

TECHNICAL STATEMENT  
K291CI PHOENIX, ARIZONA, CH 294D  
MOUNTAIN COMMUNITY TRANSLATORS, LLC  
FCC FORM 349  
MAY 2016

This Technical Statement is made in support of a minor modification of Construction Permit (“CP”), BPFT-20160129AWA, for FM translator station K291CI at Phoenix, Arizona, facility ID 148238 (new call sign will be K294CW). K291CI has recently been granted the CP to relocate its operation from Baker, California to Phoenix, AZ and become a fill-in translator for KASA(AM) Phoenix, Arizona, facility ID 33451. The original CP was granted in response to the Commissions AM Revitalization Order DA-1491 released 12/23/2015 and was relocated less than 250 miles. The Permittee now seeks to modify its CP to specify a new transmitter site which will provide greater fill-in coverage for KASA with greater antenna height and a higher Effective Radiated Power (“ERP”) of 250 watts (0.25 KW). The following will show that the new proposed operation of K291CI will meet all of the Commissions technical requirements for an FM translator station.

The proposed operation of K291CI specifies an Effective Radiated Power of 0.25 kilowatts. It will operate with a directional antenna with an “off the shelf” type antenna, or a Scala HDCA-10/2 with circular polarization. The antenna will be mounted on an existing non-registered tower with an overall height of 24 meters above the ground. The antennas will be mounted with a Center of Radiation of 20 meters above the ground, and 665 meters Above Mean Sea Level. The coordinates of this tower are located at N 33° 35’ 39”, W 112° 05’ 08”, NAD 27.

Figure 1 is a detailed interference study conducted on channel 294D with these new proposed facilities. It shows that the new operation of K291CI will not cause any interference to any existing or proposed FM stations on any of the pertinent same channel or adjacent channels to channel 294, with the exception of 2<sup>nd</sup> adjacent channel station KVVA-FM Apache Junction, Arizona operating on channel 296C3, facility ID 1331 and KOMR(FM) Sun City, Arizona operating on channel 292C2, facility ID 55913.

The proposed operation of K291CI on 294D is located within the protected 60 dB $\mu$  contour of 2<sup>nd</sup> adjacent channel KOMR(FM). Figure 2 show the predicted F(50-50) field strength of KOMR at the proposed K291CI transmitter site is 62.0 dB $\mu$ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K291CI on channel 294D is an additional 40 DB $\mu$  or 102.0 dB $\mu$ .

The proposed operation of K291CI on 294D is located within the protected 60 dB $\mu$  contour of 2nd adjacent channel of KVVA-FM. Figure 3 shows predicted F(50-50) field strength of KVVA-FM at the proposed K291CI transmitter site is 61.5 dB $\mu$ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K291CI on channel 294D is an additional 40 dB $\mu$  or 101.5 dB $\mu$ .

Figure 4 shows the coverage area for the worse case 101.5 dB $\mu$  interference contour F(50-10) and shows that there is no population in the area of interference. The applicant, Mountain Community Translators, LLC, respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes nearby the proposed existing tower site, which is a privately owned with private gated access located at a remote mountain tower site known as "Shaw Butte". The transmitter building is

uninhabited and does not have indoor plumbing. Should any unforeseen actual interference be caused, the licensee will immediately cease broadcasting with K291CI until such interference can be eliminated. Figure 9 shows a USGS 7.5 minute map of the area around the proposed site. It also documents that there are no homes located in the predicted 101.5 dB $\mu$  contour. It should also be noted that the Scala yagi style antennas have a sharp vertical as well as horizontal pattern. Thus, it is likely that the 101.5 dB $\mu$  Interference contour will not reach the ground at any point. Figure 10 is a satellite view of the area around the proposed site.

Figure 5 is the directional antenna data for the proposed Scala antenna system proposed to be used.

The proposed operation of K291CI Phoenix will be considered a “Fill-In” operation for Class D AM station KASA Phoenix, Arizona. KASA(AM) operates with 10 kilowatts daytime with a directional antenna system on 1540 kHz. Figure 6 shows that the proposed 60 dB $\mu$  contour for the proposed K291CI will not extend beyond the daytime 2.0 mV/m contour of KASA. It will also not extend beyond a 25 miles radius from the KASA tower site. Since this is a “Fill-In” translator, the maximum ERP will not exceed the maximum permissible ERP of 250 watts in any azimuth.

Figure 7 shows that the proposed operation of K291CI will 60 dB $\mu$  overlap with the original Construction Permit for K291CI at Phoenix for KASA(AM), BPFT-20160119AWA.

Figure 8 is a tabulation of the distances to contours used for this study.

It was found that the new proposed operation of K291CI Phoenix, Arizona on channel 294D, will satisfy all of the required commission rules and regulations for an FM translator station.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K291CI PHOENIX, AZ, CH. 294D

REFERENCE 33 35 39.0 N. CH# 294D - 106.7 MHz, Pwr= 0.25 kW DA, HAAT= 0.0 M, COR= 665 M  
 112 05 08.0 W. Average Protected F(50-50)= 7.09 km  
 Standard Directional

