

APPLICATION FOR CONSTRUCTION PERMIT

NEW - IRON RIVER, MICHIGAN
BNPFT-20170727AAW
FACILITY ID: 200556
97.9 MHz / 250 W ERP ND

IRON RIVER COMMUNITY
BROADCASTING CORPORATION

DECEMBER, 2017

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12.4.2017

APPLICATION FOR CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Iron River Community Broadcasting Corporation** ("Iron River"), applicant for a new FM translator station to serve Iron River, Michigan, and are in support of their application for construction permit.¹ This application is being filed as the initial long-form application for the facility following its singleton determination by the Staff. The short-form engineering proposal was assigned FCC File No. BNPFT-20170727AAW, and was filed during the Commission's July 2017 new translator filing window as part of the *Revitalization of the AM Radio Service*.

The proposed facility operates on FM channel 250 with a maximum effective radiated power of 250 Watts utilizing a non-directional antenna. The proposed center of radiation is 540 meters above mean sea level, which corresponds to 56 meters above ground level. No change in the technical parameters specified under the short-form engineering is proposed for the long-form application.

The proposed facility would serve as a translator for AM station WFER at Iron River, Michigan.² Exhibit E-1 provides a comparison between the proposed translator 60 dBu service contour, the WFER 2 mV/m service contour, and a twenty-five mile radius centered on the WFER transmitter site. This map demonstrates that the proposed 60 dBu service contour for the translator is fully contained within both the WFER 2 mV/m service contour and a twenty-five mile radius centered on the WFER transmitter site location.

¹ The Facility ID for the proposed translator facility at Iron River, Michigan is 200556.

² The Facility ID for WFER at Iron River, Michigan is 49684.

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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-2 is a tabular interference study from the proposed facility. This study demonstrates that the contour overlap provisions of Section 74.1204 would be met by the proposed translator to all relevant authorizations. This tabular study is graphically illustrated in the contour overlap map comprising Exhibit E-3.

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

Additionally, the proposed facility would not constitute a radiofrequency radiation hazard to persons at the site. The Commission's online *FM Model* utility returns a calculated maximum power density of $3.42 \mu\text{W}/\text{cm}^2$ at a distance of 13 meters from the tower. This value complies with the uncontrolled environment of the Commission's safety standard. The Nicom BKG77/2 model antenna is considered a "type-2" antenna, and was analyzed as such.

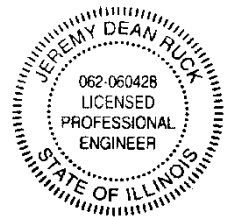
Iron River certifies that it will coordinate with all other users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Coordination activities will include, but are not necessarily limited to, a reduction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

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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, 2019

Jeremy D. Ruck, PE
December 4, 2017

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1761755.A

BNPFT20170727AAW

Latitude: 46-03-55 N

Longitude: 088-38-17 W

ERP: 0.25 kW

Channel: 250

Frequency: 97.9 MHz

AMSL Height: 540.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None

Proposed 60 dBu
Service Contour

Jeremy Ruck & Associates, Inc.

