RECEIVED

COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

DEC 1 6 2016

PUBLIC SERVICE COMMISSION

In the matter of:

THE APPLICATION OF EAST KENTUCKY NETWORK,)
LLC FOR THE ISSUANCE OF A CERTIFICATE OF)
PUBLIC CONVENIENCE AND NECESSITY TO) CASE NO. 2016-00260
CONSTRUCT A TOWER IN BREATHITT COUNTY,)
KENTUCKY)

East Kentucky Network, LLC d/b/a Appalachian Wireless was granted authorization to provide cellular service in the KY-10 Cellular Market Area (CMA452) by the Federal Communications Commission (FCC). FCC license is included as Exhibit 1. East Kentucky Network, LLC merger documents were filed with the Commission on February 2, 2001 in Case No. 2001-022. East Kentucky Network, LLC is a Kentucky Limited Liability Company that was organized on June 16, 1998. East Kentucky Network, LLC is in good standing with the state of Kentucky.

In an effort to improve service in Breathitt County, pursuant to KRS 278.020 Subsection 1 and 807 KAR 5:001, East Kentucky Network, LLC is seeking the Commission's approval to construct a 300 foot self-supporting telecommunications tower on a tract of land located at 2000 Lookout Tower Hill Road, Clayhole, Breathitt County, Kentucky (37°28'25.45"N 83°9'40.36"W). A map and detailed directions to the site can be found in Exhibit 7.

Exhibit 2 is a list of all property owners or residents according to the Property Valuation Administrator's record who reside or own property within 500 feet of the proposed tower and all property owners who own property contiguous to the property upon which construction is proposed in accordance with the records of the Property Valuation Administrator's records.

Pursuant to 807 KAR 5:063 Section 1(1)(1), Section 1(1)(m), and Section 2, all affected property owners according to the Property Valuation Administrator's record who reside or own

property within 500 feet of the proposed Tower or who own property contiguous to the property upon which construction is proposed were notified by certified mail return receipt requested of East Kentucky Network, LLC's proposed construction and informed of their right to intervene. They were given the docket number under which this application is filed. Enclosed in Exhibit 2 is a copy of that notification.

Breathitt County has no formal local planning unit. In absence of this unit, the Breathitt County Judge Executive's Office was notified by certified mail, return receipt requested of East Kentucky Network, LLC's proposal and informed of its right to intervene. The Breathitt County Judge Executive's Office was also given the docket number under which this application is filed. Enclosed in Exhibit 3 is a copy of that notification.

Notice of the location of the proposed construction was published in The Jackson Times, December 15, 2016, edition. Enclosed in Exhibit 3 is a copy of that notice. The Jackson Times is the newspaper with the largest circulation in Breathitt County.

A geologist was employed to determine soil and rock types and to ascertain the distance to solid bedrock. The geotechnical report is enclosed as Exhibit 4.

A copy of the tower design information is enclosed as Exhibit 5. The proposed tower has been designed by engineers at Allstate Tower, Inc. and will be constructed under their supervision. Their qualifications are evidenced in Exhibit 5 by the seal and signature of the registered professional engineer responsible for this project.

The tower will be erected by S & S Tower Services of St. Albans, West Virginia. S & S Tower Services has vast experience in the erection of communications towers.

FAA and Kentucky Airport Zoning Commission approvals are included as Exhibit 6.

No Federal Communications Commission approval is required prior to construction of this facility. Once service is established from this tower, we must immediately notify the Federal

Communications Commission of its operation. Prior approval is needed only if the proposed facility increases the size of the cellular geographic service area. This cell site will not expand the cellular geographic service area.

East Kentucky Network, LLC will finance the subject Construction with earned surplus in its General Fund.

Estimated Cost of Construction \$ 350,000.00 Annual Operation Expense of Tower \$ 12,500.00

Two notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2), measuring at least two (2) feet in height and four (4) feet in width and containing all required language in letters of required height, have been posted, one at a visible location on the proposed site and one on the nearest public road. The two signs were posted on December 8, 2016, and will remain posted for at least two weeks after filing of this application as specified.

Enclosed in Exhibit 8 is a copy of East Kentucky Network, LLC's Lease Agreement for the site location along with a lot description.

The proposed construction site is on a forested parcel of land with rolling hills near a fire tower. Prior to the planned construction, the property was used by the University of Kentucky for environmental research.

East Kentucky Network, LLC's operation will not affect the use of nearby land nor its value. No more suitable site exists in the area. A copy of the search area map is enclosed in Exhibit 7. No other tower capable of supporting East Kentucky Network, LLC's load exists in the general area; therefore, there is no opportunity for co-location of our facilities with anyone else.

Enclosed, and filed as Exhibit 9 is a survey of the proposed tower site signed by a Kentucky registered professional engineer.

Exhibit 11 contains a vertical sketch of the tower supplied by James W. Caudill, Kentucky registered professional engineer.

WHEREFORE, Applicant, having met the requirements of KRS 278.020(1), 278.650, 278.665 and all applicable rules and regulations of the PSC, respectfully requests that the PSC accept the foregoing Application for filing and grant a Certificate of Public Convenience and Necessity to construct and operate the proposed tower.

The foregoing document was prepared by Cindy D. McCarty, Staff Attorney for East Kentucky Network, LLC d/b/a Appalachian Wireless. All related questions or correspondence concerning this filing should be mailed to East Kentucky Network, LLC d/b/a/ Appalachian Wireless, Attn: Regulatory Compliance Department, 101 Technology Trail, Ivel, KY 41642.

SUBMITTED BY: Lynn Haney, Regulatory Compliance Director

DATE: 12/12/16

WA Sillum DATE: 12/12/2016 APPROVED BY:

W.A. Gillum, General Manager

(under D. Mc Carty DATE: 12/12/2016 ATTORNEY:

Hon. Cindy D. McCarty, Attor

CONTACT INFORMATION:

W.A. Gillum, General Manager Phone: (606) 477-2355, Ext. 111 Email: wagillum@ekn.com

Lynn Haney, Regulatory Compliance Director

Phone: (606) 477-2355, Ext. 1007

Email: lhaney@ekn.com

Cindy D. McCarty, Attorney Phone: (606) 477-2355, Ext. 1006 Email: cmccarty@ekn.com

Mailing Address:

East Kentucky Network, LLC d/b/a Appalachian Wireless Attn.: Regulatory Compliance Department 101 Technology Trail Ivel, KY 41642

	FCC License
	Copies of Cell Site Notices to Land Owners
3	Notification of County Judge Executive and Newspaper Advertisement
4	Universal Soil Bearing Analysis
5	Tower Design
6	FAA and KAZC Approvals
7	Driving Directions from County Court House and Map to Suitable Scale
8	Memorandum of Lease for Proposed Site with Legal Description
9	Survey of Site Signed/Sealed by Professional Engineer Registered in State of Kentucky
10	Site Survey Map with Property Owners Identified in Accordance with PVA of County
11	Vertical Profile Sketch of Proposed Tower
12	

ULS License

Cellular License - KNKN809 - East Kentucky Network, LLC d/b/a Appalachian Wireless

Call Sign

KNKN809

Radio Service

CL - Cellular

Status

Active

Auth Type

Regular

Market

Market

CMA452 - Kentucky 10 -

Channel Block B

Powell

Submarket

Phase

2

Dates

Grant

08/30/2011

Expiration

10/01/2021

Effective

08/30/2011

Cancellation

Five Year Buildout Date

10/17/1996

Control Points

1

US Route 23, FLOYD, Harold, KY

P: (606)478-2355

Licensee

FRN

0001786607

Type

Limited Liability Company

Licensee

East Kentucky Network, LLC d/b/a Appalachian

Wireless

101 Technology Trail

Ivel, KY 41642

ATTN Gerald Robinette, Manager

P:(606)477-2355 F:(606)874-7551

Contact

Lukas, Nace, Gutierrez & Sachs, LLP

Pamela L Gist Esq 8300 Greensboro Drive McLean, VA 22102 P:(703)584-8665 F:(703)584-8695 E:pgist@fcclaw.com

Ownership and Qualifications

Radio Service

Mobile

Type

Regulatory Status Common Carrier

Interconnected

Voc

Alien Ownership

The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications

The Applicant answered "No" to each of the Basic Qualification questions.

EXHIBIT II: LIST OF PROPERTY OWNERS:

Statement Pursuant to Section 1 (1) (I) 807 KAR 5:063

Section 1 (1)(1) 1. The following is a list of every property owner who according to property valuation administrator's records, owns property within 500 feet of the proposed tower and each have been: notified by certified mail, return receipt requested, of the proposed construction,

Section 1 (1)(I) 2. Every person listed below who, according to the property valuation administrator's records, owns property within 500 feet of the proposed tower has been: Given the Commission docket number under which the application will be processed: and

Section 1 (1)(I) 3. Every person listed below who, according to property valuation administrator's records owns property within 500 feet of the proposed tower has been: Informed of his right to request intervention.

Section 2. If the construction is proposed for an area outside the incorporated boundaries of a city, the application shall state that public notices required by Section 1(1)(L) have been sent to every person who, according to the property valuation administrator, owns property contiguous to the property upon which the construction is proposed

LIST OF PROPERTY OWNERS

ICG c/o Ark Land Co. 1 City Place Dr. Suite 300 St. Louis, MO 63141

Hoy and Billie J. Marshall 1100 Hwy 476 Lost Creek, KY 41348

Sam H. and Harriet R. Hays c/o Sam Henry Hays 2672 Rocky Hill Road Bonnieville, KY 42713

Layla Fugate 3883 Little Buckhorn Rd. Clayhole, KY 41317 Morgan Campbell c/o Adam Campbel 485 Stanley Allen Drive Vinegrove, KY 40175

Reeve Hudson, Sr. 144 Lewis Fork Rd. Clayhole, KY 41317

Joey Lee Hacker 292 Bush Cemetery Rd. Bulan, KY 41722

Elijah and Jane Mullins Estate c/o Clay Miller PO Box 24 Dwarf, KY 41739

> Olive Coomer 850 Wooded Trail Apt. #2 Scottsburg, IN 47170

Sam Sizemore 3055 Hwy 476 Lost Creek, KY 41348

Peggy Clemons, et al 40 La Finca Drive Jackson, KY 41339

Wilson Noble Estate c/o Jay Noble 1910 Maple Avenue Norwood, OH 45212

Gloria Spencer 365 Jetts Drive Jackson, KY 41339

C.P. Goff Heirs c/o Mr. Tom Orr 1430 Morton Lane Maysville, KY 41056 V.W. and Carroll Bush Heirs 130 Pinehurst Drive Georgetown, KY 40324

Grigsby Family Corporation 2929 Smallhouse Road Bowling Green, KY 42101

Marie R. Turner Estate c/o James Franks 826 Lamont Lane Henderson, KY 42420

Kentucky Fuels Corporation 302 S. Jefferson St. Roanoke, WV 24011

Robinson Forest
University of Kentucky Department of Forestry
105 T.P. Cooper Building
Lexington, KY 40546

WPPLP P.O. Box 1267 Hazard, KY 41702

Spring Fork Land, LLC P.O. Box 89 Hazard, KY 41702

Sue Combs Whitaker 3694 Little Buckhorn Road Clayhole, KY 41317 EAST KENTUCKY NETWORK 101 TECHNOLOGY TRAIL IVEL KY 41642 TIONE (606) 874-7550 | 1606) 874-7551



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

December 15, 2016

ICG c/o Ark Land Co. 1 City Place Dr. Suite 300 St. Louis, MO 63141

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

East Kentucky Network, LLC d/b/a Appalachian Wireless has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide cellular telecommunications service in Breathitt County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 2000 Lookout Tower Hill Rd., Clayhole, Breathitt County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. The Commission must receive your initial communication within 20 days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2016-00260 in your correspondence.

If you have any questions for East Kentucky Network, LLC, please direct them to my attention at the following address: East Kentucky Network, LLC, 101 Technology Trail, Ivel, KY 41642 or call me at 606-477-2355, Ext. 1007.