DISPLAY DATES  
 DATA 05-29-16  
 SEARCH 05-30-16

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
294C3 AL9806 Buckeye		---	AZ	230.1 49.9	52.63	33 17 23.0 112 31 12.0	25.000 100	116.7 432	43.0	-77.0*	-42.9***
294D K291CI Phoenix		CP DC_	AZ	292.7 112.7	0.64 BMPFT20160218ABD	33 35 47.0 112 05 31.0	0.060	38.3 650	11.5 Mountain Community Transla	-40.6*	-23.2*
294D K291CI Phoenix		APP DC_	AZ	0.0 0.0	0.00 BMPFT20160421AAJ	33 35 39.0 112 05 08.0	0.035	29.2 665	8.8 Mountain Community Transla	-38.2*	-38.6*
294C2 KPPV Prescott Valley		LIC _CN	AZ	337.6 157.4	107.83 BLH19930204KB	34 29 25.0 112 31 60.0	3.700 493	128.3 2181	52.0 Prescott Valley Broadcasti	-28.7*	24.7
295A KDVA Buckeye		LIC _CN	AZ	251.6 71.3	50.24 BLH19980814KB	33 27 01.0 112 35 58.0	6.000 93	51.0 472	30.2 Entravision Holdings, Llc	-12.0*	0.2
292C2 KOMR Sun City		LIC _CN	AZ	318.2 138.0	54.03 BLH19961025KC	33 57 21.0 112 28 34.0	23.000 221	6.7 1098	58.6 Univision Radio License Co	39.2	-4.7**
296C3 KVVA-FM Apache Junction		LIC _CX	AZ	110.9 291.2	46.03 BLH20130315ABB	33 26 44.0 111 37 19.0	17.000 124	5.3 651	49.4 Entravision Holdings, Llc	29.0	-3.4**
294C0 KNKI Pinetop		RSV-A ---	AZ	76.6 257.8	217.16	34 01 36.0 109 47 35.0	100.000 450	211.6 2798	100.1 wsk Family Trust (Cathy Ko	0.3	111.2
292D K292GY Phoenix		CP DC_	AZ	160.4 340.4	24.19 BMPFT20160129AIO	33 23 21.0 111 59 53.0	0.099	0.1 478	5.1 Fiesta Radio, Inc.	3.1	17.7
294D K294CO Morristown		CP DV_	AZ	302.1 121.9	46.70 BNPFT20130829AAG	33 49 01.0 112 30 49.0	0.140 -28	33.5 585	10.1 Donald F. Hendren	6.5	17.1
293L1 1625776 Mesa		APP ---	AZ	115.5 295.7	36.44 BNPL20131112AHV	33 27 10.0 111 43 51.0	0.068 36	457	12.9 Phoenix Community Radio		23.9
241D K241BQ Ft McDowell		CP DV_	AZ	175.9 356.0	29.16 BPFT20151211ABI	33 19 57.0 112 03 48.0	0.120	12.8 819	58.8 ltv.com, Inc.	9.5R	19.7M
293A KKMR Arizona City		LIC _CN	AZ	153.6 333.9	94.18 BLH19970102KC	32 50 04.0 111 38 15.0	6.000 89	43.4 537	27.6 Univision Radio License Co	29.7	36.5
241D K241BQ Ft McDowell		LIC DC_	AZ	105.2 285.4	42.83 BLFT20130314ABN	33 29 33.0 111 38 23.0	0.250 267	12.8 777	58.8 ltv.com, Inc.	9.5R	33.3M
240D K240DC Buckeye		CP DV_	AZ	266.5 86.2	43.95 BPFT20160104AMC	33 34 09.0 112 33 33.0	0.250	12.8 1223	58.8 Advance Ministries, Inc. D	9.5R	34.5M
297C2 KAZV Aguila		CP ZCX	AZ	298.0 117.6	83.16 BNPH20070403ACO	33 56 36.0 112 52 53.0	50.000 150	5.2 929	45.8 Matinee Media Corporation	71.2	36.6
297C2 KAZV Aguila		APP _CX	AZ	292.6 112.1	88.65 BMPH20151022AFO	33 53 49.6 112 58 21.6	50.000 150	5.2 904	48.3 Matinee Media Corporation	76.9	37.1
294C XHSNFM Nogales		---	SO	156.7 337.3	273.40	31 19 51.0 110 56 45.0	100.000 600	204.0 1870	92.0	48.3	121.2
294D K294AN Payson		LIC DVN	AZ	46.6 227.1	112.87 BLFT19950920TA	34 17 17.0 111 11 32.0	0.012 306	45.5 1952	12.9 Family Life Broadcasting,	60.5	80.7
295C AL6595 Show Low		RSV-A ---	AZ	70.5 251.6	209.28 RMNS-155	34 12 20.0 109 56 26.0	100.000 600	140.8 2674	95.3	63.0	110.8
294C1 KNKI Pinetop		LIC _C_	AZ	71.7 253.1	241.98 BLH20100426AAU	34 15 06.0 109 35 06.0	65.000 357	171.2 2600	73.3 wsk Family Trust (Cathy Ko	65.5	157.7
294D KPPV-FM2 Prescott Valley		CP DV_	AZ	358.6 178.6	121.55 BPFTB20130508AJF	34 41 13.8 112 07 02.4	0.099	30.1 2359	5.1 Prescott Valley Broadcasti	84.2	74.7
294D KPPV-FM2 Prescott Valley		LIC DV_	AZ	358.6 178.6	123.05 BLFTB20120525AAF	34 42 02.2 112 07 04.4	0.100	28.4 2389	5.1 Prescott Valley Broadcasti	86.9	76.5
295D K295AL Little Acres		LIC _C_	AZ	105.7 286.4	120.65 BLFT20070323AIE	33 17 37.0 110 50 09.0	0.015 1039	31.3 2378	18.7 Maricopa County Community	77.6	99.3

Terrain database is NGDC 30 SEC,

Reference station has protected zone issue: Mexico

\*\* No actual interference will be caused to 2nd adjacent channel stations

KOMR(FM)and KVVA-FM since the 101.5 dBu interference contour will not cover any population. See the Technical Statement for more details. \*\*\* The allotment at Buckeye, AZ, Ch. 294C3 is for Mexican protection only.



