

[Exhibit 12]

## **Non-Interference Compliance**

Regarding FCC File Number: BNPFT-20030317DAD

### **Description of Exhibit 12 Contents**

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all the applicable rule sections and that this application for a construction permit is in full compliance with 47 CFR 74.1204.

Page 2 of this exhibit is an explanation of the tabulated data, which is included as evidence on page 5 of this exhibit.

Pages 3 and 4 of this exhibit contain an explanation of the method used to demonstrate compliance with contour overlap and interference protection provisions based on 47 CFR 74.1204(d), which states:

*"an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable."*

In addition, page 4 includes a tabulation of the second and third adjacent stations which this application is required to protect and the field strengths of those stations in the vicinity of the proposed translator. The field strengths given were based on contours predicted using FCC contour algorithms and 3 arc second terrain data.

**Let it be noted that should any actual real world interference occur, the applicant certifies that it will promptly suspend operation of this translator in accordance with 47 CFR 74.1203.**

Page 5 of this exhibit is the tabulated data from the interference analysis, which shows all stations that this application had to consider for contour protection. These tabulated values were generated using high resolution 3 arc second terrain data for the best possible accuracy.

Page 6 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 min quadrangle at full scale with the calculated area of interference overlaid. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using a free-space calculation (see FCC 98-117, Appendix A, pg. 41 for reference to the equation used).

## Explanation of Frequency Finder Results

The interference analysis for this application was performed using the "Frequency Finder" module in RadioSoft's Comstudy, version 2.2.

Frequency Finder analyzes data taken directly from the FCC's FM database and looks for prohibited overlap with contours of adjacent stations and prohibited proximity to stations 53 or 54 channels from the proposed station (IF) using 3 arc second terrain data and the FCC's contour algorithms. The results tabulated are the stations returned from that analysis. (Note: Because Comstudy was looking at the FCC's FM database, it took into account the proposed translator when doing the analysis and returned it in the tabulated results. For the sake of simplicity, that record has been deleted from all tabulated results.)

The first several columns of the table are self-explanatory. They give various data on the stations in question. The column labeled "Clr" gives the proposed translator's "clearance" with respect to the tabulated station, either in dB or km. The values listed with no units are given in km and are for stations located on an IF to the proposed site's channel.

**A negative value in the "Clr" column does NOT necessarily represent prohibited contour overlap, as explained below.**

A negative value listed in the "Clr" column would indicate either overlap of interference and protected contours or prohibited proximity to an IF station except in the following situations:

-Since the proposed station's Effective Radiated Power (ERP) is 92 watts, a negative value in km (no units listed in the table) does not represent a violation of the CFR, according to 47 CFR 1204(g), which states that "FM translator stations and booster stations operating with less than 100 watts ERP will be treated as class D stations and will not be subject to intermediate frequency separation requirements."

- A second or third adjacent LP100 station cannot represent a violation of the CFR, as 47 CFR 74.1204(a)(4) requires protection of only co-channel and first adjacent LP100 stations.

- 47 CFR 74.1204(a) requires only the protection of "AUTHORIZED commercial or noncommercial educational FM broadcast stations, FM translators, ..." Any entry with a status listed as "RSV," "USE" or "APP" does not represent an authorized station and therefore is not protected under 47 CFR 74.1204. The one exception is the case of LP100 applications. The note to 47 CFR 74.1204(a)(4) states that "LPFM applications and permits that have not yet been licensed must be considered as operating with the maximum permitted facilities." Therefore, any first adjacent or co-channel LP100 station, no matter the status, is protected.

-Entries highlighted in red are those stations where there is overlap of predicted contours and lack of population has been demonstrated within the area of interference.

## Compliance with 47 CFR 74.1204(d)

The proposed translator's Maximum Effective Radiated Power (ERP) is 0.092kW at 146 meters above ground level. According to 47 CFR, 74.1204(a), the desired to undesired ratio between 2nd/3rd adjacent stations is 40dB, making the proposed translator's interfering contour 107.5dBu F(50,10). (See the next page for more discussion on the determination of the signal strength of the proposed translator's area of interference.)

