COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:

THE APPLICATION OF EAST KENTUCKY NETWORK LIMITED LIABILITY COMPANY FOR THE ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT A TOWER IN MORGAN COUNTY, KENTUCKY.	)))))	CASE NO. 2015-00386

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, East Kentucky Network, LLC pursuant to KRS 278.020 Subsection 1 and 807 KAR 5:001, is seeking the Commission's approval to construct a 300 foot self-supporting tower on a tract of land located at 260 Hog Branch, West Liberty, Morgan County, Kentucky (37°'55'07.80"N 83°02'40.45"W). A map and detailed directions to the site can be found in Exhibit 7.

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. They were 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, April 7, 2016, 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.

Environmental Resources Management Consulting Company was employed to determine soil and rock types and to ascertain the distance to solid bedrock. The geotechnical report is enclosed as Exhibit 4.

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

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

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

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

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

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

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

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

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

The proposed construction site is on a very rugged mountaintop some feet from the nearest structure.

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

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

Exhibit 11 contains a vertical sketch of the tower supplied by Mark D. Sanders, Kentucky registered professional engineer.

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

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

SUBMITTED BY: Lynn Haney DATE: 4/7/2016
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W A Gillum DATE: 4/6/2016
W.A. Gillum, General Manager

ATTORNEY: Cindy McCarty DATE: 4/8/2016
Hon. Cindy McCarty, 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

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

Mailing Address:

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

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

ULS License

Cellular License - 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	08/30/2011	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 Gerald Robinette, Manager

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

Contact

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

P:(703)584-8665
F:(703)584-8695
E:pgist@fcclaw.com

Ownership and Qualifications

Radio Service 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.

EXHIBIT II: LIST OF PROPERTY OWNERS:

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

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

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

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

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

LIST OF PROPERTY OWNERS

Michael and Marie Hill
149 Hog Branch
West Liberty, KY 41472

Raymond and Patricia Williams
5989 Hwy 589
West Liberty, KY 41472

Wilson Fyffe
611 KY RT 469
Red Bush, KY 41219

William Robbins
543 Jasper Road
Piketon, OH 45661

Travis Cantrell
10158 Hwy 437
West Liberty, KY 41472

Ralph and Oriana Ball
P.O. Box 91
Crockett, KY 41413

Barry S. Smith
6601 Dearknolls
Huber Heights, OH 45424

EAST KENTUCKY NETWORK
101 TECHNOLOGY TRAIL
IV[illegible] 41642
PH[illegible] (606) 874-7550
FAX: (606) 874-7551

EAST KENTUCKY NETWORK

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

April 7, 2016

Michael and Marie Hill
149 Hog Branch
West Liberty, KY 41472

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00386)

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 at 260 Hog Branch, West Liberty, Morgan County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2015-00386 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
Regulatory Compliance Director
Enclosure 1

EAST KENTUCKY NETWORK
101 TECHNOLOGY TRAIL
IV[illegible] 41642
PH (606) 874-7550
FAX (606) 874-7551

EAST KENTUCKY NETWORK

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

April 7, 2016

Raymond and Patricia Williams
5989 Hwy 589
West Liberty, KY 41472

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Sincerely,

Lynn Haney

Lynn Haney
Regulatory Compliance Director
Enclosure 1

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101 TECHNOLOGY TRAIL
IVEL, KY 41642
P: (606) 874-7550
FAX: (606) 874-7551

EAST KENTUCKY NETWORK

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

April 7, 2016

Wilson Fyffe
611 KY RT 469
Red Bush, KY 41219

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00386)

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Sincerely,

Lynn Haney

Lynn Haney
Regulatory Compliance Director
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EAST KENTUCKY NETWORK

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

April 7, 2016

William Robbins
543 Jasper Road
Piketon, OH 45661

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00386)

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VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

April 7, 2016

Travis Cantrell
10158 Hwy 437
West Liberty, KY 41472

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Lynn Haney
Regulatory Compliance Director
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EAST KENTUCKY NETWORK

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

April 7, 2016

Ralph and Oriana Ball
P.O. Box 91
Crockett, KY 41413

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00386)

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Lynn Haney

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EAST KENTUCKY NETWORK

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

April 7, 2016

Barry S. Smith
6601 Dearknolls
Huber Heights, KY 45424

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00386)

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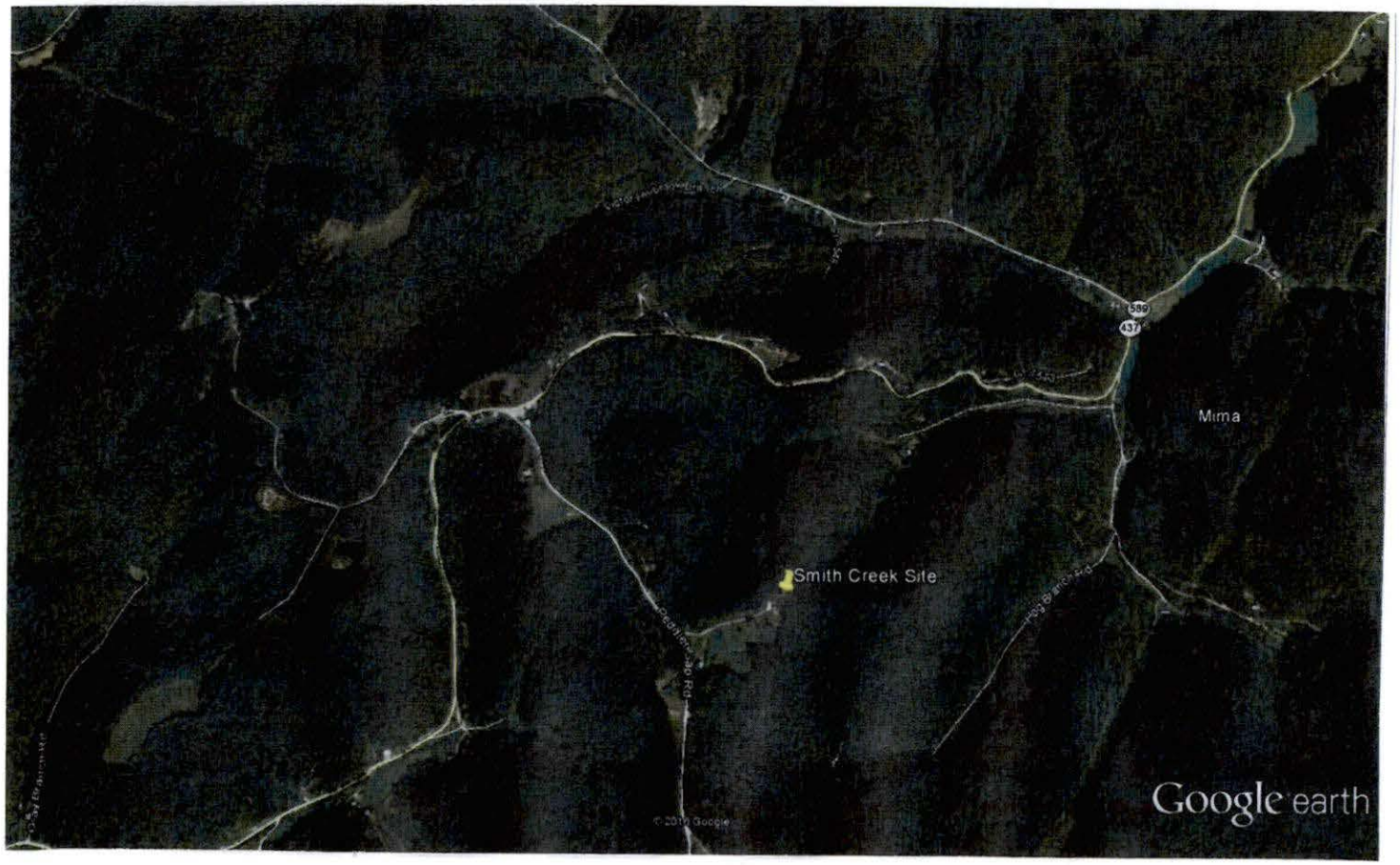
Sincerely,

Lynn Haney

Lynn Haney
Regulatory Compliance Director
Enclosure 1

Appalachian Wireless Location Map



Site Name	Location	GPS Location
Smith Creek Site	260 Hog Br. West Liberty, KY.	N 37 55 07.80 W 83 02 40.4538

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:**	March 31, 2016
Re:	PUBLIC NOTICE ADVERTISEMENT	**Pages:**	1

Please place the following Public Notice Advertisement in The Licking Valley Courier to be ran on April 7, 2016.

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2015-00386)

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 at 206 Hog Branch, West Liberty, 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. 2015-00386.

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

EAST KENTUCKY NETWORK
101 TECHNOLOGY TRAIL
IVEL, KY 41642
PH: (606) 874-7550
FAX: (606) 874-7551

EAST KENTUCKY NETWORK

VIA: U.S. CERTIFIED MAIL

April 7, 2016

Stanley Franklin, Judge Executive
450 Prestonsburg Street
West Liberty, KY 41472

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00386)

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 at 260 Hog Branch, West Liberty, 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. 2015-00386 in your correspondence.

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Sincerely,

Lynn Haney

Lynn Haney
Regulatory Compliance Director
Enclosure

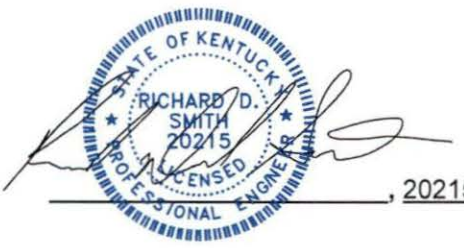
Appalachian Wireless Location Map

Site Name	Location	GPS Location
Smith Creek Site	260 Hog Br. West Liberty, KY.	N 37 55 07.80 W 83 02 40.4538

APPALACHIAN WIRELESS
Geotechnical Investigation on the Smith Creek Tower Site Morgan County, Kentucky ERMC² Project No. 165-000-0021

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

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



_____, 20215. February 22nd, 2016

EXECUTIVE SUMMARY

- A geotechnical investigation was performed on the Smith Creek Site, located near Mima, in Morgan County, Kentucky. This site is not readily accessible. No base elevation for the tower was provided therefore we have estimated the base of tower to be approximately 1170.0 ft. A location map is shown in Figure 1 of this report. One trench was evaluated and visual inspections were used to determine the lithology and type of materials immediately above and below the proposed tower site. The following geotechnical considerations were identified:
- This area is forested. The site has not been previously disturbed. Sandy soil and soft clays were encountered to a depth of 5.6 ft. A gray shale unit 2.2 ft. thick was exposed under the soils. A small coal seam approximately 0.5 ft. thick was immediately below the shale. Then a brown sandstone unit was exposed with a thickness of approximately 14.9 ft. Below this was a gray shale a minimum of 5.5 thick at which point trenching was terminated. We recommend placing the base of the tower foundation in the sandstone unit.
- The bearing capacities of this sandstone unit is estimated to be **6 tsf**.
- The 2012 International Building Code seismic site classification for this site is B.
- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We therefore recommend that ERMC^2 be retained to monitor this portion of the work.

