

SHERIDAN, WYOMING ENGINEERING EXHIBIT
CHANNEL 7 LONG FORM APPLICATION
(Page 1 of 8)

Marquee Broadcasting, Inc.
Sheridan, WY

This engineering exhibit is prepared on behalf of Marquee Broadcasting, Inc., the winning bidder in Auction 112 for a vacant TV allotment on Channel 7 in Sheridan, Wyoming. It supports the “long form” application for a construction permit for a TV station operating on this allotment with the following facilities:

Coordinates (NAD83): 44-20-47.9/106-43-30.4
Antenna Height: 1521.6 meters MSL/73 meters **below** average terrain
Effective Radiated Power: 160 kilowatts(H)/48 kilowatts(V) nondirectional

The information included in this engineering statement documents that the proposed facilities would provide the required protection to all other stations requiring protection consideration, while also providing the required principal community coverage to its community of license.

As outlined in Table 1.0, the proposed Channel 7 facilities won't be predicted to cause any new or increased interference exceeding the 0.5% de minimis limit to any other post-repack facilities requiring protection consideration.

As shown in Figure 1.0, the predicted 43 dBu principal community contour for the proposed facilities will totally encompass Sheridan, as required by Section 73.625(a) of the FCC Rules. This figure also depicts the predicted 36 dBu noise limited contour for the proposed Channel 7 facilities, which is predicted to provide interference free service to 40,763 people.

TABLE 1.0
Sheridan TV Study Output
160 KW ND - Channel 7
(Page 1 of 6)

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: Sheridan (7 1007607 160 kw nd 100'agl), Model: Longley-Rice

Start: 2022.06.21 16:27:42

Study created: 2022.06.21 16:27:42

Study build station data: LMS TV 2022-06-09

Proposal: NEW D7 DT APP Sheridan, WY

Facility ID: 81191

Station data: User record

Record ID: 589

Country: U.S.

Zone: II

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KQCD-TV	D7	DT	LIC	DICKINSON, ND	BLCDT20090223ABH	409.5 km
No	KNEP	D7	DT	LIC	SCOTTSBLUFF, NE	BLCDT20050914AAH	406.5
Yes	KOTA-TV	D7	DT	LIC	RAPID CITY, SD	BLCDT20090612AAE	278.5
Yes	KGWL-TV	D7	DT	LIC	LANDER, WY	BLCDT20080915ABT	227.9
No	KPTW	D8	DT	LIC	CASPER, WY	BLANK0000191006	180.9
No	KCWC-DT	D8	DT	LIC	LANDER, WY	BLEDT20070226AEY	253.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

TABLE 1.0
 Sheridan TV Study Output
 160 KW ND - Channel 7
 (Page 2 of 6)

Record parameters as studied:

Channel: D7
 Latitude: 44 20 47.90 N (NAD83)
 Longitude: 106 43 30.40 W
 Height AMSL: 1521.6 m
 HAAT: -72.4 m
 Peak ERP: 160 kW
 Antenna: Omnidirectional
 Elev Pattn: Generic

36.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	160 kW	74.6 m	87.1 km
45.0	160	127.1	99.1
90.0	160	104.0	95.3
135.0	160	44.9	79.5
180.0	160	-68.7	74.2
225.0	160	-430.2	74.2
270.0	160	-393.5	74.2
315.0	160	-39.4	74.2

Database HAAT does not agree with computed HAAT

Database HAAT: -72 m Computed HAAT: -73 m

ERP exceeds maximum

ERP: 160 kW ERP maximum: 160 kW

Distance to Canadian border: 517.2 km

Distance to Mexican border: 1396.4 km

TABLE 1.0
Sheridan TV Study Output
160 KW ND - Channel 7
(Page 3 of 6)

Conditions at FCC monitoring station: Grand Island NE
Bearing: 116.4 degrees Distance: 777.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 164.9 degrees Distance: 481.6 km

Study cell size: 2.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

TABLE 1.0
Sheridan TV Study Output
160 KW ND - Channel 7
(Page 4 of 6)

