

**TECHNICAL STATEMENT  
WSJV LICENSE, LLC  
WSJV 258 KW ERP-ND 332.6 M HAAT CH. 30  
ELKHART, INDIANA**

**INTRODUCTION**

WSJV License, LLC (the “Applicant”), licensee of digital television station WSJV, Facility ID No. 74007, seeks to modify the post-auction construction permit (CP) for WSJV pursuant to the recent lifting of the freeze on the filing minor modification applications for certain repacked stations.<sup>1</sup> WSJV is a reassigned station that is authorized to operate on Channel 30 post-auction based on the non-expansion parameters that were approved through the 90-day filing window, File No. 0000027461. The Applicant is now proposing to relocate WSJV to a different tower so that it may utilize an existing broadband antenna system, which will significantly help facilitate the station’s buildout. As permitted by the lifting of the freeze, these modifications will increase WSJV’s noise-limited contour in one or more directions beyond its authorized facilities.

**PROPOSED MODIFICATION**

As stated above, the Applicant seeks to utilize an existing broadband antenna system for WSJV. This proposal entails changing WSJV’s authorized transmitter site so that it may share the broadband antenna that is currently employed by reassigned station WSBT-TV Channel 29 in South Bend, IN. The WSBT-TV antenna is a horizontally polarized nondirectional Dielectric Model TUA-O4-16/64H-1-T-R with 0.5 degrees electrical beam tilt. The radiation center height

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<sup>1</sup> *Media Bureau Lifts the Freeze On the Filing Of Minor Modification Applications That Expand The Contour Of Full Power And Class A Television Stations For Certain Repacked Stations, Effective Immediately*, Public Notice, DA 19-284 (rel. July 22, 2019). “This action promotes administrative efficiency and facilitates the post-incentive auction transition because it relieves repacked stations of the need to request a waiver of the 2013 freeze to complete the station’s transition in circumstances where, for instance, an antenna manufacturer is unable to exactly match the station’s authorized antenna pattern, or the authorized height of the antenna on the station’s tower differs slightly from the actual installed height of the antenna.”



of the existing antenna is 309.1 meters above ground level (AGL) or 574.0 meters above mean sea level (AMSL).<sup>2</sup>

The new parameters proposed for WSJV will increase the station's noise-limited contour in one or more directions beyond its authorized facilities. Figure 1 depicts the protected noise-limited contour of WSJV's current CP facility, which matches the contour associated with the baseline parameters assigned by the FCC for replicating pre-auction service on Channel 28.<sup>3</sup> This map further shows the shift in coverage that will result from moving WSJV to the existing broadband antenna of WSBT-TV. As can be observed from the location of these contours, the new parameters proposed for WSJV are designed to maintain service to the present viewers of Channel 28 as defined by the present CP contour.

The contour map attached as Figure 2 demonstrates that the proposed facility will provide a 48 dBu signal over the entire community of Elkhart, IN as required in 47 CFR §73.625.

## **INTERFERENCE PROTECTION AND ANALYSIS SETTINGS**

A copy of the *TVStudy* analysis summary is provided in Figure 3. This summary indicates that no interference check failures were found and therefore the proposal is not predicted to cause new interference beyond the normal tolerance to any other post-auction full-service or Class A TV stations.<sup>4</sup> This analysis was performed using the following permissible OET-69 settings:

Study cell size:	1.0 kilometer
Profile point spacing:	0.5 kilometer

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<sup>2</sup> Antenna Structure Registration No. 1030677 specifies a site elevation of 264.9 meters AMSL.

<sup>3</sup> WSJV's pre-auction facility transmits on Channel 28 in accordance with the parameters specified in FCC File No. BLCDT-20100115AAE. The baseline parameters for post-auction replication of Channel 28 on Channel 30 were assigned in the *Closing and Channel Reassignment Public Notice* ("CCRPN"), 32 FCC Rcd 2786 (2017). Those reassignment parameters are referenced in the LMS database as DTVBL74007 and match the parameters authorized in FCC File No. 0000027461. The protected noise-limited contour for Channel 30 after applying the UHF dipole adjustment is 40.3 dBu.

<sup>4</sup> *TVStudy* Program, Version 2.2.5.



## PROXIMITY TO AM DIRECTIONAL ANTENNA

It is proposed that WSJV transmit on Channel 30 using WSBT-TV's existing antenna and transmission line.<sup>5</sup> This equipment is currently mounted on the WSBT-TV tower structure located within 3 kilometers of directional AM station WSBT 960 kHz (Facility ID No. 73985), which operates directionally in the day and night modes.<sup>6</sup> WSBT-TV's tower has been detuned and the Applicant does not propose to install or modify any equipment on the existing structure. Because the changes proposed for WSJV fall outside the criteria in 47 CFR 1.30002, they are accordingly presumed to have no significant effect on WSBT(AM). Therefore, a grant of this application need not contain a condition that requires AM antenna system measurements to be performed.

