

RECEIVED

COMMONWEALTH OF KENTUCKY

SEP 14 2018

BEFORE THE PUBLIC SERVICE COMMISSION

PUBLIC SERVICE COMMISSION

In the matter of:

THE APPLICATION OF EAST KENTUCKY NETWORK)	
LLC FOR THE ISSUANCE OF A CERTIFICATE OF)	
PUBLIC CONVENIENCE AND NECESSITY TO)	CASE NO. 2018-00305
CONSTRUCT A TOWER IN WHITLEY COUNTY,)	
KENTUCKY)	

East Kentucky Network, LLC d/b/a Appalachian Wireless, was granted authorization to provide cellular service in the KY-11 Cellular Market Area (CMA453) by the Federal Communications Commission (FCC). The 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 Whitley County, pursuant to KRS 278.020 Subsection 1 and 807 KAR 5:001, East Kentucky Network, LLC is seeking the Commission's approval to construct a 300 foot self-supporting tower on a tract of land located at 4067 Hwy 904E, Williamsburg, Whitley County, Kentucky (36°42'57.75"N 84°05'04.86"W). A map and detailed directions to the site can be found in Exhibit 7.

Exhibit 2 is a list of all Property owners or residents according to the Property Valuation Administrator's record who 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(m) and Section 2, all affected property owners according to the Property Valuation Administrator's records who own property within 500 feet of the proposed Tower or who own property contiguous to the property upon which construction is proposed were notified by certified mail return receipt requested of East Kentucky Network, LLC's proposed construction and informed of their right to intervene. They were given the docket number under which this application is filed. Enclosed in Exhibit 2 is a copy of that notification.

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

Notice of the location of the proposed construction was published in the News Journal, September 12, 2018 edition. Enclosed is a copy of that notice in Exhibit 3. News Journal is the newspaper with the largest circulation in Whitley County.

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

A copy of the tower design information is enclosed as Exhibit 5. The proposed tower has been designed by engineers at World Tower Company, 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 September 12, 2018, 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 mountaintop some feet from the nearest structure. Prior to construction, the site was wooded.

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

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

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

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

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

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

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

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

SUBMITTED BY: Lynn Haney DATE: 9/13/18
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W.A. Gillum DATE: 9/12/18
W.A. Gillum, General Manager

ATTORNEY: Krystal Branham DATE: 9/13/18
Hon. Krystal Branham, Attorney

CONTACT INFORMATION:

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

Lynn Haney, Regulatory Compliance Director
Phone: (606) 477-2355, Ext. 1007
Email: lhaney@ekn.com

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

Mailing Address:

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

ULS License

700 MHz Lower Band (Blocks C, D) License - WPWV284 - East Kentucky Network, LLC d/b/a Appalachian Wireless

Call Sign	WPWV284	Radio Service	WZ - 700 MHz Lower Band (Blocks C, D)
Status	Active	Auth Type	Regular

Rural Service Provider Bidding Credit

Is the Applicant seeking a Rural Service Provider (RSP) bidding credit?

Reserved Spectrum

Reserved Spectrum

Market

Market	CMA453 - Kentucky 11 - Clay	Channel Block	C
Submarket	0	Associated Frequencies (MHz)	000710.00000000-000716.00000000 000740.00000000-000746.00000000

Dates

Grant	01/24/2003	Expiration	06/13/2019
Effective	11/02/2013	Cancellation	

Buildout Deadlines

1st	06/13/2019	2nd	
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Notification Dates

1st		2nd	
-----	--	-----	--

Licensee

FRN	0001786607	Type	Limited Liability Company
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Licensee

East Kentucky Network, LLC d/b/a Appalachian Wireless 101 Technology Trail Ivel, KY 41642 ATTN W.A. Gillum, General Manager/CEO	P:(606)477-2355
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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
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Ownership and Qualifications

Radio Service Type Fixed, Mobile, Radio Location

Regulatory Status Common Carrier, Interconnected Yes
Non-Common Carrier

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.

Tribal Land Bidding Credits

This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity

Gender

EXHIBIT 2 – 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

Dal Lands, Inc.
3762 Wedgewood Chase
Norcross, GA 30092

Vanessa and Timothy Sizemore
4035 E Highway 904
Williamsburg, KY 40769

Mt. Wachtel LTD
A Colorado Limited Partnership
1905 Sherman Street
900 Denver Tower
Denver, CO 80203

Roger David and Stacey Sasko
4065 Highway 904
Williamsburg, KY 40769

Mary Lou and Donald Brown, SR. and Donald Brown, Jr.
1831 Ryan Road
Springboro, OH 405066

Timothy M. Sizemore
Vanessa Sasko Sizemore
4035 Highway 904
Williamsburg, KY 40769

Linda Sasko
4055 HWY 904
Williamsburg, KY 40769

Bobby Huddleston
4195 E HWY 904
Williamsburg, KY 40769

Ronnie and Janet Baker
373 Baker Cemetery Road
Williamsburg, KY 40769

Bryan Wilson
4321 East Hwy 904
Williamsburg, KY 40769



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

September 13, 2018

Dal Lands, Inc.
3762 Wedgewood Chase
Norcross, GA 30092

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2018-00305)

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 Whitley County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 4067 Hwy 904E, Williamsburg. 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. 2018-00305 in your correspondence.

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

Sincerely,

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

September 13, 2018

Vanessa and Timothy Sizemore
4035 E Highway 904
Williamsburg, KY 40769

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2018-00305)

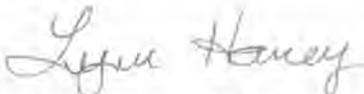
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Sincerely,



Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

September 13, 2018

Mt. Wachtel LTD
A Colorado Limited Partnership
1905 Sherman Street
900 Denver Tower
Denver, CO 80203

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Sincerely,

A handwritten signature in cursive script that reads "Lynn Haney".