Proposed 60 dBu Service Contour

WFER 2 mV/m Groundwave Contour

WFER 25 mile Site Radius

WFER 2 mV/m
Groundwave Contour

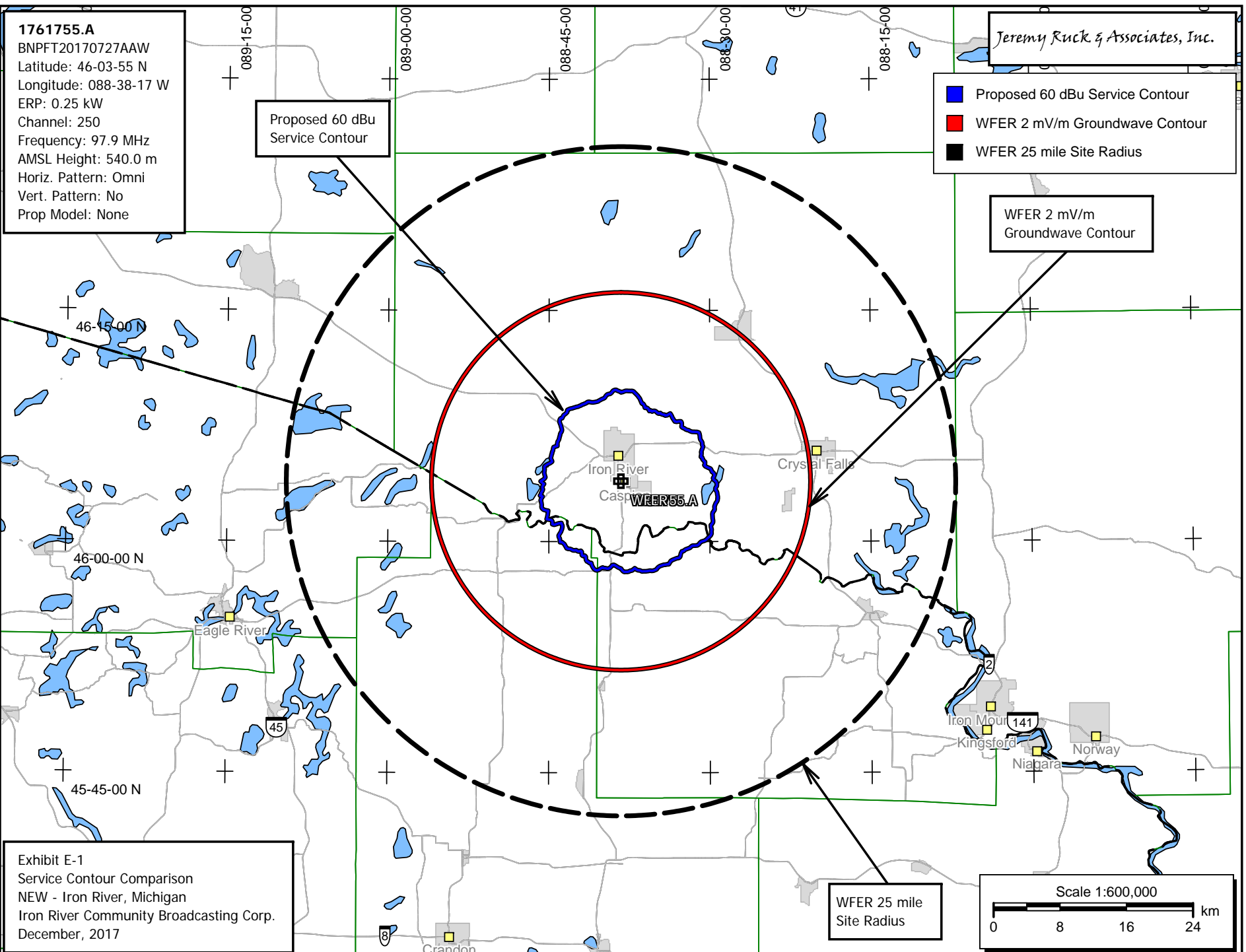


Exhibit E-1

Service Contour Comparison

NEW - Iron River, Michigan

Iron River Community Broadcasting Corp.

December, 2017

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

Exhibit E-2 - Tabular Interference Study

NEW - Iron River, Michigan

REFERENCE 46 03 55.2 N.
88 38 16.5 W.
CH# 250D - 97.9 MHz, Pwr= 0.25 kW, HAAT= 64.6 M, COR= 540 M
Average Protected F(50-50)= 10.51 km
Omni-directional

DISPLAY DATES
DATA 12-04-17
SEARCH 12-04-17

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
250D Iron River	1761755	APP _C_ MI		0.0 59.0	0.00 BNPFT20170727AAW	46 03 55.0 88 38 17.0	0.250 540	37.5 540	11.0 Iron River Community Broad	-48.2*	-47.3*
251A Kingsford	WEUL	LIC _C_ MI		120.9 301.3	50.11 BMLED20161027ACN	45 49 58.0 88 04 57.0	1.000 142	29.4 495	19.8 Gospel Opportunities, Inc.	8.4	11.5
251A Kingsford	WEUL	CP _CX MI		121.0 301.4	49.68 BPED20171004AAD	45 50 02.3 88 05 17.0	1.000 135	28.4 492	19.3 Gospel Opportunities, Inc.	8.7	11.6
247C1 Rhinelander	WHDG	LIC NCX WI		209.5 29.2	87.34 BLH20090720AAZ	45 22 50.0 89 11 22.0	100.000 168	7.9 664	62.1 Raven License Sub, LIC	68.7	24.1
250C1 Stevens Point	WSPT	LIC _CN WI		204.1 23.5	185.57 BLH19961015KB	44 32 17.0 89 35 43.0	100.000 103	144.7 436	49.0 Muzzy Broadcast Group, LIC	29.9	101.3

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.
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.
Reference station has protected zone issue: AM tower

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Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None

Jeremy Ruck & Associates, Inc.

