

ENGINEERING STATEMENT
IN SUPPORT OF AN APPLICATION
TO CHANGE FM TRANSLATOR'S OPERATING FREQUENCY
W65EG, GEORGETOWN, DELAWARE
CHANNEL 226D (93.1 MHz) 0.25 KW 59 METERS AMSL

APRIL 2022

This engineering statement has been prepared on behalf of The Voice Radio, LLC, licensee of FM translator station W265EG, Georgetown, Delaware in support of an application for construction permit to change station's operating frequency.

At present W265EG, (Facility ID Number 151579 is licensed to operate at Georgetown, Delaware on Channel 265D (100.9 MHz) with 0.25 kW ERP and 59 meters antenna height above mean sea level (AMSL) using a directional FM antenna. FM station WAAI which also operates on Channel 265 (100.9 MHz) has reported that interference is being caused to its FM station by W265EG. Therefore, W265EG is filing its current application to propose operation on Channel 226D (93.1 MHz).

The following data provides pertinent information for the proposed W265EG operation on Channel 226D.

Name of the Licensee:	The Voice Radio, LLC		
Station Location:	DE-Georgetown		
Channel:	226D (93.1 MHz)		
Hours of Operation:	Unlimited		
Transmitter:	Type Accepted		
Antenna Type:	Non-Directional		
Antenna Coordinates:	North Latitude:	38 deg 37 min 34.0 sec	
	West Longitude:	75 deg 14 min 01.0 sec	
Transmitter output power:	As required to achieve authorized ERP		
Effective Radiated Power (ERP):	0.25 kW -6.02 dBk		

Elevation of the site above mean sea level:	7.0 meters
Overall Height of the Tower Above Ground:	140.0 meters
Height of Radiation Center Above Ground:	52 meters
Height of Radiation Center Above Mean Sea Level:	59 meters
Antenna Structure Registration Number:	1065742

FILL-IN FM TRANSLATOR

The attached map (Figure 1A) shows the proposed W265EG operation's 60 dBu contour in relation to 40 km arc from the primary station WJWL(AM). As such FM Translator W265EG will provide fill-in service for WJWL.

M ALLOCATION SITUATION

The attached maps (Figures 2-4) show the proposed operation of W265EG will not cause prohibited overlap of contours with pertinent FM stations located within ± 3 channels of Channel 226D. However, W265EG site would be located within FM stations WGMD, Channel 224A, Rehoboth Beach, Delaware and WZBH, Channel 228B, Millsboro, Delaware as shown on the attached maps Figures 5 and 6, respectively. The attached Table I shows the W265EG interfering contours to these FM stations would not reach the ground near the W265EG tower based on the antenna vertical pattern and free-space field method of computation.

No Class A or B FM stations are located within 30 km of W265EG site on Channel 279 and Channel 280.

Environmental Protection Act

Since the W265EG will be operating from an existing tower ASR #1065742, the environmental concerns listed in Section 1.1307(a) of the Commission's Rules are not pertinent; therefore, those issues have not been addressed.

An evaluation has been made to determine compliance with the Commission's specified standards for human exposure to RF fields as set forth in the OET Bulletin No.65 dated August 1997. For a maximum effective radiated power of 0.5 kW (H+V) and a radiation center of 52 meters above ground level, the proposed W265EG operation would have less than 2 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$) RF field at 2 meters above the base of tower assuming an antenna field factor of 0.5 in the downward direction. The Commission's guidelines for the FM band are $1,000 \mu\text{W}/\text{cm}^2$ for the occupational/controlled, and $200 \mu\text{W}/\text{cm}^2$ for the general population/uncontrolled environment.

According to the applicant, the present tower has a security fence around the tower. The above analysis indicates that members of the public and personnel working around the W265EG tower would not be exposed to RF fields exceeding the Commission's guidelines. With respect to work performed on the tower, station W265EG, in coordination with other users on the tower, will establish procedures to ensure that workers are not exposed to RF fields above the Commission's guidelines, by reducing or turning off the power, as appropriate. For the reasons stated above, we believe this proposal complies with Section 1.1307(a) and (b) of the Commission's Rules; therefore, under Section 1.1306, it is categorically excluded from environmental processing.

