

## **Community License Coverage**

### **Introduction**

Southern Nevada Educational Broadcasters (“SNEB”) desires to show coverage of its community of license Las Vegas, NV. The 60 dBu contour of its authorized construction permit covers more than 50% of the population within the city boundaries of Las Vegas. However, the FCC is concerned that the measured pattern of the as-built antenna may not provide adequate coverage of Las Vegas.

In order to show that the facility does provide adequate coverage, SNEB provides the following study.

### **Discussion**

The FCC is concerned with the area that is predicted to be covered with a 60 dBu contour by the construction permit, but is not predicted to be covered by the 60 dBu contour of the as-built facility. This area is show in Exhibit A-1. The area of difference within the Las Vegas city limits contains 122,852 persons (see Exhibit A-2).

The as-built KVKL facility provides a 60 dBu or greater Longley Rice coverage to 119,063 persons within the area of difference (see Exhibits A-3 and A-4). That coverage, when combined with the as-built predicted 60 dBu population coverage within the city boundaries of Las Vegas (Exhibit A-5), brings the total population coverage of the as-built facility to 284,082 persons. This is 58.43% of the total Las Vegas population of 486,186 persons.

SNEB understands that the FCC is reluctant to use the supplemental method of community of license coverage outside of the station’s protected FCC 60 dBu contour, since those areas are subject to possible interference. However, an exception is requested in this case since it is SNEB’s desire to show that the as-built antenna system will indeed provide a 60dBu (or higher) signal within the predicted 60dBu contour approved in its construction permit BPED-20100204ACO.

The use of an alternate propagation method is warranted since the terrain between the transmitter site and the community of license departs widely from the assumed 50m average terrain. Exhibit A-6 shows the Delta-h calculation along each radial from the transmitter site toward the community of license. The average Delta-h value of the terrain profile segments from 10km to the community of license is 317.29.

Therefore, since the Delta-h value is greater than 100, a supplemental showing has been included using the Longley/Rice propagation model which demonstrates that the portion of the community that lies within the authorized KVKL construction permit’s 60 dBu contour will be adequately covered with a 60 dBu signal.

The following parameters were used in determining the Longley/Rice 60 dBu coverage for the community of license:

Conductivity:	0.015
Dielectric Constant:	15
Refractivity:	311
Climate Zone:	Continental Temperate
Receiver Height:	9 m AGL
Receiver Gain:	0
Time Variability:	50
Situation Variability:	50
Terrain Database:	USGS 30 Second Terrain

Using 360 radials, the FCC standard F(50/50) 60dBu contour has an average distance of 35.04 km. Using the Longley/Rice model, the same contour has an average distance of 46.24 km. This is an increase in distance of 31.9%. Thus, the area covered by the supplemental method is more than 10% greater than the standard contour prediction method.

## **Conclusion**

Based on the above exhibits the residents of Las Vegas will be adequately served with a 60 dBu signal strength contour. SNEB respectfully requests that the Commission permit this supplemental showing and grant its license application.

