

MINOR CHANGE APPLICATION
MILLER COMMUNICATIONS, INC.
W235CH FM TRANSLATOR STATION
CH 235D - 94.9 MHZ - 0.099 KW
SAINT MATTHEWS, SOUTH CAROLINA
July 2015

EXHIBIT C

Interference Study for W235CH
Using Proposed Site as Reference

The proposed W235CH, operating with an effective radiated power of 0.099 kilowatt, will not cause interference to any existing, applied for or proposed facility. As noted on Exhibit C1, the proposed W235CH is within the predicted 60 dBu contour of third adjacent station WWNQ, Channel 232A, Forest Acres, South Carolina, as well as within the predicted 60 dBu contour of both the licensed and construction permitted second adjacent station WFMV, Channel 237A, South Congaree, South Carolina. Due to the relationship between the proposed W235CH and both WWNQ and WFMV, a 40 db ratio of the protected and interfering contours applies. The proposed W235CH antenna will be mounted on a building and tower combination registered with the FCC and assigned Antenna Structure Registration Number 1052473. The building proper is 107.3 meters (352 feet) above ground level ("AGL") with a top mounted structure of 23.2 meters (76 feet). The building is 26 floors, and the top floor is restricted to maintenance personnel only. All interference calculations consider the 25th floor, which is 34.7 meters (113.8 feet) below the proposed center of radiation for W235CH, as a base for public access. It is proposed to utilize a Shively 6832 four (4) bay half wavelength antenna. A tabulation of the elevation pattern of this antenna is included as Exhibit C2.

W235CH vs WWNQ

The proposed W235CH antenna will be located on the same building as the WWNQ facility. The WWNQ contour at the W235CH antenna site is in excess of 120.0 dBu (50/50). The corresponding interfering contour for W235CH is 160.0 dBu (50/10). At its greatest distance, the interfering contour (160 dBu, FCC 50/10) of W235CH extends less than 10.0 meters (32.8 feet) from the proposed W235CH site, as indicated on Exhibit C7. Since the W235CH antenna will be mounted at 37.4 meters (113.8 feet) above any occupied building floor and there are no structures of comparable height in the vicinity of the proposed W235CH antenna, this contour never reaches any potentially occupied space. As such, WWNQ will not receive interference from the proposed translator.

W235CH vs WFMV (License)

The proposed W235CH antenna will be located 20.85 kilometers from the WFMV licensed facility. As shown on Exhibit C3, the WFMV signal at the W235CH antenna site is 68.7 dBu (FCC 50/50). The corresponding interfering contour for W235CH is 108.7 dBu (50/10). Since the W235CH antenna will be mounted at 37.4 meters (113.8 feet) above any occupied building floor and there are no structures of comparable height in the vicinity of the proposed W235CH antenna, this contour never reaches any potentially occupied space. A tabulation of the interference analysis is included as Exhibit C4. As such, the licensed WFMV will not receive interference from the proposed translator.

W235CH vs WFMV (Construction Permit)

The proposed W235CH antenna will be located 20.85 kilometers from the WFMV construction permitted facility. As shown on Exhibit C5, the WFMV signal at the W235CH antenna site is 68.7 dBu (FCC 50/50). The corresponding interfering contour for W235CH is 108.7 dBu (50/10). Since the W235CH antenna will be mounted at 37.4 meters (113.8 feet) above any occupied building floor and there are no structures of comparable height in the vicinity of the proposed W235CH antenna, this contour never reaches any potentially occupied space. A tabulation of the interference analysis is included as Exhibit C6. As such, permitted WFMV will not receive interference from the proposed translator.

Based on the foregoing, it is believed that the proposed W235CH is in compliance with §74.1204(d) of the Commission's rules. If a waiver of the rule is needed to address WFMV, one is respectfully requested.

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SAINT MATTHEWS, SOUTH CAROLINA
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EXHIBIT C1