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TABLE I
COMPUTED DISTANCE TO 119 and 120 dBu SIGNAL LEVELS
FOR THE FM TRANSLATOR OPERATION OF
W265EG, GEORGETOWN, DELAWARE
APRIL 2022

W265EG

Channel: 226D (93.1 MHz)

ERP: 250 Watts

Antenna: PSI Model No.: PSIFML-4A

Antenna Site: N 38° 37' 34.0", W 75° 14' 01.0"

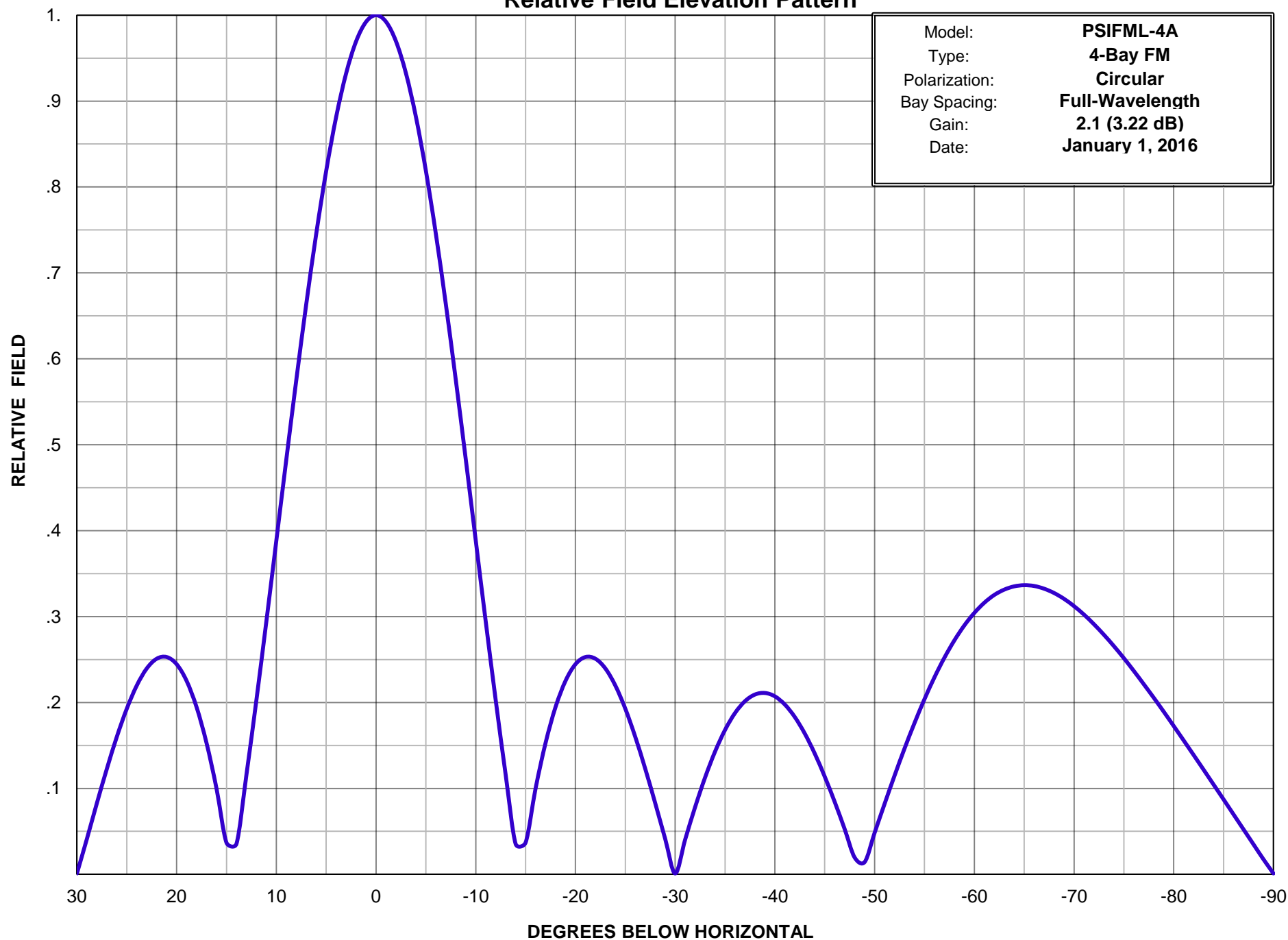
Antenna Radiation Center above Ground: 52 Meters

