

**NCE TECHNICAL CERTIFICATIONS
BROADCAST FACILITIES**

**IN SUPPORT OF A NCE-FM RESERVED
CHANNEL CONSTRUCTION PERMIT APPLICATION
LEWES, DELAWARE
OCTOBER 2021**

These technical exhibits have been prepared on behalf of Delaware First Media Corporation, licensee of NCE Class A FM station WDDE, Dover, DE. They are in support of a new NCE FM station at Lewes, DE, and are in response to the Commission's procedures and requirements for the November 2-9 2021, NCE-FM window filing.

SECTION 73.203 - AVAILABILITY OF CHANNELS

This application is for a new NCE-FM station filing in accordance with the Media Bureau's procedures and requirements for the November 2-9, 2021, window. Therefore, the provisions of this section of the FCC Rules are not considered applicable to this filing.

SECTION 73.207 – MINIMUM DISTANCE SEPARATION BETWEEN CHANNELS

The attached FM Allocation Study shows the distances to pertinent FM stations on Channel 218 and +/- 3 and +53 and 54 channels from the proposed NCE (FM) Lewes antenna site location. The allocation study indicates that the "fully-spaced" transmitter site of the proposed Channel 218A NCE (FM) operation complies with the minimum distance separation requirements of Section 73.207 of the Commission's Rules to all existing and/or proposed FM stations and authorizations operating on Channels 221, 271 and 272 (see attached FM Allocation Study).

SECTION 73.213 – GRANDFATHERED SHORT SPACED STATIONS

This application is for a new NCE-FM station filing in accordance with the Media Bureau's procedures and requirements for the November 2-9, 2021, window. Therefore, the provisions of this section of the FCC Rules are not considered applicable to this filing.

SECTION 73.315 – FM TRANSMITTER LOCATION

The requirements of paragraph (a) of this section do not apply to noncommercial educational FM broadcast stations operating on channels 200 – 220. This application is for a new NCE-FM station for operation on channel 218A. Therefore, the provisions of this section of the FCC Rules are not considered applicable to this filing.

SECTION 73.509 – PROHIBITED OVERLAP

The proposed NCE (FM) facility for Lewes, DE does not involve prohibitive contour overlap of pertinent computed FCC signal strength contours of any licensed or authorized NCE-FM station operating on Channels 215 through 220 as set forth in this section. The attached FM Allocation Study and contour maps show there is no prohibitive contour overlap associated with the Lewes NCE-FM proposal (see FM Allocation Study and Figures 1-5 attached).

SECTION 73.515 – TRANSMITTER LOCATION

The proposed NCE (FM) facility for Lewes, DE will provide a minimum field strength of 60 dB above one $\mu\text{V}/\text{m}$ (dBu), or 1.0 mV/m over the entire principal community of Lewes, DE (see attached Figure 6).

The population within the 60 dBu contours is based on the 2010 census block data from the US Bureau of Census which is required in this filing by the FCC as outlined in the Public Notice announcing NCE-FM new station filing procedures and requirements for the November window. The area within the 60 dBu contour is in square kilometers and includes land area only. The Atlantic Ocean, Delaware Bay, Rehoboth Bay and Indian River Bay have been excluded from the land area within the 60 dBu contour of this proposal.

The “Technical Parameters” for achieving both population and land area is contained within the computer software (V-Soft). The program examines each block level census centroid coordinates to determine if they are contained within the 60 dBu contour. If they are, then the population of the census block is included in the population count total. The total area is determined by the distance to the 60 dBu contour for 720 evenly spaced radials, the area of each one is determined using the standard “area of an arc” formula, and the arc area for each radial is summed to determine the total area. The “Polygon Tool” within the software can be used to create a user defined polygon on the map to define land area only within the 60 dBu contour to eliminate large bodies of water that are within the contour.

FM Allocation Channel 218A Study From Lewes ASR Antenna Site
Delaware Public Media
CH# 218A - 91.5 MHz, Pwr= 3 kW DA, HAAT= 77.6 M, COR= 80 M
Average Protected F(50-50)= 21.41 km
Standard Directional

REFERENCE
38 43 17.40 N.
75 07 18.60 W.

DISPLAY DATES
DATA 10-06-21
SEARCH 10-06-21

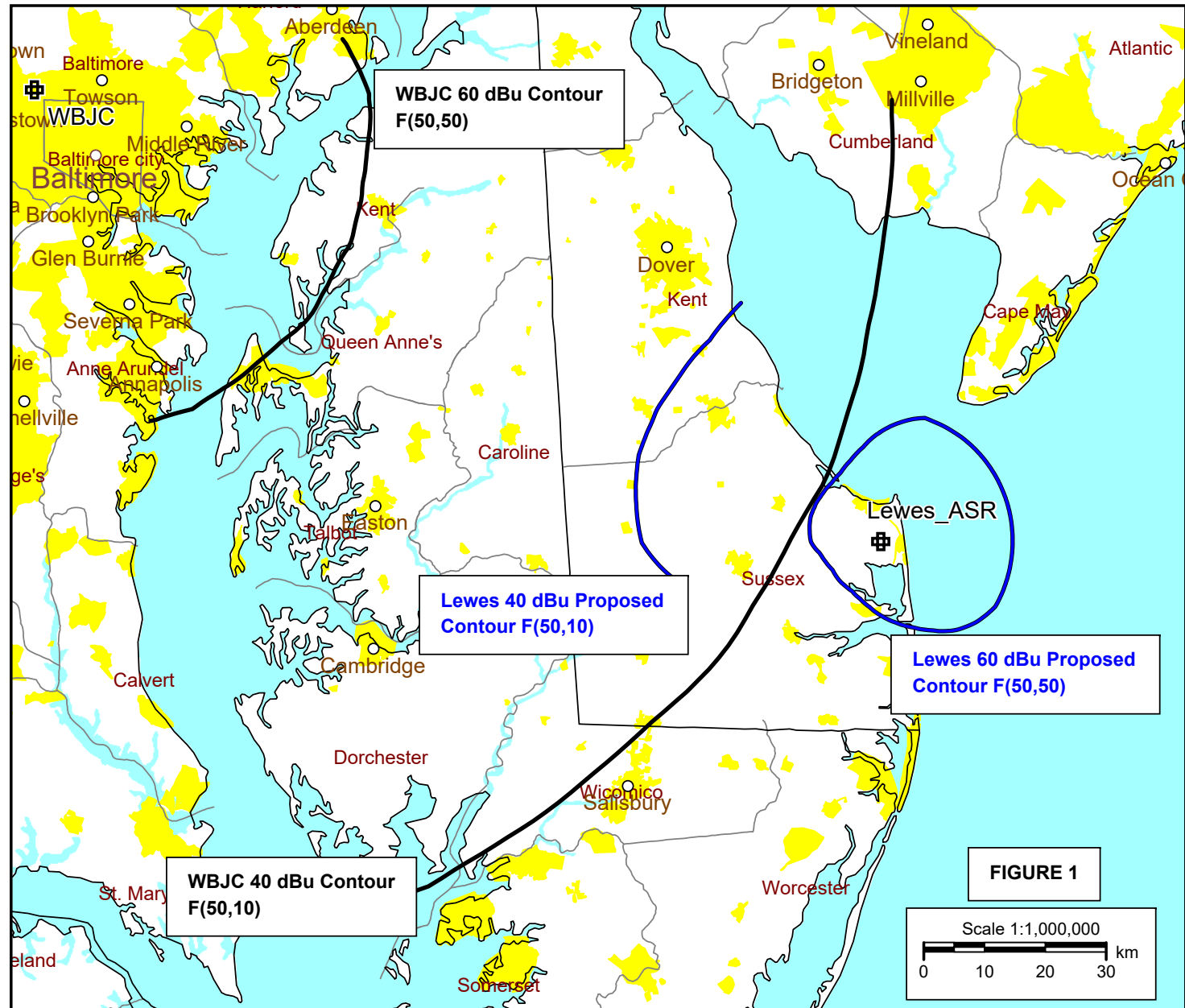
CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
217B Princess Anne	WESM	LIC_CN MD		220.8 40.5	74.87 BLED19870303KC	38 12 37.40 75 40 54.70	45.000 91	65.2 97	41.2 University Of Maryland, Ea	0.3	20.6
218B Baltimore	WBJC	LIC_DCN MD		298.5 117.5	157.36 BLED20101109ABJ	39 23 11.40 76 43 50.90	50.000 152	144.6 289	57.6 Baltimore City Community C	0.4	57.1
221A Fenwick Island	WLBW«	LIC_CN DE		182.6 2.6	33.24 BMLD20110201ADZ	38 25 20.40 75 08 21.70	3.000 143	2.6 147	28.2 Educational Media Foundati	30.5R	2.7M
217B1 Ocean City	WRTQ	LIC_DEN NJ		24.3 204.6	73.17 BLED20071009AIT	39 19 14.40 74 46 16.60	13.500 120	30.4 129	20.4 Temple University Of The C	21.3	19.5
220A North Wildwood	WSMJ	LIC_ZVN NJ		32.4 212.6	43.22 BLED20130204AAR	39 02 58.00 74 51 13.00	0.750 75	1.6 75	14.3 Domestic Church Media Foun	20.0	26.8
216A Dover	WDDE	LIC_CN DE		314.3 134.1	46.61 BLED20110812ACN	39 00 50.00 75 30 28.00	2.100 72	1.8 78	18.8 Delaware First Media Corpo	32.3	26.5
219A Dover	WRTX	LIC_VN DE		324.4 144.2	65.63 BLED19950418KB	39 12 03.40 75 33 53.70	0.580 104	24.2 104	16.2 Temple University Of The C	27.6	30.5
272A Cape May	WAI V«	LIC_CN NJ		41.5 221.6	40.33 BLH20160503AAG	38 59 34.40 74 48 46.60	6.000 57	0.0 58	0.0 Equity Communications, L. P	9.5R	30.8M

Terrain database is USGS 03 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= - Zone 1, 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)
« = Station meets FCC minimum distance spacing for its class.