Interference Study for W235CH
Using Proposed Site as Reference

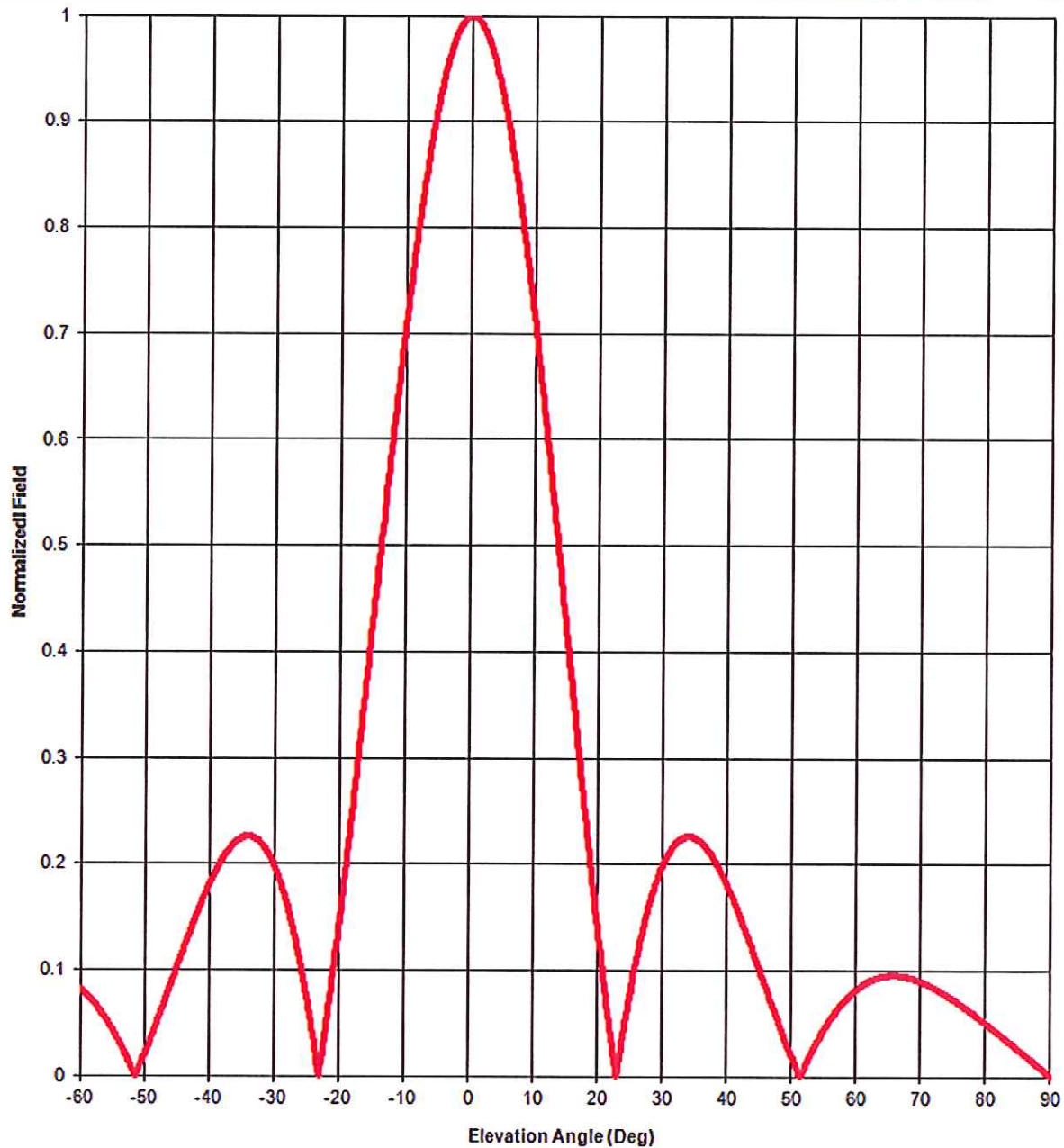
REFERENCE		CH# 235D - 94.9 MHz, Pwr= 0.099 kW, HAAT= 151.5 M, COR= 221 M								DISPLAY DATES	
34 CO 04.4 N.		Average Protected F(50-50)= 12.6 km								DATA 07-14-15	
81 02 04.7 W.		Omni-directional								SEARCH 07-14-15	
CH CITY	CALL	TYPE STATE	ANT	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
232A Forest Acres	WWNQ	LIC NCX SC		0.0 32.2	0.00 BLH20041208AAN	34 00 04.0 81 02 05.0	2.550 136	2.3 207	24.7 Hometown Columbia, Llc	-14.1*	-25.4*
235D St. Matthews	W235CH!	LIC C SC		157.9 338.0	39.68 BLFT20150616ACO	33 40 13.0 80 52 25.0	0.250	50.3 215	15.1 Miller Communications, Inc	-24.5	-21.7
237A South Congaree	WFMV	CP ZCX SC		204.8 24.7	15.75 BPH20140709ADD	33 52 21.0 81 06 22.0	6.000 79	2.8 166	29.1 Glory Communications, Inc.	0.3	-14.0*
237A South Congaree	WFMV	LIC ZC SC		237.2 57.1	20.86 BLH20010725AEF	33 53 58.0 81 13 29.0	6.000 100	3.1 213	33.0 Glory Communications, Inc.	4.9	-12.8*
234C3 Sumter	WWBD	LIC CX SC		85.8 266.2	75.78 BLH20040112ADC	34 02 56.0 80 12 51.0	8.100 174	57.9 222	39.2 Miller Communications, Inc	5.9	19.1
236C Charlotte	WNKS	LIC CX NC		355.9 175.8	151.71 BMLH20140821ABZ	35 21 44.0 81 09 19.0	100.000 470	127.6 707	85.6 Wpow License Limited Partn	12.3	48.7
234A Williston	WAAW	LIC C SC		225.0 44.7	77.26 BLH20040109ACF	33 30 31.0 81 37 27.0	2.550 155	45.1 273	29.7 Wisdom, Llc	19.1	27.8
238A Wedgfield	WIBZ	LIC CX SC		95.4 275.8	59.46 BLH20020606AAY	33 56 56.0 80 23 34.0	4.400 118	2.6 174	27.9 Miller Communications, Inc	44.6	30.6
235C3 Millen	WHKN	LIC NCN GA		208.8 28.3	160.61 BLH19920214KC	32 43 57.0 81 51 43.0	14.500 122	105.4 181	37.9 Radio Statesboro, Inc.	42.0	79.9