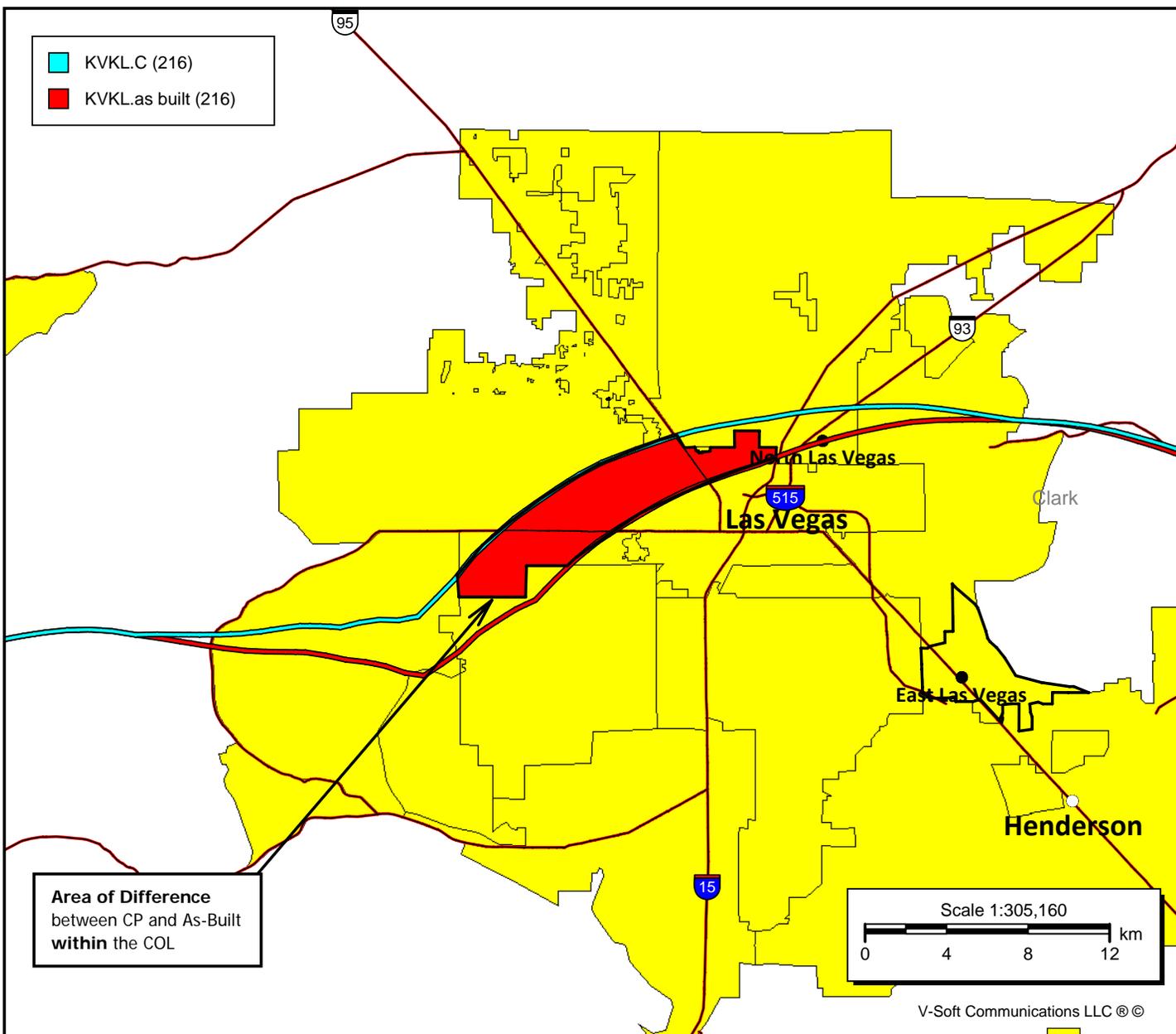
## Exhibit A-1

### KVKL.C

BPED20100204ACO  
Latitude: 35-37-41 N  
Longitude: 115-16-24 W  
ERP: 40.80 kW  
Channel: 216  
Frequency: 91.1 MHz  
AMSL Height: 1477.0 m  
Elevation: 1445.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

### KVKL.as built

BPED20100204ACO  
Latitude: 35-37-41 N  
Longitude: 115-16-24 W  
ERP: 40.80 kW  
Channel: 216  
Frequency: 91.1 MHz  
AMSL Height: 1477.0 m  
Elevation: 1445.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: Longley/Rice  
Climate: Cont temperate  
Conductivity: 0.0050  
Dielec Const: 15.0  
Refractivity: 311.0  
Receiver Ht AG: 9.0 m  
Receiver Gain: 0 dB  
Time Variability: 50.0%  
Sit. Variability: 50.0%  
ITM Mode: Broadcast



- KVKL.C (216)
- KVKL.as built (216)

**Area of Difference**  
between CP and As-Built  
within the COL



V-Soft Communications LLC ©

## Exhibit A-2

Polygon Population Report

Population Database: 2000 US Census (SF1)

Total Population: 122,852

Housing Units: 48,801

Polygon Area: 42.81 sq. km

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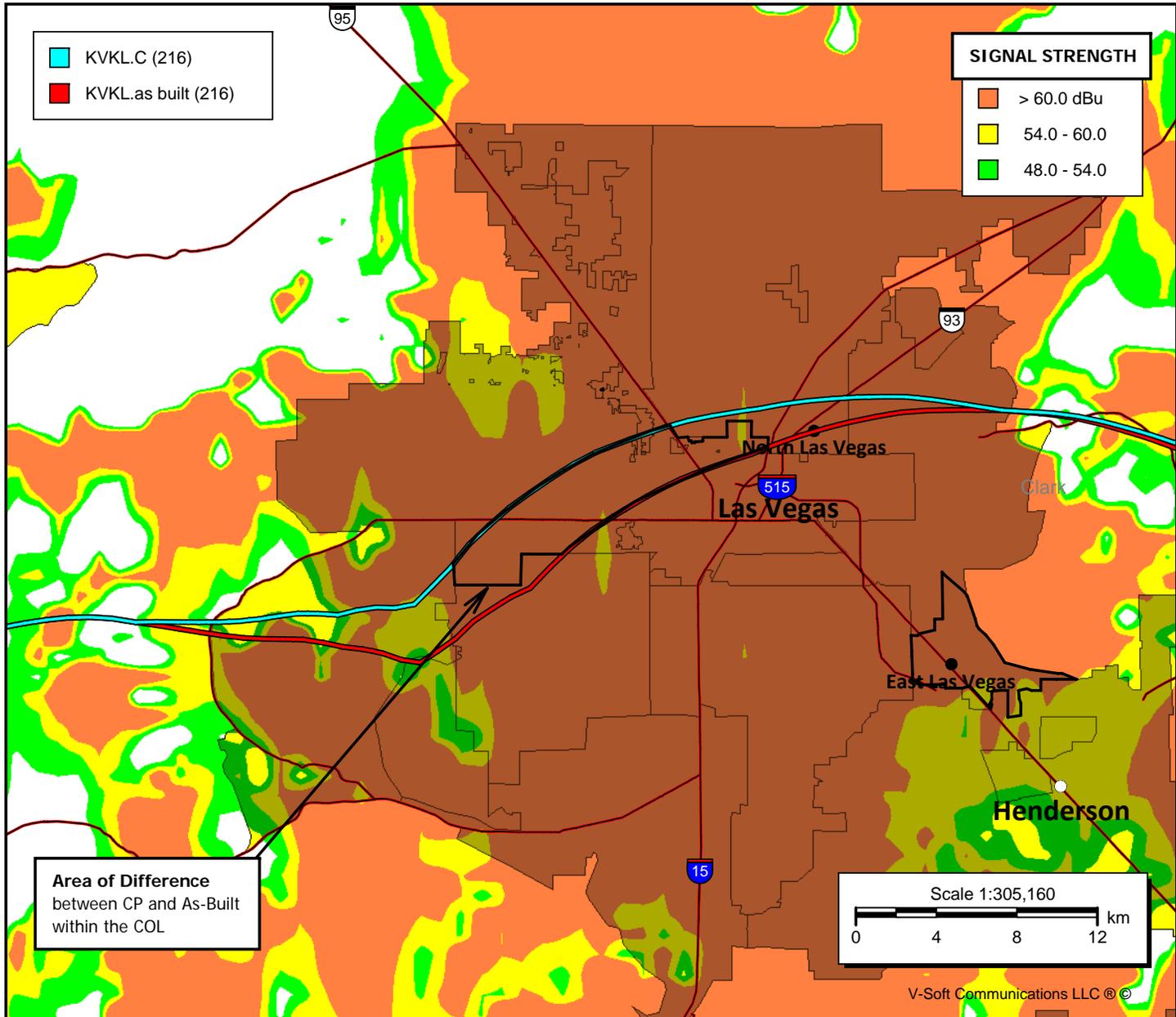
### Exhibit A-3