- 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

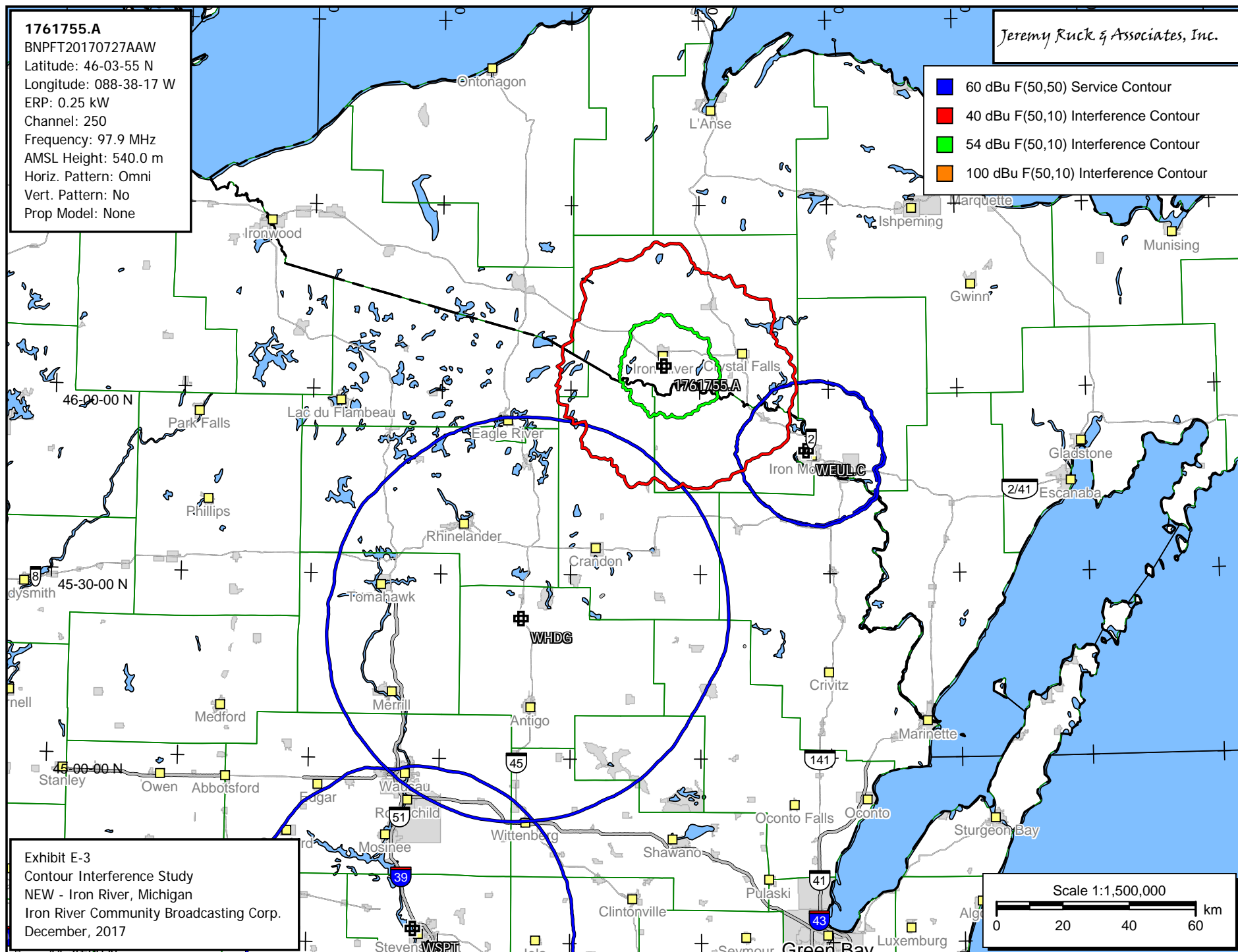


Exhibit E-3

Contour Interference Study

NEW - Iron River, Michigan

Iron River Community Broadcasting Corp.

December, 2017

Scale 1:1,500,000

0 20 40 60 km