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

September 13, 2018

Roger David and Stacey Sasko
4065 Highway 904
Williamsburg, KY 40769

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Lynn Haney, CPA
Regulatory Compliance Director
Enclosure I



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September 13, 2018

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Springboro, OH 45066

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PUBLIC NOTICE

September 13, 2018

Timothy M. Sizemore
Vanessa Sasko Sizemore
4035 Highway 904
Williamsburg, KY 40769

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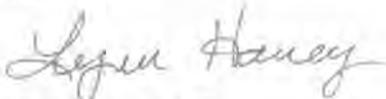
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Sincerely,



Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

September 13, 2018

Linda Sasko
4055 HWY 904
Williamsburg, KY 40769

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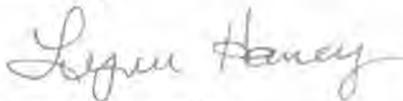
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Sincerely,



Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

September 13, 2018

Bobby Huddleston
4195 E HWY 904
Williamsburg, KY 40769

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2018-00305)

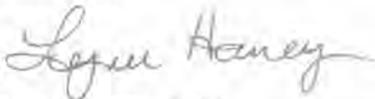
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Sincerely,



Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

September 13, 2018

Ronnie and Janet Baker
373 Baker Cemetery Road
Williamsburg, KY 40769

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2018-00305)

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Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

September 13, 2018

Bryan Wilson
4321 East Hwy 904
Williamsburg, KY 40769

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Sincerely,

Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

VIA: U.S. CERTIFIED MAIL

September 13, 2018

Pat White, Jr., Judge Executive
P.O. Box 237
Williamsburg, KY 40769

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2018-00305)

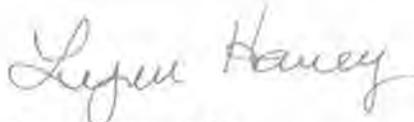
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The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. The Commission must receive your initial communication within 20 days of the date of this letter as shown above.

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Sincerely,



Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Yaden

Location:

4067 Hwy 904E
Williamsburg, KY 40769

Coordinates:

36°42'57.75"N
84° 5'4.86"W

Proposed Yaden Site



904

Horseshoe Ln

Baker Cemetery Rd

Reynolds Rd

Rabbit Run

Rev Henry Goins Rd

Little Patterson Creek Rd



2000 ft

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

EAST KENTUCKY
NETWORK



To: News Journal
Attn: Classifieds

From: Raina Helton
Regulatory Compliance Assistant

Email: jbenfield@corbinnewsjournal.com **Date:** September 10, 2018

Re: PUBLIC NOTICE ADVERTISEMENT **Pages:** 1

Please place the following Public Notice Advertisement in the News Journal to be ran on September 12, 2018

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2018-00305)

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 4067 Hwy 904E, Williamsburg, Whitley 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. 2018-00305.

If you have any questions about the placement of the above mentioned notice, please call me at 606-477-2355, ext. 1005.

Thank you,

Raina Helton
Regulatory Compliance Assistant

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

Yaden

Location:
4067 Hwy 904E
Williamsburg, KY 40769

Coordinates:
36°42'57.75"N
84° 5'4.86"W

Proposed Yaden Site



904

Horseshoe Ln

Baker Cemetery Rd

Rabbit Run

Rev Henry Goins Rd

Little Patterson Creek Rd

Reynolds Rd



2000 ft



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

EAST KENTUCKY ENGINEERING, LLC.

**APPALACHIAN WIRELESS
Geotechnical Investigation on the
Yaden Tower Site
Whitley County, Kentucky
EKYENG Project No. 165-000-0072**

PREPARED FOR:

Appalachian Wireless.
101 Technology Trail
Ivel, Kentucky 41642

PREPARED BY:

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



_____, ~~20215~~, July 24th, 2018



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EXECUTIVE SUMMARY

A geotechnical investigation has been performed on the Yaden Tower Site, located in Whitley County, Kentucky. This site is not readily accessible. A location map is shown in Figure 1 of this report. Field inspections were completed by digging open pits by hand and taking soundings with rebar. Access to this site with equipment is limited. The following geotechnical considerations were identified:

- Pit excavations and sounding that were utilized for this study encountered soils and sandstone.
- Elevations were taken from aerial DEM mapping available at ArcGIS Kentucky Elevation Data.
- The maximum estimated base elevation of tower mat foundation is 1405 ft.
- This site is an undisturbed forested slope.
- **The allowable bearing capacities are estimated at 4 TSF psf for the weathered sandstone rock foundations.**
- The 2015 International Building Code seismic site classification for this site is "B."
- If during the foundation design it becomes necessary to lower or raise the footer, alternate design recommendations can be provided by EKYENG.
- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We, therefore, recommend that EKYENG is retained to monitor this portion of the work.

