

ENGINEERING REPORT
Minor Modification Construction
Permit Application

for

WCRX(FM) – Chicago, IL
Facility ID: 12424

CH201A (88.1 MHz)
BLED-19851106KH

March 2022

MUNN-REESE

Broadcast Engineering Consultants
Coldwater, MI 49036

Discussion

The firm of Munn-Reese has been retained to prepare the required engineering report in support of a Minor Modification Construction Permit Application for Non-Commercial FM station WCRX(FM) – Chicago, IL. Currently WCRX(FM) is licensed to operate with 0.100 kW ERP and a center of radiation of 226 meters AMSL with a directional antenna pattern. This minor change application requests 0.100 kW at 250 meters AMSL with a directional antenna pattern. The facility will continue to serve the community of Chicago, IL as shown in **Exhibit 1.0**.

The proposed site for the Class A operation meets all the contour protection requirements towards other stations in the allocation. Presently the licensed WCRX is short spaced with WMRE-LD (TV CH6), and intermediate frequency WFMT – CH254B. The proposed WCRX remains short spaced with these two stations. A tabulation of the present protections to each of the other relevant stations is found in **Exhibit 2.0**. A tabulation of the proposed protections to each of the other relevant stations is found in **Exhibit 2.1**.

The potential for human exposure to non-ionizing radiofrequency radiation at the proposed transmitter site has been evaluated. **Exhibit 3.0** provides the details of the study that was made to demonstrate compliance. The facility will be marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the public will be employed.

In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.

DISTANCES TO CONTOURS: The table below shows the distances to the 1.0 mV/m contour from the proposed facility using an ERP of 0.10 kW at an HAAT of 70.5 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 415227.9 W. Lng. = 873729.5					
HAAT and Distance to Contour,					
FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC					
Azi.	AV EL	HAAT	ERP kW	dBk	60-F5
000	176.2	73.8	0.0810	-10.92	8.39
045	176.0	74.0	0.1000	-10.00	8.89
090	176.0	74.0	0.1000	-10.00	8.89
135	176.0	74.0	0.1000	-10.00	8.89
180	181.0	69.0	0.0846	-10.72	8.19
225	182.7	67.3	0.0265	-15.76	6.05
270	184.4	65.6	0.0084	-20.75	4.50
315	183.0	67.0	0.0280	-15.53	6.12
Ave El= 179.42 M HAAT= 70.58 M AMSL= 250 M					

Exhibit 1.0 - WCRX Present and Proposed

Munn-Reese.Com

BLED19851106KH
 Latitude: 41-52-21.98 N
 Longitude: 087-38-51.91 W
 ERP: 0.10 kW
 Channel: 201
 Frequency: 88.1 MHz
 AMSL Height: 226.0 m
 Elevation: 182.0 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

BLED19851106KH
 Latitude: 41-52-27.78 N
 Longitude: 087-37-29.31 W
 ERP: 0.10 kW
 Channel: 201
 Frequency: 88.1 MHz
 AMSL Height: 250.0 m
 Elevation: 181.4 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

- WCRX (201)
- WCRX.P (201)

