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**Proposed Translator
Channel 232D at Tillamook, OR
To Rebroadcast KTIL(AM) 1590 kHz Netarts, OR
March 2018**

Allocation Study

The attached spacing study shows the spacing between the proposed translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. The attached allocation study map demonstrates compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

The attached spacing study demonstrates compliance with §73.207 of the Commission's Rules regarding spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

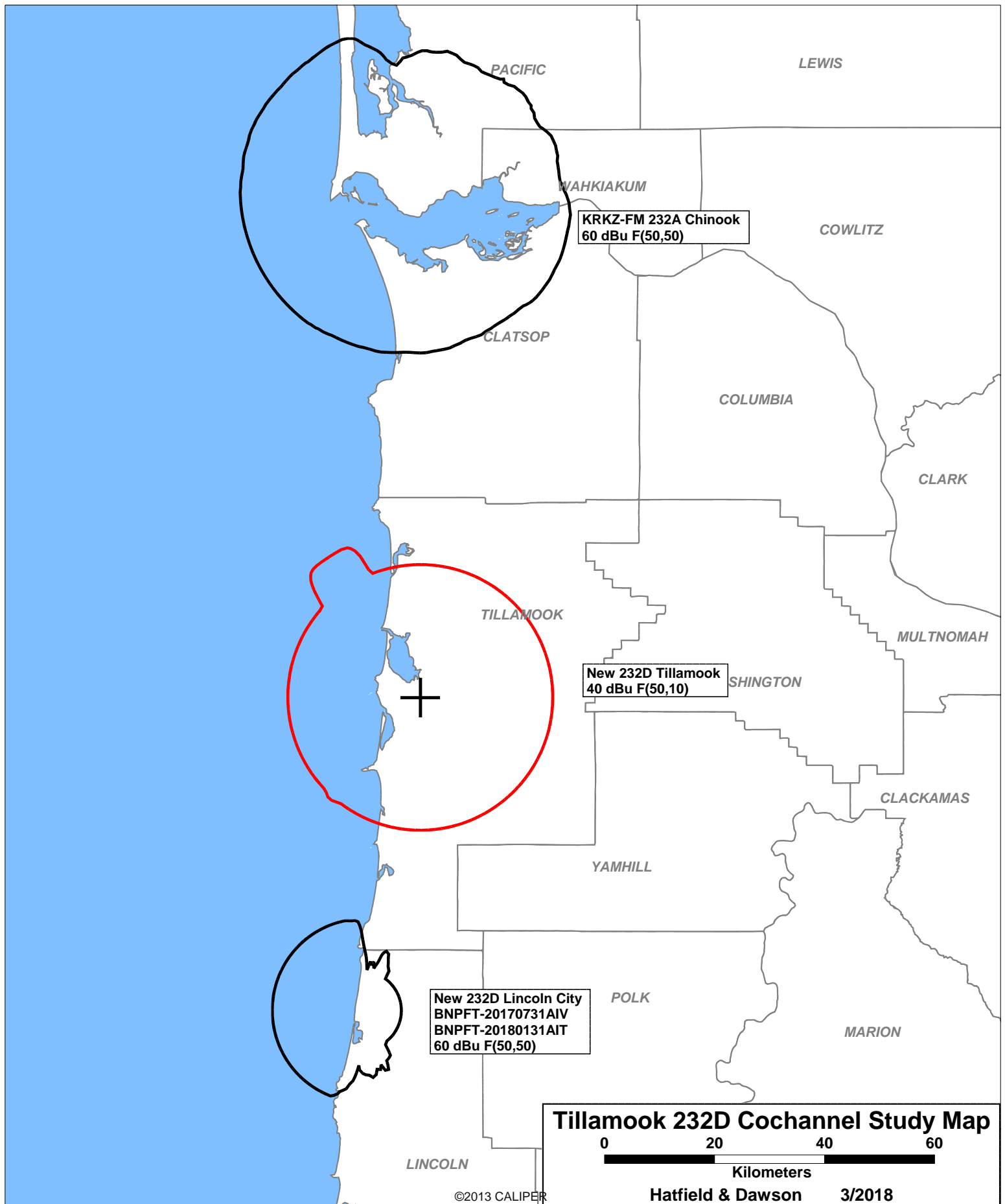
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SEARCH PARAMETERS                               FM Database Date: 180316
Channel: 232A      94.3 MHz                      Page 1
Latitude: 45 27 25
Longitude: 123 52 17
Safety Zone: 50 km
Job Title: TILLAMOOK 232

