

TECHNICAL EXHIBIT  
MINOR CHANGE IN LICENSED FACILITY  
STATION KTRR(FM) (FACILITY ID 50375)  
LOVELAND, COLORADO

MAY 27, 2003

CH 273C2    50 KW    125 M

TECHNICAL EXHIBIT  
MINOR CHANGE IN LICENSED FACILITY  
STATION KTRR(FM) (FACILITY ID 50375)  
LOVELAND, COLORADO  
CH 273C2 50 KW 125 M

Table of Contents

Technical Narrative

Figure 1            Antenna and Supporting Structure

Figure 2            Proposed Coverage Map

TECHNICAL EXHIBIT  
MINOR CHANGE IN LICENSED FACILITY  
STATION KTRR(FM) (FACILITY ID 50375)  
LOVELAND, COLORADO  
CH 273C2 50 KW 125 M

Technical Narrative

This Technical Exhibit supports an application for minor change to FM station KTRR at Loveland, Colorado. The currently licensed facility specifies an operation on channel 273C2 with a directional antenna maximum effective radiated power (ERP) of 50 kW and an antenna height above average terrain (HAAT) of 125 meters (BLH-19880713KA).

Proposed Facilities

This minor change application proposes to eliminate the directional antenna and operate non-directionally. No other changes are proposed to the currently licensed operation. The NAD27 site coordinates remain: 40-27-19 N, 104-55-25 W. It is proposed to operate with a non-directional ERP of 50 kW and an antenna HAAT of 125 meters (8 evenly spaced radials and the N.G.D.C. 30-second digitized terrain database were employed for HAAT average). The antenna structure registration number is 1025251 (see Figure 1).

Table Mountain Radio Quiet Zone Implication

The closest point of the Table Mountain Radio Quiet Zone is located 42 kilometers to the southwest. Section 73.1030(b) indicates signals at the Table Mountain

Radio Quiet Zone should not exceed 10 mV/m (80 dBu) or a power flux density of  $-65.8$  dBW/m<sup>2</sup>. Based on the standard FCC propagation method, the proposed 80 dBu signal will extend a distance of 15.3 kilometers towards Table Mountain (217° True), well short of the actual distance to Table Mountain. Furthermore, the predicted signal at the closest point of Table Mountain is calculated to be 1.2 mV/m (61.3 dBu). This is 18.7 dB below the FCC limitation of 80 dBu (10 mV/m). The power flux density is calculated to be  $-84$  dBW/m<sup>2</sup>.

#### Allocation Study

Since there will be no change in station class (C2) or transmitter site, the proposed operation remains fully-spaced and in compliance with Section 73.207 of the Commission's Rules.

#### Radiofrequency Electromagnetic Field Exposure

The proposed FM facility was evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The contribution for the proposed Shively 6810 8-bay ( $1-\lambda$  spaced antenna), assuming a combined ERP of 100 kW (50 kW horizontal polarization & 50 kW vertical polarization) and a radiation center of 139.8 meters above ground level (AGL) will yield a calculated power density at a point 2 meters above ground level of less than 5% of the FCC's recommended limit of 0.2 mW/cm<sup>2</sup> for FM channels, applicable to general population/uncontrolled exposure areas.

Access to the tower 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 rooftop 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 proposed FM operation appears to be otherwise categorically excluded from  
environmental processing.