Using a free-space calculation (equation referenced in FCC 98-117, Appendix A, pg. 41), the proposed translator's F(50,10) interference contour was calculated and the maximum horizontal plane was plotted on the pertinent portion of a USGS quadrangle (page 6 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated below at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free space calculation that neglects any loss due to reflection (equation referenced in FCC 98-117, Appendix A, pg. 41), the vertical ground clearance of the proposed application's F(50,10) interference contour at each angle has been tabulated. As shown below, the area of interference clears the ground by 57.8 meters at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the proposed area of interference. Hence, in accordance with 47 CFR 74.1204(d) and the clarification provided by the FCC in the decision Re: Living Way Ministries (FCC 02-244), there is a lack of population within the proposed area of interference and therefore this application is in full compliance with 47 CFR 74.1204.

**Antenna Manufacturer:** SWR  
**Antenna Model Number:** 2FM1-0.5

**Maximum ERP:** 92 watts  
**CORAGL:** 146 m  
**F(50,10) Contour:** 107.5 dBu

Depression Angle (from COR)	Antenna Relative Field	ERP (watts)	Distance to F(50,10) Interfering Contour from Antenna (m)	Horizontal Distance of F(50,10) Interfering Contour from Tower (m)	Vert. Clearance of F(50,10) Interfering Contour above TGL (m)
5	0.987	89.62	280.0	279.0	121.6
10	0.95	83.03	269.5	265.4	99.2
15	0.89	72.87	252.5	243.9	80.6
20	0.812	60.66	230.4	216.5	67.2
25	0.721	47.83	204.6	185.4	59.5
30	0.622	35.59	176.5	152.8	57.8
35	0.52	24.88	147.5	120.9	61.4
40	0.42	16.23	119.2	91.3	69.4
45	0.327	9.84	92.8	65.6	80.4
50	0.244	5.48	69.2	44.5	93.0
55	0.173	2.75	49.1	28.2	105.8
60	0.115	1.22	32.6	16.3	117.7
65	0.07	0.45	19.9	8.4	128.0
70	0.039	0.14	11.1	3.8	135.6
75	0.018	0.03	5.1	1.3	141.1
80	0.006	0.00	1.7	0.3	144.3
85	0.001	0.00	0.3	0.0	145.7
90	0.001	0.00	0.3	0.0	145.7