<u>DEPRESSION</u> <u>ANGLE</u>	<u>ANTENNA</u> R.F.	<u>ERP</u> Watts	<u>DISTANCE TO</u> <u>119 dBu</u> meters	<u>DISTANCE TO</u> <u>120 dBu</u> meters
0	1.000	250.0	77.1	68.7
5	0.819	167.7	63.2	56.3
10	0.338	97.0	79.1	42.8
15	0.037	0.34	2.9	2.5
20	0.245	15.0	18.9	16.9
25	0.193	9.3	14.9	13.3
30	0.001	<1.0	<1.0	<1.0
35	0.168	7.1	13.0	11.6
40	0.207	10.7	16.2	14.2
45	0.114	3.3	8.9	7.9
50	0.048	0.58	3.7	3.3
55	0.204	10.4	15.7	14.0
60	0.304	23.1	23.5	20.9
65	0.337	28.4	26.0	23.2
70	0.312	24.3	24.1	21.4
75	0.252	15.9	19.5	17.3
80	0.173	7.5	13.4	11.9
85	0.087	1.9	6.7	6.0
90	0.001	<1.0	<1.0	<1.0



Propagation Systems, Inc.

Relative Field Elevation Pattern





Propagation Systems Inc.

Elevation Pattern Tabulation

Antenna: PSIFML-4A

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.000	-50.0	0.048	-26.315	-10.0	0.388	-8.216
-89.0	0.017	-35.177	-49.0	0.014	-36.928	-9.0	0.483	-6.326
-88.0	0.035	-29.156	-48.0	0.020	-34.179	-8.0	0.575	-4.804
-87.0	0.052	-25.634	-47.0	0.053	-25.584	-7.0	0.663	-3.563
-86.0	0.070	-23.136	-46.0	0.084	-21.489	-6.0	0.745	-2.553
-85.0	0.087	-21.198	-45.0	0.114	-18.890	-5.0	0.819	-1.738
-84.0	0.104	-19.626	-44.0	0.140	-17.049	-4.0	0.882	-1.095
-83.0	0.122	-18.297	-43.0	0.164	-15.714	-3.0	0.932	-0.609
-82.0	0.139	-17.153	-42.0	0.183	-14.750	-2.0	0.970	-0.269
-81.0	0.156	-16.151	-41.0	0.198	-14.085	-1.0	0.992	-0.067
-80.0	0.173	-15.260	-40.0	0.207	-13.676	0.0	1.000	0.000
-79.0	0.189	-14.460	-39.0	0.211	-13.512	1.0	0.992	-0.067
-78.0	0.205	-13.746	-38.0	0.209	-13.587	2.0	0.970	-0.269
-77.0	0.221	-13.104	-37.0	0.202	-13.914	3.0	0.932	-0.609
-76.0	0.237	-12.517	-36.0	0.188	-14.529	4.0	0.882	-1.094
-75.0	0.252	-11.989	-35.0	0.168	-15.492	5.0	0.819	-1.737
-74.0	0.266	-11.515	-34.0	0.143	-16.901	6.0	0.745	-2.552
-73.0	0.279	-11.095	-33.0	0.113	-18.959	7.0	0.664	-3.561
-72.0	0.291	-10.720	-32.0	0.078	-22.121	8.0	0.575	-4.802
-71.0	0.302	-10.392	-31.0	0.040	-27.861	9.0	0.483	-6.323
-70.0	0.312	-10.114	-30.0	0.001	-60.000	10.0	0.388	-8.213
-69.0	0.321	-9.881	-29.0	0.041	-27.700	11.0	0.294	-10.621
-68.0	0.327	-9.698	-28.0	0.083	-21.647	12.0	0.203	-13.855
-67.0	0.332	-9.566	-27.0	0.123	-18.221	13.0	0.116	-18.718
-66.0	0.336	-9.483	-26.0	0.160	-15.926	14.0	0.035	-29.007
-65.0	0.337	-9.460	-25.0	0.193	-14.301	15.0	0.037	-28.679
-64.0	0.335	-9.495	-24.0	0.220	-13.164	16.0	0.100	-20.013
-63.0	0.331	-9.594	-23.0	0.240	-12.412	17.0	0.153	-16.322
-62.0	0.325	-9.758	-22.0	0.251	-12.010	18.0	0.195	-14.220
-61.0	0.316	-10.005	-21.0	0.253	-11.942	19.0	0.225	-12.951
-60.0	0.304	-10.336	-20.0	0.245	-12.233	20.0	0.245	-12.233
-59.0	0.290	-10.761	-19.0	0.225	-12.951	21.0	0.253	-11.942
-58.0	0.272	-11.300	-18.0	0.195	-14.213	22.0	0.251	-12.010
-57.0	0.252	-11.968	-17.0	0.153	-16.313	23.0	0.240	-12.412
-56.0	0.229	-12.794	-16.0	0.100	-20.000	24.0	0.220	-13.164
-55.0	0.204	-13.816	-15.0	0.037	-28.643	25.0	0.193	-14.301
-54.0	0.176	-15.087	-14.0	0.035	-29.044	26.0	0.160	-15.918
-53.0	0.146	-16.691	-13.0	0.116	-18.729	27.0	0.123	-18.221
-52.0	0.115	-18.797	-12.0	0.203	-13.862	28.0	0.083	-21.647
-51.0	0.082	-21.727	-11.0	0.294	-10.626	29.0	0.041	-27.700