Terrain database is FCC NGDC 30 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= East Zone, Co to 3rd adjacent. All separation margins (if shown) include rounding. Call signs with exclamation marks 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.

Elevation pattern

EXHIBIT C2



Antenna model 6832, 4-bay

Test frequency: 98.1 MHz

Gain (maximum):

Power	dB
1.64	2.16 dB

Document No. 6832 4-bay (130701)

A Division of Howell Laboratories, Inc., P. O. Box 389, Bridgton, Maine 04009 USA

(207) 647-3327

1-888-SHIVELY

Fax: (207)647-8273

An Employee-Owned Company

www.shively.com

sales@shively.com

Certified to ISO-9001

Degrees	Rel. Field
1	0.997
2	0.987
3	0.971
4	0.949
5	0.921
6	0.888
7	0.850
8	0.807
9	0.760
10	0.709
11	0.656
12	0.600
13	0.542
14	0.483
15	0.424
16	0.365
17	0.307
18	0.250

Degrees	Rel. Field
19	0.194
20	0.141
21	0.091
22	0.044
23	0.000
24	0.041
25	0.077
26	0.110
27	0.138
28	0.162
29	0.183
30	0.199
31	0.211
32	0.220
33	0.225
34	0.226
35	0.225
36	0.220

Degrees	Rel. Field
37	0.214
38	0.204
39	0.193
40	0.181
41	0.167
42	0.151
43	0.135
44	0.119
45	0.102
46	0.085
47	0.068
48	0.051
49	0.035
50	0.020
51	0.005
52	0.009
53	0.021
54	0.033

Degrees	Rel. Field
55	0.044
56	0.054
57	0.063
58	0.070
59	0.077
60	0.082
61	0.087
62	0.090
63	0.093
64	0.094
65	0.095
66	0.096
67	0.095
68	0.094
69	0.092
70	0.090
71	0.087
72	0.084

Degrees	Rel. Field
73	0.081
74	0.077
75	0.073
76	0.069
77	0.064
78	0.060
79	0.055
80	0.051
81	0.046
82	0.041
83	0.036
84	0.031
85	0.026
86	0.021
87	0.016
88	0.011
89	0.006
90	0.000

Elevation Pattern Tabulation

Antenna model 6832, 4-bay

Relative Field at 0° Depression = 1.000

W235CH - St. Matthews, SC - Proposed

Latitude: 34-00-04.40 N - Longitude: 081-02-04.70 W
Channel: 235 - Frequency: 94.9 MHz
ERP: 0.099 kW - AMSL Height: 221.0 m

WFMV - South Congaree, SC - BLH20010725AEF

Latitude: 33-53-58 N - Longitude: 081-13-29 W
Channel: 237 - Frequency: 95.3 MHz
ERP: 6.00 kW - AMSL Height: 213.0 m

GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS

SEE EXHIBIT C4 for TABULATED ANALYSIS

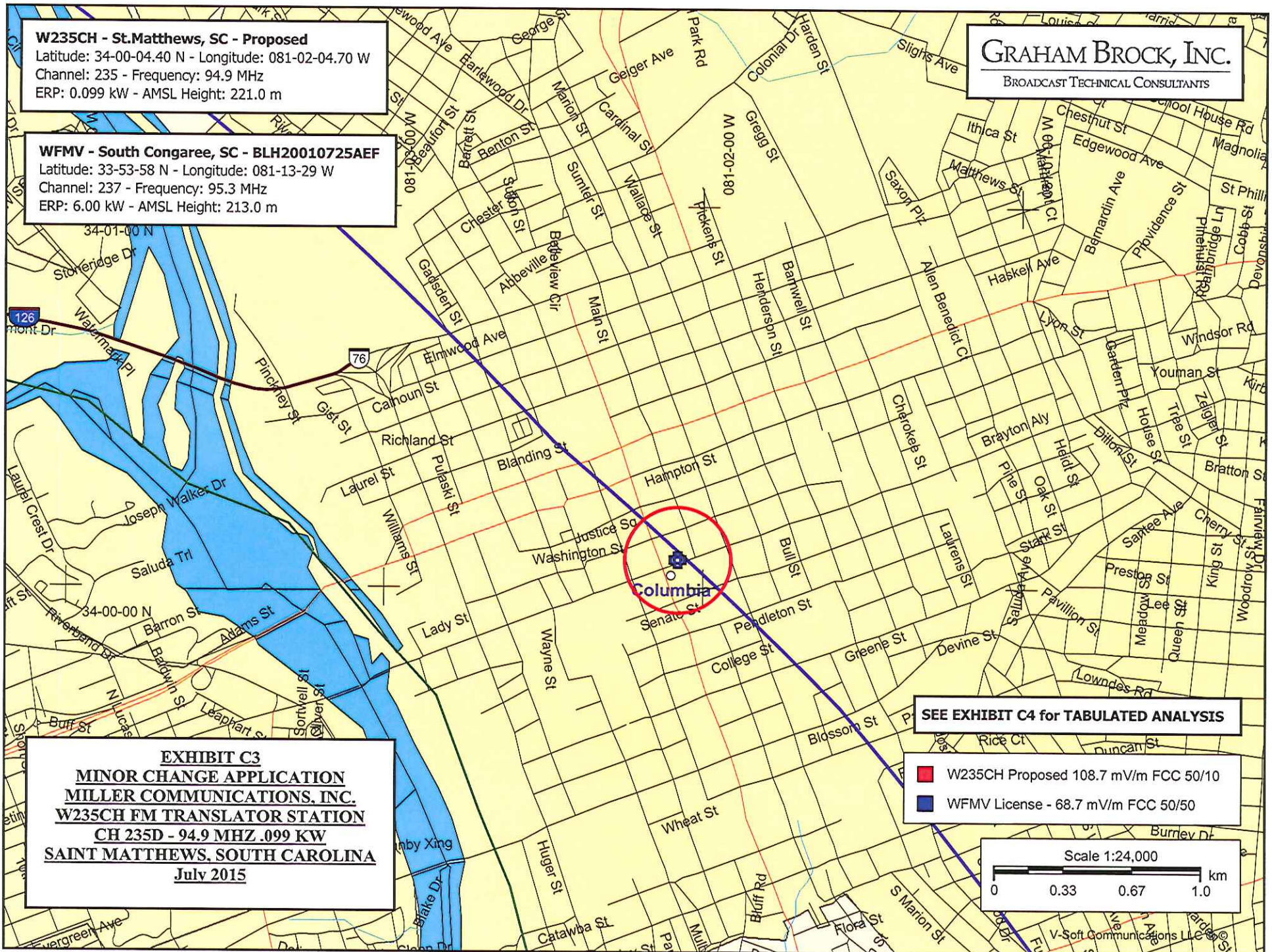
■ W235CH Proposed 108.7 mV/m FCC 50/10
■ WFMV License - 68.7 mV/m FCC 50/50

Scale 1:24,000

0 0.33 0.67 1.0 km

EXHIBIT C3

MINOR CHANGE APPLICATION
MILLER COMMUNICATIONS, INC.
W235CH FM TRANSLATOR STATION
CH 235D - 94.9 MHZ .099 KW
SAINT MATTHEWS, SOUTH CAROLINA
July 2015



Interference to: WFMV (License)
 Contour at tower: 68.7 dBu - FCC 50/50
 Interference Ratio: 40 db

