



2355 Ranch Drive, Westminster, CO 80234  
Phone: 303-465-5742 ~ Fax: 303-465-4067  
E-Mail: stcl@comcast.net

***B. W. St. Clair***

---

**Supplemental Engineering Exhibit  
In Support of BMPCDT-20080124ABB  
KTWO-DT, Channel 17, Casper, WY**

In the Engineering Statement in support of BMPCDT-20080124ABB it is proposed to use a translator, either K09XL or K11RN, to fill in the area around Douglas, WY.

This exhibit provides calculations of the population covered by KTWO-DT as proposed, the population covered by K11RN after a “flash cut” to digital and the combined non-duplicated population (“Super Station” calculation).

The population in each instance was calculated using the “Longley-Rice Terrain Dependent Algorithm” in accordance with OET Bulletin 69 and the year 2000 census. In order to get the most valid comparison the starting population corresponding to the construction permit and the equal parameters in Appendix B<sup>1</sup> were calculated on the same computer and used in the comparison<sup>2</sup>.

**Results**

Construction Permit	81,529
KTW-DT Application	70,278
K11RN, Douglas, WY	8,090
“Super Station”	78,193

The “Super Station” population is 96% of the population associated with the construction permit and the Appendix B parameters.

“Longley-Rice Terrain Dependent Plots” of the coverage application, K11RN and the “Super Station” are attached.

---

<sup>1</sup> Appendix B, Seventh Report and Order, MB Docket 87-268, FCC 07-138.

<sup>2</sup> The populations were determined using the V-Soft Probe III software, which closely duplicates the FCC’s implementation of OET Bul 69. The V-Soft Probe III allows the calculation of the “Super Station” population without duplication in the areas where both signals are present.