Sincerely,

Lynn Haney, CPA

Regulatory Compliance Director



PUBLIC NOTICE

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Regulatory Compliance Director

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Regulatory Compliance Director

Lynn Henry



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Morgan Campbell c/o Adam Campbel 485 Stanley Allen Drive Vinegrove, KY 40175

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VIA: <u>U.S. CERTIFIED MAIL</u>

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EAST KENTUCKY NETWORK 101 TECHNOLOGY TRAIL IVEL, KY 41642 F 606] 874-7550 F 6] 874-7551



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EAST KENTUCKY NETWORK 101 TECHNOLOGY TRAIL IVEL KY 41642 9HYME (606) 874-7550 Jol 874-7551



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

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Elijah and Jane Mullins Estate c/o Clay Miller PO Box 24 Dwarf, KY 41739

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Regulatory Compliance Director

Lyna Haney



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Peggy Clemons, et al 40 La Finca Drive Jackson, KY 41339

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Lynn Haney, CPA

Regulatory Compliance Director

Lyen Haney



PUBLIC NOTICE

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Wilson Noble Estate c/o Jay Noble 1910 Maple Avenue Norwood, OH 45212

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Gloria Spencer 365 Jetts Drive Jackson, KY 41339

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VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

December 15, 2016

C.P. Goff Heirs c/o Mr. Tom Orr 1430 Morton Lane Maysville, KY 41056

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

East Kentucky Network, LLC d/b/a Appalachian Wireless has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide cellular telecommunications service in Breathitt County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 2000 Lookout Tower Hill Rd., Clayhole, Breathitt County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. The Commission must receive your initial communication within 20 days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2016-00260 in your correspondence.

If you have any questions for East Kentucky Network, LLC, please direct them to my attention at the following address: East Kentucky Network, LLC, 101 Technology Trail, Ivel, KY 41642 or call me at 606-477-2355, Ext. 1007.

Sincerely,

Lynn Haney, CPA

Regulatory Compliance Director

EAST KENTUCKY NETWORK 101 TECHNOLOGY TRAIL IVEL KY 41642 (606) 874-7550 I (61) 874-7551



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

December 15, 2016

V.W. and Carroll Bush Heirs 130 Pinehurst Drive Georgetown, KY 40324

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

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Regulatory Compliance Director

Lynn Haney

EAST KENTUCKY NETWORK 101 TECHNOLOGY TRAIL IVEL, KY 41642 PHONE (606) 874-7550 I (6) 874-7551



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

December 15, 2016

Grigsby Family Corporation 2929 Smallhouse Road Bowling Green, KY 42101

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

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Sincerely,

Lynn Haney, CPA

Regulatory Compliance Director



PUBLIC NOTICE

December 15, 2016

Marie R. Turner Estate c/o James Franks 826 Lamont Lane Henderson, KY 42420

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

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Lyu Haney

EAST KENTUCKY NETWORK 101 TECHNOLOGY TRAIL IVEL KY 41642 Paggar (606) 874-7550 F 6) 874-7551



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

December 15, 2016

Kentucky Fuels Corporation 302 S. Jefferson St. Roanoke, WV 24011

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

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Sincerely,

Lynn Haney, CPA

Regulatory Compliance Director



PUBLIC NOTICE

December 15, 2016

Robinson Forest University of Kentucky Department of Forestry 105 T.P. Cooper Building Lexington, KY 40546

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

East Kentucky Network, LLC d/b/a Appalachian Wireless has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate a new facility to provide cellular telecommunications service in Breathitt County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 2000 Lookout Tower Hill Rd., Clayhole, Breathitt County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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Sincerely,

Lynn Haney, CPA

Regulatory Compliance Director

Lyun Haney



PUBLIC NOTICE

December 15, 2016

WPPLP P.O. Box 1267 Hazard, KY 41702

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

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Sincerely,

Lynn Haney, CPA

Regulatory Compliance Director



PUBLIC NOTICE

December 15, 2016

Spring Fork Land, LLC P.O. Box 89 Hazard, KY 41702

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

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Sincerely,

Lynn Haney, CPA

Regulatory Compliance Director

Lynn Haney



PUBLIC NOTICE

December 15, 2016

Sue Combs Whitaker 3694 Little Buckhorn Road Clayhole, KY 41317

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

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Sincerely,

Lynn Haney, CPA

Regulatory Compliance Director

Appalachian Wireless Location Map



Site Name

Robinson Forest

Location

2000 Lookout Tower Hill Rd. Clayhole KY.

GPS Location

N 37 28 25.4520

W 83 09 40,3658

dba Appalachian Wireless 101 Technology Trail Ivel, KY 41642

Phone: 606-477-2355 Fax: 606-791-2225



To: The Jackson Times From: Raina Helton

Attn: Classifieds Regulatory Compliance Assistant

Email: advertising@jacksontimesky.com Date: December 9, 2016

Re: PUBLIC NOTICE ADVERTISEMENT Pages: 1

Please place the following Public Notice Advertisement in The Jackson Times to be ran on December 15, 2016.

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2016-00260)

Public Notice is hereby given that East Kentucky Network, LLC, dba Appalachian Wireless has applied to the Kentucky Public Service Commission to construct a cellular telecommunications tower on a tract of land located near 2000 Lookout Tower Hill Road, Clayhole, Breathitt County, Kentucky. The proposed tower will be a 300 foot self-supporting tower with attached antennas. If you would like to respond to this notice, please contact the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to Case No. 2016-00260.

If you have any questions about the placement of the above mentioned notice, please call me at 606-477-2375, ext. 1005.

Thank you,

Raina Helton Regulatory Compliance Assistant

The message above and the information contained in the documents transmitted are confidential and intended only for the person(s) named above. Dissemination, distribution or copying of this communication by anyone other than the person(s) named above is prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the address listed above via regular mail. Thank you.



VIA: <u>U.S. CERTIFIED MAIL</u>

December 15, 2016

John Lester Smith, Judge Executive 1137 Main Street Jackson, KY 41339

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2016-00260)

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The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. The Commission must receive your initial communication within 20 days of the date of this letter as shown above.

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Lynn Haney

Regulatory Compliance Director

Lynn Haney

Appalachian Wireless Location Map



Site Name

Robinson Forest

Location

2000 Lookout Tower Hill Rd. Clayhole KY.

GPS Location

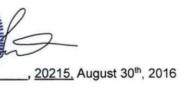
N 37 28 25.4520

W 83 09 40.3658

APPALACHIAN WIRELESS
Geotechnical Investigation on the
Robinson Forest Tower Site
Breathitt County, Kentucky
ErMC² Project No. 165-000-0028

PREPARED FOR: Appalachian Wireless. 101 Technology Trail Ivel, Kentucky 41642

PREPARED BY:
Richard Dirk Smith PE, PLS
General Manager Appalachian Region
ENVIRONMENTAL RESOURCES MANAGEMENT
CONSULTING COMPANY
230 Swartz Drive
Hazard, Kentucky 41701





EXECUTIVE SUMMARY

- 1.0 INTRODUCTION
- 2.0 PROJECT DESCRIPTION
- 3.0 SITE DESCRIPTION
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 - 3.2 SURFACE MINING
 - 3.3 UNDERGROUND MINING
- 4.0 FIELD EXPLORATION
 - 4.1 SITE INFORMATION
 - 4.2 TRENCHING AND FIELD OBSERVATIONS
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 - 4.4 SEISMIC SITE CLASSIFICATION
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- 6.0 DISCUSSION AND RECOMMENDATIONS
 - 6.1 SUBSURFACE INVESTIGATION
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- I GENERAL
- II ENGINEERED FILL BENEATH STRUCTURES
- III GUIDELINES FOR EXCAVATIONS AND TRENCHING
- IV GENERAL CONCRETE SPECIFICATIONS

APPENDIX A - SEISMIC

APPENDIX B - PHOTOGRAPHS

APPENDIX C - MAPS



EXECUTIVE SUMMARY

A geotechnical investigation was performed on the Robinson Forest Site, located near Decoy, in Breathitt County, Kentucky. This site is not readily accessible. A preliminary base elevation of the proposed tower was provided at 1485.0 ft. A location map is shown in Figure 1 of this report. Hand excavations and visual inspections were used to determine the lithology and type of materials immediately above and below the proposed tower site. The following geotechnical considerations were identified:

- This area is forested. The site has not been previously disturbed. Sandstone was
 encountered between 0.0 and 1.5 ft. below the ground surface at proposed tower
 pad. We have estimated the sandstone unit to be a minimum thickness of 45 ft.
 The bearing capacities of this sandstone unit is predicted to be 8 tsf.
- The 2015 International Building Code seismic site classification for this site is "A".
- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We therefore recommend that ErMC² be retained to monitor this portion of the work.

This executive summary is included to provide a general overview of the project and should not be relied upon except for the purpose it was prepared. Please rely on the complete report for the information on the findings, recommendations and all other concerns.



1. INTRODUCTION

Environmental Resources Management Consulting Company (ErMC²) was retained by Mr. Marty Thacker of Appalachian Wireless to prepare a geotechnical engineering report for the proposed tower site located in Robinson Forest, near Decoy, in Breathitt County, Kentucky. A site location map is shown in Figure No. 1.

Hand trenching and test pits were excavated by ErMC² personnel. Visual inspections and surveyed elevations were used to determine the lithology and type of materials immediately below the proposed tower site. The purpose of these services is to provide information and geotechnical engineering recommendations relative to subsurface conditions, earthwork, seismic considerations, groundwater conditions and foundation design.

2.0 PROJECT DESCRIPTION

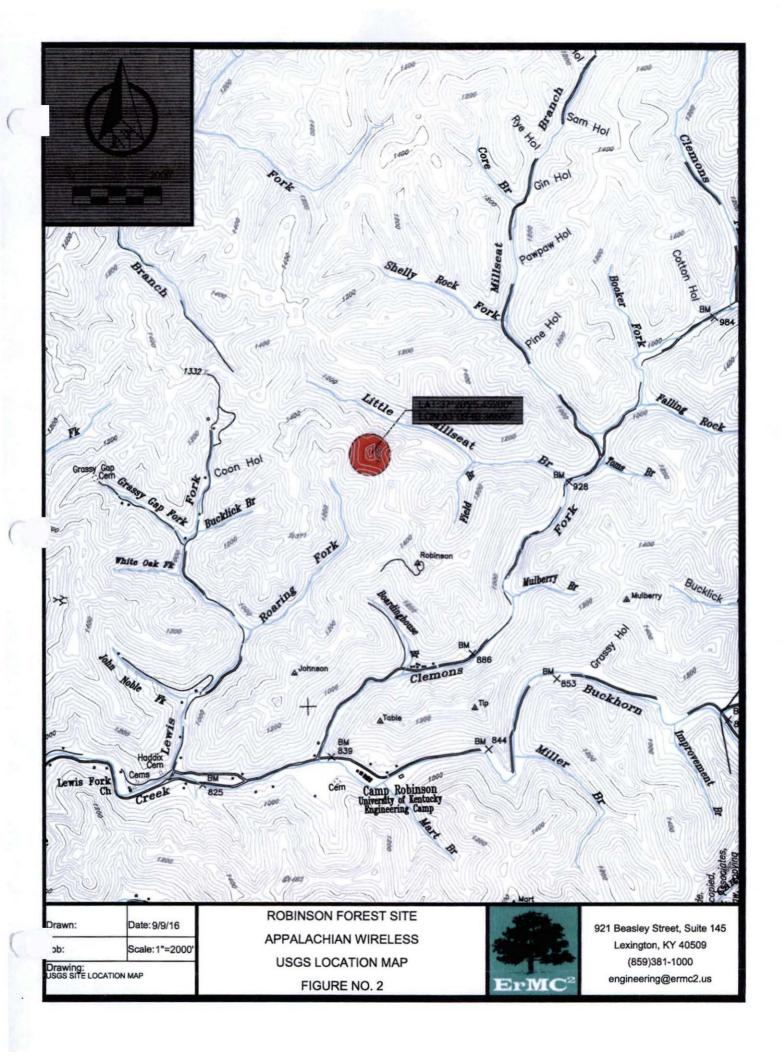
The proposed communication facility will consist of a self-supporting tower of undetermined height and ancillary support areas. Based upon information provided the foundation dimensions are to be approximately 40.5 ft. x 40.5 ft. We estimate the structural loads will be similar to the following conditions:

TABLE NO. 1

CONDITION	LOAD	
Total Shear	40 Kips	
Axial Load	50 Kips	

It is expected that overturning will govern the structural design. If the loadings are significantly different than these expected values, ErMC² should be notified to reevaluate the recommendations provided in this report.





3.0 SITE DESCRIPTION & HISTORICAL MINING

3.1 GENERAL INFORMATION

The site location is near the peak of an undisturbed ridge in Breathitt County, Kentucky. The current surface elevation is approximately 1499.0 ft. Research on the historical mining was conducted by obtaining previous mine license maps from the "Kentucky Mine Mapping Information System" (KMMIS). Other sources, photographs, were also used to try to evaluate historic mining.

3.2 SURFACE MINING

No surfacing mining in the immediate vicinity was found during our research. This was visibly verified during the site investigation.

3.3 UNDERGROUND MINING

ErMC² reviewed available historical mine maps from the Kentucky Division of Mine Safety, Kentucky Mine Mapping Information System ("KMMIS"). No existing or proposed mines were found in the vicinity during our review of the historical mine maps at KMMIS. Our research found no underground mining activity.