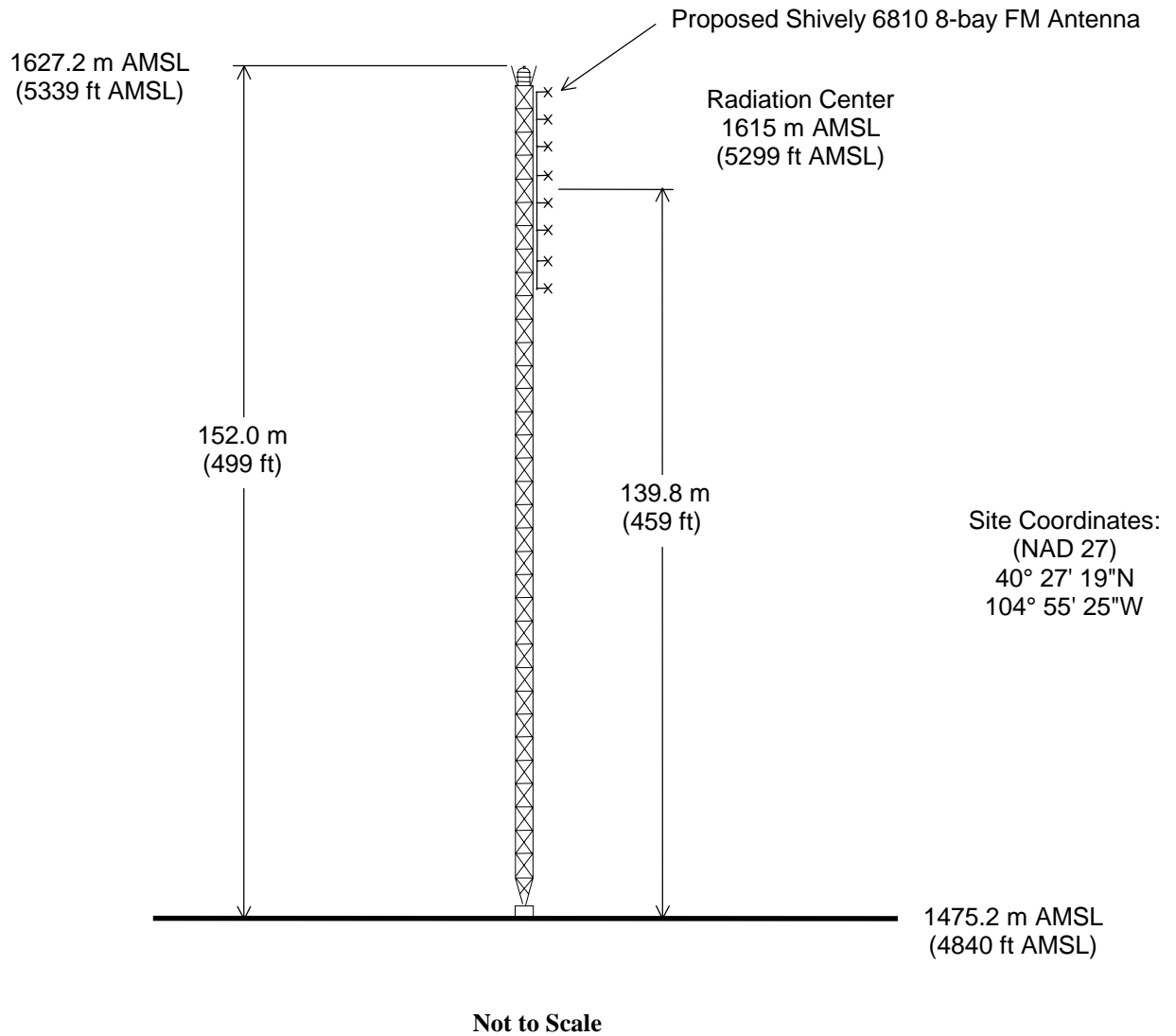
Jonathan N. Edwards

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
(941) 329-6000

May 27, 2003

Figure 1

FCC Tower Registration No. 1025251



## **ANTENNA AND SUPPORTING STRUCTURE**

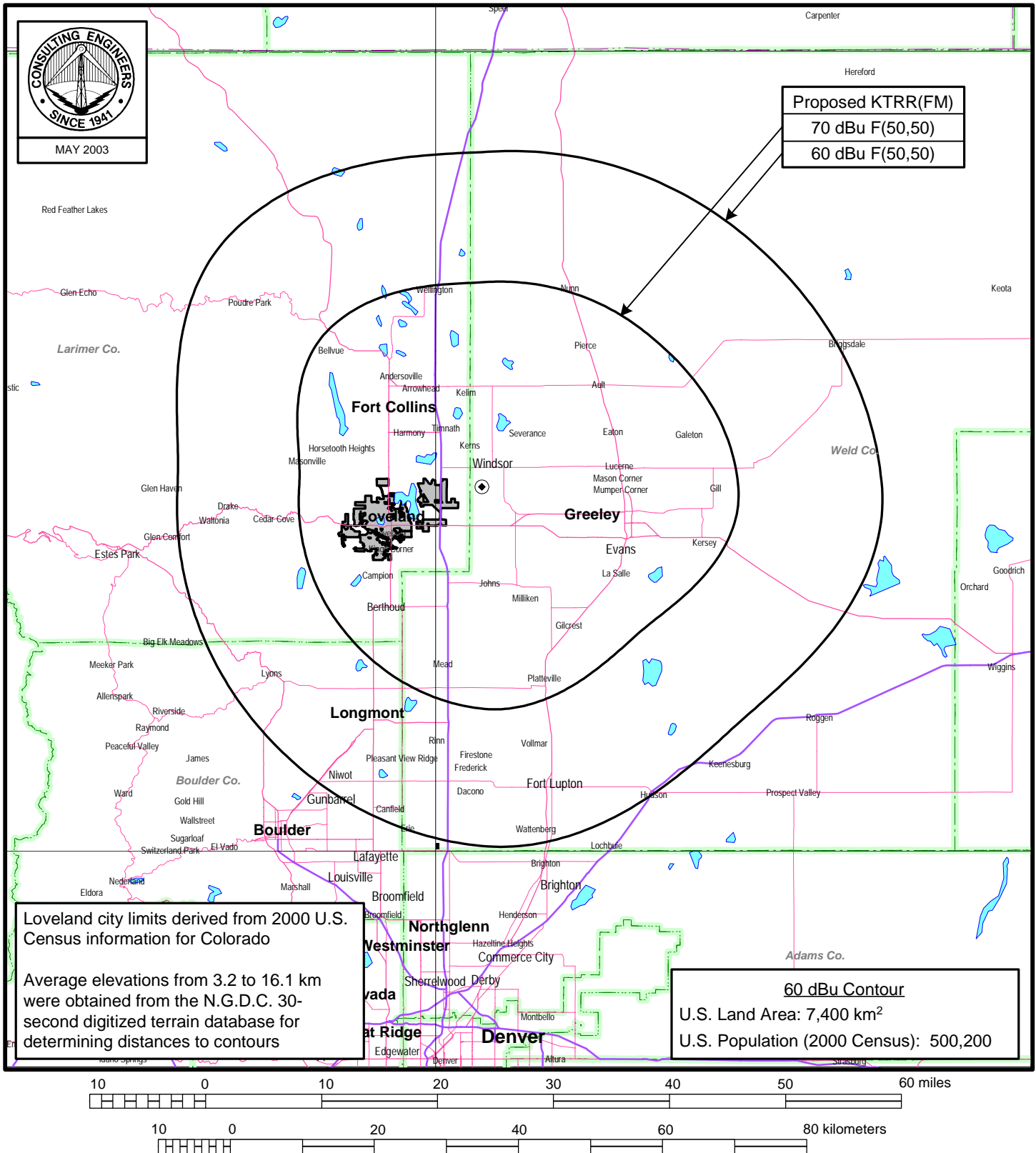
RADIO STATION KTRR(FM)

LOVELAND, COLORADO

CH 273C2 50 KW 125 M

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

Figure 2



## PREDICTED F(50,50) COVERAGE CONTOURS

STATION KTRR(FM)

LOVELAND, COLORADO

CH 273C2 50 KW 125 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida