COMMONWEALTH OF KENTUCKY
BEFORE THE 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 CONSTRUCT A TOWER IN MORGAN COUNTY, KENTUCKY.	)	CASE NO. 2019-00402

East Kentucky Network, LLC d/b/a Appalachian Wireless was granted authorization to provide cellular service in the KY-9 Cellular Market Area (CMA451) 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 Morgan 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 telecommunications tower on a tract of land located near 8447 US Highway 460 West, Mize, Morgan County, Kentucky (37°51'50.6989"N 83°22'31.8519"W). A map and detailed directions to the site can be found in Exhibit 7.

Construction of the proposed tower is required by public convenience and necessity. Due to increasing demand for telecommunications service, the proposed tower is necessary to provide adequate coverage. The proposed tower will improve service in Morgan County by providing an interconnection between East Kentucky Network, LLC other sites thereby forming a cohesive network.

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

Pursuant to 807 KAR 5:063 Section 1(1)(l), Section 1(1)(m) and Section 2, all affected property owners according to the Property Valuation Administrator's record who own property within 500 feet of the proposed Tower or 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.

Morgan County has no formal local planning unit. In absence of this unit, the Morgan County Judge Executive's office was notified by certified mail, return receipt requested, of East Kentucky Network, LLC's proposal and informed of their right to intervene. The Morgan 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 The Licking Valley Courier, November 14, 2019, edition. Enclosed is a copy of that notice in Exhibit 3. The Licking Valley Courier is the newspaper with the largest circulation in Morgan 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 World Tower Company 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. Their qualifications are described in Exhibit 13.

The FAA determination and Kentucky Airport Zoning Commission application 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 November 13, 2019, and will remain posted for at least two weeks after filing of this application as specified.

Enclosed in Exhibit 8 are copies of East Kentucky Network LLC's Memorandum of Lease for the site location along with a lot description.

The proposed construction site is on a mountaintop some feet from the nearest structure. Prior to construction, the site was pastureland.

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 10 is a map in one (1) inch equals 200 feet scale identifying every structure and every owner of real estate within 500 feet of the proposed tower and all property owners who own contiguous property to the property upon which construction is proposed.

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

Enclosed as Exhibit 12 is a list of utilities, corporations, or persons with whom the tower is likely to compete.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

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 Krystal Branham, Regulatory Compliance Attorney at 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, 101 Technology Trail, Ivel, KY 41642.

SUBMITTED BY: Lynn Haney DATE: 11/14/19
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W A Gillum DATE: 11/14/19
W.A. Gillum, General Manager

ATTORNEY: Krystal Branham DATE: 11/14/19
Hon. Krystal Branham, Attorney

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

Krystal Branham, Attorney
Phone: (606) 477-2355, Ext. 1009
Email: kbranham@ekn.com

Mailing Address:

East Kentucky Network, LLC
d/b/a Appalachian Wireless
101 Technology Trail
Ivel, KY 41642

ULS License

Cellular License - KNKN880 - East Kentucky Network, LLC d/b/a Appalachian Wireless

Call Sign	KNKN880	Radio Service	CL - Cellular
Status	Active	Auth Type	Regular

Market

Market	CMA451 - Kentucky 9 - Elliott	Channel Block	B
Submarket	0	Phase	2

Dates

Grant	08/30/2011	Expiration	10/01/2021
Effective	09/04/2014	Cancellation	

Five Year Buildout Date

10/23/1996

Control Points

1 U.S. 23, HAROLD, KY

Licensee

FRN	0001786607	Type	Limited Liability Company

Licensee

East Kentucky Network, LLC d/b/a Appalachian Wireless
101 Technology Trail
Ivel, KY 41642
ATTN W.A. Gillum, General Manager / CEO

P:(606)477-2355

Contact

Lukas, Nace, Gutierrez & Sachs, LLP
Pamela L Gist Esq
8300 Greensboro Drive
McLean, VA 22102

P:(703)584-8665
F:(703)584-8696
E:pgist@fcclaw.com

Ownership and Qualifications

Radio Service Type Mobile

Regulatory Status Common Carrier Interconnected Yes

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.

Demographics

Race

Ethnicity

Gender

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 13, 2019

Glen Havens
594 Leonard Haven Road
Hazel Green, KY

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00402)

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 Morgan County. The facility will include a 300'-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located near a tract of land near 8447 US Highway 460 W, Mize, Morgan County. 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. 2019-00402 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

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 13, 2019

Oldfield Family, LLC
General Delivery
Mize, KY 41352

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00402)

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 Morgan County. The facility will include a 300'-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located near a tract of land near 8447 US Highway 460 W, Mize, Morgan County. 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. 2019-00402 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

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 13, 2019

The Oldfield Family
Limited Liability
General Delivery
Mize, KY 41352

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00402)

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 Morgan County. The facility will include a 300'-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located near a tract of land near 8447 US Highway 460 W, Mize, Morgan County. 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. 2019-00402 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

Lynn Haney, CPA
Regulatory Compliance Director

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 13, 2019

Kenneth Glen Whitt
P.O. Box 757
West Liberty, KY 41472

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00402)

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 Morgan County. The facility will include a 300'-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located near a tract of land near 8447 US Highway 460 W, Mize, Morgan County. 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. 2019-00402 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

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 13, 2019

J.A. Oldfield and Son
General Delivery
Mize, KY 41352

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00402)

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 Morgan County. The facility will include a 300'-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located near a tract of land near 8447 US Highway 460 W, Mize, Morgan County. 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. 2019-00402 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

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 13, 2019

Morgan County Propane
C/O Alan Oldfield
Highway 460 West
Mize, KY 41352

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00402)

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 Morgan County. The facility will include a 300'-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located near a tract of land near 8447 US Highway 460 W, Mize, Morgan County. 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. 2019-00402 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

Lynn Haney, CPA
Regulatory Compliance Director

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

November 13, 2019

Charlotte Oldfield
General Delivery
Mize, KY 41352

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00402)

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 Morgan County. The facility will include a 300'-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located near a tract of land near 8447 US Highway 460 W, Mize, Morgan County. 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.

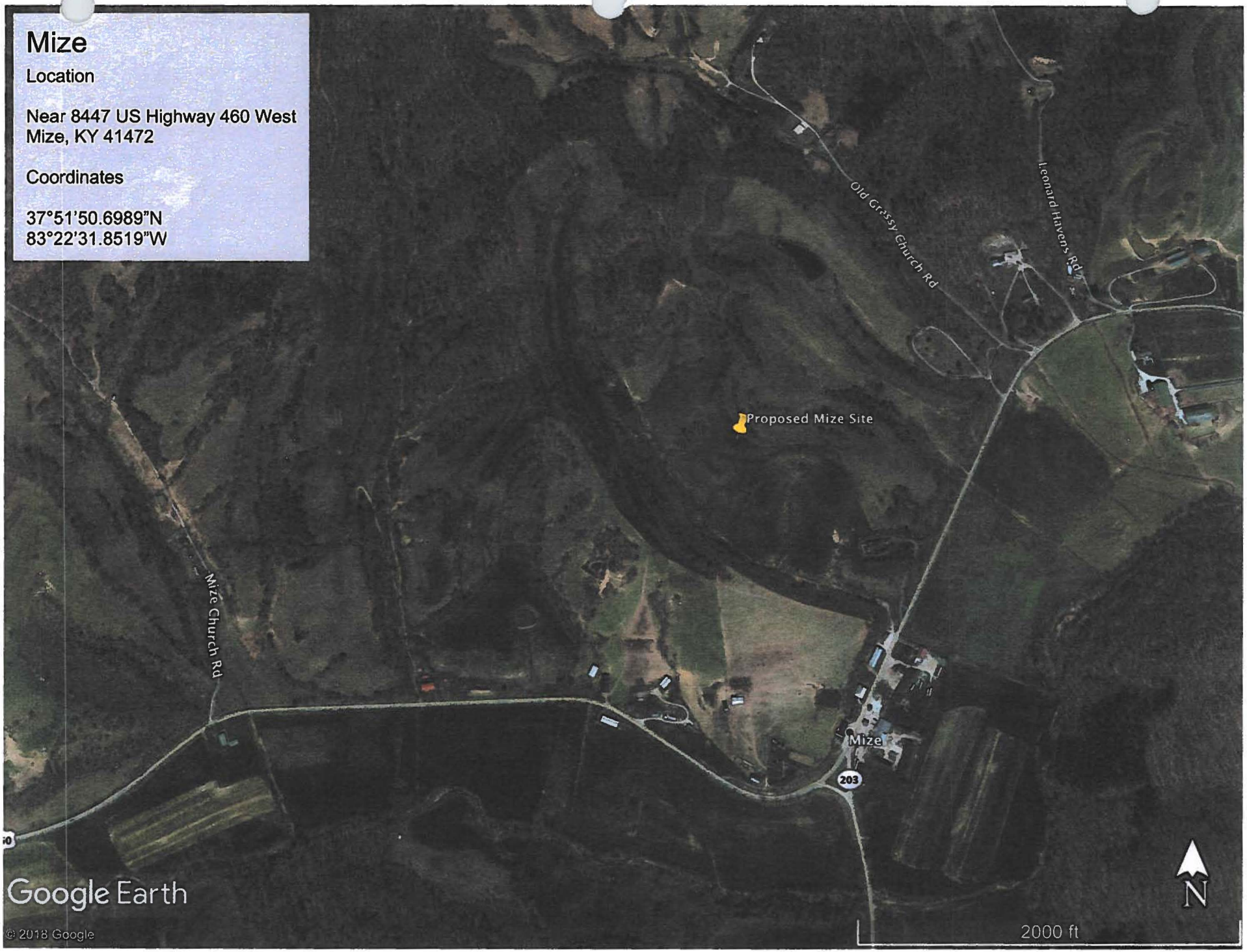
Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2019-00402 in your correspondence.

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

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1


Mize
Location
Near 8447 US Highway 460 West
Mize, KY 41472
Coordinates
37°51'50.6989"N
83°22'31.8519"W
Old Grassy Church Rd
Leonard Havens Rd
Proposed Mize Site
Mize Church Rd
Mize
203
Google Earth
© 2018 Google
2000 ft
N

dba Appalachian Wireless
101 Technology Trail
Ivel, KY 41642
Phone: 606-477-2355
Fax: 606-791-2225

EAST KENTUCKY NETWORK

To:	The Licking Valley Courier Attn: Classifieds	**From:**	Raina Helton Regulatory Compliance Assistant
Email:	courier@mrtc.com	**Date:**	November 12, 2019
Re:	PUBLIC NOTICE ADVERTISEMENT	**Pages:**	1

Please place the following Public Notice Advertisement in The Licking Valley Courier to be ran on November 14, 2019.

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2019-00402)

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 8447 US Highway 460 West, Mize, Morgan 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. 2019-00402.

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

Appalachian WIRELESS
www.appalachianwireless.com

EAST KENTUCKY NETWORK, LLC
www.ekn.com

VIA: U.S. CERTIFIED MAIL

November 13, 2019

John Will Stacy, Judge Executive
450 Prestonsburg Street
West Liberty, KY 41472

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00402)

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 Morgan 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 8447 US Highway 460 West, Mize, Morgan County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you are the County Judge Executive of Morgan County.

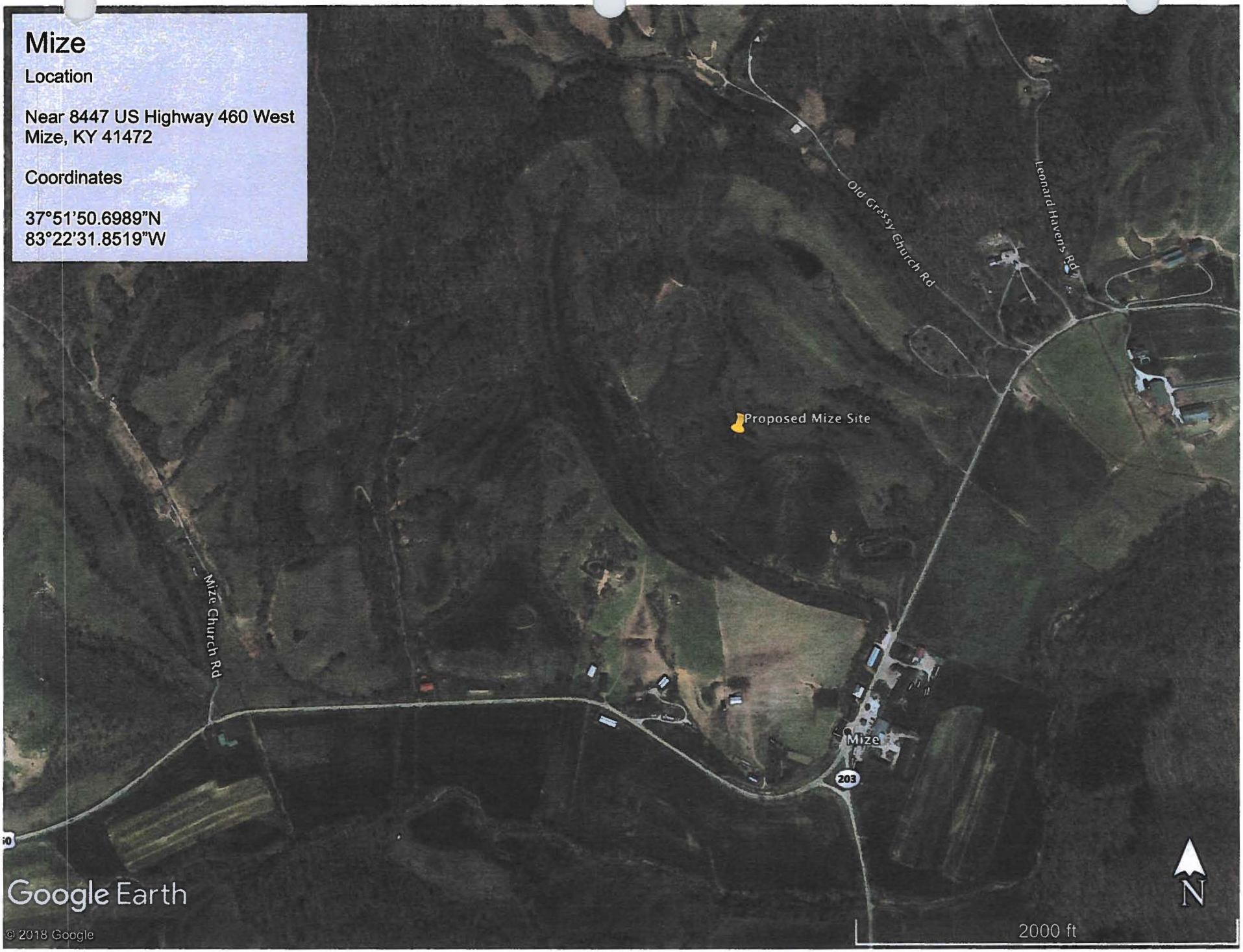
The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. The Commission must receive your initial communication within 20 days of the date of this letter as shown above.