Lewes_ASR
 ASR_1210663_Antenna Site
 Latitude: 38-43-17.40 N
 Longitude: 075-07-18.60 W
 ERP: 3.00 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 80.0 m
 Elevation: 8.5 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

WBJC
 BLED20101109ABJ
 Latitude: 39-23-11.02 N
 Longitude: 076-43-52 W
 ERP: 50.00 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 289.2 m
 Elevation: 169.2 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

October 2021



60 dBu (1 mV/m) Protected And 40 dBu (0.1 mV/m interfering) FCC Contours For Lewes, DE And WBJC, Baltimore, MD

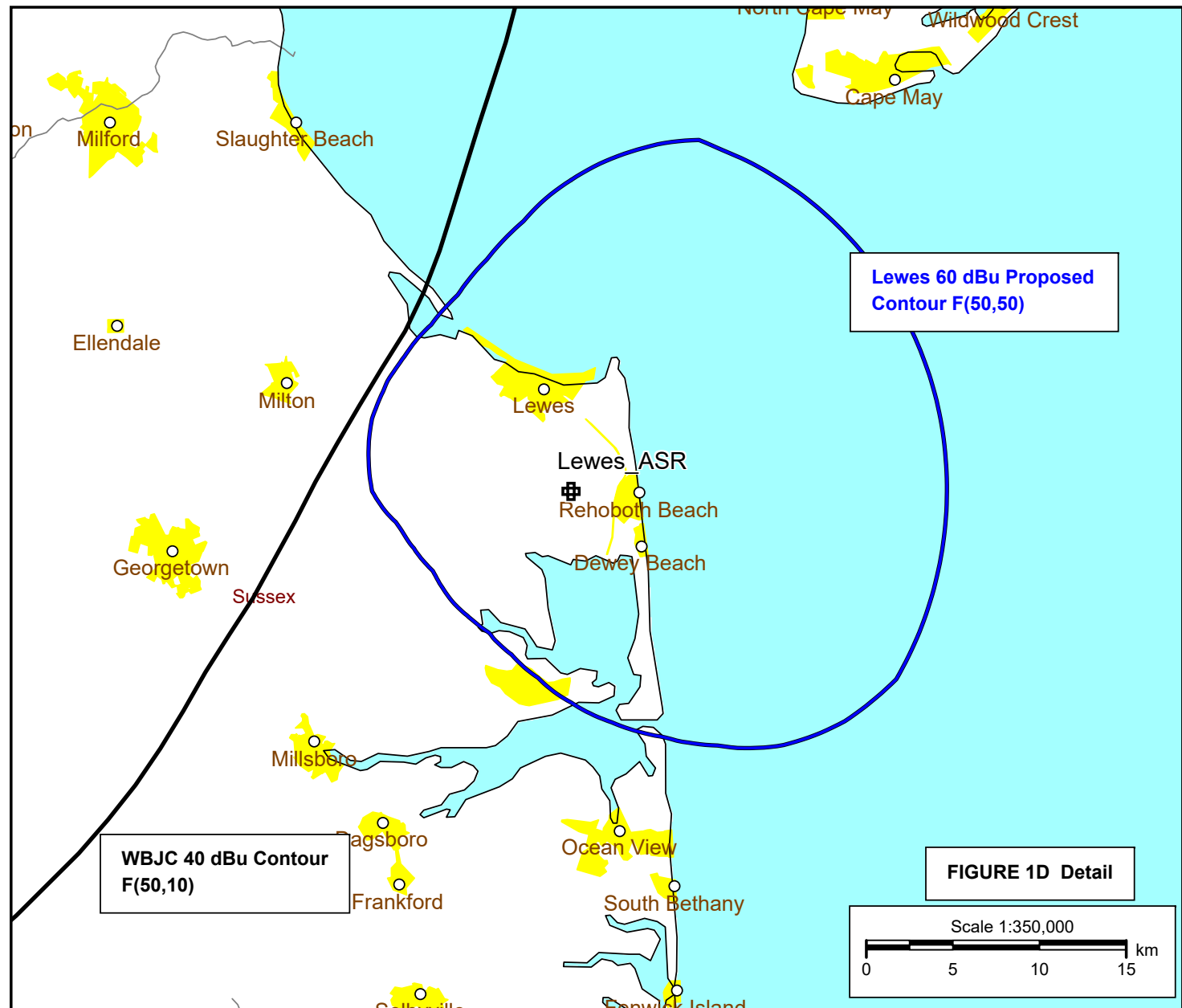
Lewes_ASR

ASR_1210663_Antenna Site
 Latitude: 38-43-17.40 N
 Longitude: 075-07-18.60 W
 ERP: 3.00 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 80.0 m
 Elevation: 8.5 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

WBJC

BLED20101109ABJ
 Latitude: 39-23-11.02 N
 Longitude: 076-43-52 W
 ERP: 50.00 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 289.2 m
 Elevation: 169.2 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

October 2021



60 dBu (1 mV/m) Protected And 40 dBu (0.1 mV/m interfering) FCC Contours For Lewes, DE And WBJC, Baltimore, MD