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

1. INTRODUCTION

Environmental Resources Management Consulting Company (ERMC^2) was retained by Mr. Marty Thacker of Appalachian Wireless to prepare a geotechnical engineering report for the proposed tower site located near Mima, in Morgan County, Kentucky. A site location map is shown in Figure No. 1.

Trenching and test pits were excavated with assistance from T & H contractors using a small excavator. Visual inspections and surveyed elevations were used to determine the lithology and type of materials immediately below the proposed tower site. The purpose of these services is to provide information and geotechnical engineering recommendations relative to subsurface conditions, earthwork, seismic considerations, groundwater conditions and foundation design.

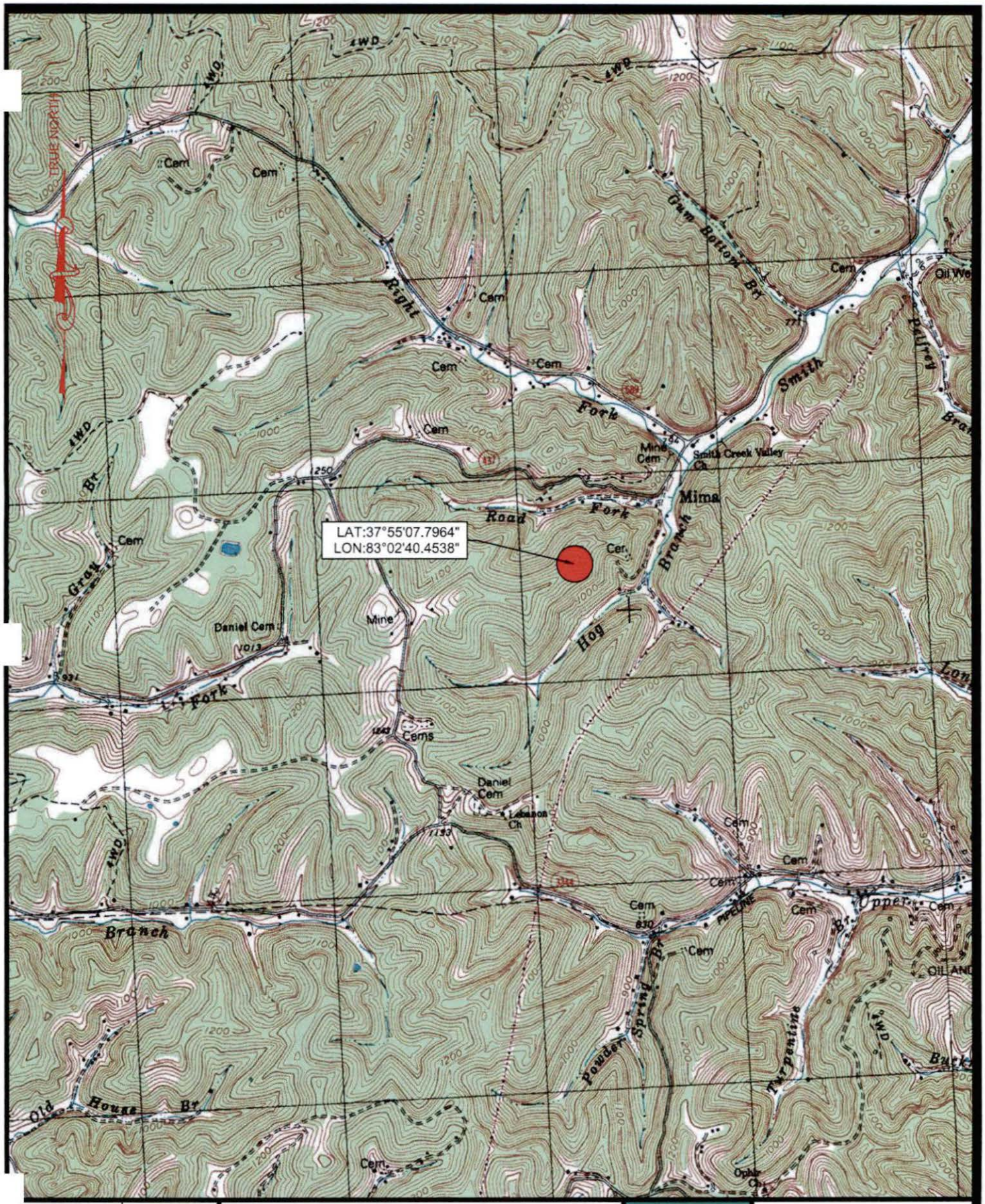
2.0 PROJECT DESCRIPTION

The proposed communication facility will consist of a self-supporting tower of undetermined height and ancillary support areas. We estimate the construction area to be approximately 40 ft. x 40 ft. Based upon information provided, we estimate the structural loads will be similar to the following conditions:

TABLE NO. 1

CONDITION	LOAD
Total Shear	40 Kips
Axial Load	50 Kips

We anticipate that overturning will govern the structural design. If the loadings are significantly different than these expected values, ERMC^2 should be notified to re-evaluate the recommendations provided in this report.



Drawn:	Date: 2/22/16
Job:	Scale: 1"=2000'
Drawing: USGS SITE LOCATION MAP	

SMITH CREEK TOWER SITE

APPALACHIAN WIRELESS

USGS SITE LOCATION MAP

FIGURE NO. 1

ErMC²

921 Beasley Street, Suite 145
Lexington, KY 40509
(859)381-1000
engineering@ermc2.us

3.0 SITE DESCRIPTION & HISTORICAL MINING

3.1 GENERAL INFORMATION

The site location is near the peak of an undisturbed ridge in Morgan County, Kentucky. The current surface elevation is approximately 1181 ft. Research on the historical mining was conducted by obtaining previous mine license maps from the "Kentucky Mine Mapping Information System" (KMMIS). Other sources, photographs, were also used to try to evaluate historic mining.

3.2 SURFACE MINING

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

3.3 UNDERGROUND MINING

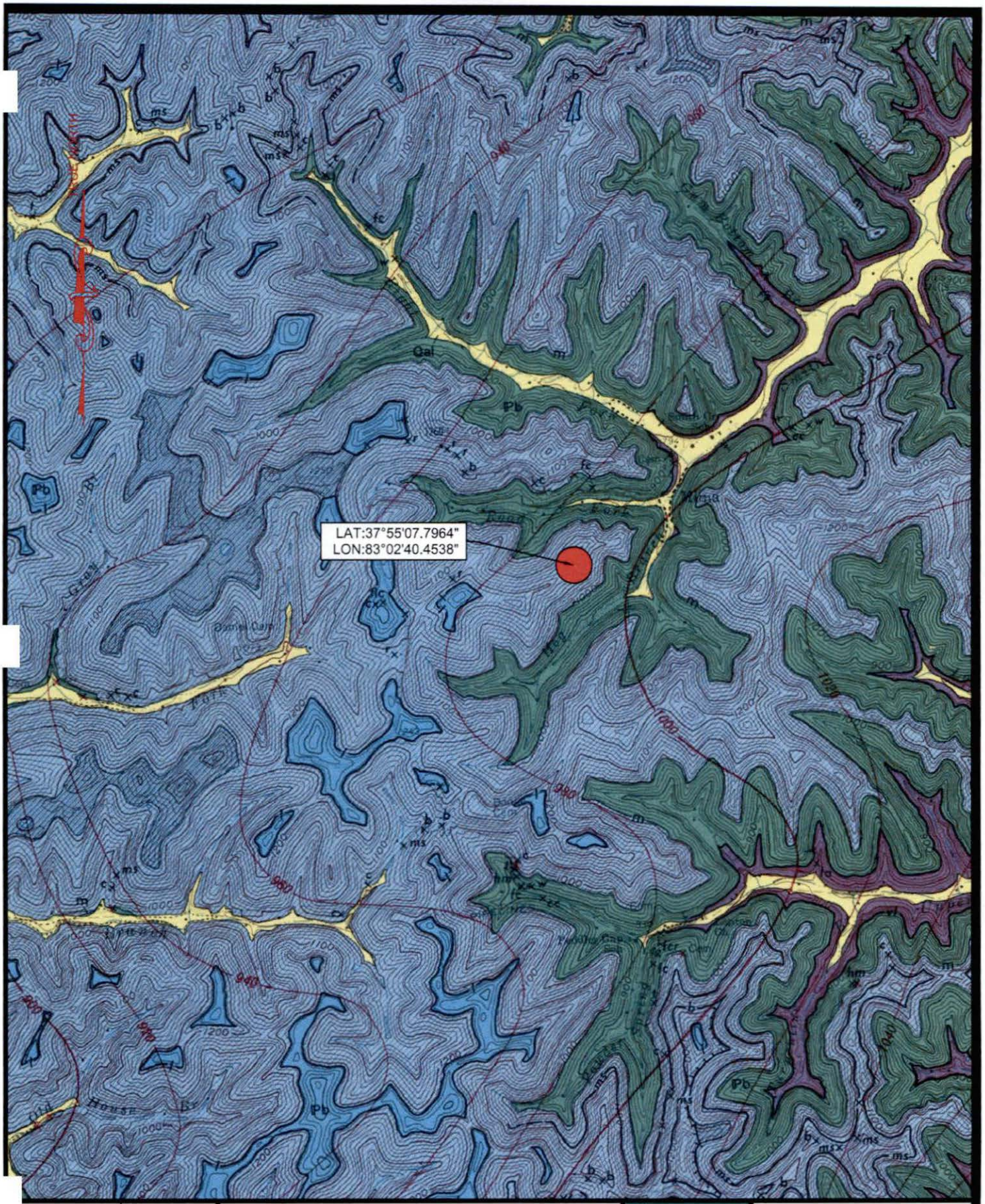
ErMC^2 reviewed available historical mine maps from the Kentucky Division of Mine Safety, Kentucky Mine Mapping Information System ("KMMIS"). No mines were found to be proposed in the vicinity in the review of the historical mine maps at KMMIS. Our research found no underground mining activity.

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

4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

The proposed site is located on an undisturbed ridge line in Morgan County, Kentucky. The proposed site lies within the Dingus Quad and is located west of Mima. The site is in a wooded area and is not readily accessible by conventional exploratory equipment. An estimated pad location was determined based upon the information provided. A survey stake was found on this site for the tower location. It is possible that this stake may have been disturbed prior to our site visit. No foundation dimensions were provided and we have estimated a 40 x 40 footer for the purpose of this report.



Drawn:	Date: 2/22/16
Job:	Scale: 1"=2000'
Drawing: GQ SITE LOCATION MAP	

SMITH CREEK TOWER SITE

APPALACHIAN WIRELESS

GQ SITE LOCATION MAP

ErMC²

921 Beasley Street, Suite 145
Lexington, KY 40509
(859)381-1000
engineering@ermc2.us

4.2 TRENCHING AND FIELD OBSERVATIONS

This investigation was conducted with assistance from T & H Contracting with a small track excavator. One trench was evaluated and visual inspections of rock outcrop formations at this site were used to determine the lithology and type of materials immediately below the proposed tower site. A trench approximately 75 ft. in length was taken perpendicular to the property line through the proposed tower site. The following soils and rock properties were found.

TABLE NO. 2

Depth	Base Elevation	Strata
0.0	1180.0	Surface
0.0 – 5.6	1174.4	Gray Shale
5.6 – 6.1	1173.9	Coal Seam
6.1 - 21.0	1159.0	Brown Sandstone
21.0 – 26.6	1153.4	Gray Shale

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

4.3 GROUNDWATER

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

4.4 SEISMIC SITE CLASSIFICATION

Based on the encountered soil conditions at the project site, the site classification was determined to be "Site Class B Rock" per the Kentucky Building Code. In addition, a S_{DS} coefficient of 0.119g was calculated, and a S_{D1} coefficient of 0.054g was also calculated for design based on the aforementioned building code.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 GENERAL

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

5.2 FOUNDATIONS

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

The surface elevation of the proposed tower site has been estimated to be approximately 1180 ft. Approximately 5.6 ft. of sandy soil and soft clays are present at this site. Below this is a thin layer gray shale, a small coal seam with a sandstone unit 14.9 ft. below it. A gray shale lies below the sandstone. .

5.3 SHALLOW FOUNDATIONS

We recommend a single spread footer foundation on competent rock. Based upon the field investigation, the base of the tower foundation should be placed into the brown sandstone at an elevation of approximately 1170 ft. **This will provide a minimum bearing capacity of 6 tsf.** It is furthermore recommended that the slabs-on-grade be supported on 4 to 6-inch layer of relatively clean granular material such as sand and gravel or crushed stone. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Proper drainage must be incorporated into this granular layer to preclude future wet areas in the finished slab-on-grade. However, all topsoil and/or other deleterious materials encountered during site preparation must be removed and replaced with 2000 psi concrete. Provided that a minimum of 4 inches of granular material is placed below the new slab-on-grade, a modulus of subgrade reaction (k30) of 100 lbs/cu. in. can be used for design of the slabs.

6.0 WARRANTY

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

While the services of ERMC^2 are a valuable and integral part of the design and construction teams, we do not warrant, guarantee, or insure the quality or completeness of services provided by other members of those teams, the quality, completeness, or satisfactory performance of construction plans and specifications which we have not prepared, nor the ultimate performance of building site materials.

6.1 SUBSURFACE EXPLORATION

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

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

6.2 LABORATORY AND FIELD TESTS

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

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

6.3 ANALYSIS AND RECOMMENDATIONS

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

Our engineering report recommendations are based primarily on data from test borings made at the locations shown on 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 Smith Creek Site 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 own conclusions regarding specific construction techniques and methods chosen. ERMC^2 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 mean the Owner designated design engineer.

1.2.4 Contractor - In these specifications the word "Contractor" shall mean the firm or corporation undertaking the execution of any work under the terms of these specifications.

1.2.5 Approved - In these specifications the word "approved" shall refer to the approval of the Engineer or his designated representative.

1.2.6 As Directed - In these specifications the words "as directed" shall refer to the directions to the Contractor from the Owner or his designated representative.

2.0 GENERAL CONDITIONS

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

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

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

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

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

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

II - ENGINEERED FILL BENEATH STRUCTURES

CLEARING AND GRADING SPECIFICATIONS

1.0 GENERAL CONDITIONS

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

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

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

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

2.0 SUBSURFACE CONDITIONS

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

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

3.0 SITE PREPARATION

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

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

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

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

4.0 FORMATION OF FILL AREAS

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

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

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

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

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

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

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

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

5.0 SLOPE RATIO AND STORM WATER RUN-OFF

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

6.0 GRADING

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

7.0 COMPACTING

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

8.0 TESTING AND INSPECTION SERVICES

Testing and inspection services will be provided by the Owner.

III GUIDELINES FOR EXCAVATIONS AND TRENCHES

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

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

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

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

2. Access and egress ramps must be designed by a "competent person" and structural ramps used for equipment must be designed by a "competent person" with qualified knowledge in structural design. In addition:
   - Ramps must be secured to prevent displacement;
   - Ramps used in lieu of steps must have cleats to prevent slipping; and
   - Trenching excavations four feet or greater in depth must have a stairway, ladder, ramps or other safe means to egress with lateral travel no more than 25 feet.

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 (at all times while performing work in the confined space) a separate life line attached to a harness. The line must be attended by someone above while work is being performed. The worker must check for hazardous atmospheric conditions prior to entry.

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 effect 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, waterstops, 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 so as 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 insure that the concrete may be effectively compacted into horizontal layers not exceeding 12 inches in thickness with minimum lateral movements.

D. Depositing of Concrete: Depositing of concrete shall:

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 so as 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 so as to be free from voids, pockets or honeycombing. Particular care shall be taken to provide impermeability.

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

F. Monolithic Pours: Proper delivery of concrete shall be the Contractor's responsibility in order to make a mono-lithic pour without delays and changes of cold joints.

9.0 CURING

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

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

10.0 CONCRETE FINISHES

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

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

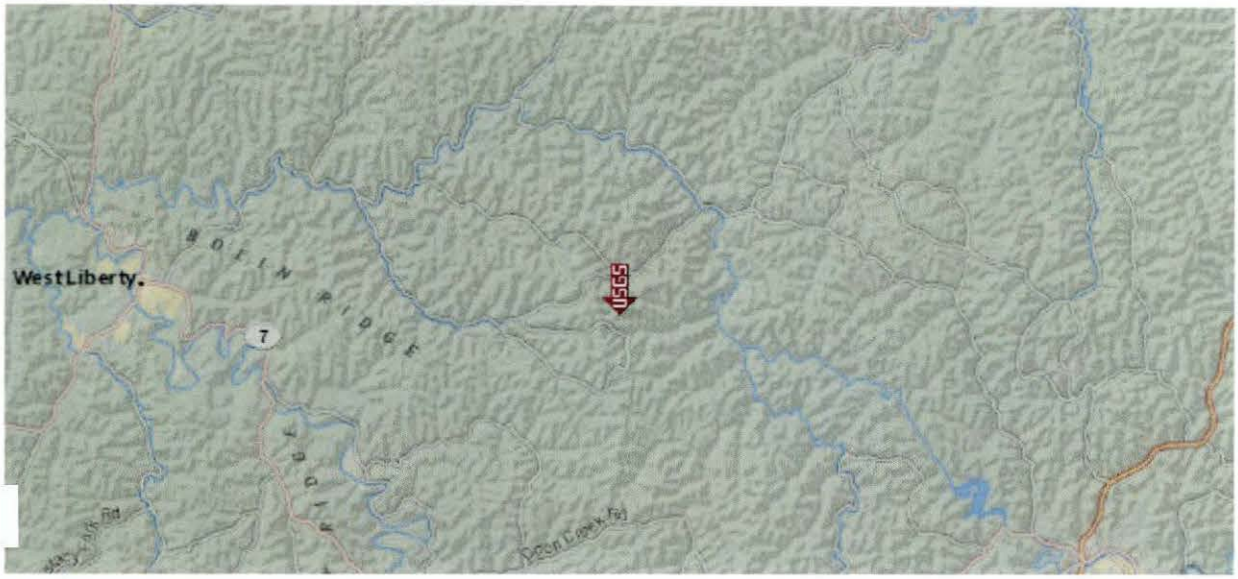
All exposed surfaces shall have deflects corrected, protrusions removed, and holes filled.

APPENDIX A MAPS

USGS Design Maps Summary Report

User-Specified Input

Report Title	Smith Creek Wed February 10, 2016 20:11:22 UTC
Building Code Reference Document	2012 International Building Code (which utilizes USGS hazard data available in 2008)
Site Coordinates	37.91883°N, 83.04457°W
Site Soil Classification	Site Class B – "Rock"
Risk Category	IV (e.g. essential facilities)

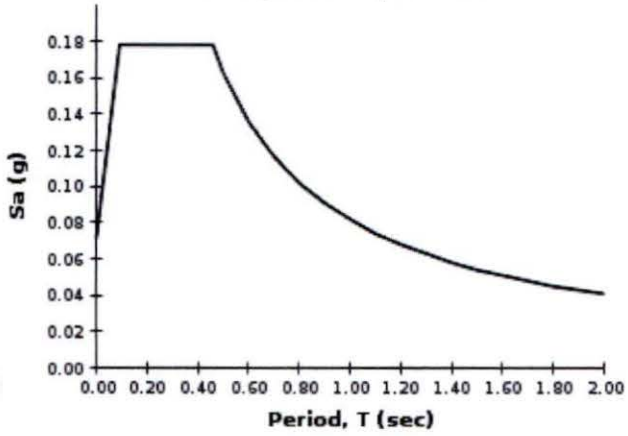


USGS-Provided Output

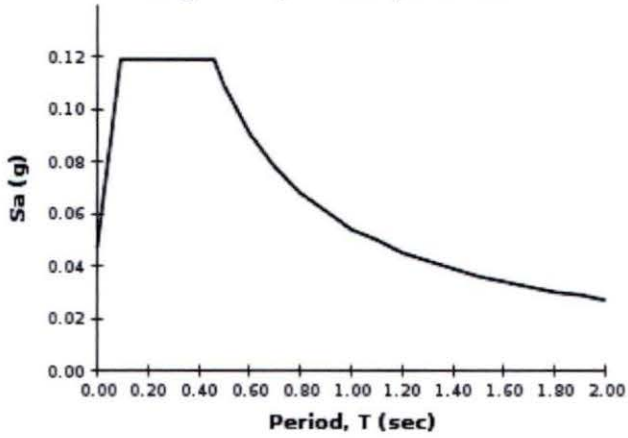
S_S =	0.178 g	S_{MS} =	0.178 g	S_{DS} =	0.119 g
S_1 =	0.082 g	S_{M1} =	0.082 g	S_{D1} =	0.054 g

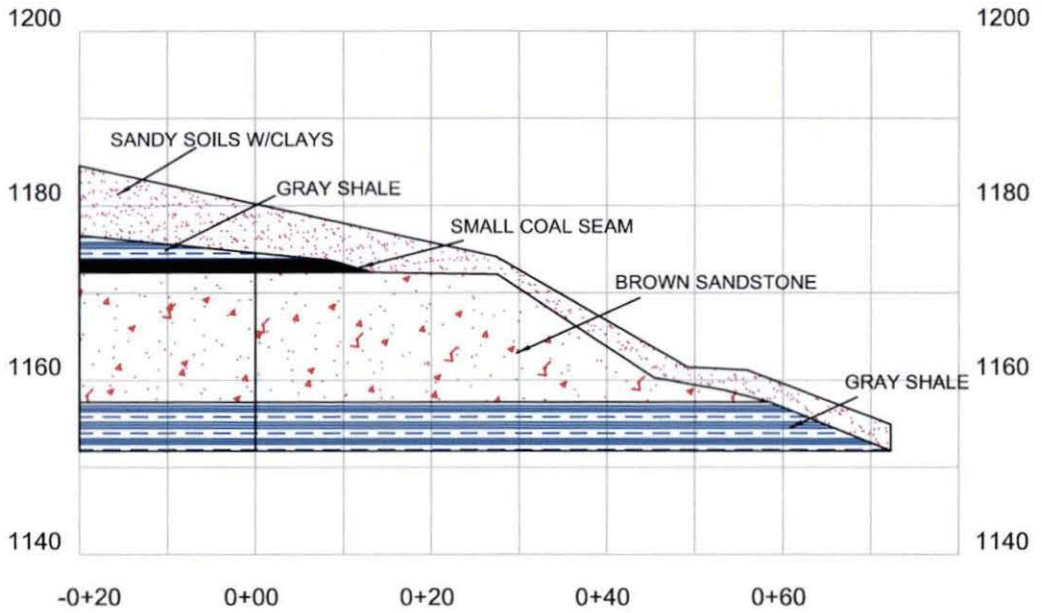
For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.

MCE_R Response Spectrum



Design Response Spectrum





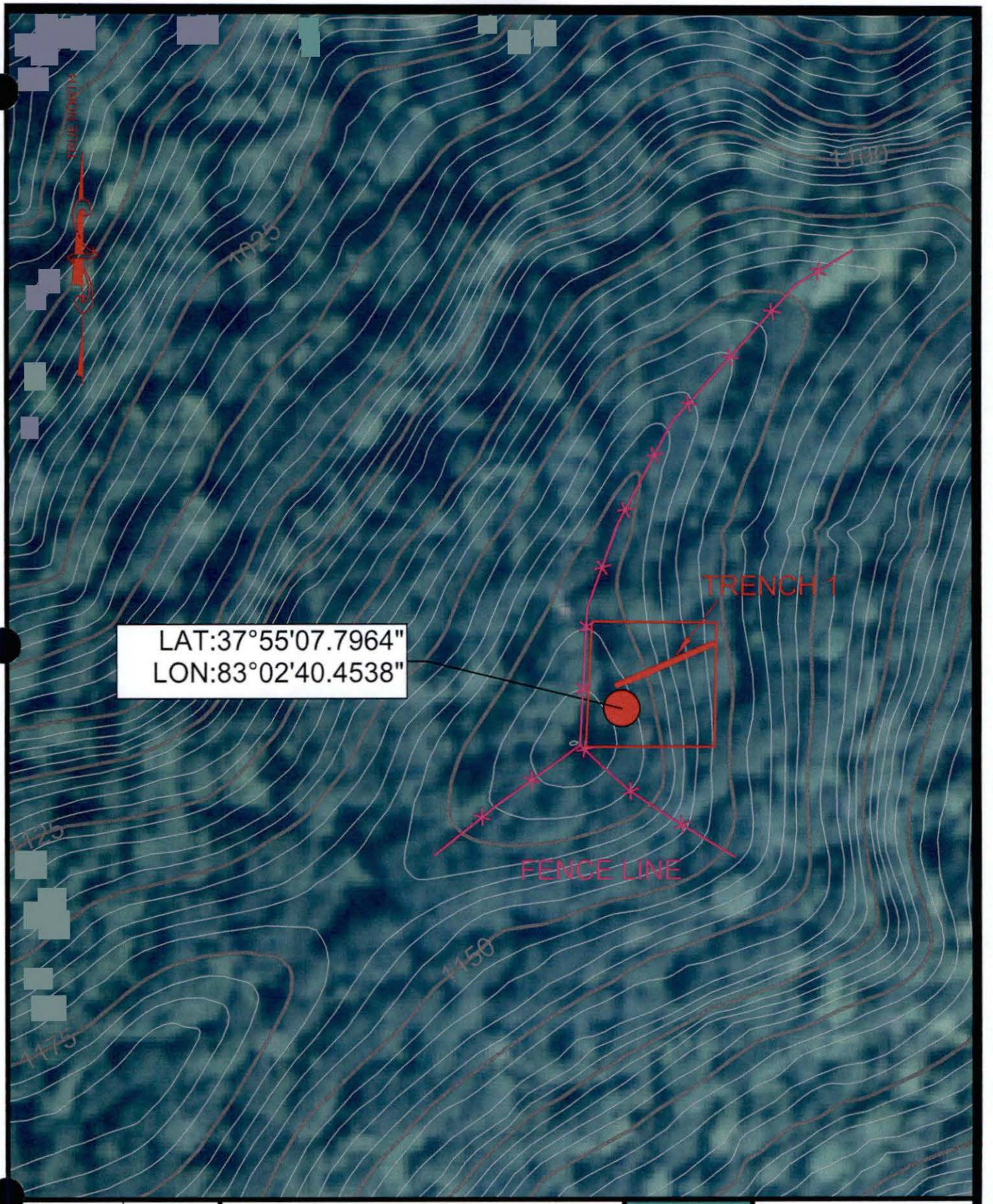
Drawn:	Date: 2/11/16
Job:165-0021	Scale: 1"= 20'
Drawing: Smith Creek Tower	

0' 20.

APPALACHIAN WIRELESS
SMITH CREEK TOWER SITE
TRENCHING DETAILS

ErMC²

230 Swartz Drive
Hazard, KY 41701
(859)436-1111
engineering@ermc2.us



Drawn:	Date: 2/22/16
Job:	Scale: 1"=100'
Drawing: 2014 AERIAL IMAGE SITE LOCATION MAP	

SMITH CREEK TOWER SITE

APPALACHIAN WIRELESS

2014 AERIAL IMAGE MAP

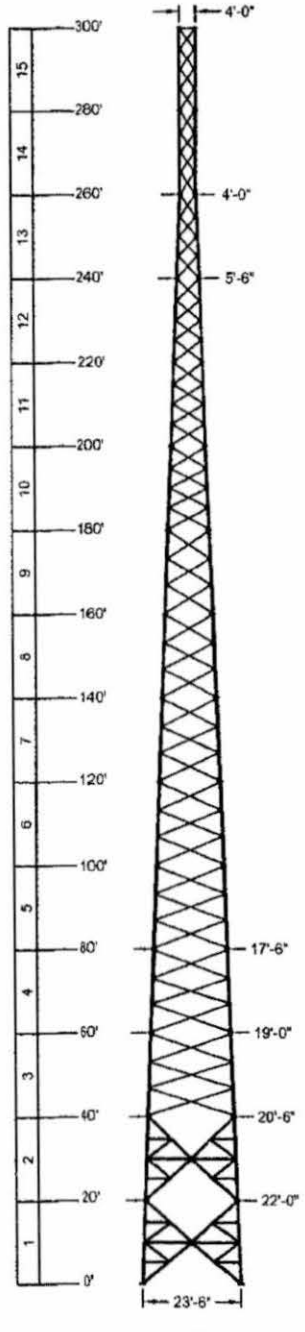
TRENCH LOCATIONS

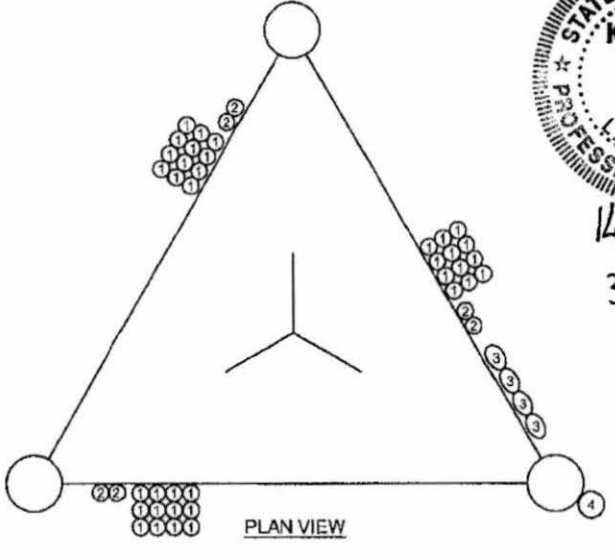
ErMC²

921 Beasley Street, Suite 145
Lexington, KY 40509
(859)381-1000
engineering@ermc2.us

MEMBER INFORMATION

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





PLAN VIEW REF:
1) 1 5/8" HELIAX FEED LINES
2) 7/8" HYBRID FEED LINES
3) EW65 FEED LINES
4) STEP BOLTS

BASE REACTIONS:(FACTORED)

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

STATE OF KENTUCKY
KEITH M. EATON
15953
LICENSED
PROFESSIONAL ENGINEER

Keith M. Eaton
3-8-2016

DESIGNED APPURTENANCE LOADING
SHOWN ON SHEET "AA"

DESIGN NOTES:
1) TOWER LEGS ARE CONSTRUCTED OF SOLID ROUND BAR MATERIAL.
2) SOLID ROUND 0.75" AND LARGER ASTM A-572 GRADE : 50 KSI MIN.
3) SOLID ROUND 0.625" AND SMALLER IS ASTM A-36 GRADE : 36 KSI MIN.
4) ALL ANGLE MATERIAL IS ASTM A-529 : 50 KSI MIN.
5) ALL BRACE AND FLANGE BOLTS ARE A325-X
6) THIS TOWER IS DESIGNED FOR STEP BOLTS UP ONE LEG FOR CLIMBING WITH SAFETY CLIMB DEVICE.
7) (6) ø1 3/4" x 10'-3" LONG (F1554-GR.105) ANCHOR BOLTS PER LEG.
8) THIS TOWER IS DESIGNED FOR A 90 M.P.H. WIND SPEED WITH NO ICE AND A 30 M.P.H. WIND SPEED WITH 0.75" IN ICE IN ACCORDANCE WITH THE TIA/EIA-222-G STANDARD.
9) DEFLECTIONS BASED ON A 60 M.P.H. WIND.
10) TOWER DESIGNED TO EXPOSURE C; STRUCTURE CLASS II; TOPO CAT 1.

APPROX. WEIGHT
63.3 KIPS

REV #	DESCRIPTION	DATE	BY
1	ANCHOR BOLT LENGTH ADDED	03/07/16	SCH

UNLESS OTHERWISE NOTED DIMENSIONS ARE IN: INCHES
TOLERANCE BANDS:
.X +3/32"/-0 ANGLES +/- 2°
.XX +3/32"/-0
.XXX +1/16"/-0 HOLES +Ø1/16"/-0

