

APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT

W278BP - PALM COAST, FLORIDA
FACILITY ID: 157073
103.5 MHz / 54 W ERP ND

CENTRAL FLORIDA EDUCATIONAL FOUNDATION, INC.

AUGUST, 2016

APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Central Florida Educational Foundation, Inc.** ("CFEF"), permittee of FM translator station W278BP at Palm Coast, Florida, and are in support of their application for modification of construction permit.¹ This application seeks to modify the current construction permit for W278BP under FCC File No. BNPFT-20130823AAY.

The current construction permit for W278BP authorized operation on FM channel 278 with a maximum effective radiated power of 99 Watts, at a center of radiation of 38 meters above mean sea level, utilizing a non-directional antenna. CFEF proposes no change in the channel of operation, or community of license, however, a relocation of the translator is proposed. This relocation would result in changes to the elevation data, as well as to the effective radiated power.

The proposed facility would operate on channel 278 with a maximum effective radiated power of 54 Watts. The proposed center of radiation is 71.6 meters AMSL, which corresponds to a 64.0 meters above ground level. The site elevation, as specified in the antenna structure registration data is 7.6 meters above mean sea level. CFEF proposes the use of a single-bay Nicom BKG77 circularly polarized antenna for W278BP.

The proposed relocation of the facility would constitute a minor change to the existing construction permit. Exhibit E-1 provides a comparison between the authorized 60 dBu service

¹ The Facility ID for W278BP at Palm Coast, Florida is 157073.

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contour and the proposed 60 dBu service contour. As this map demonstrates, the authorized 60 dBu service contour is wholly contained within the proposed 60 dBu service contour.

No change in the primary station associated with the translator is proposed under this application. Exhibit E-2 illustrates the proposed 60 dBu service contour, and the fact that this contour is wholly contained within the WHYZ 60 dBu service contour. Exhibit E-3 provides additional detail in the vicinity of the point of approach of the two contours. These exhibits demonstrate that the translator contour is wholly contained within the WHYZ service contour, and that the translator qualifies as providing fill-in service. W278BP will be translating the HD2 stream of WHYZ.

The proposed facility complies with the provisions of Section 74.1204 of the Commission's Rules. Due to the channel of operation, Section 74.1205 is not applicable. Exhibit E-4 is a tabular interference study for the proposed facility. This study demonstrates that the contour overlap provisions of Section 74.1204 of the Commission's Rules would be met by the proposed facility to all relevant authorizations in the region.² This tabular study is graphically illustrated in Exhibit E-5, with detail in the vicinity of the closest approach of the W278BP 54 dBu F(50,10) and WVYB 60 dBu F(50,50) contours illustrated in Exhibit E-6.

CFEF is the permittee, or licensee, of several translator facilities located within the state of Florida. Exhibit E-7 illustrates the predicted 60 dBu service contours of the proposed facility, and the other CFEF translators. As this map demonstrates, the proposed 60 dBu service contour of W278BP does not overlap the 60 dBu contour of any other CFEF translator facility.

² Contours derived from application of FCC 30-meter terrain database.

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The proposed facility would not constitute a significant environmental impact, and is exempt from environmental processing. The translator antenna would utilize an existing structure that is registered with the Commission. The addition of the translator antenna to this tower would not increase the existing environmental impact already present from the structure.

In addition, the proposed facility would not constitute a radiofrequency radiation hazard to persons at the site. The Commission's on-line *FM Model* utility calculates a maximum power density of $0.2582 \mu\text{W}/\text{cm}^2$ at a distance of 63.5 meters from the tower. This value complies with the uncontrolled environment condition of the Commission's safety standard, and is sufficiently low to categorically exclude the facility. The BKG77 antenna is considered a "type-2" antenna, and was analyzed as such.