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



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1. INTRODUCTION

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

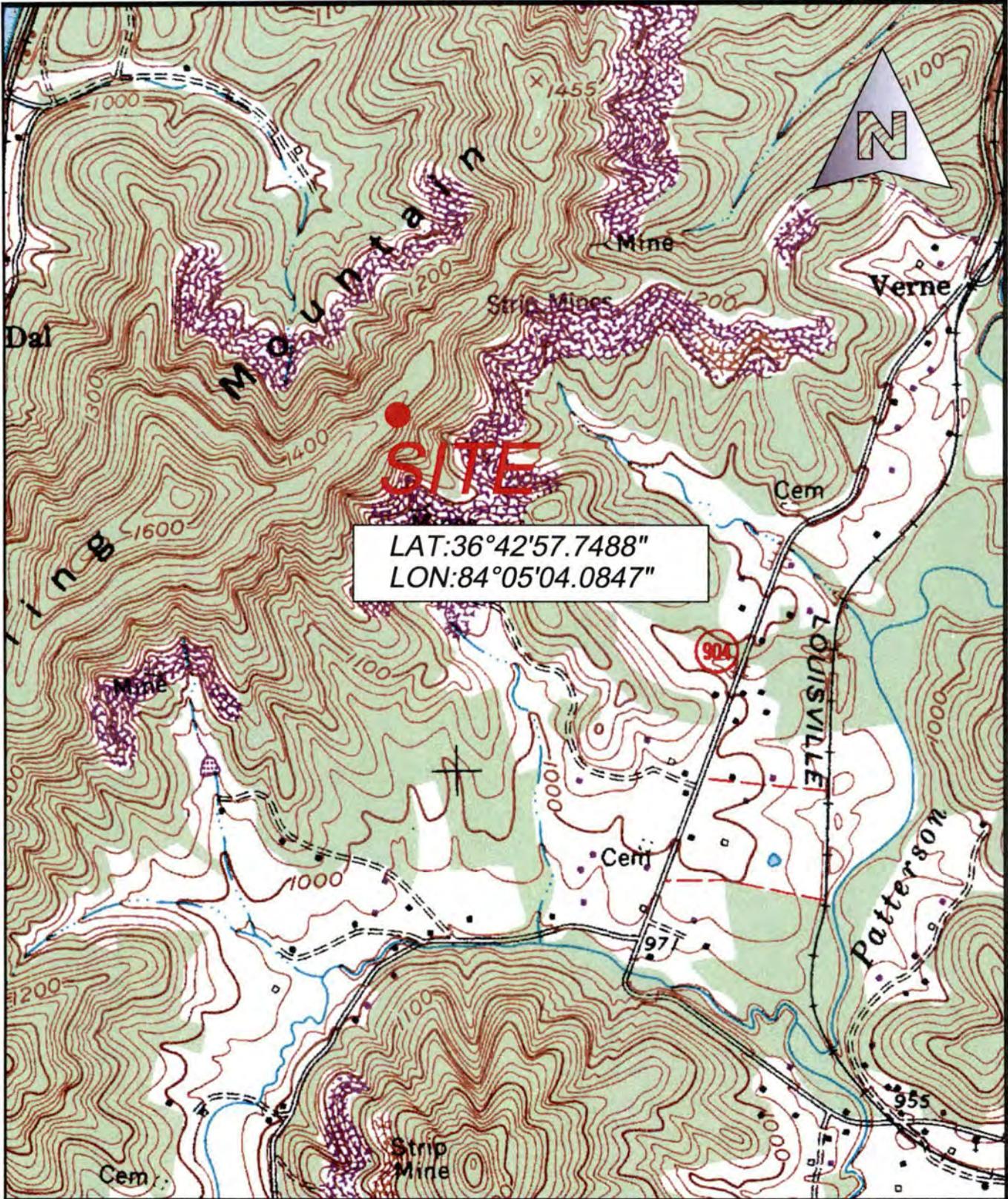
Pits were opened by hand and sounding were taken to refusal where possible. The purpose of these services is to provide information and geotechnical engineering recommendations about subsurface conditions, earthwork, seismic considerations, groundwater conditions and foundation design.

2.0 PROJECT DESCRIPTION

The proposed communication facility will consist of a self-supporting tower of undetermined height and ancillary support areas. The footing area is estimated to be 43.5 ft. X 43.5 ft. with an estimated base of the tower footer elevation at 1405.0 ft. Based on information provided, we estimate the structural loads will be like the following conditions;

CONDITION	LOAD
Total Shear	40 Kips
Axial Load	50 Kips

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



Drawn: RDS	Date: 07/24/18
Job: 165-072	Scale: 1"=1000'

Appalachian Wireless
 USGS Quadrangle
 Location Map
 Yaden Tower Site
 Figure No. 1

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3.0 SITE DESCRIPTION & HISTORICAL MINING

3.1 GENERAL INFORMATION

The site location is on a forested slope, in Whitley County, Kentucky. The current surface elevation is approximately 1416 ft. Research on the historical mining was conducted by obtaining previous mine license maps from the “Kentucky Mine Mapping Information System” (KMMIS).

