

**ENGINEERING REPORT**  
**Minor Modification to Construction**  
**Permit Application**  
for  
**W255DF**  
**Facility ID: 200744**

as an AM Fill-In Translator for  
**WAKV(AM) – Otsego, MI**

August 2021

## Discussion

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This firm has been retained to prepare the required engineering report in support of a Minor Modification Change to Construction Permit Application for an FM Translator W255DF. Currently this translator is licensed to operate with an AMSL of 263 meters and an ERP of 0.080 kW (H&V). This proposal requests an AMSL of 263 meters and an ERP of 0.250 kW (H&V). The Fill-In Translator will rebroadcast Class D Primary Station WAKV(AM) – Otsego, MI (980 kHz); Facility ID No. 22122.

The Translator as proposed will be mounted on a tower bearing Antenna Structure Registration Number 1007099.

The proposed 60 dB $\mu$  contour of the Fill-In Translator lies wholly inside the greater of the AM primary daytime 2.0 mV/m contour and a 25 mile radius around the AM site. A map of the present and proposed service area has been included in **Exhibit 1.0**.

It has been determined the Translator may be used in the area without interference to any existing FM broadcast station or facility. General allocation details are found in **Exhibit 2.0**. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The applicant certifies the proposed translator 34 dBu F(50:10) Interference contour does not enter Canadian territory. Documentation of the proposed 34 dBu F(50:10) Interference contour will be supplied upon request.

This translator is not within the affected distance of any TV Channel 6 stations.

The applicant would like to note use of the NED 03 second terrain database for terrain-based showings contained here-in.

# Exhibit 1.0 - W255DF Present and Proposed as a Fill-In for WAKV(AM)

## WAKV.L

Latitude: 42-27-33 N  
Longitude: 085-43-58 W  
Frequency: 980 kHz

## W255DF.C

Present  
Latitude: 42-27-32.98 N  
Longitude: 085-43-58.03 W  
ERP: 0.08 kW  
Channel: 255  
Frequency: 98.9 MHz  
AMSL Height: 263.0 m  
Elevation: 210.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None

## W255DF.P

Proposed  
Latitude: 42-27-32.98 N  
Longitude: 085-43-58.03 W  
ERP: 0.25 kW  
Channel: 255  
Frequency: 98.9 MHz  
AMSL Height: 263.0 m  
Elevation: 141.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None

Munn-Reese.Com

- W255DF.C (255)
- WAKV.L
- W255DF.P (255)

