

File Number BNPFT-20030312AKD

Jamestown, North Carolina

Application for New FM Translator

On Channel 285

by

Triad Family Network, Inc.

Exhibit 1

Grid Preclusion Showing

March 2013

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## Table of Contents

Description	Page
Declaration .....	2
Narrative.....	3
Required Showings .....	3
LPFM Grid Study Parameters and Overall Results .....	5
LPFM Grid Study Specific Channel Points .....	6
Translator Height Above Average Terrain and Distance to Contour .....	10
Preclusion Study Description .....	11
Source of Data.....	12
 Jamestown, North Carolina Preclusion Showing.....	 Figure 1

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 1, Grid Preclusion Showing, for Triad Family Network, Inc., 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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27 March 2013

## Narrative

This Exhibit supports a long form Auction 83 construction permit application for an FM translator on Channel 285 in Jamestown, North Carolina, file number BNPFT-20030312AKD. The tech box proposal (short form application) was filed in a filing window for Auction 83. This Exhibit provides a preclusion showing required in a Public Notice<sup>1</sup> of a window to file long form applications for further processing.

This application proposes a minor modification from the original short form application. Specific changes are a change of the primary station to be rebroadcast, a change to fill-in, a change of site, a decrease in height, and an increase in Effective Radiated Power. The minor modification creates no conflicts with any other Auction 83 tech box proposals, as shown in the Allocations Exhibit.

## Required Showings

This facility is located inside the Market Grid of the Greensboro (North Carolina) market. The Greensboro market is listed as a Spectrum Available Market using a 30 minute grid in Appendix B of the Fourth Report and Order.<sup>2</sup> The required showing is identified as Test C, in Attachment B to the Singleton Window PN.

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<sup>1</sup> *Public Notice Media Bureau Announces FM Translator Auction 83 Filing Window and Filing Procedures*, DA 13-283, released February 26, 2013. (Singleton PN)

<sup>2</sup> *In the Matter of Creation of a Low Power Radio Service, Amendment of Service and Eligibility Rules for FM Broadcast Translator Stations, Fourth Report and Order and Third Order on Reconsideration*, FCC 12-19, released March 19, 2012.

This facility is in the Greensboro Appendix A Market. It is not within 39 kilometers of any other Appendix A Market. It is not within any out-of-grid Top 50 Spectrum Limited Market.

The Greensboro market protected channel/point combinations were generated using the Commissions LPFM grid tool. A portion of the printout from the LPFM grid tool follows. The preliminary section confirms the parameters studied and provides a summary of the channels. There are protected points on channel 285, proposed in this application. There are also protected points on the upper and lower first and second adjacent channels. No I.F. channel protection is required.

LPFM Grid Study Parameters and Overall Results

Greensboro, NC  
 Latitude 36-04-21  
 Longitude 079-47-32  
 Grid Size 31 x 31  
 Micro FM 100 Watts at 30m HAAT  
 Co-Channel and 1st Adjacent Protected  
 2nd Adjacent Channel Protected  
 3rd Adjacent Channel Not Protected  
 I.F. Not Protected  
 TV Channel 6 Protected  
 CP Records Protected  
 APP Records Protected  
 FM Translators Protected  
 TV Channel 6 Translators/LP Protected  
 Auc83 FX App Records Protected

Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail
200	0	220	0	240	0	260	0	280	0
201	0	221	0	241	21	261	0	281	0
202	0	222	0	242	0	262	0	282	0
203	0	223	0	243	91	263	0	283	2
204	0	224	0	244	0	264	0	284	75
205	0	225	0	245	0	265	0	285	170
206	0	226	0	246	0	266	0	286	148
207	0	227	0	247	0	267	0	287	1
208	0	228	0	248	0	268	0	288	0
209	0	229	0	249	10	269	0	289	0
210	0	230	0	250	0	270	0	290	0
211	0	231	0	251	0	271	0	291	30
212	0	232	0	252	0	272	0	292	81
213	0	233	0	253	0	273	0	293	0
214	0	234	0	254	0	274	8	294	0
215	0	235	0	255	0	275	0	295	24
216	0	236	0	256	0	276	0	296	0
217	0	237	0	257	0	277	0	297	0
218	0	238	0	258	0	278	0	298	0
219	0	239	0	259	0	279	0	299	0
									300

