CONSOLIDATED ENGINEERING STATEMENT

CONCERNING AMENDMENT TO 301 APPLICATION FOR

CONSTRUCTION PERMIT BNPH-20070223AHO

AND

ASSOCIATED CHANGE IN COMMUNITY OF LICENSE

PRESENT CH 224C1 OCRACOKE, NORTH CAROLINA

PROPOSED NEW (FM) CH 224C2 PINE KNOLL SHORES, NORTH CAROLINA

JUNE 2007

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SUMMARY

The following engineering statement has been prepared on behalf of **Tower Investment Trust, Inc. ("Tower")**, applicant for a new FM station at Ocracoke, North Carolina, FCC ID 170178. The facilities specified herein, and in FCC Form 301, Section III-B, represent a minor amendment to the pending application for construction permit, FCC File No. BNPH-20070223AHO. The amended engineering specifies the transmitter site currently on file but with an increase in RC AMSL and associated decrease in ERP. A waiver of 73.215 was previously sought with respect to WERO, CH 227C, Washington, North Carolina. That waiver is no longer pursued in this application and contour clearance to WERO is provided. An alternate prediction methodology was employed to demonstrate 70 dBu service over the proposed community of license and continued use of that methodology is specified herein. Other services and allocation showings previously filed are not affected by this amendment.

POPULATION DATA – ALLOTMENT & PROPOSED FACILITIES.

The proposed 70 dBu and 60 dBu population data is shown below. The population data is based on 2000 Census data with the contour locations based on 72 evenly spaced radials computed using the Radio Soft 3 second (NGDC Based) high accuracy 3 second terrain database for FM stations. Distances to FM contours were determined using the methodology found in *73.313*. See *Figure 3*.

Facility	Population - Persons 70 dBu	60 dBu	Area - Sq. kM 70 dBu	60 dBu
Proposed	30,879	92,741	2,498	6,734

ALTERNATE PREDICTION METHODOLOGY

To determine the **Tower** proposed signal level over the allotment community of Pine Knoll Shores it is necessary to employ an alternate prediction methodology as the 70 dBu contour, using 73.313 methodology, does not envelop the proposed community of license. NBS Tech Note 101 (Longley-Rice) is employed here as the primary supplemental prediction method to the *73.313* contour prediction methodology. The FCC Media Bureau, in coordination with OET, has established guidelines for use of the Longley-Rice method. The guidelines are enunciated in a letter dated August 8, 2002 from the Media Bureau concerning KMAJ-FM, Topeka, Kansas, Facility ID 42012, Application BPH-20000316ACF and accessible on the Audio Division web page.

Use of the Longley-Rice prediction model is believed appropriate for analyzing the signal level provided to the community of Pine Knoll Shores for the proposed facilities based on the following facts.

The terrain in the applicable coastal plane of North Carolina is commonly acknowledged to be extremely flat and regular. *Figure 5* is a topographical map depicting the proposed transmitter site with the 230, 232, 234, 236, 238 and 240 degree radials. Each radial passes over bodies of water and low marshland to reach the community which is located on an island in the Atlantic Ocean.

The FCC test for use of Longley-Rice are listed below:

1) The FCC has established that the Delta h must depart widely from the 50 meter standard and be 20 meters or less or 100 meters or more. In the case of the proposed facilities, the Delta h on the radials which cross Pine Knoll Shores (230-240 degree) are all 0 meters.

2) Distance to the *73.313(a)* computed 70 dBu contour must be at least 10% different than the distance to the 70 dBu based on Longley-Rice. The 70 dBu 73.313 distance on the pertinent radials is 28.2 kilometers while the Longley Rice predicted 70 dBu occurs at a minimum distance

of 39 kM (See amended Table IV). This is a difference of 38.3%.

3) A list of assumptions must be supplied (Please see amended Table IV for Telecommunications Analysis Services printout).

4) A sample calculation using the supplemental procedure must be supplied (please see below).

SUPPLEMENTAL 70 dBu ANALYSIS

Figure 3 depicts the proposed 70 dBu contour based on *73.313(c)* using 3 second terrain data at 5 degree evenly spaced radials. The RadioSoft 3 second terrain data was employed for the contour calculation.

Figure 5 is the 70 dBu F(50,50) contour location calculated using the Longley Rice methodology. It is seen that 100% of the community boundary lies well inside the Longley Rice 70 dBu.

SAMPLE COMPUTATION

Figure 5-P is a plot of the terrain elevation from the site to the Pine Knoll Shores reference coordinates using the RadioSoft 3 second terrain data. The community reference coordinates are NAD 27 N.L. 34° 41' 50", W.L. 76° 48' 49".

