



ENGINEERING STUDY

NEW 202A

Newark, OH

Strong Tower Christian Media, Inc

Requesting a New facility

Pursuant to MB Docket No. 20-343, DA No. 21-463 (April 21, 2021)

November, 2021

NEW 202A
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TECHNICAL STATEMENT

This technical statement and attached exhibits were prepared on behalf of Strong Tower Christian Media, ("STCM"), in support of a NEW NCE FM radio station on Channel 202A to be licensed to the community of Newark, Ohio

TECHNICAL PARAMETERS

Facilities Proposed

Location (NAD83)	40° 04' 41.9" N Latitude, 82° 22' 25.8" W Longitude
Channel	202A(88.3MHz)
Tower Overall AGL Height-	91.4m
Tower ASR	1014260 (Exhibit E)
Proposed Antenna	2-Bay, Full-Wave spaced EPA Type 3- Non-Directional
Antenna AGL Height-	55m
Site AMSL Height-	316.4m
COR AMSL Height	371.4m
HAAT	72m
ERP	1.5 kW-V, 500W-H NON-DIRECTIONAL

BASIS OF CALCULATIONS

All exhibits and calculations in this application were prepared using the USGS National Elevation Dataset (NED) 3 Second US Terrain database unless otherwise noted. Contours are calculated using 72 evenly spaced radials unless otherwise noted. All population calculations were based on the 2010 *Census Block Data* from the US Bureau of Census¹.

POPULATION SERVED

The proposed NCE facility will encompass 995.1 sq. km. and a total of 103,912 people (2010 Census).

47 CFR § 73.509 COMPLIANCE

As demonstrated in Exhibits A and B, the proposed NCE facility will utilize a non-directional antenna and will meet all contour protection requirements toward other stations as specified in 47 CFR § 73.509. Exhibit F shows Distance to Contour tables for the proposed 202A 40dBu f50,10 interfering contour to the WAUI 60dBu f50,50 protected contour (72 radials). There are no allocation implications to any Mexican or Canadian facilities.

SECTION 307(b) FAIR DISTRIBUTION OF SERVICE ANALYSIS.

As shown in Exhibit C, the proposed facility will provide First NCE service to 3,699 people, 2nd NCE service to 3,117 people and 3rd or greater service to 97,096 people. Although first and second service is proposed to over 2,000 people in each of the first and second service categories, neither individually or collectively serve more than 10% of the total service area population. There is no “White Area” being served by the proposed facility.

¹ As specified in FCC MB DA 21-885, Page 5, 6.

TV CHANNEL 6 PROTECTION

WOUC-TV is a full power TV6 station located 92.6km from the proposed 202A Facility. A TV 6 protection report is filed separately from this application.

REASONABLE ASSURANCE

Reasonable assurance for the proposed tower was received by Tiffany Yu, an authorized representative of the tower owner, American Tower Corp. Broadcast Business Development at (781) 926-7820 or tiffany.yu@americantower.com.

COMMUNITY COVERAGE

As demonstrated in Exhibit D, the proposed facility will cover 100% of Newark, Ohio in area and population with the 60dBu signal. Newark comprises 54.1 sq km (land area) and as of the 2010 Census the population of the city was 47,573.²

ENVIRONMENTAL CONSIDERATIONS

The proposed antenna will be attached to an existing tower. The tower is owned by American Tower Corp. Exhibit E shows the Antenna Structure Registration of the proposed tower.

The attachment of the proposed antenna will not alter the existing proposed tower structure for purposes of the Nationwide Programmatic Agreement and the NHPA Section 106. There are no other non-excluded RF source located on the tower supporting the proposed antenna.

