

# MINOR CHANGE IN CONSTRUCTION PERMIT APPLICATION FOR FLORIDA VICTORY OUTREACH CENTER'S LOW POWER FM (LPFM) STATION WNKQ-LP (BNPL-20131113AHD)

**Prepared For:**

- Florida Victory Outreach Center, Inc.
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**Prepared On:**

February 19, 2015

**Proposed Parameters:**

Channel:	229 (93.7 MHz)
ERP:	85 W
HAAT:	32.7 m
Waiver:	No
Antenna:	Omni

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## **1.0 PURPOSE OF LPFM APPLICATION**

Florida Victory Outreach Center, Inc. (FVOC) was offered free tower space on the proposed tower and is therefore requesting to change transmitter sites by moving approximately 2.8 miles (4.5 km) from North Latitude 28° 17' 34.6", West Longitude 081° 24' 29.9" (NAD27) to North Latitude 28° 20' 01.0", West Longitude 081° 24' 21.9" (NAD27). The new transmitter site will be located well within 10 miles from the studio site.

## **2.0 STATION TRANSMITTER & STUDIO LOCATION**

The proposed transmitter site shall be located at an existing tower which is less than ten miles (2.8 mi) from the proposed studio. The antenna shall be mounted on a 235 ft AGL guyed tower (ASRN: 1213722) which is owned by J&V Communications, Inc. FVOC has reasonable assurance that it can operate at the proposed site on the proposed tower. The studio's physical address and the transmitter site's geographical coordinates are:

### **2.1 Studio Site Physical Address**

The studio shall be located at the following physical address:

1633 E. Vine Street  
Suite 205  
Kissimmee, FL 34744

### **2.2 Transmitter Site Geographic Coordinates (NAD27)**

The following North American Datum 27 (NAD 27) coordinates identify the location of the proposed LPFM antenna site:

N. Latitude      28° 20' 01.0"  
W. Longitude    081° 24' 21.9"

**See Appendix A (NAD83 to NAD27 Conversion)**

### **2.3 Antenna Structure Registration (ASR)**

The 236 ft (71.9 m) tower, which the proposed Channel 229 (93.7 MHz) LPFM antenna shall be mounted to, is assigned the following Antenna

Structure Registration Number (ASRN) as depicted in **Appendix B** of this report: 1213722.

### **3.0 ANTENNA AND SITE ELEVATIONS (Rounded on 318 Form)**

- 3.1 **Height of Site AMSL**  
85.0 ft / 25.9 m
- 3.2 **Overall Height of Structure AGL**  
235.9 ft / 71.9 m
- 3.3 **Antenna Height Radiation Center AGL**  
84.3 ft / 25.7 m
- 3.4 **Antenna Height Radiation Center AMSL**  
169.3 ft / 51.6 m
- 3.5 **Antenna Height Above Average Terrain (HAAT)**  
107.3 ft / 32.7 m (Refer to **Appendix C** for HAAT Calculations)

### **4.0 LPFM EFFECTIVE RADIATED POWER**

Pursuant to 47 C.F.R. Section 73.811(a) – Maximum Facilities: LPFM stations will be authorized to operate with maximum facilities of 100 watts Effective Radiated Power (ERP) at an antenna Height Above Average Terrain (HAAT) of 30 meters. An LPFM station with an antenna HAAT that exceeds 30 meters will not be permitted to operate with an ERP greater than that which would result in an F(50,50) 60 dBuV/m contour of 5.6 km. In no event will an ERP less than one watt be authorized. No facility will be authorized in excess of one watt ERP at 450 meters HAAT.

Since the calculated antenna HAAT is 32.7 m (2.7 m greater than 30.0 m AAT) as demonstrated in **Appendix C** (rounding) of this document, the applicant proposes to operate with the maximum authorized ERP of 85 W, **as calculated in Appendix D**, in order to meet the LPFM maximum power and antenna height requirements pursuant to 47 C.F.R. Section 73.811(a) of the FCC Rules. The proposed antenna HAAT of 32.7 m and ERP of 85 W produces an F(50,50) 60

dBuV/m service contour of 5.6 km. Therefore, the proposed power and height combination meets the FCC's LPFM power and antenna height requirements pursuant to Section 73.811(a) of the FCC rules.

## 5.0 FREQUENCY SEARCH PRESELECTION OVERVIEW

### 5.1 Channels Found With No Spacing Violations

Pursuant to 47 C.F.R. Section 73.807 (Minimum Distance Separation between Stations) of the FCC Rules, the following table depicts a channel which is available for the assignment of an LPFM station at the proposed location:

ERP	Channel	Comments
85 W	229	Channel 229 (93.7 MHz) at the proposed location meets the minimum spacing requirements pursuant to 47 C.F.R. Section 73.807 of the FCC Rules.

### 5.2 Channels Found Requiring a Second Adjacent Channel Waiver

**Not applicable** – the proposed Channel 229 LPFM facility is fully-spaced with all stations; therefore, the table below is not applicable.

The following table displays the channels that are short spaced with existing second adjacent channel facilities but not with any co-channel or first adjacent channel facilities: N/A

Channel	2 <sup>nd</sup> Adjacent Stations	Overlap (too close by)
N/A	N/A	N/A

## 6.0 ALLOCATION ANALYSIS & 2<sup>nd</sup> ADJACENT CHANNEL WAIVER REQUEST

As indicated in Section 5, the channel available for an LPFM facility at the proposed site will not require a waiver of the second adjacent channel separations as allowable pursuant to Section 73.807(e)(1) of the FCC Rules.

#### 6.1 **LPFM Channel Spacing Study**

An LPFM station will not be authorized initially unless the minimum distance separations pursuant to Section 73.807 of the FCC Rules are met. **Appendix E** in this report depicts the results of a channel spacing study which demonstrates that the proposed LPFM facility complies with the distance separation requirements pursuant to Section 73.807 of the FCC Rules.

#### 6.2 **Second Adjacent Channel Short Spacing - Waiver Not Required**

**Not required** – proposed station is fully spaced pursuant to Section 73.807 of the FCC Rules. Second adjacent waiver calculations are not included in **Appendix F** since the proposed channel is fully spaced.

### 7.0 **INTERFERENCE TO TRANSLATOR OR BOOSTER INPUT SIGNALS**

Pursuant to the requirements of 47 C.F.R. Section 73.827(a), **Appendix G** lists the following FM Boosters and FM Translator stations which are located within 10 km of the proposed Channel 229 LPFM site and are subject to potential third adjacent-channel interference to the reception of the FM Booster and FM Translator station's input channel from their parent station from the proposed LPFM facility:

#### **FM Boosters**

- **NONE**

#### **FM Translators**

- W241BP FCC File No: BLFT-20130924AGR  
Primary Station: WYFO (FM)  
Input Channel: 220 (91.9 MHz)  
3<sup>rd</sup> Adjacent: **No**
- W246CK FCC File No: BNPFT-20130318ABJ  
Primary Station: WRUM (FM)  
Input Channel: 262 (100.3 MHz)  
3<sup>rd</sup> Adjacent: **No**

There are no FM boosters or FM translators within 10 km of the proposed LPFM site having an input channel that is third-adjacent (CH 226 or CH 232) to the proposed LPFM facility (CH 229); therefore, the proposed LPFM facility will not cause interference to the input signals of surrounding FM translator and/or FM booster stations.

## **8.0 TELEVISION CHANNEL 6 (TV6) STATIONS**

Channel 6 interference is not a factor for LPFM stations operating on channels 221 - 300 and therefore is not applicable to the application for further analysis.

## **9.0 AM STATION PROXIMITY**

This rule part protects the operations of AM broadcast stations from nearby tower construction that may distort the AM antenna patterns. All parties holding or applying for Commission authorizations that propose to construct or make a significant modification to an antenna tower or support structure in the immediate vicinity of an AM antenna, or propose to install an antenna on an AM tower, are responsible for completing the analysis and notice process described in the FCC Rules, and for taking any measures necessary to correct disturbances of the AM radiation pattern, if such disturbances occur as a result of the tower construction or modification or as a result of the installation of an antenna on an AM tower. In the event these processes are not completed before an antenna structure is constructed, any holder of or applicant for a Commission authorization is responsible for completing these processes before locating or proposing to locate an antenna on the structure, as described in the FCC Rules.