This figure is offered to demonstrate distance and bearing to the community, that the community is near sea level, that the terrain is very flat and for computation purposes.

The basic formula for calculation of signal strength is obtained from NBS Technical Note 101, Transmission Loss Predictions For Tropospheric Communications Circuits, revised May 1966.

dBuV/m = 106.92 - 20 (log d)

d = distance in kilometers

To determine Field Strength in dBuV/m, the path specific data must be applied:

Lbd = basic diffraction transmission loss (obstruction loss)

ERP = Effective radiated power in dBkW relative to a dipole

A = Excess path loss from fresnel zone loss and clutter loss

The final formula becomes:

dBu V/m2 106.92 - 20 (log d) + ERP - Lbd - A

For the proposed facility the sample computation values, related to *Figure 5-P*, are:

d = 34.9 kM

Lbd = 0 dB

ERP = 10.2 dBk

A = 5.8 dB fresnel loss
5 dB clutter loss (Value obtained from discussion with *OET*)

dBuV/m = 106.92 - 30.9 + 10.2 - 5.8 - 5

dBuV/m = 75.4 dBu

CONCLUSION

The foregoing was prepared on behalf of **Tower Investment Trust, Inc.** by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The undersigned certifies, under penalty of perjury, that the statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.

By _____

Clarence M. Beverage
for Communications Technologies, Inc.
Marlton, New Jersey

June 27, 2007

TABLE IV
TIREM POINT TO POINT MODE SIGNAL LEVEL COMPUTATIONS
JUNE 2007 AMENDMENT

Communications System Coverage Model
Input Summary
27-Jun-07 13:26:00

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1)	Model:	Point-to-point irregular terrain model
2)	Output option:	Field intensity
3)	Length units:	Metric (km and m)
4)	Service Application:	Broadcast
5)	Results option:	WWW
6)	Location variability:	50.00 %
7)	Time availability:	50.00 %
8)	Situation variability:	50.00 %
10)	Frequency:	92.700 MHz
11)	Polarization:	Horizontal
12)	Conductivity:	0.005 S/m
13)	Dielectric constant:	15.0
14)	Climate zone:	Continental temperate
20)	Transmitter name:	Lookout Mt.
21)	Transmitter location:	

Latitude		Longitude	
Deg N		Deg W	
34.8834	34N,53, 0.4	-76.5059	76W,30,21.3

22)	Xmtr site elevation:	2.0 m	6.6 ft
23)	Xmtr ant ht AMSL:	228.30 m	749.02 ft
23)	Xmtr ant ht AGL:	226.30 m	742.45 ft
24)	Transmitter radiation option:	ERP	
29)	Effective Radiated Power:	11500.0 W	
	Effective Isotropic Radiated Power:	18866.8 W	
30)	Transmitter ant horiz pattern:	Omnidirectional	
32)	Transmitter ant vert pattern:	Omnidirectional	
40)	Rcvr ant ht above ground:	9.10 m	29.86 ft
50)	Man-made noise environment:	Quiet rural	
62)	Analysis center:		

Latitude		Longitude	
Deg N		Deg W	
34.8834	34N,53, 0.4	-76.5059	76W,30,21.3

66)	Field intensity contour levels:		
		1)	68.00 dBuV/m
		2)	69.00 dBuV/m
		3)	70.00 dBuV/m
67)	Coverage study starting azimuth:	225.0 deg	
67)	Coverage study ending azimuth:	240.0 deg	
67)	Coverage study azimuth increment:	1 deg	
69)	Coverage limits:	maximum_Full_Listing	
68)	Analysis radius:	50.00 km	31.07 mi

TABLE IV
TIREM POINT TO POINT MODE SIGNAL LEVEL COMPUTATIONS
JUNE 2007 AMENDMENT

Distance to Contours (KM)
NOTE: ****** indicates contour not found!

Bearing	NO. 1	NO. 2	NO. 3
	68.0	69.0	70.0
225	43.0	42.0	40.0
226	43.0	42.0	40.0
227	43.0	41.0	40.0
228	43.0	41.0	39.0
229	43.0	41.0	39.0
230	43.0	41.0	40.0
231	43.0	41.0	39.0
232	42.0	41.0	39.0
233	42.0	41.0	39.0
234	42.0	41.0	39.0
235	42.0	41.0	39.0
236	42.0	41.0	40.0
237	42.0	41.0	41.0
238	43.0	43.0	43.0
239	44.0	44.0	39.0
240	42.0	40.0	39.0

TABLE IV
TIREM POINT TO POINT MODE SIGNAL LEVEL COMPUTATIONS
JUNE 2007 AMENDMENT

Table of Field intensity values.