**KOMR**

BLH19961025KC

Latitude: 33-57-21 N

Longitude: 112-28-34 W

ERP: 23.00 kW

Channel: 292

Frequency: 106.3 MHz

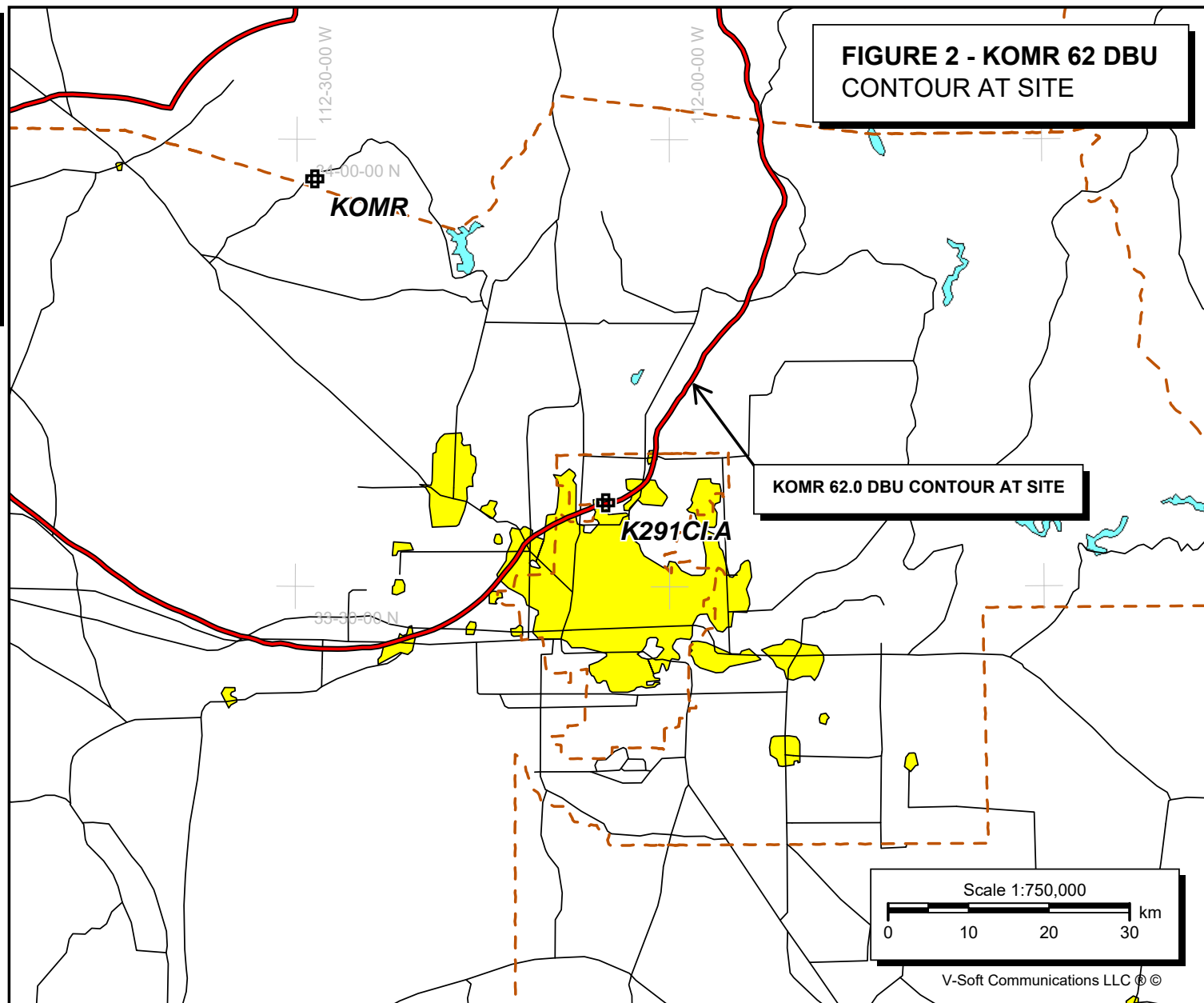
AMSL Height: 1098.0 m

Elevation: 1063.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model:

**FIGURE 2 - KOMR 62 DBU  
CONTOUR AT SITE**

**KVVA-FM**  
BLH20130315ABB  
Latitude: 33-26-44 N  
Longitude: 111-37-19 W  
ERP: 17.00 kW  
Channel: 296  
Frequency: 107.1 MHz  
AMSL Height: 651.0 m  
Elevation: 634.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model:

**FIGURE 3 - KVVA-FM 61.5 DBU  
CONTOUR AT SITE**

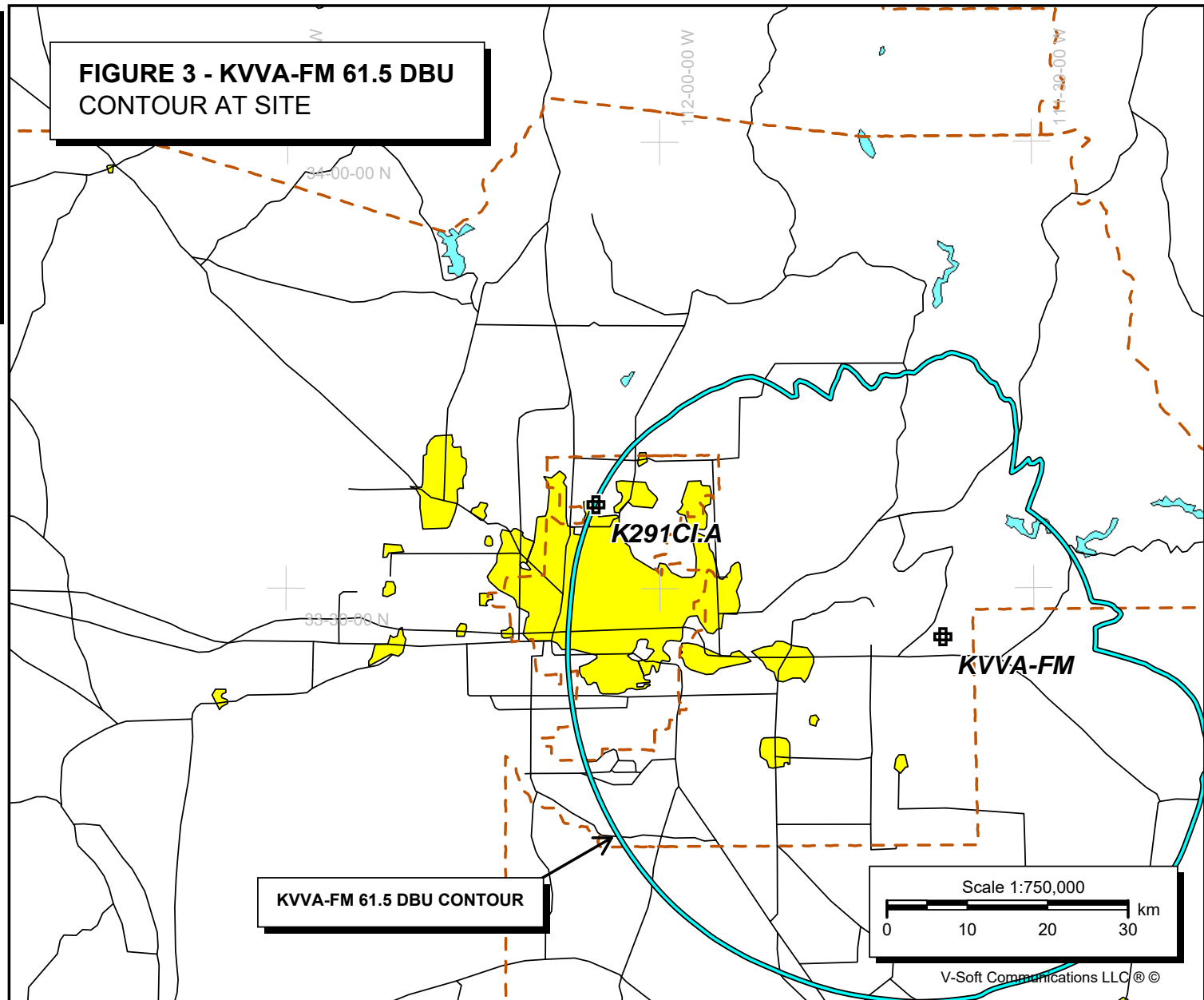
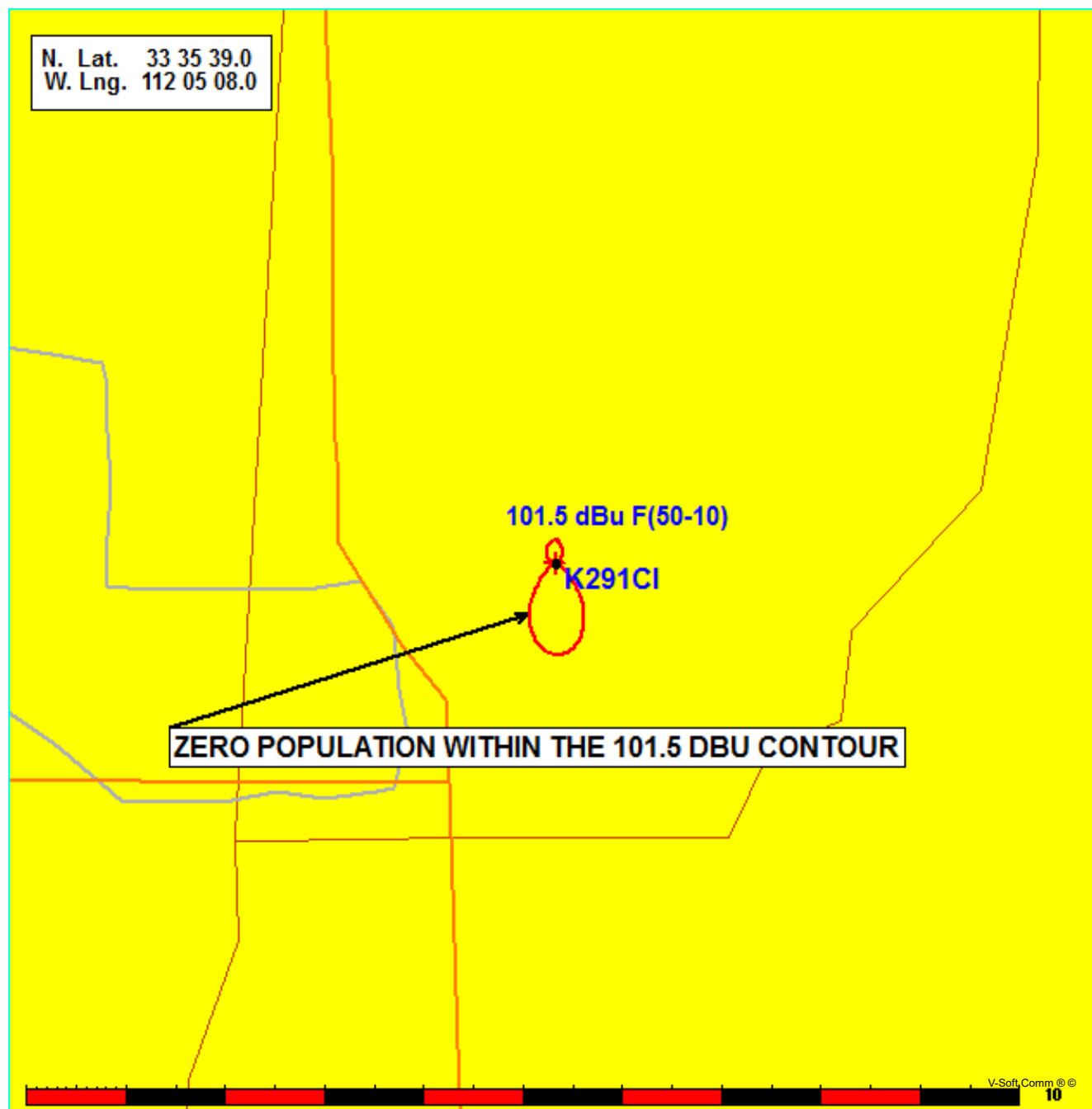