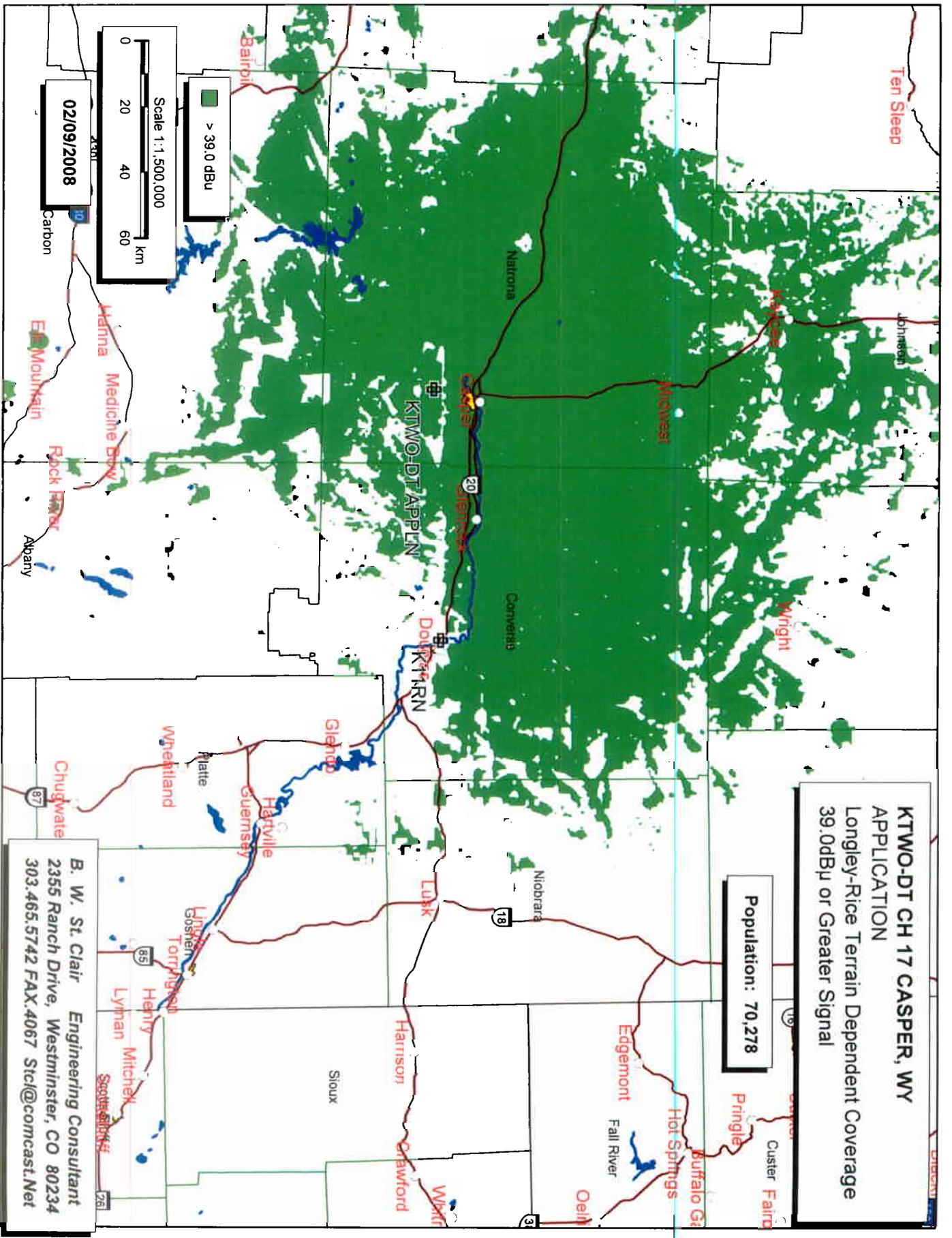
### **Consultants Statement**

The calculations herein are based on data from the CDBS database and the underlying application. The software is known to closely duplicate the FCC's calculations. The results as presented here are true and correct to the best of my knowledge and belief.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "B. W. St. Clair". The signature is written in a cursive style with a large initial "B" and "W".