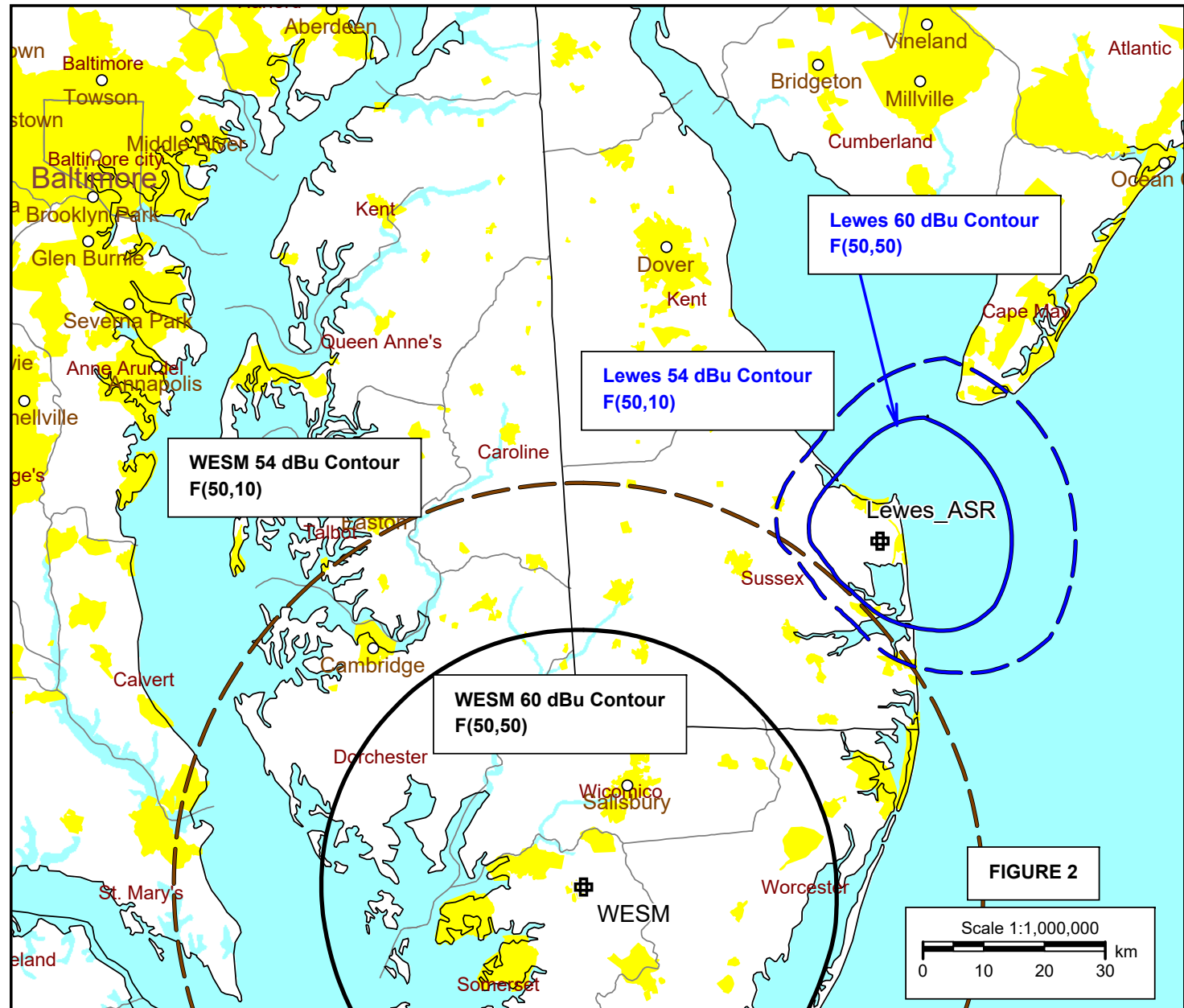
Lewes_ASR

ASR_1210663_Antenna Site
 Latitude: 38-43-17.40 N
 Longitude: 075-07-18.60 W
 ERP: 3.00 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 80.0 m
 Elevation: 8.5 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

WESM

BLED19870303KC
 Latitude: 38-12-37 N
 Longitude: 075-40-56 W
 ERP: 45.00 kW
 Channel: 217
 Frequency: 91.3 MHz
 AMSL Height: 97.0 m
 Elevation: 4.0 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