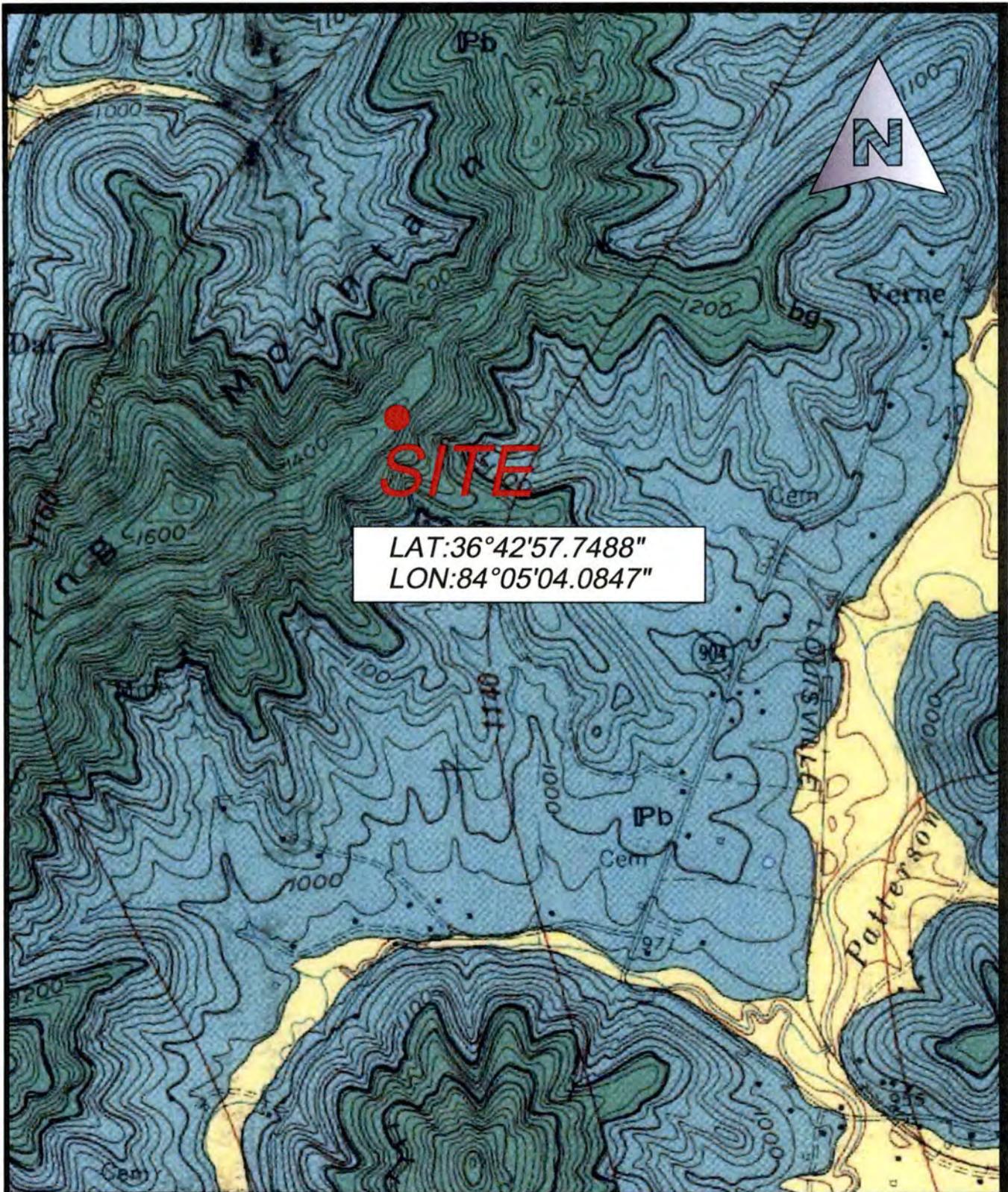
3.2 SURFACE MINING

Surface mining was conducted on the opposite side of the ridgeline of the site. Previous mining was shown on the Brenda Coal Mine Map in the Blue Gem Seam at an elevation of approximately 1200 ft. This mining was shown approximately 570 ft Northeast of the proposed tower location. No associated auger mining was found during our research. No issues from surface mining activities are expected at this site location.

3.3 UNDERGROUND MINING

Two underground mines were found during our research near this site. Snowden Branch Coal company had a small underground mine in the Blue Gem seam. This mine only advanced underground five (5) mine breaks (350 ft.). The nearest mining to the tower location of the mine was shown to be approximately 1180 ft Southwest of the tower location.

The Bowling Mountain Coal Company had a small mine Northeast of the proposed tower site. This mine was also in the Blue Gem seam, and the nearest mining shown on the map was 880 ft away from the proposed tower. This map was not noted as a final and future mining projection were shown under the proposed site. An excerpt of this map is attached in Appendix C of this report. The Blue Gem seam lies approximately 245 ft lower in elevation of the proposed tower location. No mining was found beneath or within in the area influence of subsidence influence, and if unrecorded mining was conducted, the potential for



LAT:36°42'57.7488"
 LON:84°05'04.0847"

Drawn: RDS	Date: 07/24/18
Job:165-072	Scale: 1"=1000'

Appalachian Wireless
 Geologic Quadrangle
 Location Map
 Yaden Tower Site
 Figure No. 2

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subsidence is very limited. The typical mining height of the Blue Gem seam is approximately 30 to 36 inches. Therefore, there no issues expected from underground mining at this site.

4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

The proposed site is located on a forested slope in Whitley County, Kentucky. The site lies within the Saxton Quadrangle. The site is not readily accessible by conventional exploratory equipment. An estimated pad location was determined based on the information provided. Foundation dimensions were estimated to be a 43.5 ft X 43.5 ft footer for this report.

4.2 TEST PITS

This investigation was conducted by excavating four (4) pits by hand with sounding to find refusal. Test holes are shown on the attached maps in Appendix C. The combinations of pits, visual inspections, and soundings were conducted to evaluate the site lithology and type of materials immediately below the proposed tower site. The following soils and rock properties were found.