CFEF certifies that it will coordinate with all other users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

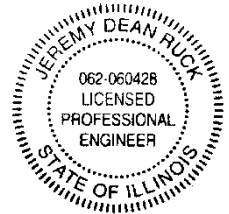
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8.11.2016

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2017

Jeremy D. Ruck, PE
August 11, 2016

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8.11.2016

W278BP.X

BNPFT20130823AAY
Latitude: 29-32-55 N
Longitude: 081-12-30.60 W
ERP: 0.054 kW
Channel: 278
Frequency: 103.5 MHz
AMSL Height: 71.6 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

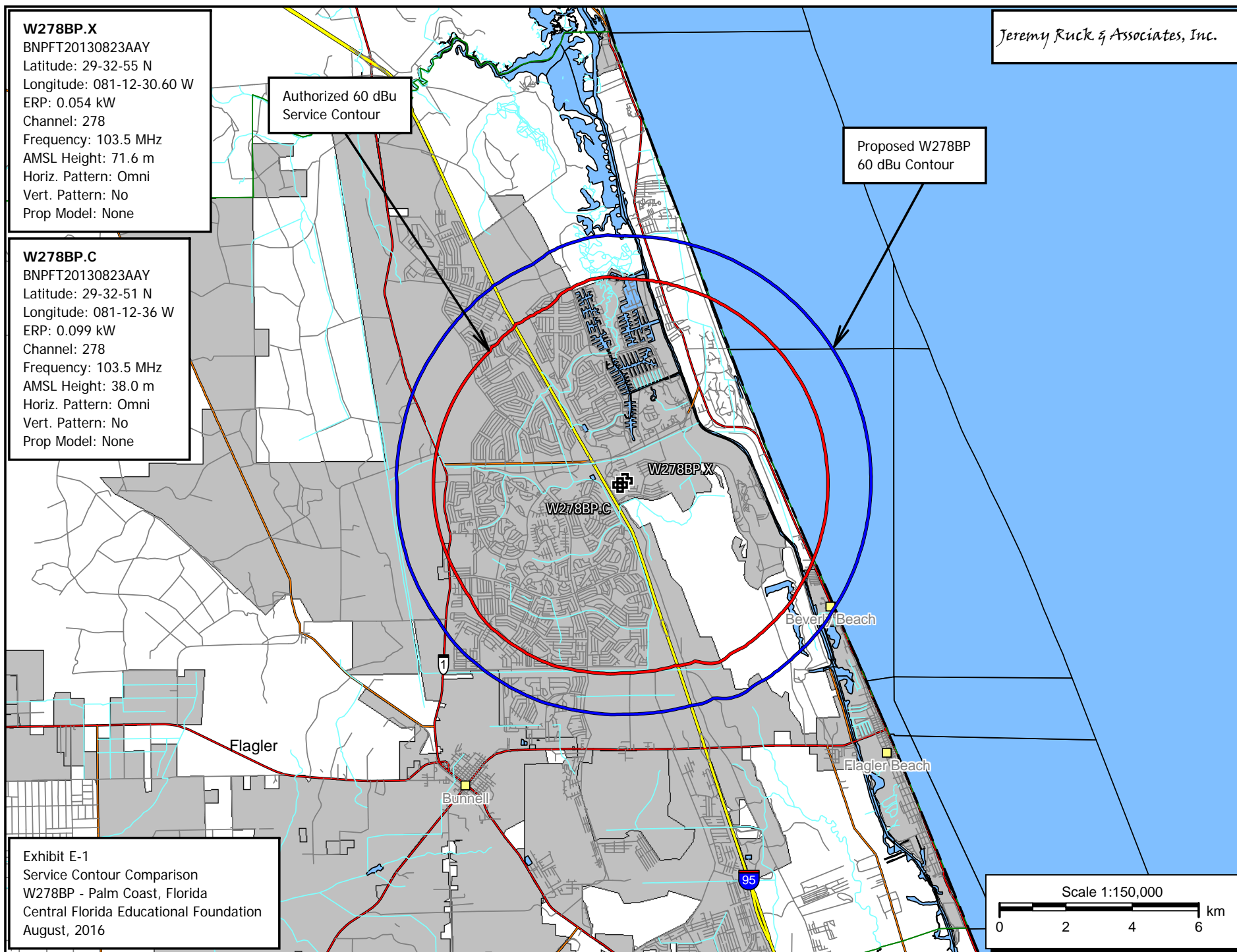
W278BP.C

BNPFT20130823AAY
Latitude: 29-32-51 N
Longitude: 081-12-36 W
ERP: 0.099 kW
Channel: 278
Frequency: 103.5 MHz
AMSL Height: 38.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Authorized 60 dBu
Service Contour

Proposed W278BP
60 dBu Contour

Jeremy Ruck & Associates, Inc.