The proposed antenna will operate at a maximum power level of 1.5kW ERP-V and 500w-H and will operate at 55m AGL. STCM proposes to operate with a 2-bay, full-wave spaced non-directional antenna. Based upon the FCC “FM Model”³ Power Density vs. Distance calculator using a “EPA Type 3, Opposed U Dipole” type antenna setting, the maximum power density at 2m AGL

² https://en.wikipedia.org/wiki/Newark,_Ohio

³ <https://www.fcc.gov/general/fm-model>

contributed by the proposed antenna is expected to be 3.3 $\mu\text{W}/\text{cm}^2$ or 1.65% of the permitted 200 $\mu\text{W}/\text{cm}^2$ limit for uncontrolled exposure. There are no tall buildings near the proposed tower.

Because the maximum contribution of the proposed antenna for the uncontrolled environment is less than 5.0% of the 200 $\mu\text{W}/\text{cm}^2$ MPE limit as set forth by §1.1307(b)(3), the facility will be in compliance with FCC guidelines.

Based upon the preceding evaluation, the proposed antenna it is believed that the proposed antenna is excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

The proposed FM station along with other users at the site will maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

Respectfully Submitted

A handwritten signature in black ink that reads "Bert Goldman". The signature is written in a cursive style with a long, sweeping underline.

Bert Goldman
Technical Consultant

EXHIBIT A- ALLOCATION STUDY

ComStudy 2.2 search of channel 202 (88.3 MHz Class A) at 40-04-41.9 N, 82-22-25.8 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
WAUI	SHELBY	OH 202 A	78.90	115.00	344.9	0.13 dB Exhibit B
WWGV	GROVE CITY	OH 201 B1	76.83	96.00	239.1	0.48 dB Exhibit B
WMRT	MARIETTA	OH 202 B1	108.36	143.00	132.3	0.57 dB Exhibit B
WOAR	SOUTH VIENNA	OH 202 A	106.80	115.00	261.6	6.28 dB
WYFY	CAMBRIDGE	OH 201 A	70.33	72.00	94.4	7.80 dB
WLRY	RUSHVILLE	OH 205 A	33.60	31.00	187.3	10.84 dB
WSGR-CP	NEW BOSTON	OH 202 B1	157.70	143.00	202.2	11.42 dB
WSGR	NEW BOSTON	OH 202 B1	159.92	143.00	199.9	12.72 dB
WUFM	COLUMBUS	OH 204 B	57.42	69.00	254.4	14.43 dB
WZIP	AKRON	OH 201 B	127.95	113.00	29.0	14.12 dB
WBWC	BEREA	OH 202 A	154.05	115.00	14.8	15.10 dB
WLFC	NORTH BALTIMORE	OH 202 A	152.09	115.00	319.9	15.59 dB
WKEN	KENTON	OH 203 A	111.76	72.00	297.3	20.95 dB
WYOR	REPUBLIC	OH 203 B	137.74	113.00	340.9	21.95 dB
WVPB	CHARLESTON	WV 203 B	198.85	113.00	161.7	23.98 dB
WAIF	CINCINNATI	OH 202 A	209.86	115.00	240.3	24.76 dB
WOFN	BEACH CITY	OH 204 B	95.41	69.00	53.2	24.21 dB
WYSU	YOUNGSTOWN	OH 203 B	182.28	113.00	52.8	24.10 dB
WVRR	POINT PLEASANT	WV 201 A	138.30	72.00	171.2	24.46 dB
WKJL	CLARKSBURG	WV 201 B	198.44	113.00	115.2	25.36 dB
WHWN	PAINESVILLE	OH 202 A	204.24	115.00	27.4	26.25 dB
WRCT	PITTSBURGH	PA 202 A	210.71	115.00	78.1	26.26 dB
WLAB	FORT WAYNE	IN 202 B1	264.80	143.00	296.5	27.82 dB
WZUM-FM	BETHANY	WV 201 A	155.45	72.00	83.7	27.58 dB

LMS/ CDBS as of 10/30/2021

EXHIBIT B Pertinent Protection Contours

Proposed Newark, OH, 1.5kW, 88.3MHz- Protections

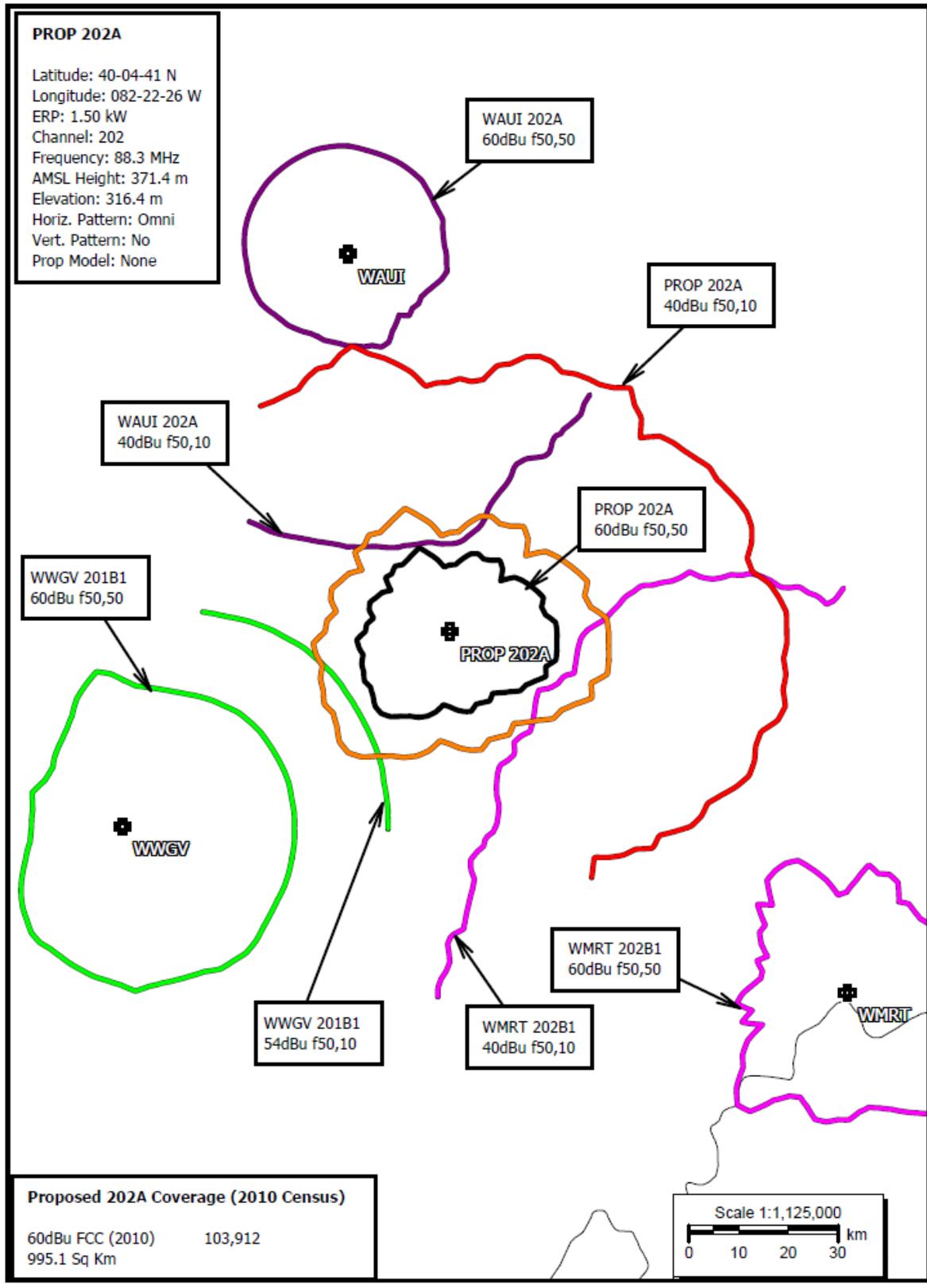


EXHIBIT C Section 307(b) Analysis

Proposed Newark, OH, 1.5kW, 202A 88.3 MHz NCE Service Count

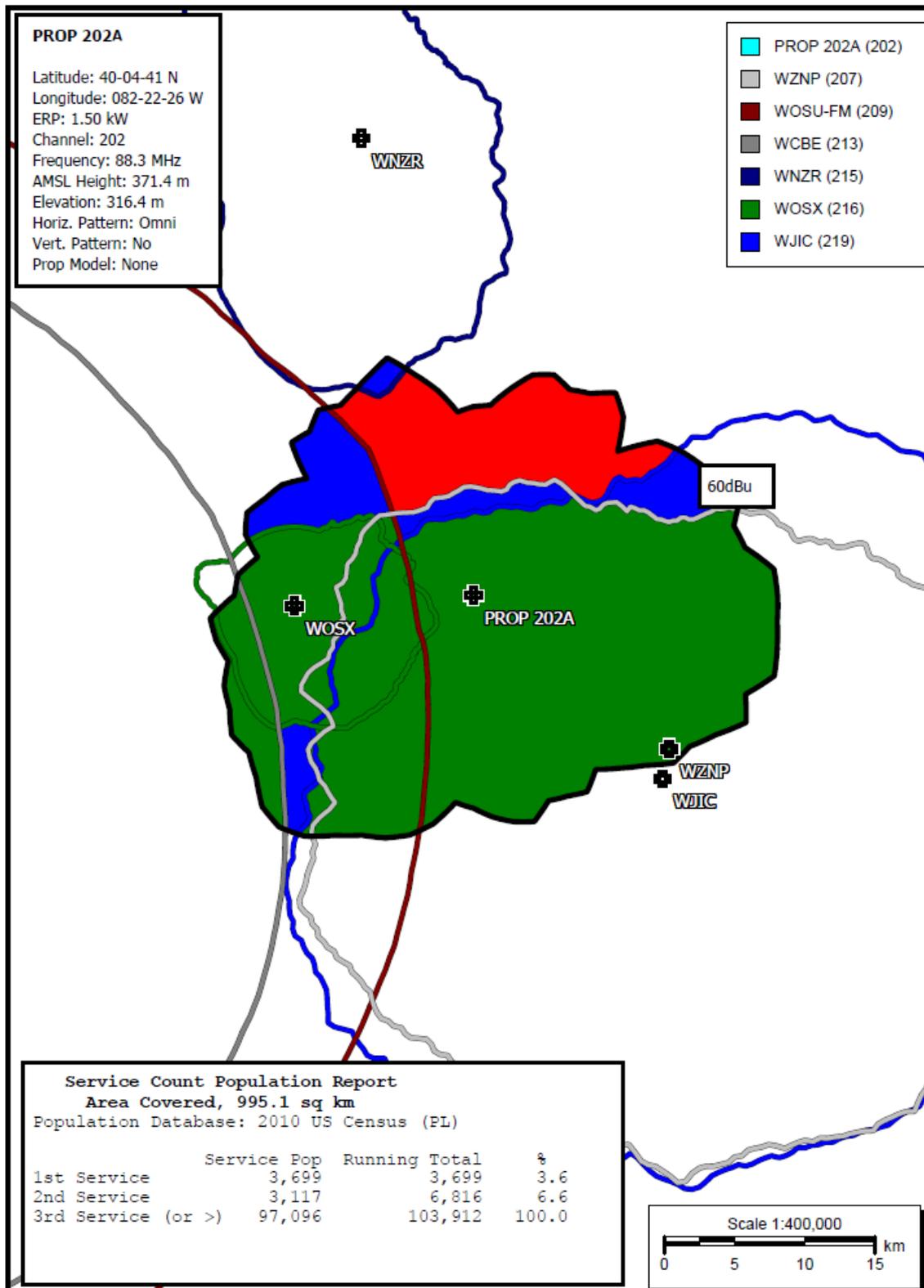


EXHIBIT D Community Coverage

NEW 202A, Newark, Ohio, Community Coverage

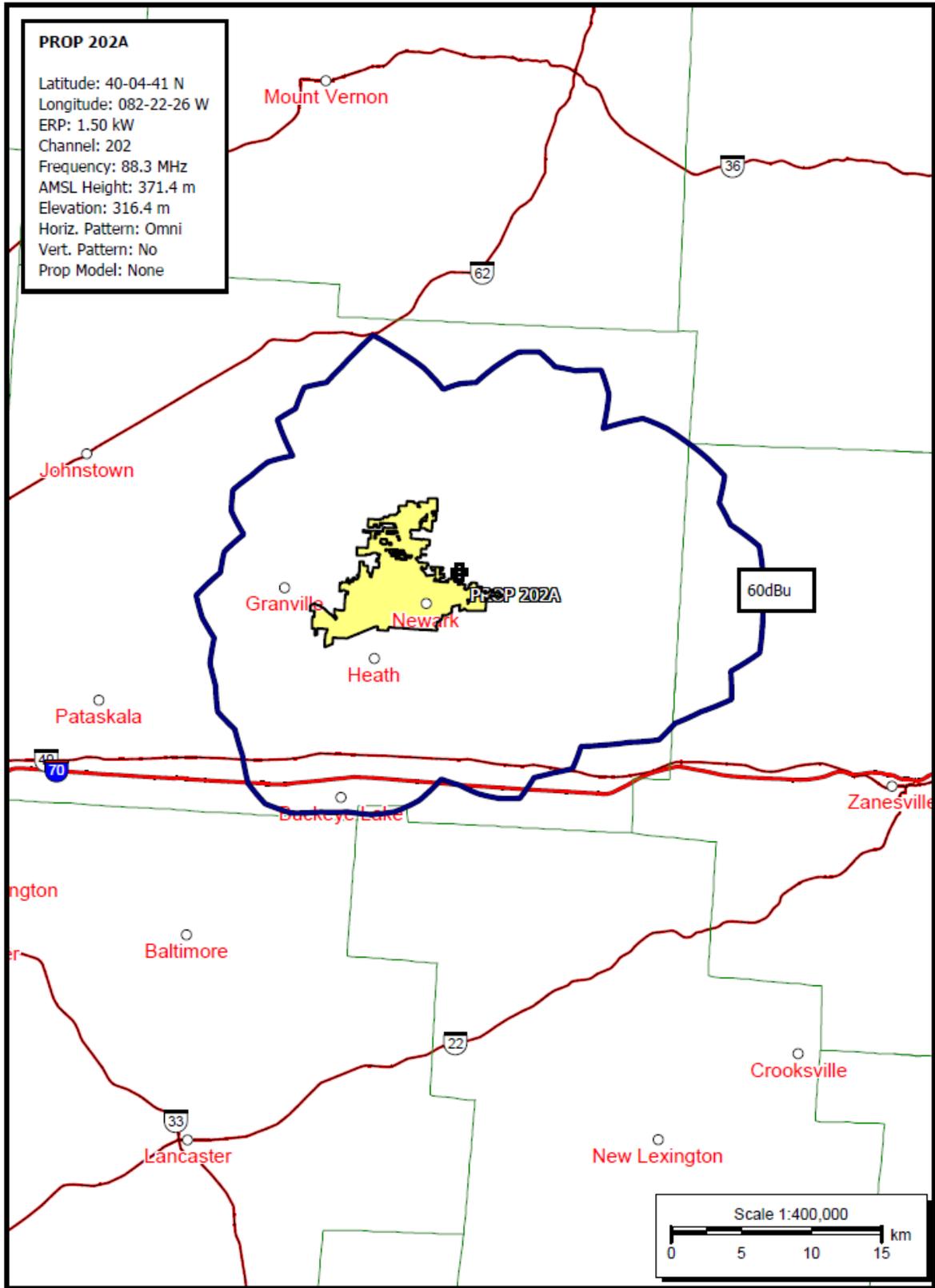


EXHIBIT E – Structure Registration

Registration 1014260

[Map Registration](#)