B. W. St. Clair  
Engineering Consultant  
February 11, 2008



**KTWO-DT CH 17 CASPER, WY**  
**APPLICATION**  
 Longley-Rice Terrain Dependent Coverage  
 39.0dBu or Greater Signal

**Population: 70,278**

Scale 1:1,500,000  
 0 20 40 60 km

> 39.0 dBu

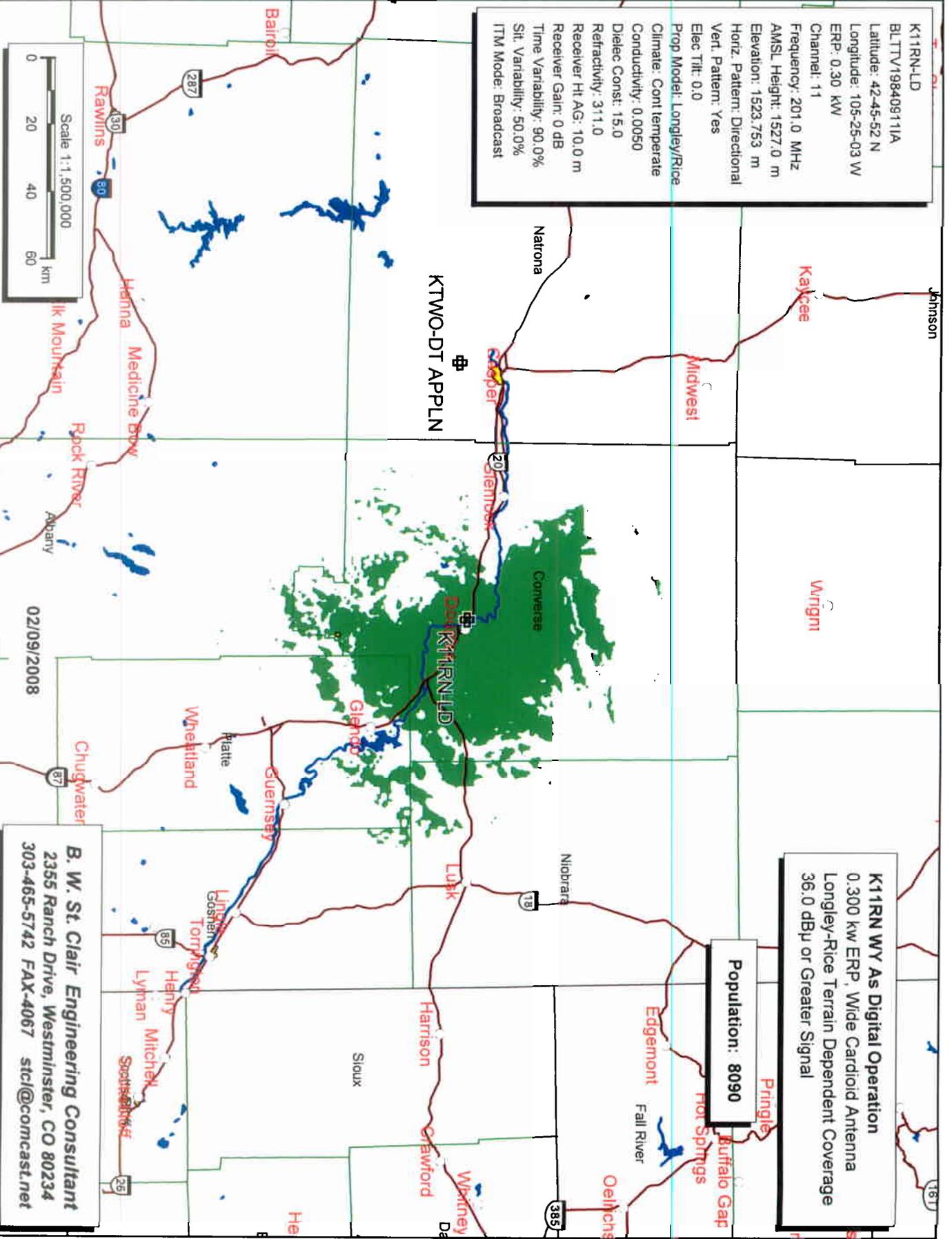
02/09/2008

**B. W. St. Clair** Engineering Consultant  
 2355 Ranch Drive, Westminster, CO 80234  
 303.465.5742 FAX.4067 Stc@comcast.net

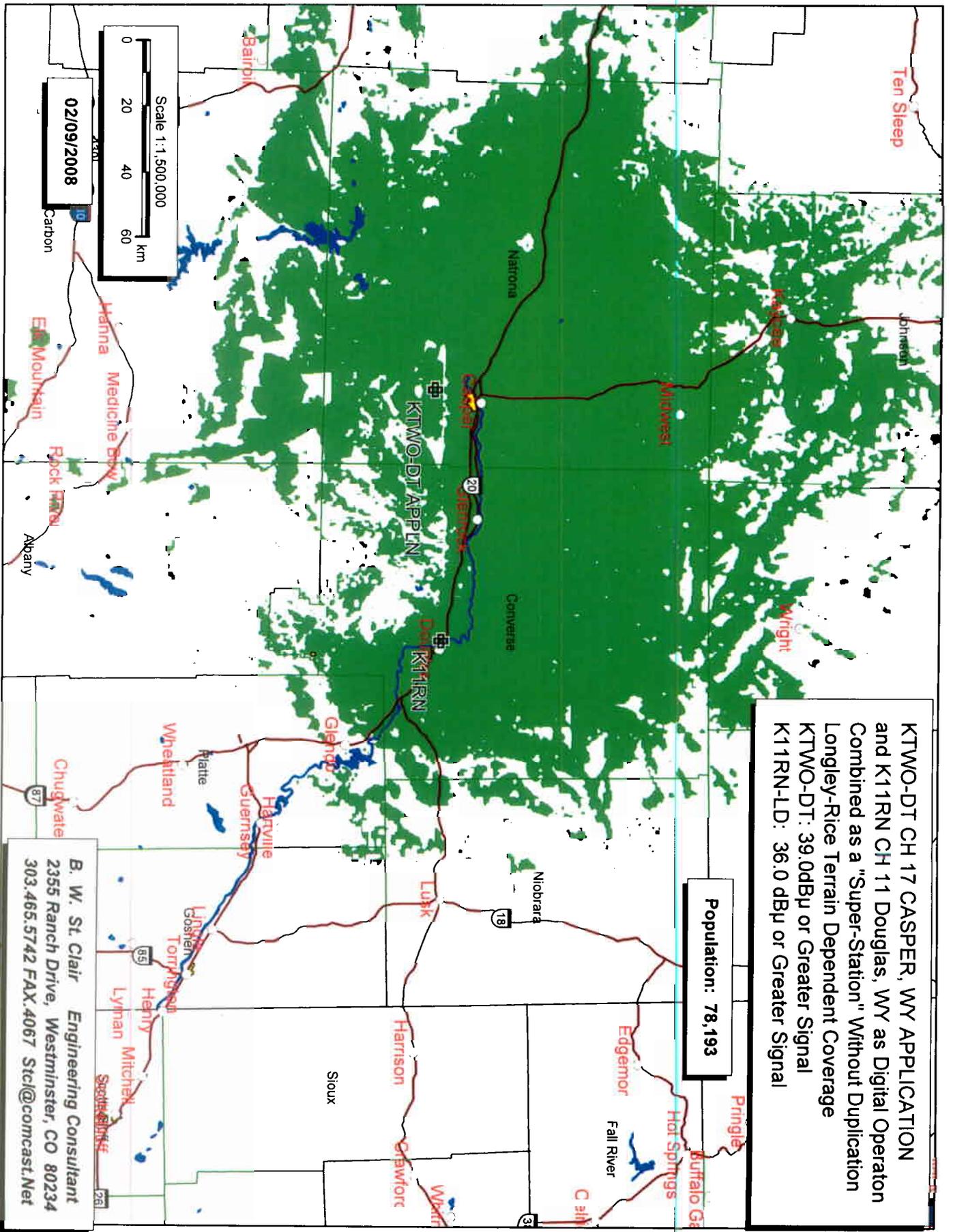
**K11RN-LD**  
 BLTTV198409111A  
 Latitude: 42-45-52 N  
 Longitude: 105-25-03 W  
 ERP: 0.30 kW  
 Channel: 11  
 Frequency: 201.0 MHz  
 AMSL Height: 1527.0 m  
 Elevation: 1523.753 m  
 Horiz. Pattern: Directional  
 Vert. Pattern: Yes  
 Elec. Tilt: 0.0  
 Prop. Model: Longley/Rice  
 Climate: Cont. temperate  
 Conductivity: 0.0050  
 Dielec. Const: 15.0  
 Refractivity: 311.0  
 Receiver HI AG: 10.0 m  
 Receiver Gain: 0 dB  
 Time Variability: 90.0%  
 Sit. Variability: 50.0%  
 LTM Mode: Broadcast

