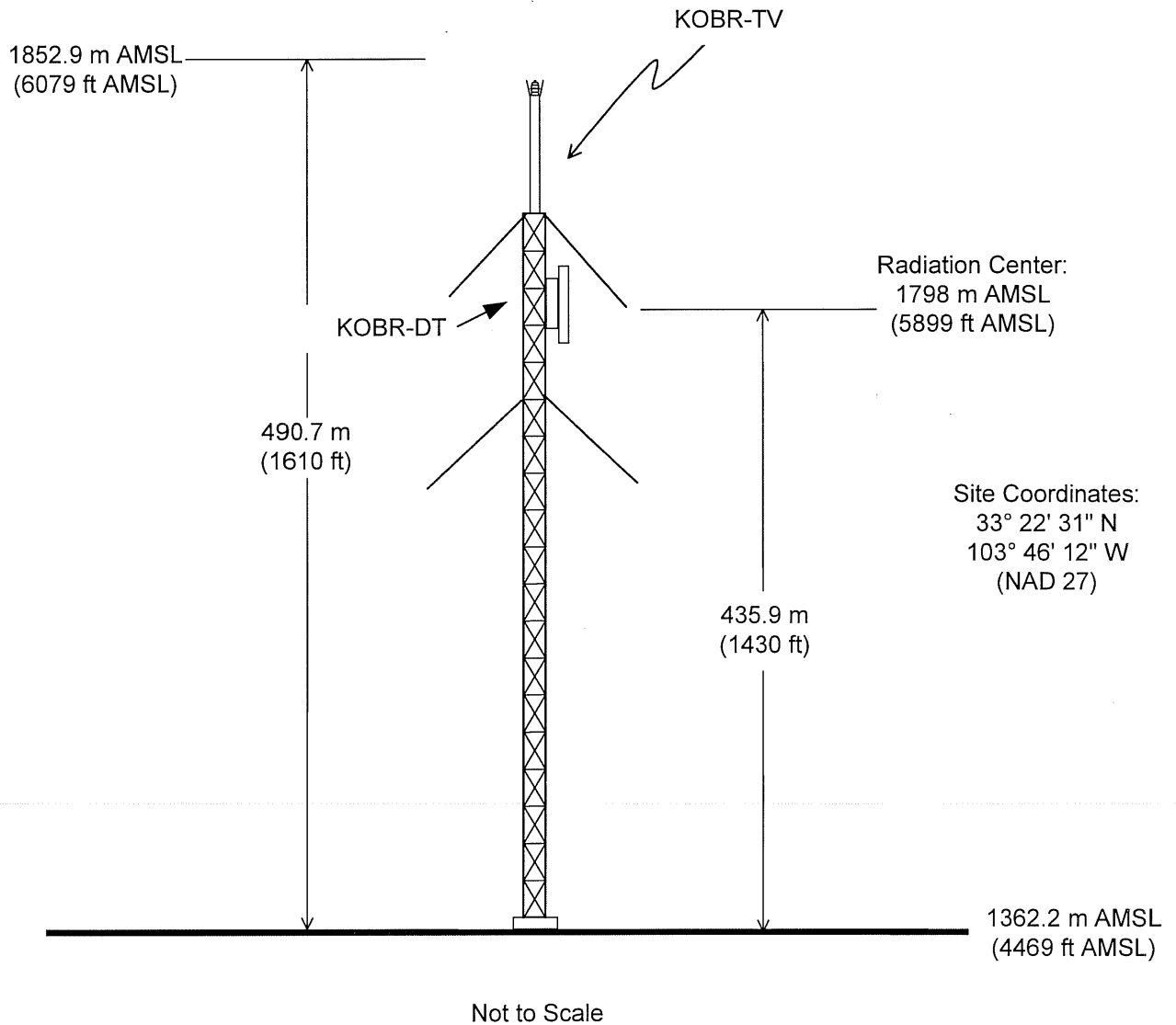
john@DLR.com e-mail

October 29, 2002



OCTOBER 2002

Tower Reg. No. 1004617



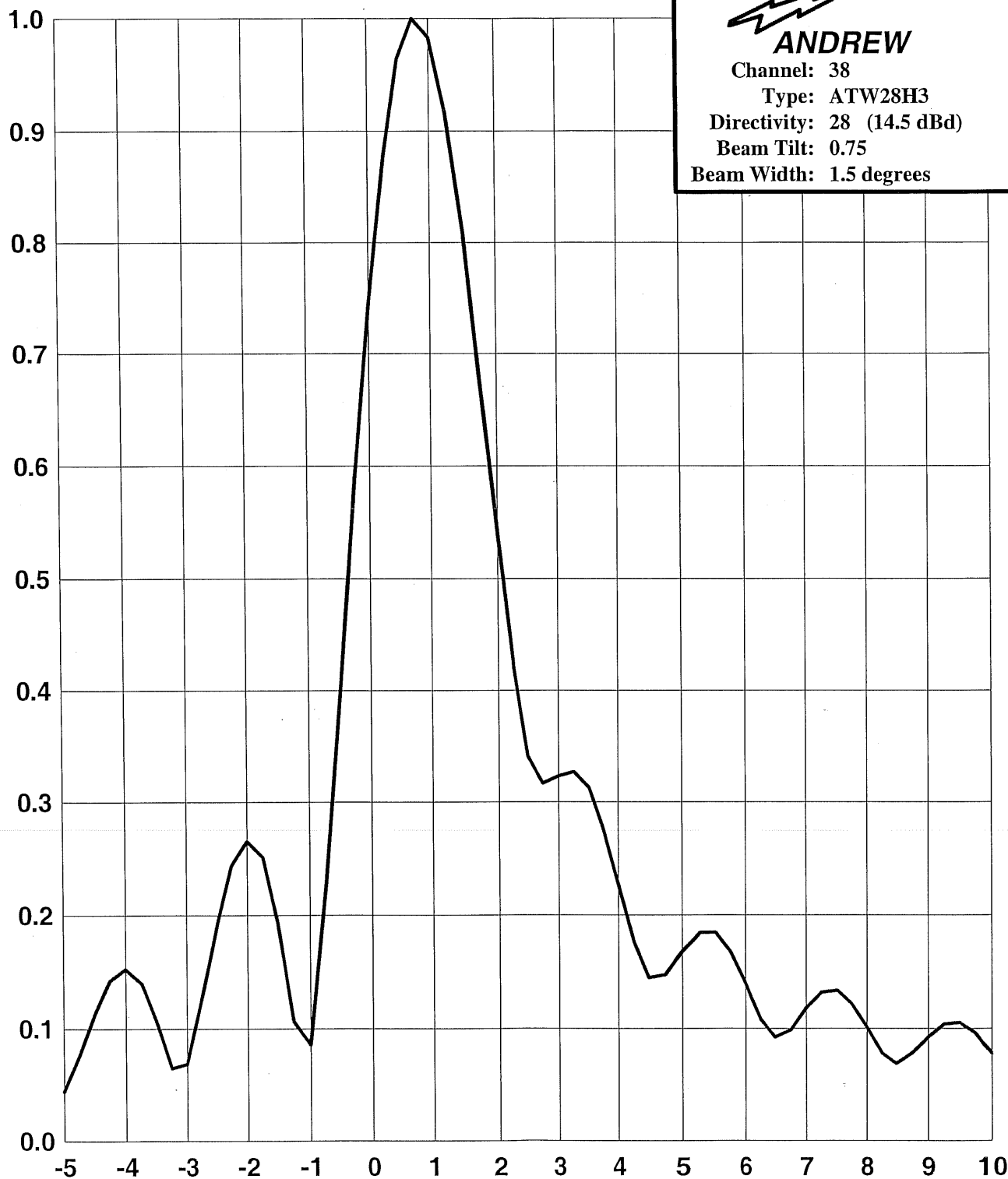
## PROPOSED ANTENNA AND SUPPORTING STRUCTURE

STATION KOB-RT

ROSWELL, NEW MEXICO

CH 38 820 KW 499 M

du Treil, Lundin & Rackley, Inc., Sarasota, Florida



**ANDREW**

Channel: 38

Type: ATW28H3

Directivity: 28 (14.5 dBd)

