

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of NRJ TV PHILLY LICENSE CO., LLC, licensee of Class A digital television station WPHY-CD, on Channel 50 in Trenton, New Jersey, in support of its Application for Construction Permit to specify operation on its post-repack channel, Channel 22. No change in site location, antenna pattern or antenna height is proposed herein.

It is proposed to mount an ALI directional antenna at the 83-meter level of the existing 88.3-meter WPHY-CD structure (a building with a 124-foot tower on the roof). The proposed effective radiated power for the facility is 3.17 kW, which is the allotted repack power level for WPHY-CD. Exhibit B is a map upon which the predicted 51 dBu service contour is plotted.

An azimuth pattern and tabulation for the proposed antenna are provided in Exhibit C. Since the facility proposed herein specifies the exact repack allotment facility assigned to WPHY-CD, no interference study is included herein. A power density calculation appears as Exhibit D.

Since no change in the overall height or location of the existing WPHY-CD structure is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1060096 to this building/tower structure.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher". The signature is stylized with a large "K" and a long horizontal stroke at the end.

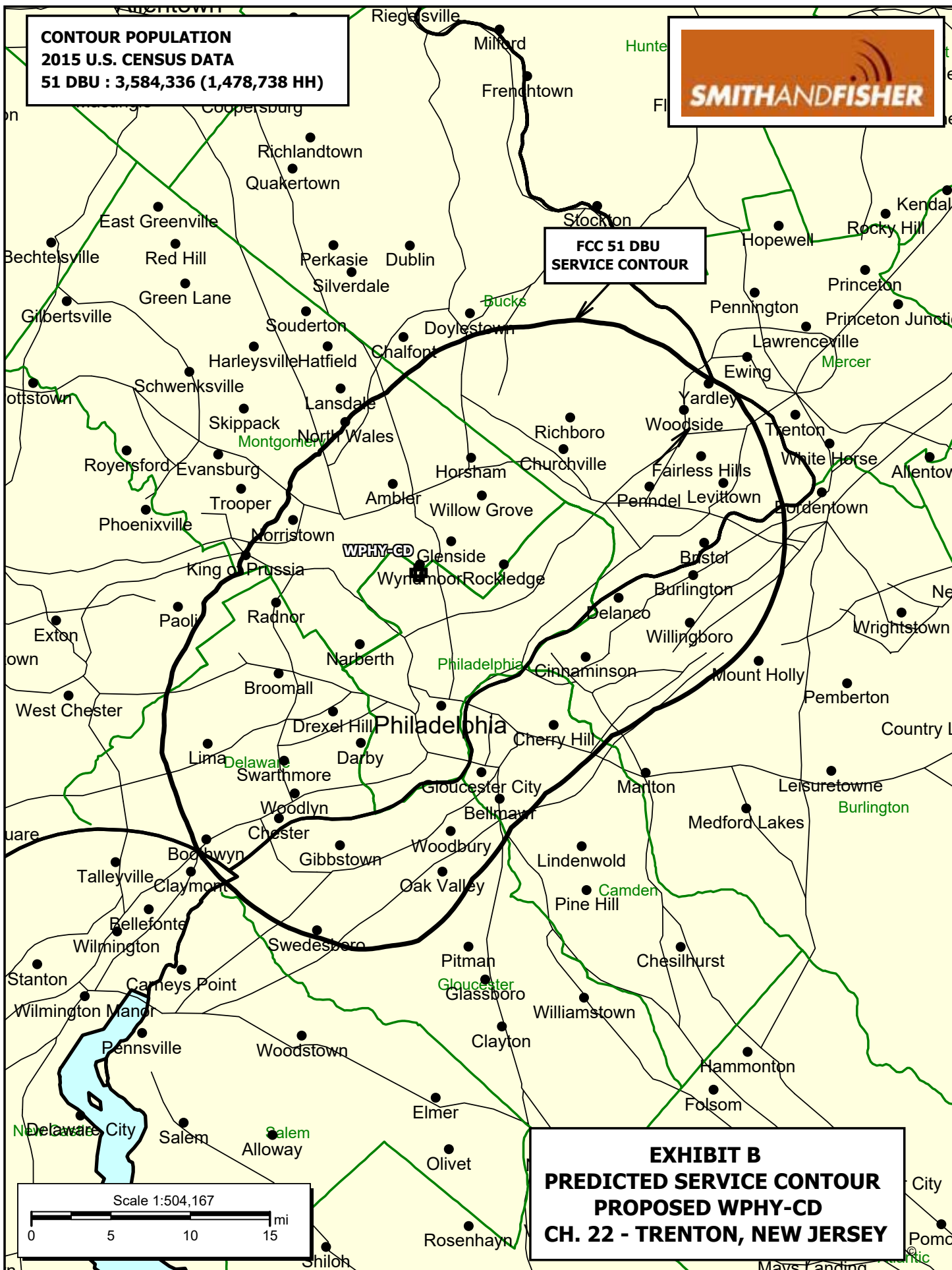
KEVIN T. FISHER

May 22, 2017