**K11RN WY As Digital Operation**  
 0.300 kW ERP, Wide Cardiod Antenna  
 Longley-Rice Terrain Dependent Coverage  
 36.0 dBu or Greater Signal

**Population: 8090**



**B. W. St. Clair Engineering Consultant**  
 2355 Ranch Drive, Westminster, CO 80234  
 303-465-5742 FAX-4067 stcl@comcast.net



KTWO-DT CH 17 CASPER, WY APPLICATION  
 and K11RN CH 11 Douglas, WY as Digital Operon  
 Combined as a "Super-Station" Without Duplication  
 Longley-Rice Terrain Dependent Coverage  
 KTWO-DT: 39.0dBu or Greater Signal  
 K11RN-LD: 36.0 dBu or Greater Signal

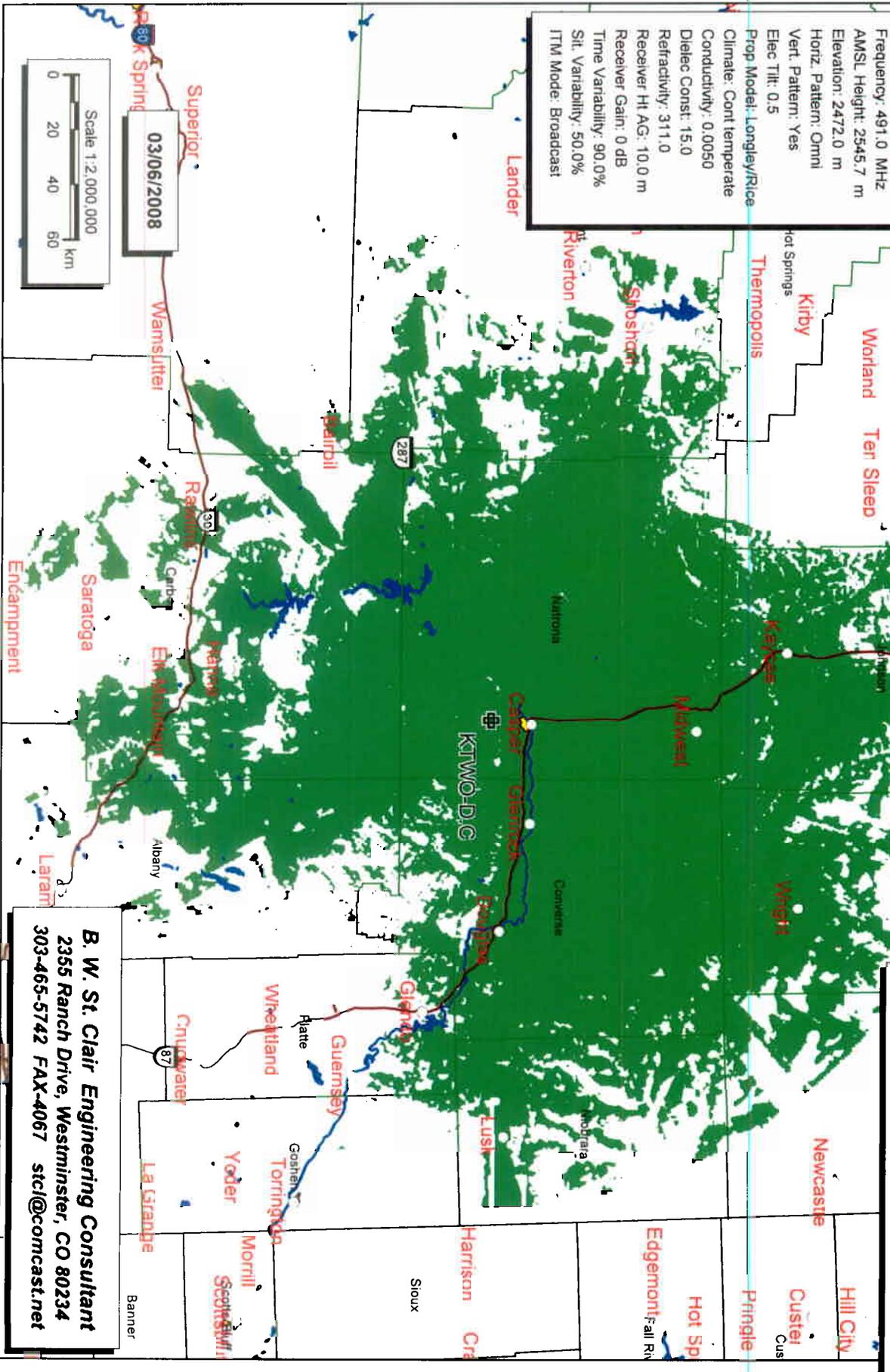
Population: 78,193

Scale 1:1,500,000  
 0 20 40 60 km  
 02/09/2008

B. W. St. Clair Engineering Consultant  
 2355 Ranch Drive, Westminster, CO 80234  
 303.465.5742 FAX.4067 Stcl@comcast.net

**KTWO-D.C**  
 BPCDT19991028ABB  
 Latitude: 42-44-03 N  
 Longitude: 106-20-00 W  
 ERP: 741.00 kW  
 Channel: 17  
 Frequency: 491.0 MHz  
 AMSL Height: 2545.7 m  
 Elevation: 2472.0 m  
 Horz. Pattern: Omni  
 Vert. Pattern: Yes  
 Elec. Tilt: 0.5  
 Prop. Model: Longley/Rice  
 Climate: Cont temperate  
 Conductivity: 0.0050  
 Dielec Const: 15.0  
 Refractivity: 311.0  
 Receiver Ht AG: 10.0 m  
 Receiver Gain: 0 dB  
 Time Variability: 90.0%  
 Sit. Variability: 50.0%  
 ITM Mode: Broadcast