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. 2019-00402 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
Regulatory Compliance Director
Enclosure


Mize
Location
Near 8447 US Highway 460 West
Mize, KY 41472
Coordinates
37°51'50.6989"N
83°22'31.8519"W
Old Grassy Church Rd
Leonard Havens Rd
Proposed Mize Site
Mize Church Rd
Mize
203
Google Earth
© 2018 Google
2000 ft
N

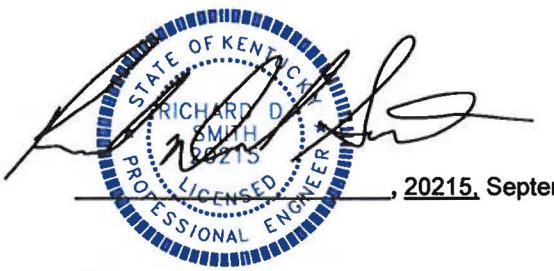
230 Swartz Drive • Hazard • Kentucky • 41701
Phone (606) 551-1050

EAST KENTUCKY ENGINEERING, LLC.

APPALACHIAN WIRELESS
Geotechnical Investigation on the Mize Tower Site Morgan County, Kentucky EKYENG Project No. 165-000-0088

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

PREPARED BY:
Richard Dirk Smith PE, PLS
President
East Kentucky Engineering
230 Swartz Drive
Hazard, Kentucky 41701



, 20215, September 17th, 2019

EXECUTIVE SUMMARY

A geotechnical investigation has been performed on the Mize Tower Site, located in Morgan County, Kentucky. This site is readily accessible. A location map is shown in Figure 1 of this report. Four (4) borings were advanced to a maximum depth of 25.5 ft. The following geotechnical considerations were identified:

- Borings utilized for this study encountered soils and sandstone.
- The estimated maximum base elevation of tower mat foundation is 989.0 ft.
- This site is on a sloped pastureland.
- **The allowable bearing capacities is estimated at 3 tsf on this Shale with sandstone bands unit from 966.0 ft to 989.0 ft.**
- The 2018 Kentucky Building Code seismic site classification for this site is "B".
- If during the foundation design it becomes necessary to lower or raise the footer, alternate design recommendations can be provided by EKYENG.
- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We, therefore, recommend that EKYENG is 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

East Kentucky Engineering (EKYENG) was retained by Mr. Stanton Neece of Appalachian Wireless to prepare a geotechnical engineering report for the proposed tower site located on the Mize Property, in Morgan County, Kentucky. A site location map is shown in Figure No. 1.

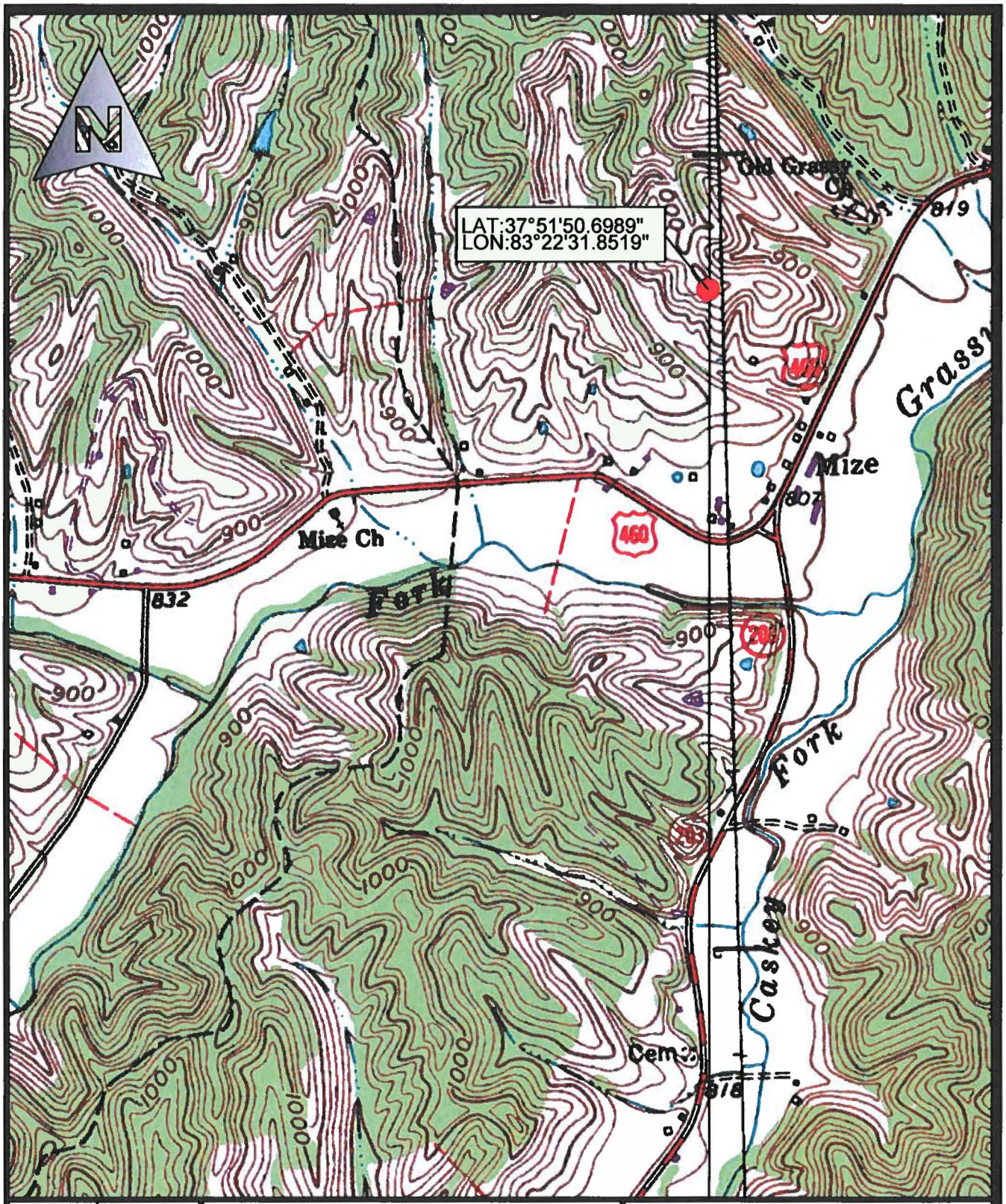
Four (4) borings were advanced to a maximum depth of 25.5 ft. Horn and Associates, Inc. provided drilling services to obtain these borings. Logs of the borings along with a boring location plan are included in Appendix A and Appendix D. The purpose of these services is to provide information and geotechnical engineering recommendations about 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. The footing area is estimated to be 43' 6" ft. X 43' 6" ft. with an estimated base of the tower footer elevation at 993.0 ft. Based on information provided, we estimate the structural loads will be like the following conditions;

CONDITION	LOAD
Total Shear	40 Kips
Axial Load	50 Kips

We anticipate that overturning will govern the structural design. If the loading is significantly different than these expected values, EKYENG should be notified to re-evaluate the recommendations provided in this report.



Drawn: RDS	9/17/2019
Job:165-088	Scale: 1"=1000'

APPALACHIAN WIRELESS
EXCERPT FROM USGS QUAD
LOCATION MAP
MIZE TOWER
FIGURE NO 1

East Kentucky Engineering, LLC.
230 Swartz Drive
Hazard, KY 41701
(606) 551-1050

3.0 SITE DESCRIPTION & HISTORICAL MINING

3.1 GENERAL INFORMATION

The site location is on a sloped pastureland in Morgan County, Kentucky. The current surface elevation is approximately 996.0 ft. Research on the historical mining was conducted by obtaining previous mine license maps from the "Kentucky Mine Mapping Information System" (KMMIS).

3.2 SURFACE MINING

No issues from surface mining activities are expected at this site location.

3.3 UNDERGROUND MINING

No underground mines were found within the vicinity of this site. Therefore, no subsidence issues are anticipated.

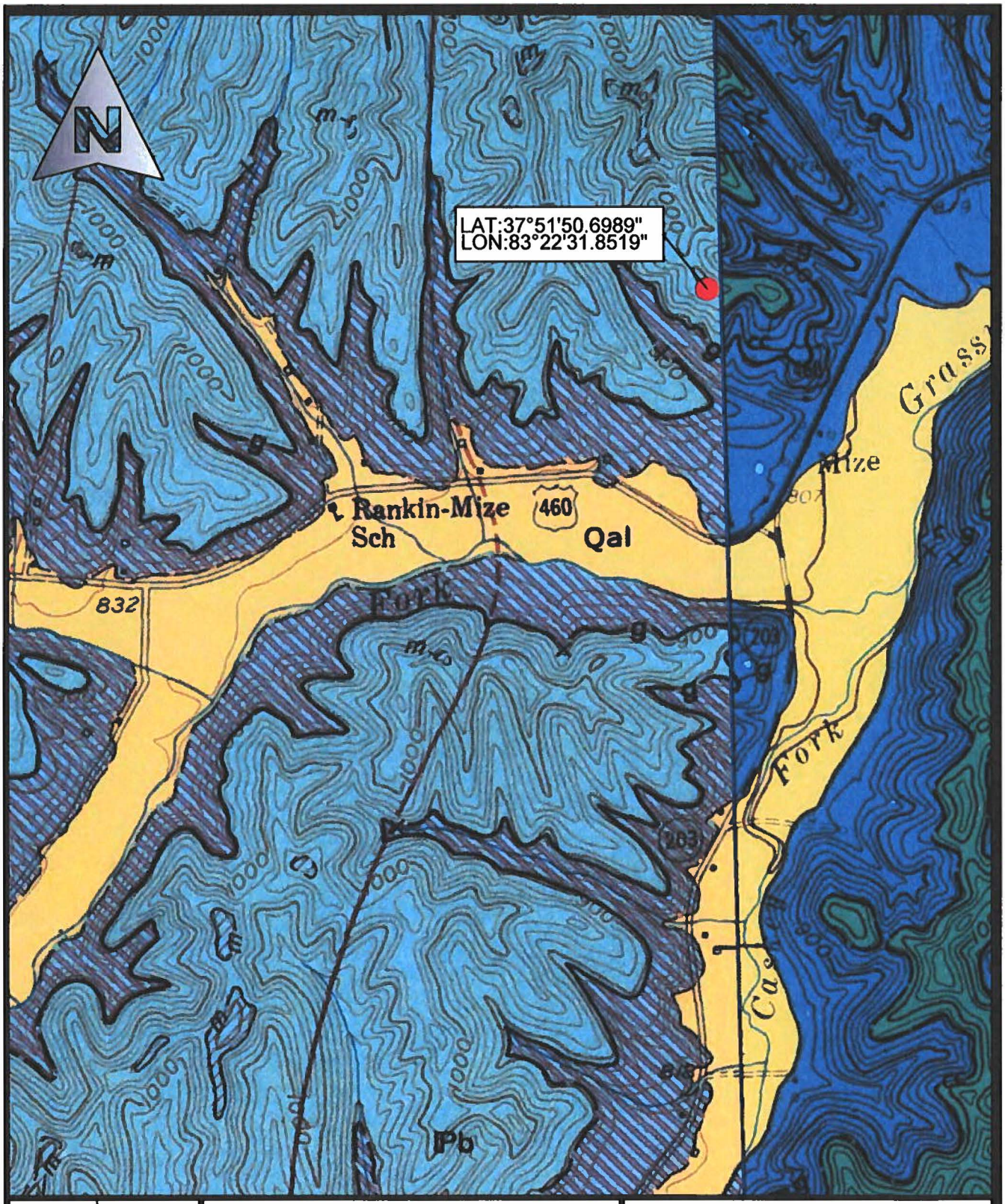
3.4 FLOOD HAZARD

A flood determination was conducted by EKYENG. For this determination, the FEMA Flood Map Service was reviewed for this location. The flood map for the selected area is number **21175C0300C-210292.** The flood zone for this area is Zone X and is an area of minimal flood hazard. A FIRMette map is included in Appendix D of this report.

4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

The proposed site is located on a sloped pastureland in Morgan County, Kentucky. The site lies within the Hazel Green Quadrangle. The site is readily accessible by conventional exploratory equipment. An estimated pad location was determined based on the information provided. Foundation dimensions were estimated to be a 43' 6" X 43' 6" ft. footer for this report.



Drawn: RDS	9/17/2019
Job:165-088	Scale: 1"=1000'

APPALACHIAN WIRELESS
EXCERPT FROM GEOLOGIC QUAD
LOCATION MAP
MIZE TOWER
FIGURE NO 2

East Kentucky Engineering, LLC.
230 Swartz Drive
Hazard, KY 41701
(606) 551-1050

4.2 BORING DATA

Four (4) borings were made in the relative positions shown on the Site Map in Appendix D. The boring logs and resulting data are included in Appendix A. These borings were made with a track mounted boring rig using hollow-stem augers and employing standard penetration resistance methods (ASTM D-1586, which includes 140-pound hammer, 30-inch drop, and two-inch-O.D. split-spoon sampler) at maximum depth intervals of five feet or at major changes in stratum, whichever occurred first. The disturbed split-spoon samples were visually classified, logged, sealed in moisture-proof jars, and taken to the EKYENG laboratory for study. The depths where these "A"-type split-spoon samples were collected are noted on the boring logs. The results of the natural moisture contents by boring and interval are shown in Table 2.

TABLE 2

RESULTS OF NATURAL MOISTURE CONTENT TESTS (ASTM D-4643)

SAMPLE NO.	DEPTH INCREMENT, (FT.)	NATURAL MOISTURE CONTENT, %
B1 S-1	1.0 – 2.5	24.7%
B1 S-2	3.5-4.7	17.9%
B1 S-3	6.0-6.4	7.8%
B2 S-1	1.0-2.5	13.2%
B2 S-2	3.5-4.9	17.4%
B3 S-1	2.5-4.0	18.4%
B4 S-1	2.0-3.5	12.3%

The position at which the core was taken is indicated on the boring logs and shown on the sitemap in Appendix D. The corresponding blow counts are shown in Table No. 3.

TABLE NO. 3

STANDARD PENETRATIONS

SAMPLE NO.	DEPTH INCREMENT	BLOW COUNT /RQD *	DESCRIPTION
B-1	0.0-0.5	2-3-4	Topsoil, Brown Clay Silt
B-1	0.5-4.7	8-31-50/.2	Brown Clay Silt
B-1	4.7-8.0	50/.4	Weathered Shale
B-1	8.0-20.0		Sandstone w/ Shale Layers
B-1	20.0-21.0	23*	Gray Sandstone
B-1	21.0-25.0	66*	Black Shale
B-2	0.0-0.4	3-6-5	Topsoil
B-2	0.4-4.5	5-13-50/.4	Weathered Shale
B-2	4.5-10.5	46*	Brown/Gray Sandstone w/Shale Layers
B-2	10.5-15.5	20*	Brown/Gray Sandstone w/Shale Layers
B-3	0.0-0.5	10-27-36	Topsoil
B-3	0.5-4.0		Brown, Clay, Silt
B-3	4.0-5.5		Weathered Shale
B-3	5.5-10.5	12*	Brown Shale-Poor Quality
B-3	10.5-15.5	0*	Brown Shale-Poor Quality
B-3	15.5-20.5	22*	Black Shale
B-3	20.5-25.5	90*	Black Shale
B-4	0.0-0.6	7-13-50/.5	Topsoil
B-4	0.6-3.3		Brown Clay Silt
B-4	3.3-5.0		Weathered Shale
B-4	5.0-10.0	0*	Brown Shale into Black Shale
B-4	10.0-15.0	20*	Brown Shale into Black Shale
B-4	15.0-25.0	17*	Brown Shale into Black Shale

The borings encountered topsoil and brown, clay silt to a depth of 4.7 ft. The four borings were extended by "NX" size rock core that were taken to confirm the presence of rock at the site and to determine its physical characteristics. The core was made with "NX" size diamond coring equipment. These borings are between 3.3 ft and 25.5 ft in depth. The position at which the core was taken is indicated on the boring logs and shown on the boring location map in Appendix D.