SCALE: NTS
DRAWN BY: S. HOWELL
DATE: 01/28/2016

ALLSTATE TOWER INC.
P.O. BOX 25
HENDERSON, KY 42419
PHONE: (270) 830-8512
FAX: (270) 830-8475
WWW.ALLSTATETOWER.COM

DESCRIPTION:
TOWER OVERVIEW
APPALACHIAN WIRELESS
300' SELF SUPPORT TOWER
SMITH CREEK, MORGAN CO., KY

FILE NAME: 57877FT - A
SHEET: A

ANTENNA INFORMATION

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

STATE OF KENTUCKY
KEITH M. EATON
15953
LICENSED
PROFESSIONAL ENGINEER

Keith M. Eaton
3-8-2016

ALLSTATE TOWER INC.
P.O. BOX 25
HENDERSON, KY 42419
PHONE: (270) 830-8512
FAX: (270) 639-8475
WWW.ALLSTATETOWER.COM

REV #	DESCRIPTION	DATE	BY

UNLESS OTHERWISE NOTED DIMENSIONS ARE IN: INCHES

TOLERANCE BANDS:
.X +/-1/2"-0 ANGLES +/- 2°
.XX +/-1/32"-0
.XXX +/-1/16"-0 HOLES +/-1/16"-0

SCALE: NTS

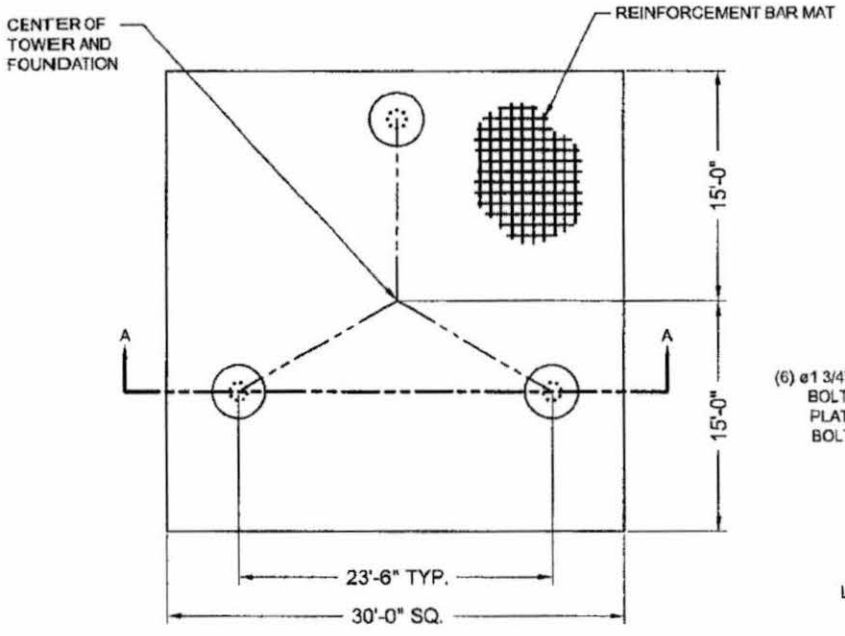
DRAWN BY: J. THOMPSON

DATE: 1/14/2016

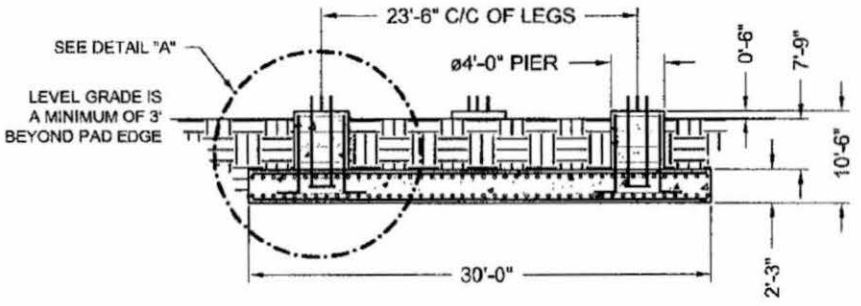
DESCRIPTION:
TOWER OVERVIEW
APPALACHIAN WIRELESS
300' SELF SUPPORT TOWER
SMITH CREEK, MORGAN CO., KY

FILE NAME: 57877FT - A

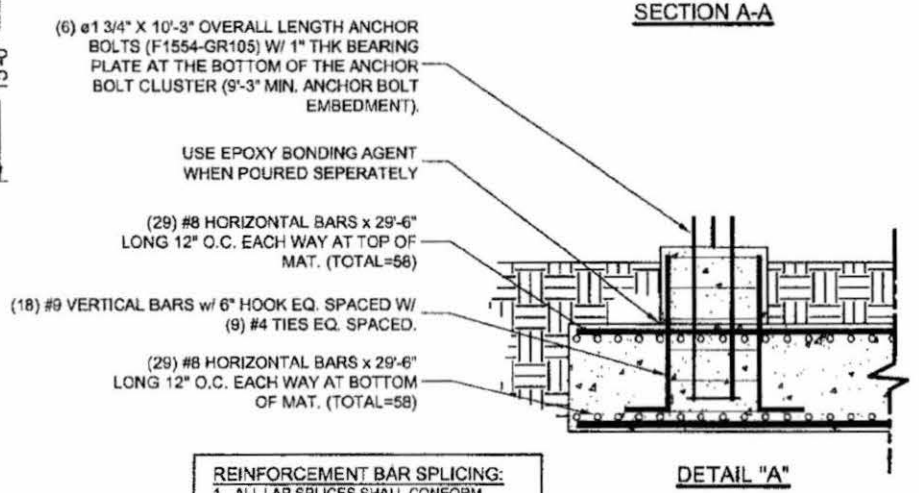
SHEET: AA



PLAN VIEW



SECTION A-A



DETAIL "A"

TOTAL VOLUME OF CONCRETE = 86.5 YD^3

FOUNDATION INSTALLATION/DESIGN NOTES:

1. THIS FOUNDATION IS DESIGNED TO MEET ALL STANDARDS SET FORTH BY ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ANSI/TIA/EIA 222-G: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. THIS FOUNDATION IS DESIGNED UTILIZING THE GEOTECHNICAL REPORT PERFORMED BY ERMC; PROJECT# 185-000-0021; DATED 02-22-16. THE FOUNDATION CONTRACTOR SHALL INSTALL THE FOUNDATIONS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
3. ALL WORK PERFORMED FROM THESE DRAWINGS SHOULD BE BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER FOUNDATION CONSTRUCTION.
4. ALL FOOTING EXCAVATIONS SHALL BE MANUALLY CLEANED PRIOR TO PLACING CONCRETE. COMPACT THE EXPOSED SOIL SURFACE AND ANY GRANULAR FILL UNDER THE FOUNDATION TO 90% OF THE MODIFIED PROCTOR DENSITY.
5. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS. COPIES OF THE CONCRETE CYLINDER TEST REPORTS SHALL BE SENT TO THE RESIDENT ENGINEER / INSPECTOR.
6. MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE 3". ALL REINFORCING BARS SHALL BE GRADE 60 REBAR (MIN YIELD = 60KSI)
7. FIELD BENDING OR WELDING OF REINFORCEMENT BARS IS NOT PERMITTED.
8. PROVIDE CHAMFERS AT ALL EXPOSED CORNERS OF CONCRETE.
9. BACKFILL NEAR AND AROUND THE FOUNDATIONS SHALL BE A WELL GRADED FILL MATERIAL PLACED IN 8" THICK LAYERS THAT HAS BEEN COMPACTED TO 90% OF THE MODIFIED PROCTOR DENSITY PER ASTM D1557.
10. SOME DETAIL HAS BEEN PURPOSELY OMITTED TO CLARIFY ILLUSTRATION.

REINFORCEMENT BAR SPLICING:

1. ALL LAP SPLICES SHALL CONFORM TO ACI 318 REQUIREMENTS.
2. REFER TO CHART BELOW WHEN REINFORCMENT BAR SPLICING IS NECESSARY.

REINFORCING BAR SIZE	LAP SPLICE LENGTH
3	15"
4	17"
5	21"
6	26"
7	30"
8	36"
9	46"
10	58"
11	71"

STATE OF KENTUCKY
KEITH M. EATON
15953
LICENSED PROFESSIONAL ENGINEER

Keith M. Eaton
3-8-2016

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FAX: (270) 830-8473
WWW.ALLSTATETOWER.COM

REV #	DESCRIPTION	DATE	BY

UNLESS OTHERWISE NOTED DIMENSIONS ARE IN: INCHES
TOLERANCE BANDS: .X +3/32" / -0 ANGLES +/- 2° .XX +3/32" / -0 .XXX +1/16" / -0 HOLES +1/16" / -0

DESCRIPTION: PAD & PIER FOUNDATION DESIGN
APPALACHIAN WIRELESS
SMITH CREEK, MORGAN CO., KY

SCALE: NTS
DRAWN BY: S. HOWELL
DATE: 03/07/2016
FILE NAME: 57877FT - B
SHEET: B

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

Aeronautical Study No.
2015-ASO-19937-OE

Issued Date: 01/28/2016

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

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

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

Structure:	Tower Mima (Smith Creek)
Location:	Mima, KY
Latitude:	37-55-07.80N NAD 83
Longitude:	83-02-40.45W
Heights:	1182 feet site elevation (SE)
	310 feet above ground level (AGL)
	1492 feet above mean sea level (AMSL)

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

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

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

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

This determination expires on 07/28/2017 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 LIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

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

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

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

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

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

If we can be of further assistance, please contact our office at (718) 553-2611. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASO-19937-OE.

Signature Control No: 273433183-279061508 (DNE)
Angelique Eersteling
Technician

Attachment(s)
Frequency Data

cc: FCC

Frequency Data for ASN 2015-ASO-19937-OE

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

KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW G. BEVIN
Governor

90 Airport Road, Bldg 400
Frankfort, KY 40601
www.transportation.ky.gov
502 564-4480

February 26, 2016

APPROVAL OF APPLICATION

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

SUBJECT: AS–088-9I3–2016-004

STRUCTURE:	Antenna Tower
LOCATION:	Mima, KY
COORDINATES:	37° 55' 7.79" N / 83° 2' 40.45" W
HEIGHT:	310' AGL/1492'AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 310'AGL/ 1492'AMSL Antenna Tower near Mima, KY 37° 55' 7.79" N / 83° 2' 40.45" W.

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

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

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

John Houlihan
Administrator

KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW G. BEVIN
Governor

90 Airport Road, Bldg 400
Frankfort, KY 40601
www.transportation.ky.gov
502 564-4480

CONSTRUCTION/ALTERATION STATUS REPORT

February 26, 2016

AERONAUTICIAL STUDY NUMBER: AS-088-913-2016-004

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

This concerns the permit which was issued to you by the Kentucky Airport Zoning Commission on February 26, 2016. This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within the said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit. When appropriate, please indicate the status of the project in the place below and return this letter to John Houlihan, Administrator, Kentucky Airport Zoning Commission, 90 Airport Road, Bldg 400, Frankfort, KY, 40601. 502 564-4480.