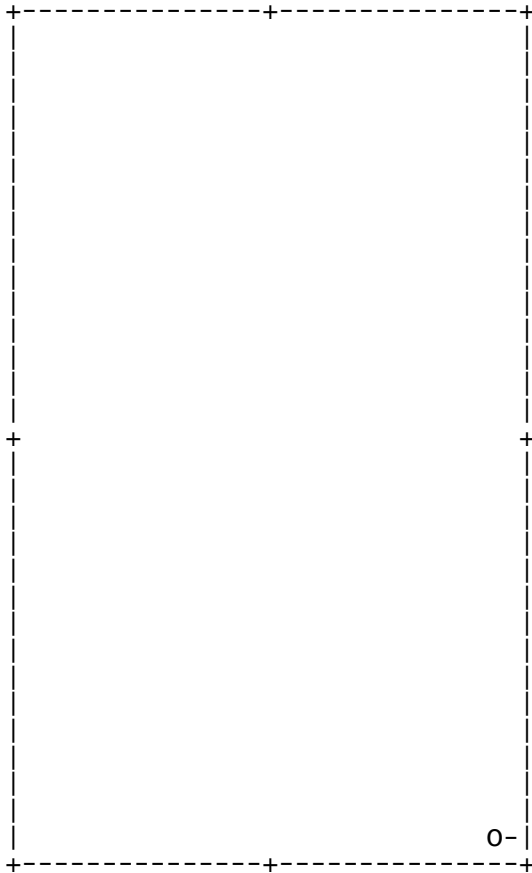
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 Total 661

Total allotments, least preclusive spacing: 22  
 Total allotments, most preclusive spacing: 19

Note: Co-channel through second adjacent channel points shown highlighted above.

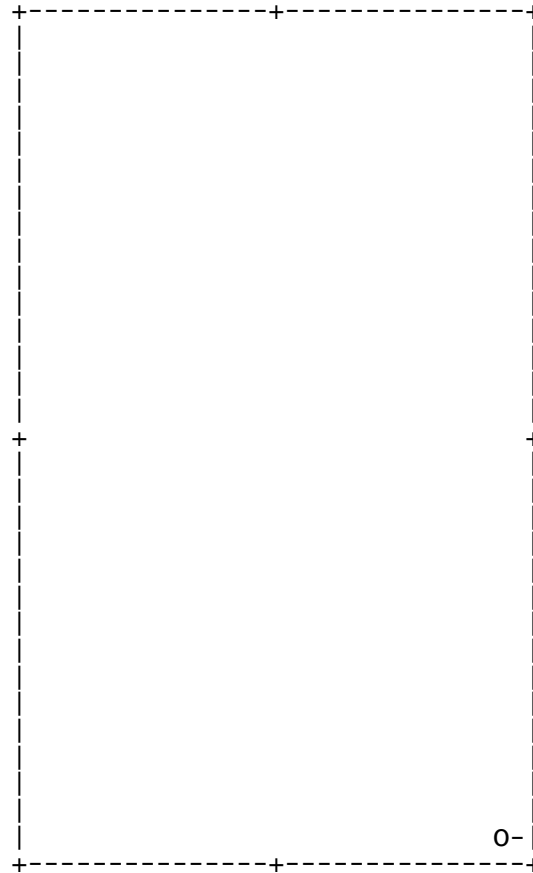
LPFM Grid Study Specific Channel Points

Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Least preclusive siting  
Availability of Channel 283 (X)