Latitude: 38-37-34 N
Longitude: 075-14-01 W
ERP: 0.25 kW
Channel: 226
Frequency: 93.1 MHz
HAAT: 52.31 m
AMSL Height: 59.0 m
Elevation: 7.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

PROPOSED W265EG 60 dBu

W265EG-PROP

40 km FROM WJWL

FIGURE A

Scale 1:250,000

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W262BF.LIC

Latitude: 38-37-34 N
Longitude: 075-14-01 W
ERP: 0.25 kW
Channel: 262
Frequency: 100.3 MHz
HAAT: 52.31 m
AMSL Height: 59.0 m
Elevation: 7.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

W265EG-PROP

Latitude: 38-37-34 N
Longitude: 075-14-01 W
ERP: 0.25 kW
Channel: 226
Frequency: 93.1 MHz
HAAT: 52.31 m
AMSL Height: 59.0 m
Elevation: 7.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

PROPOSED W265EG 60 dBu

W262BF 60 dBu

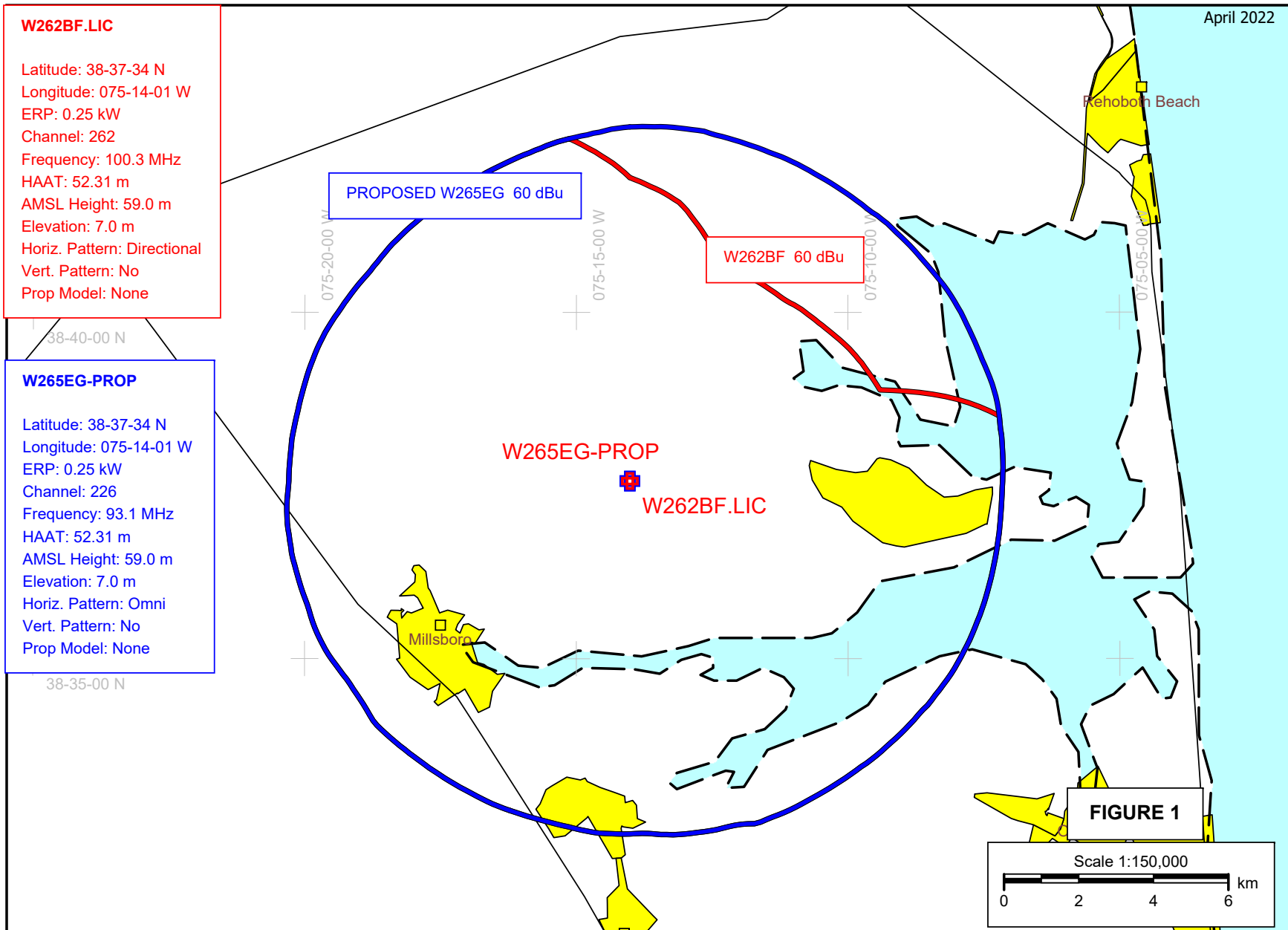