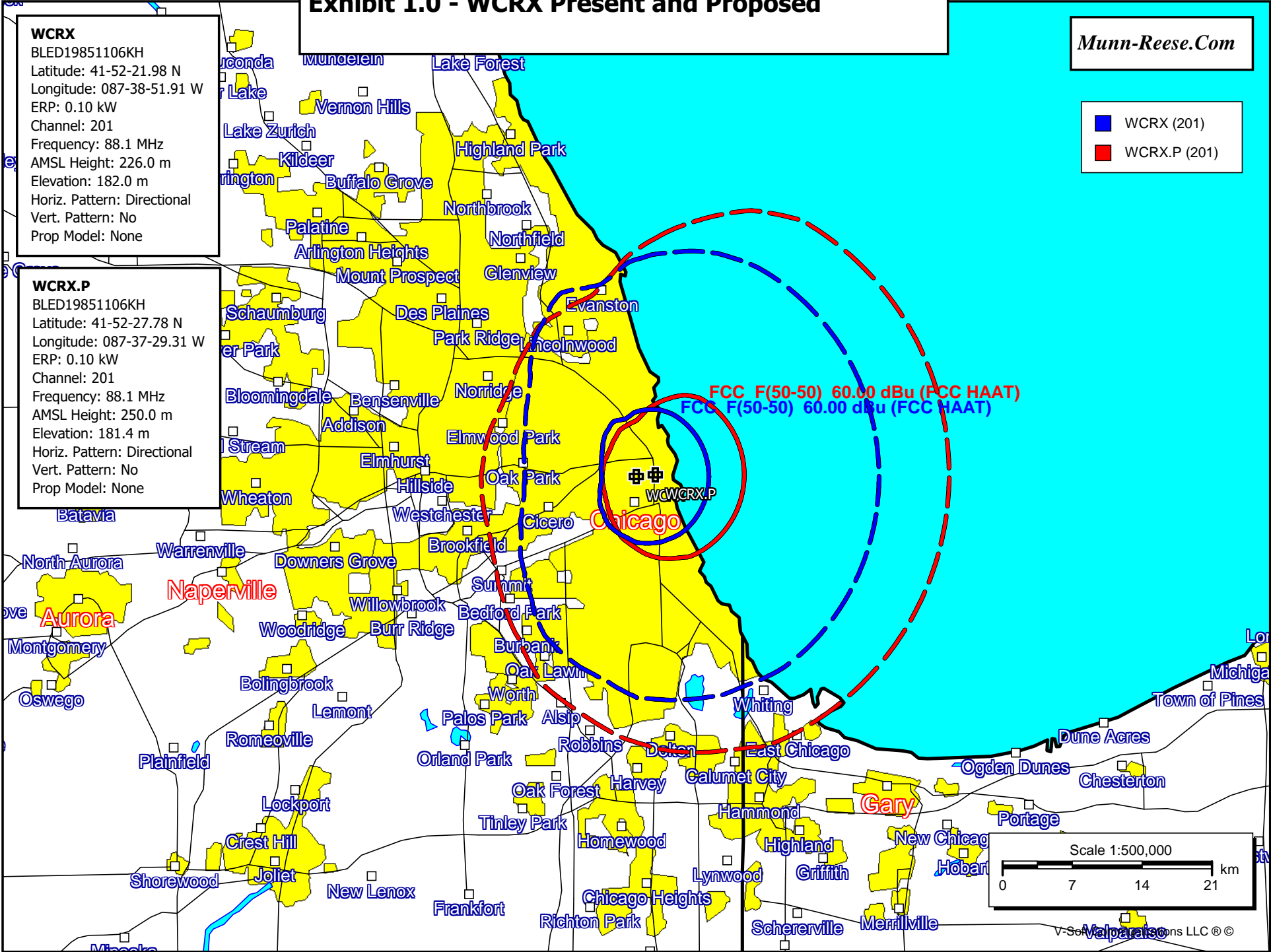


Exhibit 2.0 - Present Allocation Columbia College											
REFERENCE		CH#	201A	-	88.1 MHz,	Pwr= 0.1 kW DA,	HAAT= 45.6 M,	COR= 226 M	DISPLAY DATES		
41 52 22.10 N.		Average Protected F(50-50)= 6.37 km							DATA 02-19-22		
87 38 52.10 W.		Standard Directional							SEARCH 02-25-22		
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)
06 --	WRME-LD	LI	DCN	35.1	3.55	41 53 56.11	3.000	14.5	39.4	53.8R	-50.3M
Chicago		IL		215.2	0000153585	87 37 23.19		566			
06 --	WRME-LD	STA	DCN	35.1	3.55	41 53 56.11	3.000	14.5	39.4	53.8R	-50.3M
Chicago		IL		215.2	0000153589	87 37 23.19		566			
06---	WRME-LD	LI	D_N	35.1	3.55	41 53 56.11	3.000	7.9	39.4	47.2R	-43.7M
Chicago		IL		215.2	BLTVL-20100111AIE	87 37 23.19		566			
201A	WCRX	LIC	D__	0.0	0.00	41 52 22.10	0.100		---	Reference---	
Chicago		IL		86.3	BLD19851106KH	87 38 52.10	39	226	Columbia College		
254B	WFMT	LIC	NCN	56.1	1.21	41 52 44.10	6.000	40.8	29.7	14.5R	-13.3M
Chicago		IL		236.1	BMLH20090415AAX	87 38 08.20	470	651	window To The world Commun		
202A	WZRD	LIC	_CN	334.3	13.50	41 58 56.10	0.100	8.0	5.6	-0.4	-0.6
Chicago		IL		154.3	BLD19850221KP	87 43 07.20	22	209	Northeastern Illinois Univ		
201A	WNTH	LIC	DCN	346.6	25.30	42 05 38.90	0.047	13.0	3.9	6.1	-0.1
Winnetka		IL		166.5	0000131412	87 43 08.50	46	231	Board Of Education New Tri		