October 2021

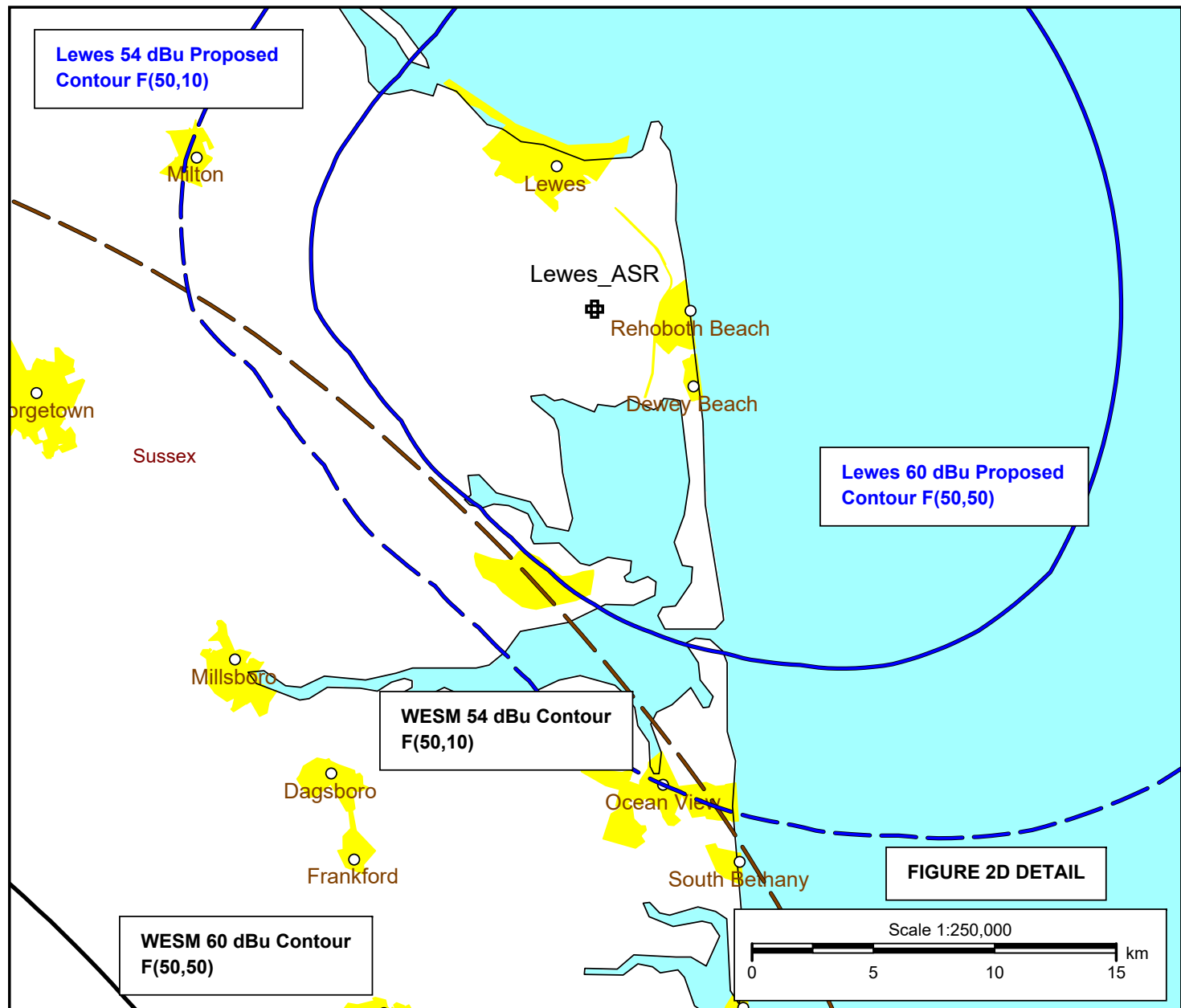


60 dBu (1 mV/m) Protected And 54 dBu (0.5 mV/m interfering) FCC Contours For Lewes, DE And WESM, Princess Anne, MD

Lewes_ASR
 ASR_1210663_Antenna Site
 Latitude: 38-43-17.40 N
 Longitude: 075-07-18.60 W
 ERP: 3.00 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 80.0 m
 Elevation: 8.5 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

WESM
 BLED19870303KC
 Latitude: 38-12-37 N
 Longitude: 075-40-56 W
 ERP: 45.00 kW
 Channel: 217
 Frequency: 91.3 MHz
 AMSL Height: 97.0 m
 Elevation: 4.0 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

October 2021



60 dBu (1 mV/m) Protected And 54 dBu (0.5 mV/m interfering) FCC Contours For Lewes, DE And WESM, Princess Anne, MD

Lewes_ASR

Propose NCE-FM Operation
Latitude: 38-43-17.40 N
Longitude: 075-07-18.60 W
ERP: 3.00 kW
Channel: 218
Frequency: 91.5 MHz
AMSL Height: 80.0 m
Elevation: 8.5 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

WRTQ

BLED20071009AIT
Latitude: 39-19-14 N
Longitude: 074-46-18 W
ERP: 13.50 kW
Channel: 217
Frequency: 91.3 MHz
AMSL Height: 129.0 m
Elevation: 7.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