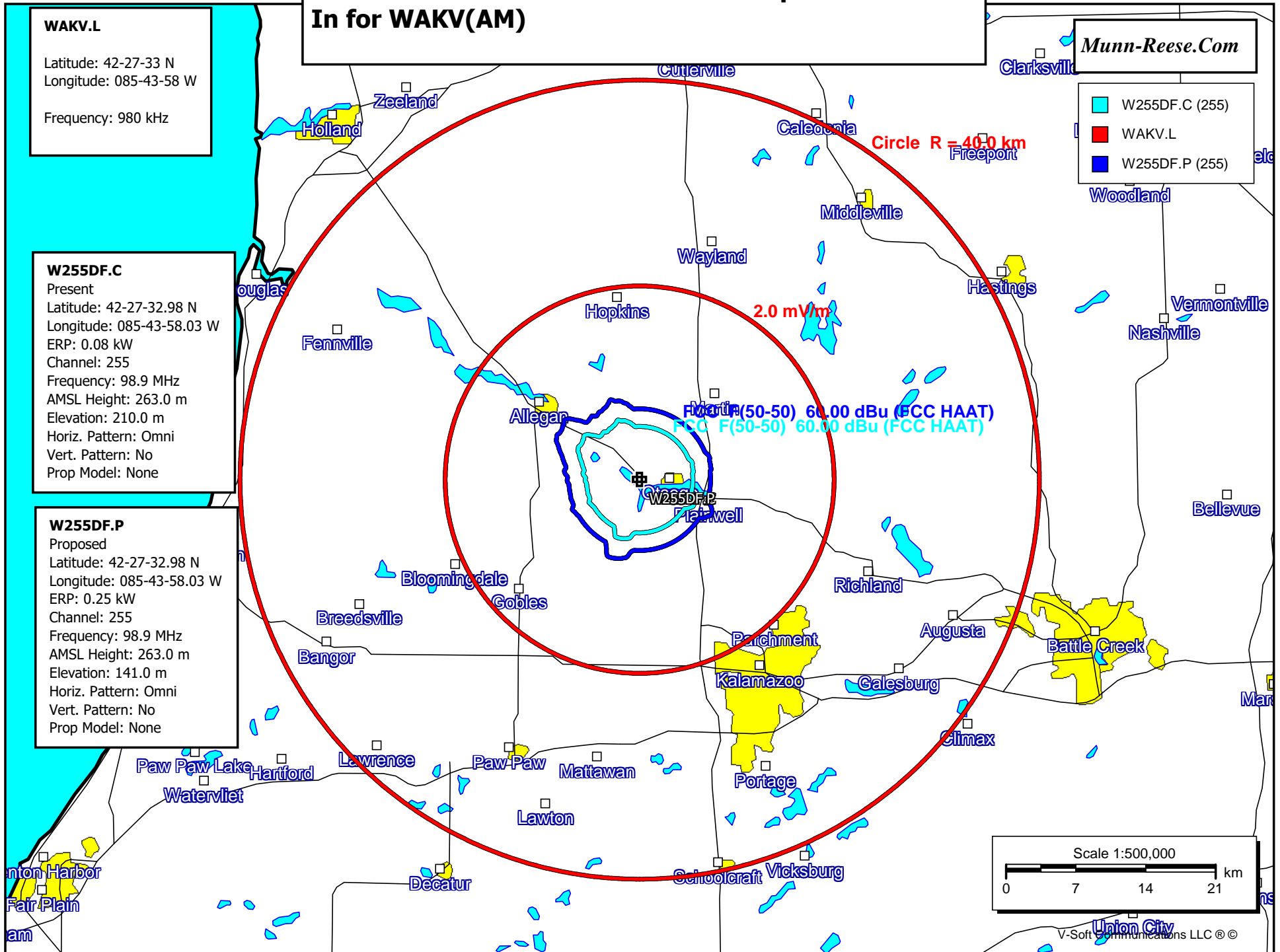


Exhibit 2.0 Quincy-Richard LLC CH# 255D - 98.9 MHz, Pwr= 0.25 kw, HAAT= 0.0 M, COR= 263 M Average Protected F(50-50)= 7.09 km Omni-directional												DISPLAY DATES DATA 08-19-21 SEARCH 08-24-21	
REFERENCE 42 27 33.10 N. 85 43 58.10 W.	CH CITY	CALL	TYPE STATE	ANT --	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)	
	255D Otsego	W255DF	APP _CN MI		0.0 0.0	0.00 0000146555	42 27 33.10 85 43 58.10	0.080		---Reference---			
	255D Otsego	W255DF	CP _CN MI		0.0 0.0	0.00 BNPFT20171201AIO	42 27 33.10 85 43 58.10	0.080		---Reference---			
	255D Zeeland	W255DI	LIC _CN MI		315.2 135.0	42.84 BLFT20180917AAZ	42 43 56.10 86 06 08.10	0.210	33.5 266	10.0 Lanser Broadcasting Corpor	0.6<	3.7	
	202B1 Kalamazoo	WCXK	LIC DVN MI		159.8 339.9	18.08 BLED19970107KA	42 18 23.10 85 39 25.00	10.000 121	40.8 380	29.7 Cornerstone University	11.5R	6.6M	
	253B Coldwater	WNWN	LIC _CN MI		126.2 306.7	75.16 BMLH20150427AAS	42 03 27.20 84 59 52.90	50.000 143	6.0 436	65.2 Midwest Communications, In	62.1	8.4	
	254A Grand Rapids	WFRG	LIC _CN MI		2.7 182.7	63.81 BMLH20050714ABA	43 01 57.10 85 41 47.10	2.750 150	46.8 378	31.1 Townsquare Media Of Grand	9.9	22.5	
	257A Zeeland	WJQK	LIC _CN MI		335.3 155.2	43.73 BLH19920316KA	42 48 59.10 85 57 24.10	4.700 113	2.7 314	28.0 Lanser Broadcasting Corpor	32.9	14.6	
	258D Kalamazoo	W258AH	LIC _CN MI		169.7 349.7	23.03 BLFT20090915AAG	42 15 19.10 85 40 58.00	0.013 110	0.3 373	6.3 Spring Arbor University	15.7	15.6	
	256B East Lansing	WFMK	LIC _CN MI		76.2 257.0	103.78 BLH19870605KA	42 40 33.10 84 29 59.90	28.000 183	75.0 452	63.3 Townsquare License, LLC	21.6	26.1	
	252A Hartford	WCXT	LIC _CN MI		245.5 65.1	54.54 BLH20080211ABT	42 15 14.10 86 20 09.10	3.700 130	2.5 320	27.2 wsjm Inc	44.6	26.2	
	256A Buchanan	WSMK	LIC ZCN MI		212.9 32.5	84.05 BLH20170809AAU	41 49 23.50 86 17 02.60	6.000 96	45.2 325	29.3 31.8		44.6	
	255A Lake Isabella	AL6236	RSV-A _ MI		8.6 188.7	135.45	43 39 49.09 85 28 54.16	6.000 100	90.9 412	31.4 La Gigante Siembra Inc.	37.5	80.3	
	255B Woodburn	WBYP	LIC _CN IN		156.9 337.5	181.53 BLH20080930BKE	40 57 14.20 84 53 06.90	50.000 138	136.0 375	63.3 Pathfinder Communications	38.4	82.6	
	201B1 Wyoming	WYCE	LIC DCN MI		4.6 184.6	50.45 BLED20100708PCK	42 54 43.10 85 41 00.10	10.000 50	40.8 263	29.7 Grand Rapids Cable Access	11.5R	39.0M	
	252D Grand Rapids	W252DG	LIC DCN MI		346.0 165.9	57.04 BMLFT20180717ABJ	42 57 25.10 85 54 07.10	0.250	0.0 481	1.5 Holy Family Radio, Inc.	48.4	54.5	
	255A Lake Isabella	DWRAX	VAC _ MI		23.3 203.7	143.43	43 38 32.11 85 01 43.09	6.000 100	84.2 391	26.4 Radioactive, Llc	52.1	93.3	
	257A Sturgis	WBET-FM	LIC _CN MI		161.2 341.5	80.89 BLH20090925ACG	41 46 11.20 85 25 08.90	4.400 100	2.4 367	25.3 Swick Broadcasting Company	71.4	54.5	
	258D Lowell	W258DF	LIC DCN MI		27.0 207.3	70.42 BLFT20190130AAZ	43 01 22.10 85 20 21.10	0.250	0.9 346	12.4 wygr, LLC	62.4	56.9	
	256D Whitehall	W256DM	CP _CN MI		333.3 153.0	91.17 BNPFT20171213ACF	43 11 27.40 86 14 15.60	0.250	12.0 230	8.5 Radio License Holding Cbc,	71.0	71.1	
	256D Whitehall	W256DM	APP _CN MI		333.3 153.0	91.17 0000153412	43 11 27.40 86 14 15.60	0.250	12.0 230	8.5 Radio License Holding Cbc,	71.0	71.1	
	256D Whitehall	W256DM	APP _CN MI		333.3 153.0	91.17 0000153412	43 11 27.40 86 14 15.60	0.250	12.0 230	8.5 Radio License Holding Cbc,	71.0	71.1	
	254L1 Elkhart	WLFQ-LP	LIC _CN IN		197.5 17.2	90.91 BLL20041117ACY	41 40 43.20 86 03 40.00	0.100 30			74.4	73.2	
	252A North Muskegon	WLCS	LIC _CN MI		340.3 160.0	101.05 BLH20030210AAM	43 18 50.10 86 09 17.20	1.600 139	2.1 341	24.6 Radio License Holding Cbc,	90.3	75.4	
	254B Chicago	WFMT	LIC NCN IL		248.3 67.0	169.54 BMLH20090415AAX	41 52 44.10 87 38 08.20	6.000 470	83.4 651	69.8 window To The world Commun	78.8	85.1	
	255L1 Whitehall	WAXT-LP	LIC _CN MI		335.2 154.8	114.44 BLL20140520AFS	43 23 33.00 86 19 33.20	0.054 41			87.3	81.5	