STRUCTURE:	Antenna Tower
LOCATION:	Mima, KY
COORDINATES:	37° 55' 7.79" N / 83° 2' 40.45" W
HEIGHT:	310' AGL /1492'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 _____

KENTUCKY TRANSPORTATION CABINET

TC 56-50
Rev. 07/2010

KENTUCKY AIRPORT ZONING COMMISSION

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

APPLICANT (*name*) East Kentucky Network, LLC c/o LNGS	**PHONE** 703-584-8667	**FAX** 703-584-8692	**KY AERONAUTICAL STUDY #** AS-088-9I3-2016-004
ADDRESS (*street*) 8300 Greensboro Dr, #1200	**CITY** McLean		**STATE** VA / **ZIP** 22102
APPLICANT'S REPRESENTATIVE (*name*) Ali Kuzehkanani	**PHONE** 703-584-8667	**FAX** 703-584-8692	
ADDRESS (*street*) 8300 Greensboro Dr, #1200	**CITY** McLean		**STATE** VA / **ZIP** 22102
APPLICATION FOR ☒ New Construction ☐ Alteration ☐ Existing **DURATION** ☐ Permanent ☐ Temporary (*months* *days*)			**WORK SCHEDULE** Start 12/25/15 End 12/30/15
TYPE ☐ Crane ☐ Building ☒ Antenna Tower ☐ Power Line ☐ Water Tank ☐ Landfill ☐ Other	**MARKING/PAINTING/LIGHTING PREFERRED** ☐ Red Lights & Paint ☐ White- medium intensity ☐ White- high intensity ☒ Dual- red & medium intensity white ☐ Dual- red & high intensity white ☐ Other		
LATITUDE 37°55'07.79"	**LONGITUDE** 83°02'40.45"		**DATUM** ☒ NAD83 ☐ NAD27 ☐ Other
NEAREST KENTUCKY City Mima County Morgan ✓	**NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT** West Liberty Airport		
SITE ELEVATION (AMSL, *feet*) 1182	**TOTAL STRUCTURE HEIGHT** (AGL, *feet*) 310		**CURRENT** (*FAA aeronautical study #*)
OVERALL HEIGHT (*site elevation plus total structure height, feet*) 1492			**PREVIOUS** (*FAA aeronautical study #*)
DISTANCE (*from nearest Kentucky public use or Military airport to structure*) 11.3 mi			**PREVIOUS** (*KY aeronautical study #*)
DIRECTION (*from nearest Kentucky public use or Military airport to structure*) West			

DESCRIPTION OF LOCATION (*Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.*)
Smothh Creek, approx. 0.5 mi WSW of Mima (Morgan), KY

DESCRIPTION OF PROPOSAL
A new 300' tower with top-mounted antennas (overall height of 310' AGL)

FAA Form 7460-1 (*Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?*)
☐ No ☒ Yes, when? 11/23/15

CERTIFICATION (*I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of my knowledge and belief.*)
PENALITIES (*Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.*)

NAME	**TITLE**	**SIGNATURE**	**DATE**
Ali Kuzehkanani	Dir of Engineering	Ali Kuzehkanani	11/23/15

COMMISSION ACTION

☐ Chairperson, KAZC
☒ Administrator, KAZC

☒ Approved
☐ Disapproved

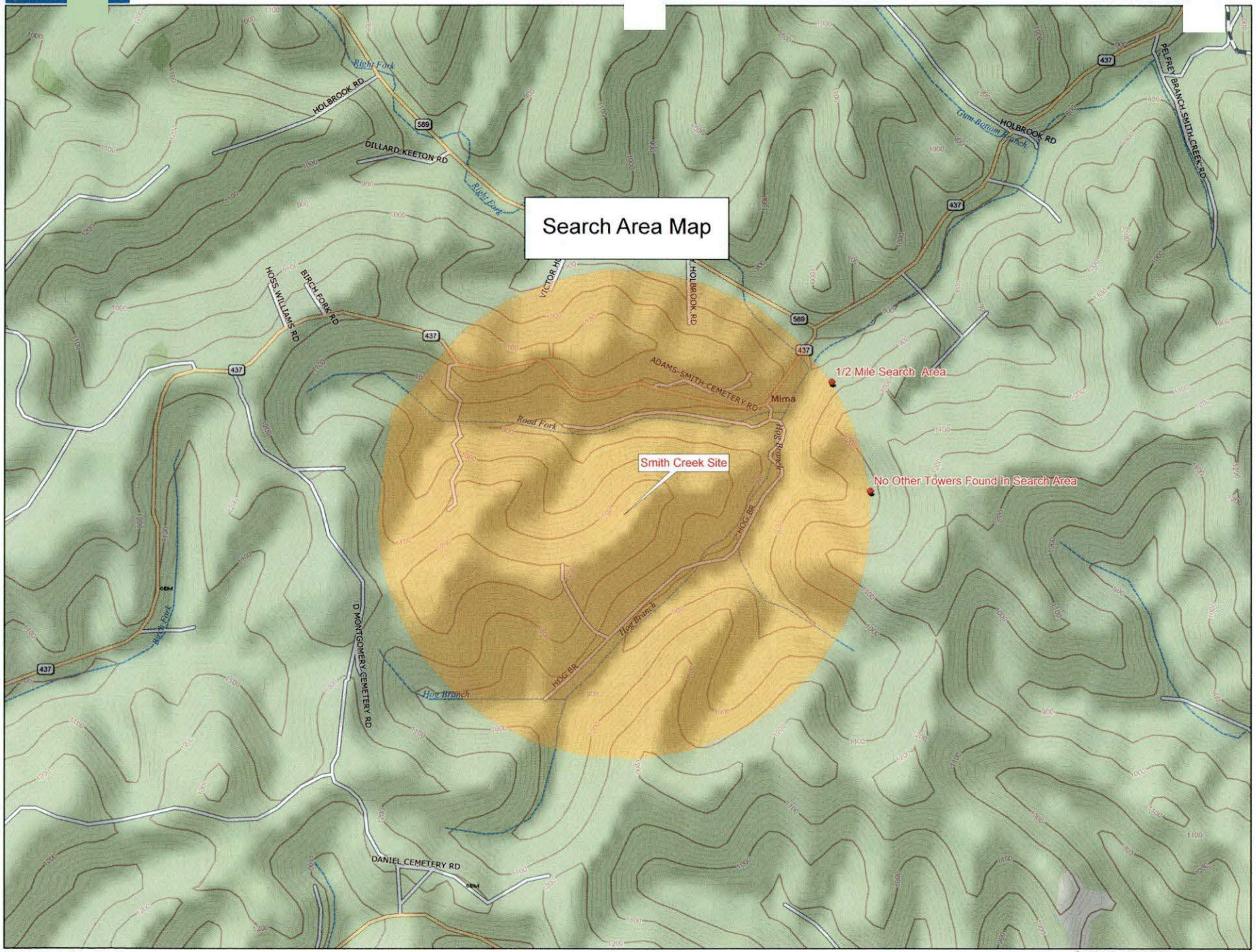
SIGNATURE

DATE 2-26-16

Driving Directions for Smith Creek

Starting in front of the Morgan County Courthouse, on the corner of Court Street and Main Street, go .1 mile, turn right on Prestonsburg Street (Rt. 460 East), then go .9 miles and turn left on HWY 172 East. Then go 9.2 miles and turn right on Highway 589 East, then go 6.6 miles, then turn right on Highway 437 South, go .1 miles, turn left on Hog Branch Road, go .2 miles. Tower access road on the right (signs will be posted here).

Prepared By:
Jack Adkins
Appalachian Wireless
606-339-0531



TN
MN (6.7°W)

Scale 1 : 16,000
1" = 1,333.3 ft
Data Zoom 14-1

MEMORANDUM OF LEASE

THIS MEMORANDUM OF LEASE is made and entered into on this the 15th day of November, 2015, with a commencement date of November 1, 2015, by and between Michael and Marie Hill, husband and wife, with the mailing address of Box 149 Hog Branch Road, West Liberty, Kentucky 41472, hereinafter refereed to as "Lessors" and East Kentucky Network, LLC d/b/a Appalachian Wireless, 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, Lessors do hereby lease to Lessee, and Lessee does hereby lease from Lessors, a portion of that certain tract of real estate located in Morgan County, Kentucky, and being a portion of the same land conveyed to Michael and Marie Hill by Deed of Conveyance referenced in Deed Book 216, Page 657, in the Morgan County Clerk's Office. Said property is more particularly described in the description and plat attached hereto and made a part hereof as Exhibits A and B, prepared by Steven E. Haywood of Summit Engineering, Licensed Professional Land Surveyor (hereinafter referred to as the "Premises");

2. **Term:** The term of the Lease shall be for a period of five (5) years from the commencement date of the Lease Agreement.

3. **Option to Renew:** Lessee shall have the option to renew the Lease for an additional six (6) terms of five (5) years each.

4. **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.

5. **Purpose:** This Memorandum of Lease is prepared solely for the purpose of recordation, and is not intended, 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 Lessors and Lessee thereunder.

In Witness Whereof, Lessors and Lessee have executed this Memorandum of Lease as of the day, month and year first written above.

LESSORS:

Michael Hill
Michael Hill

Marie Hill
Marie Hill

COMMONWEALTH OF KENTUCKY
COUNTY OF Morgan

The foregoing instrument was acknowledged before me on this 15th day of November, 2015, by Michael and Marie Hill, Lessors.

Notary Public

My Commission Expires Feb 3, 2016

LESSEE:

EAST KENTUCKY NETWORK, LLC

By W A Gillum

Its CEO/GM

COMMONWEALTH OF KENTUCKY
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 18th day of November, 2015, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC, d/b/a Appalachian Wireless.

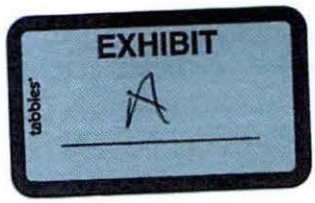
Lynn Haney
Notary Public

My Commission Expires August 19, 2019

LYNN HANEY Notary ID # 540329 NOTARY PUBLIC EXP. 08/19/2019 STATE AT LARGE, KENTUCKY

This instrument was prepared by:

Wm. S. Kendrick
William S. Kendrick, Attorney at Law
Penn, Stuart & Eskridge
119 E. Court Street, Ste. 201
Prestonsburg, KY 41653



Smith Creek
Tower site
Description

A certain tract or parcel of land located on Hog Branch of Smith Creek of Paint Creek in Morgan County, Kentucky and more particularly described as follows.

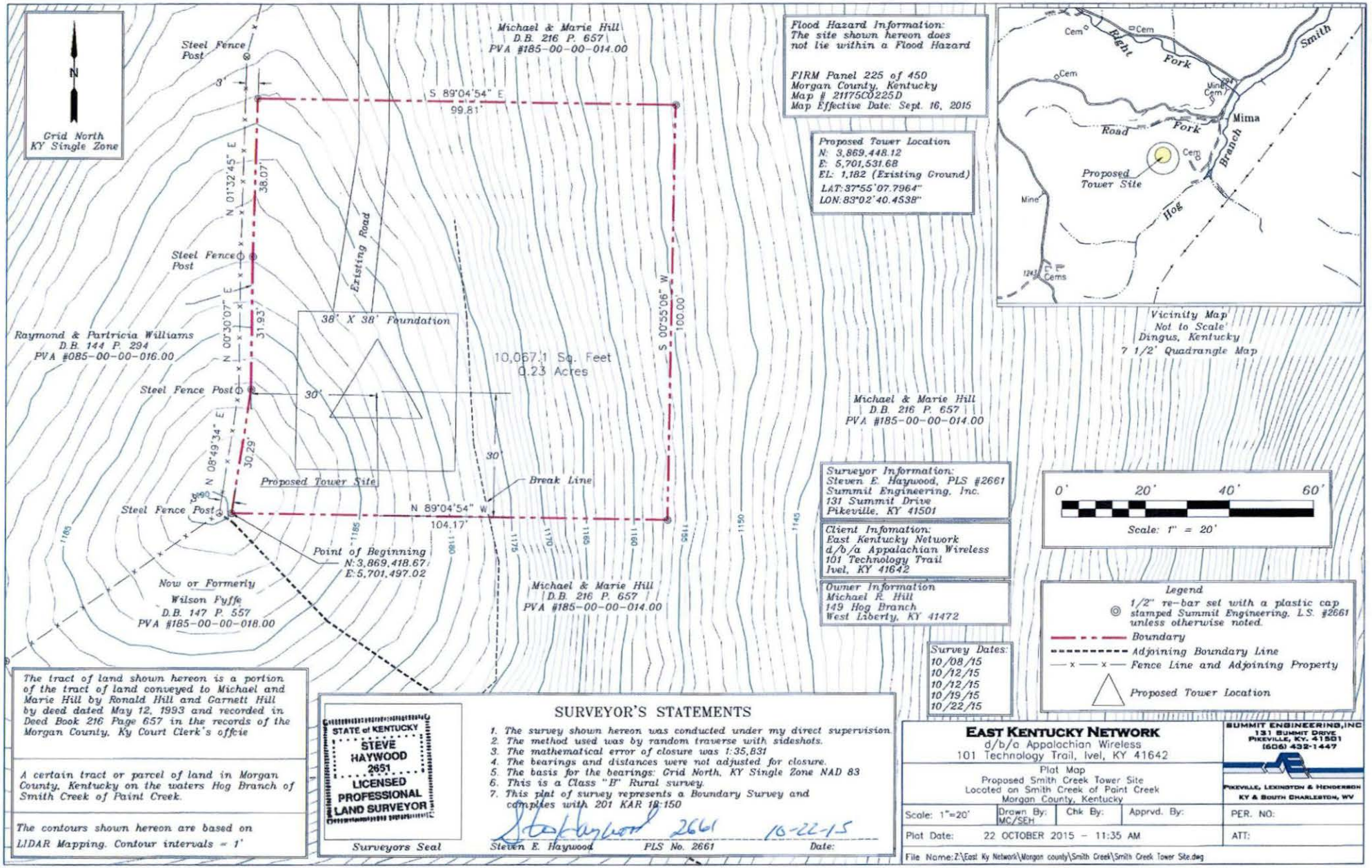
Unless stated otherwise any monument referred to herein as a re-bar is a Re-Bar and Cap is a set ½" steel re-bar eighteen (18") in length with a yellow plastic cap stamped Summit L.S. #2661. All bearings stated herein are referred to Grid North based on Kentucky Single Zone State Plane NAD 83 coordinates.