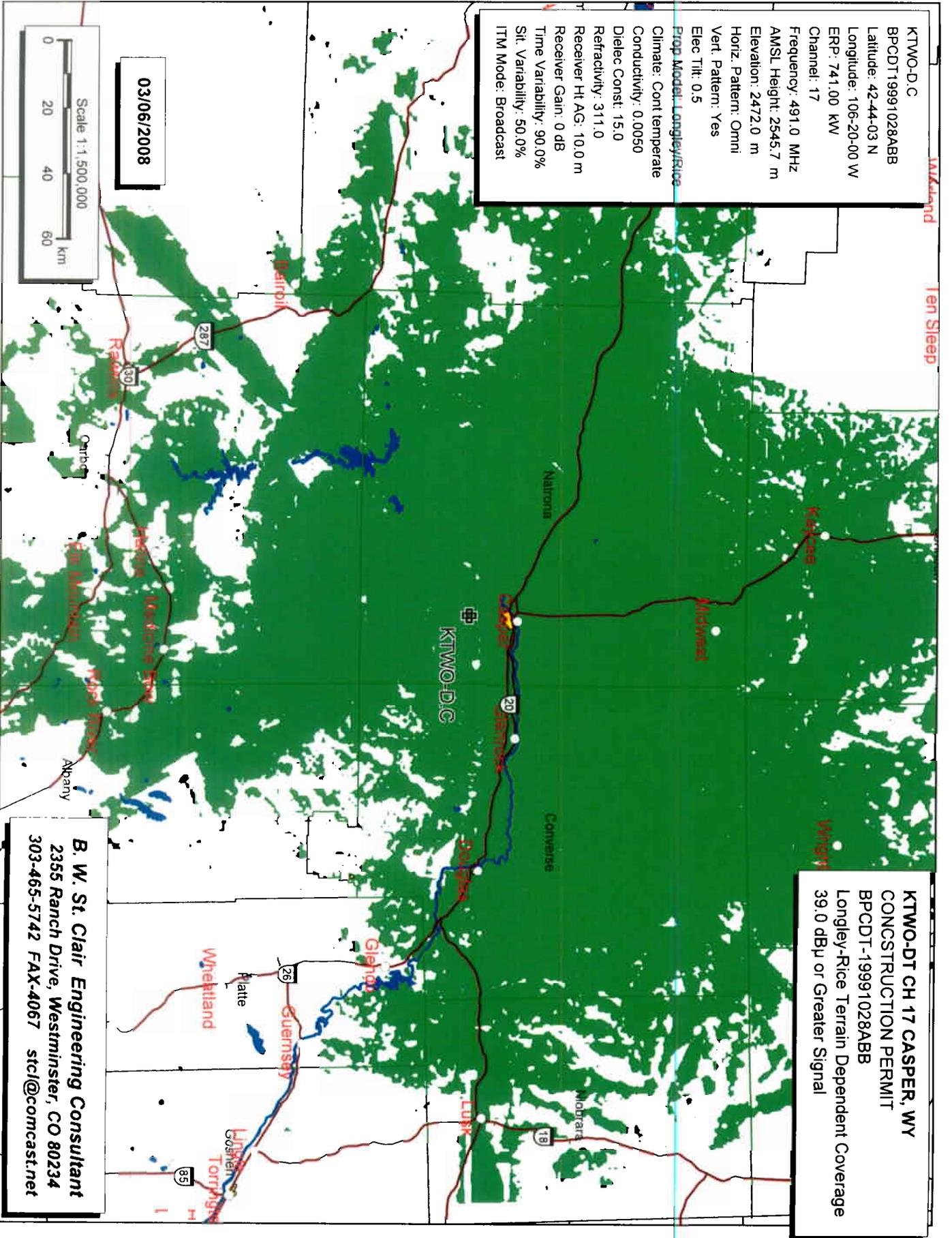
**KTWO-DT CH 17 CASPER, WY**  
 CONSTRUCTION PERMIT  
 BPCDT-19991028ABB  
 Longley-Rice Terrain Dependent Coverage  
 39.0 dBu or Greater Signal



**B. W. St. Clair Engineering Consultant**  
 2355 Ranch Drive, Westminster, CO 80234  
 303-465-5742 FAX-4067 stcl@comcast.net

KTWO-D.C  
 BPCDDT19991028ABB  
 Latitude: 42-44-03 N  
 Longitude: 106-20-00 W  
 ERP: 741.00 kW  
 Channel: 17  
 Frequency: 491.0 MHz  
 AMSL Height: 2545.7 m  
 Elevation: 2472.0 m  
 Horiz. Pattern: Omni  
 Vert. Pattern: Yes  
 Elec. Tilt: 0.5  
 Prop. Model: Longley-Rice  
 Climate: Cont. temperate  
 Conductivity: 0.0050  
 Dielec. Const: 15.0  
 Refractivity: 311.0  
 Receiver Ht. AG: 10.0 m  
 Receiver Gain: 0 dB  
 Time Variability: 90.0%  
 Sit. Variability: 50.0%  
 ITM Mode: Broadcast

**KTWO-DT CH 17 CASPER, WY**  
**CONSTRUCTION PERMIT**  
 BPCDDT-19991028ABB  
 Longley-Rice Terrain Dependent Coverage  
 39.0 dBu or Greater Signal



03/06/2008



**B. W. St. Clair Engineering Consultant**  
 2355 Ranch Drive, Westminster, CO 80234  
 303-465-5742 FAX-4067 stcl@comcast.net