**Exhibit E-1**

Service Contour Comparison
W278BP - Palm Coast, Florida
Central Florida Educational Foundation
August, 2016

Scale 1:150,000

0 2 4 6 km

W278BP.X

BNPFT20130823AAY
Latitude: 29-32-55 N
Longitude: 081-12-30.60 W
ERP: 0.054 kW
Channel: 278
Frequency: 103.5 MHz
AMSL Height: 71.6 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Proposed W278BP
Transmitter Site

Jeremy Ruck & Associates, Inc.

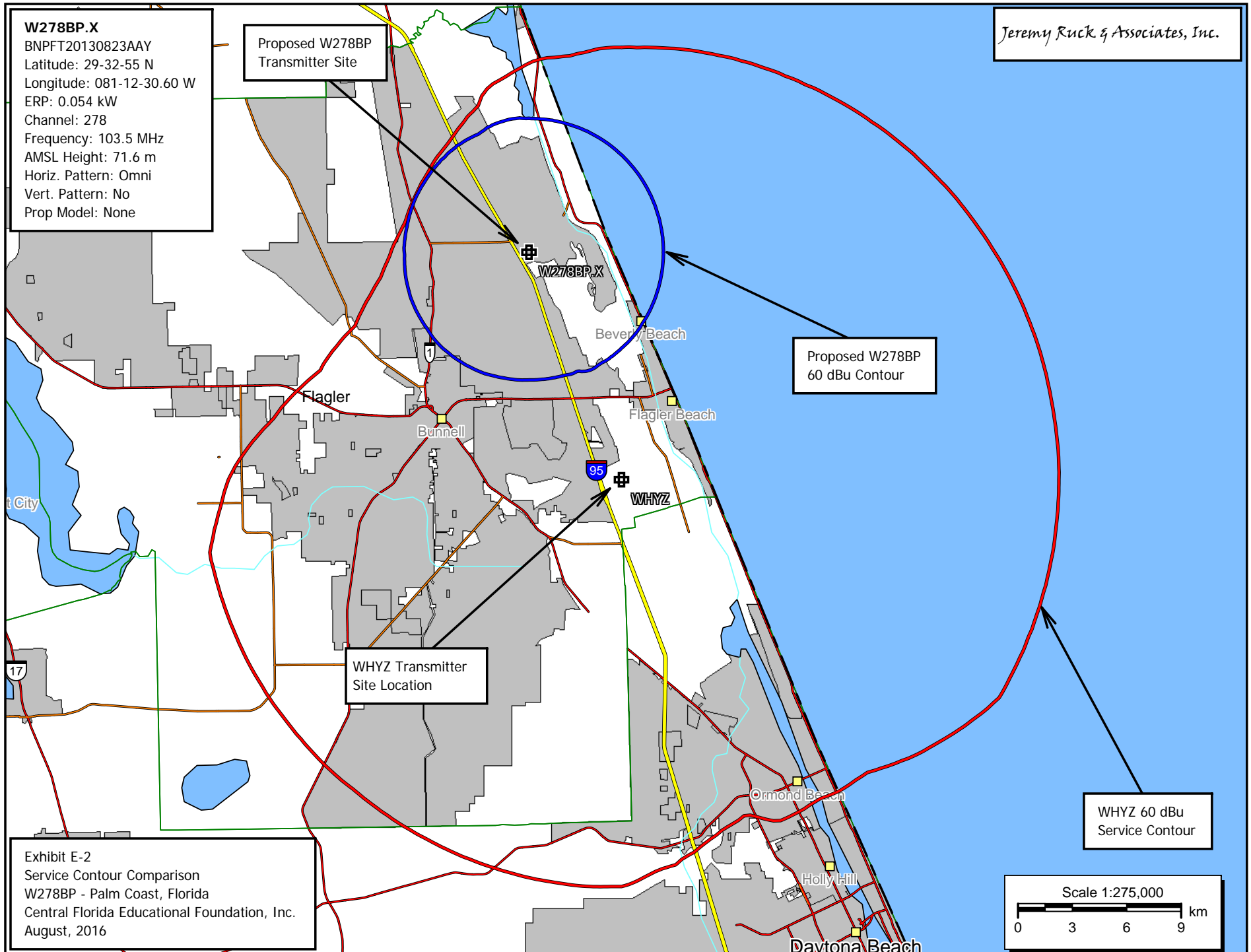


Exhibit E-2
Service Contour Comparison
W278BP - Palm Coast, Florida
Central Florida Educational Foundation, Inc.
August, 2016

Proposed W278BP
60 dBu Contour

WHYZ 60 dBu
Service Contour

Scale 1:275,000

0 3 6 9 km

W278BP.X

BNPFT20130823AAY
Latitude: 29-32-55 N
Longitude: 081-12-30.60 W
ERP: 0.054 kW
Channel: 278
Frequency: 103.5 MHz
AMSL Height: 71.6 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

WHYZ

BLED20100823ACQ
Latitude: 29-26-08 N
Longitude: 081-09-21 W
ERP: 9.20 kW
Channel: 216
Frequency: 91.1 MHz
AMSL Height: 56.4 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

Exhibit E-3

Service Contour Comparison
W278BP - Palm Coast, Florida
Central Florida Educational Foundation, Inc.
August, 2016

WHYZ 60 dBu
Service Contour

Jeremy Ruck & Associates, Inc.