Beginning at a set re-bar on a high knob on the ridge between Hog Branch and Road Fork of Smith Creek and being three (3') south east the existing fence line which is on the on the line between Raymond Williams (D.B. 144 P 294) and Michael Hill (D.B. 216 P. 657) and having Kentucky Single Zone Coordinates of N: 3,869,418.67 E: 5,701,497.02;

Thence, running along the ridge and 3' off the existing fence line N 08°49'34" E a distance of 30.29' to set re-bar; Thence, N 00°30'07" E a distance of 31.93' to set re-bar; Thence, N 01°32'45" E a distance of 38.07' to set re-bar; Thence, leaving the ridge and running down the hill S 89°04'54" E a distance of 99.81' to set re-bar; Thence, around the hill S 00°55'06" W a distance of 100.00' to set re-bar; Thence, N 89°04'54" W a distance of 104.17' to the point of beginning and containing 0.23 acres more or less according to a survey conducted by persons under the direct supervision of Steven E. Haywood, PLS #2661 with Summit Engineering on October 22, 2015 and being a portion of the same tract of land conveyed to Michael and Marie Hill, his wife, by Ronald Hill and Garnett, husband and wife, by deed dated May 12, 1993 and recorded in Deed Book 216 Page 657 in the records of the Morgan County Court Clerk's office.

Steven E. Haywood, PLS #2661

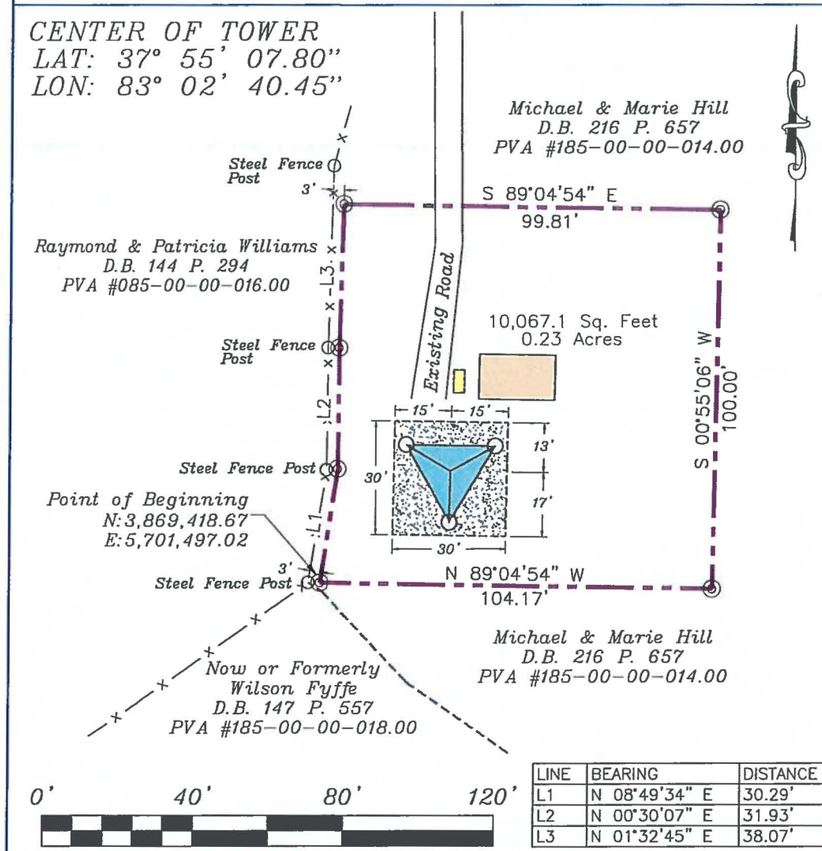
Date: 10/23/2015


Grid North
KY Single Zone
Steel Fence Post
Michael & Marie Hill
D.B. 216 P. 657
PVA #185-00-00-014.00
S 89°04'54" E
99.81'
N 01°32'45" E
38.07'
Existing Road
38' X 38' Foundation
10,067.1 Sq. Feet
0.23 Acres
S 00°55'06" W
100.00'
Steel Fence Post
Raymond & Partricia Williams
D.B. 144 P. 294
PVA #085-00-00-016.00
N 00°30'07" E
31.93'
Steel Fence Post
30'
N 08°49'34" E
30.29'
Proposed Tower Site
30'
Break Line
Steel Fence Post
N 89°04'54" W
104.17'
Point of Beginning
N:3,869,418.67
E:5,701,497.02
Now or Formerly
Wilson Fyffe
D.B. 147 P. 557
PVA #185-00-00-018.00
Michael & Marie Hill
D.B. 216 P. 657
PVA #185-00-00-014.00
Michael & Marie Hill
D.B. 216 P. 657
PVA #185-00-00-014.00
Flood Hazard Information:
The site shown hereon does not lie within a Flood Hazard
FIRM Panel 225 of 450
Morgan County, Kentucky
Map # 21175C0225D
Map Effective Date: Sept. 16, 2015
Proposed Tower Location
N: 3,869,448.12
E: 5,701,531.68
EL: 1,182 (Existing Ground)
LAT: 37°55'07.7964"
LON: 83°02'40.4538"
Cem
Right Fork
Smith
Mine
Mima
Road
Fork
Branch
Proposed Tower Site
Hog
Cems
Vicinity Map
Not to Scale
Dingus, Kentucky
7 1/2' Quadrangle Map
Surveyor Information:
Steven E. Haywood, PLS #2661
Summit Engineering, Inc.
131 Summit Drive
Pikeville, KY 41501
Client Information:
East Kentucky Network
d/b/a Appalachian Wireless
101 Technology Trail
Ivel, KY 41642
Owner Information
Michael R. Hill
149 Hog Branch
West Liberty, KY 41472
0' 20' 40' 60'
Scale: 1" = 20'
Legend
1/2" re-bar set with a plastic cap stamped Summit Engineering, L.S. #2661 unless otherwise noted.
Boundary
Adjoining Boundary Line
Fence Line and Adjoining Property
Proposed Tower Location
Survey Dates:
10/08/15
10/12/15
10/12/15
10/19/15
10/22/15
The tract of land shown hereon is a portion of the tract of land conveyed to Michael and Marie Hill by Ronald Hill and Garnett Hill by deed dated May 12, 1993 and recorded in Deed Book 216 Page 657 in the records of the Morgan County, Ky Court Clerk's offcie
A certain tract or parcel of land in Morgan County, Kentucky on the waters Hog Branch of Smith Creek of Paint Creek.
The contours shown hereon are based on LIDAR Mapping. Contour intervals = 1'
STATE of KENTUCKY
STEVE HAYWOOD
2661
LICENSED PROFESSIONAL LAND SURVEYOR
Surveyors Seal
SURVEYOR'S STATEMENTS
1. The survey shown hereon was conducted under my direct supervision.
2. The method used was by random traverse with sideshots.
3. The mathematical error of closure was 1:35,831
4. The bearings and distances were not adjusted for closure.
5. The basis for the bearings: Grid North, KY Single Zone NAD 83
6. This is a Class "B" Rural survey.
7. This plat of survey represents a Boundary Survey and complies with 201 KAR 18:150
Steven E. Haywood
PLS No. 2661
10-22-15
Date:
EAST KENTUCKY NETWORK
d/b/a Appalachian Wireless
101 Technology Trail, Ivel, KY 41642
Plat Map
Proposed Smith Creek Tower Site
Located on Smith Creek of Paint Creek
Morgan County, Kentucky
Scale: 1"=20'
Drawn By: MC/SEH
Chk By:
Apprvd. By:
Plat Date: 22 OCTOBER 2015 - 11:35 AM
File Name: Z:\East Ky Network\Morgan county\Smith Creek\Smith Creek Tower Site.dwg
SUMMIT ENGINEERING, INC
131 SUMMIT DRIVE
PIKEVILLE, KY. 41501
(606) 432-1447
PIKEVILLE, LEXINGTON & HENDERSON
KY & SOUTH CHARLESTON, WV
PER. NO:
ATT:

Smith Creek Tower

SITE SURVEY WITH PROPOSED TOWER & BUILDING LOCATION

CENTER OF TOWER
LAT: 37° 55' 07.80"
LON: 83° 02' 40.45"



LINE	BEARING	DISTANCE
L1	N 08°49'34" E	30.29'
L2	N 00°30'07" E	31.93'
L3	N 01°32'45" E	38.07'

Legend

- ◎ 1/2" re-bar set with a plastic cap stamped Summit Engineering, L.S. #2661 unless otherwise noted.
- Boundary
- —x—x— Property Line With Fence
- ---------- Adjoining Boundary Line
- ▲ Proposed Tower Location

— NAD 83 KY Single Zone State Plane Coordinates
N: 3,869,448.12
E: 5,701,531.68

— EL: 1,182 (Existing Ground)