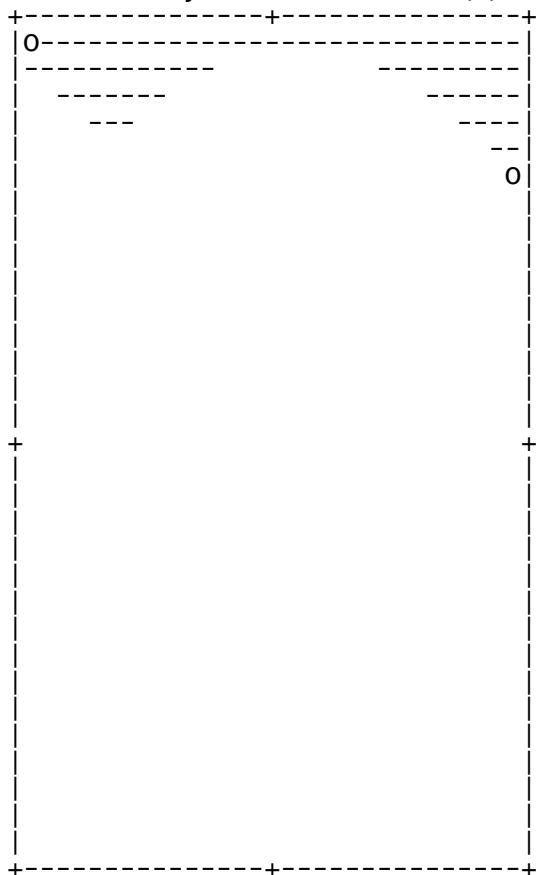
Point #032 at 35-49-21 079-33-32

Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Most preclusive siting  
Availability of Channel 283 (X)



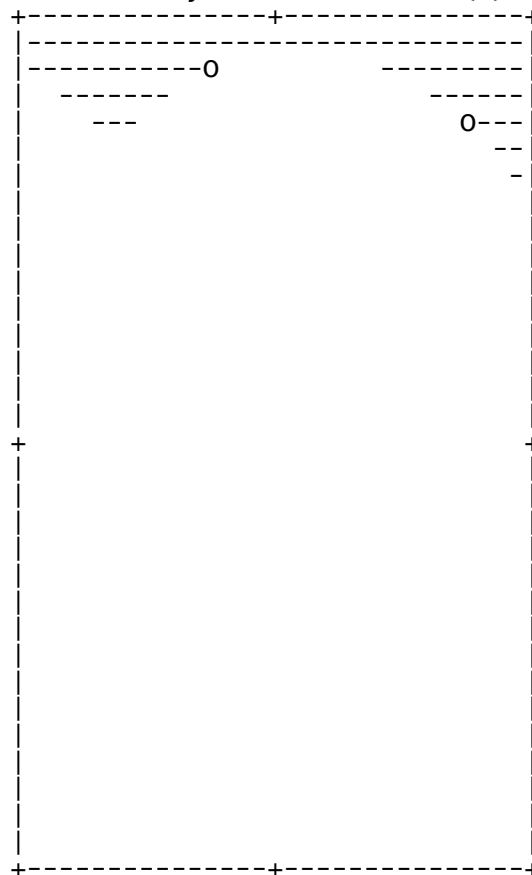
Point #032 at 35-49-21 079-33-32

Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Least preclusive siting  
Availability of Channel 284 (X)



Point #026 at 36-14-21 079-32-32  
Point #961 at 36-19-21 080-02-32

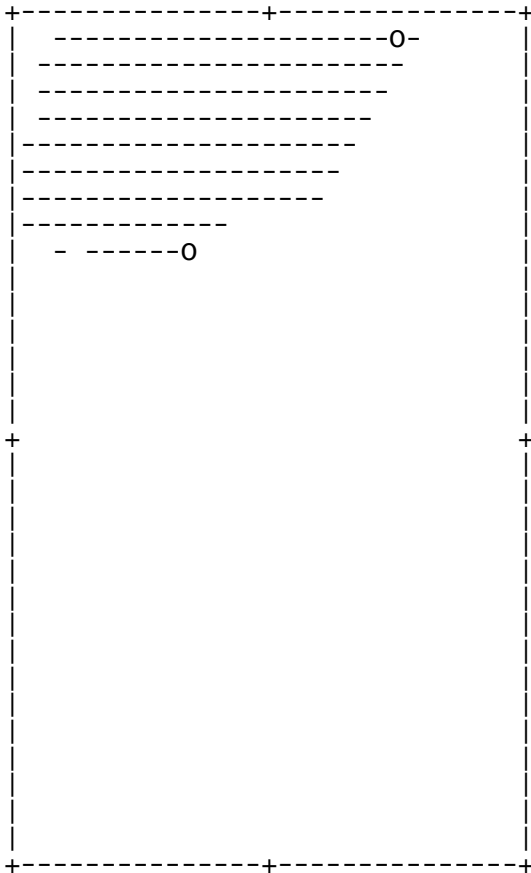
Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Most preclusive siting  
Availability of Channel 284 (X)



