



**ENGINEERING EXHIBIT  
IN SUPPORT OF AN APPLICATION FOR  
MODIFICATION OF CONSTRUCTION PERMIT  
STATION WZAB, SWEETWATER, FLORIDA  
880 kHz - 4 kW-D, 5 kW-N, U, DA-2  
FACILITY ID: 21763**

**Applicant: Florida City Radio**

**AUGUST, 2008**

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**STATEMENT OF CYNTHIA M. JACOBSON, P.E.  
IN SUPPORT OF AN APPLICATION  
FOR MODIFICATION OF CONSTRUCTION PERMIT  
STATION WZAB, SWEETWATER, FLORIDA  
880 kHz - 4 kW-D, 5 kW-N, U, DA-2  
FACILITY ID: 21763**

**Applicant: Florida City Radio**

I am a Radio Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia.

My education and experience are a matter of record with the Federal Communications Commission. I am a Registered Professional Engineer in the Commonwealth of Virginia, Registration No. 027914.

GENERAL

Florida City Radio, permittee of Station WZAB, holds an outstanding Construction Permit No. BMP-20071207ACF, granted March 14, 2008. The modified Construction Permit authorizes Florida City Radio to construct the new facility at the licensed transmitter site of Station WMCU. Station WMCU is licensed to serve Coral Gables, Florida, on 1080 kHz with daytime power of 50 kW and nighttime power of 10 kW<sup>1</sup>. Station WZAB is authorized

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<sup>1</sup> WMCU holds a Special Temporary Authorization for operation with 20 kilowatts during nighttime hours to mitigate the effects of Cuban interference.

operation on 880 kHz with a daytime power of 4 kilowatts and a nighttime power of 5 kilowatts, utilizing a four tower directional antenna daytime hours and an eight tower directional antenna at night (DA-2).

This office was authorized by Florida City Radio to prepare this engineering statement, Section III-A of FCC Form 301, and the associated figures in support of an Application for Modification of Construction Permit. By means of this minor change application, Florida City Radio proposes a minor modification to the daytime directional antenna pattern by adding augmentations over two spans. Data provided in the simultaneously filed Application for License supports the proposed daytime directional antenna pattern modifications. No other changes are proposed. No actual construction is proposed in the instant application.

#### DIRECTIONAL ANTENNA PATTERN AUGMENTATION

During the antenna adjustment process, it was determined that the radiation on the day 243.5 degree radial bearing could not be reduced below the standard pattern value authorized in the construction permit. In addition to the 243.5 degree radial, augmentation is also requested on the day 261 degree monitored radial to allow for a full 20 percent tolerance at the monitoring point. The directional antenna arrays were setup using Method of Moments modeling techniques. Some minor adjustments of the arrays were performed following the initial setup to bring the patterns within the values authorized in the construction

permit. The nighttime pattern was adjusted in full compliance with the authorized standard pattern values on all measured radials. The transmitter site is located in the everglades which makes the adjustment of the array difficult and costly. Therefore, it is proposed to augment the daytime directional antenna pattern in the following manner:

<u>Central Azimuth (deg. T.)</u>	<u>Span (deg. T.)</u>	<u>Authorized Radiation (mV/m)</u>	<u>Proposed Radiation (mV/m)</u>
243.5	10	103.3	114.6
261.0	10	85.0	94.4

The daytime horizontal plane modified standard pattern radiation has been calculated in accordance with the equations set forth in Section 73.150 and Section 73.152 of the FCC's Rules. A polar plot of the proposed daytime horizontal plane modified standard radiation pattern is contained in Figure 1. The horizontal plane theoretical, standard and proposed modified standard pattern values are tabulated on Figure 2.

### COMMUNITY COVERAGE

The proposed pattern augmentation will have no effect on the daytime service to the community of license as currently authorized.

DAYTIME ALLOCATION STUDY

There are no stations requiring particular study in the proposed spans of augmentation. Therefore, the proposed pattern augmentations will not result in any new prohibited overlap and fully complies with 47 CFR 73.37.