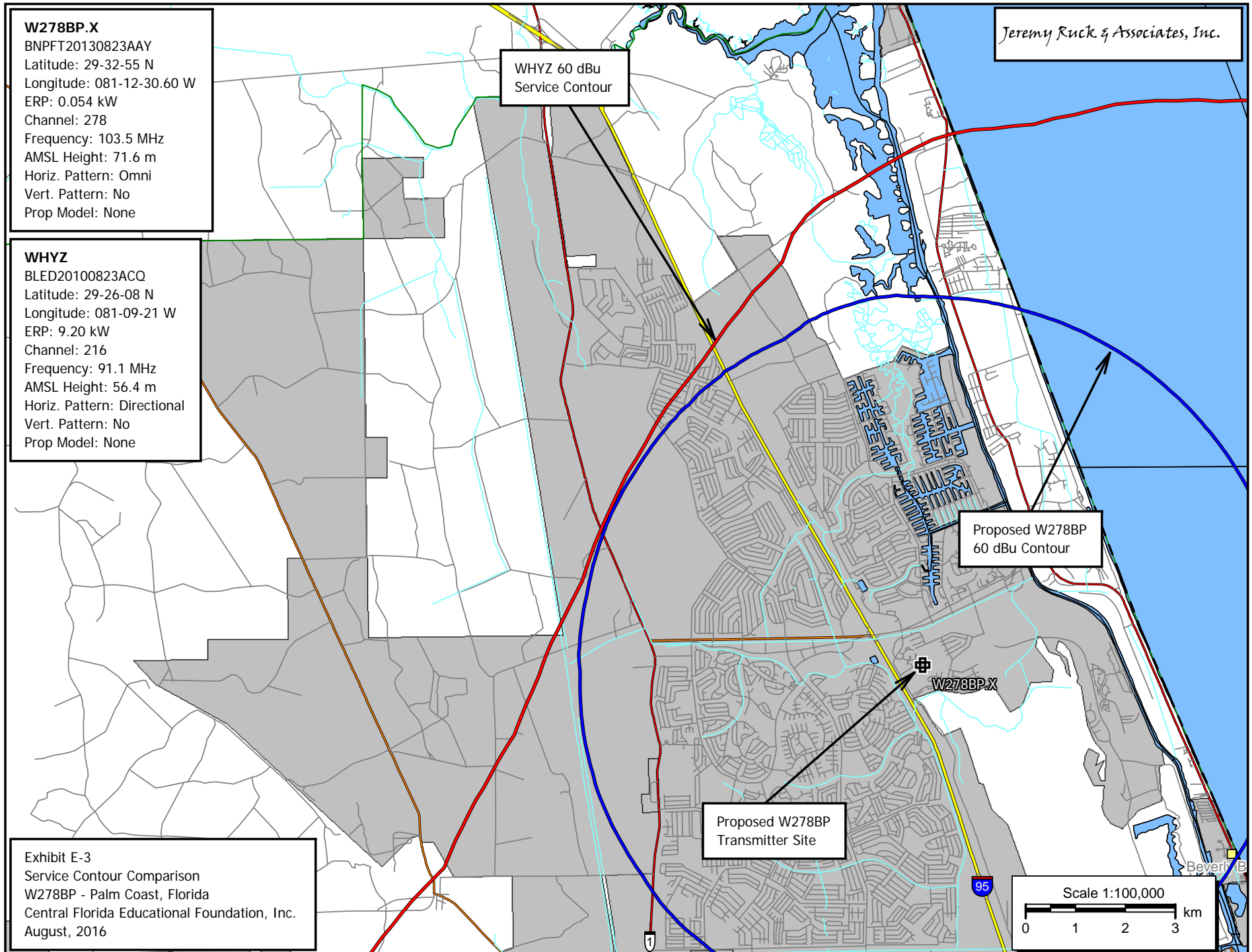
Proposed W278BP
60 dBu Contour

Proposed W278BP
Transmitter Site

W278BP.X

Scale 1:100,000

0 1 2 3 km



Jeremy Ruck & Associates, Inc.
Consulting Engineers - Canton, Illinois

Exhibit E-4 - Tabular Interference Study
W278BP - Palm Coast, Florida
CH# 278D - 103.5 MHz, Pwr= 0.054 kW, HAAT= 67.3 M, COR= 71.6 M
Average Protected F(50-50)= 7.19 km
Omni-directional

REFERENCE
29 32 55.0 N.
81 12 30.6 W.

DISPLAY DATES
DATA 08-11-16
SEARCH 08-11-16

CH CITY	CALL	TYPE STATE	ANT AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
278D Palm Coast	W278BP	CP _C_ FL	229.5 49.5	0.19 BNPFT20130823AAY	29 32 51.0 81 12 36.0	0.099 33	20.9 38	6.3 Central Florida Educationa	-27.7*	-29.7*
277A Holly Hill	WVYB	LIC _CX FL	159.2 339.3	37.11 BLH20101007AAD	29 14 11.0 81 04 22.0	6.000 90	41.3 93	26.4 Southern Stone Communicati	-11.2*	0.1
279C1 Gainesville	WRUF-FM	LIC _CN FL	279.2 98.6	115.99 BLH19850820KL	29 42 34.0 82 23 40.0	100.000 234	98.3 275	66.8 The University Of Florida	10.8	39.3