Interference to BLCDT20090612AAE LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired:	KOTA-TV	D7	DT	LIC	RAPID CITY, SD	BLCDT20090612AAE				
Undesireds:	DKJCW	D7	DT	BL	SHERIDAN, WY	DTVBL81191	305.6 km			
	NEW	D7	DT	APP	Sheridan, WY		278.5			
	KQCD-TV	D7	DT	LIC	DICKINSON, ND	BLCDT20090223ABH	320.9			
	KMNE-TV	D7	DT	CP	BASSETT, NE	BLANK0000035894	360.8			
	KNEP	D7	DT	LIC	SCOTTSBLUFF, NE	BLCDT20050914AAH	247.8			
	KZSD-TV	D8	DT	LIC	MARTIN, SD	BLEDT20090527AGU	153.3			
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
27731.8	174,876	25490.6	152,861	24359.3	147,750	24291.5	148,038	0.28	-0.19	
Undesired				Total IX	Unique IX, before		Unique IX, after			
DKJCW	D7	DT	BL	287.4	3,840	227.4	3,380			
NEW	D7	DT	APP	359.2	3,506	295.3	3,092			
KQCD-TV	D7	DT	LIC	43.7	523	19.8	63	27.8	111	
KMNE-TV	D7	DT	CP	128.1	18	52.0	11	52.0	11	
KNEP	D7	DT	LIC	747.9	1,197	631.7	1,182	619.8	1,180	
KZSD-TV	D8	DT	LIC	112.6	15	48.2	0	48.2	0	

TABLE 1.0
Sheridan TV Study Output
160 KW ND - Channel 7
(Page 5 of 6)

Interference to BLCDT20090612AAE LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired:	KOTA-TV	D7	DT	LIC	RAPID CITY, SD	BLCDT20090612AAE				
Undesireds:	DKJCW	D7	DT	BL	SHERIDAN, WY	DTVBL81191	305.6 km			
	NEW	D7	DT	APP	Sheridan, WY		278.5			
	KQCD-TV	D7	DT	LIC	DICKINSON, ND	BLCDT20090223ABH	320.9			
	KMNE-TV	D7	DT	LIC	BASSETT, NE	BLEDT20090225ABN	360.8			
	KNEP	D7	DT	LIC	SCOTTSBLUFF, NE	BLCDT20050914AAH	247.8			
	KZSD-TV	D8	DT	LIC	MARTIN, SD	BLEDT20090527AGU	153.3			
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
27731.8	174,876	25490.6	152,861	24383.3	147,759	24315.5	148,047	0.28	-0.19	
Undesired				Total IX	Unique IX, before		Unique IX, after			
DKJCW	D7	DT	BL	287.4	3,840	227.4	3,380			
NEW	D7	DT	APP	359.2	3,506	295.3	3,092			
KQCD-TV	D7	DT	LIC	43.7	523	19.8	63	27.8	111	
KMNE-TV	D7	DT	LIC	72.1	2	28.0	2	28.0	2	
KNEP	D7	DT	LIC	747.9	1,197	643.6	1,182	631.7	1,180	
KZSD-TV	D8	DT	LIC	112.6	15	56.3	0	56.3	0	