Point #619 at 36-18-21 079-51-32  
Point #121 at 36-16-21 079-35-32

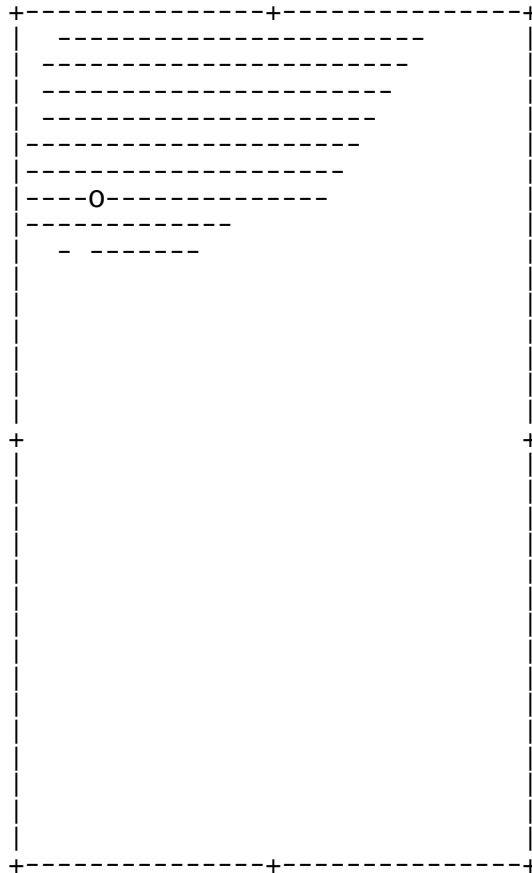


Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Least preclusive siting  
Availability of Channel 285 (X)



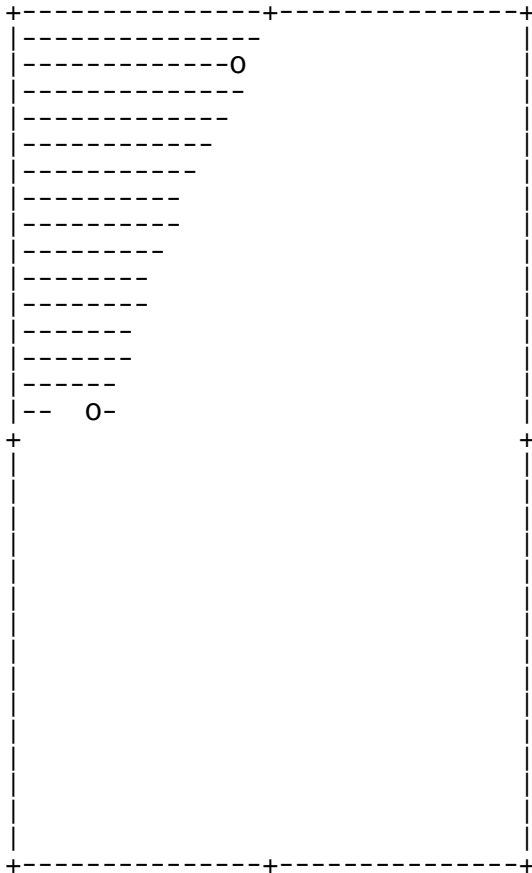
Point #248 at 36-19-21 079-39-32  
Point #643 at 36-11-21 079-52-32

Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Most preclusive siting  
Availability of Channel 285 (X)