Distance	Bearing					
km	225	226	227	228	229	230
1.00	124.6	124.6	124.6	124.6	124.6	124.6
2.00	113.7	113.7	113.7	113.7	113.7	113.7
3.00	109.4	109.4	109.4	109.4	109.4	109.4
4.00	106.5	106.5	106.5	106.5	106.5	106.5
5.00	104.4	104.4	104.4	104.4	104.4	104.4
6.00	102.7	102.7	102.7	102.7	102.7	102.7
7.00	101.2	101.2	101.2	101.2	101.2	101.2
8.00	99.9	99.9	99.9	99.9	99.9	99.9
9.00	98.1	98.1	98.1	98.1	98.1	98.1
10.00	96.3	96.3	96.3	96.3	96.3	96.3
11.00	94.7	94.7	94.7	94.7	94.7	94.7
12.00	93.3	93.3	93.3	93.3	93.3	93.3
13.00	91.9	91.9	91.9	91.9	91.9	91.9
14.00	90.7	90.7	90.7	90.7	90.7	90.7
15.00	89.7	89.9	90.0	90.2	90.3	90.4
16.00	89.7	89.7	89.6	89.6	89.5	89.4
17.00	88.5	88.5	88.8	88.9	89.0	88.9
18.00	88.0	88.0	87.9	87.8	87.7	87.6
19.00	86.4	86.3	86.2	86.1	85.9	85.6
20.00	84.2	84.2	84.2	84.2	84.2	84.2
21.00	83.3	83.3	83.3	83.3	83.3	83.3
22.00	82.4	82.4	82.4	82.4	82.4	82.4
23.00	81.5	81.5	81.5	81.5	81.5	81.5
24.00	80.7	80.7	80.7	80.7	80.7	80.7
25.00	79.8	79.8	79.8	79.8	80.1	80.3
26.00	79.5	79.7	79.1	79.0	79.0	79.0
27.00	78.4	78.6	79.7	80.0	78.8	78.3
28.00	77.7	77.6	77.4	77.6	78.8	79.8
29.00	77.7	76.9	76.7	76.6	76.7	76.7
30.00	76.8	78.4	79.3	78.6	75.9	75.9
31.00	75.4	75.2	75.9	77.9	77.6	75.2
32.00	74.8	74.6	74.5	74.5	76.3	75.9
33.00	74.1	74.0	73.8	73.8	73.8	74.3
34.00	73.5	73.3	73.1	73.1	73.1	73.1
35.00	72.9	72.7	72.4	72.4	72.4	72.5
36.00	72.3	72.1	71.8	71.7	71.7	71.9
37.00	71.6	71.5	71.2	71.1	71.1	71.3
38.00	71.0	70.9	70.6	70.4	70.5	70.6
39.00	70.4	70.3	70.0	69.9	69.9	70.1
40.00	69.8	69.7	69.5	69.3	69.3	69.5
41.00	69.2	69.1	68.9	68.7	68.8	68.9
42.00	68.6	68.5	68.3	68.2	68.2	68.4
43.00	68.0	67.9	67.8	67.6	67.6	67.8
44.00	67.4	67.3	67.2	67.0	67.1	67.2
45.00	66.8	66.8	66.6	66.5	66.5	66.7
46.00	66.2	66.2	66.0	65.9	66.0	66.1
47.00	65.6	65.6	65.5	65.4	65.4	65.5
48.00	65.1	65.0	64.9	64.8	64.9	64.9
49.00	64.5	64.4	64.3	64.3	64.3	64.4
50.00	63.9	63.9	63.8	63.7	63.8	63.8

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Table of Field intensity values.