TABLE 2
PIT EXCAVATION / SOUNDING

Test Pit	DEPTH INCREMENT, (FT.) TO REFUSAL	SOILS TYPE
TH1	0.0 / 5.0	Soils/ Weath. SS.
TH2	0.0 / 4.0	Soils / No Refusal
TH3	0.0 / 8.0	Soils / Refusal
TH4	0.0 / 2.5	Soils/ Weath. SS

Note: A cross-section of this information is in Appendix C of this report



4.3 GROUNDWATER

Groundwater in Eastern Kentucky is characterized by water flowing through a system of internal fractures that lead to an alluvial aquifer near the bottom of valley floors. Large, defined aquifers other than the alluvium is not common, especially in higher elevations such as where this tower site is proposed. Therefore, groundwater should not be a concern in this area. During field test 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" per the 2015 Kentucky Building Code. In addition, an S_{DS} coefficient of 0.179 g was calculated, and an S_{D1} coefficient of 0.070 g was also calculated for design based on the aforementioned building code.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 GENERAL

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

5.2 SHALLOW MAT FOUNDATIONS RECOMMENDATIONS

We are recommending shallow foundations. It should be noted that the material type and bearing capacity can vary significantly due to the inconsistency of the underlying material. Based on the laboratory and field testing, visual inspection of the materials and practical experience we have estimated that the **allowable bearing capacity of the weathered sandstone at this site will be 4 TSF at the at the estimated mat base elevation of 1405 ft.** The weather sandstone unit is



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present from range of 1405 ft to 1395 ft, will provide the necessary cut width to support the proposed mat without overhanging outside the rock outcrop line.

It is furthermore recommended that the slabs-on-grade be supported on a 4 to 6-inch layer of relatively clean granular material such as sand and gravel or crushed stone. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Proper drainage must be incorporated into this granular layer to preclude future wet areas in the finished slab-on-grade. However, all topsoil and/or other deleterious materials encountered during site preparation must be removed and replaced with 4000 psi concrete below the foundation base. Provided that a minimum of 4 inches of granular material is placed below the new slab-on-grade, a modulus of subgrade reaction (k30) of 100 lbs/cu in can be used for the design of the slabs.

Support structure for this tower can be placed as needed. It is recommended that test pits are examined to ensure that any of these structures are on the competent materials. If pockets of soft, loose or otherwise unsuitable material are encountered in the footing excavations, and it is inconvenient to lower the footings, the proposed footing elevations may be re-established by backfilling after the undesirable material has been removed. The undercut excavation beneath each footing should extend to suitable bearing soils, and the dimensions of the excavation base should be determined by imaginary planes extending outward and down on a 1 (vertical) to 1 (horizontal) slope from the base perimeter of the footing. The entire excavation should then be refilled with a well-compacted engineered fill, or lean concrete (Please note that the width of the lean concrete zone should be equal or wider than the width of the overlying footing element). Special care should be exercised to remove any sloughed, loose or soft materials near the base of the excavation slopes. In addition, special care should be taken to "tie-in" the compacted fill with the excavation slopes, with benches as necessary, to ensure that no pockets of loose or soft materials will be left in place along the excavation slopes below the foundation bearing level. All Federal,



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State, and Local regulations should be strictly adhered to relative to excavation side-slope geometry.

5.3 BURIED UTILITIES

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

6.0 WARRANTY

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

While the services of EKYENG are a valuable and integral part of the design and construction teams, we do not warrant, guarantee, or ensure 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.



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6.1 SUBSURFACE EXPLORATION

Subsurface exploration is normally accomplished by test borings, although test pits are sometimes employed. The location and elevation of the test locations 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 testing was conducted. 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 trenches and pits do not always remain open sufficiently long enough for the measured water level to coincide with the groundwater table.

6.2 LABORATORY AND FIELD TESTS

Laboratory and field tests are performed by specific ASTM standards unless otherwise indicated. All determinations included in each ASTM standard are not always required and performed. Each test report indicates the measurements and determinations made.

6.3 ANALYSIS AND RECOMMENDATIONS

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

Our engineering report recommendations are based primarily on data from test borings or other methods made at the locations shown on the attached drawings.



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Soil variations may exist between test sites, 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



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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 Yaden Property located in Whitley County, Kentucky. Specific design and construction recommendations have been provided in the various sections of the report. The report shall, therefore, be used in its entirety. This report is not a bidding document and shall not be used for that purpose. Anyone reviewing this report must interpret and draw their conclusions regarding the specific construction techniques and methods that were chosen. EKYENG is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploratory and laboratory test data presented in this report.



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SPECIFICATIONS

I – GENERAL

1.0 STANDARDS AND DEFINITIONS

1.1 STANDARDS - All standards refer to latest edition unless otherwise noted.

1.1.1 ASTM D-698-70 (Method C) "Standard Test Methods for Moisture, Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-lb (2.5 kg.) Rammer and 12-inch (305-mm) Drop".

1.1.2 ASTM D-2922 "Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)."

1.1.3 ASTM D-1556 "Standard Test Method for Density of Soil in place by the Sand-Cone Method."

1.2 DEFINITIONS

1.2.1 Owner - In these specifications, the word "Owner" shall mean Appalachian Wireless.

1.2.2 Engineer - In these specifications, the word "Engineer" shall mean the Owner designated engineer.

1.2.3 Design Engineer - In these specifications, the words "Design Engineer" shall mean the Owner designated design engineer.

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

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

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



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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.



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II - ENGINEERED FILL BENEATH STRUCTURES CLEARING AND GRADING SPECIFICATIONS

1.0 GENERAL CONDITIONS

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

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

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

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

2.0 SUBSURFACE CONDITIONS

Prior to bidding the work, the Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work. Borings and/or soil investigations shall have been made. Results of these borings and studies will be made available by the Owner to the Contractor upon his request, but the Owner is not responsible for any interpretations or conclusions with respect thereto made by the Contractor based on such information, and the



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Owner further has no responsibility for the accuracy of the borings and the soil investigations.

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

3.0 SITE PREPARATION

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

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

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

4.0 FORMATION OF FILL AREAS

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



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

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

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

In the construction of filled areas, starting layers shall be placed in the deepest portion of the fill, and as placement progresses, additional layers shall be constructed in horizontal planes. Original slopes shall be continuous, 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 always be maintained during benching and filling of the benches, to ensure that all water is drained away from the fill area.