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	Page # 2 *IN* (Overlap	*OUT* in km)
201B Elkhart	WVPE	LIC DCN IN		202.0 21.7	101.22 BLED20081222ABZ	41 36 49.20 86 11 20.00	11.500 304	40.8 547	29.7 Elkhart	14.5R Community Schools	86.7M
252D Lansing	W252CN	LIC DCN MI		72.5 253.3	95.85 BLFT20141224AAF	42 42 46.10 84 36 48.90	0.170	0.9 304	7.2 Spring Arbor	87.7 University	87.5
255D Bremen	W255BH	LIC _CN IN		202.6 22.3	125.50 BLFT20121106ABY	41 24 57.20 86 18 44.00	0.013 118	21.1 360	6.4 Calvary	96.1 Radio Network, Inc	91.6
202A Angola	WEAX	LIC _CN IN		144.5 325.0	105.16 BLED20120823AAT	41 41 12.10 84 59 52.80	0.570 91	40.8 402	29.7 Star Educational	9.5R Media Net	95.7M
258D Hillsdale	W258DE	LIC _CN MI		122.8 303.5	107.92 BLFT20190405AAC	41 55 41.20 84 38 09.80	0.250	1.1 393	10.3 Mckibbin	99.7 Media Group, Inc.	96.5
258B Chicago	WUSN	LIC _CN IL		248.8 67.6	167.73 BLH20030611AAT	41 53 56.10 87 37 23.20	5.700 425	4.5 606	66.2 Audacity License, LLC	155.9	100.0

Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference zone= East Zone, Co to 3rd adjacent.  
 All separation margins (if shown) include rounding. Call signs with strikeout need not be protected.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
 « = Station meets FCC minimum distance spacing for its class.  
 < = Contour Overlap  
 Reference station has protected zone issue: AM tower