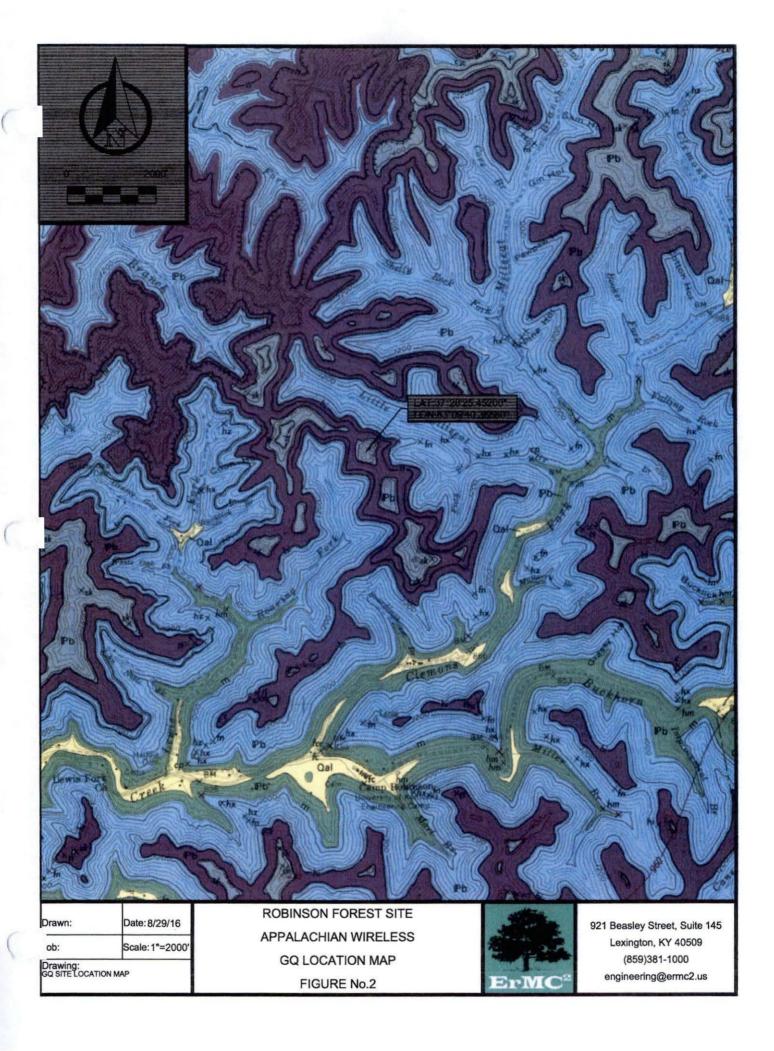
Analysis of aerial maps and field investigations did not yield any evidence that previous underground mining has resulted in surface impacts from subsidence.

4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

The proposed site is located on an undisturbed ridge line in Breathitt County, Kentucky. The site lies within the Noble Quad and is located west of Decoy. The site is in a wooded area and is not readily accessible by conventional exploratory equipment. An estimated pad location was determined based upon the information provided. A survey stake was found on this site for the tower location. Foundation dimensions were provided and we have used a 40.5 ft. x 40.5 ft. footer for the purpose of this report.





4.2 TRENCHING AND FIELD OBSERVATIONS

This investigation was conducted by ErMC² personnel. Two pits were evaluated and visual inspections of rock outcrop formations at this site were used to determine the lithology and type of materials immediately below the proposed tower site. The following soils and rock properties were found.

TABLE NO. 2

Depth	Base Elevation	Strata
0.0	1499.0	Surface
0.0 - 1.5	1497.5	Topsoil
1.5 – 45.0	1452.5	Sandstone

A cross section of this information is in Appendix C of this report.

4.3 GROUNDWATER

Groundwater flow in Eastern Kentucky is characterized by water flowing through a system of internal fractures that lead to an alluvial aquifer near the bottom of valley floors. Large, defined aquifers other than the alluvium are not common, especially in higher elevations such as where this tower site is proposed. Therefore, groundwater should not be a concern in this area. During trenching activities, no groundwater resources were observed.

4.4 SEISMIC SITE CLASSIFICATION

Based on the encountered soil conditions at the project site, the site classification was determined to be "Site Class "A" Hard Rock" per the 2015 Kentucky Building Code. In addition, a S_{DS} coefficient of 0.105 g was calculated, and a S_{D1} coefficient of 0.047 g was also calculated for design based on the aforementioned building code.



5.0 DISCUSSION AND RECOMMENDATIONS

5.1 GENERAL

The structure will be a self-supporting free standing tower. Due to wind loading, lattice tower foundations can experience both vertical loads and horizontal loads. The vertical loads act in both an upward and downward direction as the tower would attempt to overturn and can act in any directions.

5.2 FOUNDATIONS

It is our understanding that the foundations for these structures can be designed to bear on low bearing pressure soils. This report demonstrates the different expected bearing capacities based upon the type of material encountered from the boring logs and sampling taken at the site.

The surface elevation of the proposed tower site has been estimated to be approximately 1499.0 ft. Approximately 1.5 ft. topsoil and are present at this site. Below this is a is a competent sandstone unit of a minimum thickness of 45 ft.

5.3 SHALLOW FOUNDATIONS

We recommend a single spread footer foundation on competent rock. Based upon the field investigation, the base of the tower foundation should be placed into the brown sandstone at an elevation of 1481 ft. This will provide a minimum bearing capacity of 8 tsf. It is furthermore recommended that the slabs-on-grade be supported on 4 to 6-inch layer of relatively clean granular material such as sand and gravel or crushed stone. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Proper drainage must be incorporated into this granular layer to preclude future wet areas in the finished slab-on-grade. However, all topsoil and/or other deleterious materials encountered during site preparation must be removed and replaced with 2000 psi concrete. Provided that a minimum of 4 inches of granular material is placed below the new slab-on-grade, a modulus of subgrade reaction (k30) of 100 lbs./cu. in. can be used for design of the slabs.



6.0 WARRANTY

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. No other warranty, express or implied, is made.

While the services of ErMC² are a valuable and integral part of the design and construction teams, we do not warrant, guarantee, or insure the quality or completeness of services provided by other members of those teams, the quality, completeness, or satisfactory performance of construction plans and specifications which we have not prepared, nor the ultimate performance of building site materials.

6.1 SUBSURFACE EXPLORATION

Subsurface exploration is normally accomplished by test borings, although test pits are sometimes employed. The method of determining the boring location and the surface elevation at the boring is noted in the report, and is presented on the Boring Location Plan or on the boring log. The location and elevation of the boring should be considered accurate only to the degree inherent with the method used.

The boring log includes sampling information, description of the materials recovered, approximate depth of boundaries between soil and rock strata and groundwater data. The boring log represents conditions specifically at the location and time the boring was made. The boundaries between different soil strata are indicated at specific depths; however, these depths are in fact approximate and are somewhat dependent upon the frequency of sampling (The transition between soil strata is often gradual). Free groundwater level readings are made at the times and under conditions stated on the boring logs (Groundwater levels change with time and season). The borehole does not always remain open sufficiently long enough for the measured water level to coincide with the groundwater table.

6.2 LABORATORY AND FIELD TESTS

Laboratory and field tests are performed in accordance with specific ASTM standards unless otherwise indicated. All determinations included in a given ASTM standard are



not always required and performed. Each test report indicates the measurements and determinations actually made.

6.3 ANALYSIS AND RECOMMENDATIONS

The geotechnical report is prepared primarily to aid in the engineering design of site work and structural foundations. Although the information in the report is expected to be sufficient for these purposes, it is not intended to determine the cost of construction or to stand alone as a construction specification.

Our engineering report recommendations are based primarily on data from tests made at the locations shown on a site drawing included. Soil variations may exist in adjacent areas and may not become evident until construction. If significant variations are then noted, the geotechnical engineer should be contacted so that field conditions can be examined and recommendations revised if necessary.

The geotechnical engineering report states our understanding as to the location, dimensions and structural features proposed for the site. Any significant changes in the nature, design, or location of the site improvements **MUST** be communicated to the geotechnical engineer such that the geotechnical analysis, conclusions, and recommendations can be appropriately adjusted. The geotechnical engineer should be given the opportunity to review all drawings that have been prepared based on their recommendations.

6.4 CONSTRUCTION MONITORING

Construction monitoring is a vital element of complete geotechnical services. The field engineer/inspector is the owner's "representative" observing the work of the contractor, performing tests as required in the specifications, and reporting data developed from such tests and observations. The field engineer or inspector does not direct the contractor's construction means, methods, operations or personnel. The field inspector/engineer does not interfere with the relationship between the owner and the contractor and, except as an observer, does not become a substitute owner on site. The field inspector/engineer is responsible for his own safety but has no responsibility for the safety of other personnel at the site. The field inspector/engineer is an important member of a team whose responsibility is to watch and test the work



being done and report to the owner whether that work is being carried out in general conformance with the plans and specifications.

6.5 GENERAL

The scope of our services did not include an environmental assessment for the presence or absence of hazardous or toxic materials in the soil, surface water, groundwater or air, on, within or beyond the site studied. Any statements in the report or on the boring logs regarding odors, staining of soils or other unusual items or conditions observed are strictly for the information of our client.

To evaluate the site for possible environmental liabilities, we recommend an environmental assessment, consisting of a detailed site reconnaissance, a record review, and report of findings. Additional subsurface drilling and samplings, including groundwater sampling, may be required.

This report has been prepared for the exclusive use of Appalachian Wireless, for specific application to the proposed cellular tower located on the Robinson Forest Site in Breathitt County, Kentucky. Specific design and construction recommendations have been provided in the various sections of the report. The report shall, therefore, be used in its entirety. This report is not a bidding document and shall not be used for that purpose. Anyone reviewing this report must interpret and draw their own conclusions regarding specific construction techniques and methods chosen. ErMC² is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploratory and laboratory test data presented in this report.



SPECIFICATIONS

I - GENERAL

1.0 STANDARDS AND DEFINITIONS

- 1.1 STANDARDS All standards refer to latest edition unless otherwise noted.
 - 1.1.1 ASTM D-698-70 (Method C) "Standard Test Methods for Moisture. Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.5 kg.) Rammer and 12-inch (305-mm) Drop".
 - **1.1.2** ASTM D-2922 "Standard Test Method for Density of Soil and Soil Aggregate in Place by Nuclear methods (Shallow Depth)".
 - 1.1.3 ASTM D-1556 "Standard Test Method for Density of Soil in place by the Sand-Cone Method".

1.2 DEFINITIONS

- **1.2.1** Owner In these specifications the word "Owner" shall mean Appalachian Wireless.
- **1.2.2** Engineer In these specifications the word "Engineer" shall mean the Owner designated engineer.
- **1.2.3** Design Engineer In these specifications the words "Design Engineer" shall mean the Owner designated design engineer.
- 1.2.4 Contractor In these specifications the word "Contractor" shall mean the firm or corporation undertaking the execution of any work under the terms of these specifications.
- 1.2.5 Approved In these specifications the word "approved" shall refer to the approval of the Engineer or his designated representative.
- 1.2.6 As Directed In these specifications the words "as directed" shall refer to the directions to the Contractor from the Owner or his designated representative.



2.0 GENERAL CONDITIONS

2.1 The Contractor shall furnish all labor, material and equipment and perform all work and services except those set out and furnished by the Owner, necessary to complete in a satisfactory manner the site preparation, excavation, filling, compaction, grading as shown on the plans and as described therein.

This work shall consist of all mobilization clearing and grading, grubbing, stripping, removal of existing material unless otherwise stated, preparation of the land to be filled, filling of the land, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades, slopes, and specifications.

This work is to be accomplished under the observation of the Owner or his designated representative.

2.2 Prior to bidding the work, the Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including, without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work.

If conditions other than those indicated are discovered by the Contractor, the Owner should be notified immediately. The material which the Contractor believes to be a changed condition should not be disturbed so that the owner can investigate the condition.

2.3 The construction shall be performed under the direction of an experienced engineer who is familiar with the design plan.



II - ENGINEERED FILL BENEATH STRUCTURES CLEARING AND GRADING SPECIFICATIONS

1.0 GENERAL CONDITIONS

The Contractor shall furnish all labor, materials, and equipment, and perform all work and services necessary to complete in a satisfactory manner the site preparation, excavation, filling, compaction and grading as shown on the plans and as described therein.

This work shall consist of all clearing and grading, removal of existing structures unless otherwise stated, preparation of the land to be filled, filling of the land, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades, slopes, and specifications.

This work is to be accomplished under the constant and continuous supervision of the Owner or his designated representative.

In these specifications the terms "approved" and "as directed" shall refer to directions to the Contractor from the Owner or his designated representative.

