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ENGINEERING EXHIBIT EE-1:

**APPLICATION FOR
CONSTRUCTION PERMIT
TO CORRECT STATION LICENSE
LIVING FAITH MINISTRIES, INC.
WLFB
DIGITAL TELEVISION CHANNEL 40
BLUEFIELD, WEST VIRGINIA**

FCC FACILITY NUMBER 37806

AUGUST 2011

**ENGINEERING EXHIBIT
IN SUPPORT OF
APPLICATION TO CORRECT
STATION LICENSE
DIGITAL TELEVISION STATION WLFB
BLUEFIELD, WEST VIRGINIA**

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DECLARATION

I, Timothy Z. Sawyer, declare and that I have provided engineering services in the area of telecommunications since 1969. My qualifications are a matter of record with the Federal Communications Commission. I am a senior engineer with the firm of Mullaney Engineering, Inc., consulting radio telecommunications engineers with offices in Gaithersburg, Maryland.

The firm of Mullaney Engineering, Inc., has been retained by LIVING FAITH MINISTRIES, INC., to prepare the instant engineering exhibit in support of **an Application for a Construction Permit to Correct Station License, Full Service Television Station WLFB. FCC FACILITY ID NUMBER: 37806.**

All facts contained herein are true of my own knowledge except those stated to be on information and belief, and as to those facts, I believe them to be true. I declare under the penalty of perjury that the foregoing is true and correct.



Timothy Z. Sawyer

Executed on the 16th day of August 2011

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ENGINEERING STATEMENT

The technical exhibit, of which this narrative is part, was prepared on behalf of LIVING FAITH MINISTRIES, INC., in support of an application for a construction permit to correct station licence of Digital Full-Service Television Station WLFB, Bluefield, West Virginia. The FCC facility identification number is:37806.

The proposed station will operate on Digital TV Channel 40 (no change in channel assignment is proposed) with an effective radiated power (ERP) of 1000 kilowatts (30 dBk) and an antenna height above average terrain (HAAT) of 399.3 meters utilizing a directional antenna.

The request to modify the current station license is the result of a redetermination of the station’s geographical coordinates and the ground elevation at the site. No changes in the type of antenna system or the station’s effective radiated power are proposed.

	LICENSED	CORRECTED DATA (THIS APPLICATION)	CHANGE
N. LATITUDE	37-13-08 N	37-13-12 N	+3 SECONDS
W. LONGITUDE	81-15-39 W	81-15-20 W	-19 SECONDS
ANT C/R AMSL	1222 METERS	1223.8 METERS	+3.8 METERS
ANT HAAT	391 METERS	399.3 METERS	+8.3 METER

The supporting structure has received a determination of “no-hazard to air navigation” from the FAA ¹ and has been issued FCC tower registration number:1219321 (as modified on August 16, 2011).

The proposal would not be subject to environmental processing in accordance with 47 C.F.R. §1.1306. This proposal does not involve a site location specified under 47 C.F.R. §1.1307 (a)(1)-(7), or involve high intensity lighting under 47 C.F.R. §1.1307(a)(8) or result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in 47 C.F.R. §1.1307(b). No new construction will occur at this existing communications site.

This application conforms with all applicable rules and regulations of the Federal Communications Commission.

DIRECTIONAL ANTENNA DETAILS (FIGURE 1)

Figure 1 contains the details of the antenna in use by the station as required by the Commission’s rules. No change in the license antenna system is proposed.

FCC F(50,90) DIGITAL SERVICE CONTOURS (FIGURE 2)

The predicted 41 and 48 dBu f(50,90) service contours were calculated in accordance with the provisions of 47 C.F.R. §73.313. In accordance with current FCC practice, no consideration was given to terrain roughness correction factors.

The average terrain elevations from 3 to 16 kilometers from the proposed site were obtained from the N.G.D.C. 3-second terrain database. 360 radials, evenly spaced at 1-degree intervals were used for determining the average terrain elevations and the distance to the service contours.