201A	WTZI	LIC	DCN	297.0	20.35	41 57 20.10	0.300	15.7	4.9	0.6	2.6
Rosemont		IL		116.8	BLD20101217ABD	87 52 02.20	22	218	Calvary Radio Network, Inc		
203A	WHPK	LIC	DCN	158.1	10.56	41 47 04.50	0.160	0.9	7.4	2.8	2.4
Chicago		IL		338.1	BLD20160219ABT	87 36 01.00	45	225	University Of Chicago		
201A	WLTL	LIC	DCN	250.9	20.43	41 48 45.10	0.180	13.2	3.9	3.3	3.2
La Grange		IL		70.8	BLD19850903KW	87 52 51.20	42	229	Lyons Township High School		
204A	WLWU	LIC	_CN	355.9	14.30	42 00 04.10	0.100	0.7	8.8	7.0	4.9
Chicago		IL		175.9	BLD19840904CR	87 39 36.20	70	253	Loyola University Of Chica		
202A	WXAV	LIC	DCN	197.2	18.87	41 42 38.20	0.250	7.5	5.3	5.2	5.0
Chicago		IL		17.2	0000115850	87 42 54.70	34	224	St. Xavier University		
201A	WBMF	LIC	_CN	179.7	50.18	41 25 17.10	0.090	38.1	11.2	5.4	17.1
Crete		IL		359.7	BLD20020822AAA	87 38 39.20	114	330	Family worship Center Chur		
201B	WVPE	LIC	DCN	102.9	124.40	41 36 49.20	11.500	108.8	43.7	8.7	53.0
Elkhart		IN		283.9	BLD20081222ABZ	86 11 20.00	304	547	Elkhart Community Schools		
201A	WLWX	LIC	DCN	269.5	37.35	41 52 09.10	0.250	21.3	6.3	12.5	19.8
Wheaton		IL		89.2	BLD19990921ABJ	88 05 56.20	43	266	Educational Media Foundati		
203A	WHSD	LIC	DEN	248.5	25.49	41 47 18.10	0.125	0.2	4.8	20.9	19.8
Hinsdale		IL		68.3	BLD19860522KA	87 56 02.20	40	254	Hinsdale Twsp. High Sch. D		