CALL:
 POWER (Watts):
 ANTENNA AGL (m): *
 Desired Contour (dBu - FCC 50/10)
 * - Height Above Occupied Space

W235CH Proposed
 99
 34.7
 108.7
 Shively 6832-4-.5
 Azimuth:
 Relative field:
 ERP (Watts) at Azimuth: 99
 Worst Case
 1.000

DEPRESSION ANGLE	ANTENNA RELATIVE FIELD FROM MFG	ERP (WATTS)	dBk	DISTANCE TO INTERFERING CONTOUR (m)	HORIZONTAL DISTANCE FROM TOWER (m)	VERTICAL DISTANCE FROM GROUND (m)
0	1.000	99.0	-10.04	255.8	255.8	34.7
2	0.987	96.4	-10.16	252.4	252.3	25.9
4	0.949	89.2	-10.50	242.7	242.1	17.8
6	0.888	78.1	-11.08	227.1	225.9	11.0
8	0.807	64.5	-11.91	206.4	204.4	6.0
10	0.709	49.8	-13.03	181.3	178.6	3.2
12	0.600	35.6	-14.48	153.5	150.1	2.8
14	0.483	23.1	-16.36	123.5	119.9	4.8
16	0.365	13.2	-18.80	93.3	89.7	9.0
18	0.250	6.2	-22.08	63.9	60.8	14.9
20	0.141	2.0	-27.08	36.1	33.9	22.4
22	0.044	0.2	-37.17	11.3	10.4	30.5
24	0.041	0.2	-37.79	10.5	9.6	30.4
26	0.110	1.2	-29.22	28.1	25.3	22.4
28	0.162	2.6	-25.85	41.4	36.6	15.2
30	0.199	3.9	-24.07	50.9	44.1	9.3
32	0.220	4.8	-23.20	56.3	47.7	4.9
34	0.226	5.1	-22.96	57.8	47.9	2.4
36	0.220	4.8	-23.20	56.3	45.5	1.6
38	0.204	4.1	-23.85	52.2	41.1	2.6
40	0.181	3.2	-24.89	46.3	35.5	4.9
42	0.151	2.3	-26.46	38.6	28.7	8.9
44	0.119	1.4	-28.53	30.4	21.9	13.6
46	0.085	0.7	-31.46	21.7	15.1	19.1
48	0.051	0.3	-35.89	13.0	8.7	25.0
50	0.020	0.0	-44.02	5.1	3.3	30.8
52	0.009	0.0	-50.96	2.3	1.4	32.9
54	0.033	0.1	-39.67	8.4	5.0	27.9
56	0.054	0.3	-35.40	13.8	7.7	23.3
58	0.070	0.5	-33.14	17.9	9.5	19.5
60	0.082	0.7	-31.77	21.0	10.5	16.5
62	0.087	0.7	-31.25	22.3	10.4	15.1
64	0.094	0.9	-30.58	24.0	10.5	13.1
66	0.096	0.9	-30.40	24.6	10.0	12.3
68	0.094	0.9	-30.58	24.0	9.0	12.4
70	0.090	0.8	-30.96	23.0	7.9	13.1
72	0.084	0.7	-31.56	21.5	6.6	14.3
74	0.077	0.6	-32.31	19.7	5.4	15.8
76	0.069	0.5	-33.27	17.6	4.3	17.6
78	0.060	0.4	-34.48	15.3	3.2	19.7
80	0.051	0.3	-35.89	13.0	2.3	21.9
82	0.041	0.2	-37.79	10.5	1.5	24.3
84	0.031	0.1	-40.22	7.9	0.8	26.8
86	0.021	0.0	-43.60	5.4	0.4	29.3
88	0.011	0.0	-49.22	2.8	0.1	31.9
90	0.000	0.0	-90.04	0.0	0.0	34.7

WORST CASE HEIGHT AGL (m)

1.6

EXHIBIT C4
MINOR CHANGE APPLICATION
MILLER COMMUNICATIONS, INC.
W235CH FM TRANSLATOR STATION
CH 235D - 94.9 MHZ - 0.099 KW
SAINT MATTHEWS, SOUTH CAROLINA
July 2015

W235CH - St. Matthews, SC - Proposed

Latitude: 34-00-04.40 N - Longitude: 081-02-04.70 W
Channel: 235 - Frequency: 94.9 MHz
ERP: 0.099 kW - AMSL Height: 221.0 m

WFMV.C - South Congaree, SC - BPH20140709ADD

Latitude: 33-52-21 N - Longitude: 081-06-22 W
Channel: 237 - Frequency: 95.3 MHz
ERP: 6.00 kW - AMSL Height: 165.7 m

GRAHAM BROCK, INC.