The “NEW” AM daytime nondirectional station (Facility ID No.: 101323) is approximately 1.97 km from the proposed LPFM site (see below) and operates on 1160 kHz. The FCC rules state that proponents of construction or significant modification of a tower which is within one wavelength of a nondirectional AM station, and is taller than 60 electrical degrees at the AM frequency, must notify the AM station at least 30 days in advance of the commencement of

construction. One wavelength from the New daytime AM station equates to 258 meters ( $1[300 \text{ m} \div 1.160 \text{ MHz}]$ ). The proposed LPFM site is located approximately 1,970 meters from the New daytime AM transmitter site; therefore, the proposed LPFM site is not within one wavelength of the New AM daytime nondirectional station.

The “NEW” AM nighttime directional station (Facility ID No.: 101323) is approximately 1.97 km from the proposed LPFM site (see below) and operates on 1160 kHz. The FCC rules state that proponents of construction or significant modification of a tower which is within ten wavelengths of a directional AM station, and is taller than 36 electrical degrees at the AM frequency, must notify the AM station at least 30 days in advance of the commencement of construction. Ten wavelengths from the New nighttime AM station equates to 2,586 meters ( $10[300 \text{ m} \div 1.160 \text{ MHz}]$ ). The proposed LPFM site is located approximately 1,970 meters from the New AM nighttime transmitter site; therefore, the proposed LPFM site is within ten wavelengths of the New AM nighttime nondirectional station; however, the station call sign is “NEW” and there are no towers in the vicinity of the AM station’s coordinates which demonstrates that the AM station has not been built.

The WOTS AM facility is a daytime nondirectional and nighttime nondirectional station (Facility ID No.: 72930) located approximately 1.47 km from the proposed LPFM site (see below) and operates on 1220 kHz. One wavelength from the WOTS daytime/nighttime nondirectional AM station equates to 245.9 meters ( $1[300 \text{ m} \div 1.120 \text{ MHz}]$ ). The proposed LPFM site is located approximately 1,470 meters from the WOTS AM transmitter site; therefore, the proposed LPFM site is not within one wavelength of the WOTS daytime/nighttime nondirectional AM station.

Therefore, there are no AM stations that need to be notified and no measurements required.

Wed Feb 18 15:35:12 2015 Eastern time							
Search Parameters							
Search radius:		3.20 km					
Center lat / lon:		N 28 20 1.00 W 81 24 21.90					
Lower Frequency		530					
Upper Frequency		1700					
NEW	AM	1160 kHz	DAN	Daytime	B B -	KISSIMMEE	FL
NEW	AM	1160 kHz	DAN	Nighttime	B B -	KISSIMMEE	FL
WOTS	AM	1220 kHz	NDD	Daytime	D B LIC	KISSIMMEE	FL
WOTS	AM	1220 kHz	ND1	Nighttime	D B LIC	KISSIMMEE	FL
*** 4 AM Records within 3.20 km distance of 28° 20' 1.00 " N, 81° 24' 21.90" W ***							

## 10.0 INTERNATIONAL COORDINATION

The proposed LPFM facility is not within 320 km of an International border and therefore, does not require international coordination.

## 11.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

### 11.1 General Environmental Requirements

The proposed support structure and antenna will not:

- Require high intensity white lighting.
- Is not located in an official designated wilderness area or wildlife preserve.
- Does not threaten the existence or habitat of endangered species.
- Does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places or are eligible for listing.
- Does not affect Indian religious sites.
- Is not located in a floodplain

- Does not require construction that involves significant changes in surface features (e.g., wetland fill, deforestation or water diversion).

### 11.2 **Radio Frequency Radiation (RFR) Compliance**

The proposed Channel 229 LPFM facility will not have a significant environmental impact and complies with the maximum permissible radio frequency electromagnetic exposure limits for controlled and uncontrolled environments pursuant to §1.1307 of the FCC Rules and the FCC's Office of Engineering and Technology Bulletin 65, Edition 97-01 (OET-65).