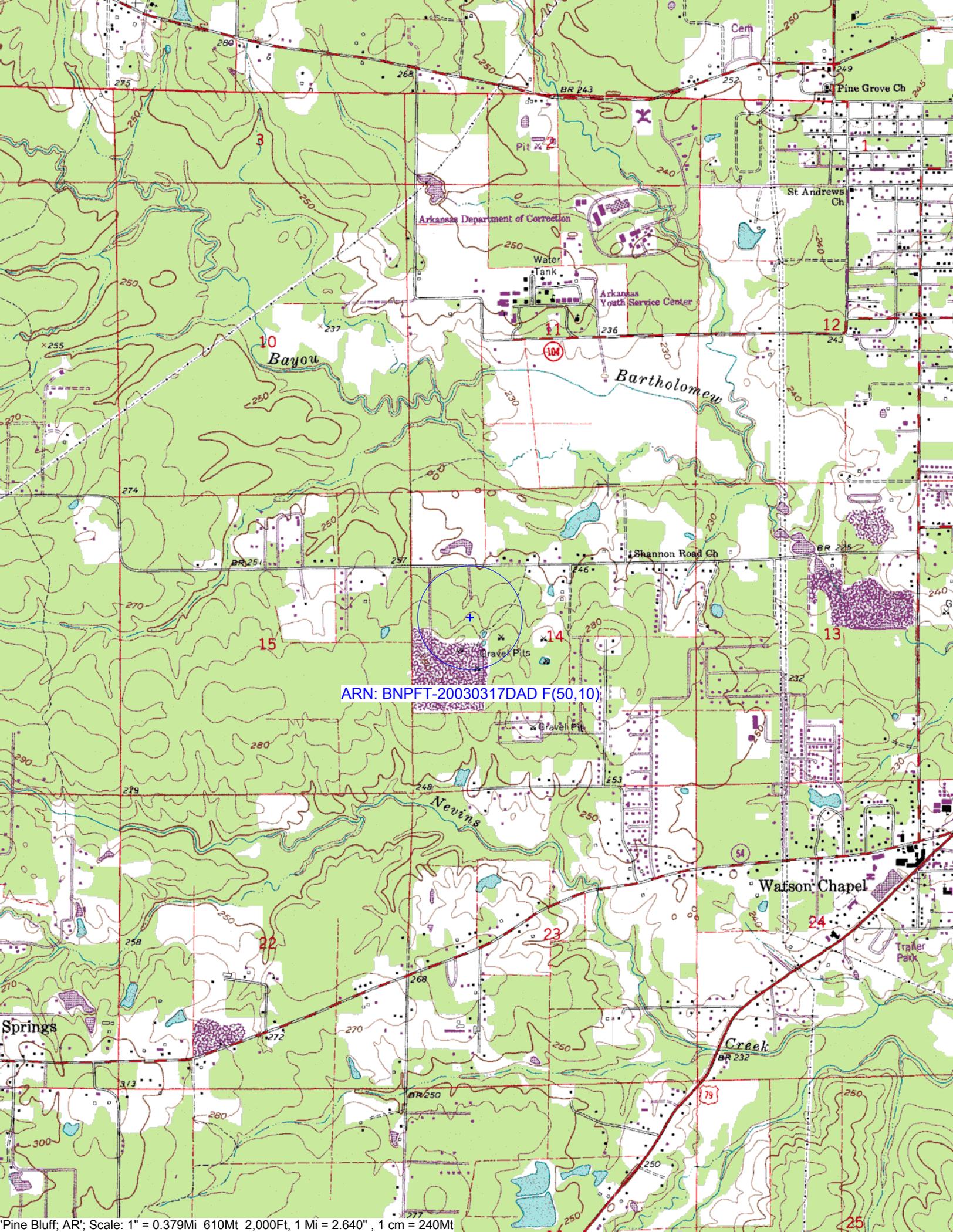
Minimum F(50,10) Clearance above TGL **57.8 m**

The F(50,50) signal strength of all relevant second and third adjacent stations have been examined, and are tabulated below. Column three shows the station's signal level at the proposed translator's tower site, and column four gives the minimum value within the entire proposed translator's standard F(50,10) contour (100 dBu for most classes, 94 dBu for class B's, 97 dBu for class B1's). For signal levels too great to determine, 999 was entered. The minimum F(50,50) contour within the proposed translator's standard F(50,10) contour was used to calculate the proposed translator's interference contour, thereby assuring a minimum undesired-to-desired ratio of 40dB for all relevant adjacent stations, as required in 47 CFR, 74.1204(a).

FCC File Number	Call Sign	F(50,50) Contour at Tower	Min. F(50,50) Contour
BLFT19970505TE	K226AG	70.6dBu	67.5dBu
BLH19860501KF	KIPR	87.6dBu	86.8dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Application's Standard F(50,10) Contour:			<b>67.5dBu</b>