275C Jacksonville	WXXJ	LIC _C_ FL	337.1 156.9	87.86 BMLH20130124AAQ	30 16 34.0 81 33 53.0	100.000 309	10.2 315	72.7 Cox Radio, Inc.	70.4	14.6
281C Cocoa Beach	WTKS-FM	LIC _C_ FL	173.1 353.2	108.37 BMLH20031010ADD	28 34 51.0 81 04 32.0	100.000 487	12.5 500	86.1 Clear Channel Broadcasting	88.9	21.8
280D St. Augustine	W280EY	LIC _C_ FL	336.9 156.8	44.67 BLFT20160413AEE	29 55 05.0 81 23 26.0	0.240	1.1 125	13.7 Wsos Radio LLC	36.4	30.4
278C0 Gulfport	WFUS	LIC _C_ FL	208.3 27.8	217.93 BLH20111004ADI	27 49 09.7 82 15 38.7	68.000 472	180.0 491	81.4 Citicasters Licenses, Inc.	30.9	112.8
275D Port Orange	W275BZ	CP _DC_ FL	164.5 344.6	47.51 BMPFT20160205AEM	29 08 12.0 81 04 41.0	0.250	0.4 95	7.3 Central Florida Educationa	40.0	38.9
279D Atlantic Beach	W279AG	LIC _DC_ FL	336.9 156.7	88.54 BLFT20110622AAG	30 16 51.0 81 34 12.0	0.250 278	32.0 284	21.6 New Covenant Ministries, I	49.3	56.8