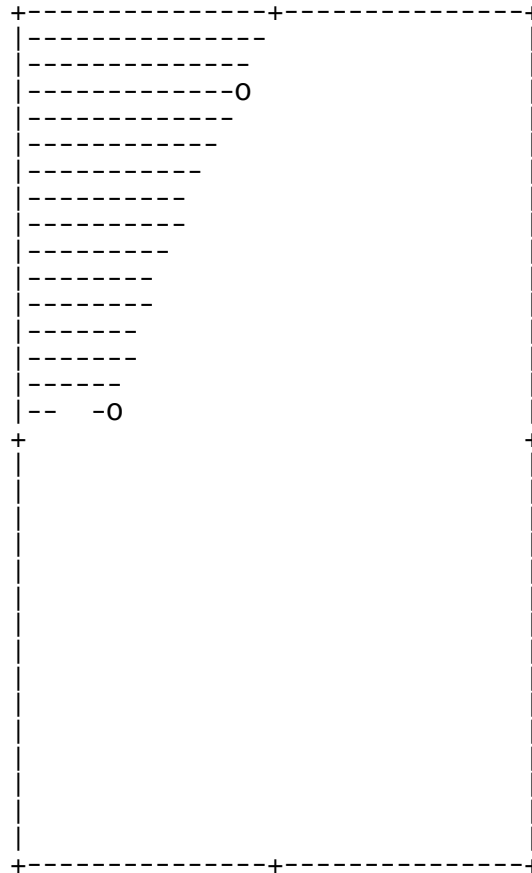
Point #831 at 36-13-21 079-58-32

Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Least preclusive siting  
Availability of Channel 286 (X)



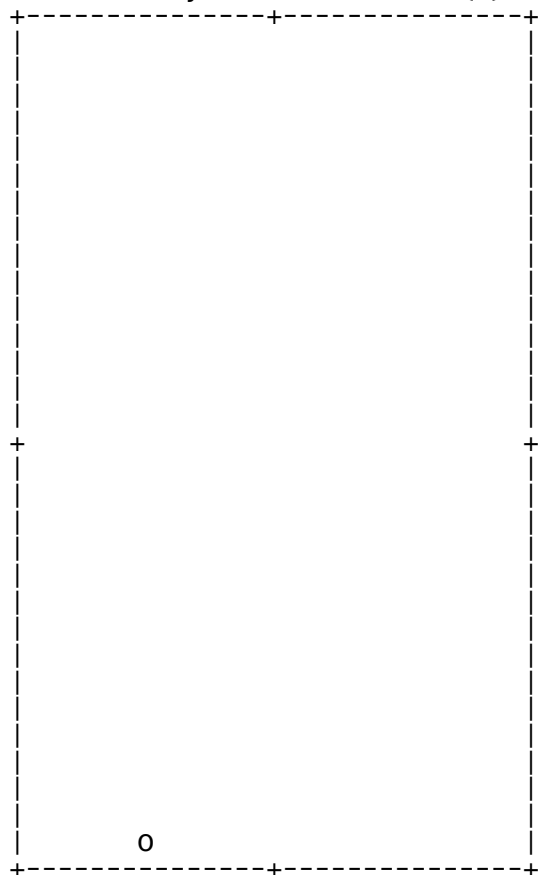
Point #823 at 36-05-21 079-58-32  
Point #557 at 36-18-21 079-49-32

Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Most preclusive siting  
Availability of Channel 286 (X)



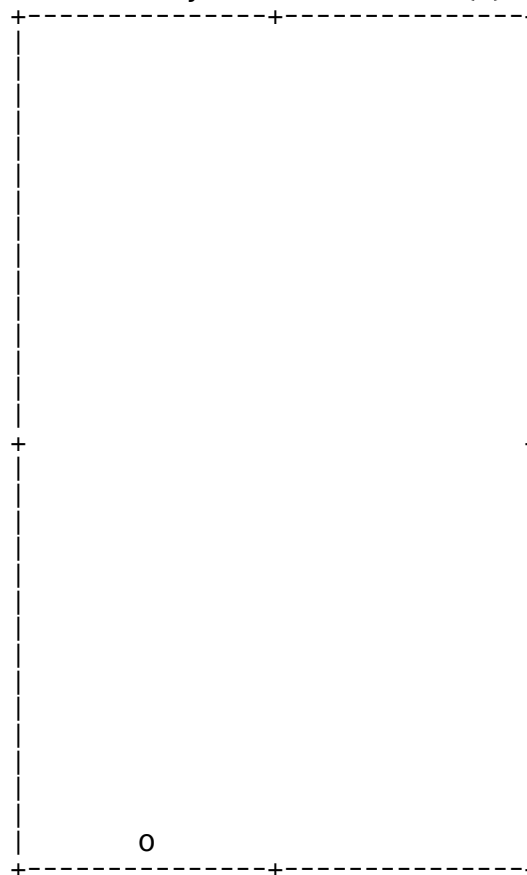
Point #556 at 36-17-21 079-49-32  
Point #792 at 36-05-21 079-57-32

Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Least preclusive siting  
Availability of Channel 287 (X)



Point #714 at 35-49-21 079-55-32

Greensboro, NC  
Latitude 36-04-21  
Longitude 079-47-32  
Most preclusive siting  
Availability of Channel 287 (X)



Point #714 at 35-49-21 079-55-32

### Translator Height Above Average Terrain and Distance to Contour

The proposed translator facilities Height Above Average Terrain for the 12 radials used for translators is 52.3 meters. The corresponding distance to the 60 dBu F(50,50) contour is 7.228 kilometers, using the FM Curves utility on the Audio Division website. This translator falls in the smallest classification for separation requirements in 47 C.F.R. §73.807(d)(1). The required separation for co-channel operation is 26 kilometers. For first adjacent channel, the separation is 15 kilometers. For second adjacent channel the requirement is 8 kilometers.

### Preclusion Study Description

Figure 1 shows the relationship of the proposed facilities to the Greensboro market. This facility as proposed in the short form filing is plotted with its Application ID, 649553. The 60 dBu F(50,50) contour (dashed colored line) is shown. The proposed modified facilities are identified as 649553m. The proposed 60 dBu F(50,50) contour is shown as a solid colored line.

A solid green line shows the 26.0 kilometer radius circle where the proposed translator facilities could preclude a co-channel LPFM opportunity. The closest co-channel protected channel/point LPFM licensing opportunities that were identified by the LPFM Grid Study program are plotted on Figure 1, also plotted in green. Each point is more than 26.0 kilometers from the proposed transmitter site. All other co-channel points are North of the plotted points, and farther away from the proposed site.

A solid black line shows the 15.0 kilometer radius circle where the proposed translator facilities could preclude a first adjacent LPFM opportunity. The closest first adjacent channel protected channel/point LPFM licensing opportunities that were identified by the LPFM Grid Study program are plotted in black on Figure 1. Protected channel 284 points (lower first adjacent) at the Southern ends of the East and West groups are plotted, along with additional points to establish the shape of the protected area. Each point is more than 15.0 kilometers from the proposed transmitter site. Protected channel 286 points (upper first adjacent) along the Southern edge of the group of points are also plotted, and also are beyond 15 kilometers. The remaining channel 286 points are North of the points shown, and farther from the proposed site.

A solid blue line shows the 8.0 kilometer radius circle where the proposed translator facilities could preclude a second adjacent LPFM opportunity. There are two (2) channel 283 (lower second adjacent) points, numbers 1 and 32, both plotted in blue. There is a single channel 287 (upper second adjacent) point, number 714 which is plotted in blue. Each point is more than 8.0 kilometers from the proposed transmitter site.

Figure 1 shows that the proposed site exceeds the protection distances for all co-channel and adjacent channel protected channel/point combinations.

#### 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 NED03 3 arc second terrain database.

**634553**  
BNPFT20030312AKD  
Latitude: 35-57-18 N  
Longitude: 079-59-52 W  
ERP: 0.019 kW  
Channel: 285 104.9 MHz  
AMSL Height: 327.0 m  
Elevation: 278.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No

**634553m**  
Long Form Application  
Latitude: 35-55-09 N  
Longitude: 080-00-34 W  
ERP: 0.09 kW  
Channel: 285 104.9 MHz  
AMSL Height: 302.0 m  
Elevation: 270.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No

Jamestown, North Carolina  
BNPFT-20030312AKD  
Preclusion Showing  
March 2013  
Figure 1