4.3 GROUNDWATER

Groundwater 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 is 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 the site investigation, 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 B" per the 2018 Kentucky Building Code. In addition, an S_{DS} coefficient of 0.128 g was calculated, and an S_{D1} coefficient of 0.057 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 tri-pole 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 attempts to overturn and can act in any directions.

5.2 SHALLOW MAT FOUNDATIONS RECOMMENDATIONS

It is expected that shallow foundations will be used at the base of the proposed tower. It should be noted that the material type and bearing capacity can vary significantly due to the inconsistency of the underlying material. Based on the laboratory and field testing, visual inspection of the materials and practical experience we have estimated that the **allowable bearing capacity at this site will be 3 tsf within the shale unit from an elevation of 966.0 ft to 989.0 ft.**

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 4000 psi. concrete below the foundation base. 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.

Support structure for this tower can be placed as needed. It is recommended that test pits are examined to ensure that any of these structures are on the competent materials. If pockets of soft, loose or otherwise unsuitable material are encountered in the footing excavations and it is inconvenient to lower the footings, the proposed footing elevations may be re-established by backfilling after the undesirable material has been removed. The undercut excavation beneath each footing should extend to suitable bearing soils and the dimensions of the excavation base should be determined by imaginary planes extending outward and down on a 1 (vertical) to 1 (horizontal) slope from the base perimeter of the footing. The entire excavation should then be refilled with a well-compacted

engineered fill, or lean concrete (Please note that the width of the lean concrete zone should be equal or wider than the width of the overlying footing element). Special care should be exercised to remove any sloughed, loose or soft materials near the base of the excavation slopes. In addition, special care should be taken to "tie-in" the compacted fill with the excavation slopes, with benches as necessary, to ensure that no pockets of loose or soft materials will be left in place along the excavation slopes below the foundation bearing level. All Federal, State, and Local regulations should be strictly adhered to relative to excavation side-slope geometry.

5.3 BURIED UTILITIES

Excavations for buried utility pipelines should follow the guidelines set forth in this report. Depending on the pipeline material, a minimum thickness of at least 0.5 feet of select fine-grained granular bedding material should be used beneath all below-grade pipes, with a minimum cover thickness of at least 3 feet to afford an "arching" effect and reduce stresses on the pipe. The cover thickness may be reduced if the external loading condition on the pipe is relatively light or if the pipe is designed to withstand the external loading condition. It is not recommended that "pea-gravel" or other "open-work" aggregates be used for trench backfill since these materials are nearly impossible to compact and tend to pond water within their interstices.

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 EKYENG 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 by specific ASTM standards unless otherwise indicated. All determinations included in each ASTM standard are not

always required and performed. Each test report indicates the measurements and determinations 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 test borings made at the locations shown in a boring location drawing included. Soil variations may exist between borings, and these variations 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 Mize Property located in Morgan 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 conclusions regarding specific construction techniques and methods that were chosen. EKYENG 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 based on 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 now. 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 always.

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 always during benching and filling of the benches, to ensure 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.

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 regarding 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.

3. Workers must be provided with reflector garments, such as warning orange or red vests, when exposed to vehicular traffic.

4. Contractors must not allow workers to work under or near equipment when there is danger of falling debris, spillage or equipment-related injuries.

5. 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.

8. When workers enter bell-bottom pier holes or other deep and confined excavations, the worker must wear (always 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.

9. The contractor must ensure that water does not accumulate in open excavations and must inspect the excavation prior to allowing workers to re-enter after heavy rains.

10. Adjacent structures (buildings, walls, etc.) must be supported or secured to prevent worker exposure to unsafe conditions and damage to existing structures.

11. 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.

13. 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. Fine and Coarse Aggregates: 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.

1. 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.

2. 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. Portland Cement: 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 not be used unless indicated on the plans.

C. Water: Water for mixing and curing shall be clean, fresh, and free from deleterious materials.

D. Metal Reinforcement: 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.

1. Under adverse weather conditions only retarding or accelerating agents containing no chloride may be used.

2. 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.

3. Approval in writing shall be required from Owner prior to the use of any admixture.

4.0 FORM

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, water stops, vent pipes and other similar built-in 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. Preparation for Placing Concrete: Before depositing concrete, the Contractor shall:

1. Remove from space to be occupied by concrete all debris, including snow, ice, and water unless otherwise permitted by Owner.

2. Provide diversion, satisfactory to Owner, of any flow of water to an excavation to avoid washing the freshly deposited concrete.

3. Coal the forms prior to placing of reinforcing steel as required in form work.

4. Secure firmly in correct position, all reinforcement and other items to be encased and remove therefrom all coating including ice and frost.

B. Transportation of Concrete from Batch Plant: 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 ensure 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:

1. 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.
3. Proceed to maintain constantly a top surface which is approximately level.
4. Be placed before initial set has occurred, and in no event after it has contained its water content for more than 90 minutes.
5. 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 to be free from voids, pockets or honeycombing. Care shall be taken to provide impermeability.

E. Vibration Equipment: Vibration equipment shall be of the appropriate type and shall, always, be adequate in number of units and power of each unit to properly consolidate all concrete.

F. Monolithic Pours: Proper delivery of concrete shall be the Contractor's responsibility 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 corrects, protrusions removed, and holes filled.

APPENDIX A BORING LOGS

HORN AND ASSOCIATES, INC
216 N. Main Street - Winchester, KY 40391
Ph: 800-729-2802 Fax: 859-744-6892

FIELD BORING LOG

Project Name	MIZE TOWER	Hole Number	B-1
Federal Project No.		Total Depth	25.0
State Project No.		Location	AS STAKED
Drilling/Sampling Method	HSA / NX	Surface Elevation	N/A
Boring Diameter	8" / 3"	Date Started	9-10-19
Driller	TL	Date Completed	9-10-19
		Weather	

From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recovery
0.0 .5	TOPSOIL	1-2.5	2-3-4	1	SPT	
.5 - 4.7	BR. CL SILT	3.5-4.7	8-31-50/2	2	↓	
4.7 - 8.0	WEA SHALE	6.0-6.4	50/.4	3	↓	
8.0 - 20.0	SANDSTONE W/SHALE LAY					
20.0 - 21.0	GRAY SANDSTONE	8-18	23	1	NXB	85%
21.0 - 25.0	BLACK SHALE	18-25	66	2		100%
	No H_2O Loss					

Water Level @ Drilling DRY | 24 Hr. Water Level | 7 Day Water Level

Moving/Delay Time | Hammer Weight 140 lbs. | Hammer Drop 30 in.

HORN AND ASSOCIATES, INC
216 N. Main Street - Winchester, KY 40391
Ph: 800-729-2802 Fax: 859-744-6892

FIELD BORING LOG

Project Name: MIZE TOWER
Federal Project No.:
State Project No.:
Drilling/Sampling Method: HSA / NX
Boring Diameter: 8" / 3"

Hole Number: B-2 Total Depth: 15.0
Location: AS STAKED
Surface Elevation: N/A
Date Started: 9-10-19 Date Completed: 9-10-19
Driller: TL Weather:

From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recovery
.4	TOPSOIL	1.-2.5	3-6-5	1	SPT	
.4 - 4.5	WEA. SHALE	3.5-4.9	5-13-50/.4	2	SPT	
4.5- 15.0	BROWN/GRAY SANDSTONE W/					
	SHALE LAYERS	5.5-10.5	46%	1	NXB	96%
		10.5-15.5	20%	2	NXB	100%
	No H_2O Loss					

Water Level @ Drilling: DRY
24 Hr. Water Level:
7 Day Water Level:
Moving/Delay Time:
Hammer Weight: 140 lbs.
Hammer Drop: 30 in.

HORN AND ASSOCIATES, INC
216 N. Main Street - Winchester, KY 40391
Ph: 800-729-2802 Fax: 859-744-6892

FIELD BORING LOG

Page ___ of ___

Project Name	MIZE TOWER	Hole Number	B-3
Federal Project No.		Total Depth	25.5
State Project No.		Location	AS STAKED
Drilling/Sampling Method	HSA / NX	Surface Elevation	N/A
Boring Diameter	8" / 3"	Date Started	9-10-19
Driller	TL	Date Completed	9-10-19
		Weather	

From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recovery
0.0 - .5	TOPSOIL	2.5-4.0	10-27-36	1	SPT	
.5 - 4.0	BR, CL, SILT					
4.0 - 5.5	WEA SHALE					
5.5 - 18.6	BR SHALE - POOR QUAL	5.5-10.5	12 %	1	NXB	12%
18.6 - 25.5	BLACK SHALE	10.5-15.5	0 %	2	↓	66%
		15.5-20.5	22 %	3	↓	100%
		20.5-25.5	90 %	4	↓	100%
	No H_2O Loss					

Water Level @ Drilling DRY | 24 Hr. Water Level | 7 Day Water Level

Moving/Delay Time | Hammer Weight 140 lbs. | Hammer Drop 30 in.

HORN AND ASSOCIATES, INC
216 N. Main Street - Winchester, KY 40391
Ph: 800-729-2802 Fax: 859-744-5892

FIELD BORING LOG

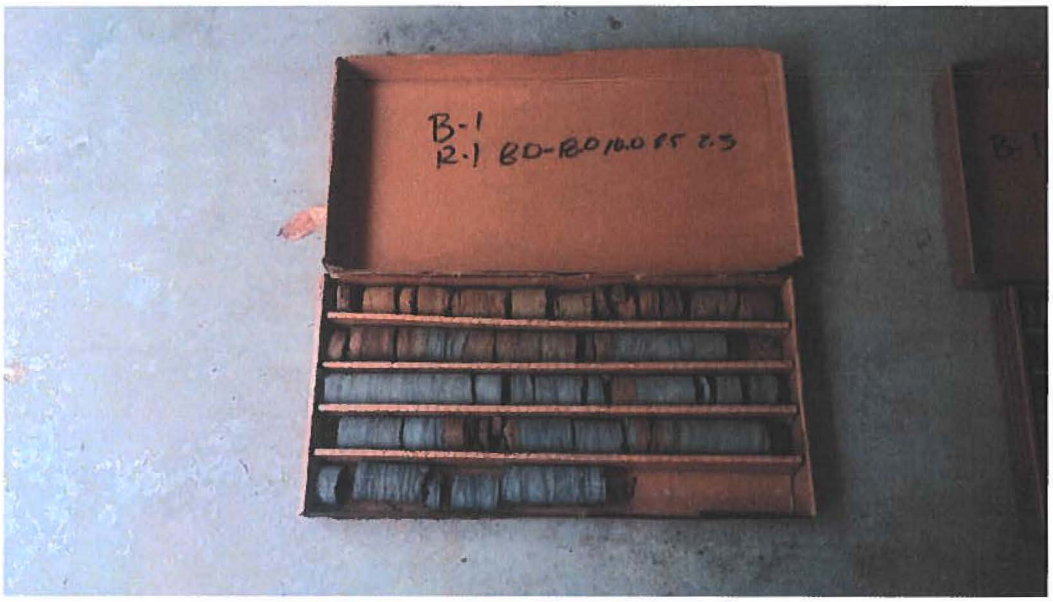
Project Name	MIZE TOWER	Hole Number	B-4
Federal Project No.		Total Depth	25.0
State Project No.		Location	AS STAKED
Drilling/Sampling Method	HSA / NX	Surface Elevation	N/A
Boring Diameter	8" / 3"	Date Started	9-10-19
Driller	TL	Date Completed	9-10-19
		Weather	

From To	Soil and Rock Description	Sample/Run Interval	Blow Counts/RQD	Sample/Run No.	Sample Type	% Recovery
0.0 .6	TOPSOIL	2.0-3.5	7-13-50/.5	1	SPT	
.6 3.3	BR CL SILT					
3.3 5.0	WEA SHALE	5-10	0	1	NXB	88%
5.0	BR SHALE INTO	10-15	20	2	NXB	98%
25.0	BLACK SHALE	15-25	17	3	NXB	100%
	No H_2O Loss					

Water Level @ Drilling DRY | 24 Hr. Water Level | 7 Day Water Level

Moving/Delay Time | Hammer Weight 140 lbs. | Hammer Drop 30 in.

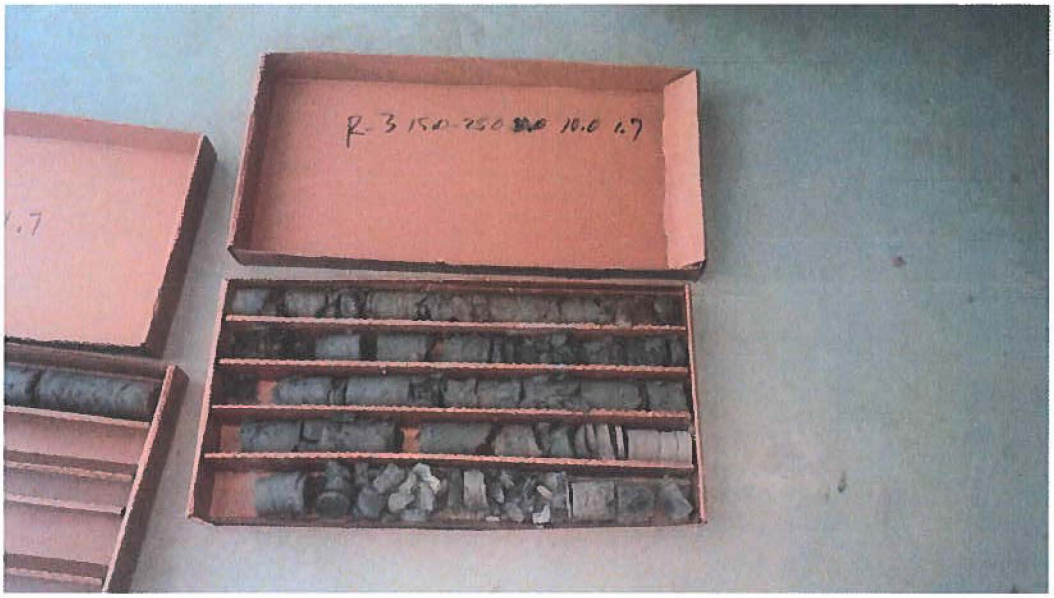
APPENDIX B CORE PHOTOGRAPHS

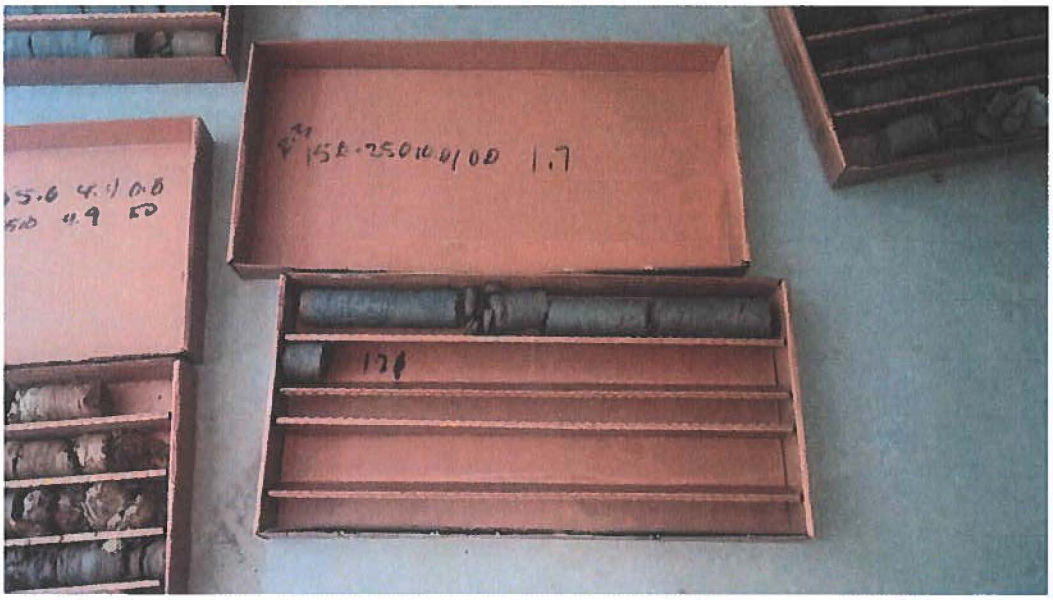



R-1 5.5-10.5 5.0 4.6 2.3
R-2 10.5-15.5 6.0 5.0 1.0
4.6


MTE
B-3
R-1 5.5-10.5 5.0 0.6 0.0
R-2 10.5-15.5 5.0 3.3
R-3 15.5-20.5 5.0 5.0 1.1

EAST KENTUCKY ENGINEERING, LLC.