2.0 SUBSURFACE CONDITIONS

Prior to bidding the work, the Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work. Borings and/or soil investigations shall have been made. Results of these borings and studies will be made available by the Owner to the Contractor upon his request, but the Owner is not responsible for any interpretations or conclusions with respect thereto made by the Contractor on the basis of such information, and the Owner further has no responsibility for the accuracy of the borings and the soil investigations.

If conditions other than those indicated are discovered by the Contractor, the Owner should be notified immediately. The material which the Contractor believes to be a changed condition should not be disturbed so that the Owner can investigate the condition.

3.0 SITE PREPARATION

Within the specified areas, all trees, brush, stumps, logs, tree roots, and structures scheduled for demolition shall be removed and disposed of.

All cut and fill areas shall be properly stripped. Topsoil will be removed to its full depth and stockpiled for use in finish grading. Any rubbish, organic and other objectionable soils, and other deleterious material shall be disposed of off the site, or as directed by the Owner or his designated representative if on site disposal is provided. In no case



shall such objectionable material be allowed in or under the fill unless specifically authorized in writing.

Prior to the addition of fill, the original ground shall be compacted to job specifications as outlined below. Special notice shall be given to the proposed fill area at this time. If wet spots, spongy conditions, or groundwater seepage is found, corrective measures must be taken before the placement of fill.

4.0 FORMATION OF FILL AREAS

Fills shall be formed of satisfactory materials placed in successive horizontal layers of not more than eight (8) inches in loose depth for the full width of the cross-section. The depth of lift may be increased if the Contractor can demonstrate the ability to compact a larger lift. If compaction is accomplished using hand-tamping equipment, lifts will be limited to 4-inch loose lifts. Engineered fill placed below the structure bearing elevation shall be compacted to at least 95% of the maximum dry unit weight with a moisture content within 2% of the optimum moisture content as determined by the modified Proctor test. The top size of the material placed shall not exceed 4 inches.

All material entering the fill shall be free of organic matter such as leaves, grass, roots, and other objectionable material.

The operations on earth work shall be suspended at any time when satisfactory results cannot be obtained because of rain, freezing weather, or other unsatisfactory conditions. The Contractor shall keep the work areas graded to provide the drainage at all times.

The fill material shall be of the proper moisture content before compaction efforts are started. Wetting or drying of the material and manipulation to secure a uniform moisture content throughout the layer shall be required. Should the material be too wet to permit proper compaction or rolling, all work thus affected shall be delayed until the material has dried to the required moisture content. The moisture content of the fill material should be no more than two (2) percentage points higher or lower than optimum unless otherwise authorized. Sprinkling shall be done with equipment that will satisfactorily distribute the water over the disced area. Any areas inaccessible to a roller shall be consolidated and compacted by mechanical tampers. The equipment shall be operated in such a manner that hardpan, cemented gravel, clay or other chunky soil material will be broken up into small particles and become incorporated with the other material in the layer.

In the construction of filled areas, starting layers shall be placed in the deepest portion of the fill, and as placement progresses, additional layers shall be constructed in horizontal planes. Original slopes shall be continuously, vertically benched to provide horizontal fill planes. The size of the benches shall be formed so that the base of the bench is horizontal and the back of the bench is vertical. As many benches as are necessary to bring the site to final grade shall be constructed. Filling operations shall begin on the lowest bench, with the fill being placed in horizontal eight (8) inch thick loose lifts unless otherwise authorized. The filling shall progress in this manner until the entire first bench has been filled, before any fill is placed on the succeeding



benches. Proper drainage shall be maintained at all times during benching and filling of the benches, to insure that all water is drained away from the fill area.

Frozen material shall not be placed in the fill nor shall the fill be placed upon frozen material.

The Contractor shall be responsible for the stability of all fills made under the contract, and shall replace any portion, which in the opinion of the Owner or his designated representative, has become displaced due to carelessness or negligence on the part of the Contractor. Fill damaged by inclement weather shall be repaired at the Contractor's expense.

5.0 SLOPE RATIO AND STORM WATER RUN-OFF

Slopes shall not be greater than 2 (horizontal) to 1 (vertical) in both cut and fill, or as illustrated on the construction drawings. Excavations shall be constructed in accordance with all Federal, State and local codes relative to slope geometry.

6.0 GRADING

The Contractor shall furnish, operate, and maintain such equipment as is necessary to construct uniform layers, and control smoothness of grade for maximum compaction and drainage.

7.0 COMPACTING

The compaction equipment shall be approved equipment of such design, weight, and quantity to obtain the required density in accordance with these specifications.

8.0 TESTING AND INSPECTION SERVICES

Testing and inspection services will be provided by the Owner.



III GUIDELINES FOR EXCAVATIONS AND TRENCHES

The following represents some general guidelines relative to the design and construction of excavations and trenches. It must be emphasized that these guidelines are not intended to represent a "safety plan," but rather are presented herein to provide general guidance with regard to the design characteristics and safety measures for excavations and trenches.

- 1. Check with the following utilities prior to breaking ground:
 - Sewer
 - Telephone
 - Fuel
 - Electric
 - Water
 - Gas
 - Cable

When utility companies or owners do not respond to your request within 48 hours, the contractor may only then proceed provided the contractor does so with caution by using detection equipment or other acceptable means to locate utility installations.

Once the excavation is open, the contractor should protect and support the exposed underground utilities or remove installations to safeguard workers and prevent damage to exposed utilities.

- 2. Access and egress ramps must be designed by a "competent person" and structural ramps used for equipment must be designed by a "competent person" with qualified knowledge in structural design. In addition:
 - · Ramps must be secured to prevent displacement;
 - Ramps used in lieu of steps must have cleats to prevent slipping; and
 - Trenching excavations four feet or greater in depth must have a stairway, ladder, ramps or other safe means to egress with lateral travel no more than 25 feet.
- Workers must be provided with reflector garments, such as warning orange or red vests, when exposed to vehicular traffic.
- Contractors must not allow workers to work under or near equipment when there is danger of falling debris, spillage or equipment-related injuries.



- Mobile equipment, operating adjacent to an open excavation or approaching the edge of an excavation, must have one of the following when the operator's view is obstructed:
 - Warning System
 - · Mechanical Signals
 - Barricades
 - Stop Logs
 - Hand Signals
- 6. The contractor must check the atmosphere for hazardous gases and oxygen deficiencies when excavating four feet or greater around landfills, or when hazardous substances are stored nearby, and when the contractor expects there could be any exposure to the workers.
- 7. When hazardous atmospheric conditions exist, or when conditions could change, the contractor must make emergency rescue equipment readily available including breathing apparatus, safety harnesses with life lines and a basket stretcher.
- When workers enter bell-bottom pier holes or other deep and confined excavations, the worker must wear (at all times while performing work in the confined space) a separate life line attached to a harness. The line must be attended by someone above while work is being performed. The worker must check for hazardous atmospheric conditions prior to entry.
- The contractor must ensure that water does not accumulate in open excavations and must inspect the excavation prior to allowing workers to reenter after heavy rains.
- Adjacent structures (buildings, walls, etc.) must be supported or secured to prevent worker exposure to unsafe conditions and damage to existing structures.
- A registered professional engineer must approve operations when a contractor underpins existing structures to ensure worker safety and prevent damage to existing structures.
- 12. Workers must not be exposed to loose soil and rock or materials in and around excavations. Materials, such as removed soil and rock, must not be stored closer than two feet from the edge of the excavation.
- Daily inspections of the excavation, the adjacent areas and protective systems must be made by a "competent person" for evidence of possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions. The "competent person" must stop work immediately



- and remove workers from the excavation when conditions change and pose a threat to their safety.
- 14. Workers must not be exposed to fall hazards associated with excavations. Protective walkways or bridges with standard guard rails must be provided.
- **15.** All wells, pits, shafts etc. must be barricaded or covered. After completion of work, all wells, pits, shafts etc. must be backfilled.



IV - GENERAL CONCRETE SPECIFICATIONS

1.0 GENERAL

It is the intent of this specification to secure, for every part of the work, concrete of homogenous structure which, when hardened, will have the required strength and resistance to weathering. To this end, the limiting values of concrete and the requirements hereinafter specified must be met. Standard tests of the cement, aggregates, concrete and reinforcement will be made by the Owner as it sees fit. The Contractor shall furnish the material for all required samples plus such labor as required to obtain samples. The Contractor shall provide to authorized representatives of the Owner, convenient access to all parts of the work of all concreting operations for the purpose of sampling and inspection.

2.0 SCOPE

Contractor shall furnish all materials, labor, services, transportation, tools, equipment, and related items required to complete work indicated on the drawings and/or specified.

Unless otherwise noted or as modified by more stringent requirements specified herein, all plain and reinforced concrete work shall be performed in full compliance with applicable requirements of the Building Code Requirements for Reinforced Concrete ACI 318.

Contractor shall obtain Owner's approval of all subgrades, footing bottoms, forms, and reinforcement just prior to placing concrete.

Contractor shall coordinate the work specified in this section with that specified in other sections so that all anchors, pipes and other embedded items are properly installed before concrete is placed.

Contractor shall clean all exposed concrete surfaces and obtain approval of Owner for method of cleaning.

3.0 MATERIALS

All materials shall be of the respective quality specified herein, delivered, stored, and handled as to prevent inclusion of foreign matter and damage by dampness or breakage. Packaged material shall be stored in original container until ready for use. Materials showing evidence of dampness or other damage may be rejected.

- A. <u>Fine and Coarse Aggregates:</u> Coarse and fine aggregates shall conform to ASTM Specification C33. The maximum size of aggregate shall not be larger than one-fifth (1/5) of the narrowest dimensions between forms, or larger than three fourths (3/4) of the minimum clear spacing between reinforcement.
 - Fine Aggregate: Sand shall be composed essentially of clean, hard, strong, durable grains free of structurally weak grains,



- organic matter, loam, clay, silt, salt, mica or other fine materials that may affect bonding of the cement paste.
- Coarse Aggregate: Cement concrete shall consist of crushed rock or screened gravel and shall be composed essentially of clean, hard, strong and impermeable particles, resistant to wear and frost and free from deleterious amounts of organic matter, loam, clay, salts, mica, and soft, thin, elongated, laminated or disintegrated stone, and shall be inert to water and cement.
- B. <u>Portland Cement:</u> Portland cement shall conform to ASTM Specification C150. Type I or Type II Portland Cement shall be used provided that they are not intermixed during any one batch. Type II Portland Cement shall <u>not</u> be used unless indicated on the plans.
- Water: Water for mixing and curing shall be clean, fresh, and free from deleterious materials.
- D. <u>Metal Reinforcement:</u> Rebar shall be Grade 60 and with deformations conforming to ASTH Specification A305. Welded wire mesh shall conform to W4 x W4 size and be of Grade 60 steel.
- E. Admixtures: Except as herein noted, admixtures shall not be used.
 - Under adverse weather conditions only retarding or accelerating agents containing no chloride may be used.
 - Air-Entraining Agent shall be used for all concrete will give an entrained air range of not less than 4 percent but no greater than 8 percent in the finished product. Under no circumstances shall the air-entraining be interground with cement.
 - Approval in writing shall be required from Owner prior to the use of any admixture.

4.0 FORMS

Forms shall be constructed with proper shoring and cross-bracing, safeguarding the total structure and specifically lateral stability and sufficiently strong to stand vibrations of concrete and to carry, without appreciable deflection or displacement, all dead and live loads to which they may be subjected.

5.0 INSERTS, ETC.

Anchors, bolts, dowels, conduit, waterstops, vent pipes and other similar builtin or concreted-in items shall be properly located, accurately positioned and secured. The Contractor shall cooperate in placing of such items with other contractors who require a fastening device for their work and he shall maintain them in proper location during the progress of his work.



6.0 REINFORCEMENT

Reinforcement at the time concrete is placed shall be free from rust, scale or other coatings that will destroy or reduce the bond.

Reinforcement shall be accurately placed and securely tied at intersections and shall be securely held in position during the placing of concrete by pacers, chairs, or other approved supports.

The reinforcement of foundations, footings and other principal structural members in which the concrete is deposited against the ground shall not have less than three (3) inches of concrete between it and the ground contact surface. If concrete surfaces after removal of the forms are to be exposed to the weather or to be in contact with the ground or rock, reinforcement shall be protected with not less than two (2) inches of concrete,

7.0 CONCRETE

Concrete for the various parts of the work shall be of 4000 pounds per square inch compressive strength with a minimum 28-day cure. Contractor is responsible to provide a mix of not less than 6 bags of cement per yard of concrete and not more than 7 gallons of water per bag of cement, producing a minimum slump of 2-1/2 inches and a maximum slump of 4-1/2 inches. Concrete that exceeds the above range of maximum or minimum slump requirements may be rejected by the Owner. All concrete shall be air-entrained. Contractors are required to furnish the name or names of the company(s) that will be providing the mix. The Owner reserves the right to disapprove any concrete supplier that has been known to supply an undesirable material to the Owner on previous occasions.