W265EG-PROP

W262BF.LIC

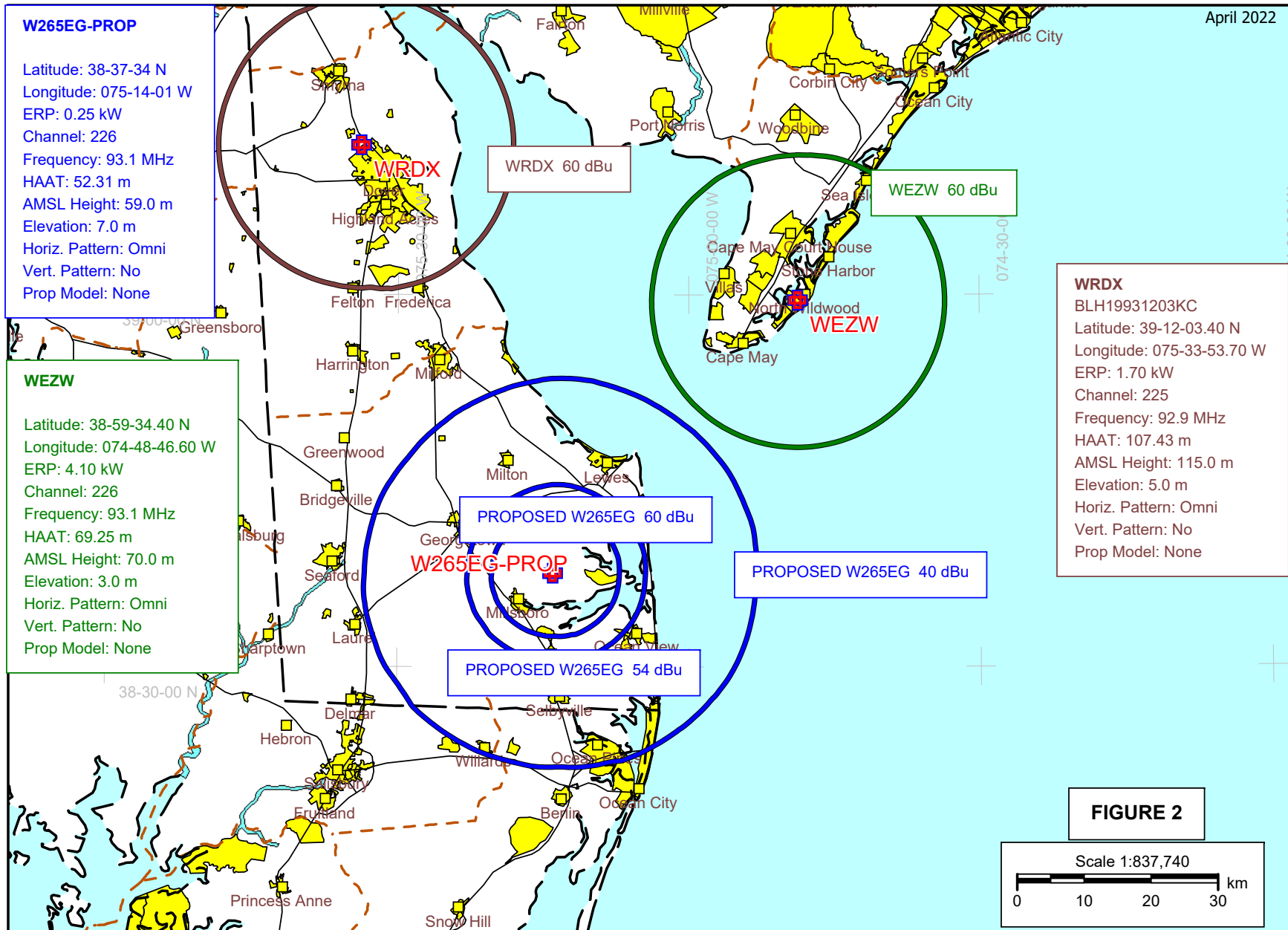
FIGURE 1

Scale 1:150,000

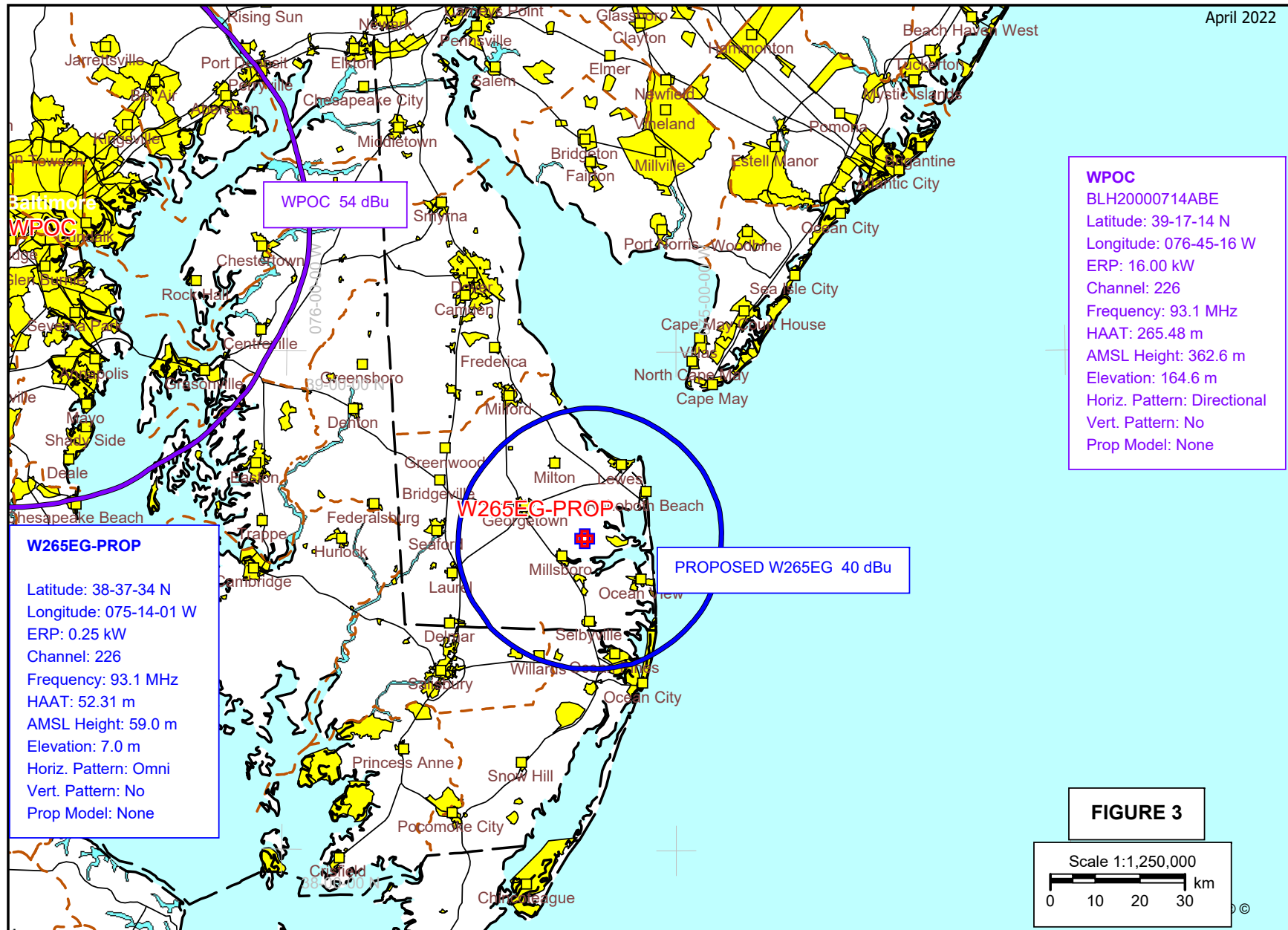
0 2 4 6 km



April 2022



April 2022



April 2022

W265EG-PROP

Latitude: 38-37-34 N
Longitude: 075-14-01 W
ERP: 0.25 kW
Channel: 226
Frequency: 93.1 MHz
HAAT: 52.31 m
AMSL Height: 59.0 m
Elevation: 7.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