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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.



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GUIDELINES FOR EXCAVATIONS AND TRENCHES

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

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

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

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

2. Access and egress ramps must be designed by a "competent person" and structural ramps used for equipment must be designed by a "competent person" with qualified knowledge in structural design. In addition:
 - Ramps must be secured to prevent displacement;
 - Ramps used in lieu of steps must have cleats to prevent slipping; and



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- 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 lifelines and a basket stretcher.
 8. When workers enter bell-bottom pier holes or other deep and confined excavations, the worker must wear (always while performing work in the confined space) a separate lifeline attached to a harness. The line must be



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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 guardrails 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.



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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 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.



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3.0 MATERIALS

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

- A. Fine and Coarse Aggregates: Coarse and fine aggregates shall conform to ASTM Specification C33. The maximum size of aggregate shall not be larger than one-fifth (1/5) of the narrowest dimensions between forms, or larger than three fourths (3/4) of the minimum clear spacing between reinforcement.
1. Fine Aggregate: Sand shall be composed essentially of clean, hard, strong, durable grains free of structurally weak grains, organic matter, loam, clay, silt, salt, mica or other fine materials that may affect bonding of the cement paste.
 2. Coarse Aggregate: Cement concrete shall consist of crushed rock or screened gravel and shall be composed essentially of clean, hard, strong and impermeable particles, resistant to wear and frost and free from deleterious amounts of organic matter, loam, clay, salts, mica, and soft, thin, elongated, laminated or disintegrated stone, and shall be inert to water and cement.
- B. Portland Cement: Portland cement shall conform to ASTM Specification C150. Type I or Type II Portland Cement shall be used if 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 ASTM Specification A305. Welded wire mesh shall conform to W4 x W4 size and be of Grade 60 steel.



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- E. Admixtures: Except as herein noted, admixtures shall not be used.
1. Under adverse weather conditions only retarding or accelerating agents containing no chloride may be used.
 2. Air-Entraining Agent shall be used for all concrete will give an entrained air range of not less than 4 percent but no greater than 8 percent in the finished product. Under no circumstances shall the air-entraining be interground with cement.
 3. Approval in writing shall be required from Owner prior to the use of any admixture.

4.0 FORM

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

5.0 INSERTS, ETC.

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

6.0 REINFORCEMENT

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



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

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

7.0 CONCRETE

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

8.0 DEPOSITING CONCRETE

4.1. Preparation for Placing Concrete: Before depositing concrete, the Contractor shall:

1. Remove from space to be occupied by concrete all debris, including snow, ice, and water unless otherwise permitted by Owner.
2. Provide diversion, satisfactory to Owner, of any flow of water to an excavation to avoid washing the freshly deposited concrete.



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3. Coat the forms prior to placing of reinforcing steel as required in form work.
 4. Secure firmly in correct position, all reinforcement and other items to be encased and remove therefrom all coating including ice and frost.
- B. Transportation of Concrete from Batch Plant: The concrete shall be delivered to the site of the work and discharge shall be completed within 90 minutes after addition of the cement and water to the aggregates. Each batch of concrete delivered at the job site shall be accompanied by a time slip issued at the batching plant, bearing the time of charging of the mixer drum with the cement and aggregates.
- C. Transporting of Concrete from Mixer to Place of Final Deposit: Transportation shall be done as rapidly as practical by means which shall prevent the separation or loss of the ingredients. If chutes are used, they shall be at a slope not flatter than one vertical to two horizontal. Buggies or carts shall be equipped with pneumatic rubber tires or surfaces of runways shall be sufficiently smooth or both so as not to cause separation or segregation of concrete ingredients. Concrete shall not be allowed to drop freely more than 4 feet. Where greater drops are required, canvas "elephant trunks" or galvanized iron chutes equipped with suitable hopper heads shall be employed and a sufficient number placed to ensure that the concrete may be effectively compacted into horizontal layers not exceeding 12 inches in thickness with minimum lateral movements.
- D. Depositing of Concrete: Depositing of concrete shall:



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



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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 its 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 defects corrected, protrusions removed, and holes filled.



APPENDIX A PHOTOGRAPHS



TEST PIT TCH1



TEST PIT TCH2



EAST KENTUCKY ENGINEERING, LLC.



SITE PHOTO



SANDSTONE OUTCROP



EAST KENTUCKY ENGINEERING, LLC.

APPENDIX B SEISMIC

USGS Design Maps Summary Report

User-Specified Input

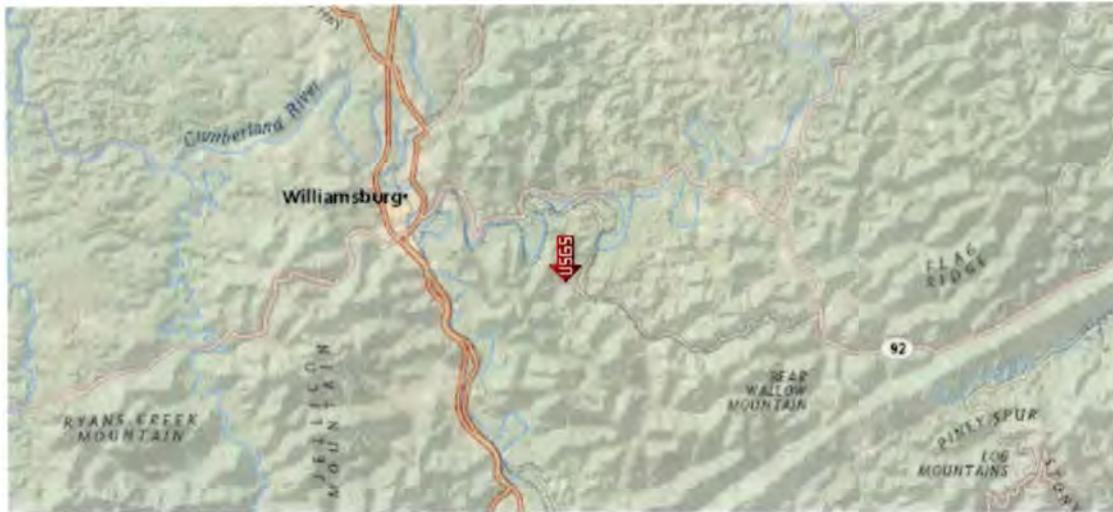
Report Title Yaden Tower Site
Thu August 2, 2018 17:28:31 UTC