FIGURE 4 = PREDICTED 101.5 DBU CONTOUR  
K291CI PHOENIX, AZ, CH. 294D

Coverage Study - NGDC 30 SEC  
05-30-2016

K291CI CH294 D , 0.25 kW, 0.0M HAAT, 665.0M COR AMSL  
Interference Contour = 101.5 dBu. Population = 0



K291CI

05-30-2016

RMS(V) = .382

FIGURE 5 - DIRECTIONAL ANTENNA DATA

Graph is Relative Field

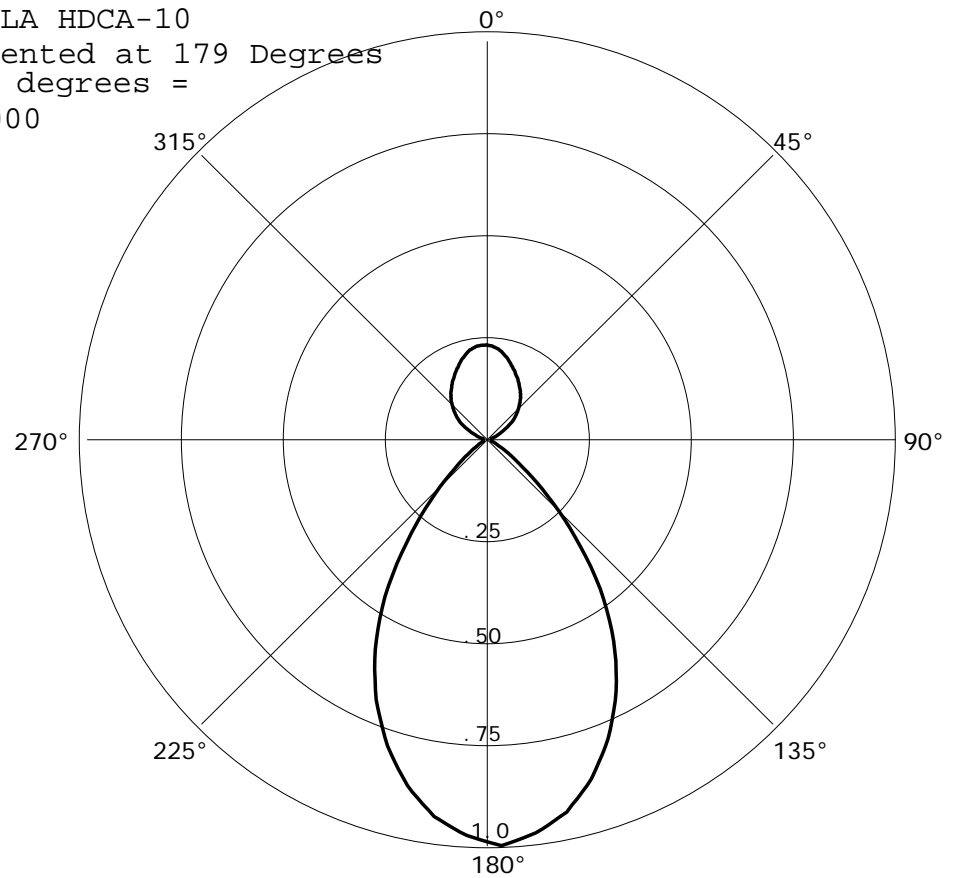
Azi	Field	dBk	kW
000	0.233	-18.673	0.014
010	0.217	-19.291	0.012
020	0.186	-20.630	0.009
030	0.156	-22.158	0.006
040	0.125	-24.082	0.004
050	0.090	-26.936	0.002
060	0.047	-32.579	0.001
070	0.018	-40.915	0.000
080	0.010	-46.021	0.000
090	0.010	-46.021	0.000
100	0.010	-46.021	0.000
110	0.014	-43.098	0.000
120	0.042	-33.556	0.000
130	0.145	-22.793	0.005
140	0.376	-14.517	0.035
150	0.630	-10.034	0.099
160	0.824	-07.702	0.170
170	0.952	-06.448	0.227
180	0.990	-06.108	0.245
190	0.911	-06.830	0.207
200	0.753	-08.485	0.142
210	0.535	-11.454	0.072
220	0.272	-17.329	0.018
230	0.088	-27.131	0.002
240	0.026	-37.721	0.000
250	0.010	-46.021	0.000
260	0.010	-46.021	0.000
270	0.010	-46.021	0.000
280	0.010	-46.021	0.000
290	0.027	-37.393	0.000
300	0.065	-29.762	0.001
310	0.104	-25.680	0.003
320	0.139	-23.160	0.005
330	0.169	-21.463	0.007
340	0.199	-20.044	0.010
350	0.226	-18.938	0.013