The LPFM transmitter, transmission line and antenna system shall produce an ERP of 85 W (circular polarization). Assuming the maximum lobe of radiation were oriented directly toward the ground, the proposed LPFM facility's power density six feet above the ground would be 0.010 mW/cm<sup>2</sup>. A power density of 0.010 mW/cm<sup>2</sup> equates to 1.00% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and 4.99% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI). Since operation of the proposed LPFM facility will not exceed 5.0% of the MPE limit for Occupational/Controlled Exposure or General Population/Uncontrolled Exposure at any point on the ground, the proposed facility is not considered a "significant contributor" to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, contributions of exposure from other sources were not accounted for in this analysis. It is safe to conclude that the emissions will be insignificant and well within the maximum allowable requirements.

## 12.0 **RADIO READING SERVICE**

LPFM stations must satisfy the second-adjacent channel minimum distance separation requirements with respect to any third-adjacent channel FM station

that, as of September 20, 2000, broadcasts a radio reading service via a subcarrier frequency pursuant to Section 73.807(a)(2) of the FCC Rules. Referring to **Appendix E** in this document, it can be seen that the proposed LPFM station satisfies the third-adjacent channel Radio Reading requirements pursuant to Section 73.807(a)(2) of the FCC Rules.

### 13.0 NOTIFICATIONS

The proposed facility is not within the affected areas of the following installations and stations pursuant to 73.1030 of the FCC Rules.

- 73.1030(a) National Radio Astronomy Observatory Quite Zone at Green Bank, WV.....**Okay**
- 73.1030(a) Arecibo Observatory, Puerto Rico, Radio Astronomy Coordination Zone.....**Okay**
- 73.1030(b) Table Mountain Quiet Zone, Boulder, CO.....**Okay**
- 73.1030(c) Monitoring Station at ALLEGAN, MI..... **Okay**
- 73.1030(c) Monitoring Station at ANCHORAGE, AK..... **Okay**
- 73.1030(c) Monitoring Station at BELFAST, ME..... **Okay**
- 73.1030(c) Monitoring Station at CANANDAIGUA, NY..... **Okay**
- 73.1030(c) Monitoring Station at DOUGLAS, AZ..... **Okay**
- 73.1030(c) Monitoring Station at FERNDALE, WA..... **Okay**
- 73.1030(c) Monitoring Station at VERO BEACH, FL..... **Okay**
- 73.1030(c) Monitoring Station at GRAND ISLAND, NE..... **Okay**
- 73.1030(c) Monitoring Station at KINGSVILLE, TX..... **Okay**
- 73.1030(c) Monitoring Station at LAUREL, MD..... **Okay**
- 73.1030(c) Monitoring Station at LIVERMORE, CA..... **Okay**
- 73.1030(c) Monitoring Station at POWDER SPRINGS, GA..... **Okay**
- 73.1030(c) Monitoring Station at SANTA ISABEL, PR..... **Okay**
- 73.1030(c) Monitoring Station at HONOLULU, OAHU, HI..... **Okay**

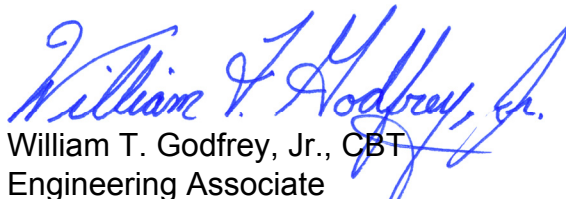
### 14.0 CONCLUSION

The engineering conducted and discussed in this report demonstrates that Channel 229 (93.7 MHz) is available for the proposed LPFM facility at the

proposed site. The proposed LPFM facility is well within compliance on all regulatory matters and a construction permit should therefore be issued to FVOC.

## 15.0 CERTIFICATION

This technical statement was prepared by William T. Godfrey, Jr., Engineering Associate with the firm Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida, and has been working with the firm in the field of radio and television broadcast consulting since 1998. Mr. Godfrey was a graduate from the University of North Florida and a Distinguished Military Graduate from the University of Florida. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.

  
William T. Godfrey, Jr., CBT  
Engineering Associate  
Kessler and Gehman Associates, Inc.



