

CITY OF LICENSE  
CALL LETTERS  
FACILITY ID  
PREPARED FOR  
VERSION  
JOB

Corvallis, OR  
K264AA  
65756  
The KBOO Foundation  
1.1  
114046

# **CONSOLIDATED ENGINEERING EXHIBIT**

FCC Form 349 - Section III-A - Engineering

## **BROWN BROADCAST SERVICES**

Michael D. Brown

INCORPORATED  
3740 S.W. Comus St. Portland, Oregon 97219-7418

503-245-6065

**ENGINEERING STATEMENT**  
**MINOR CHANGE TO LICENSED FM TRANSLATOR K264AA**  
**- move to new tower, new directional antenna -**  
**The KBOO Foundation**

**SUMMARY**

The KBOO Foundation (“KBOO”) hereby seeks a minor change to licensed FM translator K264AA. This translator provides fill-in service for KLVU-FM, Sweet Home, OR. This application proposes moving to a new tower, using a different directional antenna and changing the power to 34W ERP.

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# EXHIBIT 13

## OVERLAP REQUIREMENTS

### INTERFERENCE PROTECTION

This minor-change application proposes a move to a new site, a change to 34W ERP and a change of directional antenna. No other changes are proposed. This is a fill-in proposal, as shown by **Exhibit 13a**. The radial HAAT power limitations of §74.1235(b)(2) are not applicable.

**Exhibit 13b** shows that a portion of the proposed 60dBu overlaps with the licensed 60dBu, qualifying this proposal as a minor-change. **Exhibits 13c to 13d** and the Station Table below show that this proposal meets all contour protection requirements of §74.1204(a).

K264AA to Prospect North_Slater Comm The Kboo Foundation										
REFERENCE 44 51 18.0 N. 123 07 15.0 W.		CH# 264D - 100.7 MHz, Pwr= 0.034 kW DA, HAAT= 274.8 M, COR= 371 M Average Protected F(50-50)= 13.1 km Standard Directional						DISPLAY DATES DATA 11-20-14 SEARCH 11-20-14		
CH CITY	CALL	TYPE STATE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT (M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
264D Corvallis	K264AA!	LIC	DH OR	206.9 26.8	26.74 BPFT20140922ADL	44 38 25.0 123 16 25.0	0.175	66.5 449	21.3 The Kboo Foundation	-17.1
266C Portland	KXL-FM	LIC	C OR	22.3 202.6	79.53 BLH20100503ACD	45 30 58.0 122 43 59.0	100.000 502	12.8 594	88.1 Alpha Media Licensee Lic	-8.9*
262C Portland	KKRZ	LIC	C OR	21.5 201.7	79.81 BLH20011214AAE	45 31 21.0 122 44 45.0	100.000 470	12.4 561	85.7 Citicasters Licenses, Inc.	-6.2*
264C2 Depoe Bay	KPPT-FM	LIC	CX OR	261.8 81.2	74.13 BLH20030926AQJ	44 45 23.0 124 03 01.0	17.500 255	123.4 328	49.9 Agpal Broadcasting Inc.	3.7
264L1 Hillsboro	KQRZ-LP	LIC	 OR	16.4 196.6	69.91 BLL20130711ACH	45 27 29.0 122 52 05.0	0.005 131	 227	 Oregon Amateur Radio Club	23.4
264L1 Portland	1654279	APP	 OR	30.4 210.8	86.13 BNPL20131114BUZ	45 31 17.5 122 33 37.8	0.100 25	 117	 The Oregon Center For The	35.3
264L1 Portland	1654256	APP	 OR	29.6 210.0	87.82 BNPL20131114BUV	45 32 26.4 122 33 50.6	0.012 86	 170	 The Creative Music Guild	38.6
264L1 Portland	1642507	APP	 OR	35.0 215.4	88.77 BNPL20131114BHV	45 30 26.6 122 28 03.5	0.100 17	 104	 Slavic Community Center Of	39.3
264L1 Portland	1642506	APP	 OR	35.0 215.4	88.77 BNPL20131108AEW	45 30 26.6 122 28 03.5	0.100 17	 104	 Jehovah Jireh International	39.3

Terrain database is FCC NGDC 30 Sec, 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= West Zone, Co to 3rd adjacent.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
Incoming contour overlap is ignored.  
\*\*\*affixed to 'IN' or 'OUT' values = site inside restricted contour.