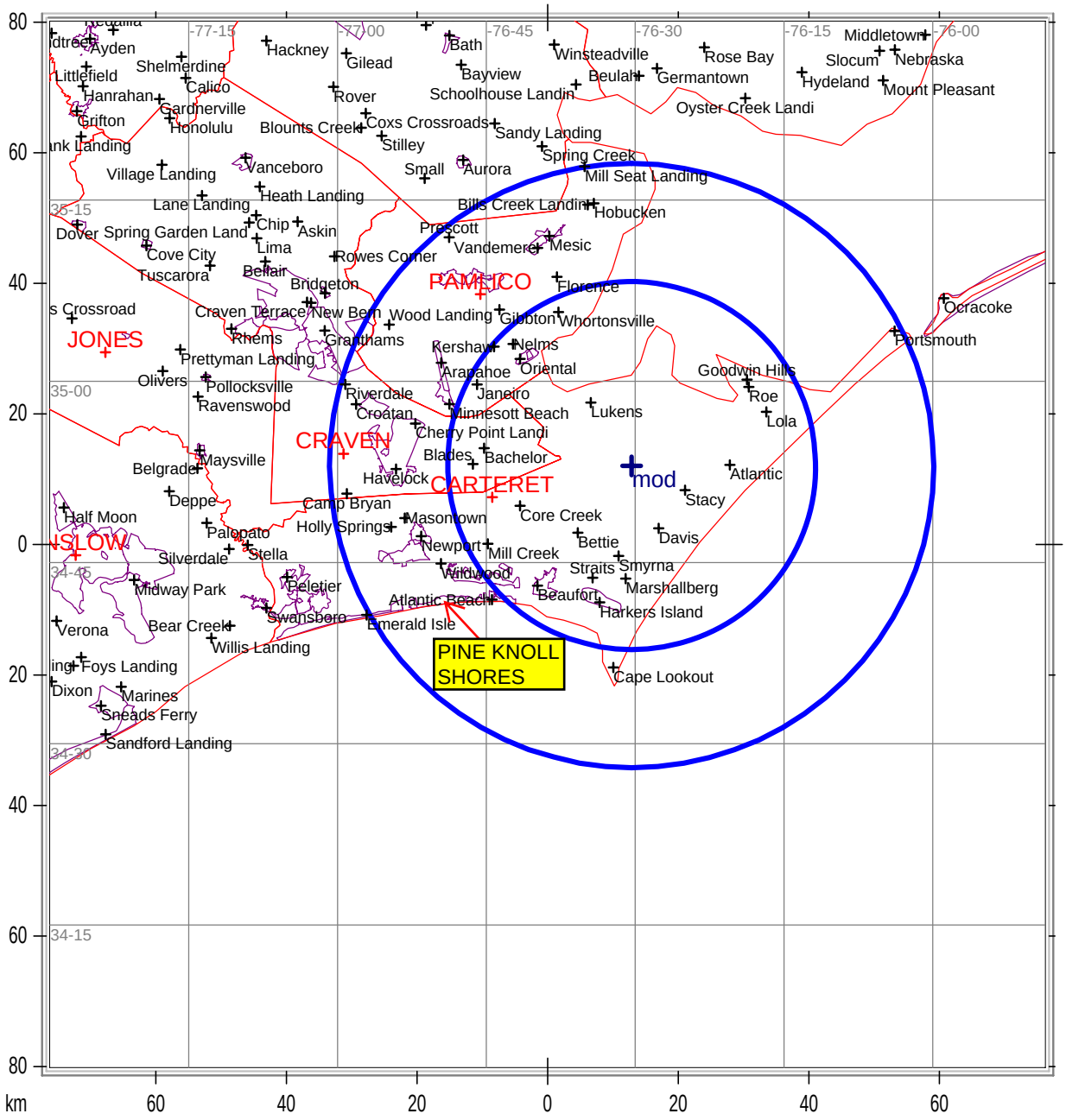
Distance	Bearing					
km	231	232	233	234	235	236
1.00	124.6	124.6	124.6	124.6	124.6	124.6
2.00	113.7	113.7	113.7	113.7	113.7	113.7
3.00	109.4	109.4	109.4	109.4	109.4	109.4
4.00	106.5	106.5	106.5	106.5	106.5	106.5
5.00	104.4	104.4	104.4	104.4	104.4	104.4
6.00	102.7	102.7	102.7	102.7	102.7	102.7
7.00	101.2	101.2	101.2	101.2	101.2	101.2
8.00	99.9	99.9	99.9	99.9	99.9	99.9
9.00	98.1	98.1	98.1	98.1	98.1	98.1
10.00	96.3	96.3	96.3	96.3	96.3	96.3
11.00	94.7	94.7	94.7	94.7	94.7	94.7
12.00	93.3	93.3	93.3	93.3	93.3	93.3
13.00	91.9	91.9	91.9	91.9	91.9	91.9
14.00	90.7	90.7	90.8	90.8	91.0	91.0
15.00	90.5	90.5	90.4	90.4	90.3	90.2
16.00	89.5	89.5	89.5	89.6	89.7	89.6
17.00	88.9	88.8	88.7	88.6	88.6	88.4
18.00	87.6	87.4	87.2	86.9	86.7	86.4
19.00	85.4	85.4	85.3	85.2	85.2	85.2
20.00	84.2	84.2	84.2	84.2	84.2	84.2
21.00	83.3	83.3	83.3	83.3	83.3	83.3
22.00	82.4	82.4	82.4	82.4	82.4	82.4
23.00	81.5	81.5	81.5	81.5	81.5	81.5
24.00	80.7	80.8	80.7	80.7	80.7	80.7
25.00	80.7	81.3	81.7	82.0	81.6	80.5
26.00	79.0	79.1	80.4	81.9	81.8	79.4
27.00	78.4	79.4	80.2	81.7	80.5	78.3
28.00	80.7	80.0	79.0	79.8	80.5	79.3
29.00	76.9	79.2	81.0	79.8	80.9	81.0
30.00	75.9	75.9	77.4	78.8	79.4	79.4
31.00	75.2	75.2	75.2	75.2	75.2	75.2
32.00	74.7	74.5	74.5	74.4	74.5	74.5
33.00	76.7	74.5	73.8	73.7	73.7	73.8
34.00	73.1	76.0	74.0	73.0	73.0	73.1
35.00	72.4	72.4	74.8	73.1	72.4	72.4
36.00	71.7	71.7	71.7	73.3	72.4	71.7
37.00	71.1	71.1	71.0	71.0	73.7	71.1
38.00	70.4	70.4	70.4	70.3	70.3	71.8
39.00	69.8	69.8	69.7	69.7	69.7	70.6
40.00	69.2	69.1	69.1	69.0	69.0	69.1
41.00	68.7	68.5	68.5	68.4	68.4	68.5
42.00	68.1	67.9	67.9	67.8	67.8	67.9
43.00	67.6	67.3	67.3	67.2	67.2	67.3
44.00	67.0	66.7	66.7	66.6	66.6	66.7
45.00	66.5	66.1	66.1	66.0	66.0	66.1
46.00	65.9	65.6	65.5	65.4	65.4	65.5
47.00	65.3	65.0	64.9	64.8	64.8	64.9
48.00	64.8	64.5	64.3	64.2	64.2	64.3
49.00	64.3	64.0	63.7	63.6	63.6	63.8
50.00	63.7	63.5	63.2	63.0	63.1	63.3