8.0 DEPOSITING CONCRETE

- 4.1. <u>Preparation for Placing Concrete:</u> Before depositing concrete, the Contractor shall:
- Remove from space to be occupied by concrete all debris, including snow, ice, and water unless otherwise permitted by Owner.
 - Provide diversion, satisfactory to Owner, of any flow of water to an excavation so as to avoid washing the freshly deposited concrete.
 - Coal the forms prior to placing of reinforcing steel as required in form work
 - Secure firmly in correct position, all reinforcement and other items to be encased and remove therefrom all coating including ice and frost.
 - B. <u>Transportation of Concrete from Batch Plant:</u> The concrete shall be delivered to the site of the work and discharge shall be completed within 90 minutes after addition of the cement and water to the aggregates.



Each batch of concrete delivered at the job site shall be accompanied by a time slip issued at the batching plant, bearing the time of charging of the mixer drum with the cement and aggregates.

C. Transporting of Concrete from Mixer to Place of Final Deposit:

Transportation shall be done as rapidly as practical by means which shall prevent the separation or loss of the ingredients. If chutes are used, they shall be at a slope not flatter than one vertical to two horizontal. Buggies or carts shall be equipped with pneumatic rubber tires or surfaces of runways shall be sufficiently smooth or both so as not to cause separation or segregation of concrete ingredients. Concrete shall not be allowed to drop freely more than 4 feet. Where greater drops are required, canvas "elephant trunks" or galvanized iron chutes equipped with suitable hopper heads shall be employed and a sufficient number placed to insure that the concrete may be effectively compacted into horizontal layers not exceeding 12 inches in thickness with minimum lateral movements.

D. Depositing of Concrete: Depositing of concrete shall:

- Proceed continuously after once starting until reaching the end of a section of construction joint location shown on the drawings, or as approved by the Owner. The operations shall be conducted so that no concrete is deposited on concrete sufficiently hardened to cause formation of seams, and planes of weakness.
- 2. Be as near as practical to its final position in the forms.
- Proceed so as to maintain constantly a top surface which is approximately level.
- Be placed before initial set has occurred, and in no event after it has contained its water content for more than 90 minutes.
- Be thoroughly worked and compacted by means of suitable tools to provide impermeability, durability and strength and shall be thoroughly worked around reinforcements and embedded items and into corners of forms and so as to be free from voids, pockets or honeycombing. Particular care shall be taken to provide impermeability.
- E. <u>Vibration Equipment:</u> Vibration equipment shall be of the appropriate type and shall, at all times, be adequate in number of units and power of each unit to properly consolidate all concrete.
- F. <u>Monolithic Pours:</u> Proper delivery of concrete shall be the Contractor's responsibility in order to make a mono-lithic pour without delays and changes of cold joints.



9.0 CURING

All concrete work shall be protected from injurious action by the sun, rain, flowing water, frost and other injury and shall be covered with plastic after application of curing compound for three (3) days on pours located above ground.

Contractor shall not remove any formwork for a minimum period of 24 hours after a concrete pour without written approval of the Owner.

10.0 CONCRETE FINISHES

Finishes of all exposed concrete shall be free of defects which impair its durability or adversely affect is appearance. All such surfaces when stripped, shall be uniform in appearance and any surfaces displaying any deviations from adjacent uniform surfaces shall be rejected and subject to removal.

Finished work shall be level and plumb, true to lines, and dimensions. Finished plane surfaces shall be smooth, and as nearly perfect as practical; however deviations from a true plane shall not exceed 1/8 inch when measured from a 6-foot straight edge placed against the surface to any point on the surface and under the straight edge.

All exposed surfaces shall have deflects corrected, protrusions removed, and holes filled.



APPENDIX A SEISMIC



USGS Design Maps Summary Report

User-Specified Input

Report Title Robinson Forest Tower SIte

Fri September 9, 2016 15:38:01 UTC

Building Code Reference Document 2012/2015 International Building Code

(which utilizes USGS hazard data available in 2008)

Site Coordinates 37.47374°N, 83.16121°W

Site Soil Classification Site Class A - "Hard Rock"

Risk Category IV (e.g. essential facilities)



USGS-Provided Output

$$S_s = 0.197 g$$

$$S_{MS} = 0.157 g$$

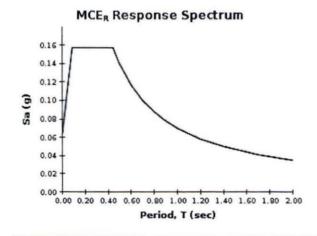
$$S_{DS} = 0.105 g$$

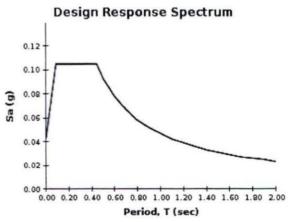
$$S_1 = 0.088 g$$

$$S_{M1} = 0.070 g$$

$$S_{D1} = 0.047 g$$

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.





Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

APPENDIX B PHOTOGRAPHS



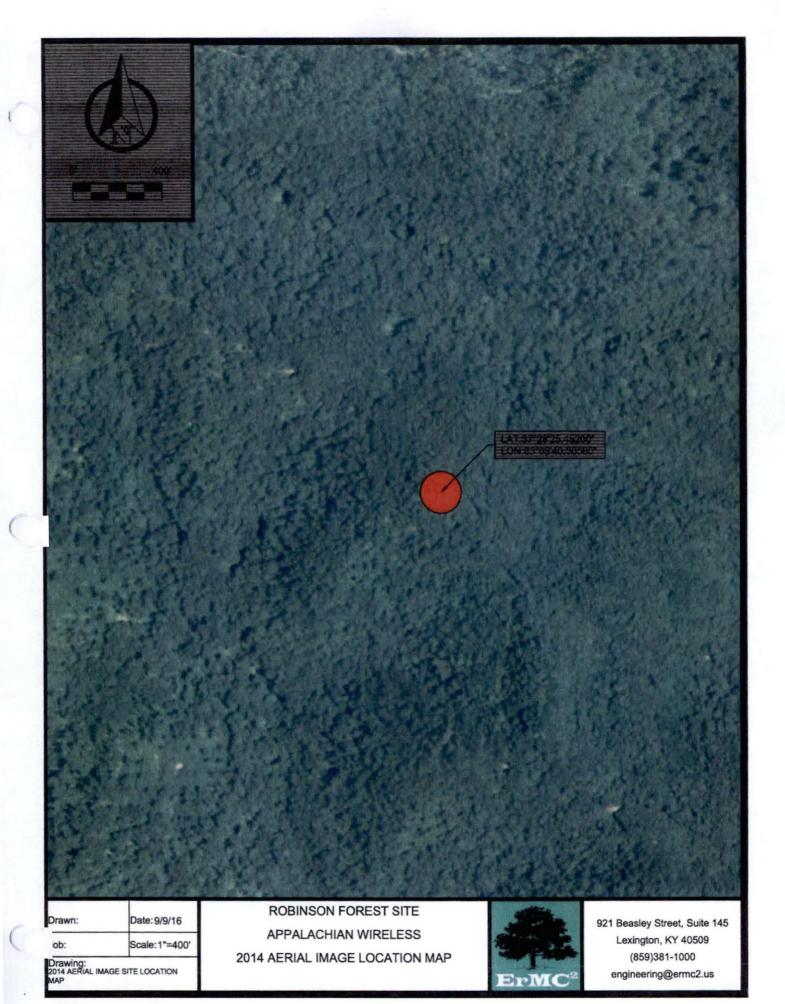


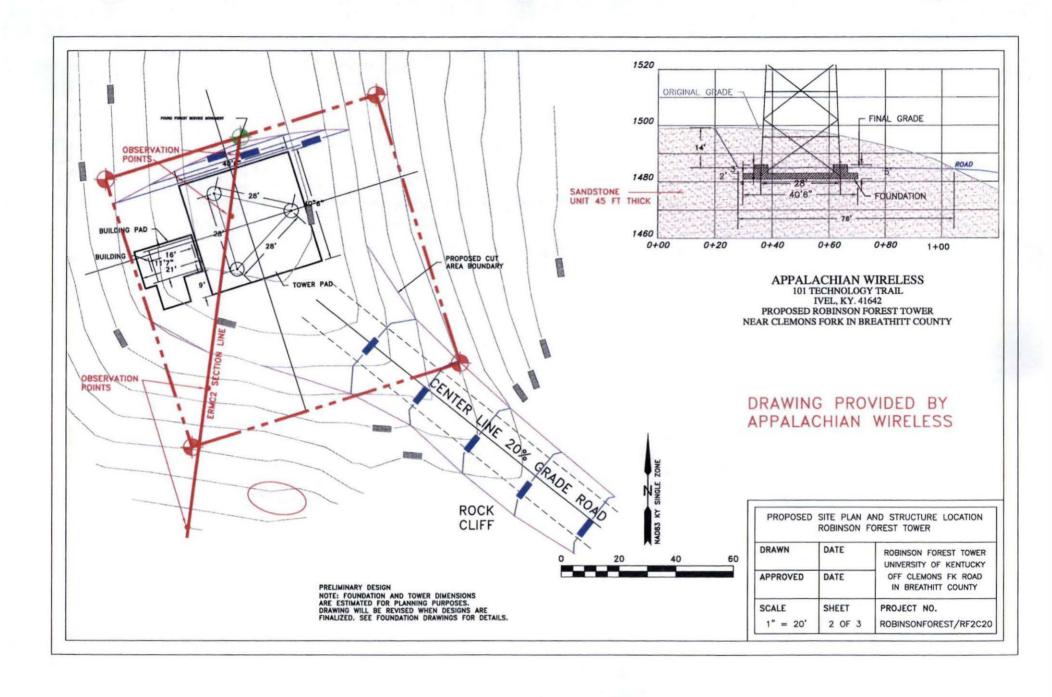




APPENDIX C MAPS

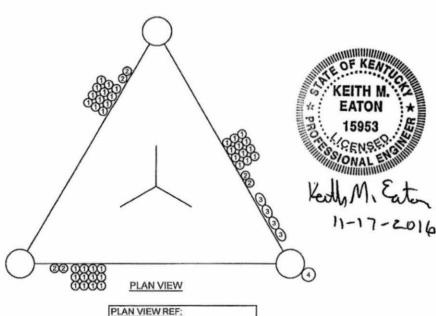






MEMBER INFORMATION

SECTION	ELEVATION	FACE SIZE	LEG DIA.	DIAGONALS	HORIZONTALS	RED. HORZ/DIAGS.	INNER BRACING	TOP GIRT	# OF BAYS
1	0' - 20'	23'-6"	Ø4 3/4*	2L 3" x 3/16"	2L 2 1/2" x 3/16"	2L 2* x 3/16*	2L 2" × 3/16"	,	4 - MOD-X
2	20' - 40'	22'-0"	Ø4 3/4*	2L 3" x 3/16"	2L 2 1/2" x 3/16"	2L 2" x 3/16"	2L 2" x 3/16"		4 - MOD-X
3	40' - 60'	20'-6"	Ø4 3/4*	L4" × 1/4"	N/A				3 - X
4	60' - 80'	19'-0"	Ø4 3/4*	L 3 1/2" x 1/4"	N/A				3 - X
5	80' - 100'	17'-6"	Ø4 1/2"	L 3 1/2" x 1/4"	N/A				3 - X
8	100' - 120'	16'-0"	Ø4 1/4*	L3" x1/4"	N/A				3 - X
7	120' - 140'	14'-6"	Ø4 1/4*	L3" x3/16"	N/A				3 - X
8	140' - 160'	13'-0"	Ø4*	L 3" x 3/16"	N/A				3 - X
9	160' - 180'	11'-6"	Ø3 3/4°	L 3" x 3/16"	N/A				3 - X
10	180' - 200'	10'-0"	Ø3 1/2*	L 2 1/2" x 3/16"	N/A				4 - X
11	200' - 220'	8'-6"	Ø3 1/4"	L 2" x 1/8"	N/A	,			4 - X
12	220' - 240'	7'-0*	Ø3*	L 2" x 1/8"	N/A			-	4 · X
13	240' - 260'	5'-6"	Ø2 3/4°	L 1 3/4" x 1/6"	N/A				4 - X
14	260' - 280'	4'-0"	Ø2 1/2*	L 1 3/4" x 1/8"	N/A				4 - X
15	280' - 300'	4'-0"	Ø1 3/4*	L 1 1/2" x 1/8"	N/A			L 1 1/2" x 3/16"	4 - X



DESIGNED APPURTENANCE LOADING SHOWN ON SHEET "AA"

- TOWER LEGS ARE CONSTRUCTED OF SOLID ROUND BAR MATERIAL.
- SOLID ROUND 0.75" AND LARGER ASTM A-572 GRADE: 50 KSI MIN.
- SOLID ROUND 0.625" AND SMALLER IS ASTM A-36 GRADE: 36 KSI MIN.
- ALL ANGLE MATERIAL IS ASTM A-529: 50 KSI MIN.
- ALL BRACE AND FLANGE BOLTS ARE A325-X
- THIS TOWER IS DESIGNED FOR STEP BOLTS UP ONE LEG FOR CLIMBING WITH SAFETY CLIMB DEVICE.
- (6) ø1 3/4" x 5'-6" LONG (F1554-GR.105) ANCHOR BOLTS PER LEG.
- THIS TOWER IS DESIGNED FOR A 90 M.P.H. WIND SPEED WITH NO ICE AND A 30 M.P.H. WIND SPEED WITH 0.75" IN ICE IN ACCORDANCE WITH THE TIA/EIA-222-G STANDARD.
- DEFLECTIONS BASED ON A 60 M.P.H. WIND.
- TOWER DESIGNED TO EXPOSURE C; STRUCTURE CLASS II; TOPO CAT 1.