**Kessler and Gehman Associates**  
Consultants • Broadcast • Wireless

## **APPENDIX A – NAD83 TO NAD27 CONVERSION**

**Antenna Location Coordinates.** The proposed antenna site must be specified using North American Datum 27 (NAD 27) coordinates. The latitude and longitude Coordinates for all points in the United States for this LPFM service are based upon the 1927 North American Datum (NAD 27). The National Geodetic Survey is in the process of replacing NAD 27 with the more accurate 1983 North American Datum (NAD 83) and updating current topographic maps. To prevent intermixing of data, the Commission has announced that, until further notice, all LPFM applicants are to furnish coordinates based on NAD 27 datum on all submissions and the Commission will continue to specify NAD 27 coordinates in its data bases and authorizations.

### **Output from NADCON for station**

```
North American Datum Conversion
NAD 83 to NAD 27
NADCON Program Version 2.11

=====

Transformation #:      1      Region: Conus

Latitude              Longitude
NAD 27 datum values:  28 20  0.96515      81 24 21.94481
NAD 83 datum values:  28 20  2.00000      81 24 21.20000
NAD 27 - NAD 83 shift values:  -1.03485      0.74481(secs.)
                        -31.858      20.287 (meters)
Magnitude of total shift:      37.769(meters)
```



[NCS HOME PAGE](#)

## **APPENDIX B – FCC Antenna Structure Registration (ASR)**

**ASRN: 1213722**

FCC Federal Communications Commission			
<a href="#">FCC Home</a>   <a href="#">Search</a>   <a href="#">Updates</a>   <a href="#">E-Filing</a>   <a href="#">Initiatives</a>   <a href="#">For Consumers</a>   <a href="#">Find People</a>			
Antenna Structure Registration			
<a href="#">FCC</a> > <a href="#">WTR</a> > <a href="#">ASR</a> > <a href="#">Online Systems</a> > ASR Search			
ASR Registration Search <b>Registration 1213722</b>			
<a href="#">New Search</a>   <a href="#">Return to Results</a>   <a href="#">Printable Page</a>   <a href="#">Reference Copy</a>   <a href="#">Map Registration</a>			
Registration Detail			
Reg Number	1213722	Status	Constructed
File Number	A0215529	Constructed	09/06/1962
EMI	No	Dismantled	
NEPA	No		
Antenna Structure			
Structure Type	TOWER - Free standing or Guyed Structure used for Commu		
Location (in NAD83 Coordinates - <a href="#">Convert to NAD27</a> )			
Lat/Long	28-20-02.0 N 081-24-21.2 W	Address	1080 Country Boulevard
City, State	Kissimmee , FL		
Zip	34741	County	OSCEOLA
Center of AM Array		Position of Tower in Array	
Heights (meters)			
Elevation of Site Above Mean Sea Level		Overall Height Above Ground (AGL)	
25.9		71.9	
Overall Height Above Mean Sea Level		Overall Height Above Ground w/o Appurtenances	
97.8		70.9	
Painting and Lighting Specifications			
FAA Chapters 3, 4, 5, 12			
Paint and Light in Accordance with FAA Circular Number <a href="#">70/7460-1K</a>			
FAA Notification			
FAA Study	00-ASO-1861-OE	FAA Issue Date	05/04/2000
Owner & Contact Information			
FRN	0001800507	Owner Entity Type	
Assignor FRN		Assignor ID	L00286996
Owner			
J&V Communications Inc. Attention To: JOHN TORRADO 222 Hazard St Orlando , FL 32804		P: (407)841-8282 F: E:	
Contact			
		P: F: E:	
Last Action Status			
Status	Constructed	Received	09/21/2001
Purpose	Change Owner	Entered	09/28/2001
Mode	Mail In (Manual)		
Related Applications			
09/21/2001	<a href="#">A0215529</a> - Change Owner (OC)		
09/25/2000	<a href="#">A0141728</a> - Change Owner (OC)		
09/25/2000	<a href="#">A0141732</a> - Notification (NT)		
<a href="#">All related applications (4)</a>			
Comments			
Comments			
None			
History			
Date	Event		
10/01/2001	Registration Printed		
10/01/2001	Change of Ownership Letter Sent		
09/28/2001	Change of Ownership Received		
<a href="#">All History (9)</a>			

### **APPENDIX C – Height Above Average Terrain (HAAT) Calculation**

**The Height Above Average Terrain (HAAT)** was calculated using the FCC's Antenna Height Above Terrain Calculator. The applicant requests that the FCC also calculate the HAAT using its 30-second terrain database so that the applicant can operate with and ERP of 85 W. (See Appendix D for ERP calculation).