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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KRLZ LIC	WALDPORT OR	BLH-60202ABJ	229C3 93.7	9.000 132.0	44-38-40 124-00-50	187.1 SS	90.99 48.99	42 CLEAR
KPDQ-FM LIC	PORTLAND OR	BLH-60208AMF	230C1 93.9	52.000 387.0	45-29-20 122-41-40	87.4 SS	92.10 17.10	75 CLEAR
KZZR LIC	GOVERNMENT CAMP OR	BLH-10208ADF	232C2 94.3	3.400 513.0	45-20-01 121-42-45	93.9	169.61 3.61	166 CLOSE
NEW-T APP	LINCOLN CITY OR	BNPFT-80131AIQ	232D 94.3	0.250 0.0	44-56-45 124-00-21	190.5	57.78 0.00	0 TRANS
NEW-T APP	LINCOLN CITY OR	BNPFT-80131AIT	232D 94.3	0.250 0.0	44-56-45 124-00-21	190.5	57.78 0.00	0 TRANS
KIQY-LP LIC	SALEM OR	BLL-70123FKV	232L1 94.3	0.007 109.6	44-53-49 123-05-02	135.0	87.78 20.78	67 CLEAR
NEW-T APP	TILLAMOOK OR	BNPFT-80125AHB	232D 94.3	0.250 48.0	45-27-25 123-52-17	0.0	0.00 0.00	0 TRANS
KRKZ-FM LIC	CHINOOK WA	BLH-30605ACE	232A 94.3	0.400 380.0	46-17-12 123-53-46	358.8 SS	92.24 -22.76	115 SHORT
KMGE LIC	EUGENE OR	BLH-970925KE	233C1 94.5	49.000 396.0	44-00-04 123-06-45	159.4	172.59 39.59	133 CLEAR
KLYK LIC	KELSO WA	BLH-30305AAA	233A 94.5	3.000 145.0	46-16-49 122-52-34	39.7 SS	119.78 47.78	72 CLEAR
KNRK LIC	CAMAS WA	BLH-30326AIC	234C2 94.7	6.300 403.0	45-29-20 122-41-40	87.4 SS	92.10 37.10	55 CLEAR
KBGE-FM1 LIC	ASTORIA OR	BLFTB-60517AAT	235D 94.9	0.130 0.0	46-11-17 123-49-50	2.2	81.32 0.00	0 BOOST
KBGE LIC	CANNON BEACH OR	BLH-60517AAN	235C3 94.9	7.000 92.0	45-57-08 123-56-14	354.7 SS	55.29 13.29	42 CLEAR
K285DN LIC	CANNON BEACH OR	BLFT-880909TC	285D 104.9	0.055 88.0	45-52-42 123-57-15	352.2	47.28 0.00	0 TRANS

===== END OF FM SPACING STUDY FOR CHANNEL 232 =====



Facilities Proposed

The proposed operation will be on Channel 232D (94.3 MHz) with an effective radiated power of 250 watts. Operation is proposed with an existing antenna which is mounted on an existing tower used by KTIL(AM). The FCC Antenna Structure Registration Number for the tower is 1034092.

The antenna and transmission line are in place from a prior auxiliary antenna license for FM station KZZR (see BXLH-20060323ABV), which was used when that station was previously licensed to Tillamook. (KZZR has since relocated to Government Camp, and the BXLH-20060323ABV 60 dBu contour is far outside the licensed KZZR 60 dBu contour.)

Since the antenna and transmission line are already in place, it will not be necessary to condition the construction permit regarding installation of an antenna and transmission line on a tower of an AM directional array. (Nor would it be possible to perform pre-construction measurements on the array.)

RF Exposure Calculations

OET Bulletin 65 Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01) states in part that:

When performing an evaluation for compliance with the FCC's RF guidelines all significant contributors to the ambient RF environment should be considered. . . For purposes of such consideration, significance can be taken to mean any transmitter producing more than 5% of the applicable exposure limit (in terms of power density or the square of the electric or magnetic field strength) at accessible locations.