202A	WDGC-FM	LIC	DHN	256.0	31.13	41 48 16.10	0.250	6.4	4.7	20.6	20.7
Downers Grove		IL		75.8	BLD1271	88 00 44.20	40	258	wdgc-Fm, School District #		
204A	WRSE	LIC	DCN	276.1	24.80	41 53 46.10	0.320	0.2	3.9	21.0	20.7
Elmhurst		IL		95.9	BLD20080812ACW	87 56 45.20	29	236	Bd. Of Trustees, Elmhurst		
201A	WLRA	LIC	_CN	230.2	46.78	41 36 10.10	0.140	20.4	6.1	21.2	25.9
Lockport		IL		49.9	BMLED20030610ADY	88 04 49.20	40	228	Lewis University		
203A	WGBK	LIC	DCN	330.1	30.54	42 06 39.10	0.185	0.9	7.0	23.7	22.9
Glenview		IL		150.0	BLD19990913AAD	87 49 56.20	32	226	Glenbrook High School Dist		
203A	WHFH	LIC	DCN	185.8	36.56	41 32 44.10	1.500	0.6	6.6	29.5	27.5
Flossmoor		IL		5.7	BLD20151022ADV	87 41 31.10	33	236	Community High School Dist		
202A	WHCM	LIC	_CN	303.6	42.13	42 04 54.10	0.100	9.2	6.4	28.0	29.7
Palatine		IL		123.3	BMLED20170530ABT	88 04 23.30	17	249	william Rainey Harper Coll		
204A	WGVE-FM	LIC	_HN	142.2	44.76	41 33 15.10	2.100	1.6	13.5	36.0	30.4
Gary		IN		322.4	BLD714	87 19 05.10	28	219	Gary Community School Corp		
202A	WDSO	LIC	_CN	120.9	56.88	41 36 31.60	0.400	16.4	11.4	33.2	35.1
Chesterton		IN		301.3	BMLED20180913AAX	87 03 37.60	41	241	Duneland School Corp.		
203A	WWAD	CP	DCN	280.4	40.10	41 56 14.00	0.380	0.4	5.2	35.8	33.6
Carol Stream		IL		100.1	0000167884	88 07 29.00	33	262	Adelante Community Health		