¹ FAA Study Number: 2011-AEA-1922-OE, determination issued July 21, 2011.

The antenna radiation center heights above average terrain in the individual radial directions and the effective radiated power in the appropriate directions were used in conjunction with the appropriate F(50,90) curve contained with the Commission's rules.

The digital service contours have been drawn on the map in Figure 2. As the map in Figure 2 shows, the 48 dBu (City Grade) contour completely encompasses the city of license, Bluefield, West Virginia.

POPULATION AND AREA

The population to be served within the digital service contour was determined by a computer program that adds the population of census districts whose centroids lie within the contour as defined in OET Bulletin 69. The 2000 U.S. Census data was employed. The area within the digital service contour was calculated by a computer program using a root mean square algorithm.

Population Summary

Population Summary (2000 Census) OET Bulletin 69 Method	License	Corrected License As Proposed
Within Noise Limited Contour	685,154	690,488
Service Match	100%	100.8%

INTERFERENCE STUDY

Figure 3, contains a detailed interference study using the procedures outlined in OET Bulletin Number 69² and complies with the 0.5 percent limit of new interference caused to Appendix B facilities and/or current post-transition authorizations of nearby stations of concern. Protection requirements to Class A television stations were also considered in this study if applicable.

ENVIRONMENTAL CONSIDERATIONS

The facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields."

Power density contribution from the (corrected) station operation was computed using the appropriate equations of the OET Bulletin 65. The maximum radiated power is 1000 kilowatts. Using a "worst-case" relative field pattern of 0.15 for all values 10 degrees and greater below the horizon, the power density was computed at a level of 2 meters above ground to be 0.1112 mW/cm² or 5.34% of the recommended limit of 2.097 mW/cm² for a controlled area at the base of the tower and 26.5% of the recommended limit of 0.419 mW/cm² for an uncontrolled area.

2

The implementation of OET Bulletin number 69 for this study followed the guidelines of the bulletin as specified therein. A standard cell size of 2-kilometers was employed. Comparisons of various results of this computer program to the Commission's implementation of the bulletin shows excellent correlation.

Therefore, at ground level (and 2 meters above), at the base of the tower, the potential for radiofrequency radiation exposure will be well within the FCC guidelines.

The "worst-case" minimum distance from the antenna was computed to be 13.4 meters for a controlled environment. As the minimum distance is more than 40.6 meters above ground level, no exposure in excess of the guidelines to workers is predicted to occur from this proposal at ground level.

The permittee/licensee/applicant will coordinate with other users of the site and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of the FCC guidelines.

Suitable warning signs and a fence or other devices have been placed at the base of the tower to prevent unauthorized access. If work is required on the tower, the power to the antenna will be terminated or reduced as required. The applicant will fully comply with the provisions contained within the OET bulletin.

Inquiries concerning the technical portion of this application should be directed to the office of the undersigned.

August 16, 2011

Mullaney Engineering, Inc.
9049 Shady Grove Ct.
Gaithersburg, MD 20877
(301) 921-0115 ext 3.