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## **CONTOUR PROTECTION TO 2<sup>nd</sup> AND 3<sup>rd</sup>- ADJACENT STATIONS**

Contour protection to 2<sup>nd</sup> adjacent stations KXL-FM, Portland OR, and KKRZ, Portland OR, is provided using the ratio method. The F(50/50) contour of KXL-FM 63.6dBu at the proposed translator site. For KKRZ, the contour is 62.5dBu. Using the appropriate U/D ratio of 40db, the corresponding “worst-case” interfering contour of the proposed translator is therefore 102.5dBu. **Exhibit 13d** shows this area, on a Google Earth map. All structures within the interference contour are unattended transmitter buildings, accessed by a dirt road. There are no populated areas, populated structures, or major roads within this interference contour.

## **PROTECTED ZONES REPORT**

Protected zones report for K264AA.C on channel 264D 11-21-2014  
 Lat. 44 51 18.0 Lng. 123 07 15.0, ERP= 0.034 kw, HAAT= 274.8M  
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Facility is okay with respect to Canada. Distance = 375.6 km.

Facility is okay with respect to AM station towers.

Closest AM Facility is KBZY, SALEM, OR, L, ND2 at 74.5° at a distance of 11.1 km

Facility is okay with respect to FCC monitoring stations.

Closest FCC Monitoring Station is 457.9 km= Ferndale, WA

Facility is okay toward West Virginia Quiet Zone. Distance to center = 3706.4 km

Facility is okay toward Table Mountain. Distance to Center = 1560.7 km,  
 Azimuth = 103.5 Degrees True

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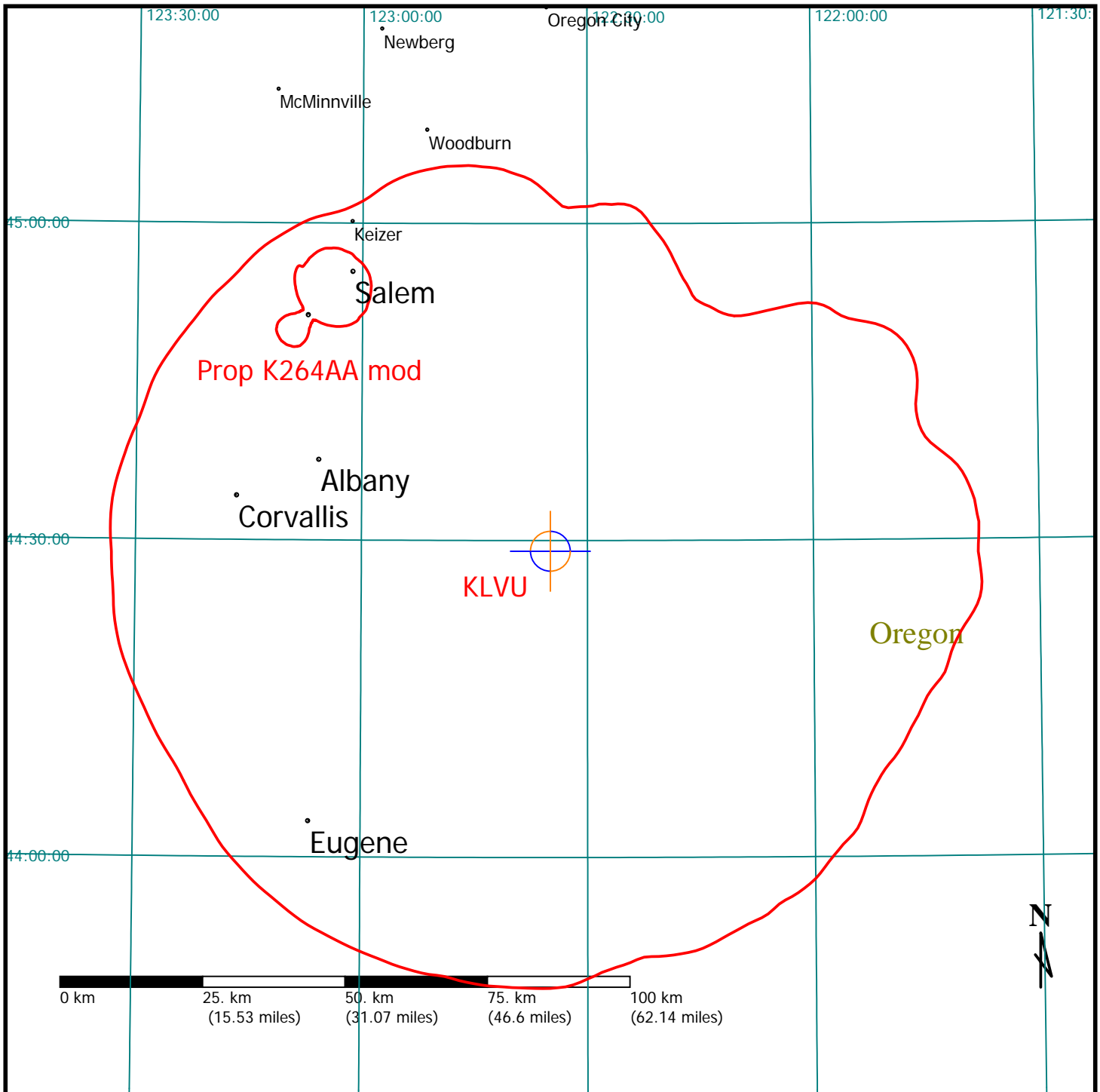
503-245-6065