#### KVKL.C

BPED20100204ACO  
Latitude: 35-37-41 N  
Longitude: 115-16-24 W  
ERP: 40.80 kW  
Channel: 216  
Frequency: 91.1 MHz  
AMSL Height: 1477.0 m  
Elevation: 1445.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

#### KVKL.as built

BPED20100204ACO  
Latitude: 35-37-41 N  
Longitude: 115-16-24 W  
ERP: 40.80 kW  
Channel: 216  
Frequency: 91.1 MHz  
AMSL Height: 1477.0 m  
Elevation: 1445.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: Longley/Rice  
Climate: Cont temperate  
Conductivity: 0.0050  
Dielec Const: 15.0  
Refractivity: 311.0  
Receiver Ht AG: 9.0 m  
Receiver Gain: 0 dB  
Time Variability: 50.0%  
Sit. Variability: 50.0%  
ITM Mode: Broadcast



## Exhibit A-4

V-Soft Communications Population Report

Population Database: 2000 US Census (SF1)

Primary Terrain: V-Soft 30 Second US Database

Secondary Terrain: V-Soft 3 Second US Terrain

Only locations within this overlap region were  
counted: Polygon / KVKL.C (216)

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Transmitter Information:

Call Letters: KVKL.as built  
File Number: BPED20100204ACO  
Latitude: 35-37-41 N  
Longitude: 115-16-24 W  
ERP: 40.80 kW  
Channel: 216  
Frequency: 91.1 MHz  
AMSL Height: 1477.0 m  
Elevation: 1445.0 m  
Horiz. Antenna Pattern: Directional  
Vert. Elevation Pattern: No  
Propagation Model: Longley/Rice  
Climate: Continental temperate  
Conductivity: 0.0050  
Dielectric Constant: 15.0  
Refractivity: 311.0  
Receiver Height AG: 9.0 m  
Receiver Gain: 0 dB  
Time Variability: 50.0%  
Situation Variability: 50.0%  
ITM Mode: Broadcast  
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Population report for KVKL.as built. Field strength above 60.00 db uV/m.

Total Population: 119,063

Total Housing Units: 47,186

## Exhibit A-5

Polygon Population Report - Las Vegas Covered by Actual 60dB contour

Population Database: 2000 US Census (SF1)

Total Population: 165,019

Housing Units: 62,120

Polygon Area: 64.02 sq. km

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**Exhibit A-6**

**Delta-h Analysis: KVKL Las Vegas, NV**

Radial	dist to COL	delta h
348	61.4	398.42
349	64.2	339.48
350	66.0	286.30
351	65.8	254.69
352	65.6	210.93
353	66.2	193.91
354	66.1	197.14
355	66.0	215.02
356	68.9	251.86
357	68.8	270.30
358	78.6	269.63
359	78.6	245.99
0	78.6	253.00
1	78.6	263.95
2	78.7	297.09
3	78.7	315.69
4	78.8	319.99
5	68.4	309.20
6	64.4	293.13
7	63.5	284.83
8	63.6	279.56
9	64.7	296.84
10	64.1	315.54
11	63.5	349.83
12	63.7	398.26
13	63.9	430.91
14	64.0	462.35
15	64.3	478.67
16	64.8	467.75
17	65.1	452.06
18	62.0	433.55
Average	68.05	317.29