Page # 2											
CH CITY	CALL	TYPE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)
201A Chicago	WCRX	LIC	D01 IL	4.0 0.0	0.00	41 52 22.10 87 38 52.10	6.000 100	226	---Reference--- 02-19-22		02-25-22
202A Libertyville	768942	APP	DCN IL	328.2 147.9	54.34 0000167879	42 17 15.00 87 59 47.00	1.000 40	11.0 268	7.5 Relevant	37.5 Radio, Inc.	37.3
204A Indian Creek	768831	CP	DCN IL	319.9 139.7	47.44 0000167749	42 11 55.00 88 01 07.80	0.700 48	0.7 276	8.8 Call	41.1 Communications Group,	37.7
202A North Chicago	768170	APP	DCN IL	336.8 156.6	55.20 0000166958	42 19 44.00 87 54 45.00	0.020 109	9.8 317	6.8 Poderosa	39.4 Broadcasting, Inc	39.7
201B1 Milwaukee	WMWK	LIC	_CN WI	351.5 171.3	136.92 BMLED20130530AMI	43 05 26.00 87 53 50.30	1.100 276	86.3 480	31.5 Family	44.0 Stations, Inc.	84.1
204A Joliet	WCSF	LIC	_CN IL	224.8 44.5	53.17 BLED19880916KB	41 31 58.10 88 05 54.20	0.100 39	0.7 230	5.6 College Of	47.1 St. Francis	46.2
201A Wilmington	766365	CP	DCN IL	212.3 31.9	72.22 0000166184	41 19 21.00 88 06 34.00	0.350 31	10.4 211	3.2 2820	56.1 Communications Inc	51.1
201A Spring Valley	WSOG	LIC	DCN IL	242.9 61.9	139.36 BLED20130528AAH	41 17 32.10 89 07 59.30	4.000 80	82.0 268	26.9 Spirit	52.7 Educational	99.4 Associa
204A Sugar Grove	WSRI	LIC	DCN IL	254.2 73.7	67.80 BLED20080410ABW	41 42 16.10 88 26 02.30	0.600 103	0.7 306	10.6 Educational	62.9 Media Foundati	55.1
202A Kankakee	WAWF	LIC	_CN IL	185.9 5.8	88.87 BLED20000512AAE	41 04 39.10 87 45 22.10	1.250 87	26.4 279	18.0 Family	55.9 worship Center Chur	61.8
203A Minooka	WMNK	LIC	_CN IL	232.5 52.0	68.36 BLED20121003AAZ	41 29 47.10 88 17 56.20	0.200 32	1.0 208	6.7 American	62.3 Education Foundat	61.3
204A Kankakee	WEGN	LIC	DCN IL	200.2 20.0	78.76 BMLED20111003AEK	41 12 26.60 87 58 21.80	5.000 65	1.6 256	12.0 The Power	71.0 Foundation	65.3
203B1 Antioch	WSFI	LIC	DCN IL	326.5 146.1	81.20 BLED20131209YAX	42 28 49.00 88 11 42.00	6.100 115	1.0 359	13.7 Bvm	74.4 Helping Hands	65.6
204D Michigan City	W204CS	LIC	_CN IN	107.7 288.3	73.41 BLFT20160401AYU	41 40 07.00 86 48 21.00	0.013	0.3 302	6.7 American	65.9 Family Associatio	66.0
203A Wanatah	WTMK	LIC	DCN IN	140.5 320.9	81.72 BLED20150320ABA	41 18 15.10 87 01 30.10	3.400 110	1.2 318	13.5 Olivet	73.3 Nazarene University	66.1
204B Riverside	WSIS	CP	DCN MI	68.2 249.1	116.26 0000162243	42 15 13.90 86 20 09.70	50.000 117	3.6 307	36.5 Smile	105.4 FM	78.9
255D Dekalb	W255BN«	LIC	_CN IL	274.9 94.2	91.82 BLFT20120604ABM	41 56 18.10 88 45 03.30	0.250 52	40.8 316	29.7 American	9.5R Education Foundat	82.3M
202B Rockford	WFEN	LIC	DEN IL	294.5 113.5	134.23 BLED19970630KF	42 21 48.10 89 08 06.40	8.500 175	46.9 413	31.3 Faith	82.7 Center	95.7
204B1 Riverside	WSIS	LIC	_CN MI	68.2 249.1	116.28 BLED20081124ABA	42 15 14.10 86 20 09.10	6.000 117	3.0 307	31.8 Smile	106.0 FM	83.8
201A Gilman	766909	CP	_CN IL	191.1 10.9	123.51 0000167351	40 46 56.20 87 55 49.55	0.340 30	26.2 225	7.8 Faith	90.9 Baptist Church	95.4
203A Lee	WAED	LIC	_CN IL	262.8 81.9	107.57 BLED20130110ADD	41 44 37.10 88 56 03.30	0.800 49	1.6 307	12.2 American	102.0 Education Foundat	94.4
06 -- Dixon	WDXN-LD«	CP	_N IL	276.6 95.6	129.35 BNPDVL-20090825BOQ	41 59 46.01 89 12 11.00	0.300	7.0 453	17.0	24.0R	105.4M
06 -- Sheboygan	New«	STA	_EN WI	358.2 178.1	220.09 0000157790	43 51 04.99 87 44 04.00	0.050	13.2 205	4.2	17.4R	202.7M

Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= - Zone 1, 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.

<div> <div>Exhibit 2.1 - Proposed Allocation</div> <div>Columbia College</div> <div>201A - 88.1 MHz, Pwr= 0.1 kw DA, HAAT= 70.6 M, COR= 250 M</div> <div>Average Protected F(50-50)= 8.68 km</div> <div>Standard Directional</div> </div>											
REFERENCE		CH#								DISPLAY DATES	
41 52 27.90 N.										DATA	02-19-22
87 37 29.50 W.										SEARCH	02-25-22
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)
06 -- WRME-LD Chicago		LI DCN IL		3.0 183.0	2.72 0000153585	41 53 56.11 87 37 23.19	3.000	14.5 566	31.5	46.1R	-43.3M
06 -- WRME-LD Chicago		STA DCN IL		3.0 183.0	2.72 0000153589	41 53 56.11 87 37 23.19	3.000	14.5 566	31.5	46.1R	-43.3M
06--- WRME-LD Chicago		LI D_N IL		3.0 183.0	2.72 BLTVL-20100111AIE	41 53 56.11 87 37 23.19	3.000	7.9 566	31.5	39.4R	-36.7M
201A WCRX Chicago		LIC D__ IL		264.6 84.6	1.90 BLED19851106KH	41 52 22.10 87 38 52.10	0.100 39	226	---Reference--- Columbia College		
254B WFMT Chicago		LIC NCN IL		299.3 119.3	1.02 BMLH20090415AAX	41 52 44.10 87 38 08.20	6.000 470	40.8 651	29.7 window To	14.5R The world Commun	-13.5M
201A WLTL La Grange		LIC DCN IL		252.1 71.9	22.29 BLED19850903KW	41 48 45.10 87 52 51.20	0.180 42	13.9 229	3.9 Lyons Township	3.8 High School	0.1
201A WTZI Rosemont		LIC DCN IL		294.3 114.1	21.99 BLED20101217ABD	41 57 20.10 87 52 02.20	0.300 22	16.2 218	4.8 Calvary Radio Network, Inc	0.9	0.1
201A WNTH Winnetka		LIC DCN IL		342.4 162.3	25.63 0000131412	42 05 38.90 87 43 08.50	0.047 46	14.4 231	4.0 Board Of Education New Tri	4.9	0.2
202A WZRD Chicago		LIC _CN IL		327.1 147.1	14.28 BLED19850221KP	41 58 56.10 87 43 07.20	0.100 22	8.0 209	5.6 Northeastern Illinois Univ	0.5	0.4
203A WHPK Chicago		LIC DCN IL		168.5 348.5	10.19 BLED20160219ABT	41 47 04.50 87 36 01.00	0.160 45	0.9 225	7.4 University Of Chicago	0.9	1.9
202A WXAV Chicago		LIC DCN IL		202.4 22.3	19.69 0000115850	41 42 38.20 87 42 54.70	0.250 34	7.5 224	5.3 St. Xavier University	4.7	3.8
201A WBMF Crete		LIC _CN IL		181.8 1.8	50.39 BLED20020822AAA	41 25 17.10 87 38 39.20	0.090 114	38.2 330	11.2 Family worship Center Chur	4.0	11.9
201B WVPE Elkhart		LIC DCN IN		103.2 284.2	122.59 BLED20081222ABZ	41 36 49.20 86 11 20.00	11.500 304	109.3 547	43.8 Elkhart Community Schools	4.9	46.0
204A WLWU Chicago		LIC _CN IL		348.3 168.3	14.38 BLED19840904CR	42 00 04.10 87 39 36.20	0.100 70	0.7 253	8.8 Loyola University Of Chica	6.9	5.1
201A WLWX Wheaton		LIC DCN IL		269.3 89.0	39.25 BLED19990921ABJ	41 52 09.10 88 05 56.20	0.250 43	21.3 266	6.3 Educational Media Foundati	12.6	15.4
202A WDGC-FM Downers Grove		LIC DHN IL		256.5 76.2	33.01 BLED1271	41 48 16.10 88 00 44.20	0.250 40	6.6 258	4.7 wdgc-Fm, School District #	21.0	20.1
204A WRSE Elmhurst		LIC DCN IL		275.3 95.1	26.68 BLED20080812ACW	41 53 46.10 87 56 45.20	0.320 29	0.2 236	3.9 Bd. Of Trustees, Elmhurst	21.1	22.5
201A WLRA Lockport		LIC _CN IL		231.5 51.2	48.37 BMLED20030610ADY	41 36 10.10 88 04 49.20	0.140 40	20.4 228	6.1 Lewis University	21.5	22.6
203A WHSD Hinsdale		LIC DEN IL		249.6 69.4	27.33 BLED19860522KA	41 47 18.10 87 56 02.20	0.125 40	0.2 254	4.8 Hinsdale Twsp. High Sch. D	21.6	21.7
203A WGBK Glenview		LIC DCN IL		327.0 146.8	31.38 BLED19990913AAD	42 06 39.10 87 49 56.20	0.185 32	0.9 226	7.1 Glenbrook High School Dist	24.6	23.9
203A WHFH Flossmoor		LIC DCN IL		188.7 8.6	36.98 BLED20151022ADV	41 32 44.10 87 41 31.10	1.500 33	0.6 236	6.8 Community High School Dist	28.3	27.7
202A WHCM Palatine		LIC _CN IL		302.0 121.7	43.63 BMLED20170530ABT	42 04 54.10 88 04 23.30	0.100 17	9.2 249	6.4 william Rainey Harper Coll	29.0	29.7
204A WGVE-FM Gary		LIC _HN IN		144.3 324.5	43.76 BLED714	41 33 15.10 87 19 05.10	2.100 28	1.6 219	13.6 Gary Community School Corp	33.3	29.4
202A WDSO Chesterton		LIC _CN IN		122.1 302.4	55.35 BMLED20180913AAX	41 36 31.60 87 03 37.60	0.400 41	16.4 241	11.4 Duneland School Corp.	30.1	31.5
203A WWAD Carol Stream		CP DCN IL		279.7 99.4	41.94 0000167884	41 56 14.00 88 07 29.00	0.380 33	0.4 262	5.2 Adelante Community Health	36.3	35.3