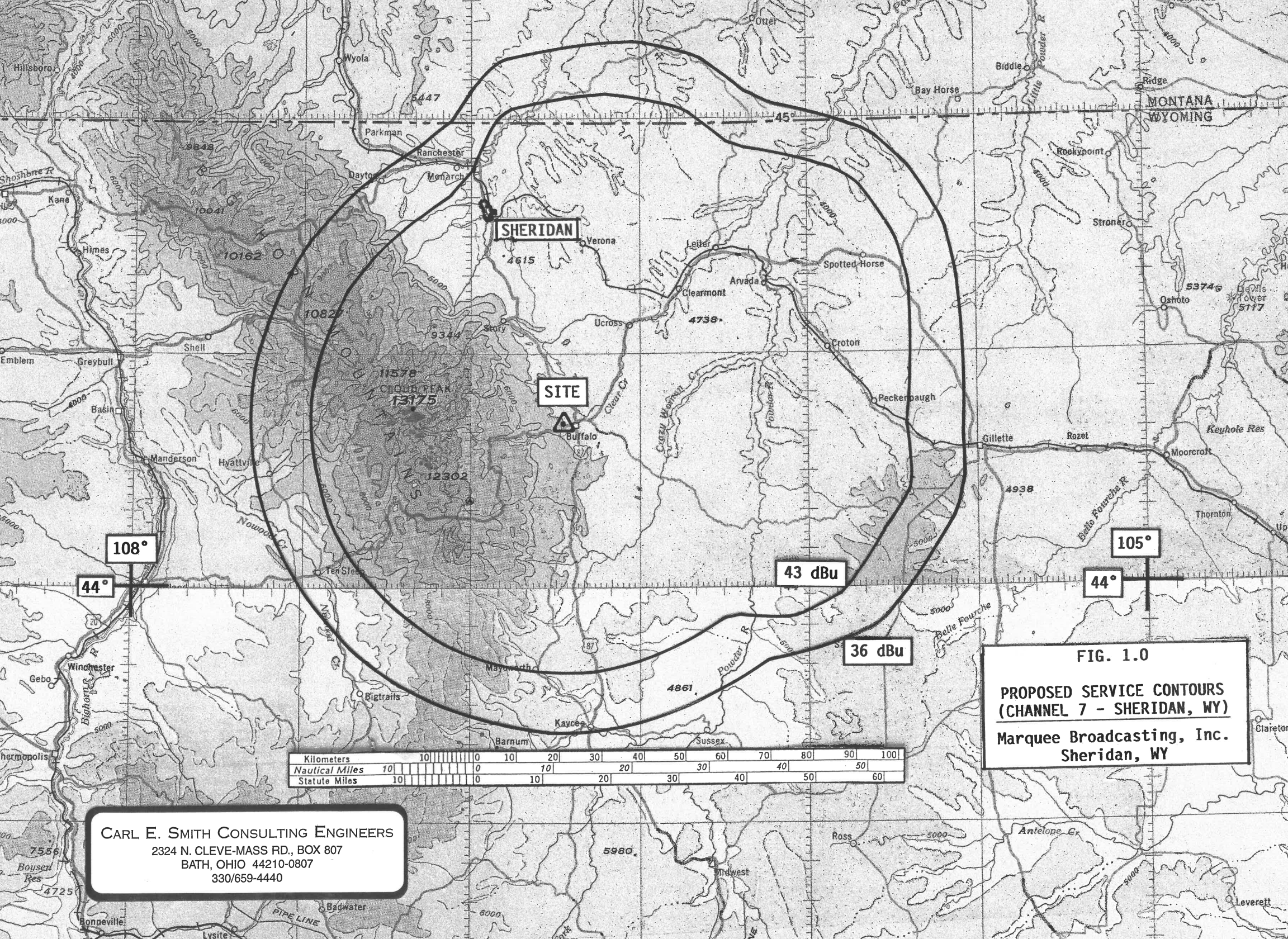
TABLE 1.0
Sheridan TV Study Output
160 KW ND - Channel 7
(Page 6 of 6)

Interference to BLCDT20080915ABT LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	KGWL-TV	D7	DT	LIC	LANDER, WY	BLCDT20080915ABT			
Undesireds:	DKJCW	D7	DT	BL	SHERIDAN, WY	DTVBL81191	254.2 km		
	NEW	D7	DT	APP	Sheridan, WY		227.9		
	KCWC-DT	D8	DT	LIC	LANDER, WY	BLEDT20070226AEY	34.7		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
17057.5	38,125	15399.9		38,028	13331.2	36,965	13307.2	36,965	0.18 0.00
Undesired				Total IX	Unique IX, before		Unique IX, after		
DKJCW	D7	DT	BL	0.0	0	0.0	0		
NEW	D7	DT	APP	24.0	0		24.0	0	
KCWC-DT	D8	DT	LIC	2068.7	1,063	2068.7	1,063	2068.7	1,063

Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	NEW	D7	DT	APP	Sheridan, WY		
Undesireds:	KOTA-TV	D7	DT	LIC	RAPID CITY, SD	BLCDT20090612AAE	278.5 km
	KGWL-TV	D7	DT	LIC	LANDER, WY	BLCDT20080915ABT	227.9
Service area		Terrain-limited		IX-free		Percent IX	
21624.5	43,147	17998.5		40,838	17798.0	40,763	1.11 0.18
Undesired				Total IX	Unique IX	Prcnt Unique IX	
KOTA-TV	D7	DT	LIC	20.0	68	20.0	68 0.11 0.17
KGWL-TV	D7	DT	LIC	180.6	7	180.6	7 1.00 0.02



SHERIDAN

SITE

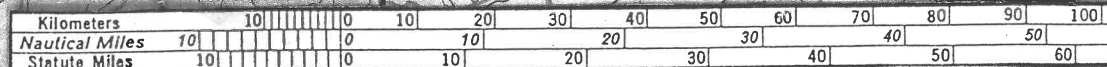
43 dBu

36 dBu

FIG. 1.0

PROPOSED SERVICE CONTOURS
(CHANNEL 7 - SHERIDAN, WY)

Marquee Broadcasting, Inc.
Sheridan, WY



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