ENVIRONMENTAL CONSIDERATIONS

There are no physical modifications proposed to the authorized facility; therefore, the proposal is categorically excluded from environmental processing per Section 47 CFR 1.1306 of the Rules.

SUMMARY

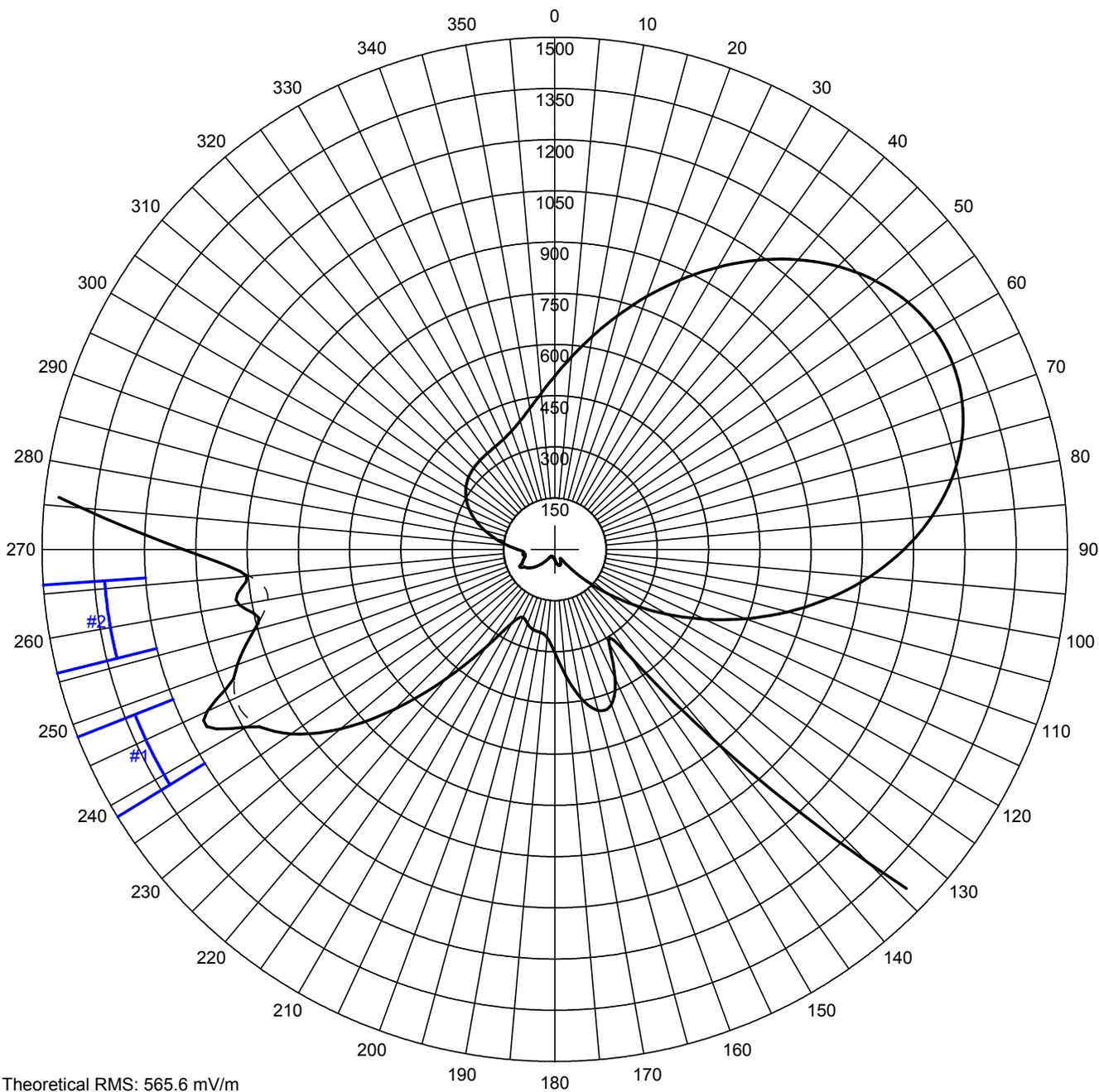
It is submitted that this statement, FCC Form 301, Section III-A, and the attached figures comply with the Rules and Regulations of the Federal Communications Commission, that they were prepared by me or under my direct supervision and are believed to be true and correct.