APPROX. WEIGHT

63.3 KIPS

ALLSTATE TOWER INC. P.O. BOX 25 HENDERSON, KY 42419 PHONE: (270) 630-6512 FAX: (270) 630-6475 WWW.PTTG.COM

PROPRIETARY STATEMENT: THIS DRAWING IS THE PROPERTY OF ALLSTATE TOWERING. IT IS NOT TO BE REPRODUCED OR COPIED IN ANYWAY WITHOUT PRIOR WRITTEN CONSENT OF ALLSTATE TOWER INC. DATE BY UNLESS OTHERWISE NOTED

TARGET RO	DEGGIN HOIL	EAP-ST Rec	101	DIMENSIONS ARE IN:
-		-	-	INCHES
			+	TOLERANCE BANDS:
				X +3/327-0 ANGLES +/- 2* .XX +3/327-0
	_	-	XXX +1/16'-0 HOLES +01/16'-0	
SCALE:			_	DRAWN BY: S. HOWELL/JEA
NTS				DATE: 11/14/2016

TOWER OVERVIEW APPALACHIAN WIRELESS 300' SELF SUPPORT TOWER ROBINSON FOREST, BREATHITT CO., KY FILE NAME 61781FT - A

Α

BASE REACTIONS: (FACTORED)

TOTAL SHEAR = 77 KIPS AXIAL LOAD = 227 KIPS UPLIFT/LEG = 551 KIPS COMP. / LEG = 645 KIPS O.T. MOMENT = 12469 FT-K

15/8" HELIAX FEED LINES

%" HYBRID FEED LINES EW65 FEED LINES

STEP BOLTS

- 160' - 140 - 120 - 100' 19'-0" 20'-6"

22'-0"

4'-0"

4'-0"

-260

-240

220

-200

-180

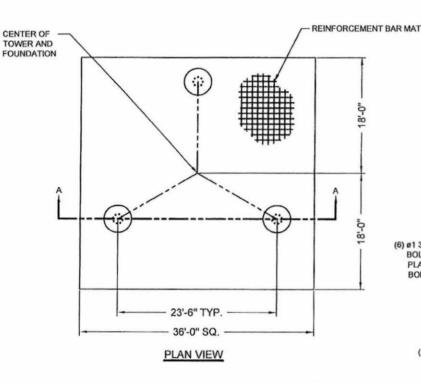
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ANTENNA INFORMATION

ELEVATION	ANTENNA	LINE
300'	(6) WPA-800102/4CF	(6) 1 5/8" HEL. + (1) 7/8" HYB
300'	(3) BXA-70063/6CF	
300'	(3) ERICSSON - RRUS11	
290'	(6) WPA-800102/4CF	(6) 1 5/8" HEL. + (1) 7/8" HYB
290'	(3) BXA-70063/6CF	
290'	(3) ERICSSON - RRUS11	
280'	(6) WPA-800102/4CF	(6) 1 5/8" HEL. + (1) 7/8" HYB
280'	(3) BXA-70063/6CF	
280'	(3) ERICSSON - RRUS11	
270'	(6) WPA-800102/4CF	(6) 1 5/8" HEL. + (1) 7/8" HYB
270'	(3) BXA-70063/6CF	
270'	(3) ERICSSON - RRUS11	
250'	(2) 8' STD DISH W/ RADOME	(2) EW65
200'	(6) WPA-800102/4CF	(6) 1 5/8" HEL. + (1) 7/8" HYB
200'	(3) BXA-70063/6CF	
200'	(3) ERICSSON - RRUS11	
190'	(6) WPA-800102/4CF	(6) 1 5/8" HEL. + (1) 7/8" HYB
190'	(3) BXA-70063/6CF	
190'	(3) ERICSSON - RRUS11	
185'	(2) 6' STD DISH W/ RADOME	(2) EW65



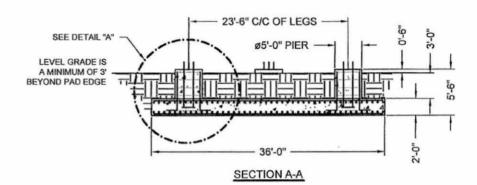
ALLSTATE TOWER INC. P.O. BOX 25 HENDERSON, KY 42419 PHONE: (270) 830-8512 FAX: (270) 830-8475 WWW.PTTG.COM PROPRIETARY STATEMENT: THIS DRAWING IS THE PROPERTY OF ALLSTATE TOWER INC. IT IS NOT TO BE REPRODUCED OR COPIED IN ANYWAY WITHOUT PRIOR WRITTEN CONSENT OF ALLSTATE TOWER INC. DATE BY UNLESS OTHERWISE NOTED DIMENSIONS ARE IN: DESCRIPTION: DESCRIPTION TOWER OVERVIEW INCHES APPALACHIAN WIRELESS TOLERANCE BANDS: X +3/37/0 ANGLES +/- 2' .XX +3/37/0 .XXX +1/167/0 HOLES +0/1/67/0 300' SELF SUPPORT TOWER ROBINSON FOREST, BREATHITT CO., KY SHEET DRAWN BY: S. HOWELL/JEA FILE NAME: SCALE: DATE: 11/14/2016 61781FT - A AA NTS



TOTAL VOLUME OF CONCRETE = 103.6 YD 3

FOUNDATION INSTALLATION/DESIGN NOTES:

- THIS FOUNDATION IS DESIGNED TO MEET ALL STANDARDS SET FORTH BY ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ANSI/TIA/EIA 222-G: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- THIS FOUNDATION IS DESIGNED UTILIZING THE GEOTECHNICAL REPORT PERFORMED BY ENVIRONMENTAL RESOURCES MANAGEMENT CONSULTING COMPANY; DATED 08-30-16; #165-000-0028. THE FOUNDATION CONTRACTOR SHALL INSTALL THE FOUNDATIONS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
- ALL WORK PERFORMED FROM THESE DRAWINGS SHOULD BE BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER FOUNDATION CONSTRUCTION.
- ALL FOOTING EXCAVATIONS SHALL BE MANUALLY CLEANED PRIOR TO PLACING CONCRETE. COMPACT THE EXPOSED SOIL SURFACE AND ANY GRANULAR FILL UNDER THE FOUNDATION TO 90% OF THE MODIFIED PROCTOR DENSITY.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS. COPIES OF THE CONCRETE CYLINDER TEST REPORTS SHALL BE SENT TO THE RESIDENT ENGINEER / INSPECTOR.
- MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE 3". ALL REINFORCING BARS SHALL BE GRADE 60 REBAR (MIN YIELD = 60KSI).
- 7. FIELD BENDING OR WELDING OF REINFORCEMENT BARS IS NOT PERMITTED.
- 8. PROVIDE CHAMFERS AT ALL EXPOSED CORNERS OF CONCRETE.
- BACKFILL NEAR AND AROUND THE FOUNDATIONS SHALL BE A WELL GRADED FILL MATERIAL PLACED IN 8" THICK LAYERS THAT HAS BEEN COMPACTED TO 90% OF THE MODIFIED PROCTOR DENSITY PER ASTM D1557.
- SOME DETAIL HAS BEEN PURPOSELY OMITTED TO CLARIFY ILLUSTRATION.

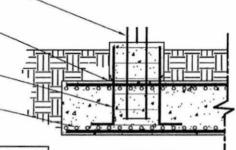


(6) ø1 3/4" X 5'-6" OVERALL LENGTH ANCHOR BOLTS (F1554-GR105) W/ 1" THK BEARING PLATE AT THE BOTTOM OF THE ANCHOR BOLT CLUSTER (4'-6" MIN. ANCHOR BOLT EMBEDMENT)

USE EPOXY BONDING AGENT WHEN POURED SEPERATELY

(24) #8 VERTICAL BARS w/ 6" HOOK W/ (4) #4 TIES EQ. SPACED.

(35) #6 HORIZONTAL BARS x 35'-6" LONG EQUALLY SPACED EACH WAY AT TOP AND BOTTOM OF MAT. (TOTAL=140)



REINFORCEMENT BAR SPLICING:

1. ALL LAP SPLICES SHALL CONFORM
TO ACI 318 REQUIREMENTS.

 REFER TO CHART BELOW WHEN REINFORCMENT BAR SPLICING IS NECESSARY.

REINFORCING BAR SIZE	LAP SPLICE LENGTH
3	15"
4	· - · - 17°
5	· — · — 21"
6	· — · — 26"
7	. — . — 30"
8	· — · — 36"
9	· · - 46"
10	58°
11	74"



DETAIL "A"

Kerth M. Esta 11-17-2016

TOWER

ALLSTATE TOWER INC. P.O. BOX 25 HENDERSON, KY 42419 PHONE: (270) 830-8612 FAX: (270) 830-8475 WWW.PITG.COM

PROPRIETARY STATEMENT: THIS DRAWING IS THE PROPERTY OF ALLSTATE TOWER INC. IT IS NOT TO BE REPRODUCED OR COPIED IN ANYWAY WITHOUT PRIOR WRITTEN COISENT OF ALLSTATE TOWER INC.

REV # DESCRIPTION DATE BY UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES

| DESCRIPTION | DATE | BY | DIRENTIONS ARE IN | INCHES |

PAD & PIER FOUNDATION DESIGN APPALACHIAN WIRELESS ROBINSON FOREST, BREATHITT CO., KY

FILE NAME: 61781FT - B

В



Mail Processing Center Federal Aviation Administration Southwest Regional Office Obstruction Evaluation Group 10101 Hillwood Parkway Fort Worth, TX 76177 Aeronautical Study No. 2016-ASO-19547-OE

Issued Date: 09/28/2016

Ali Kuzehkanani East Kentucky Network, LLC 8300 Greensboro Drive, Suite 1200 McLean, VA 22102

** DETERMINATION OF NO HAZARD TO AIR NAVIGATION **

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:

Antenna Tower Decoy (Robinson Forest) Tower

Location:

Decoy, KY

Latitude:

37-28-25.45N NAD 83

Longitude:

83-09-40.36W

Heights:

1499 feet site elevation (SE)

310 feet above ground level (AGL) 1809 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, a med-dual system - Chapters 4,8(M-Dual),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

	At least 10 days prior	to start of construction (7460-2, Part 1)	
X	Within 5 days after th	e construction reaches is	ts greatest height (7460-2	, Part 2)

This determination expires on 03/28/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (718) 553-2611. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ASO-19547-OE.

Signature Control No: 299581287-305915740

(DNE)

Angelique Eersteling

Technician

Attachment(s) Frequency Data

cc: FCC

Frequency Data for ASN 2016-ASO-19547-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
698	806	MHz	1000	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W



KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN Governor

200 Mero Street 4th Floor Frankfort, KY 40622 www.transportation.ky.gov 502-782-4044

October 19, 2016

APPROVAL OF APPLICATION

APPLICANT:

East Kentucky Network, LLC. East Kentucky Network, LLC. 8300 Greensboro Drive Suite 1200 McLean, VA 22102

SUBJECT: AS-013-CPF-2016-072

STRUCTURE:

Antenna Tower

LOCATION:

Decoy, KY

COORDINATES: 37° 28' 25.45" N / 83° 9' 40.36" W

HEIGHT:

310' AGL/1809' AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 310'AGL/ 1809'AMSL Antenna Tower near Decoy, KY 37° 28' 25.45" N / 83° 9' 40.36" W.

This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit.

A copy of the approved application is enclosed for your files.

Medium Dual Obstruction Lighting is required in accordance with 602 KAR 50:100.