**CONTOUR POPULATION**  
**2015 U.S. CENSUS DATA**  
**51 DBU : 3,584,336 (1,478,738 HH)**



**FCC 51 DBU  
SERVICE CONTOUR**



**EXHIBIT B**  
**PREDICTED SERVICE CONTOUR**  
**PROPOSED WPHY-CD**  
**CH. 22 - TRENTON, NEW JERSEY**

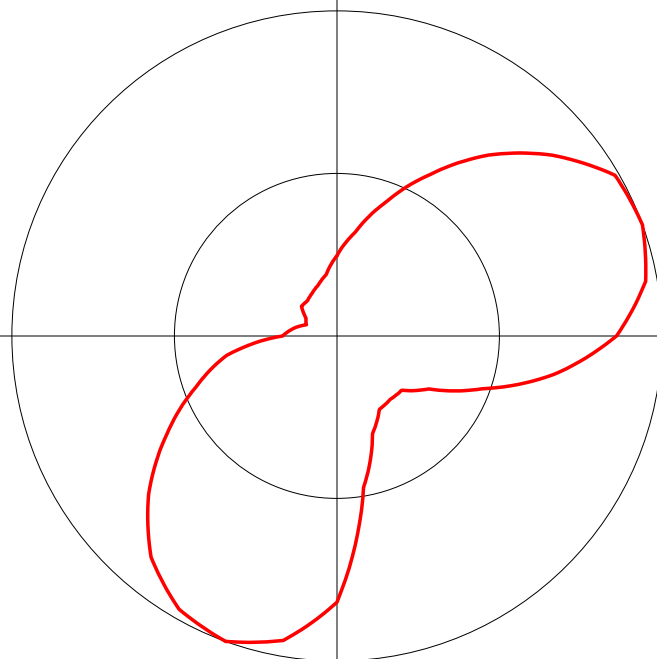
# WPHY-CD Antenna Pattern

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	0.247
10.0	0.324
20.0	0.437
30.0	0.573
40.0	0.726
50.0	0.865
60.0	0.988
70.0	1.0
80.0	0.964
90.0	0.86
100.0	0.679
110.0	0.475
120.0	0.326
130.0	0.26
140.0	0.255
150.0	0.261
160.0	0.32
170.0	0.473
180.0	0.819
190.0	0.951
200.0	1.0
210.0	0.971
220.0	0.889
230.0	0.756
240.0	0.604
250.0	0.462
260.0	0.344
270.0	0.167
280.0	0.135
290.0	0.1
300.0	0.11
310.0	0.142
320.0	0.141
330.0	0.152
340.0	0.167
350.0	0.191

Rotation Angle = 0

EXHIBIT C



POWER DENSITY CALCULATION

PROPOSED WPHY-CD  
CHANNEL 22 – TRENTON, NEW JERSEY

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Trenton facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 3.17 kW, an antenna radiation center 35.4 meters above the roof of the building, and assuming a vertical relative field value of 20 percent at the steeper elevation angles for the proposed ALI antenna, a maximum power density value two meters above ground of  $0.0038 \text{ mW/cm}^2$  is calculated to occur near the base of the tower. Since this is only 1.1 percent of the  $0.35 \text{ mW/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 22 (518-524 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.