Building Code Reference Document 2012/2015 International Building Code
(which utilizes USGS hazard data available in 2008)

Site Coordinates 36.71605°N, 84.08468°W

Site Soil Classification Site Class B – “Rock”

Risk Category IV (e.g. essential facilities)

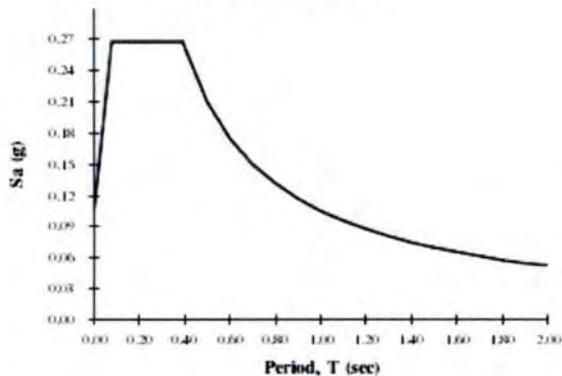


USGS-Provided Output

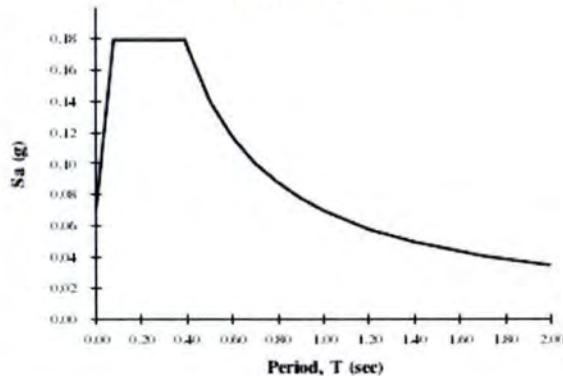
$S_S = 0.268 \text{ g}$	$S_{MS} = 0.268 \text{ g}$	$S_{DS} = 0.179 \text{ g}$
$S_1 = 0.105 \text{ g}$	$S_{M1} = 0.105 \text{ g}$	$S_{D1} = 0.070 \text{ g}$