John Houlihan Administrator



An Equal Opportunity Employer M/F/D



KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN Governor 200 Mero Street 4th Floor Frankfort, KY 40622 www.transportation.ky.gov 502-782-4044

CONSTRUCTION/ALTERATION STATUS REPORT

October 19, 2016

AERONAUTICIAL STUDY NUMBER: AS-013-CPF-2016-072

East Kentucky Network, LLC. East Kentucky Network, LLC. 8300 Greensboro Drive|Suite 1200 McLean, VA 22102

This concerns the permit which was issued to you by the Kentucky Airport Zoning Commission on October 19, 2016. This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within the said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit. When appropriate, please indicate the status of the project in the place below and return this letter to John Houlihan, Administrator, Kentucky Airport Zoning Commission, 200 Mero Street 4th Floor Office of Audits, Frankfort, KY, 40622. 502-782-4044.

STRUCTURE:

Antenna Tower

LOCATION:

Decoy, KY

COORDINATES:

37° 28' 25.45" N / 83° 9' 40.36" W

HEIGHT:

2.

310' AGL /1809'AMSL

CONSTRUCTION/ALTERATION STATUS

1. The project () is abandoned. () is not abandoned.

Construction status is as follows: Structure reached its greatest height of	ft. AGL	
ft. AMSL on		
Date construction was completed.		
Type of obstruction marking/painting.		
Type of obstruction lighting.		
As built coordinates.	-	_
Miscellaneous Information.		
DATE		
SIGNATURE/TITLE		





KENTUCKY TRANSPORTATION CABINET

TC 56-50 Rev. 07/2010 Page 2 of 2

KENTUCKY AIRPORT ZONING COMMISSION

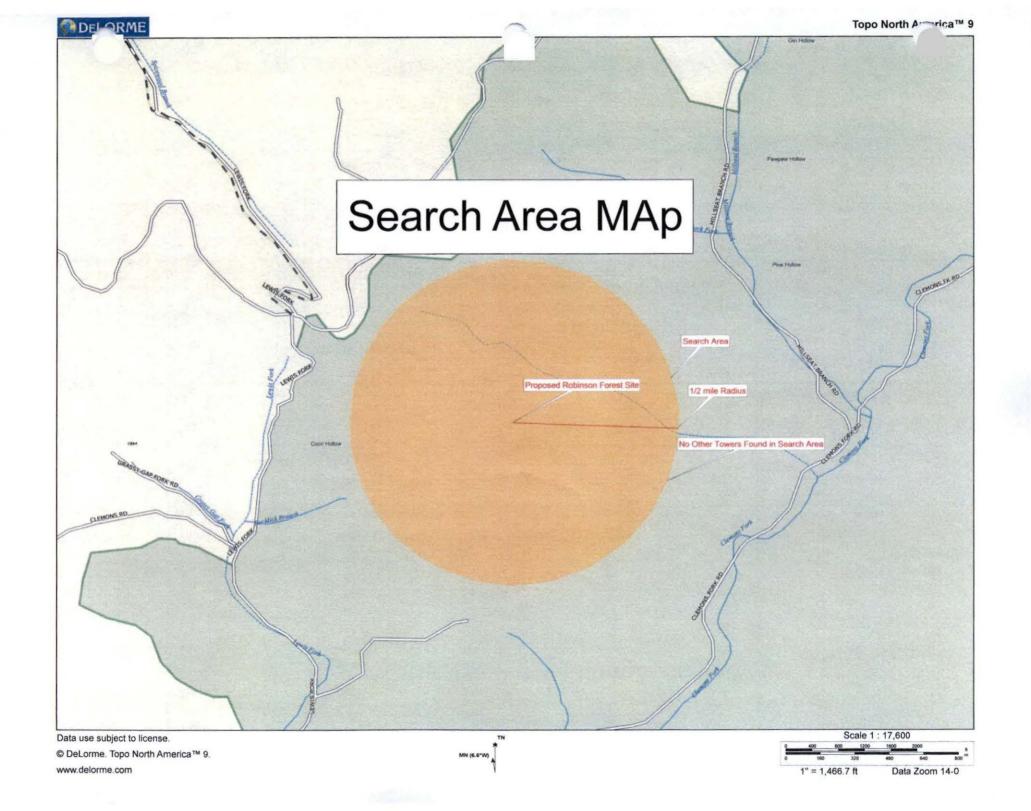
APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

			The state of the latest and the state of the				
APPLICANT (name)	PHONE	FAX		AS-Q3-CPF-2016-072			
East Kentucky Network, LLC c/o LNGS	703-584-8667	703-584-8692	STATE	THE RESERVE OF THE PARTY OF THE			
ADDRESS (street)		CITY		ZIP			
8300 Greensboro Dr, #1200	McLean	FAV	VA	22102			
APPLICANT'S REPRESENTATIVE (name)	The state of the s	FAX					
Ali Kuzehkanani	703-584-8667	703-584-8692	STATE	- Lun			
ADDRESS (street)		CITY		ZIP			
8300 Greensboro Dr, #1200	McLean		VA	22102			
APPLICATION FOR New Construct	the state of the s		WORK SCHEDULE Start 08/25/16 End 08/30/16				
	nporary (months	days)		Eug 08/30/19			
TYPE Crane Building		NG/LIGHTING PREFI		Trachise high insensity			
Antenna Tower			-	White-high intensity			
Power Line Water Tank		edium intensity white	e U Duai- red	& high intensity white			
Landfill Other	Other		DATUS MA	14502 THAT			
LATITUDE	LONGITUDE		-	DATUM NAD83 NAD27			
37°28′25.45″	83°09′40.36″		Other				
	NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT			Г			
City Decoy County Breathitt	Wendell H Ford Air		T				
SITE ELEVATION (AMSL, feet)		TOTAL STRUCTURE HEIGHT (AGL, feet)		aeronautical study #)			
1499		310					
OVERALL HEIGHT (site elevation plus to	tal structure height,	, feet)	PREVIOUS (FAA	aeronautical study #)			
1809							
DISTANCE (from nearest Kentucky publi	PREVIOUS (KY	aeronautical study #)					
8.1 mi	r						
DIRECTION (from nearest Kentucky pub	lic use or Military ai	rport to structure)					
SW			1				
DESCRIPTION OF LOCATION (Attach US	GS 7.5 minute quad	irangie map or an aii	rport layout draw	ing with the precise site			
marked and any certified survey.)	M of Door / Prombbi	H) NA					
Robinson Forest, approx. 4.0 miles WSV	v of Decoy (Breathin	tt), KY					
DESCRIPTION OF PROPOSAL							
A new 300' tower with top-mounted an	topper (overall bein	tht of 210' AGL)					
A new 300 tower with top-mounted an	iterinas (Overan neig	git of 310 AGL)					
FAA F 7650 1 /// sh- //st-si 65		N - # C 51 1 1					
FAA Form 7460-1 (Has the "Notice of Co	onstruction or Aiter	ation" been filed witi	n the Federal Avid	tion Administration?)			
	laboration and the						
CERTIFICATION (I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of							
my knowledge and belief.) PENALITIES (Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or							
imprisonment as set forth in KRS 183.95							
NAME TITLE	SIGNATURE	e with PAA regulation	The second second second	urther penalties.)			
	- 1 - /	1.1.	DATE				
The strains							
COMMISSION ACTION	Chairperso						
	Administrator, KAZC		, (2.16			
Approved SIGNATURE	1		DATE 15-1	1-11			
Disapproved							

Driving Directions for Robinson Forest

Starting at the intersection of Main Street and Brown Street in Jackson, KY. On Brown Street, turn right onto Main Street and drive 0.10 miles to the traffic light. Turn left onto KY 1812 and drive 0.10 miles to the intersection of KY 1812 and KY 15. Turn right onto KY 15 and drive 9.6 miles. Turn left onto KY 476 and drive 11.3 miles. Turn left across a bridge onto Little Buckhorn Road and drive 4.3 miles to a gate. [A sign will be posted here.] On Clemons Fork Road, drive 0.5 miles to the Check-In Center. All visitors must sign in here. Drive straight ahead to the Visitors Parking Lot. Staying on the road, drive 1 mile and take a left at the fork. Drive 1.1 miles on the gravel road and take a right at the fork. Drive approximately 1500 feet and the proposed road will be on the right. [A sign will be posted here].

Prepared By: Daryl Bartley Appalachian Wireless 606-477-2355



LEASE AGREEMENT

WITNESSETH:

That for and in consideration of the rents and other considerations hereinafter set forth and subject to the terms and conditions therefore, Lessor does hereby verify that it has the right, title and interest to lease, let and demise unto Lessee, its successors and assigns, to have and to hold for the term hereinafter set forth and subject to Lessee's right to surrender or terminate this Lease Agreement, a certain lot hereinafter referred to as the "Leased Premises." Said Leased Premises being a portion of that certain tract of real estate located in Breathitt County, Kentucky, and being a portion of the same land described as the Main Block of the Robinson Forest. The Leased Premises shall be a one hundred by one hundred foot (100' x 100') tract of property to be used for the purpose of erecting a three hundred foot (300') self-supporting telecommunications tower. The location of said telecommunications tower is N 37° 28' 26.21", W 83° 09' 40.32", and the location of said tract of land is further described in the Lot Description and Plat attached hereto as Exhibits A and B.

Lessor hereby grants unto Lessee full and complete rights of ingress, egress and regress over roads located upon the property controlled by Lessor to and from the Leased Premises, and the non-exclusive right to use any existing road located on the property. The parties acknowledge that Robinson Forest is managed for research, teaching and extension education by the Lessor, and is one of the largest research and educational forests in the eastern United States. Access requires prior notice to Lessor, and -- barring emergency - access to be during regular business hours, not to interfere with normal operations. Lessee agrees to maintain any existing road utilized by Lessee at a level and/or condition at or above its condition at the time Lessee first utilized it. Any maintenance undertaken by Lessee shall be under Lessor's supervision. Lessor also grants to Lessee a right of way and easement to construct, maintain and operate telephone and power transmission lines for service of the tower and related facilities, said lines to be buried under existing as well as newly constructed access roads located from the Fire Tower to the Leased Premises.

This Lease Agreement is made on the following terms and conditions:

- TERM OF LEASE. The term of this Lease Agreement shall be for a period of ninety-nine (99) years from the commencement date of this Lease Agreement.
- 2. CANCELLATION. Lessee shall have the right to terminate this Lease
 Agreement and abandon the Leased Premises at any time under its sole discretion, upon
 six (6) months written notice to Lessor of its intention to do so. In the event that the
 Leased Premises fail the process for approval as an acceptable cellular tower site by the
 Federal Communications Commission (the "FCC") or any tests or requirements as
 required for such approval (the "FCC Process") or approvals by the Public Service
 Commission of Kentucky (the "PSC") or applicable zoning commissions, then this Lease
 Agreement may be terminated by Lessee upon thirty (30) days written notice of such

intention. Upon termination of this Lease Agreement, Lessee shall have one hundred eighty (180) days thereafter to remove all structures it has erected upon the Leased Premises, and to reclaim the Leased Premises to a condition as existed before this Lease Agreement.

3. CONSIDERATION. In consideration for the Leased Premises, Lessee has agreed to purchase and install any and all equipment (radio, antenna, and cable) on the Robinson Forest Fire Tower (the "Fire Tower") necessary for the transmission of Ethernet to the point of demarcation, as jointly agreed upon by the parties, at the Robinson Forest Bath House Mechanical Room (the "Bath House"). It is the mutual understanding of the parties that the equipment to be installed by Lessee on the Fire Tower is temporary in nature and will be transferred to the the cellular telecommunications tower erected by Lessee.

In addition to the above consideration, Lessee agrees to maintain a contractual relationship with Windstream (or a mutually acceptable alternate company offering comparable services), for current and future broadband services.

Lessee also agrees to permit Lessor to mount an antenna on the telecommunications tower for research purposes at an agreed upon location on the tower for a rental amount that shall be fair market value. Any device mounted on the telecommunications tower shall be done so under the permission and supervision of Lessee and by a mutually agreed upon contractor.

4. USE OF PREMISES. Lessee shall have the exclusive rights and privileges of the use of the Leased Premises for the purpose of constructing buildings, towers and other related facilities, including, but not limited to telephone lines, coaxial lines, power lines and installation of any other equipment deemed necessary by Lessee to receive and transmit electronic signals in the service area to be served by the facility. The parties hereto recognize that technology in the communications field is advancing at a rapid rate and that this site may be used for any other purpose deemed necessary to carry out the objectives of Lessee, that being to transmit and receive signals and communications by wire, fiber optics, radio and satellite. Lessee shall not make any changes to this site that would be to the detriment of Robinson Forest or that would impact Robinson Forest more than the initial installation without prior consent from Lessor. Lessee shall not use the Premises for purposes other than maintenance or as a site for communications by the use of methods now or hereafter known. Lessee shall be solely responsible for securing the cell site, and shall protect it through adequate fencing from vandalism or unauthorized access.