SCALA HDCA-10

Oriented at 179 Degrees

179 degrees =

1.000



**K291CI.A**

BMPFT20160421AAJ

Latitude: 33-35-39 N

Longitude: 112-05-08 W

ERP: 0.25 kW

Channel: 294

Frequency: 106.7 MHz

AMSL Height: 665.0 m

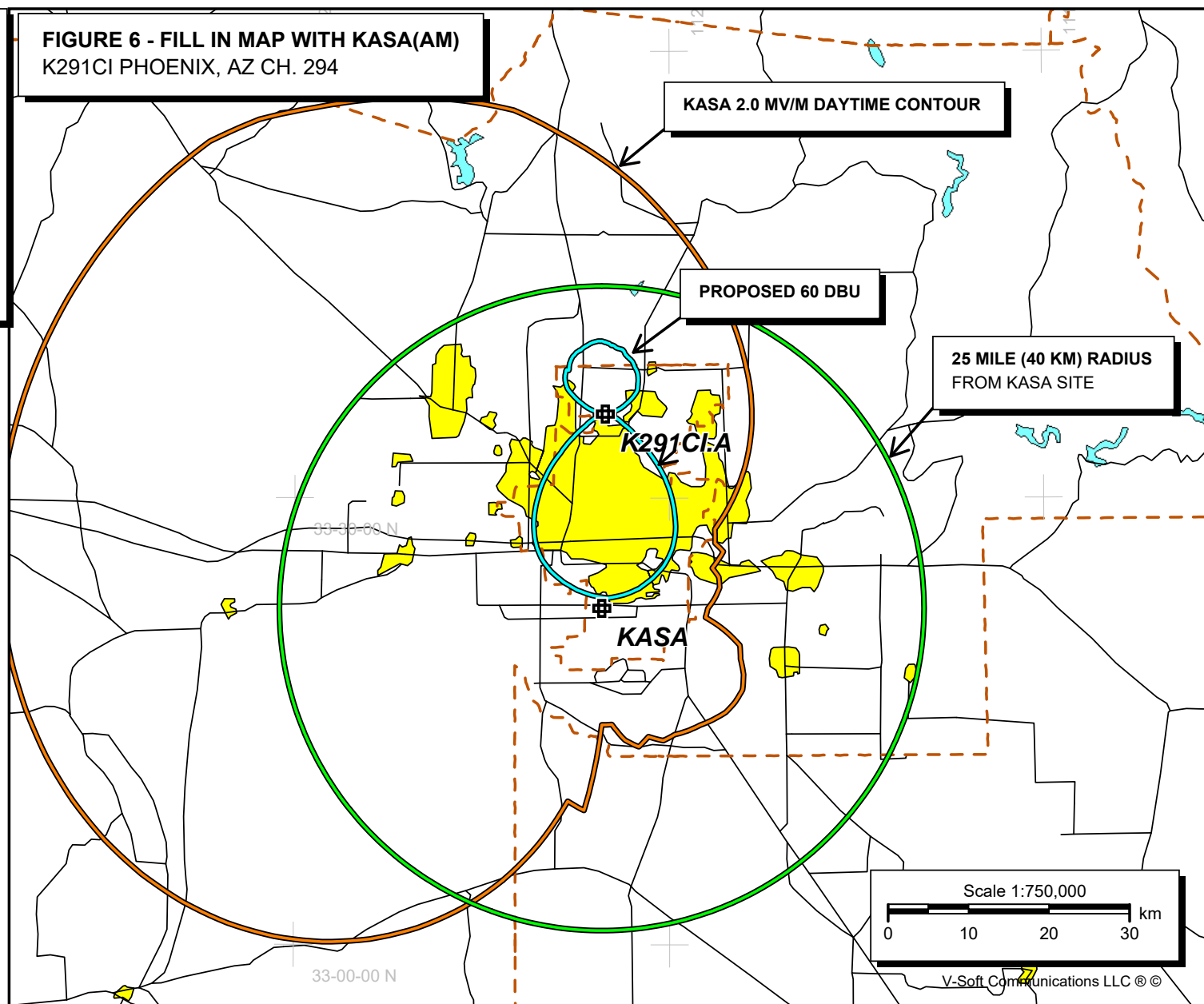
Elevation: 645.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model:

**FIGURE 6 - FILL IN MAP WITH KASA(AM)  
K291CI PHOENIX, AZ CH. 294**



**K291CI.A**

BMPFT20160421AAJ

Latitude: 33-35-39 N

Longitude: 112-05-08 W

ERP: 0.25 kW

Channel: 294

Frequency: 106.7 MHz

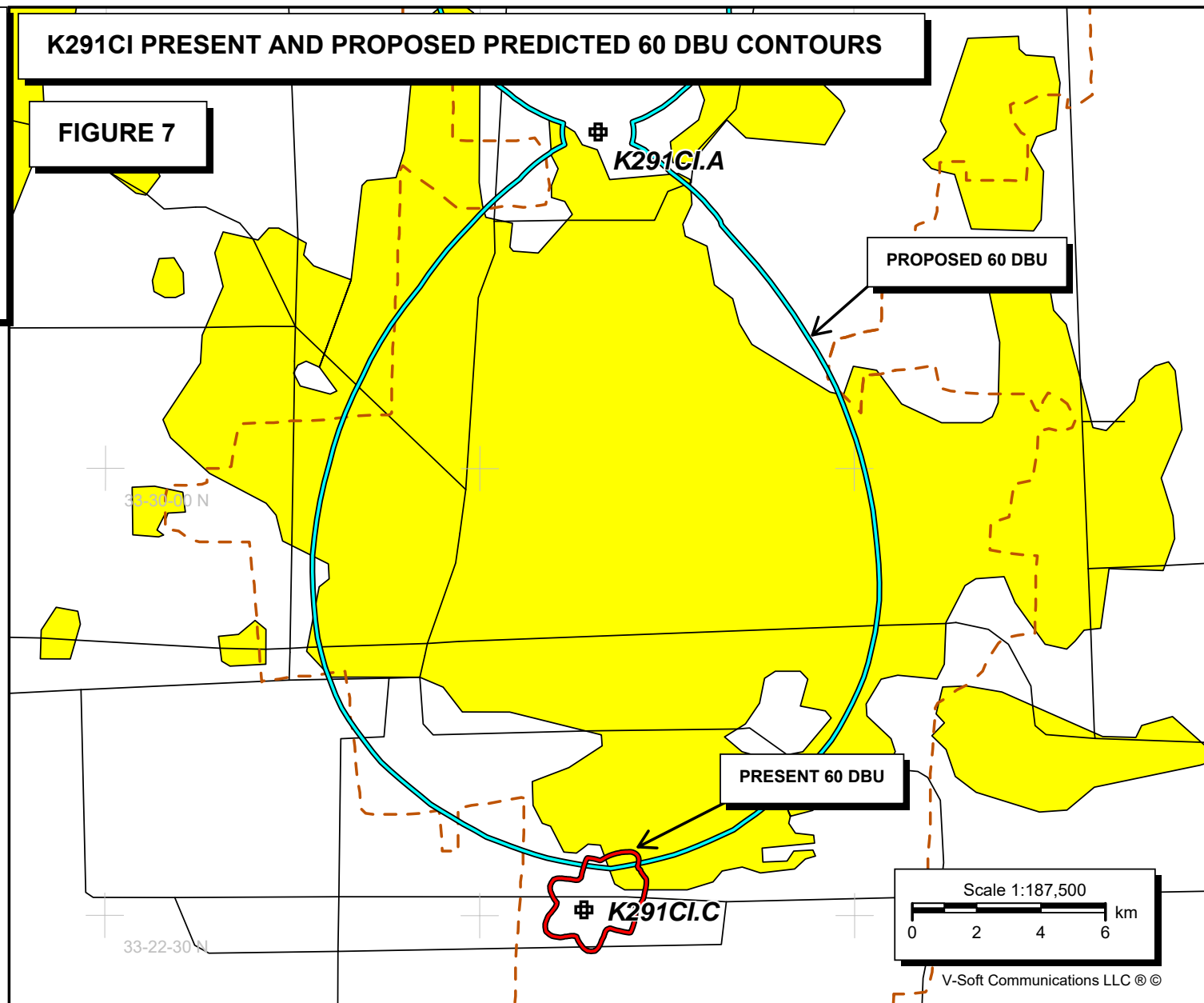
AMSL Height: 665.0 m

Elevation: 645.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model:

**K291CI PRESENT AND PROPOSED PREDICTED 60 DBU CONTOURS****FIGURE 7**

Contour.out

N. Lat. = 333539.0 W. Lng. = 1120508.0  
 HAAT and Distance to Contour,  
 FCC, FM 2-10 Mi, 51 pts Method - NGDC 30 SEC

FIGURE 8 - TABULATION OF DISTANCES TO CONTOURS, CH 294

Azi.	AV EL	HAAT	dBk	60-F5	54-F1	101.5-F1
000	463.0	202.0	-18.67	8.97	12.57	0.22
010	476.8	188.2	-19.29	8.33	11.77	0.20
020	476.9	188.1	-20.63	7.66	10.92	0.17
030	477.1	187.9	-22.16	6.98	10.02	0.15
040	480.7	184.3	-24.08	6.16	8.87	0.12
050	475.4	189.6	-26.94	5.20	7.54	0.08
060	467.1	197.9	-32.58	3.53	5.42	0.04
070	457.5	207.5	-40.92	1.76	2.99	0.02
080	442.6	222.4	-46.02	1.11	1.95	0.01
090	435.7	229.3	-46.02	1.11	1.97	0.01
100	440.0	225.0	-46.02	1.11	1.96	0.01
110	463.0	202.0	-43.10	1.55	2.48	0.01
120	472.6	192.4	-33.56	3.25	5.01	0.04
130	459.6	205.4	-22.79	7.00	10.09	0.14
140	400.4	264.6	-14.52	12.94	19.27	0.35
150	372.4	292.6	-10.03	17.74	26.32	0.59
160	362.3	302.7	-7.70	20.65	30.55	0.77
170	358.8	306.2	-6.45	22.26	33.18	0.89
180	356.4	308.6	-6.11	22.76	34.02	0.92
190	356.3	308.7	-6.83	21.88	32.55	0.85
200	347.0	318.0	-8.48	20.24	29.93	0.70
210	343.5	321.5	-11.45	17.12	25.42	0.50
220	339.9	325.1	-17.33	12.27	17.89	0.25
230	342.1	322.9	-27.13	6.40	9.79	0.08
240	350.3	314.7	-37.72	2.52	4.35	0.02
250	356.6	308.4	-46.02	1.11	2.01	0.01
260	362.0	303.0	-46.02	1.11	2.01	0.01
270	367.5	297.5	-46.02	1.11	2.00	0.01
280	373.2	291.8	-46.02	1.11	2.00	0.01
290	379.0	286.0	-37.39	2.57	4.35	0.03
300	387.1	277.9	-29.76	4.93	7.67	0.06
310	395.4	269.6	-25.68	6.62	9.79	0.10
320	426.8	238.2	-23.16	7.38	10.64	0.13
330	426.2	238.8	-21.46	8.24	11.69	0.16
340	440.8	224.2	-20.04	8.72	12.26	0.19
350	453.1	211.9	-18.94	9.05	12.68	0.21