# Exhibit 13a

## Proposed K264AA Modification - Showing Fill-in Status

Brown Broadcast Services, Inc.  
Job: K264AA move to Prospect N\_Slater\_Nov2014.fmj  
Master Database: 2014\_Nov\_19.fmd  
Lat: N44:28:59 Lon: W122:34:55 NAD-27  
Scale: 1:1000000  
Channel: 264 Class: DX

rfInvestigator Version 3.8.4  
by rfSoftware, Inc.  
Date: 11/22/2014 3:40:21 PM  
Key:  
City Grade  
Protected  
Co-Channel  
1st Adj  
2nd/3rd Adj

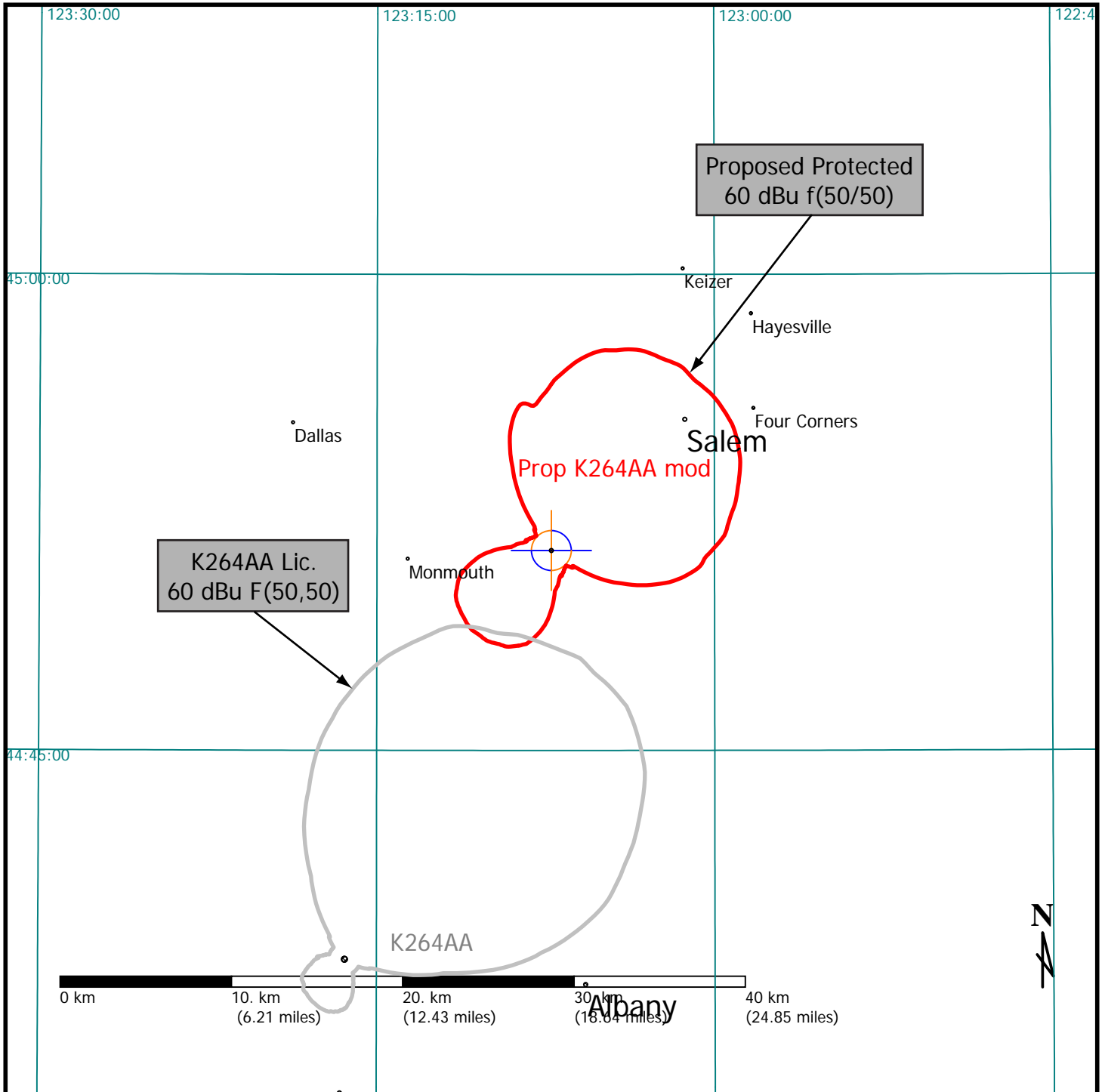


## Exhibit 13b

### Proposed vs. Licensed

Brown Broadcast Services, Inc.  
Job: K264AA move to Prospect N\_Slater\_Nov2014.fmj  
Master Database: 2014\_Nov\_19.fmd  
Lat: N44:51:18 Lon: W123:07:15 NAD-27  
Scale: 1:333333  
Channel: 264 Class: DX

rfInvestigator Version 3.8.4  
by rfSoftware, Inc.  
Date: 11/22/2014 3:42:27 PM  
Key:  
City Grade  
Protected  
Co-Channel  
1st Adj  
2nd/3rd Adj