As will be demonstrated below, the proposed operation will produce less than 5% of the applicable exposure limit for both controlled and uncontrolled environments. Thus, the proposed facility is categorically excluded from the requirement of further study. Therefore, pursuant to §1.1307(b)(3) of the Commission's Rules no calculations are required for the other FM and TV facilities in the vicinity, and precise calculations are made only with regard to the levels from this proposal.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on

the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

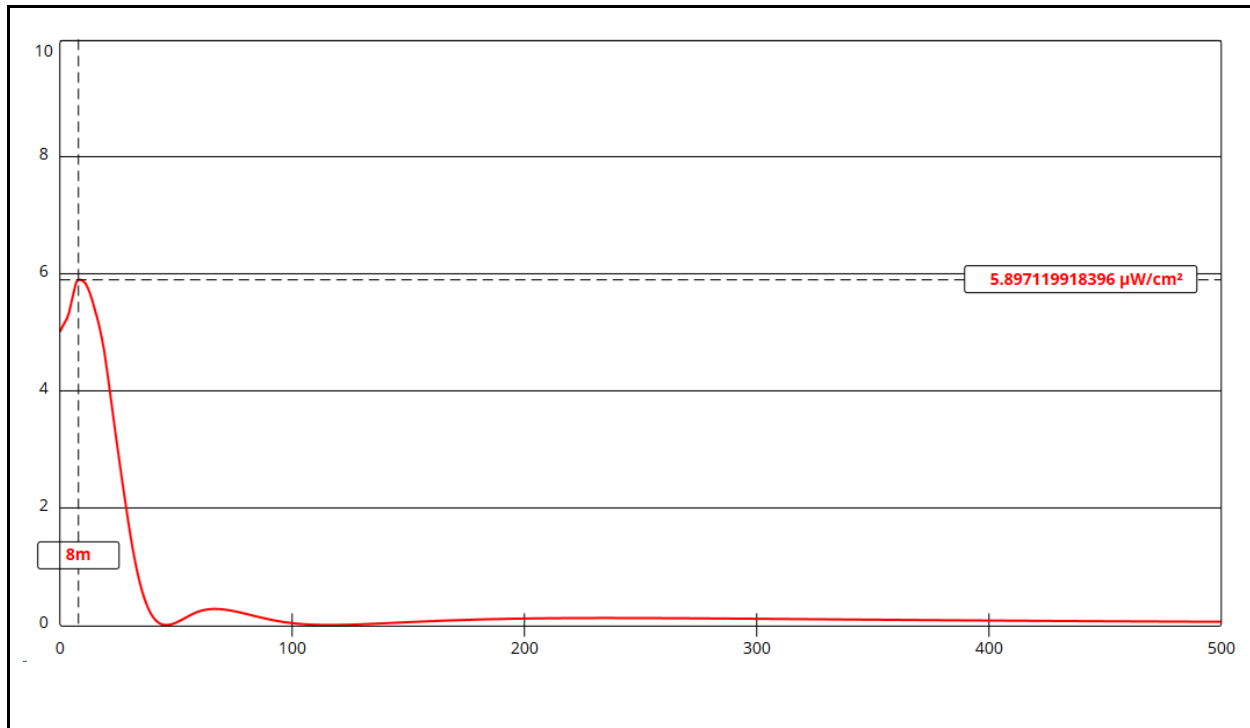
Calculations of the power density produced by the proposed antenna system assume a Type 2 element pattern, which is the element pattern for the PSI FM-3 antenna proposed for use. The highest calculated ground level power density occurs at a distance of 8 meters from the base of the antenna support structure. At this point the power density is calculated to be 5.9 $\mu W/cm^2$, which is 3% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

AM Station KTIL

The translator antenna will be installed on a tower used by AM station KTIL 1590 kHz. KTIL operates with 5 kilowatts nondirectional daytime and 1 kilowatt directional nighttime. The radiator is 87.3 electrical degrees tall, or 24.3% of the station wavelength. Using Tables 1-4 in OET Bulletin No. 65, the worst-case fencing distance requirement for this station is 2 meters from the tower base. The tower is fenced to at least this distance.