R-3 150-250 10.0 1.7


R-3 150-250 10.0 1.7

APPENDIX C SEISMIC DATA

OSHPD

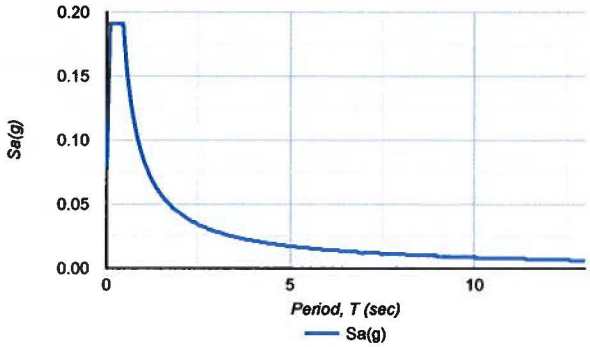
Latitude, Longitude: 37.864083, -83.375514

Date	9/29/2019, 3:11:32 PM
Design Code Reference Document	IBC-2015
Risk Category	IV
Site Class	B - Rock

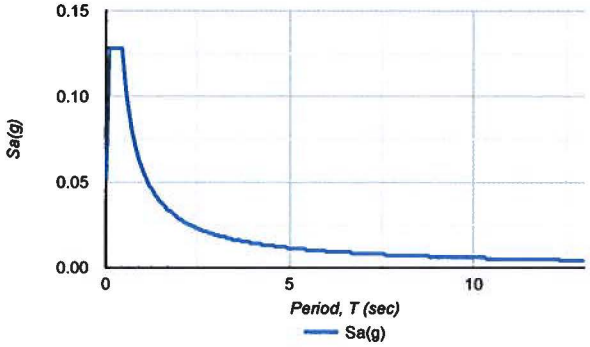
Type	Value	Description
S_S	0.191	MCE_R ground motion. (for 0.2 second period)
S_1	0.085	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.191	Site-modified spectral acceleration value
S_{M1}	0.085	Site-modified spectral acceleration value
S_{DS}	0.128	Numeric seismic design value at 0.2 second SA
S_{D1}	0.057	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	A	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1	Site amplification factor at 1.0 second
PGA	0.094	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.094	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	0.191	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.207	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.085	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.094	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.6	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.924	Mapped value of the risk coefficient at short periods
C_{R1}	0.904	Mapped value of the risk coefficient at a period of 1 s

MCER Response Spectrum



Design Response Spectrum



APPENDIX D PHOTOGRAPHS

APPENDIX E
MAPS

National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

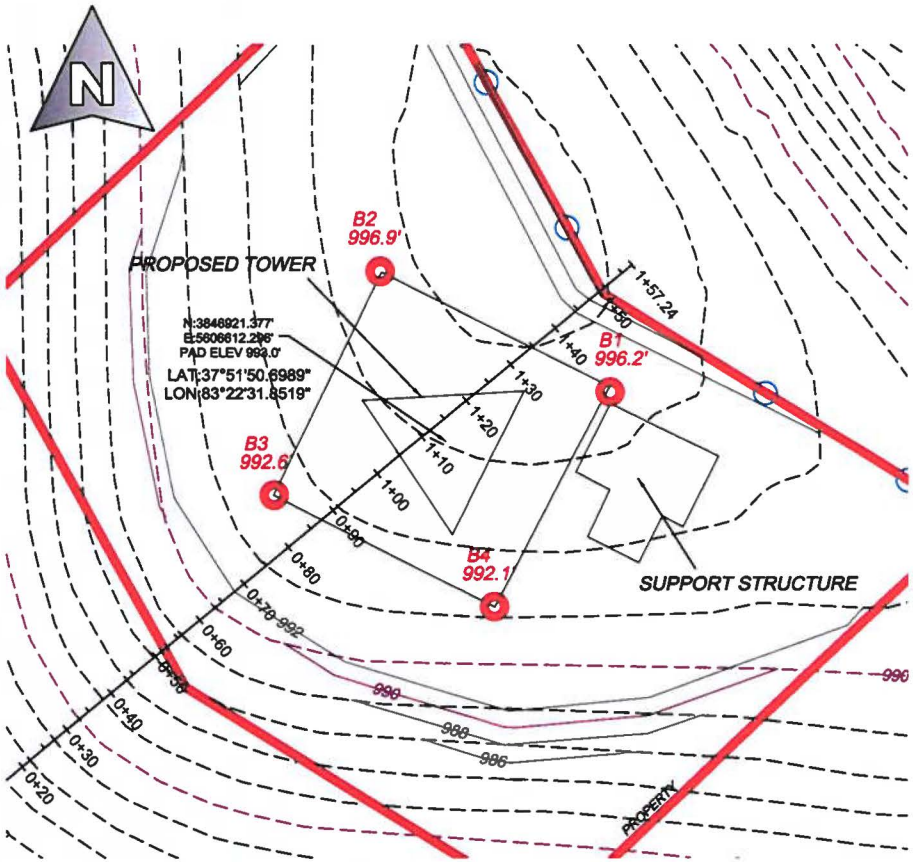
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

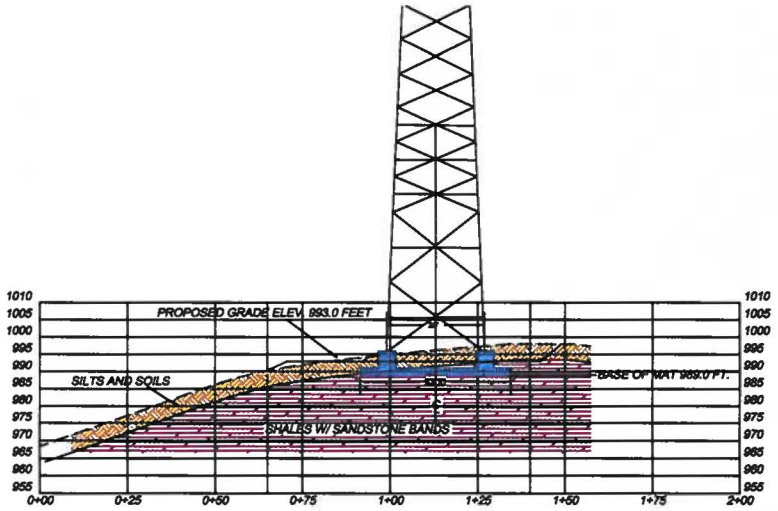
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/18/2019 at 1:54:57 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



PLAN VIEW
1" = 20'



SECTION
1" = 30'

East Kentucky Engineering, LLC
230 Swartz
Hazard, KY 41701
(606) 551-1050
Email: ekyeng@ekyeng.net

STATE OF KENTUCKY
RICHARD D. SMITH
19213
LICENSED
PROFESSIONAL ENGINEER
9/17/2019

0' 20' 40'

Drawn by:RDS	Date: 09/17/2019
Job #:165-0088	Scale:1" = AS NOTED
File Location:	

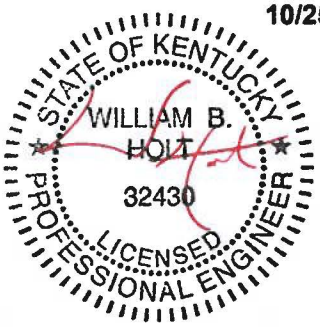
APPALACHIAN
WIRELESS
MIZE SITE
MORGAN COUNTY, KENTUCKY

World Tower
COMPANY, INC.

1213 Compressor Drive
P.O. Box 508
Mayfield, KY 42066
270-247-3642
FAX: 270-247-0909
E-mail: worldtower@worldtower.com
Web: www.worldtower.com

300' MODEL WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: MIZE
MORGAN COUNTY, KY
DESIGN PACKAGE

10/25/19

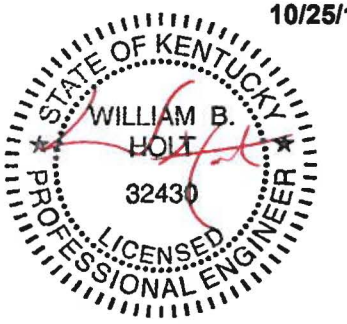


Fabrication, Installation, and Maintenance of TV, AM, FM, & Wireless Communications Towers

GENERAL NOTES

1. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISION OF THE AMERICAN WELDING SOCIETY AWS. D 1.1.
2. TOWER AND ALL FABRICATED ACCESSORIES ARE HOT-DIP GALVANIZED.
3. ALL BOLTS SHALL BE GALVANIZED ACCORDING TO THE STANDARD SPECIFICATION FOR ZINC COATING OF IRON AND STEEL HARDWARE ASTM A153.
4. LEG STEEL IS 50 KSI MIN YIELD SOLID ROUND OR PIPE AND BRACING STEEL IS 36 KSI MIN YIELD SOLID ROUND OR STRUCTURAL ANGLE.
5. ALL STRUCTURAL BOLTS ARE ASTM A325X, THREADS EXCLUDED FROM SHEAR PLANE.
6. TOWER SHOULD BE INSPECTED IN ACCORDANCE WITH TIA-222-G EVERY 5 YEARS.
7. TOWER INSPECTION SHOULD ONLY BE PERFORMED BY EXPERIENCED QUALIFIED PERSONNEL. FOR ASSISTANCE IN PROPER MAINTENANCE OF YOUR TOWER, CALL WORLD TOWER AT 270-247-3642.

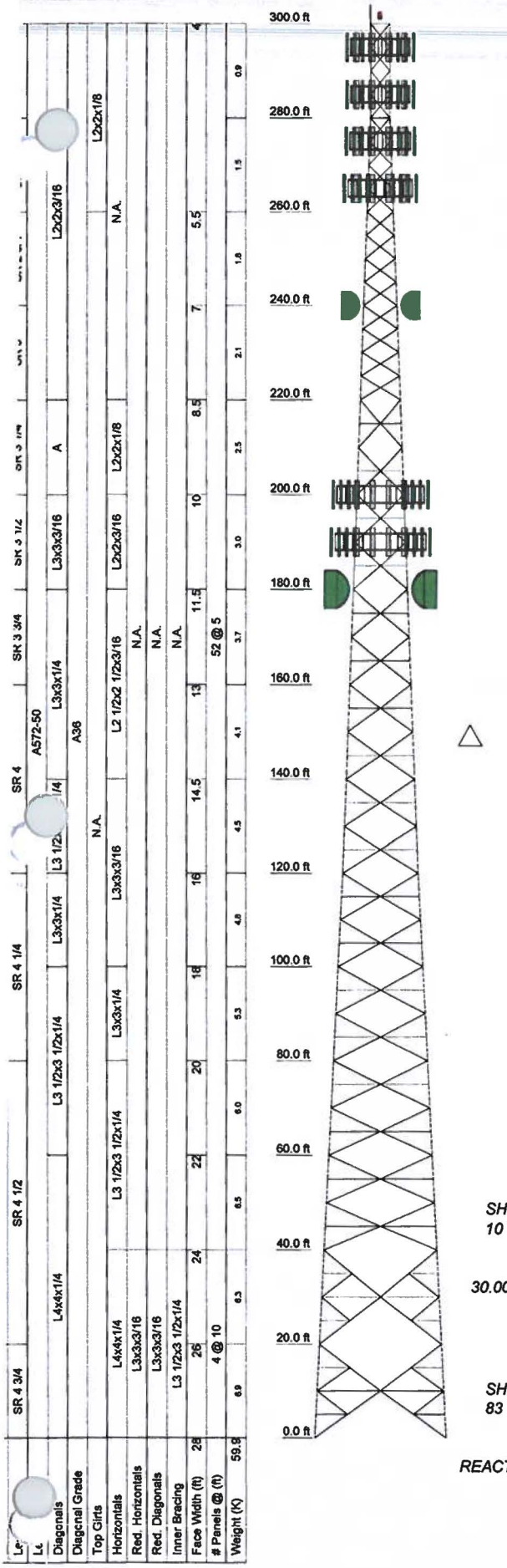
10/25/19



WORLD TOWER

TITLE: 300' MODEL WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: MIZE
MORGAN COUNTY, KY

SCALE	DWN. LKG	CKD.	DATE 10-23-19
FILE		DWG. NO.	Q191003N



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2 1/2x2 1/2x3/16		

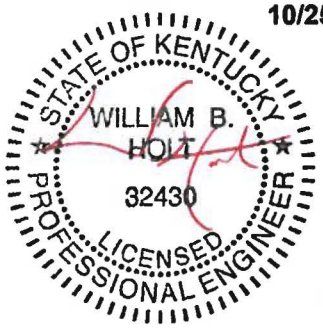
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Morgan County, Kentucky.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 106.00 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 30.00 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60.00 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 99.7%

10/25/19



ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 623 K
SHEAR: 53 K

UPLIFT: -532 K
SHEAR: 45 K

AXIAL 328 K
SHEAR 10 K *MOMENT 1909 kip-ft*
TORQUE 6 kip-ft
30.00 mph WIND - 0.75 in ICE

AXIAL 107 K
SHEAR 83 K *MOMENT 14246 kip-ft*
TORQUE 51 kip-ft
REACTIONS - 106.00 mph WIND

World Tower Company
1213 Compressor Drive
Mayfield, KY
Phone: (270) 247-3642

Job: *300' WSST Tower / Run Q191003*			
Project: *Mize*			
Client: Appalachian Wireless	Drawn by: WBH	App'd:	
Code: TIA-222-G	Date: 10/21/19	Scale: N	
Path:		Dwg No.	