TABLE IV
TIREM POINT TO POINT MODE SIGNAL LEVEL COMPUTATIONS
JUNE 2007 AMENDMENT

Table of Field intensity values.

Distance	Bearing					
km	237	238	239	240	241	242
1.00	124.6	124.6	124.6	124.6	10000.0	10000.0
2.00	113.7	113.7	113.7	113.7	10000.0	10000.0
3.00	109.4	109.4	109.4	109.4	10000.0	10000.0
4.00	106.5	106.5	106.5	106.5	10000.0	10000.0
5.00	104.4	104.4	104.4	104.4	10000.0	10000.0
6.00	102.7	102.7	102.7	102.7	10000.0	10000.0
7.00	101.2	101.2	101.2	101.2	10000.0	10000.0
8.00	99.9	99.9	99.9	99.9	10000.0	10000.0
9.00	98.1	98.1	98.1	98.1	10000.0	10000.0
10.00	96.3	96.3	96.3	96.3	10000.0	10000.0
11.00	94.7	94.7	94.7	94.7	10000.0	10000.0
12.00	93.3	93.3	93.3	93.3	10000.0	10000.0
13.00	91.9	91.9	91.9	91.9	10000.0	10000.0
14.00	91.0	91.0	91.1	91.1	10000.0	10000.0
15.00	90.0	89.9	89.9	89.9	10000.0	10000.0
16.00	89.5	89.5	89.5	89.5	10000.0	10000.0
17.00	88.3	88.1	88.1	88.0	10000.0	10000.0
18.00	86.3	86.3	86.3	86.3	10000.0	10000.0
19.00	85.2	85.2	85.2	85.2	10000.0	10000.0
20.00	84.2	84.3	84.3	84.3	10000.0	10000.0
21.00	83.4	83.4	83.5	83.4	10000.0	10000.0
22.00	82.4	82.5	82.6	82.6	10000.0	10000.0
23.00	81.5	81.5	81.6	81.7	10000.0	10000.0
24.00	80.7	80.7	80.7	80.7	10000.0	10000.0
25.00	79.9	79.9	79.9	79.9	10000.0	10000.0
26.00	79.1	79.1	79.1	79.1	10000.0	10000.0
27.00	78.3	78.3	78.3	78.5	10000.0	10000.0
28.00	78.0	77.7	77.5	77.8	10000.0	10000.0
29.00	80.6	79.9	78.8	77.6	10000.0	10000.0
30.00	79.7	79.7	79.3	78.5	10000.0	10000.0
31.00	77.7	78.8	78.9	79.1	10000.0	10000.0
32.00	78.3	77.9	77.8	78.0	10000.0	10000.0
33.00	73.7	73.8	77.7	77.7	10000.0	10000.0
34.00	73.0	73.0	75.0	77.2	10000.0	10000.0
35.00	72.3	72.3	72.3	73.5	10000.0	10000.0
36.00	71.7	71.7	71.7	71.7	10000.0	10000.0
37.00	71.0	71.0	71.0	71.0	10000.0	10000.0
38.00	70.3	70.3	70.3	70.3	10000.0	10000.0
39.00	69.8	69.7	69.6	69.6	10000.0	10000.0
40.00	71.7	69.0	69.0	69.0	10000.0	10000.0
41.00	68.4	69.5	68.4	68.4	10000.0	10000.0
42.00	67.8	70.1	68.3	67.7	10000.0	10000.0
43.00	67.2	67.2	69.8	67.1	10000.0	10000.0
44.00	66.6	66.6	66.8	66.5	10000.0	10000.0
45.00	66.0	66.0	66.0	67.2	10000.0	10000.0
46.00	65.4	65.4	65.4	66.1	10000.0	10000.0
47.00	64.8	64.8	64.7	64.7	10000.0	10000.0
48.00	64.2	64.2	64.2	64.1	10000.0	10000.0
49.00	63.7	63.6	63.6	63.5	10000.0	10000.0
50.00	63.1	63.1	63.0	63.0	10000.0	10000.0