BROADCAST TECHNICAL CONSULTANTS

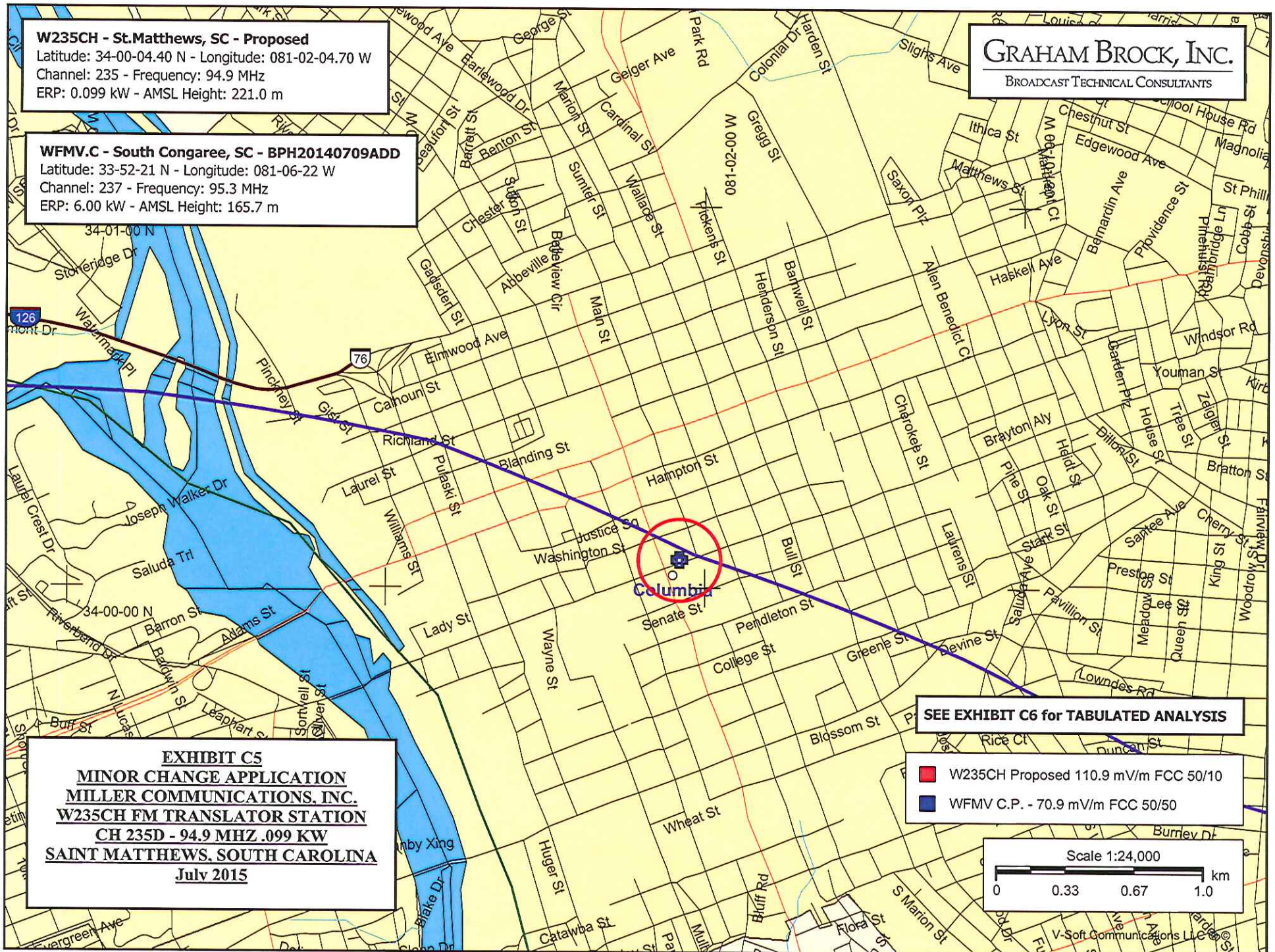


EXHIBIT C5

MINOR CHANGE APPLICATION
MILLER COMMUNICATIONS, INC.
W235CH FM TRANSLATOR STATION
CH 235D - 94.9 MHZ .099 KW
SAINT MATTHEWS, SOUTH CAROLINA
July 2015