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-ASO-25095-OE

Issued Date: 09/25/2019

Cindy D. McCarty
East Kentucky Network, LLC
101 Technology Trail
Ivel, KY 41642

**** 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 Mize
Location:	West Liberty, KY
Latitude:	37-51-50.70N NAD 83
Longitude:	83-22-31.85W
Heights:	994 feet site elevation (SE)
	310 feet above ground level (AGL)
	1304 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, 24-hr med-strobes - Chapters 4,6(MIWOL),&12.

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.

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 the construction reaches its greatest height (7460-2, Part 2)

The use of a 24-hour medium intensity flashing white light system in urban and rural areas often results in complaints.

This determination expires on 03/25/2021 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, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, 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 includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

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.

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, or angelique.eersteling@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASO-25095-OE.

Signature Control No: 414283658-418170253 (DNE)
Angelique Eersteling
Technician

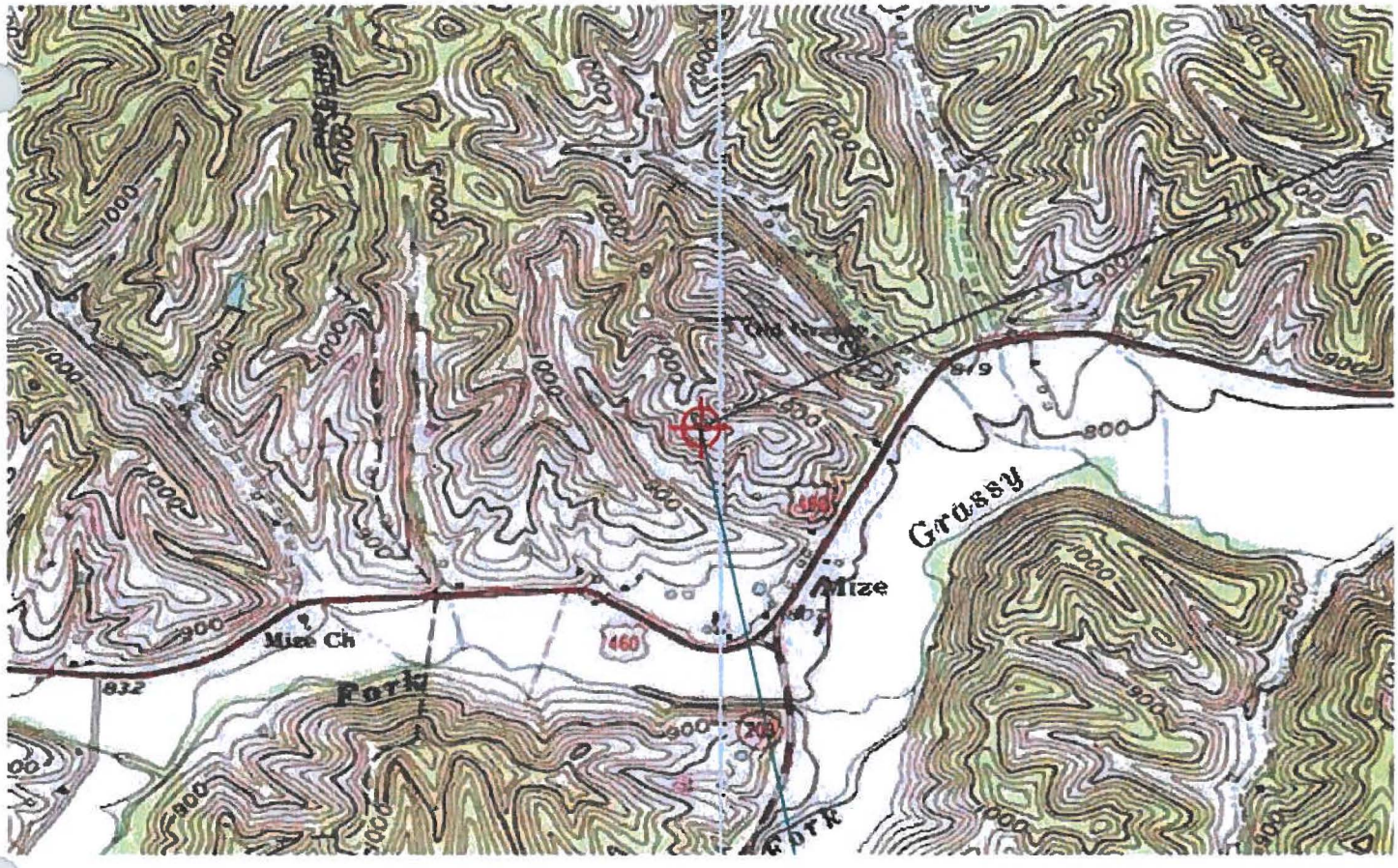
Attachment(s)
Frequency Data
Map(s)

cc: FCC

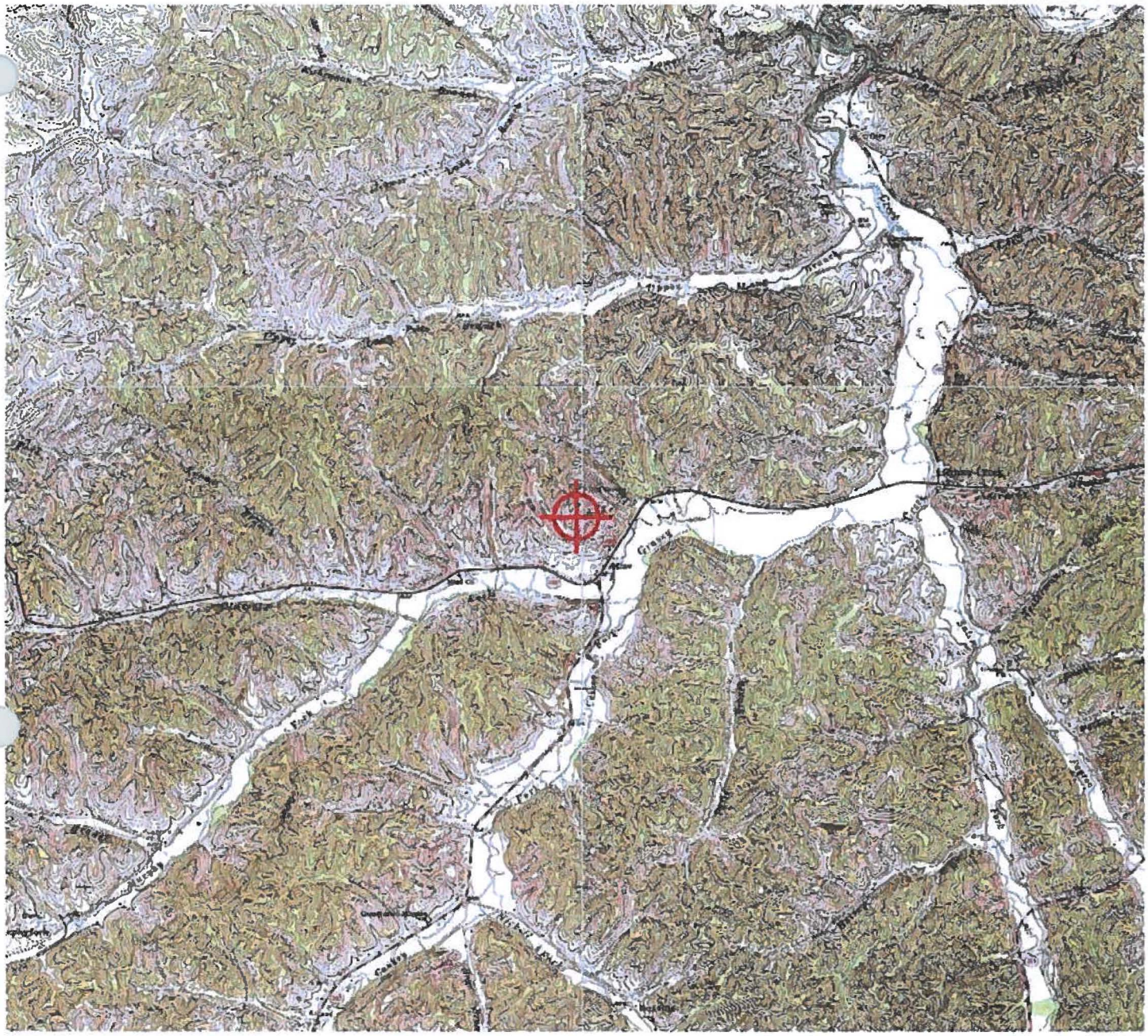
Frequency Data for ASN 2019-ASO-25095-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	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
929	932	MHz	3500	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
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Verified Map for ASN 2019-ASO-25095-OE



TOPO Map for ASN 2019-ASO-25095-OE



KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN
Governor

421 Buttermilk Pike
Covington, KY 41017
www.transportation.ky.gov
859-341-2700

October 24, 2019

APPROVAL OF APPLICATION

APPLICANT:
East KY Network LLC (Ivel KY)
East KY Network LLC (Ivel KY)
101 Technology Trail
Ivel, KY 41642

SUBJECT: AS–088-9I3–2019-098

STRUCTURE:	Antenna Tower
LOCATION:	West Liberty, KY
COORDINATES:	37° 51' 50.70" N / 83° 22' 31.85" W
HEIGHT:	310' AGL/1304'AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 310'AGL/ 1304'AMSL Antenna Tower near West Liberty, KY 37° 51' 50.70" N / 83° 22' 31.85" 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.

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

John Houlihan

John Houlihan
Administrator

MATTHEW BEVIN
Governor

KENTUCKY AIRPORT ZONING COMMISSION
421 Buttermilk Pike
Covington, KY 41017
www.transportation.ky.gov
859-341-2700

CONSTRUCTION/ALTERATION STATUS REPORT

October 24, 2019

AERONAUTICIAL STUDY NUMBER: AS-088-9I3–2019-098

East KY Network LLC (Ivel KY)
East KY Network LLC (Ivel KY)
101 Technology Trail
Ivel, KY 41642

This concerns the permit which was issued to you by the Kentucky Airport Zoning Commission on October 24, 2019. 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, 421 Buttermilk Pike, Covington, KY, 41017. 859-341-2700.

STRUCTURE:	Antenna Tower
LOCATION:	West Liberty, KY
COORDINATES:	37° 51' 50.70" N / 83° 22' 31.85" W
HEIGHT:	310' AGL /1304'AMSL

CONSTRUCTION/ALTERATION STATUS

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

2. Construction status is as follows:
   Structure reached its greatest height of _____ ft. AGL
   _____ ft. AMSL on _____ (date).

   Date construction was completed. _____

   Type of obstruction marking/painting. _____

   Type of obstruction lighting. _____

   As built coordinates. _____

   Miscellaneous Information. _____

   DATE _____

   SIGNATURE/TITLE_____

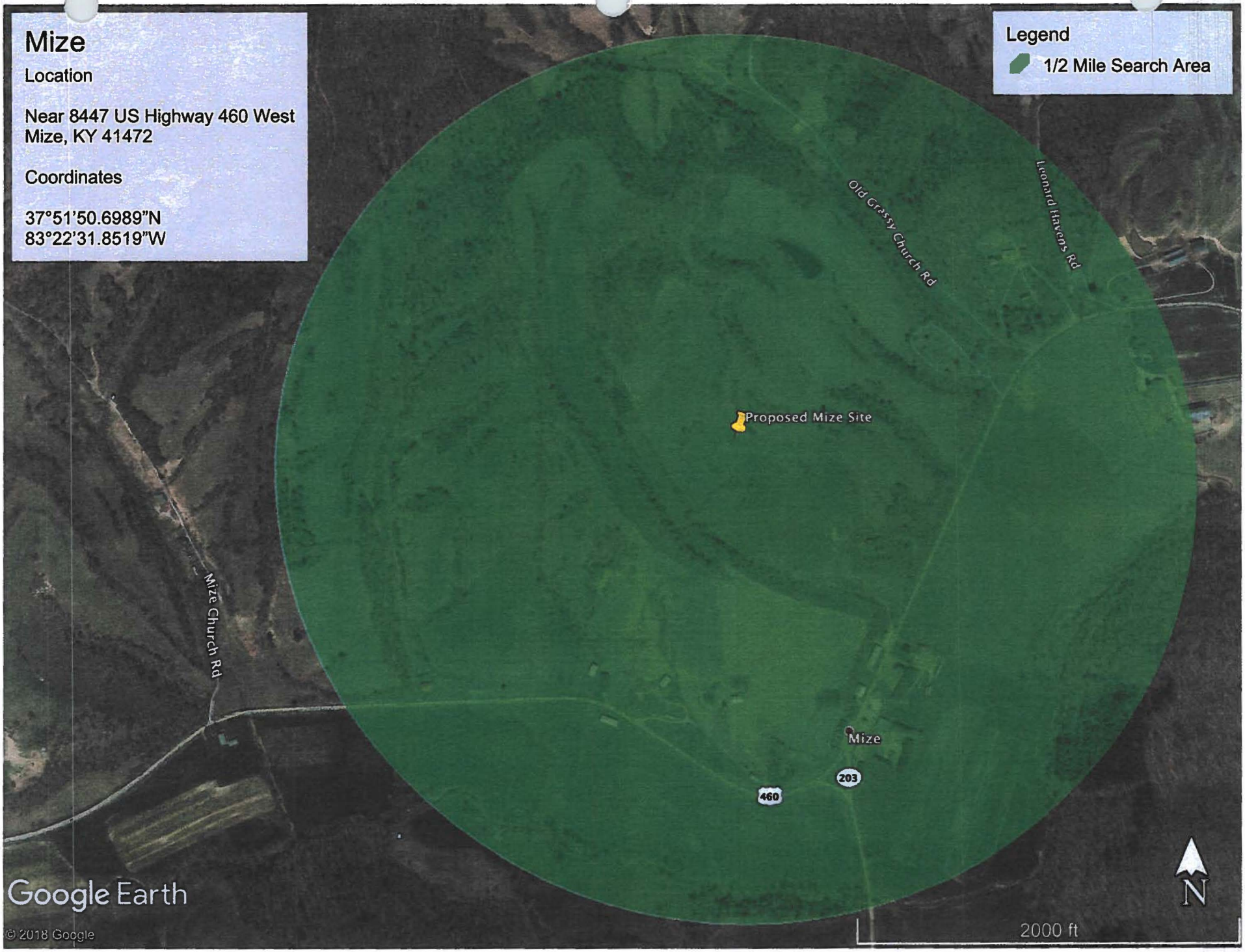
Driving Directions for Mize

1. Beginning at 261 Court Street, West Liberty, Kentucky, head west on Prestonsburg Street toward Bailey Lane and travel approximately 0.2 miles.