October 2021

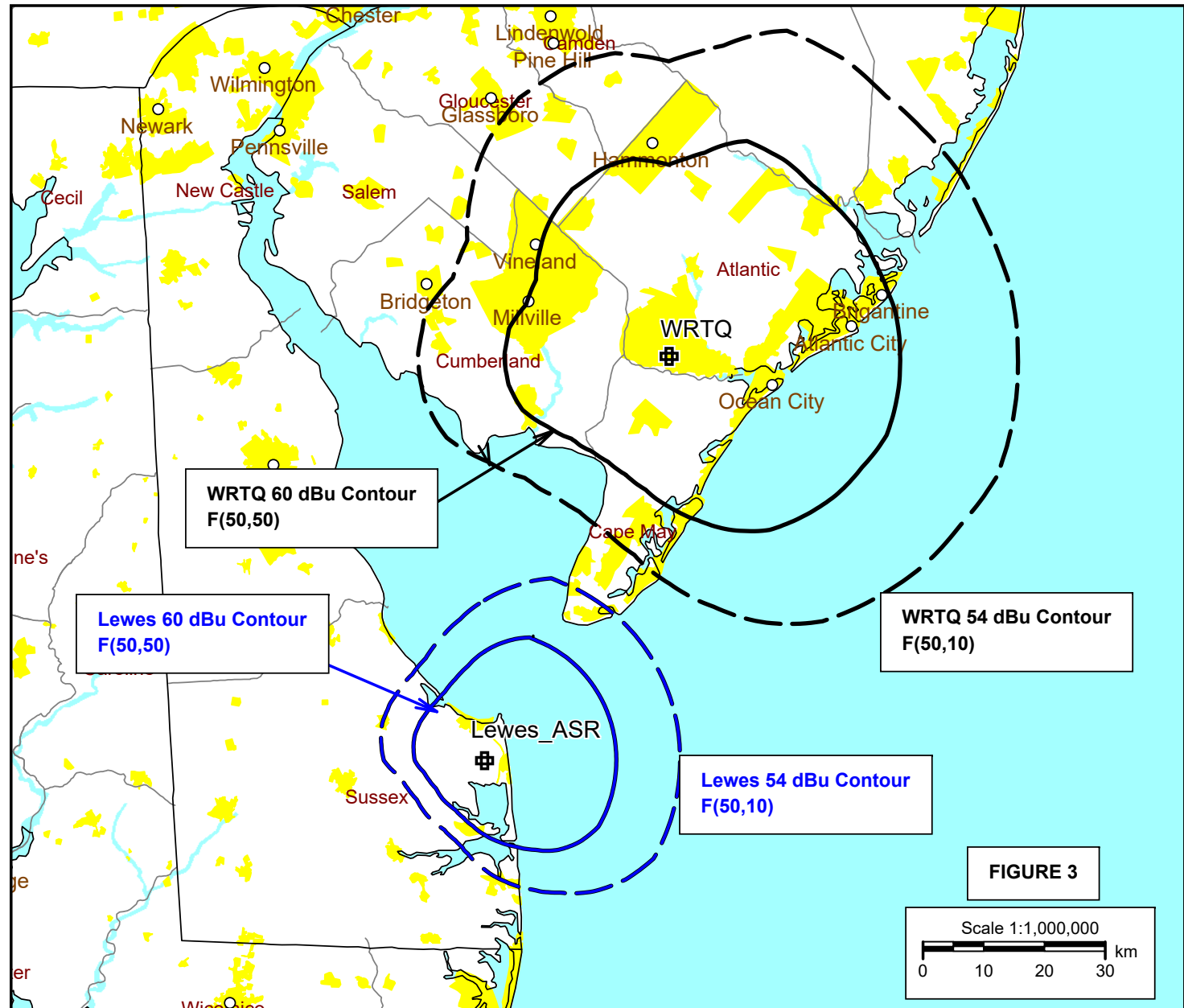
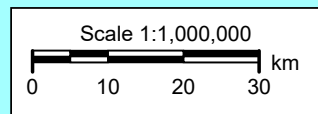