Ave El= 410.70 M HAAT= 254.30 M AMSL= 665



FIGURE 9  
USGS 7.5 MINUTE MAP  
SHOWING AREA AROUND SITE

PHOENIX MOUNTAINS

Shaw Butte

PROPOSED SITE

PREDICTED 101.5 DBU

Radio Tower

Water Tanks

Shaw Butte Sch

North Mountain

North Mountain Hospital

Sunnyslope Sch

Lincoln Hosp

Trailer Park

Canal

Cholla St

Desert Cove Ave

Sanuario Dr

Cochise Ave

Cheryl Ave

Cinnabar Ave

Mountain View Sch

Water Tank

Hatcher Ave

Eva St

Dunbar St

Scale 1" = 25,000'

4" = 2000'

0 600 1200 1800 2400 3000 ft

0 200 400 600 800 1000 m

68013471257.9°E

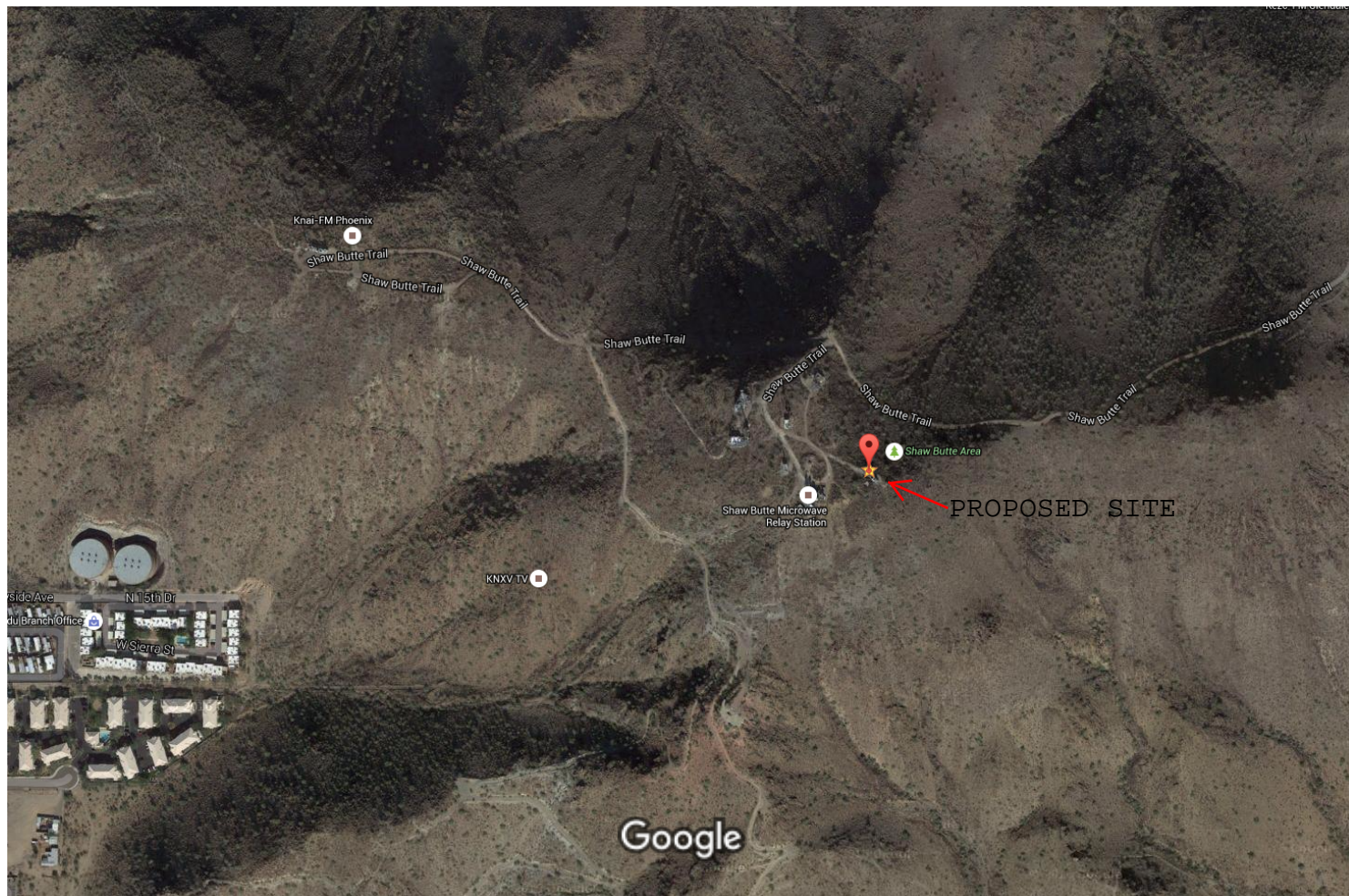
DELOME

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FIGURE 10 - SATELLITE MAP OF AREA SURROUNDING THE TOWER SITE

33°35'39.0"N 112°05'10.0"W (NAD 83)



Imagery ©2016 DigitalGlobe, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2016 Google 200 ft

33°35'39.0"N 112°05'10.0"W (NAD 83)

Google Maps