2. Turn left onto US 460 West and travel approximately 8.7 miles.

3. The Mize site access road is on the right.

Prepared By:
Daryl Bartley
Cell Site Compliance Agent
East Kentucky Network, LLC
d/b/a Appalachian Wireless
(606) 791-0310
dbartley@ekn.com


Mize
Location
Near 8447 US Highway 460 West
Mize, KY 41472
Coordinates
37°51'50.6989"N
83°22'31.8519"W
Legend
1/2 Mile Search Area
Old Grassy Church Rd
Leonard Havens Rd
Proposed Mize Site
Mize Church Rd
Mize
203
460
N
2000 ft
Google Earth
© 2018 Google

MEMORANDUM OF LEASE

THIS MEMORANDUM OF LEASE is made and entered into on this 26th day of July, 2019, with a commencement date of July 26, 2019 (the "**Commencement Date**"), by and between **THE OLDFIELD FAMILY LIMITED LIABILITY COMPANY**, a Kentucky limited liability company, with an address of 8447 US Highway 460 West, Mize, Kentucky 41352, hereinafter referred to as "**Lessors**", and **EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS**, a Kentucky limited liability company, with a mailing address of 101 Technology Trail, Ivel, Kentucky, 41642, hereinafter referred to as "**Lessee.**"

WITNESSETH

1. **Demised Premises.** For good and valuable consideration, Lessor leased to Lessee, and Lessee has leased from Lessor that certain tract of real estate located in Morgan County, Kentucky, and being a portion of the same land conveyed to Lessor by Deed dated December 31, 1997, and recorded on January 5, 1998, in Deed Book 177, Page 75, in the Morgan County Clerk's Office. Said property is more particularly described in the description **attached** hereto and made a part hereof as **Exhibit A** and the plat **attached** hereto and made a part hereof as **Exhibit B,** prepared by James W. Caudill, Licensed Professional Land Surveyor (hereinafter referred to as the "**Premises**"). The Lessor has also granted unto Lessee full and complete rights of ingress, egress and regress to and from the Premises over any property owned by Lessor and other associated rights for installation of utilities, maintenance, and other purposes.

2. **Term**. The initial term of the Lease is for a period of five (5) years from the Commencement Date set forth above.

3. **Renewals.** The Lease shall automatically renew for an additional seven (7) terms of five (5) years each, unless Lessee provides sixty (60) days written notice prior to the end of the current term that it does not wish to renew.

4. **Binding Effect.** All of the terms, conditions, and covenants hereof shall be binding and inure to the benefit of the parties and their respective heirs, representatives, successors, and assigns.

5. **Purpose.** This Memorandum of Lease is prepared solely for the purpose of recordation, and is not intended to, nor shall it be deemed to, modify any of the terms and conditions set forth in the Lease, nor to construe any of the rights, duties or responsibilities of Lessor and Lessee. In the event of any conflict between the terms and conditions of this Memorandum and the terms and conditions of the Lease, the terms and conditions of the Lease shall supersede and control.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

IN WITNESS WHEREOF, Lessor and Lessee have caused their names to be signed hereto, as of the date(s) indicated below.

LESSOR:

THE OLDFIELD FAMILY LIMITED LIABILITY COMPANY

By: Frank Oldfield
Its: Agent

COMMONWEALTH OF KENTUCKY
COUNTY OF Morgan

The foregoing instrument was acknowledged before me on this 26th day of July, 2019, by ~~July~~ Frank Oldfield, Agent of The Oldfield Family Limited Liability Company, Lessor.

Notary Public

My Commission Expires 2-6-2020

LESSEE:

EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS

W A Gillum
By: W.A. Gillum
Its: CEO/ General Manager

COMMONWEALTH OF KENTUCKY
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 30th day of July, 2019, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC d/b/a Appalachian Wireless, Lessee.

Notary Public

My Commission Expires 2-6-2020

RAINA L. HELTON NOTARY PUBLIC ID NO. 548406 MY COMMISSION EXPIRES 2-6-2020 STATE AT LARGE, KY

This instrument was prepared by:

Krystal Branham

Krystal Branham, Attorney
101 Technology Trail
Ivel, Kentucky 41642
(606) 477-2355

EXHIBIT
tabbies
A

LOT DESCRIPTION
Property of
The Oldfield Family, LLC
General Delivery
Mize, KY 41352
Off Highway 460
Near Mize in
Morgan County, Kentucky
July 23, 2019

A certain tract or parcel of land lying and being in Morgan County, Kentucky, and being a portion of the property conveyed to The Oldfield Family, LLC by Deed of Conveyance, dated December 31, 1997, from Frank D. Oldfield and Doris H. Oldfield, his wife, and recorded in Deed Book 177 Page 75 of the records of the Morgan County Court Clerk's Office. The property is further bounded and described as follows:

Lot 1A

Beginning at a set iron pin with cap marked LS#2259 on top of the ridge at a wire fence on the property line dividing The Oldfield Family, LLC (Deed Book 177 Page 75), and Kenneth Whitt (Deed Book 186 Page 57); thence with said fence and property line South 58 deg 13 min 56 sec East, a distance of 74.92 feet, to a set iron pin with cap marked LS#2259 at said fence; thence leaving said ridge and property line, and continuing down the hill, severing the property of The Oldfield Family, LLC (Deed Book 177 Page 75), South 46 deg 29 min 32 sec West, a distance of 99.98 feet to a set iron pin with cap marked LS#2259 on the side of the hill; thence with the side of the hill North 58 deg 13 min 17 sec West, a distance of 74.92 feet to a set iron pin with cap marked LS#2259 on the hillside; thence continuing around the side of the hill North 28 deg 51 min 43 sec West, a distance of 75.00 feet to a set iron pin with cap marked LS#2259; thence back up the hill North 46 deg 29 min 04 sec East, a distance of 100.02 feet to a set iron pin with cap marked LS#2259 at the wire fence on the dividing property line of The Oldfield Family, LLC (Deed Book 177 Page 75) and Kenneth Whitt (Deed Book 186 Page 57); thence continuing with the fence South 28 deg 49 min 37 sec East, a distance of 75.04 feet to the point of the beginning. Containing a calculated area of 14,501.50 square feet, or 0.333 acres.

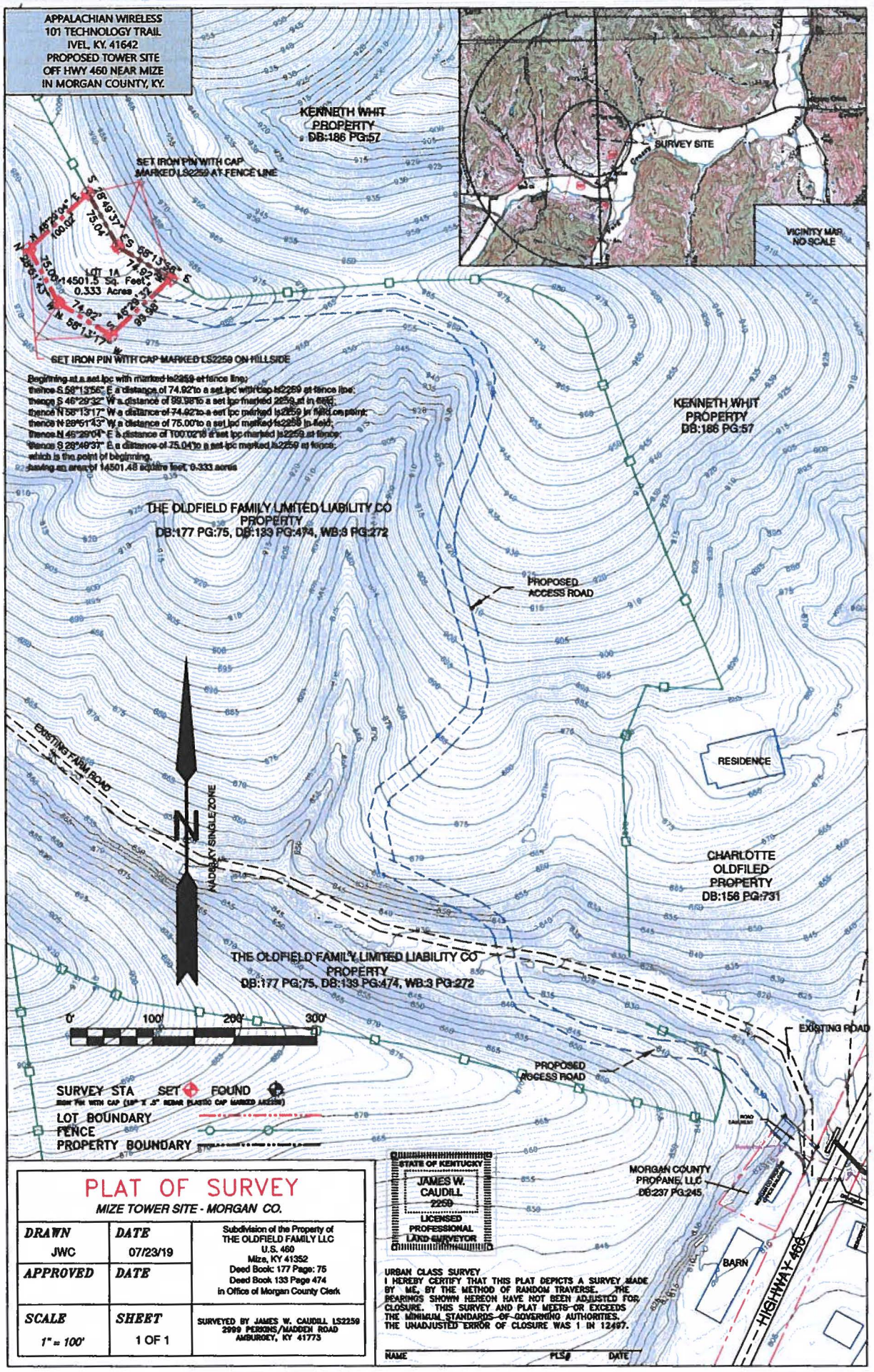
Also to be included is a right of way for a proposed access road from Highway 460 to Lot 1A. Also to be included is a right to install fiber and utility lines in or along said access road and/or such other location to be agreed upon by the parties.

Unless stated otherwise, any monument referred to herein as "set iron pin with cap" is a set ½" diameter rebar, at least eighteen inches (18") in length, with a plastic cap stamped "LS-2259". All bearings stated herein are referred to NAD83, KY single zone of the Kentucky state plane system.

This survey was performed on July 23, 2019 by James W. Caudill, a Kentucky Licensed Professional Land Surveyor No. 2259.

STATE OF KENTUCKY
JAMES W. CAUDILL
2259
LICENSED PROFESSIONAL LAND SURVEYOR

James W. Caudill, PLS #2259
7-23-19



PLAT OF SURVEY

MIZE TOWER SITE - MORGAN CO.

DRAWN JWC	**DATE** 07/23/19	Subdivision of the Property of THE OLDFIELD FAMILY LLC U.S. 460 Mize, KY 41352 Deed Book: 177 Page: 75 Deed Book 133 Page 474 in Office of Morgan County Clerk
APPROVED	**DATE**	
SCALE 1" = 100'	**SHEET** 1 OF 1	SURVEYED BY JAMES W. CAUDILL LS2259 2999 PERKINS/MADDEN ROAD AMBURGEY, KY 41773

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT ("Agreement") is made and entered into on this 26th day of July, 2019, with a commencement date of July 26, 2019, by and between **MORGAN COUNTY PROPANE, LLC**, a Kentucky limited liability company, with an address of 8447 US Highway 460 West, Mize, Kentucky 41352, hereinafter referred to as "**Grantor**," and **EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS**, a Kentucky limited liability company, with a mailing address of 101 Technology Trail, Ivel, Kentucky, 41642, hereinafter referred to as "**Grantee**."

WITNESSETH:

That for and in consideration of the monies and other considerations hereinafter set forth and subject to the terms and conditions set forth herein, Grantor does hereby verify and WARRANT GENERALLY that it has the right, title, and interest in and to the subject property and does hereby grant unto Grantee, its successors and assigns, to have and to hold for the term hereinafter set forth and subject to the Grantee's right to surrender or terminate this Agreement provided hereinafter, a nonexclusive easement and right to construct a road on, over, and across the property described in the description **attached** hereto and made a part hereof as **Exhibit A** and the plat **attached** hereto and made a part hereof as **Exhibit B**, prepared by James W. Caudill, Licensed Professional Land Surveyor, and located on that certain tract of real estate in Morgan County, Kentucky, conveyed to Grantor, by the deed recorded in the Morgan County Clerk's Office in Deed Book 237, Page 245 (the "**Premises**"). The purpose of this Easement is to allow Grantee to access certain property leased by Grantee from The Oldfield Family

Limited Liability Company, as evidenced by that certain Memorandum of Lease dated _____ and of record in the Morgan County Clerk's Office in _____ Book ___, Page ___ (the "**Lease**"). It is understood and agreed that either party has the right, but not the obligation, to perform maintenance on the roadway. The Grantor further grants to Grantee a right of way and easement to construct, maintain and operate telephone, fiber, and power transmission lines over any of the Grantor's property for service of a tower and related facilities that are to be located upon the property which is the subject of the Lease (the "**Leased Property**"). Grantor shall execute instruments granting any easements requested by any utility company to provide utility services to the Leased Property. Grantee shall have the right to trim or remove trees, limbs or underbrush which may interfere with its access road or power, fiber or telephone lines, wherever such road and lines are located.

This Agreement is made on the following terms and conditions:

1. TERM OF EASEMENT. The term of this Agreement shall extend until such time as the Lease (as may be amended, extended, renewed, or replaced from time to time) is no longer in force and effect and/or the Leased Property is abandoned by Grantee.

2. CONSIDERATION. In consideration for the easements, rights, and privileges conveyed to Grantee herein, Grantee shall pay Grantor a one-time payment of Five Hundred Dollars ($500.00).

3. INDEMNITY. Grantee agrees to indemnify and save harmless the Grantor from any and all liability if caused by any negligent or wrongful act of Grantee upon the Premises, specifically including, but not limited to any claim, loss, fine, penalty and costs (including reasonable attorney's fees) arising out of Grantee's violation of any

environmental laws or regulations. Grantee shall maintain and keep in full force and effect general liability and property damage insurance in an amount of at least One Million Dollars ($1,000,000.00).

4. NOTICES. All notices, demands, or other writings to be given, made or sent from 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 Grantor and Grantee, respectively, as follows:

Grantors:

Morgan County Propane, LLC
8447 US Hwy 460 W
Mize, KY 41352

Grantee:

Appalachian Wireless
Attn: Regulatory Compliance Department
101 Technology Trail
Ivel, KY 41642

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

5. MODIFICATION. This Agreement may be amended or modified only by a written instrument executed by both Grantor and Grantee.

6. GOVERNING LAW. Grantor and Grantee agree that this Agreement shall be construed and enforced in accordance with the laws of the Commonwealth of Kentucky.

7. 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, Grantor and Grantee have caused their names to be signed hereto, as of the day and year first above written.

GRANTOR:

MORGAN COUNTY PROPANE, LLC

By: Alan Oldfield
Its: Owner

COMMONWEALTH OF KENTUCKY
COUNTY OF Morgan

The foregoing instrument was acknowledged before me on this 26th day of July, 2019, by Alan Oldfield, Owner of Morgan County Propane, LLC, Grantor.