FIGURE 3

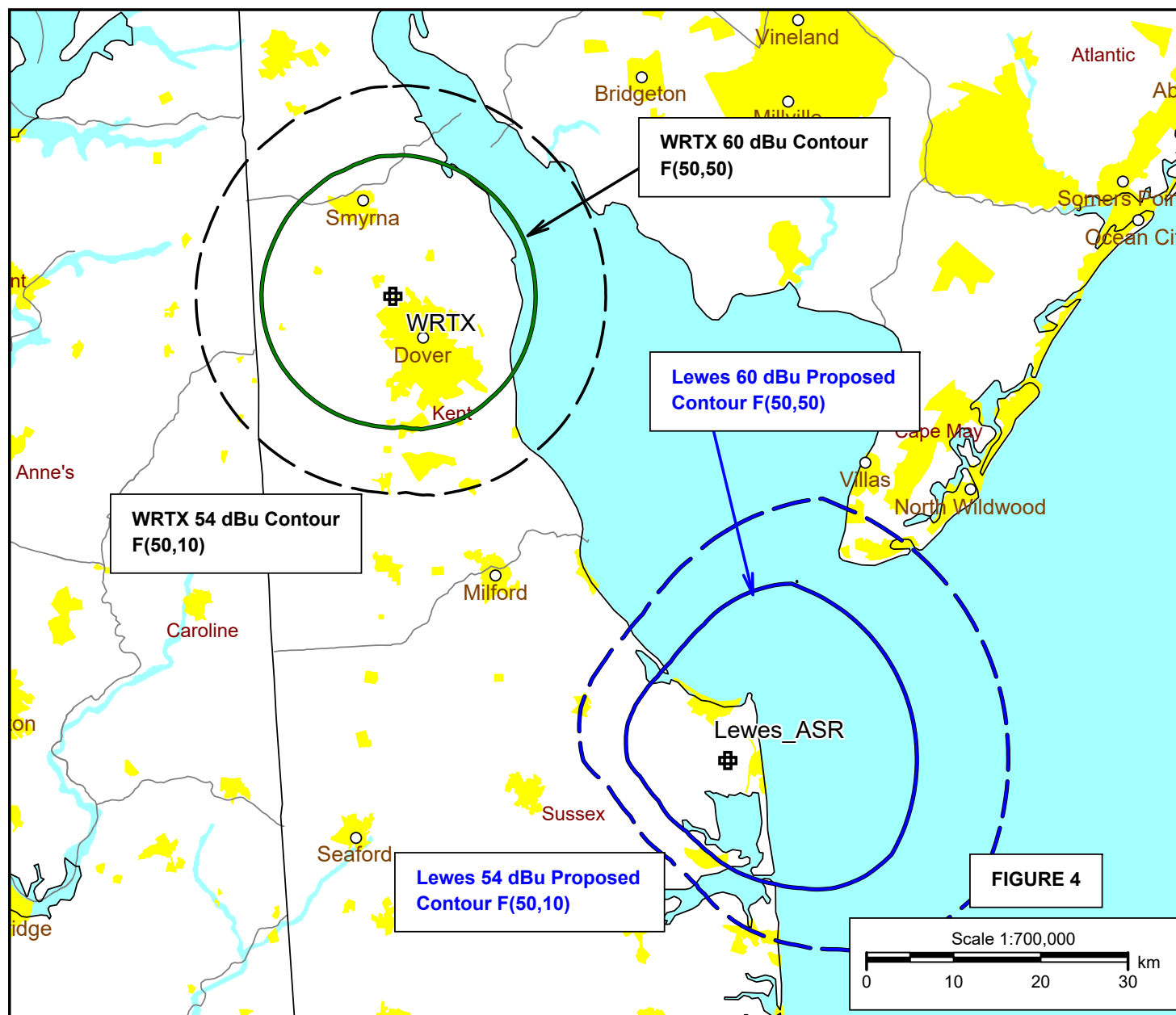


60 dBu (1 mV/m) Protected And 54 dBu (0.5 mV/m interfering) FCC Contours For Lewes, DE And WRTQ, Ocean City, NJ

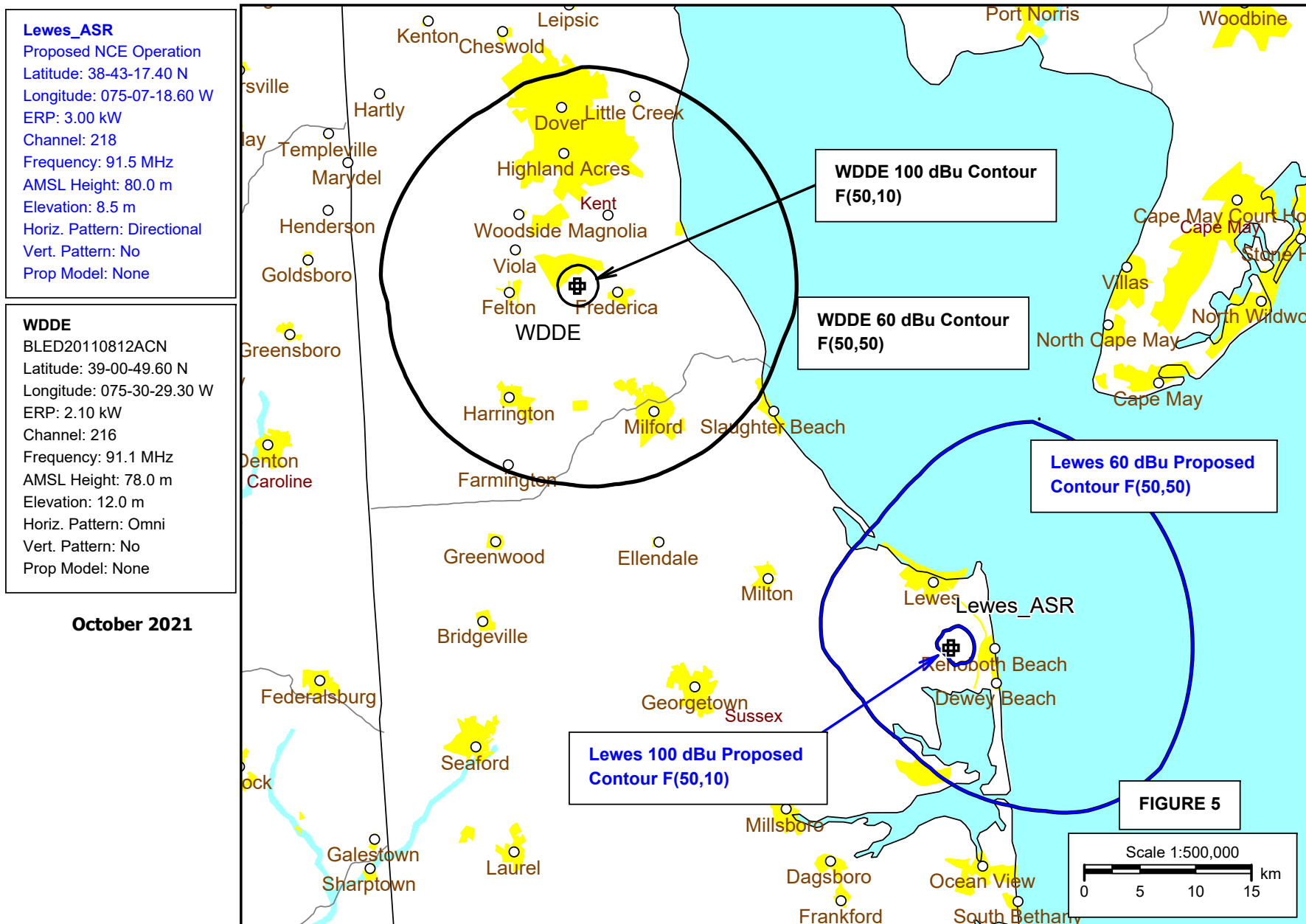
Lewes_ASR
 Proposed NCE-FM Operation
 Latitude: 38-43-17.40 N
 Longitude: 075-07-18.60 W
 ERP: 3.00 kW
 Channel: 218
 Frequency: 91.5 MHz
 AMSL Height: 80.0 m
 Elevation: 8.5 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