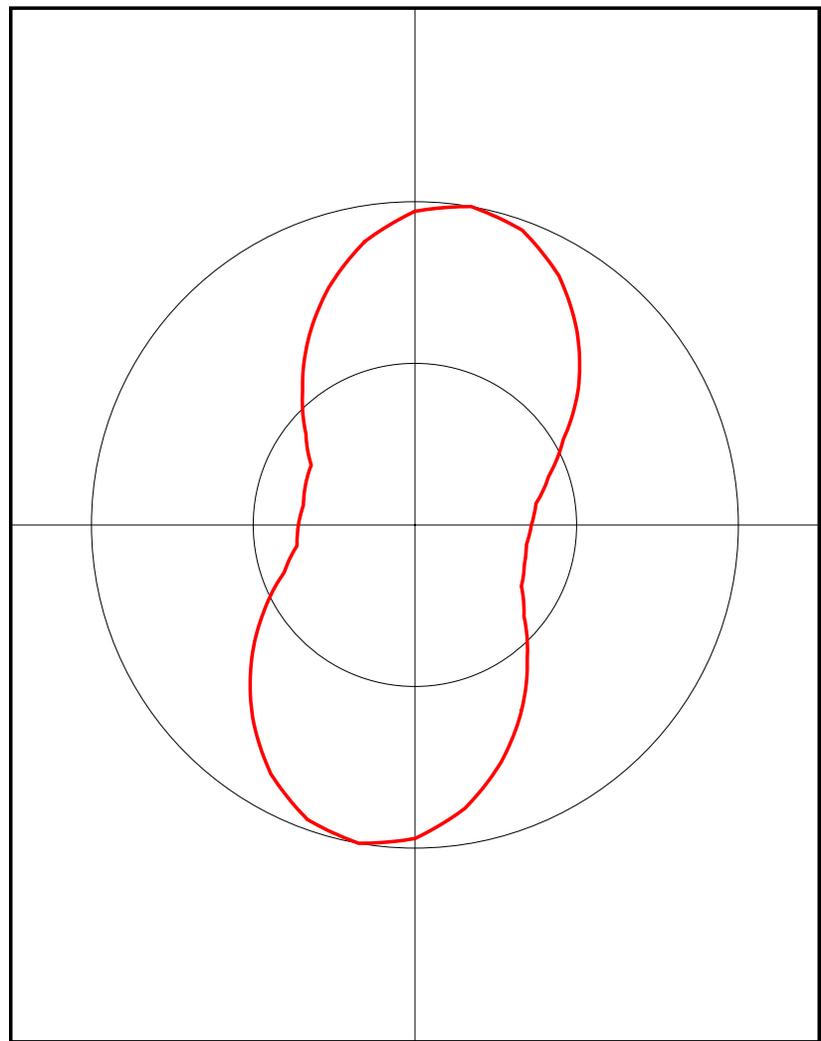
A handwritten signature in blue ink, reading "Timothy Z. Sawyer", is written over a horizontal dashed line.

Email: tzsawyer@mullengr.com

Timothy Z. Sawyer

Directional Antenna Pattern FIGURE 1

Azimuth (deg)	Relative Field
0.0	0.97
10.0	1.0 << MAX
20.0	0.97
30.0	0.89
40.0	0.78
50.0	0.66
60.0	0.53
70.0	0.44
80.0	0.38
90.0	0.36
100.0	0.35 << MIN
110.0	0.36
120.0	0.38
130.0	0.44
140.0	0.54
150.0	0.66
160.0	0.78
170.0	0.89
180.0	0.97
190.0	1.0 << MAX
200.0	0.97
210.0	0.89
220.0	0.78
230.0	0.66
240.0	0.54
250.0	0.43
260.0	0.37
270.0	0.36
280.0	0.35 << MIN
290.0	0.36
300.0	0.37
310.0	0.44
320.0	0.54
330.0	0.66
340.0	0.78
350.0	0.89



WLFB (MOD OF LIC)
 RED CONTOURS
 Latitude: 37-13-12 N
 Longitude: 081-15-20 W
 Channel: 40 Frequency: 629.0 MHz
 ERP: 1000.00 kW
 Antenna HAAT: 399.29 m
 Antenna AMSL Height: 1223.8 m
 Antenna AGL Height: 54.0 m
 Ground Elevation: 1169.8 m
 Horiz. Pattern: Directional

WLFB
 BLACK CONTOURS
 BLCDT20090622ADS
 Latitude: 37-13-08 N
 Longitude: 081-15-39 W
 Channel: 40 Frequency: 629.0 MHz
 ERP: 1000.00 kW
 Antenna HAAT: 391.36 m
 Antenna AMSL Height: 1222.0 m
 Antenna AGL Height: 54.0 m
 Ground Elevation: 1168.0 m
 Horiz. Pattern: Directional