Beam Tilt: 0.75

Beam Width: 1.5 degrees

ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

Company:  
Site:  
Proposal Number:

Date: 10/28/02  
Author:



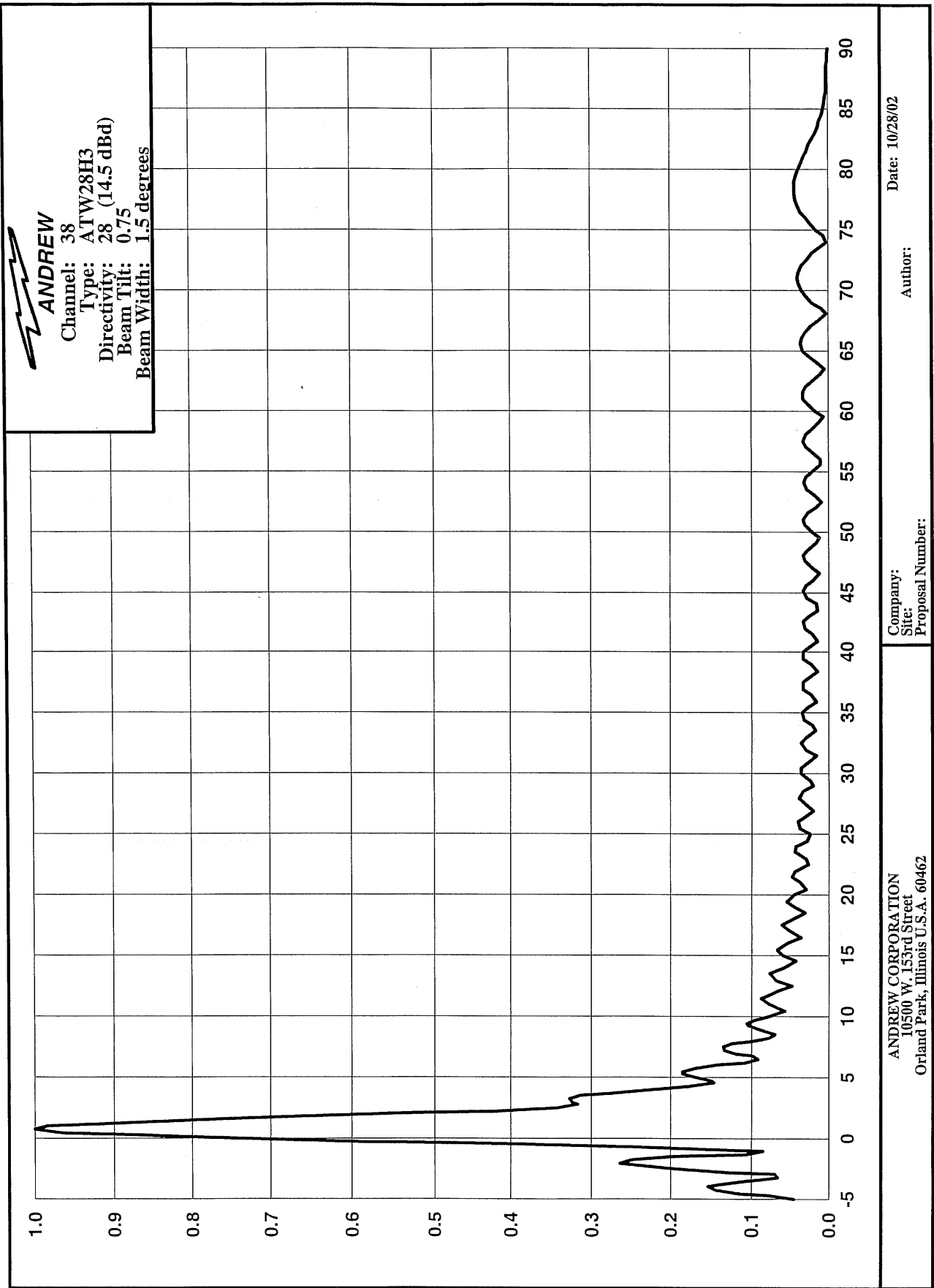
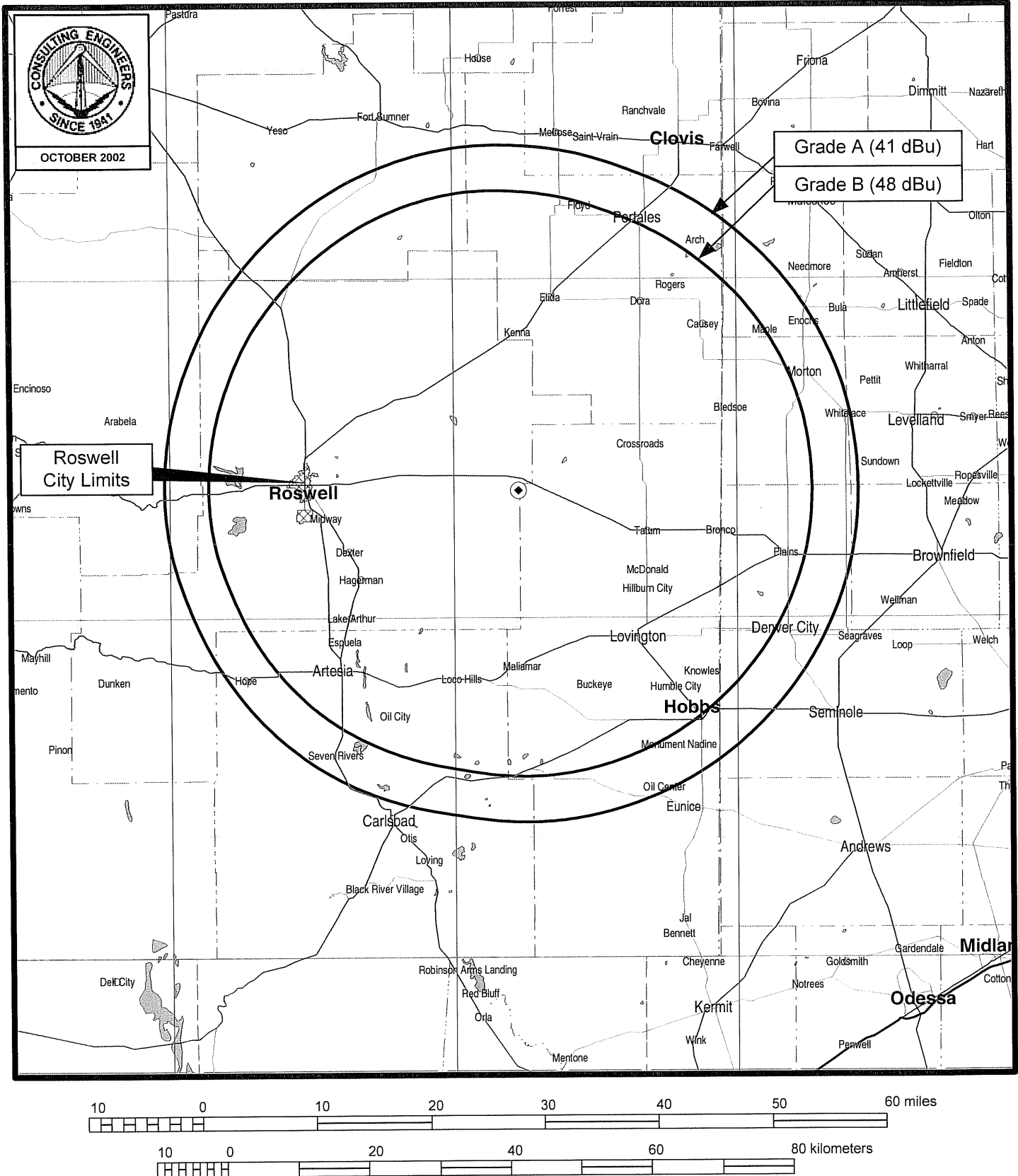


Figure 3



## PREDICTED DTV COVERAGE CONTOURS

STATION KOB-RT  
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