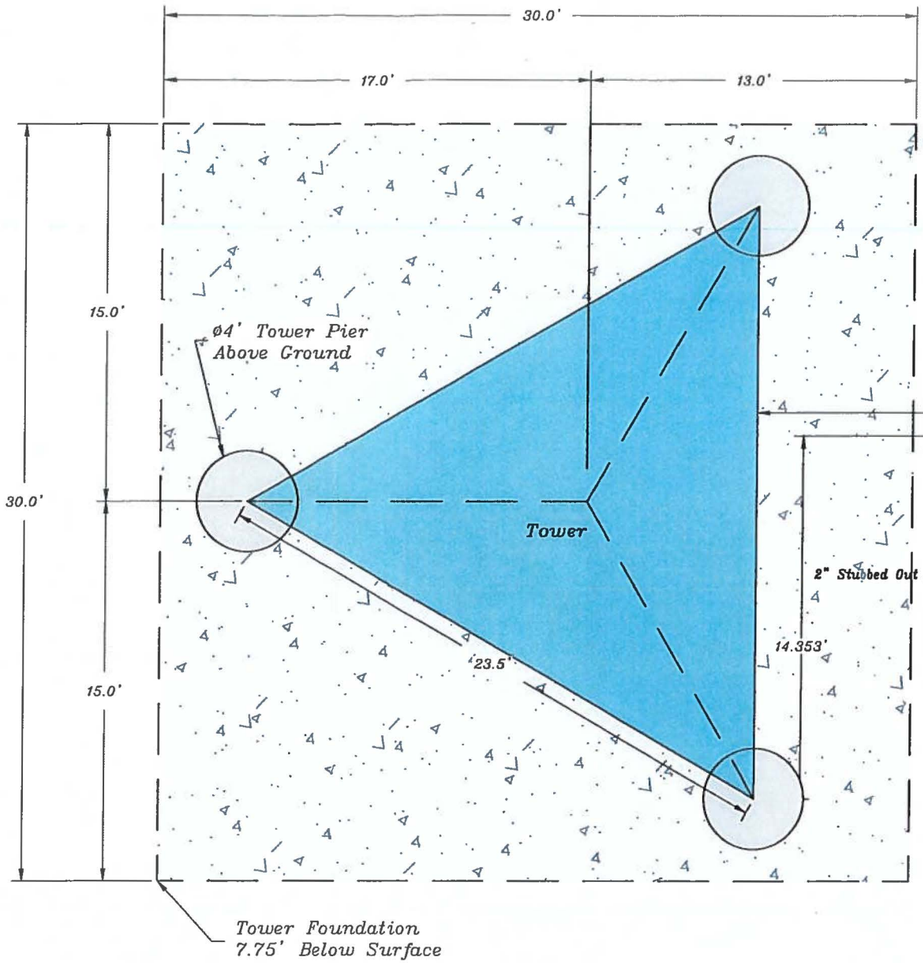
STATE of KENTUCKY
STEVE HAYWOOD
2661
LICENSED PROFESSIONAL LAND SURVEYOR

FAA Certification

In Accordance with FAA Order 8260.19G, Appendix C, I hereby certify that the Obstacle Accuracy Codes for the proposed Tower meets or exceeds accuracy 2C (+50 ft Horizontal and +20 ft Vertical).

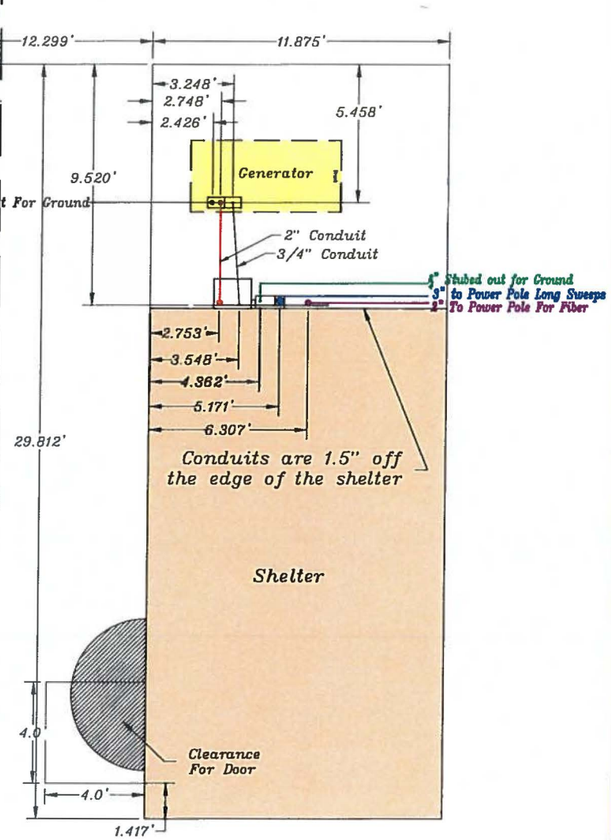
Steven E. Haywood #2661 3-30-16

Steven E. Haywood, PLS #2661 Date



SCALE: 1" = 6'

Map of Reference:
Pad & Pier Foundation Design
Appalachian Wireless
Smith Creek, Morgan Co., KY
Prepared by Allstate Tower Inc.
P.O. Box 25
Henderson, KY 42418
Phone:(270) 830-8512
Fax:(270) 830-8475
www.allstatetower.com



STATE OF KENTUCKY
MARK D. SANDERS
24236
LICENSED PROFESSIONAL ENGINEER

Mark Sanders 24236 3-30-16

Mark Sanders PE# 24236 DATE

EAST KENTUCKY NETWORK D/B/A APPALACHIAN WIRELESS 101 TECHNOLOGY TRAIL, IVEL, KY 41643				SUMMIT ENGINEERING, INC. 131 Summit Drive Pikeville, Ky. 41501 (606) 432-1447 Pikeville, Lexington & Henderson, KY & South Charleston, WV
Smith Creek Tower – Site Map Michael & Marie Hill Located on Smith Creek of Paint Creek Morgan County, Kentucky				
Scale: As Noted	Drawn By: MAC	Chk By: MAC	Apprvd. By:	PER. NO:
Plot Date: 30 MARCH 2016 – 11:04 AM				ATT:
File Name: Z:\East Ky Network\Morgan county\Smith Creek\Smith Creek Site Plan.dwg				

Application

CONTAINS

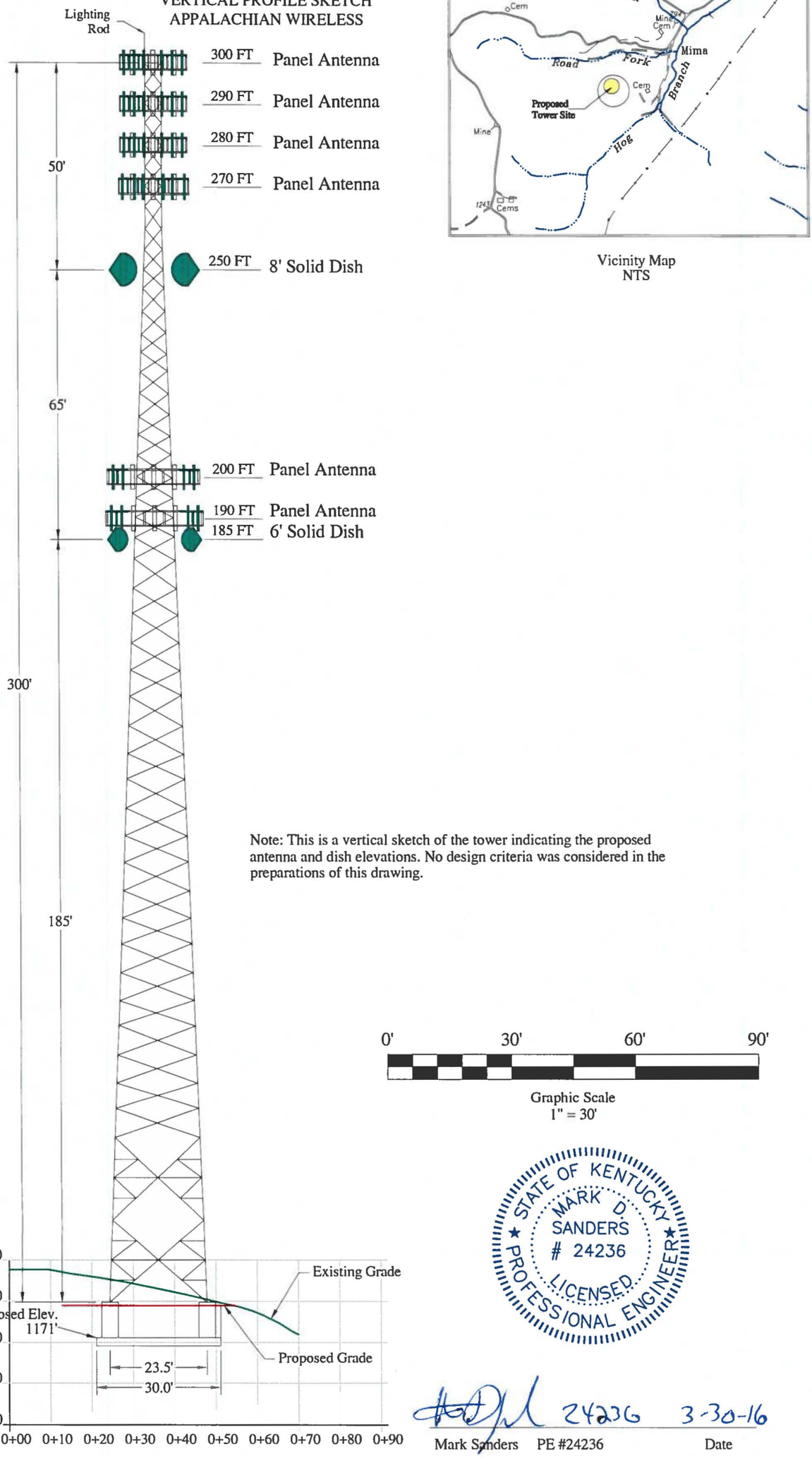
LARGE OR OVERSIZED

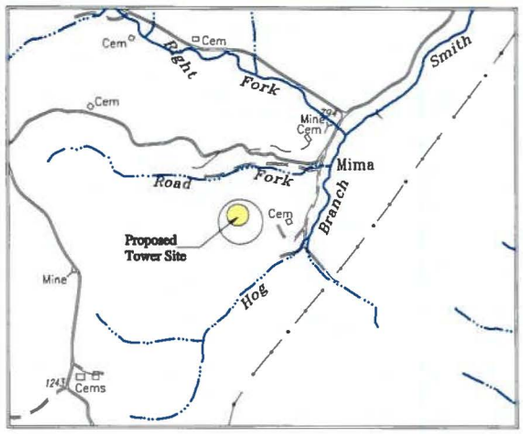
MAP(S)

RECEIVED ON:
4/13/2016

SMITH CREEK TOWER

VERTICAL PROFILE SKETCH
APPALACHIAN WIRELESS





Vicinity Map
NTS

Note: This is a vertical sketch of the tower indicating the proposed antenna and dish elevations. No design criteria was considered in the preparations of this drawing.

Graphic Scale
1" = 30'

24236 3-30-16

Mark Sanders PE #24236 Date

DATE: 3-30-2016	SCALE: 1"=30'	**East Kentucky Network** D/B/A/ Appalachian Wireless 101 Technology Trail, Ivel, KY 41642
DRAWN BY: MAC		Vertical Profile Sketch Smith Creek Tower

File Name: Z:\East Ky Network\Morgan county\Smith Creek\Smith Creek Tower Vertical Profile.dwg

SUMMIT ENGINEERING, INC.
131 Summit Drive
Pikeville, Ky. 41501
(606) 432-1447

Pikeville, KY S. Charleston, WV
Lexington, KY Henderson, KY