## Frequency Finder Results

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
KIPR	AR	PINE BLUFF	222	100000	CITADEL BROADCASTING COMPANY	BLH19860501KF	C1	LIC	19.96	-28.38 dB	13925
K226AG	AR	PINE BLUFF	226	250	CENTRAL ARKANSAS CHRISTIAN BCG INC	BLFT19970505TE	D	LIC	4.83	-20.38 dB	59475
NEW	AR	STUTT GART	224	92	RADIO ASSIST MINISTRY, INC	BNPFT20030317DAX	D	APP	61.11	2.11 dB	150847
NEW	AR	WARREN	224	92	RADIO ASSIST MINISTRY, INC	BNPFT20030317DBB	D	APP	63.13	4.52 dB	150849
	AR	BEARDEN	224	0		RM10268	A	APP	71.82	11.72 dB	0
KASR	AR	CONWAY	224	3400	CREATIVE MEDIA INCORPORATED	BMLH19900111KF	A	LIC	105.23	14.49 dB	14465
KKZR	AR	BRYANT	227	5600	ABG ARKANSAS, LLC	BLH20030508ACT	C3	LIC	74.43	16.40 dB	39751
	AR	VILONIA	224	0		RM10633	C3	APP	94.22	17.95 dB	0
KVRE	AR	HOT SPRINGS VILLAGE	225	25000	CADDO BROADCASTING COMPANY	BLH20020528AAA	C3	LIC	102.3	18.21 dB	8150
KIPR	AR	PINE BLUFF	222	0	CITADEL BROADCASTING COMPANY		C1	USE	19.96	20.80 dB	13925
NEW	AR	STAR CITY	227	115	RADIO ASSIST MINISTRY, INC	BNPFT20030317DAR	D	APP	40.59	21.02 dB	150844
	AR	CONWAY	224	0		RM10633	A	APP	105.23	21.23 dB	0
NEW	AR	STAR CITY	227	115	RADIO ASSIST MINISTRY INC.	BNPFT20030317BZB	D	APP	40.59	21.02 dB	144870
KASR	AR	CONWAY	224	0	CREATIVE MEDIA INCORPORATED		A	USE	105.23	21.23 dB	14465
KVRE	AR	HOT SPRINGS VILLAGE	225	6000	CADDO BROADCASTING COMPANY	BXPB20020325ABU	A	APP	102.3	24.96 dB	8150
WDTL-FM	MS	CLEVELAND	225	50000	DELTA RADIO, INC.	BLH19961015KD	C2	LIC	142.12	27.29 dB	16557
KWJM	LA	FARMERVILLE	224	6000	UNION BROADCASTING CO., INC.	BLH19930714KZ	A	LIC	170.63	28.38 dB	68796
KAGL	AR	EL DORADO	227	18500	NOALMARK BROADCASTING CORPORATION	BPH20030714AFZ	C3	APP	115.67	30.18 dB	48949
KLPL-FM	LA	LAKE PROVIDENCE	224	3000	WILLIS BROADCASTING CORPORATION	BLH19940909KF	A	LIC	174.3	30.90 dB	2891
KWJM	LA	FARMERVILLE	224	0	UNION BROADCASTING CO., INC.		A	USE	157.03	30.98 dB	68796
KLYR-FM	AR	CLARKSVILLE	224	3000	FORRESTER ET AL	BLH19840305AB	A	LIC	195.13	32.02 dB	22057
KLPL-FM	LA	LAKE PROVIDENCE	224	0	WILLIS BROADCASTING CORPORATION		A	USE	174.06	33.84 dB	2891
KAGL	AR	EL DORADO	227	8000	NOALMARK BROADCASTING CORPORATION	BLH20010809AAO	C3	LIC	115.67	33.61 dB	48949
KZLE	AR	BATESVILLE	226	99000	WRD ENTERTAINMENT, INC.	BLH20030508ACQ	C1	LIC	190.39	33.44 dB	72262
NEW	AR	BATESVILLE	224	75	RADIO ASSIST MINISTRY, INC	BNPFT20030317CVN	D	APP	190.54	34.20 dB	150835
NEW	MS	GREENVILLE	223	250	BIBLE BROADCASTING NETWORK, INC.	BNPFT20030317ADJ	D	APP	127.3	35.60 dB	142778
KWYN-FM	AR	WYNNE	223	35000	EAST ARKANSAS BROADCASTERS, INC.	BLH19960709KD	C2	LIC	167.26	35.44 dB	18182
NEW	AR	WALDRON	224	250	STARBOARD MEDIA FOUNDATION, INC.	BNPFT20030311AIK	D	APP	199.07	35.10 dB	142388
KVRE	AR	HOT SPRINGS VILLAGE	225	0	CADDO BROADCASTING COMPANY		C3	USE	112.02	36.77 dB	8150
KTKC	LA	SPRINGHILL	225	40000	METROPOLITAN RADIO GROUP, INC.	BLH19991217ACJ	C2	LIC	184.56	36.46 dB	62034
KLYR-FM	AR	CLARKSVILLE	224	0	FORRESTER ET AL		A	USE	195.13	37.96 dB	22057
NEW	MS	GREENVILLE	223	115	RADIO ASSIST MINISTRY INC.	BNPFT20030317JGY	D	APP	134.21	37.10 dB	144215



ARN: BNPFT-20030317DAD F(50,10)