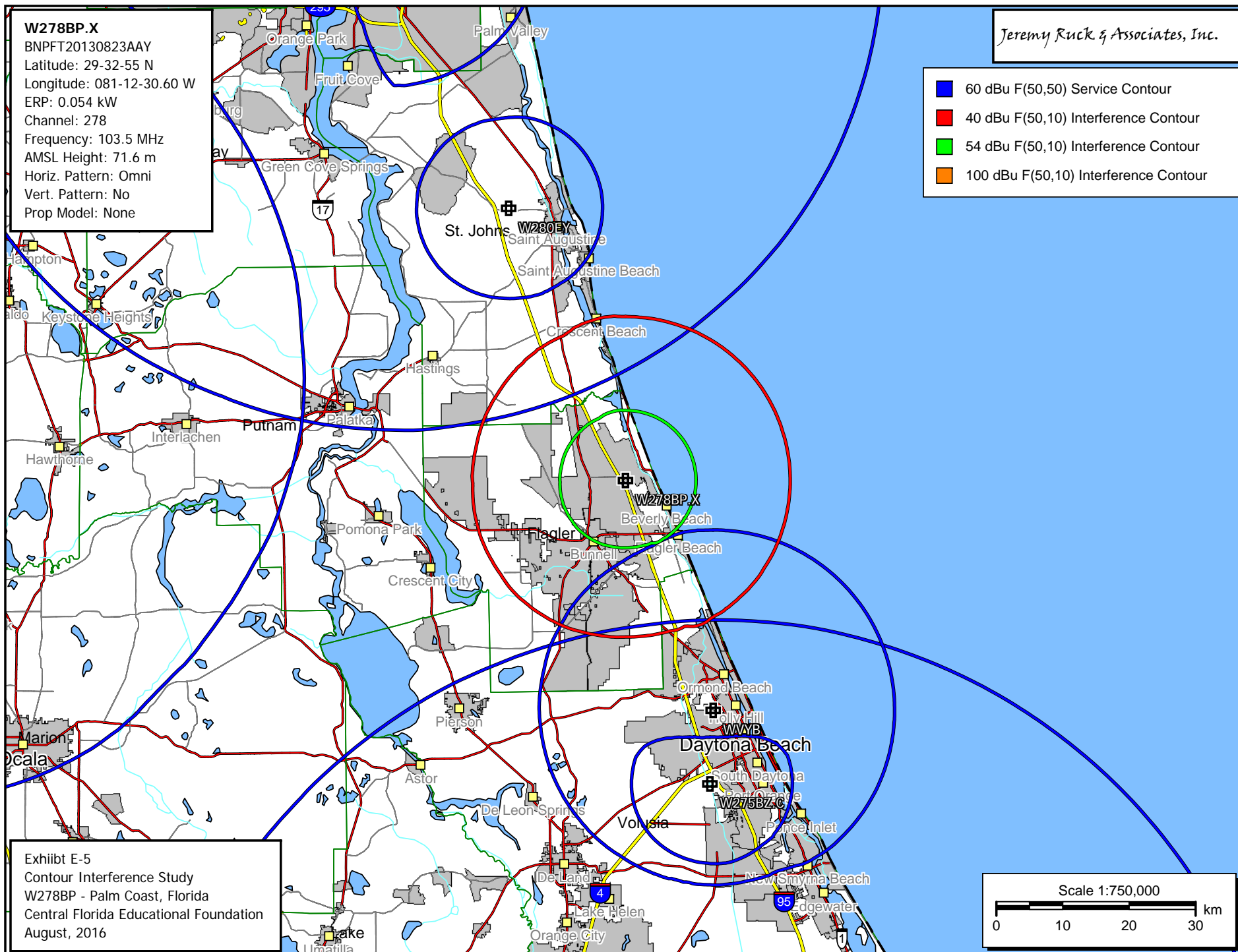
Terrain database is FCC 30 meter, R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding. Call signs with strikeout 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.

