Fayetteville, North Carolina

Long Form Application for FM Translator 1564212

File Number BNPFT-20030317JVW

On Channel 272

by

Shaw University

Exhibit 13

Interference Analysis

August 2013

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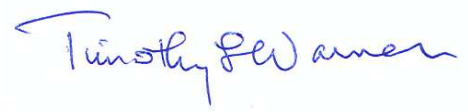
Table of Contents

Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Exhibit 13, Interference Analysis, for Shaw University, and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.



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28 August 2013

Narrative

This Exhibit supports a long form application for CDBS application ID 1564212, an amended "Tech Box" application in response to a filing window[1] for FM translator file number BNPFT-20030317JVW, CDBS application ID 650058, on Channel 272 in Fayetteville, North Carolina. Allocation details are provided in this exhibit. The application changes the primary station to co-owned WSHA, Raleigh, North Carolina, and changes to an existing unregistered structure at the same site. All allocation parameters remain unchanged.

This proposal creates no new mutual exclusivities with any Auction 83 Tech Box filings or any other facility. A preclusion showing, provided in the July 2013 amendment, is unchanged and is repeated in this application.

Figure 1 shows the proposed 60 dBu F(50,50) coverage area. The primary station WSHA 60 dBu F(50,50) contour is also shown.

Allocations

This application proposes service to Fayetteville, North Carolina, on channel 272. An updated Table 1: Allocations is included in this exhibit with a list of the stations, construction permits, allocations, and applications studied. All are protected by this application, with the exception of facilities which are listed in Table 2 below. Those facilities are protected by the Desired to Undesired (D/U) Ratio method which is described below.

[1] *Public Notice, Media Bureau Announces FM Translator Auction 83 Filing Window and Filing Procedures, August 30, 2013 Deadline Set for Form 349 Applications for Certain Non-Mutually Exclusive Tech Box Proposals*, Report No. AUC-03-83-E, DA13-1675, released July 31, 2013.

Table 1: Allocations

Timothy L. Warner, Inc.
Asheville, North Carolina

Allocation Study
Shaw University

REFERENCE CH# 272D - 102.3 MHz, Pwr= 0.038 kW, HAAT= 0.0 M, COR= 94 M DISPLAY DATES
35 05 21.0 N. Average Protected F(50-50)= 4.4 km DATA 08-28-13
78 54 36.0 W. Omni-directional SEARCH 08-28-13