WNKZ-FM

BMLED20170324ABF
Latitude: 38-08-35.40 N
Longitude: 075-39-51.70 W
ERP: 2.95 kW
Channel: 223
Frequency: 92.5 MHz
HAAT: 144.12 m
AMSL Height: 148.0 m
Elevation: 5.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

W265EG-PROP

PROPOSED W265EG 100 dBu

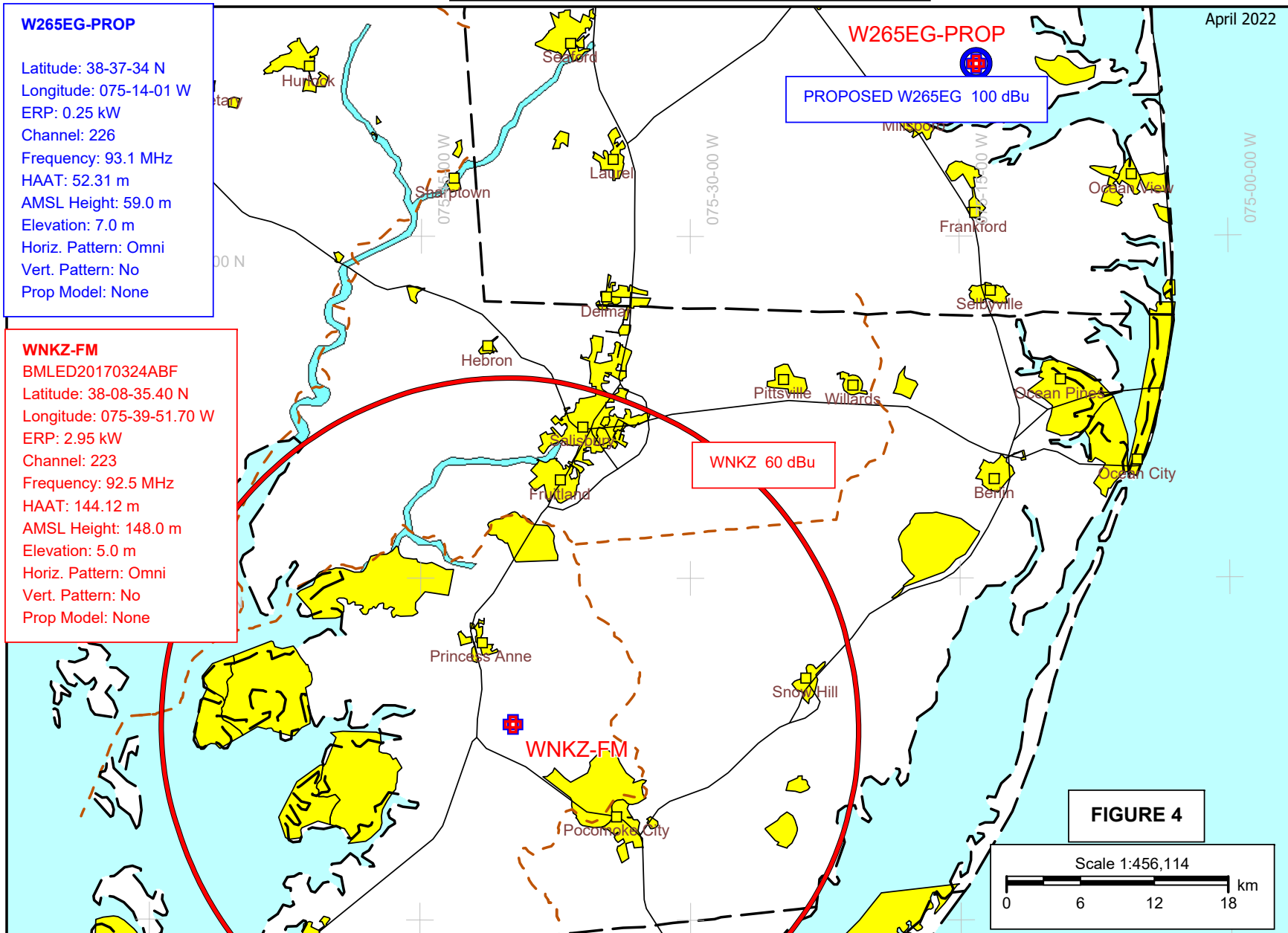
WNKZ 60 dBu

WNKZ-FM

FIGURE 4

Scale 1:456,114

0 6 12 18 km



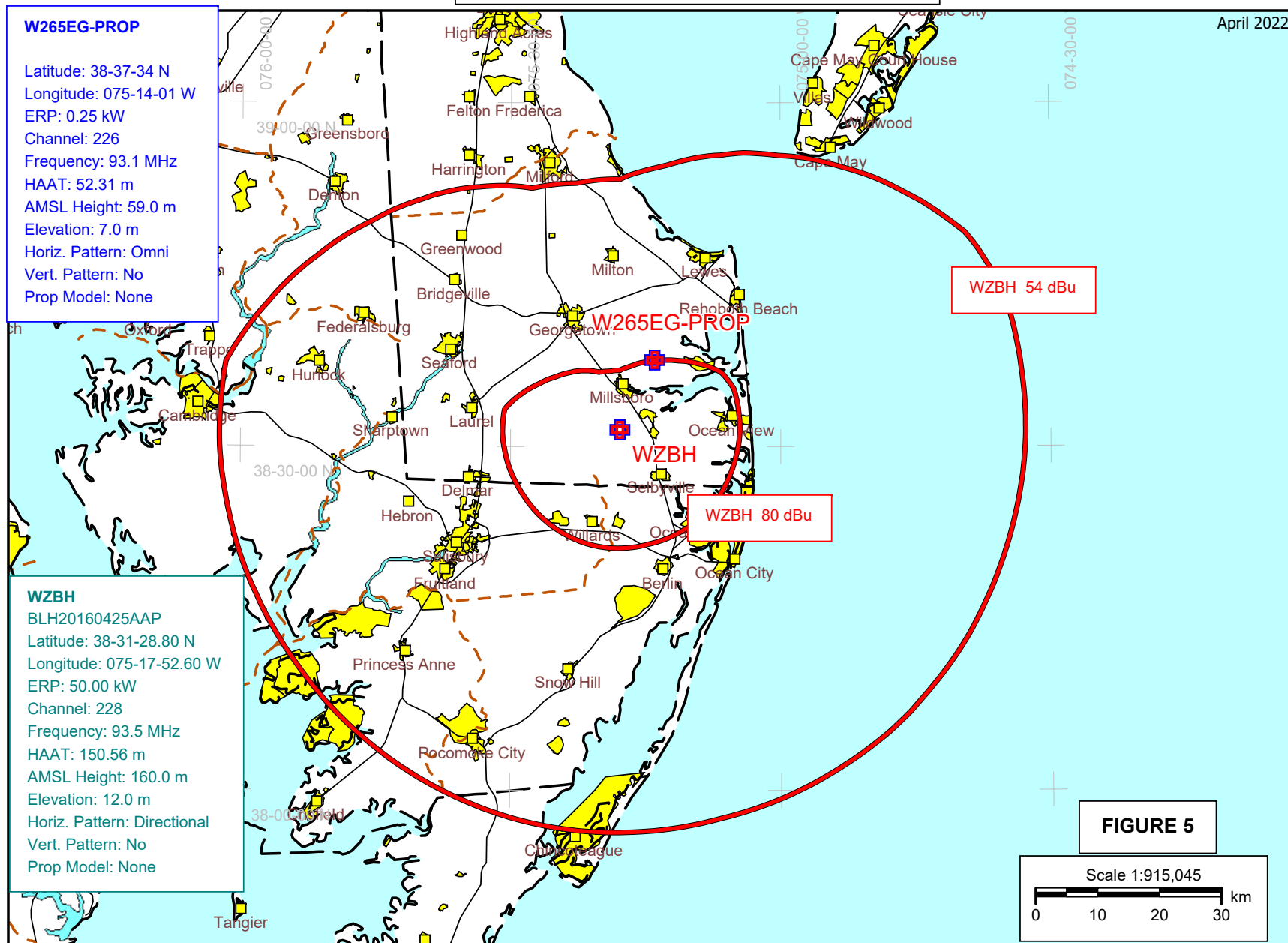
April 2022

W265EG-PROP

Latitude: 38-37-34 N
 Longitude: 075-14-01 W
 ERP: 0.25 kW
 Channel: 226
 Frequency: 93.1 MHz
 HAAT: 52.31 m
 AMSL Height: 59.0 m
 Elevation: 7.0 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

WZBH

BLH20160425AAP
 Latitude: 38-31-28.80 N
 Longitude: 075-17-52.60 W
 ERP: 50.00 kW
 Channel: 228
 Frequency: 93.5 MHz
 HAAT: 150.56 m
 AMSL Height: 160.0 m
 Elevation: 12.0 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

**FIGURE 5**

Scale 1:915,045

0 10 20 30 km