W278BP.X

BNPFT20130823AAY
Latitude: 29-32-55 N
Longitude: 081-12-30.60 W
ERP: 0.054 kW
Channel: 278
Frequency: 103.5 MHz
AMSL Height: 71.6 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

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- 60 dBu F(50,50) Service Contour
- 40 dBu F(50,10) Interference Contour
- 54 dBu F(50,10) Interference Contour
- 100 dBu F(50,10) Interference Contour



W278BP.X

BNPFT20130823AAY
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- 60 dBu F(50,50) Service Contour
- 40 dBu F(50,10) Interference Contour
- 54 dBu F(50,10) Interference Contour
- 100 dBu F(50,10) Interference Contour

Proposed W278BP
54 dBu F(50,10) Contour

Flagler Beach

WVYB 60 dBu
F(50,50) Contour

Exhibit E-6
Contour Interference Study
W278BP - Palm Coast, Florida
Central Florida Educational Foundation
August, 2016

Scale 1:50,000

0 0.7 1.4 2.1 km

W278BP.X

BNPFT20130823AAY

Latitude: 29-32-55 N

Longitude: 081-12-30.60 W

ERP: 0.054 kW

Channel: 278

Frequency: 103.5 MHz

AMSL Height: 71.6 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None

Jeremy Ruck & Associates, Inc.

60 dBu Service Contours

- Proposed W278BP
- W227CP
- W240BV
- W245AZ
- Licensed W250BH
- Authorized W250BH
- W273CA
- W274BB
- W274BR
- W257BZ
- W279CT
- W292DZ
- Proposed W298BO
- Authorized W298BO
- W300CL

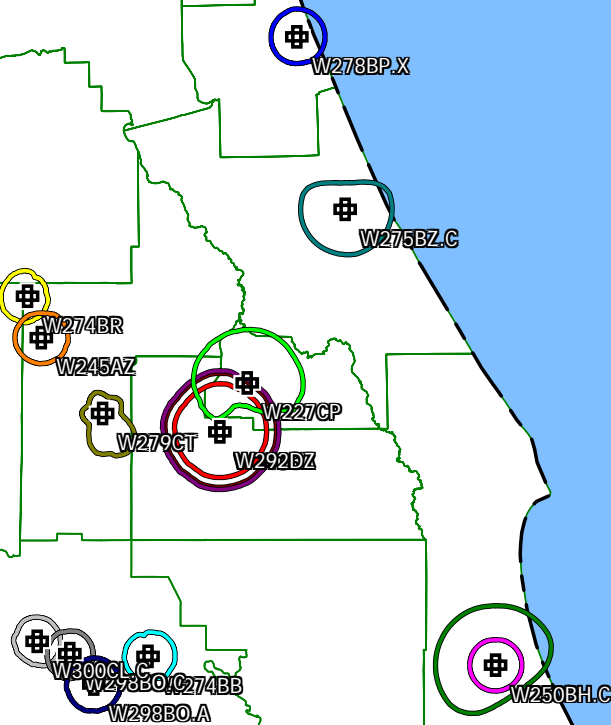


Exhibit E-7

Translator Service Contours

W278BP - Palm Coast, Florida

Central Florida Educational Foundation, Inc.

August, 2016

Scale 1:2,000,000