Results are as follows:

Antenna Height above Average Terrain (HAAT) Calculator			
Antenna Height Above Average Terrain Calculations -- Results			
Input Data			
Latitude	28° 20' 1" North		
Longitude	81° 24' 21.9" West (NAD 27)		
These coordinates convert to NAD 83 coordinates of 28° 20' 02.03", North, 81° 24' 21.16" West (NAD 83).			
Height of antenna radiation center above mean sea level: 51.6 meters AMSL			
Number of Evenly Spaced Radials = 8      0° is referenced to True North			
Results			
Calculated HAAT = 33 meters			
Antenna Height Above Average Terrain calculated using FCC 30 second terrain database (continental USA only)			
Individual "Radial HAAT" Values, in meters			
0°	31.6 m	180°	40.4 m
45°	31.6 m	225°	31.6 m
90°	32.0 m	270°	31.6 m
135°	37.9 m	315°	26.6 m

## **APPENDIX D – FM Propagation Curves Calculation**

**The Effective Radiated Power (ERP)** was calculated from the FCC's FM Propagation Curves Calculator tool:

<http://transition.fcc.gov/mb/audio/bickel/curves.html>

Results are as follows:

### FM and TV Propagation Curves

This function uses the FM or TV television propagation curves to compute the distance to a service or interfering contour, or the corresponding field strength at a given contour distance. [More after the form.](#)

#### Screen 3 - Results

#### Results of Calculation

**Effective Radiated Power (ERP) = 0.085 kilowatts (kW)**

Unrounded ERP = 0.085 kilowatts (kW)

**Input Data** from Screens 1 and 2

HAAT = 32.7 meters  
Field Strength = 60.0 dBu = 1.0 mV/m  
Distance to Contour = 5.6 kilometers

**Distances** are in **meters and kilometers**  
**Power** is in **kW (kilowatts)**  
**Field Strength** is in **dBu**  
**FM and NTSC TV Channels 2 through 6**  
**F(50,50)** for service contours selected  
**Find ERP, given a Field Strength and a Distance**  
**[FM and F(50,50) Service contours only]**