Ground-Level RF Exposure

OET FMModel

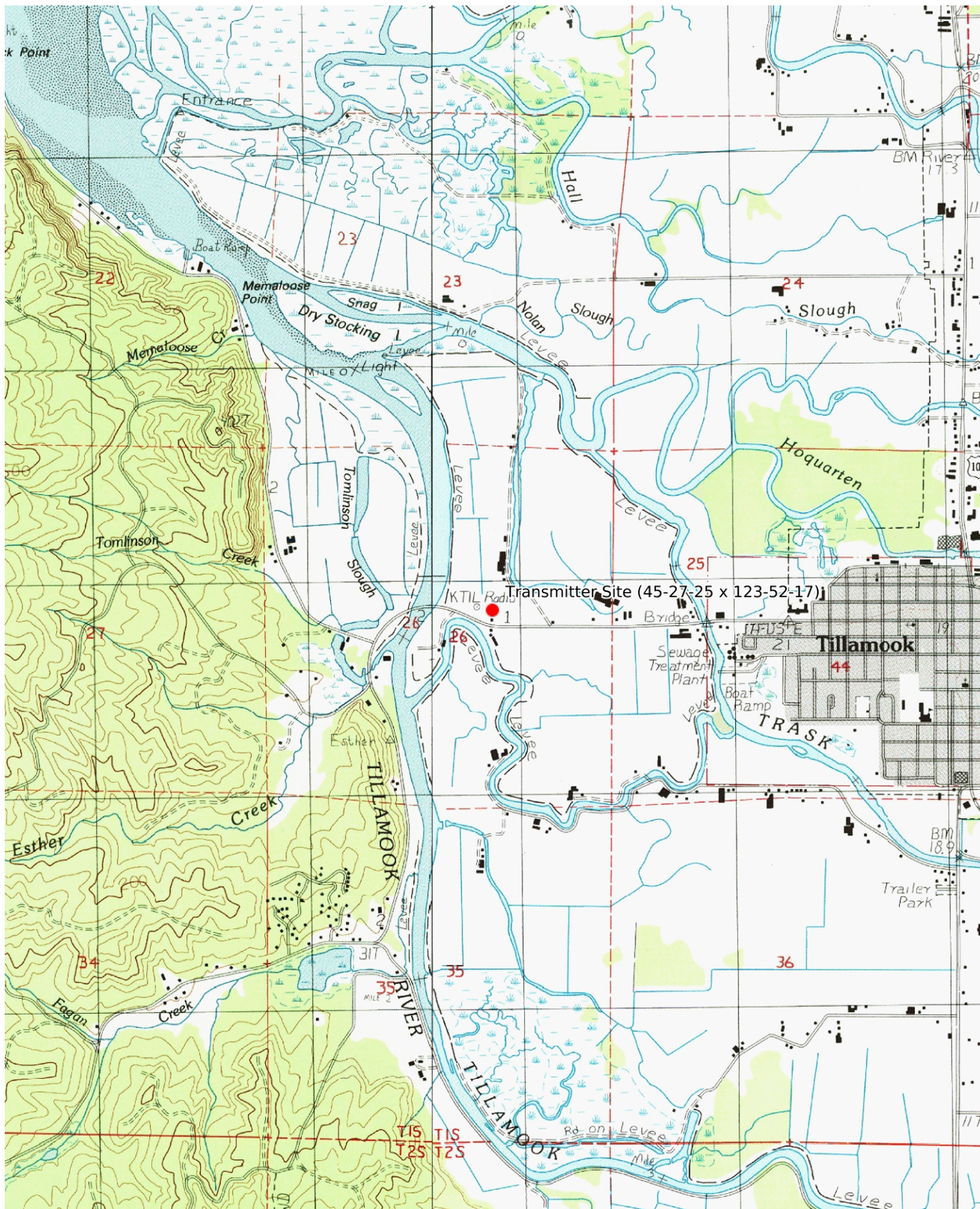
Tillamook 232D

Antenna Type: PSI FM-3 (Type 2)
No. of Elements: 3
Element Spacing: 1.0 wavelength

Distance: 500 meters
Horizontal ERP: 250 W
Vertical ERP: 250 W

Antenna Height: 43 meters AGL

Maximum Calculated Power Density is 5.9 $\mu\text{W}/\text{cm}^2$ at 8 meters from the antenna structure.



Mercator Projection
 NAD27 Conus
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