CH CALL / CITY	TYPE	ANT	AZI. <--	DIST / FILE #	LAT. / LNG.	Pwr(kW) / HAAT(M)	INT(km) / COR(M)	PRO(km) / LICENSEE	*IN* (Overlap in km)	*OUT*
272A WFVL Lumberton	LIC	CX NC	189.5 9.5	55.43 BMLED20111208DMF	34 35 47.0 79 00 37.0	6.000 85	83.2 123	25.5 Educational Media Foundation	-33.2*	12.7
272A AL8950 Smithfield	RSV-A	 NC	50.9 231.2	67.86 RM10377	35 28 21.0 78 19 43.0	6.000 100	86.4 144	28.1	-24.9*	18.6
272A WWPL Smithfield	LIC	CX NC	38.2 218.4	69.31 BLH20101029ACW	35 34 43.0 78 26 10.0	2.600 153	83.8 221	29.0 New Age Communications, Inc	-20.8*	19.6
272D 1564214 Fayetteville Tech box filing for which this is the long form application.	APP	C NC	0.0 0.0	0.00 BNPFT20030317JVW	35 05 21.0 78 54 36.0	0.038	14.0 94	4.4 Shaw University	-18.4*	-18.4*
275D 1567876 Fayetteville Collocated proposal protected by U/D ratio, see text and figures, long form application.	APP	C NC	0.0 0.0	0.00 BNPFT20130808ABG	35 05 21.0 78 54 36.0	0.019	0.3 100	3.8 Educational Media Foundation	-4.7*	-4.2*
275D 1564040 Fayetteville Collocated proposal protected by U/D ratio, see text and figures, text box filing.	APP	C NC	0.0 0.0	0.00 BNPFT20030317FXO	35 05 21.0 78 54 36.0	0.019	0.3 100	3.8 Educational Media Foundation	-4.7*	-4.2*
273A WIOZ-FM Southern Pines	LIC	CN NC	277.8 97.4	52.21 BLH19951107KB	35 09 04.0 79 28 40.0	3.400 133	43.1 258	28.1 Meridian Communications. L	4.8	17.5
270D W270AW Sanford	LIC	C NC	352.5 172.5	47.31 BLFT20130701ABL	35 30 43.0 78 58 41.0	0.190	1.0 604	27.4 Educational Media Foundati	41.8	19.5
272D W272BN Sanford	LIC	C NC	324.8 144.6	47.90 BLFT20070808AAF	35 26 28.0 79 12 54.0	0.027 74	19.8 176	5.9 Positive Alternative Radio	23.8	27.9
271C0 WJMH Reidsville	LIC	C NC	325.1 144.5	161.36 BMLH20010731ACA	36 16 33.0 79 56 26.0	100.000 367	111.6 600	76.1 Entercom Greensboro Licens	45.4	79.0
275D W275AH Maxton	LIC	C NC	218.6 38.4	52.37 BLFT20030303ACK	34 43 14.0 79 16 05.0	0.170 33	0.9 84	6.4 Augusta Radio Fellowship I	46.3	45.5
272A WGSP-FM Pageland	LIC	NCX SC	261.8 80.9	140.31 BLH20071001BMH	34 53 57.0 80 25 46.0	2.550 156	86.5 321	30.8 Norsan Media Group Of Sout	49.4	95.4
275A WKIX-FM Raleigh	LIC	NC NC	9.7 189.8	79.34 BLH19980702KF	35 47 38.0 78 45 41.0	1.700 189	2.3 298	26.8 Mcclatchey Broadcasting Co	71.8	52.0
273A AL2642 Hillsborough	RSV-A	 NC	355.7 175.6	113.98 RM11038	36 06 49.0 79 00 20.0	6.000 100	47.8 261	31.1	61.8	75.8
273A WPLW Hillsborough	LIC	CX NC	357.5 177.4	112.66 BLH20101029ACM	36 06 13.0 78 57 57.0	1.500 204	45.9 350	30.4 New Century Media Group, L	62.2	75.9
274C1 WGNI Wilmington	LIC	CX NC	146.5 326.9	137.88 BLH20090109AVV	34 03 06.0 78 04 57.0	100.000 299	10.0 306	71.8 Cumulus Licensing Llc	121.2	65.7
271C2 WMXT Pamplico	LIC	ZEX SC	213.9 33.4	148.45 BMLH20090601AKJ	33 58 36.0 79 48 32.0	50.000 146	76.0 174	50.7 Cumulus Licensing Llc	67.2	89.8

Terrain database is NED 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= East Zone, Co to 3rd adj.
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)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.
Reference station has protected zone issue: AM station WFNC, FAYETTEVILLE, NC, L, ND1 at 242.5°
at a distance of 2.3 km

Table 2: Facilities Protected by U/D Method

Facility	1567876 Fayetteville, North Carolina
Relationship	275 D, third adjacent
Distance (km)	0.0
Bearing (degrees)	0.0
ERP (kW, on azimuth)	.019
HAAT (m, on azimuth)	32.1
Ratio	40
Signal Strength (dBu)	*
Translator Signal Strength	*
Translator distance (km)	*

Undesired to Desired Method

Protection to some facilities is provided through the use of Undesired to Desired Signal Strength Ratio (U/D) calculations. Table 2 lists the parameters studied. The proposed antenna is a Shively Labs 6812-2 two level full wavelength spaced omnidirectional antenna.

The proposed 1567876 facilities are on third adjacent channel 275, with 19 watts ERP at 39 meters above ground. For a showing of lack of interference, the undesired signal can be up to 40 dB stronger than the desired signal. The two facilities are proposed with 3 dB power difference from the same site. There will be no areas, populated or otherwise, that experience an interference signal level greater than 40 dB higher than the desired signal, either incoming or outgoing interference.

Figure 2 is a topographic map of the transmitter site, showing the generally flat nature of the terrain. Figure 3 is an aerial photograph of the site, showing the absence of large structures in the area of interest. The site is owned by McDonald Materials, a grading contractor. The buildings on site are offices and maintenance sheds for trucks and heavy

equipment, and are single story. There is no population within the predicted interference area and therefore this facility is permitted under §74.1204(d).