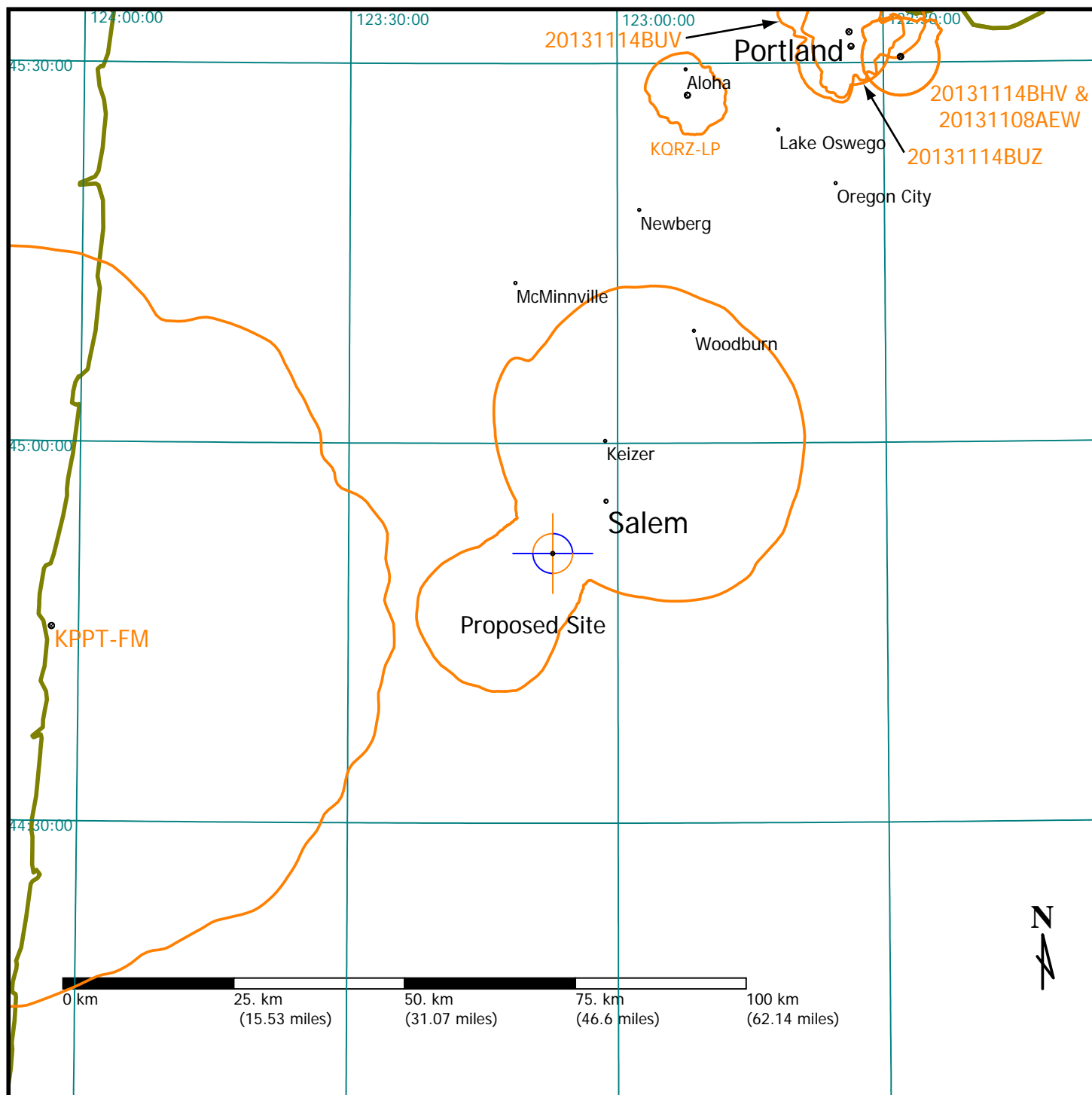
## Exhibit 13c

### Co-channel Contour Protection

Brown Broadcast Services, Inc.  
Job: K264AA move to Prospect N\_Slater\_Nov2014.fmj  
Master Database: 2014\_Nov\_19.fmd  
Lat: N44:51:18 Lon: W123:07:15 NAD-27  
Scale: 1:833333  
Channel: 264 Class: DX