SEE EXHIBIT C6 for TABULATED ANALYSIS

W235CH Proposed 110.9 mV/m FCC 50/10
WFMV C.P. - 70.9 mV/m FCC 50/50

Scale 1:24,000

0 0.33 0.67 1.0 km

Interference to: WFMV (Construction Permit)
 Contour at tower: 70.9 dBu - FCC 50/50
 Interference Ratio: 40 db

CALL:
 POWER (Watts):
 ANTENNA AGL (m): *
 Desired Contour (dBu - FCC 50/10)
 *- Height Above Occupied Space

W235CH Proposed
 99
 34.7
 110.9

Shively 6832-4-.5
 Azimuth:
 Relative field:
 ERP (Watts) at Azimuth: Worst Case
 1.000
 99

DEPRESSION ANGLE	ANTENNA RELATIVE FIELD FROM MFG	ERP (WATTS)	dBk	DISTANCE TO INTERFERING CONTOUR (m)	HORIZONTAL DISTANCE FROM TOWER (m)	VERTICAL DISTANCE FROM GROUND (m)
0	1.000	99.0	-10.04	198.5	198.5	34.7
2	0.987	96.4	-10.16	195.9	195.8	27.9
4	0.949	89.2	-10.50	188.4	187.9	21.6
6	0.888	78.1	-11.08	176.3	175.3	16.3
8	0.807	64.5	-11.91	160.2	158.7	12.4
10	0.709	49.8	-13.03	140.8	138.6	10.3
12	0.600	35.6	-14.48	119.1	116.5	9.9
14	0.483	23.1	-16.36	95.9	93.0	11.5
16	0.365	13.2	-18.80	72.5	69.7	14.7
18	0.250	6.2	-22.08	49.6	47.2	19.4
20	0.141	2.0	-27.06	28.0	26.3	25.1
22	0.044	0.2	-37.17	8.7	8.1	31.4
24	0.041	0.2	-37.79	8.1	7.4	31.4
26	0.110	1.2	-29.22	21.8	19.6	25.1
28	0.162	2.6	-25.85	32.2	28.4	19.6
30	0.199	3.9	-24.07	39.5	34.2	14.9
32	0.220	4.8	-23.20	43.7	37.0	11.6
34	0.226	5.1	-22.96	44.9	37.2	9.6
36	0.220	4.8	-23.20	43.7	35.3	9.0
38	0.204	4.1	-23.85	40.5	31.9	9.8
40	0.181	3.2	-24.89	35.9	27.5	11.6
42	0.151	2.3	-26.46	30.0	22.3	14.6
44	0.119	1.4	-28.53	23.6	17.0	18.3
46	0.085	0.7	-31.46	16.9	11.7	22.6
48	0.051	0.3	-35.89	10.1	6.8	27.2
50	0.020	0.0	-44.02	4.0	2.6	31.7
52	0.009	0.0	-50.96	1.8	1.1	33.3
54	0.033	0.1	-39.67	6.6	3.9	29.4
56	0.054	0.3	-35.40	10.7	6.0	25.8
58	0.070	0.5	-33.14	13.9	7.4	22.9
60	0.082	0.7	-31.77	16.3	8.1	20.6
62	0.087	0.7	-31.25	17.3	8.1	19.4
64	0.094	0.9	-30.58	18.7	8.2	17.9
66	0.096	0.9	-30.40	19.1	7.8	17.3
68	0.094	0.9	-30.58	18.7	7.0	17.4
70	0.090	0.8	-30.96	17.9	6.1	17.9
72	0.084	0.7	-31.56	16.7	5.2	18.8
74	0.077	0.6	-32.31	15.3	4.2	20.0
76	0.069	0.5	-33.27	13.7	3.3	21.4
78	0.060	0.4	-34.48	11.9	2.5	23.0
80	0.051	0.3	-35.89	10.1	1.8	24.7
82	0.041	0.2	-37.79	8.1	1.1	26.6
84	0.031	0.1	-40.22	6.2	0.6	28.6
86	0.021	0.0	-43.60	4.2	0.3	30.5
88	0.011	0.0	-49.22	2.2	0.1	32.5
90	0.000	0.0	-90.04	0.0	0.0	34.7

WORST CASE HEIGHT AGL (m)

9.0

EXHIBIT C6
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July 2015

EXHIBIT C7

North Latitude: 34° 00' 04.4"
West Longitude: 81° 02' 04.7"

Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	160-F1	110.9-F1	108.7-F1	60-F5	54-F1	40-F1
000	87.5	133.5	0.0990	-10.04	1.000	0.00	0.20	0.26	11.79	17.34	39.91
010	81.1	139.9	0.0990	-10.04	1.000	0.00	0.20	0.26	12.08	17.86	40.71
020	89.0	132.0	0.0990	-10.04	1.000	0.00	0.20	0.26	11.72	17.21	39.72
030	93.1	127.9	0.0990	-10.04	1.000	0.00	0.20	0.26	11.54	16.88	39.20
040	87.6	133.4	0.0990	-10.04	1.000	0.00	0.20	0.26	11.79	17.33	39.90
050	77.2	143.8	0.0990	-10.04	1.000	0.00	0.20	0.26	12.26	18.17	41.19
060	78.7	142.3	0.0990	-10.04	1.000	0.00	0.20	0.26	12.19	18.05	41.00
070	71.7	149.3	0.0990	-10.04	1.000	0.00	0.20	0.26	12.51	18.61	41.85
080	89.2	131.8	0.0990	-10.04	1.000	0.00	0.20	0.26	11.72	17.20	39.70
090	83.6	137.4	0.0990	-10.04	1.000	0.00	0.20	0.26	11.96	17.65	40.40
100	77.4	143.6	0.0990	-10.04	1.000	0.00	0.20	0.26	12.25	18.15	41.16
110	70.8	150.2	0.0990	-10.04	1.000	0.00	0.20	0.26	12.54	18.67	41.94
120	56.5	164.5	0.0990	-10.04	1.000	0.00	0.20	0.26	13.19	19.75	43.60
130	46.0	175.0	0.0990	-10.04	1.000	0.00	0.20	0.26	13.62	20.47	44.80
140	38.7	182.3	0.0990	-10.04	1.000	0.00	0.20	0.26	13.89	20.93	45.62
150	35.9	185.1	0.0990	-10.04	1.000	0.00	0.20	0.26	13.98	21.09	45.93
160	35.8	185.2	0.0990	-10.04	1.000	0.00	0.20	0.26	13.98	21.09	45.94
170	36.3	184.7	0.0990	-10.04	1.000	0.00	0.20	0.26	13.97	21.06	45.88
180	45.7	175.3	0.0990	-10.04	1.000	0.00	0.20	0.26	13.63	20.50	44.83
190	49.3	171.7	0.0990	-10.04	1.000	0.00	0.20	0.26	13.49	20.26	44.43
200	69.5	151.5	0.0990	-10.04	1.000	0.00	0.20	0.26	12.61	18.78	42.11
210	61.3	159.7	0.0990	-10.04	1.000	0.00	0.20	0.26	12.97	19.40	43.05
220	59.0	162.0	0.0990	-10.04	1.000	0.00	0.20	0.26	13.08	19.58	43.32
230	61.3	159.7	0.0990	-10.04	1.000	0.00	0.20	0.26	12.97	19.40	43.06
240	74.7	146.3	0.0990	-10.04	1.000	0.00	0.20	0.26	12.37	18.36	41.48
250	89.5	131.5	0.0990	-10.04	1.000	0.00	0.20	0.26	11.70	17.17	39.66
260	95.3	125.7	0.0990	-10.04	1.000	0.00	0.20	0.26	11.45	16.70	38.91
270	84.7	136.3	0.0990	-10.04	1.000	0.00	0.20	0.26	11.91	17.56	40.26
280	81.1	139.9	0.0990	-10.04	1.000	0.00	0.20	0.26	12.08	17.85	40.71
290	54.5	166.5	0.0990	-10.04	1.000	0.00	0.20	0.26	13.27	19.90	43.84
300	77.4	143.6	0.0990	-10.04	1.000	0.00	0.20	0.26	12.25	18.15	41.15
310	81.5	139.5	0.0990	-10.04	1.000	0.00	0.20	0.26	12.06	17.82	40.66
320	68.4	152.6	0.0990	-10.04	1.000	0.00	0.20	0.26	12.66	18.86	42.22
330	54.4	166.6	0.0990	-10.04	1.000	0.00	0.20	0.26	13.28	19.91	43.85
340	80.8	140.2	0.0990	-10.04	1.000	0.00	0.20	0.26	12.09	17.87	40.74
350	91.6	129.4	0.0990	-10.04	1.000	0.00	0.20	0.26	11.61	17.00	39.39

AMSL= 221 M