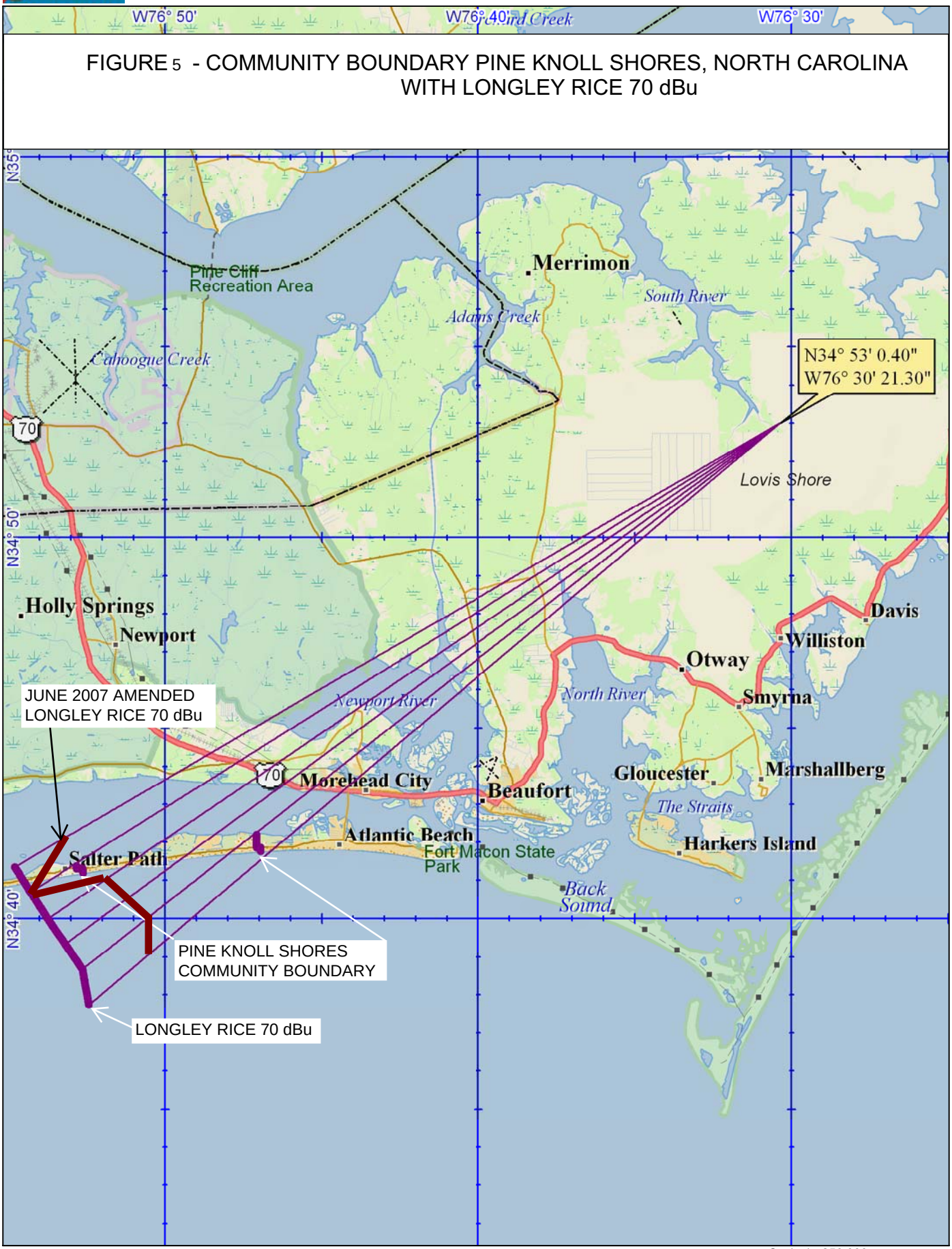
CH224C2 92.7 MHz 11.5 kW @ 228 M HAAT (RC 228.4 M AMSL) PINE KNOLL SHORES, NORTH CAROLINA