WRTX
 BLED19950418KB
 Latitude: 39-12-03 N
 Longitude: 075-33-55 W
 ERP: 0.58 kW
 Channel: 219
 Frequency: 91.7 MHz
 AMSL Height: 104.0 m
 Elevation: 13.0 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

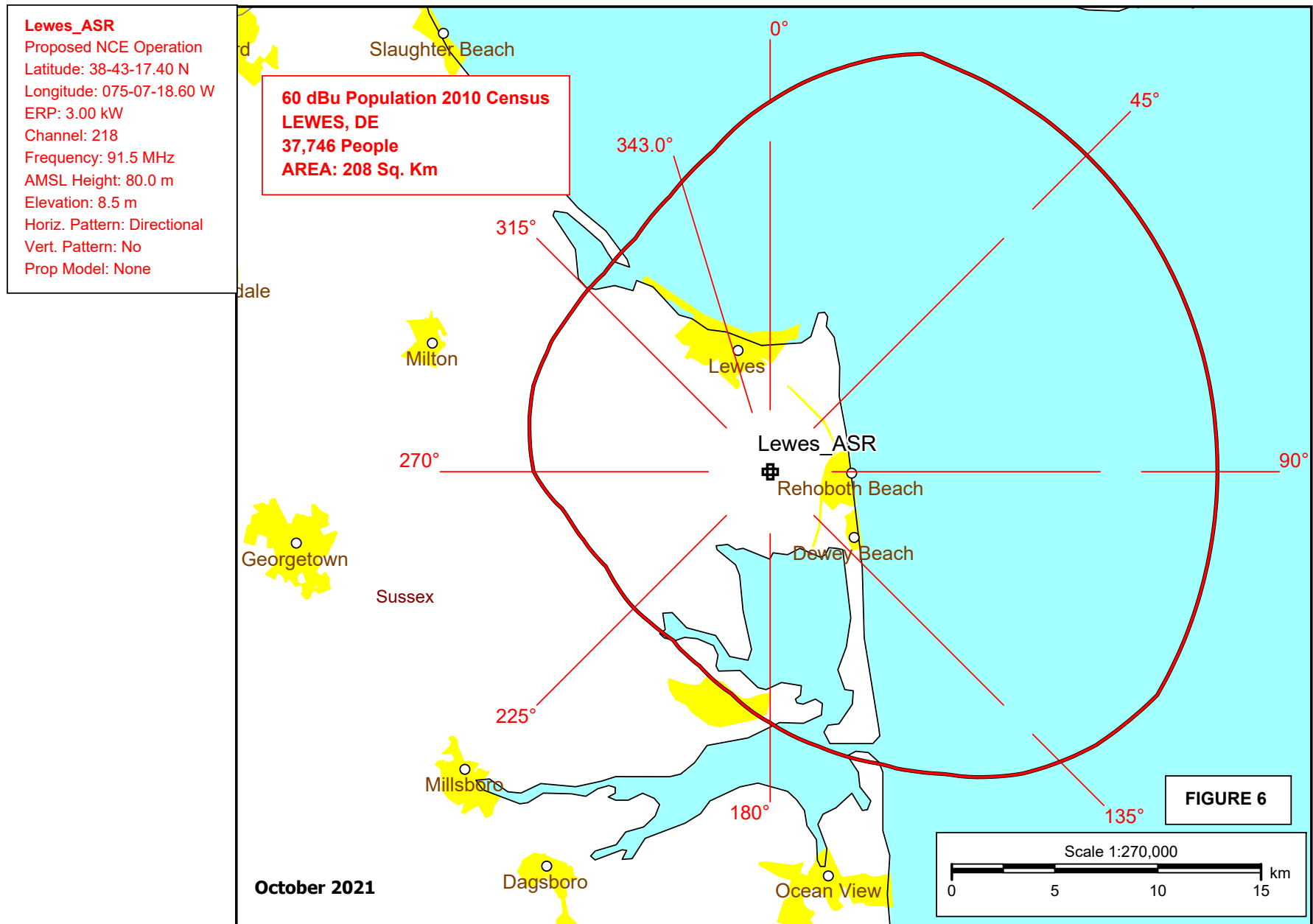
October 2021



60 dBu (1 mV/m) Protected And 54 dBu (0.5 mV/m interfering) FCC Contours For Lewes, DE And WRTX, Dover, DE



60 dBu (1 mV/m) Protected And 100 dBu (100 mV/m interfering) FCC Contours For Seaford, DE And WDDE, Dover, DE



60 dBu (1 mV/m) Protected FCC Contour For New NCE Station At Lewes, DE