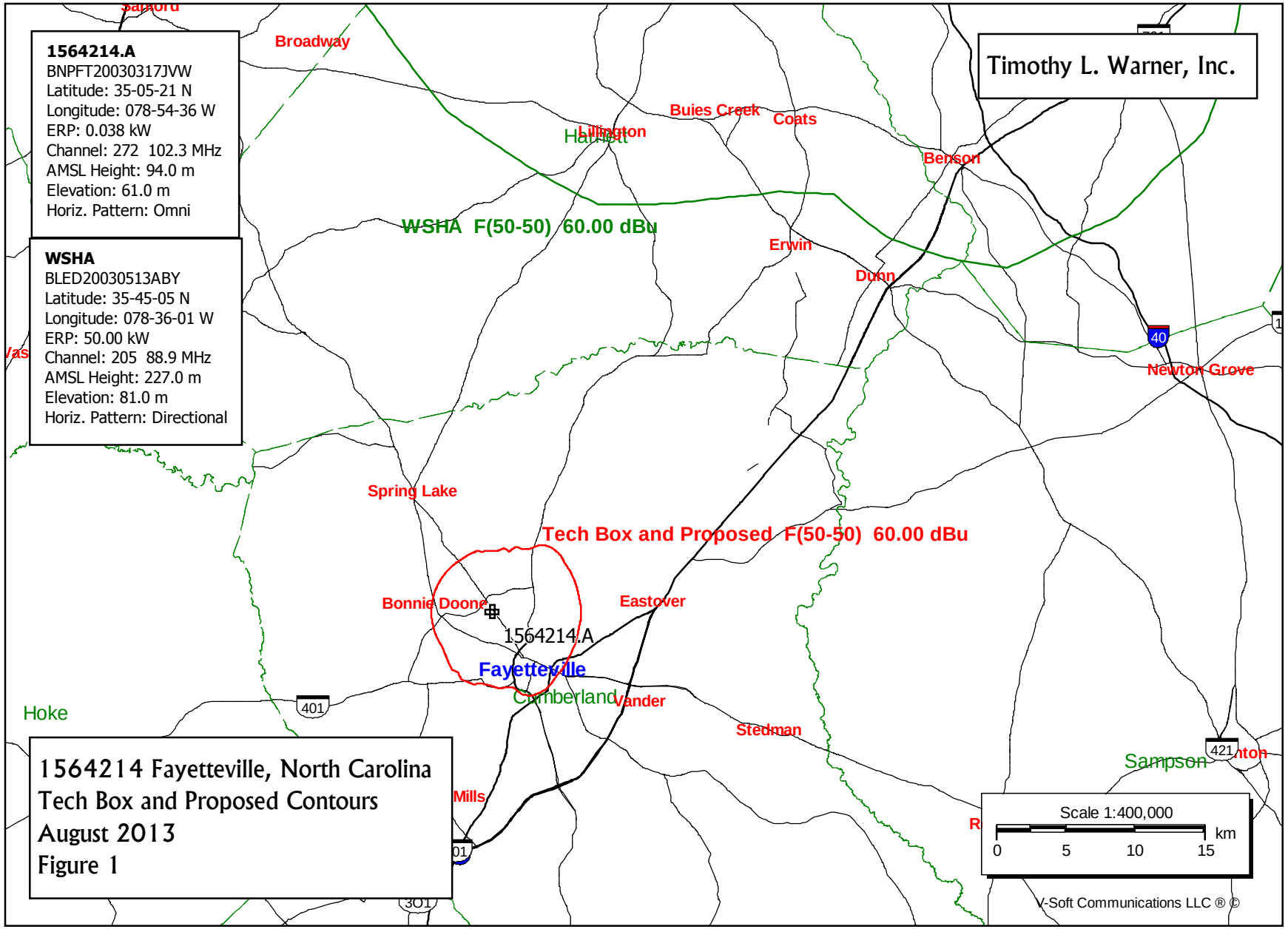
The applicant recognizes that the U/D method is only a tool for predicting likely interference. Should any actual interference be experienced, the applicant will cooperate fully in correcting the interference. Corrective steps may require changes in the transmitting antenna or other steps which would require Commission authorization, may require that the translator cease operation except for brief equipment tests, or may require filtering at the receivers which report interference.