## ENVIRONMENTAL IMPACT

The proposed use of an existing broadband antenna does not exceed the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply. With regard to the rules for limiting human exposure to radio-frequency (RF) energy in 47 CFR § 1.1307(b), this application seeks authority to operate a television broadcast antenna in full compliance with those guidelines as described in detail below. The technical parameters specified in this application are as follows:

Frequency :	566 - 572 MHz (UHF Channel 30)
Effective Radiated Power:	258 kW
Antenna Type:	Dielectric Model TUA-O4-16/64H-1-T-R
Antenna Polarization:	Horizontal
Antenna Height:	309.1 meters AGL
Location coordinates:	41-37-00.0 N, 86-13-01.0 W (NAD83)
Site elevation:	264.9 meters AMSL
Overall tower height:	319.5 meters AGL
FCC ASRN:	1030677; Constructed in 1962

<sup>5</sup> WSBT-TV is currently licensed to operate on pre-auction Channel 22 using a Dielectric Model TUA-O4-16/64H-1-T-R broadband panel antenna system, see FCC File No. BLCDDT-20090224ABF.

<sup>6</sup> The WSBT-TV tower is located within one wavelength of WSBT's directional AM antenna and is more than 36 electrical degrees in height at the AM frequency. A wavelength at 960 kHz is equal to 312.3 meters and the WSBT-TV tower is 368.3 electrical degrees in height.



Using the methodology for predicting power density levels for television broadcast antennas outlined in *FCC OET Bulletin No. 65, Edition 97-01, (OET-65)*, the proposed facility is calculated to produce a maximum power density of  $3.66 \mu\text{W}/\text{cm}^2$  at points 2 meters above ground (approximate human head height). This exposure level was determined using 20 percent antenna relative field, which is a conservative value for a typical UHF antenna. The maximum exposure limits applicable to Channel 30, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are  $377 \mu\text{W}/\text{cm}^2$  and  $1,887 \mu\text{W}/\text{cm}^2$  respectively. Because the worst-case exposure level determined for the proposed facility is not more than 5% of those guidelines and considering that the existing tower location is fenced and suitable warning signs are posted, no further showing of compliance is necessary. Accordingly, this application complies with the RF exposure limits and is categorically excluded from environmental processing by 47 CFR § 1.1306.

Steps to limit exposure to persons authorized to access the transmitter site will be consistent with the appropriate recommendations in OET-65. All maintenance and other related work to be performed at elevations higher than 2 meters above ground will be coordinated to prevent exposure to RF fields in excess of the controlled limit. Such preventative steps shall include reducing power or shutting down the facility.