Notary Public

My Commission Expires 2-10-2020

GRANTEE:

EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS

By: W.A. Gillum
Its: CEO/ General Manager

COMMONWEALTH OF KENTUCKY
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 30th day of July, 2019, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC d/b/a Appalachian Wireless, Grantee.

Notary Public

My Commission Expires 2-6-2020

RANA L. HELTON NOTARY PUBLIC ID NO. 549406 MY COMMISSION EXPIRES 2-6-2020 KY STATE AT LARGE

This instrument was prepared by:

Krystal Branham

Krystal Branham, Attorney
101 Technology Trail
Ivel, Kentucky 41642
(606) 477-2355

EASEMENT DESCRIPTION
Property of
Morgan County Propane, LLC
Gen. Del. Mize, KY 41352
Off Highway 460 near Mize in
Morgan County, Kentucky
July 23, 2019

EXHIBIT
A

An access easement through a parcel of land lying and being in Morgan County, Kentucky, and being a portion of the property conveyed to Morgan County Propane, LLC, by Deed of Conveyance, dated December 31, 1997, from Frank Oldfield, and recorded in Deed Book 237 Page 245 of the records of the Morgan County Court Clerk's Office. The easement area is further bounded and described as follows:

Existing Easement

Beginning at a point in the right of way of Highway 460 and being a shared property corner between Morgan County Propane, LLC (Deed Book 237 Page 245), and The Oldfield Family, LLC (Deed Book 177 Page 75); thence continuing with the highway right of way South 25 deg 38 min 27 sec West, a distance of 21.03 feet to a point in said right of way and property line of Morgan County Propane, LLC; thence leaving the highway right of way North 46 deg 22 sec 39 min West, a distance of 13.79 feet to a point; thence North 06 deg 17 min 34 sec West, a distance of 31.06 feet to a point on the property line; thence with said property line S 46 deg 22 min 57 sec East 31.06 feet of the beginning. Containing a calculated area of 448.6 square feet, or 0.010 acres.

Proposed Easement

Beginning at a found iron pin with cap stamped "CS LS 2766" on the dividing property line between Morgan County Propane, LLC (Deed Book 237 Page 245) and The Oldfield Family, LLC (Deed Book 177 Page 75); thence with said property line South 46 deg 22 min 09 sec East, a distance of 23.76 feet to a point in said property line; thence leaving the line of Morgan County Propane South 06 deg 17 min 34 sec East, a distance of 31.06 feet to a point on the existing easement; thence continuing with line of existing easement South 46 deg 22 min 39 sec East, a distance of 13.79 feet to a point on the right of way of Highway 460; thence with said right of way South 25 deg 38 min 27 sec West, a distance of 16.79 feet to a set iron pin with cap marked LS#2259 on said right of way; thence leaving the right of way North 06 deg 17 min 09 sec West, a distance of 17.03 feet to a set iron pin with cap marked LS#2259 in gravel parking lot of Morgan County Propane, LLC; thence North 46 deg 22 min 26 sec West, a distance of 50.35 feet to a set iron pin with cap marked LS#2259 on hillside and property line of Morgan County Propane, LLC; thence with said property line North 36 deg 31 min 30 sec East, a distance of 25.20 feet to the point of the beginning. Containing a calculated area of 1,036.6 square feet, or 0.024 acres.

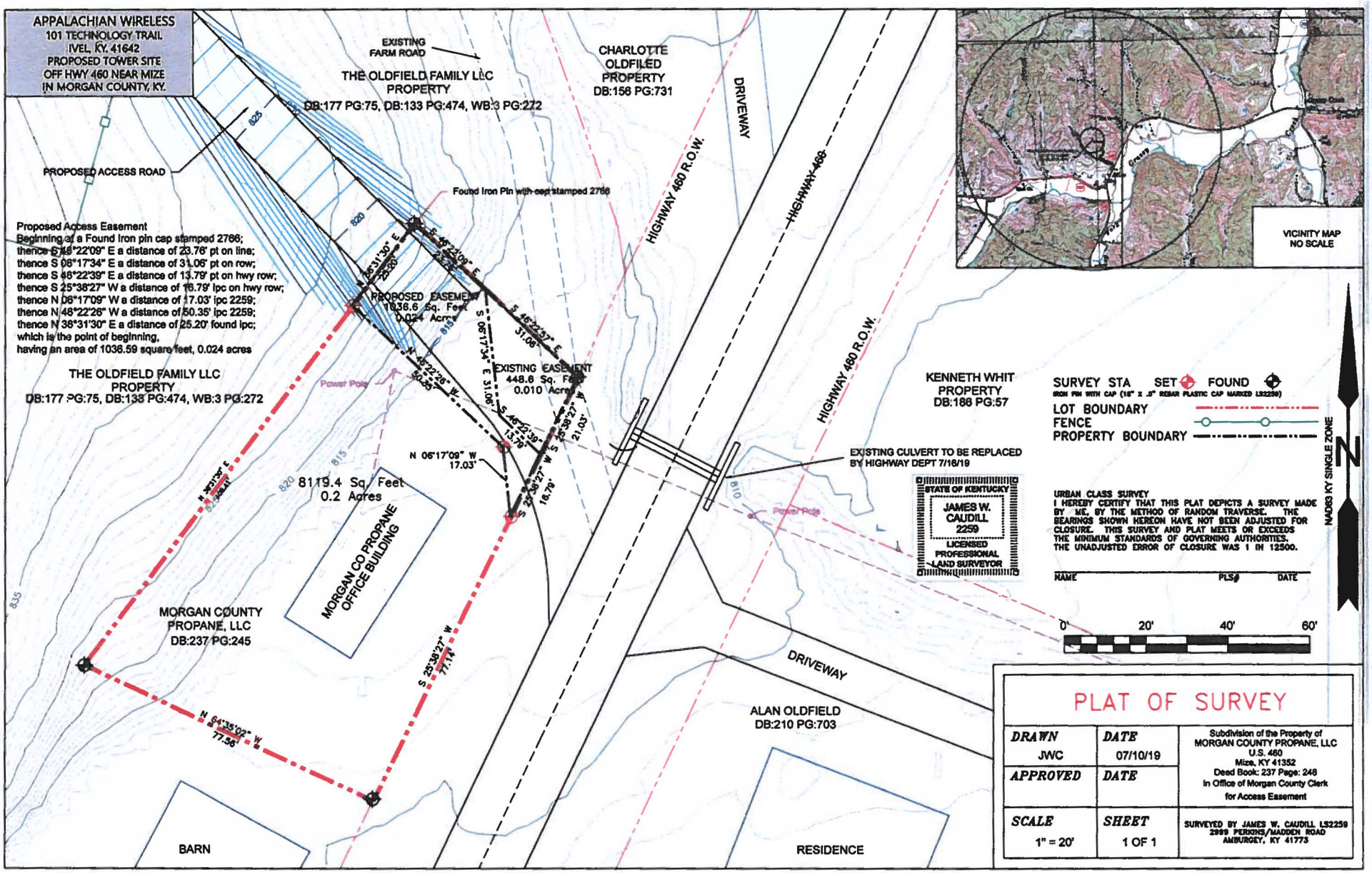
Also to be included is a right to install fiber and utility lines in or along said access road and/or such other location to be agreed upon by the parties.

Unless stated otherwise, any monument referred to herein as "set iron pin with cap" is a set ½" diameter rebar, at least eighteen inches (18") in length, with a plastic cap stamped "LS-2259". All bearings stated herein are referred to NAD83, KY single zone of the Kentucky state plane system.

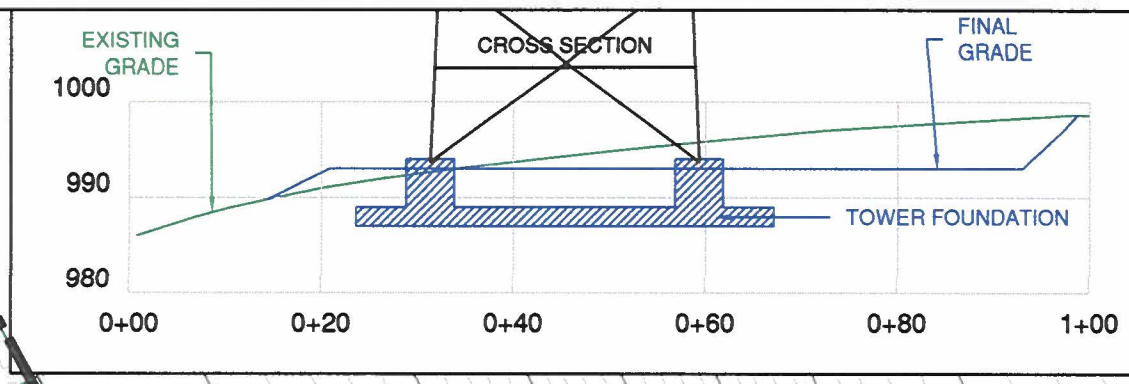
This survey was performed on July 23, 2019 by James W. Caudill, a Kentucky Licensed Professional Land Surveyor No. 2259.

STATE OF KENTUCKY
JAMES W. CAUDILL
2259
LICENSED PROFESSIONAL LAND SURVEYOR

James W. Caudill, PLS #2259


APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE
OFF HWY 460 NEAR MIZE
IN MORGAN COUNTY, KY.
EXISTING FARM ROAD
THE OLDFIELD FAMILY LLC PROPERTY
DB:177 PG:75, DB:133 PG:474, WB:3 PG:272
CHARLOTTE OLDFILED PROPERTY
DB:156 PG:731
DRIVEWAY
HIGHWAY 460 R.O.W.
HIGHWAY 460
PROPOSED ACCESS ROAD
Found Iron Pin with cap stamped 2766
Proposed Access Easement
Beginning at a Found iron pin cap stamped 2766;
thence S 46°22'09" E a distance of 23.76' pt on line;
thence S 06°17'34" E a distance of 31.06' pt on row;
thence S 46°22'39" E a distance of 13.79' pt on hwy row;
thence S 25°38'27" W a distance of 16.79' ipc on hwy row;
thence N 06°17'09" W a distance of 17.03' ipc 2259;
thence N 48°22'26" W a distance of 50.35' ipc 2259;
thence N 36°31'30" E a distance of 25.20' found ipc;
which is the point of beginning,
having an area of 1036.59 square feet, 0.024 acres
PROPOSED EASEMENT
1036.6 Sq. Feet
0.024 Acres
EXISTING EASEMENT
448.6 Sq. Feet
0.010 Acres
THE OLDFIELD FAMILY LLC PROPERTY
DB:177 PG:75, DB:133 PG:474, WB:3 PG:272
Power Pole
N 06°17'09" W 17.03'
8119.4 Sq. Feet
0.2 Acres
MORGAN CO PROPANE OFFICE BUILDING
MORGAN COUNTY PROPANE, LLC
DB:237 PG:245
S 25°38'27" W 77.14'
N 64°35'02" W 77.56'
BARN
KENNETH WHIT PROPERTY
DB:186 PG:57
EXISTING CULVERT TO BE REPLACED BY HIGHWAY DEPT 7/16/19
ALAN OLDFIELD
DB:210 PG:703
RESIDENCE
VICINITY MAP
NO SCALE
SURVEY STA SET FOUND
IRON PIN WITH CAP (16" X .5" REBAR PLASTIC CAP MARKED LS2259)
LOT BOUNDARY
FENCE
PROPERTY BOUNDARY
STATE OF KENTUCKY
JAMES W. CAUDILL
2259
LICENSED PROFESSIONAL LAND SURVEYOR
URBAN CLASS SURVEY
I HEREBY CERTIFY THAT THIS PLAT DEPICTS A SURVEY MADE BY ME, BY THE METHOD OF RANDOM TRAVERSE. THE BEARINGS SHOWN HEREON HAVE NOT BEEN ADJUSTED FOR CLOSURE. THIS SURVEY AND PLAT MEETS OR EXCEEDS THE MINIMUM STANDARDS OF GOVERNING AUTHORITIES. THE UNADJUSTED ERROR OF CLOSURE WAS 1 IN 12500.
NAME PLS# DATE
0' 20' 40' 60'
NAD83 KY SINGLE ZONE
N
PLAT OF SURVEY
DRAWN JWC
DATE 07/10/19
APPROVED
DATE
SCALE 1" = 20'
SHEET 1 OF 1
Subdivision of the Property of MORGAN COUNTY PROPANE, LLC
U.S. 460
Mize, KY 41352
Deed Book: 237 Page: 246
In Office of Morgan County Clerk
for Access Easement
SURVEYED BY JAMES W. CAUDILL LS2259
2999 PERKINS/MADDEN ROAD
AMBURGEY, KY 41773

APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY 41642
PROPOSED TOWER SITE
NEAR MIZE
IN MORGAN COUNTY, KY



THE OLDFIELD FAMILY LIMITED LIABILITY CO
PROPERTY
DB:177 PG:75, DB:133 PG:474, WB:3 PG:272

LINE	BEARING	DISTANCE
L1	S 01°30'23" W	61.99'
L2	S 23°44'38" E	92.61'
L3	S 24°36'30" E	89.54'
L4	S 30°46'34" E	109.59'
L5	N 33°30'56" W	87.72'
L6	N 12°33'35" W	84.44'
L7	N 10°03'18" W	54.53'
L8	N 02°51'56" E	77.30'
L9	N 05°16'42" E	66.17'
L10	N 13°45'09" E	63.24'
L11	N 18°29'21" E	71.37'

KENNETH WHIT
PROPERTY
DB:186 PG:57

100.02'
N 46°29'04" E

75.04'
S 28°49'37" E

PROPOSED TOWER LOT
14501.5 Sq. Feet
0.33 Acres

PROPOSED TOWER
LAT:37°51'50.6989"
LON:83°22'31.8519"
N:3846921.38
E:5606612.30
FOUNDATION EL: 994'

PROFILE

BUILDING
BUILDING PAD
74.92'
S 58°13'56" E

TOWER FOUNDATION

75.00'
N 28°51'43" W

CROSS SECTION

PROPOSED ACCESS ROAD

99.98'
S 46°29'32" W

74.92'
N 58°13'17" W

SEE FOUNDATION DRAWINGS FOR DETAILS.

-THE PROPOSED TOWER HAS BEEN LOCATED USING DUAL FREQUENCY GPS UNIT PROCESSED BY "OPUS"

-STATE PLANE COORDINATES NAD 83 KY SINGLE ZONE N:3846921.38, E:5606612.38, EL 996.28' EXISTING GRD TOP OF PROPOSED FOUNDATION EL 994'-TOP TOWER EL 1294'

-PRECISION: HORIZONTAL=0.30' VERTICAL=0.50'

-THIS SURVEY MEETS OBSTACLE ACCURACY CODE 2C.

-PROPERTY LINE INFORMATION TAKEN FROM DEEDS

"I certify that the latitude 37° 51' 50.6989"N and longitude 83° 22' 31.8519"W are within +/- 50 feet horizontally; and the site elevation 994.0 ft. MSL, is within +/- 20 feet vertically. With a structure height of 300 ft AGL, the overall height is 1294 ft, AMSL. The horizontal datum (coordinates) is in terms of the North Americation Datum 0f 1983 (NAD 83). The vertical datum heights are in terms of the North American Vertical Datum of 1988, and are determined to the nearest foot."