**APPENDIX E – Channel Spacing Study****Short Spacing Study for Channel 229**

Kessler and Gehman Associates, Inc. Telecommunications Consulting Engineers LPFM Channel Spacing Study Florida Victory Outreach Center							
REFERENCE				CLASS = L1		DISPLAY DATES	
28 20 01.0 N.						DATA	02-18-15
81 24 21.9 W.				Current Spacings to 2nd Adj.		SEARCH	02-18-15
----- Channel 229 - 93.7 MHz -----							
Call	Channel	Location		Azi	Dist	FCC	Margin
WNKQ-LP	CP 229L1	Kissimmee	FL	182.8	4.51	23.5	-19.0
WOGK	LIC 229C0	Ocala	FL	327.8	122.73	121.5	1.2
WLLD	LIC 231C	Lakeland	FL	223.4	100.73	92.5	8.2
WFLZ-FM	LIC-N 227C	Tampa	FL	235.9	101.51	92.5	9.0
WWRT-LP	LIC 230L1	Conway	FL	29.5	23.34	13.5	9.8
W231CT	LIC-D 231D	Orlando	FL	354.2	26.30	13.5	12.8
W228BK	LIC 228D	Union Park	FL	33.0	31.13	14.5	16.6
W231CT	CP -D 231D	Orlando	FL	8.0	39.80	20.5	19.3
W227CP	LIC-D 227D	Orlando	FL	356.9	35.94	13.5	22.4
W227CP	CP -D 227D	Sanford	FL	7.9	43.49	20.5	23.0
WSEU-LP	LIC 229L1	Lakeland	FL	235.9	60.80	23.5	37.3
WGYL	LIC 229C2	Vero Beach	FL	129.1	128.58	90.5	38.1
W230AL	LIC 230D	Cocoa	FL	87.7	64.72	14.5	50.2
Translator for WJFP(FM), Fort Pierce, FL							
WRDJ-LP	LIC 228L1	Merritt Island	FL	81.6	69.37	13.5	55.9
W229BM	LIC-D 229D	Riverview	FL	237.5	99.95	38.5	61.5
W227AF	LIC 227D	Melbourne	FL	107.4	72.35	7.5	64.9
Translator For WSCF, Vero Beach, FL- Vertical Polarization Only							
WLGM-LP	LIC 230L1	Edgewater	FL	37.8	85.14	13.5	71.6
W231CN	CP -D 231D	Daytona Beach	FL	14.5	96.18	20.5	75.7
W228CT	LIC 228D	Daytona Beach	FL	17.9	105.21	20.5	84.7
W230CB	CP 230D	Ormond Beach	FL	18.1	112.96	14.5	98.5
WXNX	LIC-N 229C2	Sanibel	FL	192.4	207.40	90.5	116.9
W229BR	CP 229D	Bayshore Gardens	FL	225.4	154.89	31.5	123.4
AL8348	RSV-A 229C2	Sanibel	FL	198.3	213.92	90.5	123.4
WBGF	LIC-Z 228C3	Belle Glade	FL	159.8	194.76	66.5	128.3
WSOS-FM	RSV-A 231C2	Fruit Cove	FL	356.6	189.90	52.5	137.4
One Step Application							
WSOS-FM	APP-Z 231C2	Fruit Cove	FL	353.1	193.75	52.5	141.3
One Step Application							
WJBT	LIC-N 227C1	Callahan	FL	355.8	216.41	72.5	143.9
W227BT	LIC 227D	Port St. Lucie	FL	136.0	155.25	7.5	147.8
-----							
RSV-R = reserved - needs protection, RSV-A = allocation All separation margins include rounding							

## Radio Reading Service study for Channel 229

LPFM stations must satisfy the second-adjacent channel minimum distance separation requirements with respect to any third-adjacent channel FM station that, as of September 20, 2000, broadcasts a radio reading service via a subcarrier frequency.