Respectfully submitted,

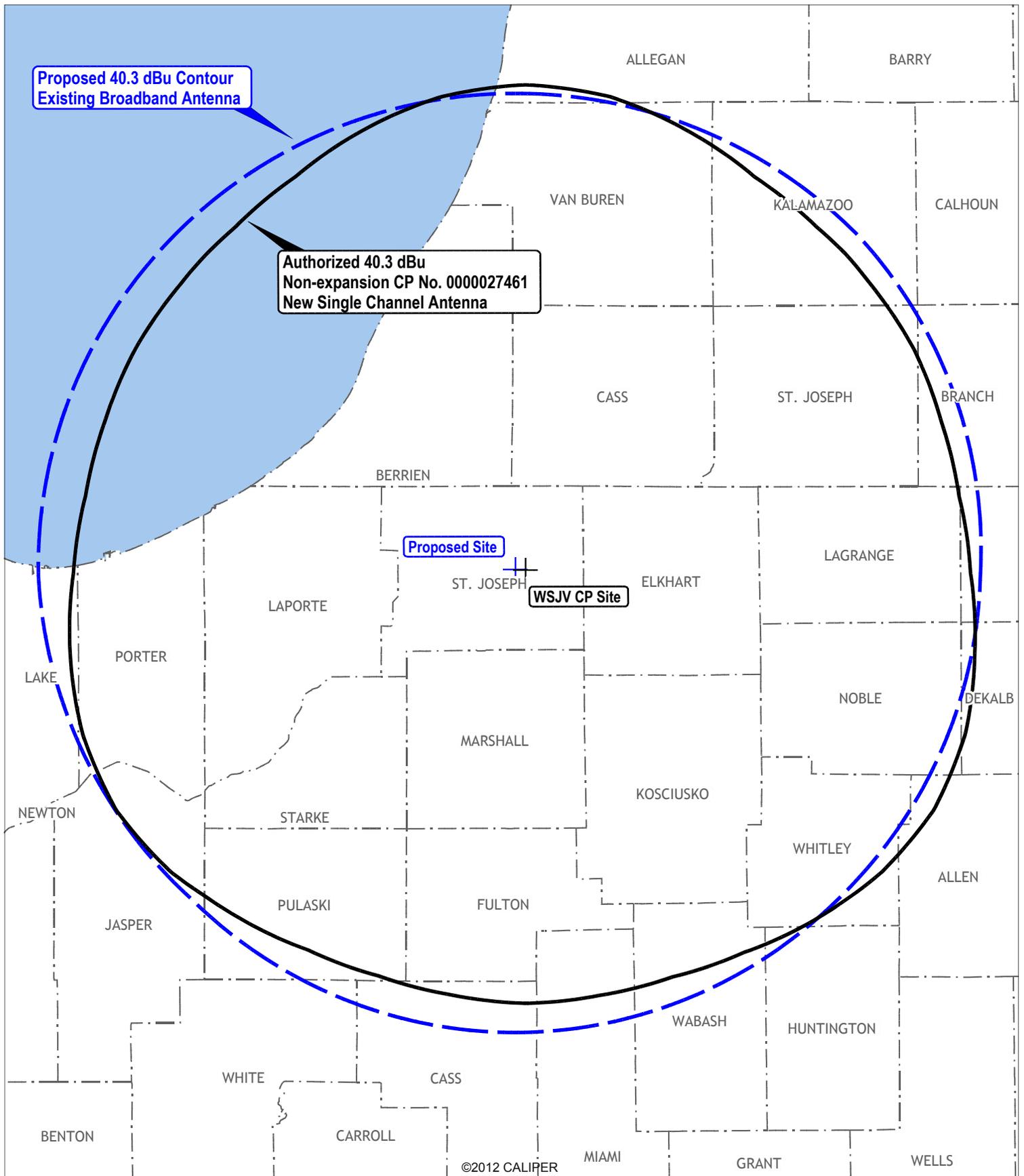
A handwritten signature in black ink, appearing to read 'Scott Turpie', written over a horizontal line.

Scott Turpie  
Technical Consultant  
Lohnes & Culver, LLC  
P.O. Box 16343  
Alexandria, VA 22302  
Ph. 301-776-4488

October 10, 2019

Attachments:

- Figure 1 – Present & Proposed Service Contours
- Figure 2 – Proposed City-Grade Contour
- Figure 3 – TVStudy Analysis Summary



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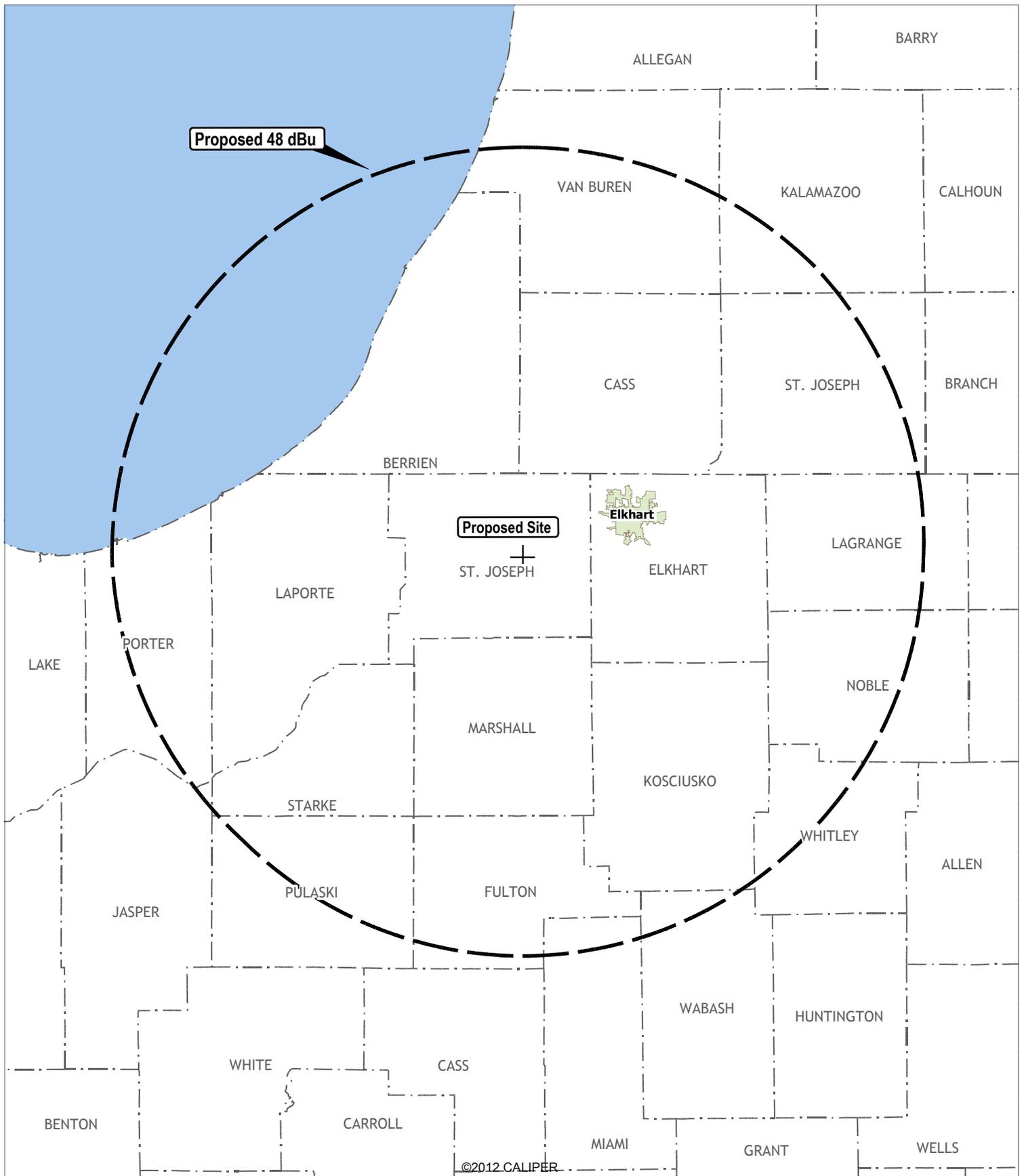
TELECOMMUNICATIONS CONSULTING  
P.O. Box 16343 Alexandria, Virginia 22302