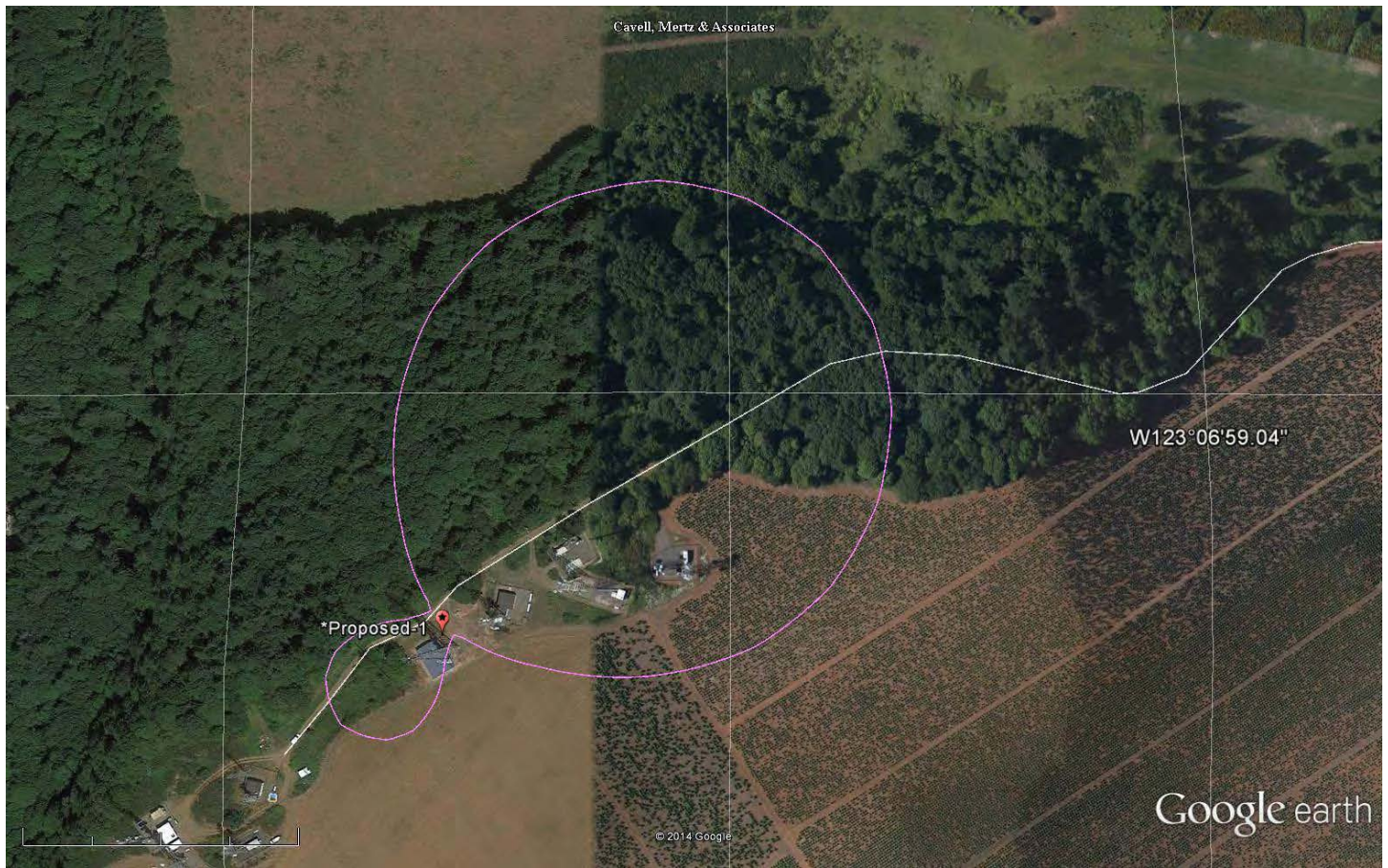
rfInvestigator Version 3.8.4  
by rfSoftware, Inc.  
Date: 11/22/2014 4:15:20 PM

**PROPOSED**  
**Interfering: 40dBu F(50,10)**  
**AFFECTED**  
**Protected: 60dBu F(50,50)**



# EXHIBIT 13d

## Worst-Case 2nd-Adjacent Interference Area - 102.5dBu



Google earth

feet 1000  
meters 400



All structures within interference contour are unattended transmitter buildings.  
There are no populated areas within the interference contour.



# **EXHIBIT 17**

## **ENVIRONMENTAL PROTECTION ACT / NIER ANALYSIS**

The applicant proposes mounting a Scala CA2-FM/CP circularly-polarized antenna on an existing 97.5 meter pole. The proposed center of radiation is 27m AGL. Calculations were made using FM Model for Windows, version 2.10c, with the Phelps-Dodge Ring Stub or Dipole “worst-case” setting employed. This resulted in a predicted peak exposure of  $2.2\mu\text{W}/\text{cm}^2$ , at 6.8 meters from the tower. This represents 1.1% of the Maximum Permissible Exposure (MPE) of  $200\mu\text{W}/\text{cm}^2$  for uncontrolled environments. 47 CFR §1.1307(b)(3) exempts applicants from preparing an Environmental Assessment when the predicted exposure levels would be less than 5% of the FCC limits.

Vehicle access to the site is limited by a locked gate. The site will be posted with appropriate RF exposure warning signs. A fence around the base of the tower is under construction. If tower climbing by authorized personnel becomes necessary, transmitter power will be reduced or operation will cease, as necessary, so as to not exceed the RF exposure limits.

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