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG			PWR(kw) HAAT(M)	INT(km) COR(M)	Page # 2		*OUT* in km)
											PRO(km) LICENSEE	*IN* (Overlap	
201A	WCRX Chicago	LIC	D01 IL	4.0 0.0	0.00	41 52 27.90 87 37 29.50			6.000 100	250	---Reference---		02-19-22 02-25-22
202A	768942 Libertyville	APP	DCN IL	326.4 146.2	55.21 0000167879	42 17 15.00 87 59 47.00			1.000 40	11.4 268	7.6 Relevant	38.1 Radio, Inc.	38.0
204A	768831 Indian Creek	CP	DCN IL	318.1 137.8	48.55 0000167749	42 11 55.00 88 01 07.80			0.700 48	0.7 276	8.7 Call	42.1 Communications	39.0 Group,
202A	768170 North Chicago	APP	DCN IL	334.9 154.7	55.82 0000166958	42 19 44.00 87 54 45.00			0.020 109	9.7 317	6.9 Poderosa	39.8 Broadcasting, Inc	40.5
201B1	WMWK Milwaukee	LIC	_CN WI	350.7 170.5	137.04 BMLED20130530AMI	43 05 26.00 87 53 50.30			1.100 276	86.4 480	31.5 Family	43.3 Stations, Inc.	83.3
204A	WCSF Joliet	LIC	_CN IL	226.1 45.8	54.65 BLED19880916KB	41 31 58.10 88 05 54.20			0.100 39	0.7 230	5.6 College Of	47.2 St. Francis	47.8
201A	766365 Wilmington	CP	DCN IL	213.4 33.1	73.40 0000166184	41 19 21.00 88 06 34.00			0.350 31	10.4 211	3.2 2820	55.9 Communications Inc	47.4
201A	WSOG Spring Valley	LIC	DVN IL	243.2 62.2	141.14 BLED20130528AAH	41 17 32.10 89 07 59.30			4.000 80	82.1 268	26.9 Spirit	53.2 Educational	95.9 Associa
202A	WAWF Kankakee	LIC	_CN IL	187.1 7.0	89.27 BLED20000512AAE	41 04 39.10 87 45 22.10			1.250 87	26.5 279	18.0 Family	54.7 worship Center	60.0 Chur
204A	WSRI Sugar Grove	LIC	DCN IL	254.5 74.0	69.68 BLED20080410ABW	41 42 16.10 88 26 02.30			0.600 103	0.7 306	10.6 Educational	63.5 Media Foundati	56.9
204D	W204CS Michigan City	LIC	_CN IN	108.3 288.9	71.66 BLFT20160401AYU	41 40 07.00 86 48 21.00			0.013	0.3 302	6.7 American	62.5 Family Associatio	64.3
203A	WMNK Minooka	LIC	_CN IL	233.3 52.9	69.99 BLED20121003AAZ	41 29 47.10 88 17 56.20			0.200 32	1.0 208	6.7 American	62.6 Education Foundat	63.0
203A	WTMK Wanatah	LIC	DCN IN	141.6 322.0	80.66 BLED20150320ABA	41 18 15.10 87 01 30.10			3.400 110	1.2 318	13.6 Olivet	70.6 Nazarene University	64.9
204A	WEGN Kankakee	LIC	DCN IL	201.4 21.2	79.60 BMLED20111003AEK	41 12 26.60 87 58 21.80			5.000 65	1.6 256	12.1 The Power	70.3 Foundation	66.1
203B1	WSFI Antioch	LIC	DCN IL	325.3 144.9	82.12 BLED20131209YAX	42 28 49.00 88 11 42.00			6.100 115	1.0 359	13.6 Bvm	75.3 Helping Hands	66.5
204B	WSIS Riverside	CP	DCN MI	67.9 248.8	114.43 0000162243	42 15 13.90 86 20 09.70			50.000 117	3.6 307	36.5 Smile	101.9 FM	77.1
204B1	WSIS Riverside	LIC	_CN MI	67.9 248.8	114.45 BLED20081124ABA	42 15 14.10 86 20 09.10			6.000 117	3.0 307	31.8 Smile	102.5 FM	81.9
202B	WFEN Rockford	LIC	DEN IL	294.1 113.1	135.89 BLED19970630KF	42 21 48.10 89 08 06.40			8.500 175	47.0 413	31.2 Faith	83.6 Center	95.3
255D	W255BN« Dekalb	LIC	_CN IL	274.7 94.0	93.70 BLFT20120604ABM	41 56 18.10 88 45 03.30			0.250 52	40.8 316	29.7 American	9.5R Education Foundat	84.2M
201A	766909 Gilman	CP	_CN IL	192.0 11.8	124.07 0000167351	40 46 56.20 87 55 49.55			0.340 30	26.4 225	7.8 Faith	89.7 Baptist Church	90.3
203A	WAED Lee	LIC	_CN IL	262.8 81.9	109.47 BLED20130110ADD	41 44 37.10 88 56 03.30			0.800 49	1.6 307	12.2 American	102.5 Education Foundat	96.2
06 --	WDXN-LD« Dixon	CP	_N IL	276.4 95.4	131.22 BNPDVL-20090825BOQ	41 59 46.01 89 12 11.00			0.300	10.6 453	17.0	27.6R	103.6M
06 --	New« Sheboygan	STA	_EN WI	357.7 177.6	219.98 0000157790	43 51 04.99 87 44 04.00			0.050	13.8 205	4.2	18.0R	202.0M

Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= - Zone 1, 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.

Exhibit 3.0

Compliance with Radiofrequency Radiation Guidelines

The RF Compliance Study has been evaluated for human exposure to non-ionizing radiofrequency radiation at this single source transmitter site. Therefore, the potential for human exposure to non-ionizing radiofrequency radiation at the proposed transmitter site has therefore been evaluated with regards to §1.1310 concerning contributions for single source sites. There are no other sources of RF radiation within 315 meters of this site.

The proposed WCRX(FM) – Chicago, IL, MI analog FM station operates on CH201A (88.1 MHz) with 0.10 kW ERP circular polarization (H&V). The facility broadcasts from an antenna COR mounted 68.6 meters above ground level (AGL). The facility operates with a one bay, antenna employing EPA Type 2 "Opposed V Dipole" elements as defined by *FM Model - Appendix B* issued March 31, 2016¹. The antenna will be mounted on the roof of a building 20' above the roof line.

To evaluate the total exposure to non-ionizing radio-frequency radiation with regards to the single source contribution rules, the individual contribution may be expressed directly in $\mu\text{W}/\text{cm}^2$ units relative to the maximum permissible uncontrolled environment limit of $200 \mu\text{W}/\text{cm}^2$. If the resulting contribution is less than or equal to $200 \mu\text{W}/\text{cm}^2$, the exposure is concluded to be within the guidelines of OET Bulletin No. 65 (Edition 97-01) and §1.1310 for the more restrictive uncontrolled limit. Protection of the uncontrolled limit ($200 \mu\text{W}/\text{cm}^2$) implies protection of the controlled limit ($1000 \mu\text{W}/\text{cm}^2$).

Inspection of the graph below shows the maximum contribution for the uncontrolled environment to be less than $200 \mu\text{W}/\text{cm}^2$ as set forth by §1.1310. Therefore, the facility is in compliance with FCC guidelines. In addition to the protection afforded by the proposed antenna height above ground, the facility is or will be properly marked with signs, and/or entry to the facility will be restricted by means of fencing with locked doors and/or gates if required. Any other means that may be required to protect employees and the general public will also be employed.

In the event work is required in proximity to the antenna(s) such that the person or persons working in the area will be potentially exposed to fields in excess of the current guidelines, an agreement signed by all broadcast parties at the site will be in effect for the offending transmitter(s) to reduce power, or cease operation during the critical period.