Registration Detail			
Reg Number	1014260	Status	Constructed
File Number	A0917435	Constructed	09/08/1986
EMI	No	Dismantled	
NEPA	No		
Antenna Structure			
Structure Type	GTOWER - Guyed Structure Used for Communication Purposes		
Location (in NAD83 Coordinates)			
Lat/Long	40-04-41.9 N 082-22-25.8 W	Address	618 New Haven Road
City, State	Newark , OH		
Zip	43055	County	LICKING
Center of AM Array		Position of Tower in Array	
Heights (meters)			
Elevation of Site Above Mean Sea Level		Overall Height Above Ground (AGL)	
316.4		91.4	
Overall Height Above Mean Sea Level		Overall Height Above Ground w/o Appurtenances	
407.8		85.3	
Painting and Lighting Specifications			
FAA Chapters 3, 4, 5, 12 Paint and Light in Accordance with FAA Circular Number 70/7460-1K			
FAA Notification			
FAA Study	2009-AGL-4327-OE	FAA Issue Date	08/20/2009
Owner & Contact Information			
FRN	0011498342	Owner Entity Type	Limited Liability Company
Assignor FRN	0009764150	Assignor ID	L00759842
Owner			
Global Tower, LLC. through American Towers, LLC Attention To: FAA/FCC Regulatory 10 Presidential Way Woburn , MA 01801		P: (678)564-3236 F: E: faa-fcc@americantower.com	
Contact			
Attention To: FAA/FCC Regulatory 10 Presidential Way Woburn , MA 01801		P: (678)564-3236 F: E: faa-fcc@americantower.com	
Last Action Status			
Status	Constructed	Received	08/29/2014
Purpose	Change Owner	Entered	08/29/2014
Mode	Interactive		

EXHIBIT F – Pertinent Distance to Contour Calculations

Distance to Contour Report

WAUI 60dBu f50,50

Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 50.0 %
of Radials Calculated: 72
FCC Matching HAAT Calculation Used
Field Strength: 60.00 dBuV/m

Primary Terrain: NED 3 Second US Terrain

Transmitter Information:

Call Letters: WAUI
File Number: BLED20150526AAK
Latitude: 40-45-50.20 N
Longitude: 082-37-03.60 W
ERP: 0.70 kW
Channel: 202
Frequency: 88.3 MHz
AMSL Height: 519.0 m
Elevation: 421.0 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No

Azimuth (deg)	Distance (km)
120.0	17.15
125.0	17.44
130.0	17.02
135.0	17.55
140.0	16.13
145.0	17.07
150.0	18.02
155.0	19.65
160.0	19.98
165.0	19.11
170.0	19.03
175.0	18.61
180.0	18.55
185.0	18.17
190.0	18.04
195.0	18.06
200.0	17.74

Distance to Contour Report

PROP 202A 40dBu f50,10

Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 10.0 %
of Radials Calculated: 72
FCC Matching HAAT Calculation Used
Field Strength: 40.00 dBuV/m

Primary Terrain: NED 3 Second US Terrain

Transmitter Information:

Call Letters: PROP 202A
Latitude: 40-04-41 N
Longitude: 082-22-26 W
ERP: 1.50 kW
Channel: 202
Frequency: 88.3 MHz
AMSL Height: 371.4 m
Elevation: 316.4 m
Horiz. Antenna Pattern: Omni
Vert. Elevation Pattern: No

Azimuth (deg)	Distance (km)
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0.0	50.08
320.0	59.36
325.0	58.01
330.0	58.69
335.0	59.67
340.0	60.82
345.0	57.57
350.0	54.24
355.0	48.83