Communications Technologies, Inc. Marlton, New Jersey

County Borders City Borders Lat/Lon Grid

FIGURE 5 - COMMUNITY BOUNDARY PINE KNOLL SHORES, NORTH CAROLINA WITH LONGLEY RICE 70 dBu

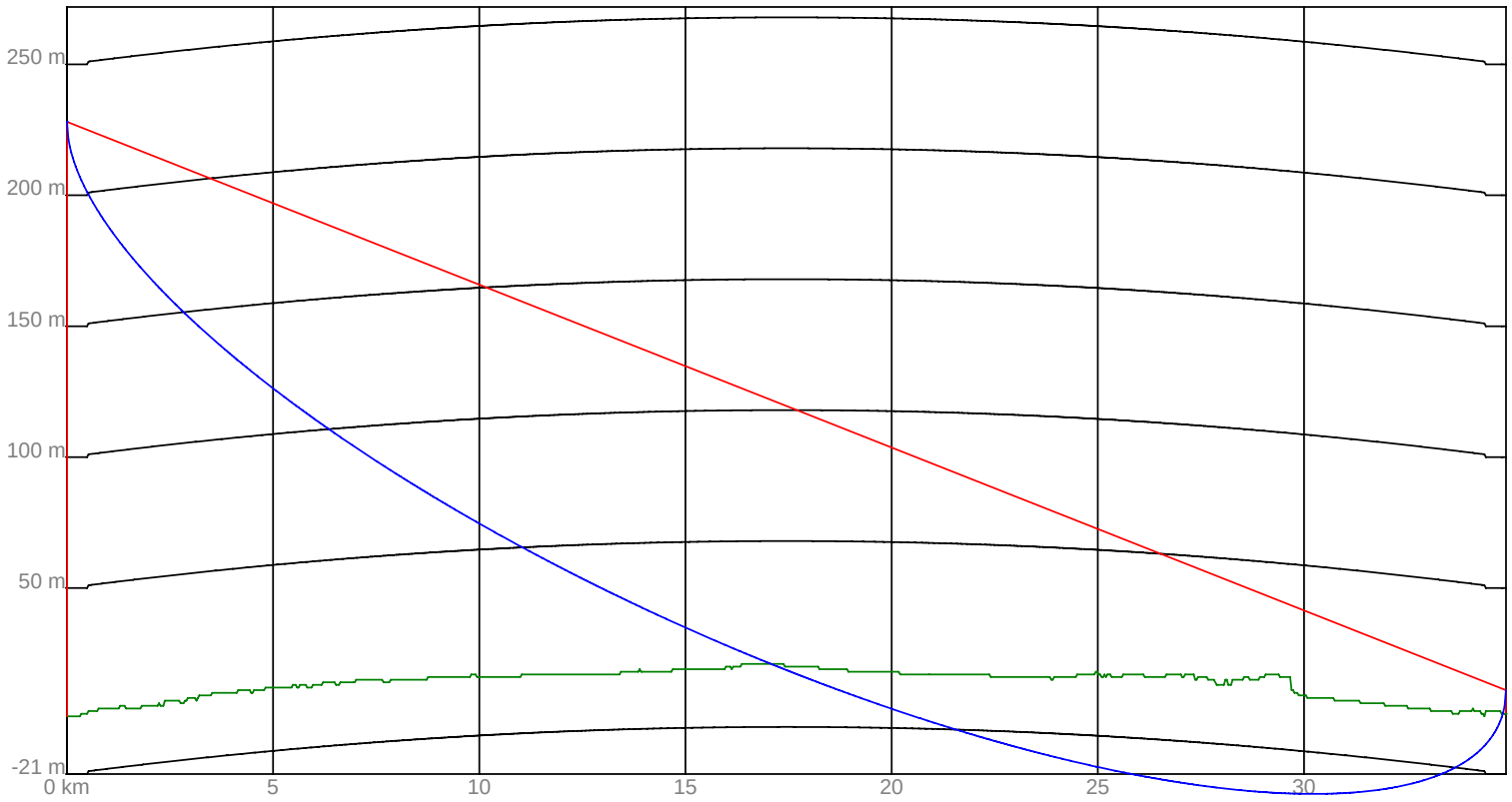


TN
MN (9.9°W)