Kessler and Gehman Associates, Inc. Telecommunications Consulting Engineers Radio Reading Service Channel Spacing Study Florida Victory Outreach Center						
REFERENCE				DISPLAY DATES		
28 20 01.0 N.				CLASS = L1		DATA 02-18-15
81 24 21.9 W.				Current Spacings to 3rd Adj.		SEARCH 02-18-15
----- Channel 229 - 93.7 MHz -----						
Call	Channel	Location	Azi	Dist	FCC	Margin
WKNQ-LP	CP 229L1	Kissimmee	FL 182.8	4.51	23.5	-19.0
WOGK	LIC 229C0	Ocala	FL 327.8	122.73	121.5	1.2
WLLD	LIC 231C	Lakeland	FL 223.4	100.73	92.5	8.2
WFLZ-FM	LIC-N 227C	Tampa	FL 235.9	101.51	92.5	9.0
W226BT	APP-D 226D	Orlando	FL 6.5	22.99	13.5	9.5
W226BT	LIC-D 226D	Orlando	FL 6.5	22.99	13.5	9.5
WWRT-LP	LIC 230L1	Conway	FL 29.5	23.34	13.5	9.8
W231CT	LIC-D 231D	Orlando	FL 354.2	26.30	13.5	12.8
W228BK	LIC 228D	Union Park	FL 33.0	31.13	14.5	16.6
W231CT	CP -D 231D	Orlando	FL 8.0	39.80	20.5	19.3
W227CP	LIC-D 227D	Orlando	FL 356.9	35.94	13.5	22.4
W227CP	CP -D 227D	Sanford	FL 7.9	43.49	20.5	23.0
WSEU-LP	LIC 229L1	Lakeland	FL 235.9	60.80	23.5	37.3
WGYL	LIC 229C2	Vero Beach	FL 129.1	128.58	90.5	38.1
W230AL	LIC 230D	Cocoa	FL 87.7	64.72	14.5	50.2
Translator for WJFP(FM), Fort Pierce, FL						
WRDJ-LP	LIC 228L1	Merritt Island	FL 81.6	69.37	13.5	55.9
WKRO-FM	LIC-N 226C3	Port Orange	FL 23.6	99.37	39.5	59.9
W229BM	LIC-D 229D	Riverview	FL 237.5	99.95	38.5	61.5
W227AF	LIC 227D	Melbourne	FL 107.4	72.35	7.5	64.9
Translator For WSCF, Vero Beach, FL- Vertical Polarization Only						
WLGM-LP	LIC 230L1	Edgewater	FL 37.8	85.14	13.5	71.6
W231CN	CP -D 231D	Daytona Beach	FL 14.5	96.18	20.5	75.7
W232AZ	LIC 232D	Melbourne	FL 110.6	84.77	7.5	77.3
Translator for WJFP, Fort Pierce, FL						
W228CT	LIC 228D	Daytona Beach	FL 17.9	105.21	20.5	84.7
W230CB	CP 230D	Ormond Beach	FL 18.1	112.96	14.5	98.5
WXNX	LIC-N 229C2	Sanibel	FL 192.4	207.40	90.5	116.9
W229BR	CP 229D	Bayshore Gardens	FL 225.4	154.89	31.5	123.4
AL8348	RSV-A 229C2	Sanibel	FL 198.3	213.92	90.5	123.4
WBGF	LIC-Z 228C3	Belle Glade	FL 159.8	194.76	66.5	128.3
WSOS-FM	RSV-A 231C2	Fruit Cove	FL 356.6	189.90	52.5	137.4
One Step Application						
WSOS-FM	APP-2 231C2	Fruit Cove	FL 353.1	193.75	52.5	141.3
One Step Application						
WJBT	LIC-N 227C1	Callahan	FL 355.8	216.41	72.5	143.9
W227BT	LIC 227D	Port St. Lucie	FL 136.0	155.25	7.5	147.8
-----						
RSV-R = reserved - needs protection, RSV-A = allocation All separation margins include rounding						

## **APPENDIX F - SHORT SPACING WAIVER CALCULATIONS**

Short Spacing Undesired-to-Desired Ratio Calculation to second-adjacent channel facility: **N/A – Proposed LPFM station is fully spaced**

## **APPENDIX G – TRANSLATOR AND BOOSTER PROXIMITY**

The proposed transmitter site proximity to FM boosters and translators was determined using the FCC's FMQuery tool:

<http://www.fcc.gov/encyclopedia/fm-query-broadcast-station-search>

Results are as follows:

**Boosters within 10km of the proposed LPFM transmitter site: 0**

**Search Parameters:**

Service:	FB
Search radius:	10.00 km
Center lat / lon:	N 28 20 1.00 W 81 24 21.90
Lower Channel	200
Upper Channel	300

**FM Query Results**  
  
Wed Feb 18 15:23:35 2015 Eastern time  
  
 (Landscape printing preferred)

\*\*\* 0 FM Records within 10.00 km distance of 28° 20' 1.00 " N, 81° 24' 21.90" W \*\*\*

**Translators within 10km of the proposed LPFM transmitter site: 2**

**Search Parameters:**

Service:	FX
Search radius:	10.00 km
Center lat / lon:	N 28 20 1.00 W 81 24 21.90
Lower Channel	200
Upper Channel	300

**FM Query Results**  
  
Wed Feb 18 15:25:39 2015 Eastern time  
  
 (Landscape printing preferred)

Call	Channel	Class	Service	Frequency	Status	City	State	Country	File Number	Docket
W241BP	241	D	FX	96.1 MHz	LIC	KISSIMMEE	FL	US	BLFT-20130924AGR	
W246CK	246	D	FX	97.1 MHz	CP	KISSIMMEE	FL	US	BNPFT-20130318ABJ	

\*\*\* 2 FM Records within 10.00 km distance of 28° 20' 1.00 " N, 81° 24' 21.90" W \*\*\*