WLFB (DT) PRINCIPLE SERVICE CONTOURS
 48 DBU F(50,90) CITY OF LICENSE CONTOUR
 41 DBU F(50,90) PROTECTED DIGITAL SERVICE CONTOUR
 FIGURE 2

BLUEFIELD, WV

WLFB (MOD OF LIC)
 WLFB Bland

48 DBU FCC F(50,90)

41 DBU FCC F(50,90)

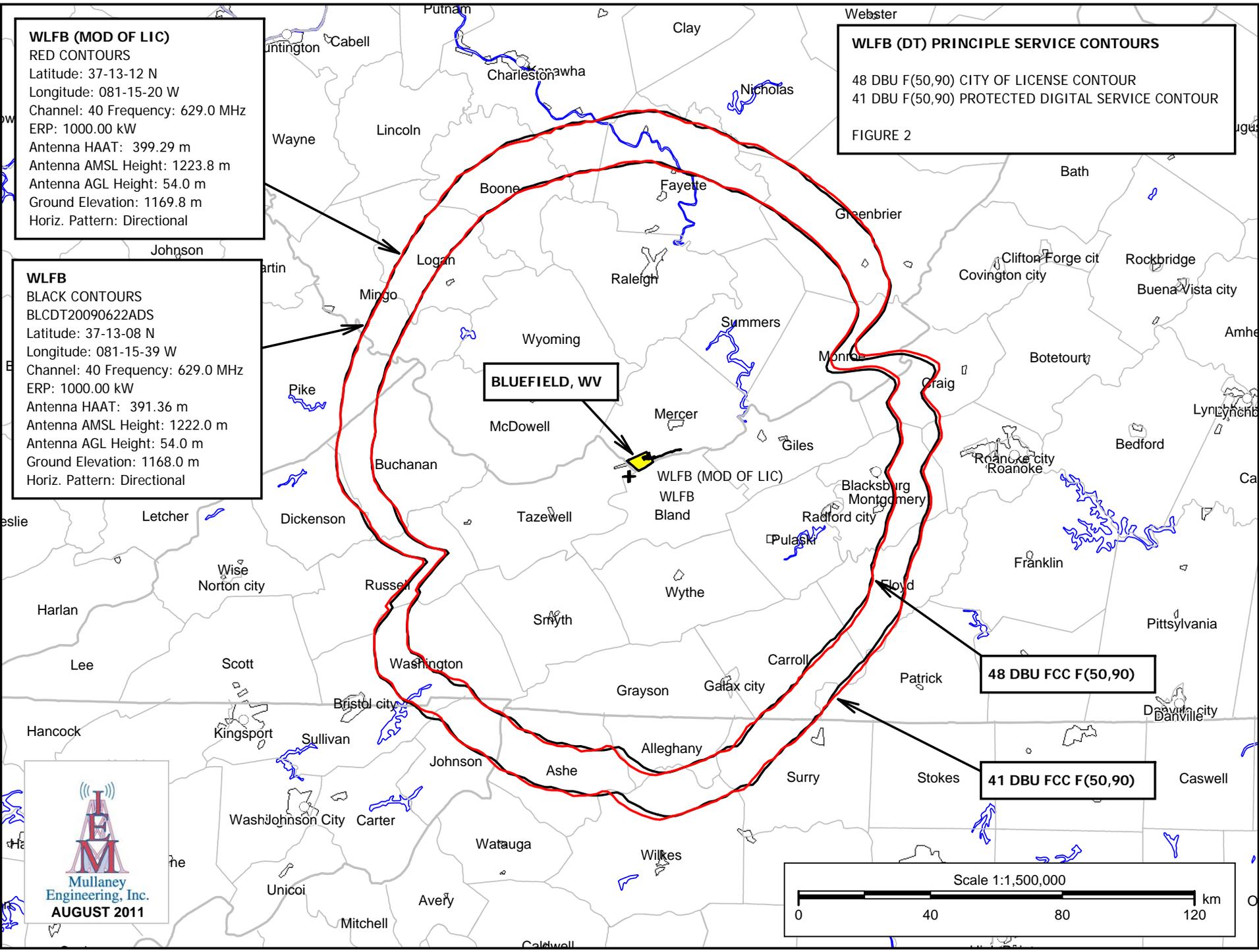
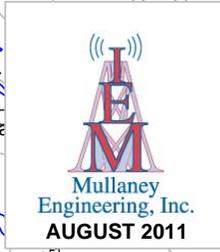
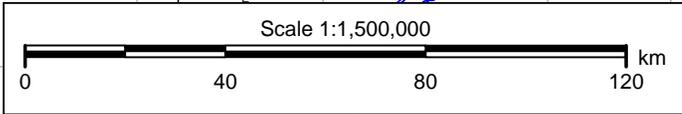