DATED: August 12, 2008



Figure 1

PROPOSED DAYTIME HORIZONTAL PLANE MODIFIED STANDARD  
RADIATION PATTERN



Theoretical RMS: 565.6 mV/m  
Standard RMS: 594.2 mV/m  
Augmented RMS: 594.3 mV/m  
Q: 20.0 mV/m

(mV/m at One Kilometer)

————— Augmented Pattern  
- - - - - Standard Pattern  
————— Augmented Pattern X10  
- - - - - Standard Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	#	Azimuth (deg)	Radiation (mV/m@1km)	Span (deg)
1	0.996	13.7	0.0	0.0	73.4	0	1	243.50	114.60	10.0
2	1.000	0.0	158.8	340.0	73.4	0	2	261.00	94.40	10.0
3	1.249	114.2	89.5	244.0	73.4	0				
4	0.999	91.3	173.9	309.2	73.4	0				

Site Coordinates (NAD-27)  
25-44-56 NL  
80-32-50 WL

STATION WZAB  
SWEETWATER, FLORIDA  
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Figure 2

**TABULATION OF PROPOSED DAYTIME  
HORIZONTAL PLANE RADIATION PATTERN  
STATION WZAB - SWEETWATER, FLORIDA  
880 kHz - 4 kW-D, 5 kW-N, U, DA-2**

<u>Azimuth (deg)</u>	<u>Theoretical (mV/m)</u>	<u>Standard (mV/m)</u>	<u>Modified (mV/m)</u>	<u>Azimuth (deg)</u>	<u>Theoretical (mV/m)</u>	<u>Standard (mV/m)</u>	<u>Modified (mV/m)</u>
0	482.83	507.40		180	20.72	30.23	
5	538.75	566.08		185	14.48	25.92	
10	603.04	633.54		190	12.28	24.64	
15	674.29	708.32		195	11.71	24.34	
20	750.59	788.40		200	9.37	23.19	
25	829.58	871.31		205	6.21	21.99	
30	908.57	954.23		210	12.63	24.84	
35	984.65	1034.10		215	26.31	34.70	
40	1054.83	1107.77		220	42.73	49.53	
45	1116.15	1172.15		225	59.72	66.13	
50	1165.88	1224.36		230	75.27	81.77	
55	1201.61	1261.86		235	87.45	94.19	
60	1221.36	1282.60		240	94.70	101.62	104.09
65	1223.72	1285.08		245	96.11	103.08	112.17
70	1207.95	1268.52		250	91.93	98.78	
75	1173.96	1232.83		255	84.33	91.00	
80	1122.43	1178.74		260	78.64	85.20	93.72
85	1054.78	1107.72		265	82.93	89.57	90.47
90	973.08	1021.95		270	101.51	108.63	
95	880.02	924.26		275	130.89	139.03	
100	778.76	817.97		280	165.37	174.91	
105	672.75	706.70		285	200.53	211.60	
110	565.57	594.22		290	233.30	245.86	
115	460.71	484.21		295	261.64	275.52	
120	361.42	380.07		300	284.40	299.35	
125	270.48	284.78		305	301.23	316.99	
130	190.17	200.78		310	312.56	328.86	
135	122.20	130.02		315	319.43	336.05	
140	67.97	74.39		320	323.41	340.23	
145	30.41	38.22		325	326.45	343.41	
150	22.71	31.77		330	330.65	347.81	
155	34.30	41.69		335	338.15	355.67	
160	41.51	48.38		340	350.94	369.08	
165	41.97	48.81		345	370.73	389.83	
170	37.14	44.29		350	398.84	419.31	
175	29.21	37.17		355	436.10	458.39	

Fields in mV/m @ 1 kilometer