Source of Data

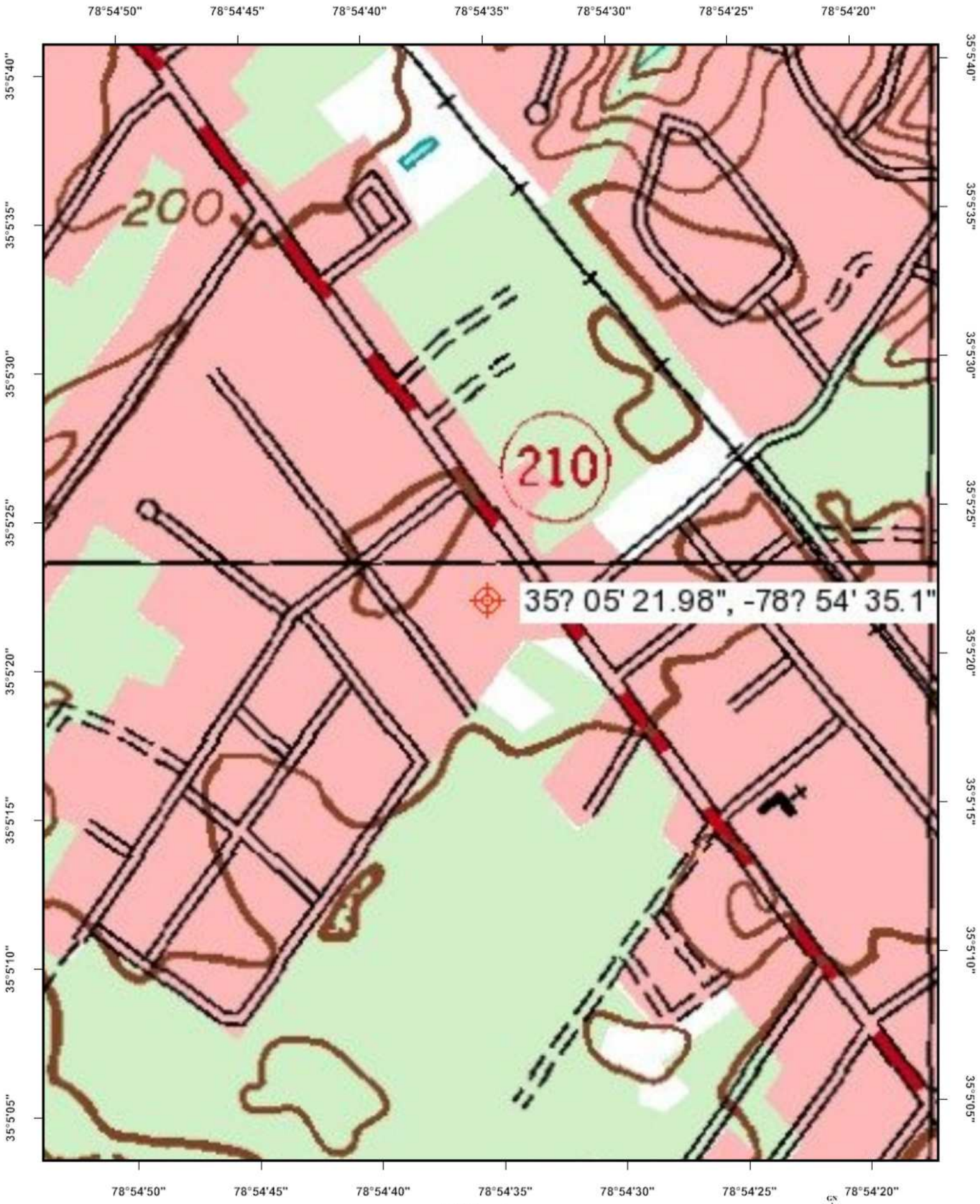
Transmitter location, effective radiated power, directional antenna pattern, and elevation data are extracted from the Commission's CDBS. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one degree horizontal increments.

The contours were evaluated using terrain extracted from the V-Soft Communications NED 03 terrain database. The NED 03 database is derived from the USGS National Elevation Data 30 meter terrain database.

All population data is from 2010 U.S. Census PL data files. Population is counted by considering the location of the centroid of each census block. The data for each block is counted if it falls within the area being counted.