Scale 1 : 250,000
1" = 6.35 km
Data Zoom 9-0

FIGURE 5 AMENDED JUNE 2007

ComStudy 2 Path Profile



TX

Lat:	34-53-00.4 N
Lon:	76-30-21.3 W
AMSL:	1 m
Tower AGL:	227 m

COMMUNITY

Lat:	34-41-49.9 N
Lon:	76-48-49.0 W
AMSL:	2 m
Tower AGL:	9 m

Profile Info

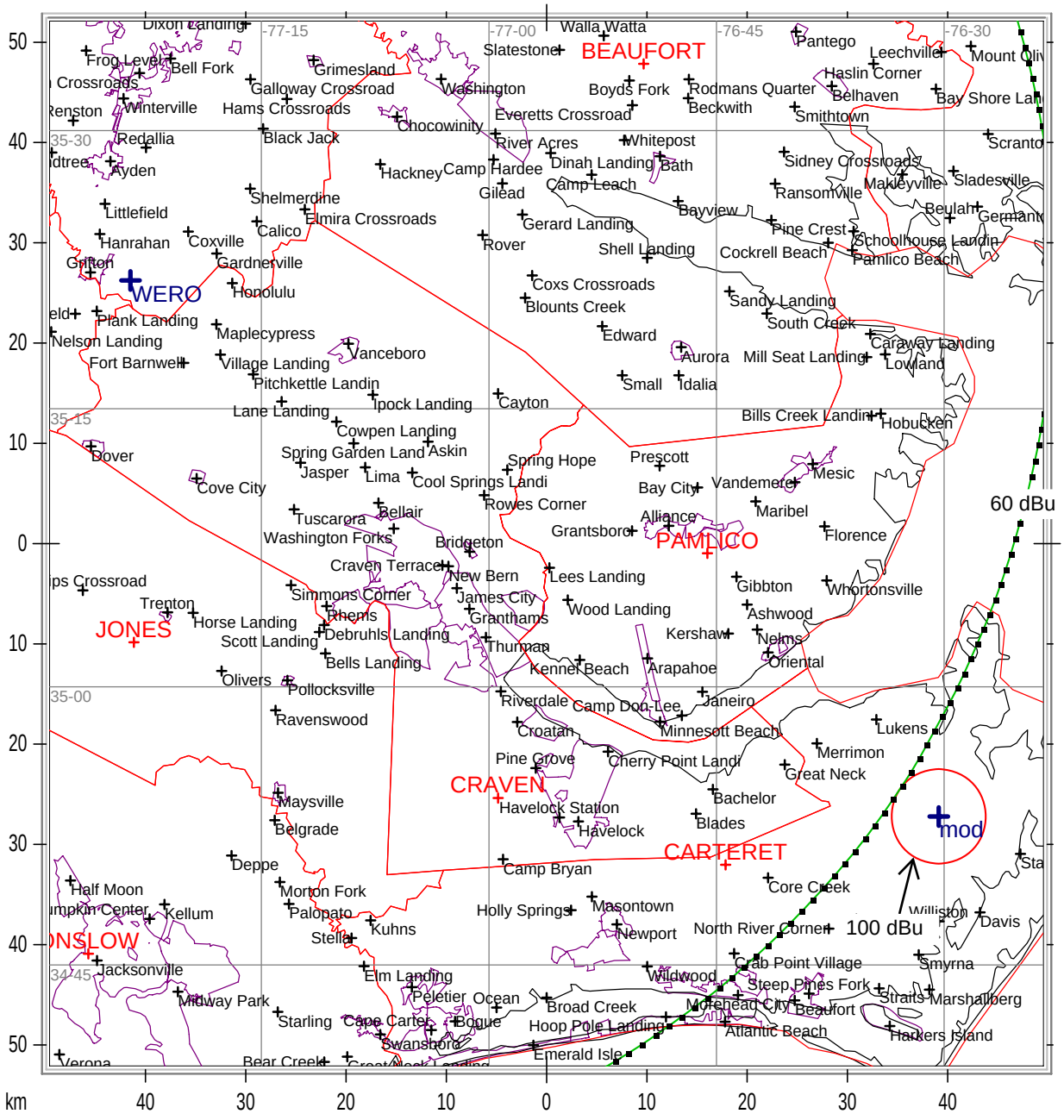
Distance:	34.90 Km
Bearing:	233.70 deg
# of points	1000
K value:	1.333
Frequency:	92.7000
Clearance:	0.6

Losses

Base Loss:	114.2 dB
Fade Margin:	N/A
Diffraction:	0.0 dB
Fresnel:	5.7 dB

FIGURE 5P

CH224C2 92.7 MHz 11.5 kW @ 228 M HAAT (RC 228.4 M AMSL) PINE KNOLL SHORES, NORTH CAROLINA



Communications Technologies, Inc. Marlton, New Jersey

County Borders State Borders City Borders Lat/Lon Grid