SIGNED: James W. Caudill PE #12305 LS #2259 8/02/19

STATE OF KENTUCKY
James W. Caudill
12305
LICENSED
PROFESSIONAL ENGINEER

STATE OF KENTUCKY
JAMES W.
CAUDILL
2259
LICENSED
PROFESSIONAL
LAND SURVEYOR

THE OLDFIELD FAMILY LIMITED LIABILITY CO
PROPERTY
DB:177 PG:75, DB:133 PG:474, WB:3 PG:272

NAD83 - KY SINGLE ZONE

N

0' 20' 40' 60'

LEGEND
SURVEY STA SET FOUND
IRON PIN WITH CAP (18" X .5" REBAR PLASTIC CAP MARKED LS2259)
BOUNDARY LINE
ACCESS ROAD
OLD WIRE FENCE

PROPOSED SITE PLAN AND STRUCTURE LOCATION MIZE TOWER APPALACHIAN WIRELESS		
DRAWN *JWC*	DATE *08/02/19*	*PROPERTY OF OLDFIELD FAMILY TRUST, LLC. OFF HIGHWAY 460 NEAR COMMUNITY OF MIZE IN MORGAN COUNTY, KY*
APPROVED	DATE	
SCALE *1" = 20'*	SHEET *2 OF 3*	PROJECT NO. *MIZE/MIZE2C_20*

Filing

CONTAINS

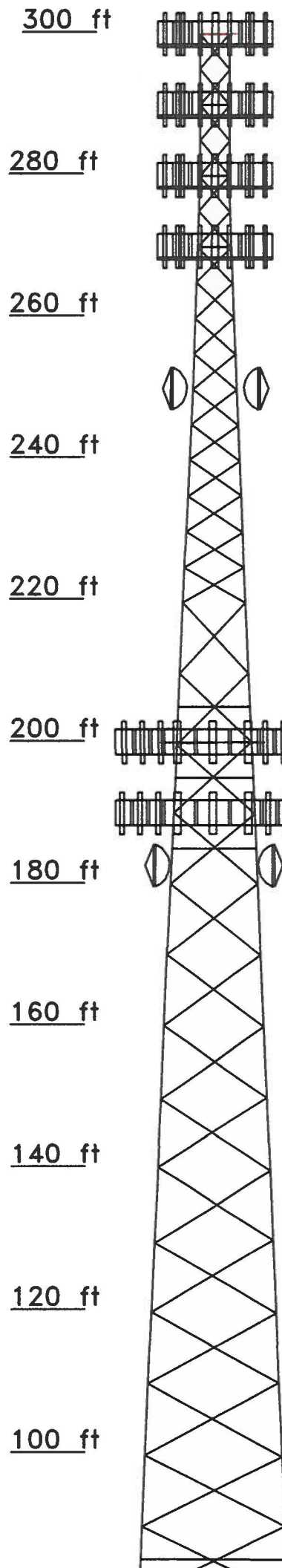
LARGE OR OVERSIZED

MAP(S)

RECEIVED ON:
(11/15/2019)

APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY 41642
PROPOSED TOWER SITE
NEAR MIZE
IN MORGAN COUNTY, KY

PROPOSED SITE PLAN AND STRUCTURE LOCATION MIZE TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 08/02/19	PROPERTY OF OLDFIELD FAMILY TRUST, LLC. OFF HIGHWAY 460 NEAR COMMUNITY OF MIZE IN MORGAN COUNTY, KY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 3 OF 3	PROJECT NO. MIZE/MIZEPRO_20



PROFILE WITH TOWER

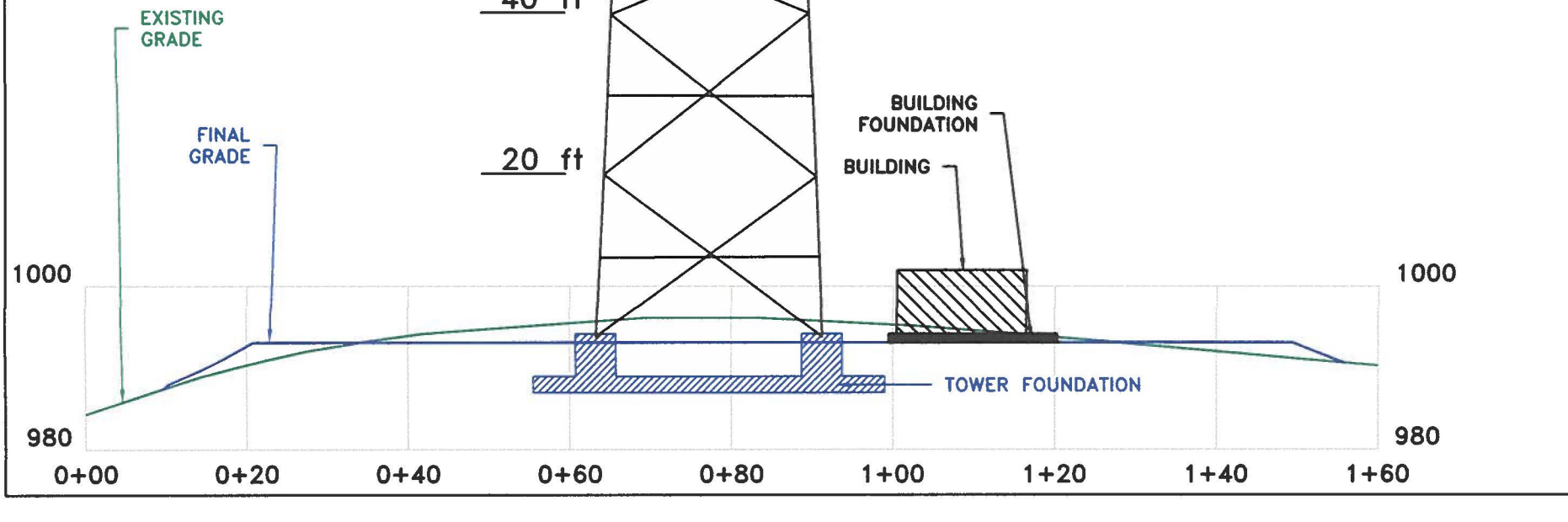
THIS IS A VERTICAL PROFILE SKETCH OF THE TOWER INDICATING THE PROPOSED ANTENNA AND DISH ELEVATIONS. NO DESIGN CRITERIA WAS CONSIDERED IN THE PREPARATION OF THIS DRAWING.

James W. Caudill — 12305 — 08/02/19
JAMES W. CAUDILL — PE #. — DATE

STATE OF KENTUCKY
James W. Caudill
12305
LICENSED
PROFESSIONAL ENGINEER

PRELIMINARY DESIGN
NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS

08/02/19
SCALE 1" = 20'
0' 20' 40' 60'



Utility ID	Utility Name	Utility Type	Class	City	State
4107900	365 Wireless, LLC	Cellular	D	Atlanta	GA
4109300	Access Point, Inc.	Cellular	D	Cary	NC
4108300	Air Voice Wireless, LLC	Cellular	A	Bloomfield Hill	MI
4110650	Alliant Technologies of KY, L.L.C.	Cellular	C	Morristown	NJ
44451184	Alltel Communications, LLC	Cellular	A	Basking Ridge	NJ
4110850	AltaWorx, LLC	Cellular	C	Fairhope	AL
4107800	American Broadband and Telecommunications Company	Cellular	C	Toledo	OH
4108650	AmeriMex Communications Corp.	Cellular	D	Dunedin	FL
4105100	AmeriVision Communications, Inc. d/b/a Affinity 4	Cellular	D	Virginia Beach	VA
4110700	Andrew David Balholm dba Norcell	Cellular	C	Clayton	WA
4108600	BCN Telecom, Inc.	Cellular	D	Morristown	NJ
4110550	Blue Casa Mobile, LLC	Cellular	D	Santa Barbara	CA
4108750	Blue Jay Wireless, LLC	Cellular	C	Carrollton	TX
4111050	BlueBird Communications, LLC	Cellular	C	New York	NY
4202300	Bluegrass Wireless, LLC	Cellular	A	Elizabethtown	KY
4107600	Boomerang Wireless, LLC	Cellular	B	Hiawatha	IA
4105500	BullsEye Telecom, Inc.	Cellular	D	Southfield	MI
4110050	CampusSims, Inc.	Cellular	D	Boston	MA
4100700	Cellco Partnership dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
4106600	Cintex Wireless, LLC	Cellular	D	Rockville	MD
4111000	ComApp Technologies LLC	Cellular	C	Melrose	MA
4101900	Consumer Cellular, Incorporated	Cellular	A	Portland	OR
4106400	Credo Mobile, Inc.	Cellular	A	San Francisco	CA
4108850	Cricket Wireless, LLC	Cellular	A	San Antonio	TX
4001900	CTC Communications Corp. d/b/a EarthLink Business I	Cellular	D	Grand Rapids	MI
10640	Cumberland Cellular Partnership	Cellular	A	Elizabethtown	KY
4101000	East Kentucky Network, LLC dba Appalachian Wireless	Cellular	A	Ivel	KY
4002300	Easy Telephone Service Company dba Easy Wireless	Cellular	D	Ocala	FL
4109500	Enhanced Communications Group, LLC	Cellular	D	Bartlesville	OK
4110450	Excellus Communications, LLC	Cellular	D	Chattanooga	TN
4105900	Flash Wireless, LLC	Cellular	C	Concord	NC
4104800	France Telecom Corporate Solutions L.L.C.	Cellular	D	Oak Hill	VA
4109350	Global Connection Inc. of America	Cellular	D	Norcross	GA
4102200	Globalstar USA, LLC	Cellular	B	Covington	LA
4109600	Google North America Inc.	Cellular	A	Mountain View	CA
33350363	Granite Telecommunications, LLC	Cellular	D	Quincy	MA
4106000	GreatCall, Inc. d/b/a Jitterbug	Cellular	A	San Diego	CA
10630	GTE Wireless of the Midwest dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
4110600	Horizon River Technologies, LLC	Cellular	C	Atlanta	GA
4103100	i-Wireless, LLC	Cellular	A	Newport	KY
4109800	IM Telecom, LLC d/b/a Infiniti Mobile	Cellular	D	Tulsa	OK
22215360	KDDI America, Inc.	Cellular	D	New York	NY
10872	Kentucky RSA #1 Partnership	Cellular	A	Basking Ridge	NJ
10680	Kentucky RSA #3 Cellular General	Cellular	A	Elizabethtown	KY
10681	Kentucky RSA #4 Cellular General	Cellular	A	Elizabethtown	KY
4109750	Konatel, Inc. dba telecom.mobi	Cellular	D	Johnstown	PA
4110900	Lunar Labs, Inc.	Cellular	C	Detroit	MI
4107300	Lycamobile USA, Inc.	Cellular	D	Newark	NJ
4108800	MetroPCS Michigan, LLC	Cellular	A	Bellevue	WA
4109650	Mitel Cloud Services, Inc.	Cellular	D	Mesa	AZ
4202400	New Cingular Wireless PCS, LLC dba AT&T Mobility, PCS	Cellular	A	San Antonio	TX
10900	New Par dba Verizon Wireless	Cellular	A	Basking Ridge	NJ
4000800	Nextel West Corporation	Cellular	D	Overland Park	KS
4001300	NPCR, Inc. dba Nextel Partners	Cellular	D	Overland Park	KS

4001800	OnStar, LLC	Cellular	A	Detroit	MI
4110750	Onvoy Spectrum, LLC	Cellular	C	Plymouth	MN
4109050	Patriot Mobile LLC	Cellular	D	Southlake	TX
4110250	Plintron Technologies USA LLC	Cellular	D	Bellevue	WA
33351182	PNG Telecommunications, Inc. dba PowerNet Global Communications	Cellular	D	Cincinnati	OH
4202100	Powertel/Memphis, Inc. dba T-Mobile	Cellular	A	Bellevue	WA
4107700	Puretalk Holdings, LLC	Cellular	A	Covington	GA
4106700	Q Link Wireless, LLC	Cellular	A	Dania	FL
4108700	Ready Wireless, LLC	Cellular	B	Hiawatha	IA
4110500	Republic Wireless, Inc.	Cellular	D	Raleigh	NC
4111100	ROK Mobile, Inc.	Cellular	C	Culver City	CA
4106200	Rural Cellular Corporation	Cellular	A	Basking Ridge	NJ
4108550	Sage Telecom Communications, LLC dba TruConnect	Cellular	D	Los Angeles	CA
4109150	SelecTel, Inc. d/b/a SelecTel Wireless	Cellular	D	Freemont	NE
4106300	SI Wireless, LLC	Cellular	A	Carbondale	IL
4110150	Spectrotel, Inc. d/b/a Touch Base Communications	Cellular	D	Neptune	NJ
4200100	Sprint Spectrum, L.P.	Cellular	A	Atlanta	GA
4200500	SprintCom, Inc.	Cellular	A	Atlanta	GA
4109550	Stream Communications, LLC	Cellular	D	Dallas	TX
4110200	T C Telephone LLC d/b/a Horizon Cellular	Cellular	D	Red Bluff	CA
4202200	T-Mobile Central, LLC dba T-Mobile	Cellular	A	Bellevue	WA
4002500	TAG Mobile, LLC	Cellular	D	Carrollton	TX
4109700	Telecom Management, Inc. dba Pioneer Telephone	Cellular	D	South Portland	ME
4107200	Telefonica USA, Inc.	Cellular	D	Miami	FL
4108900	Telrite Corporation dba Life Wireless	Cellular	D	Covington	GA
4108450	Tempo Telecom, LLC	Cellular	D	Kansas City	MO
4109950	The People's Operator USA, LLC	Cellular	D	New York	NY
4109000	Ting, Inc.	Cellular	A	Toronto	ON
4110400	Torch Wireless Corp.	Cellular	D	Jacksonville	FL
4103300	Touchtone Communications, Inc.	Cellular	D	Whippany	NJ
4104200	TracFone Wireless, Inc.	Cellular	D	Miami	FL
4002000	Truphone, Inc.	Cellular	D	Durham	NC
4110300	UVNV, Inc.	Cellular	D	Costa Mesa	CA
4105700	Virgin Mobile USA, L.P.	Cellular	A	Atlanta	GA
4110800	Visible Service LLC	Cellular	C	Lone Tree	CO
4106500	WiMacTel, Inc.	Cellular	D	Palo Alto	CA
4110950	Wing Tel Inc.	Cellular	C	New York	NY
4109900	Wireless Telecom Cooperative, Inc. dba theWirelessFreeway	Cellular	D	Louisville	KY

S & S Tower Services
120 Branden Dr.
Mousie, KY 41839

Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, KY 40602-0615

Dear Commissioners:

The Construction Manager for the proposed communications facility will be Dave Strausbaugh. His contact information is (606) 497-6730 or dstrausbaugh010@gmail.com.

Dave has been in the industry completing civil construction and constructing towers since 1991. He has worked for S&S Tower Services since 2015 as Construction Manager overseeing the construction of telecommunications towers and sites.

Thank you,

Chris Strausbaugh
Owner
S&S Tower Services
(606) 497-5798