1564214 Fayetteville, North Carolina
Tech Box and Proposed Contours
August 2013
Figure 1



Universal Transverse Mercator (UTM) Projection Zone 17
North American Datum of 1983

1:5000 scale

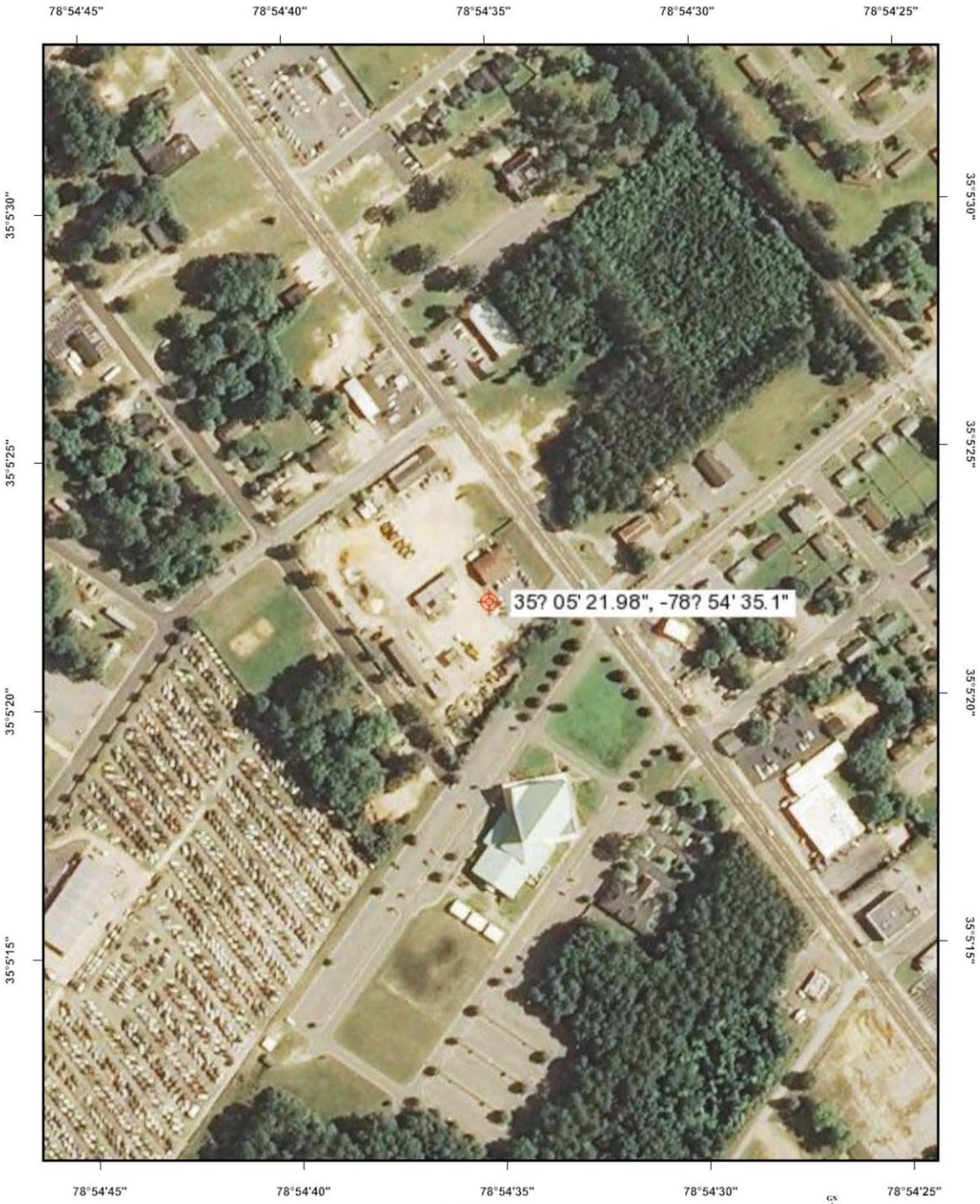
0 100 200 300 400 500 Feet

0 50 100 150 Meters

GN
MN 7°
TN 1°

Magnetic declination of 7W at center of map on March 17, 2011

Figure 2



Universal Transverse Mercator (UTM) Projection Zone 17
North American Datum of 1983

1:3000 scale

0 100 200 300 400 500 Feet

0 50 100 150 Meters

GN MN TN

Magnetic declination of 7W at center of map on March 17, 2011

Figure 3