Lessee shall begin the regulatory approval process within thirty (30) days from the effective date of this Lease Agreement.

In order to prevent rutting and run-off problems, every effort shall be made to avoid construction during times of high moisture. Lessee shall consult with the UK Forest Manager prior to initiating construction and shall work with the UK Forest Manager to protect against erosion and water quality issues.

Lessee agrees to consult with the UK Forest Manager regarding protection of the Robinson Forest road infrastructure and shall obtain the UK Forest Manager's approval of which roads will be used for construction traffic and long-term maintenance. Lessee shall make every effort not to interrupt normal business operations within Robinson Forest during the period of construction.

- 5. INDEMNITY. Lessee agrees to indemnify and save harmless the Lessor from any and all liability by virtue of Lessee's activities upon the Leased Premises or Lessor's other property in the exercise of any rights and privileges granted herein, specifically including but not limited to any claim, loss, fine, penalty and costs (including reasonable attorney's fees) arising out of Lessee conduct or any violation of any environmental laws or regulations. Further, Lessee disclaims any warranty regarding the fitness of the existing Fire Tower to house the desired equipment. Lessor, as a state agency, will be responsible to the full extent and in the manner provided for by applicable state law for any and all liability claims, costs of whatever kind and nature, for injury to or death of any person or persons, and for loss or damage to any property (state or other) occurring in connection with or in any way incidental to or arising out of the services performed under this Lease Agreement. These provisions shall survive the termination of this Lease Agreement. Lessee shall maintain and keep in full force and effect public liability and property damage insurance in an amount of at least One Million Dollars (\$1,000,000.00). Lessee shall provide a Certificate of Insurance to Lessor as proof of said coverage which shall contain a provision for thirty (30) days' notice of cancellation to Lessor.
- 6. TAXES. Lessee shall pay all personal property taxes assessed on or any portion of such taxes attributable to the equipment used by Lessee on the premises. Lessor shall pay when due all real property taxes attributable to the Leased Premises. Lessee shall reimburse Lessor additional compensation for any increase in real estate taxes levied against Lessor as well as all other fines and assessments, if any, which are attributable to or arise as a result of the improvements constructed by Lessee, its successors or assigns.

7. NOTICES. All notices, demands, or other writings in this Lease Agreement provided to be given, made or sent, or which may be given or made or sent, to either party hereto to the other, shall be deemed to have been fully given or made or sent when made in writing and deposited in the United States Mail, certified and postage prepaid, to Lessor and Lessee as follows:

Appalachian Wireless:

East Kentucky Network, LLC

d/b/a Appalachian Wireless

Attn: Regulatory Compliance Department

101 Technology Trail Ivel, Kentucky 41642

University of Kentucky:

College of Agriculture, Food and Environment

Attn: Timothy West

S-105 Agricultural Science Center North

Lexington, KY 40546-0091

Copy to:

University of Kentucky Office of Legal Counsel

306 Main Building

Lexington, Kentucky 40505-0032

Such addresses may be changed by written notice given by such party as above provided.

- MODIFICATION. This Lease Agreement may be amended or modified only by a written instrument executed by Lessor and Lessee hereto.
- 9. GOVERNING LAW. Lessor and Lessee agree that this Lease Agreement shall be construed and enforced in accordance with the laws of the Commonwealth of Kentucky and any legal action which is brought on the basis of this Lease Agreement shall be filed in the Franklin County Circuit Court.
- 10. BINDING EFFECT. All of the terms, conditions, and covenants hereof shall be binding and shall inure to the benefit of the heirs, representatives, successors, and assigns of the parties hereto.

IN TESTIMONY WHEREOF, Lessor and Lessee have caused their names to be signed hereto, as of the day and year first above written.

Commonwealth of Kentucky,

LESSOR:

	UNIVERSIT	Y OF KENTUCKY
Reviewer	GEORGE d By: WARD	Digitally signed by GLOBICE WHILD Dife on-GLOBICE WHILD, as, on, amaling-ough modifiely who, a rich Date: 2014-03-24 09-9008-03 tor
	UK Real Estat	de Services
Exec	N. Monday cutive Vice Presiden Administration	t for Finance
COMMONWEALTH OF KENTUCK	Y	
COUNTY OF Forthe		
The foregoing instrument was, 2016, by, of Kentucky.		fore me on this Ath day of
,	Notar	Public
	9-8 My C	8-2019 # 541614 ommission Expires
LESSEE By:		TUCKY NETWORK, LLC, chian Wireless
35.5.5	A. Gillum and General Mana	ger

OFFICE OF LEGAL COUNSEL

ATTORNEY AT LAW

COMMONWEALTH OF KENTUCKY

COUNTY OF Floyd

August 19, 2019

My Commission Expires

PREPARED BY:

William G. Francis Fowler Bell Law Office 300 West Vine Street, Suite 600 Lexington, Kentucky 40507-1751



Exhibit A

LOT DESCRIPTION

Property of Robinson Forest University of Kentucky Department of Forestry 105 T.P. Cooper Building Lexington, KY 40546-0073 Near Clayhole in Breahitt County June 19, 2015

A portion of the property lying off Clemons Fork of Buckhorn Creek in Breathitt County of Kentucky, near the community of Clayhole. Being a part of the same land conveyed by deed from The E. O. Robinson Mountain Fund to University of Kentucky by Deed dated October 10, 1923 and recorded in Deed Book 52 Page 410 of the Breathitt county Court Clerk.

Unless stated otherwise, any monument referred to herein as "set iron pin with cap" is a set 1/2" diameter rebar, at least eighteen (18") in length, with a plastic cap stamped "LS2259". All bearings stated herein are referred to NAD83 Ky Single Zone North. This survey performed by James W. Caudill, LS2259, on June 19, 2015.

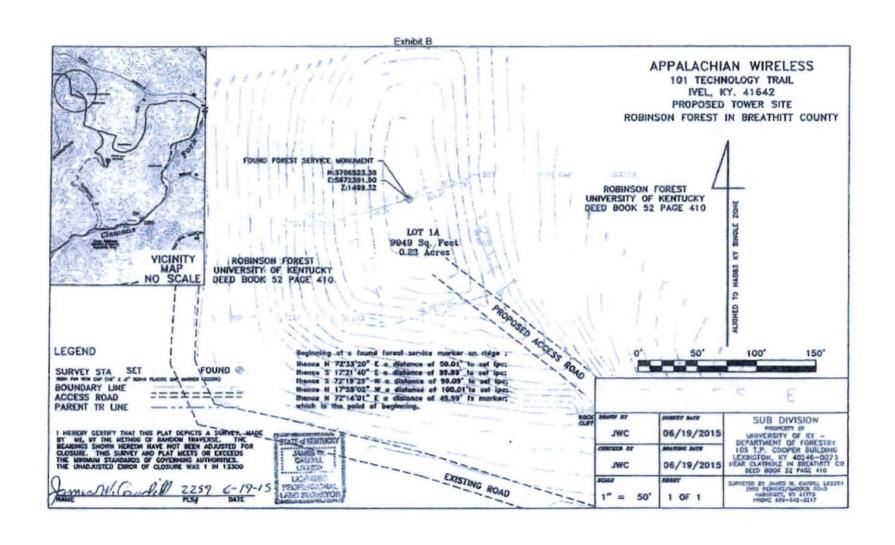
Lot 1A

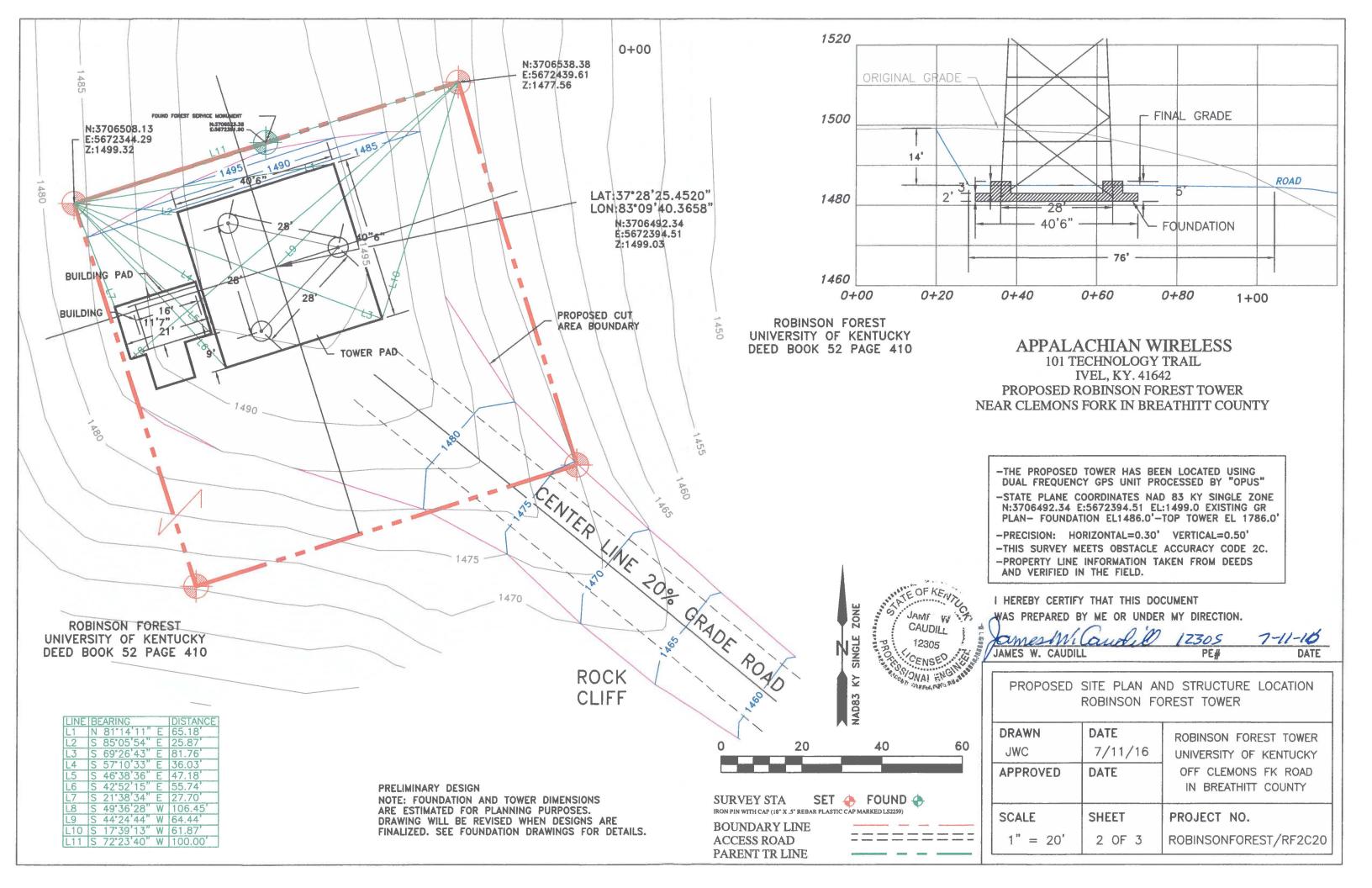
Beginning on a found forest service marker on the ridge between Roaring Fork of Lewis Fork and Little Millseat Branch of Clemons Fork of Buckhorn Creek on the north line of the proposed lot, and having NAD83 KY Single Zone coordinates N:3706525.38 ft. E:5672391.90 ft.; thence running over the hill North 72 deg 33 min 20 sec East, 50.01 feet to a set iron pin with cap marked LS-2259 on the hillside; thence running around the hillside South 17 deg 21 min 40 sec East, 99.89 feet to a set iron pin with cap marked LS2259 on the hillside; thence running across the ridge South 72 deg 19 min 29 sec West, 99.09 feet to a set iron pin with cap marked LS-2259 on the hillside; thence running around the hillside North 17 deg 53 min 02 sec West, 100.01 feet to set iron pin with cap marked ls2259 on the hillside; thence running up the hill North 72 deg 14 min 01 sec East, 49.99 feet to the beginning. Containing a calculated area of 9949 sq ft or 0.23 acres.

This survey was performed on June 19, 2015 by James W. Caudill, a Kentucky Licensed Professional Land Surveyor No. 2259.

> STATE of KENTUCKY JAMES W. LS 2259 LICENSED PROFESSIONAL LAND SURVEYOR

James W. Caudill, PLS #2259





Application CONTAINS LARGE OR OVERSIZED MAP(S)

RECEIVED ON: 12/16/2016