SCALE 1:1,000,000



**FIGURE 1**  
**PRESENT & PROPOSED**  
**PROTECTED SERVICE CONTOURS**  
**WSJV 258 KW ERP 332.6M HAAT CH. 30**  
**ELKHART, INDIANA**

October 2019



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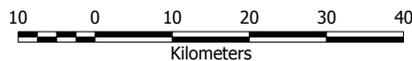
**FIGURE 2**  
**PROPOSED CITY-GRADE CONTOUR**  
**COVERAGE OF PRINCIPAL COMMUNITY**  
**WSJV 258 KW ERP 332.6M HAAT CH. 30**  
**ELKHART, INDIANA**

October 2019



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SCALE 1:1,000,000



Study created: 2019.10.09 19:10:40

Study build station data: LMS TV 2019-10-09

Proposal: WSJV D30 DT APP ELKHART, IN
File number: WSJV30 CP-MOD 20191009
Facility ID: 74007
Station data: User record
Record ID: 574
Country: U.S.
Zone: I

Search options:
Non-U.S. records included

stations potentially affected by proposal:

Table with columns: IX, Call, Chan, Svc, Status, City, State, File Number, Distance. Lists various TV stations and their distances from the proposal location.

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:
WSBT 960 L DA2 D SOUTH BEND, IN BL
WSBT 960 L DA2 N SOUTH BEND, IN BL

Record parameters as studied:

Channel: D30
Latitude: 41 37 0.00 N (NAD83)
Longitude: 86 13 1.00 W
Height AMSL: 574.0 m
HAAT: 332.6 m
Peak ERP: 258 kw
Antenna: Omnidirectional
Elev Patrn: Generic
Elec Tilt: 0.50

40.3 dBu contour table with columns: Azimuth, ERP, HAAT, Distance. Shows signal strength contours at various angles.

Database HAAT does not agree with computed HAAT
Database HAAT: 333 m Computed HAAT: 331 m

\*\*Proposal is within coordination distance of Canadian border
Distance to Canadian border: 258.4 km

Distance to Mexican border: 1895.1 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 11.0 degrees Distance: 112.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 270.5 degrees Distance: 1602.3 km

Study cell size: 1.00 km
Profile point spacing: 0.50 km

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

---- Below is IX received by proposal WSJV30 CP-MOD 20191009 ----

Proposal receives 0.51% interference from scenario 1
Proposal receives 0.51% interference from scenario 3
Proposal receives 0.89% interference from scenario 5
Proposal receives 0.75% interference from scenario 6
Proposal receives 0.89% interference from scenario 7
Proposal receives 0.75% interference from scenario 8
No IX check failures found.