FIGURE 3 - OET BULLETIN 69 INTERFERENCE STUDY SUMMARY

Outgoing Interference Population Report

WLFB-DT (MOD OF LIC) (40) Bluefield, WV
 Broadcast Type: Digital Service: T
 Lat: 37-13-12 N Lng: 081-15-20 W ERP: 1000.0 kW AMSL: 1223.8 m
 TV Outgoing Interference Study
 Signal Resolution: 1.0 km
 Consider NTSC Taboo: Yes
 KWX error points are considered to
 be interference free coverage.
 Default # of radials computed for contours: 360
 Contours calculated using 8 radial HAAT.
 LR Profile Spacing Increment: 1.0 km
 Masked interference points are being
 counted as interference.
 Pop Centroid DB: 2000 US Census (SF1)
 Primary Terrain: NED 3 Second US Terrain
 Secondary Terrain: V-Soft 30 Second US Database
 Population Database: 2000 US Census (SF1)

 Stations Considered:

Call Letters	City	State	Dist	Azi
WLFB-CA (41+)	Wytheville	VA	38.4	154.3
WCHS-TV-D (41)	Charleston	WV	143.6	336.8
WLPX-TV-D (39)	Charleston	WV	146.1	341.9
WHKY-TV-D (40)	Hickory	NC	165.1	182.4
WHKY-TV-D.C (40)	Hickory	NC	173.9	184.5
WHKY-TV-D	Hickory	NC	194.8	174.5
WETP-TV-D (41)	Sneedville	TN	195.4	242.1
WAHU-CD-D (40)	Charlottesville	VA	259.2	70.1
WTVQ-DT.C (40)	Lexington	KY	291.4	289.0
WTVQ-DT (40)	Lexington	KY	291.4	289.0
WHIZ-TV-D.C (40)	Zanesville	OH	307.3	348.3

Call	Area	HUnits	Contour	Masked Ix	Unmasked Ix	%
WLFB-CA (41+)	4.9	0	21,545	0	0	0.00
WCHS-TV-D (41)	142.3	1,433	1,309,147	0	3,329	0.25
WLPX-TV-D (39)	54.1	562	1,023,647	0	1,352	0.13
WHKY-TV-D (40)	29.6	478	1,063,333	0	762	0.07
WHKY-TV-D.C (40)	106.1	1,839	2,351,678	0	3,599	0.15
WHKY-TV-D	114.0	1,761	3,793,838	0	3,341	0.09
WETP-TV-D (41)	0.0	0	2,003,535	0	0	0.00
WAHU-CD-D (40)	0.0	0	151,543	0	0	0.00
WTVQ-DT.C (40)	33.8	280	888,063	0	569	0.06
WTVQ-DT (40)	35.7	269	848,889	0	623	0.07
WHIZ-TV-D.C (40)	60.4	1,502	793,043	0	3,474	0.44