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

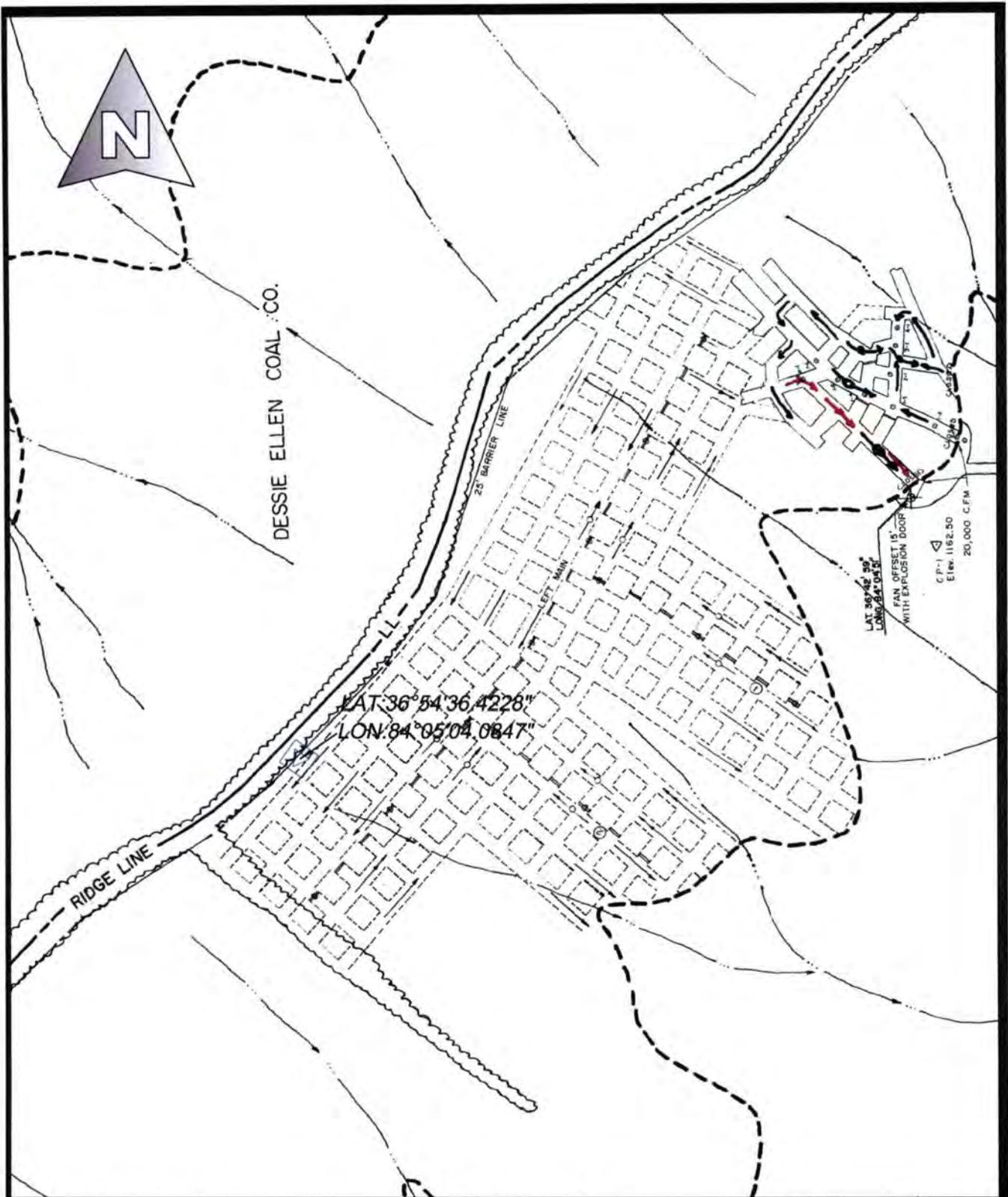


Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.



EAST KENTUCKY ENGINEERING, LLC.

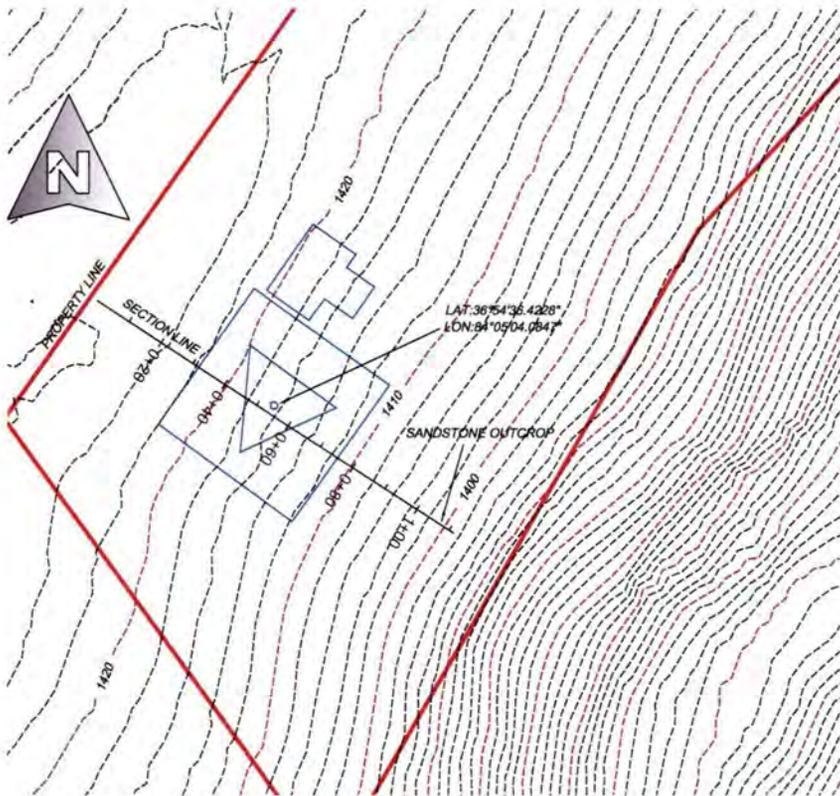
APPENDIX C MAPS



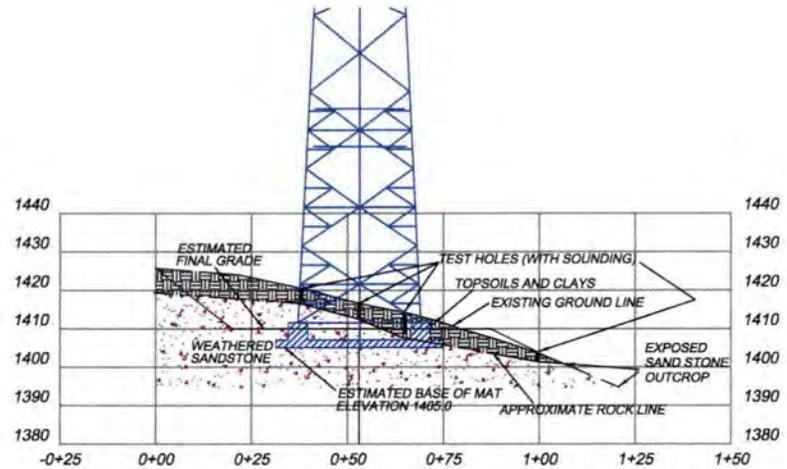
Drawn: RDS	Date: 07/24/18
Job: 165-072	Scale: 1"=1000'

Appalachian Wireless
 Excerpt From
 Bowling Mountain Mining Company
 Blue Gem Seam
 Yaden Tower Site

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



PLAN VIEW
1" = 30'



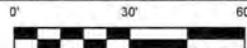
SECTION
1" = 30'

East Kentucky Engineering, LLC

Hazard Location
230 Swartz
Hazard, KY 41701
(806) 551-1050
Email: rdsekyang@outlook.com

Richard D. Smith

 7/25/2018
 230 SWARTZ DRIVE
 HAZARD, KENTUCKY
 41701



Drawn by: RDS	Date: 7-25-2018
Job #: 165-0072	Scale: NOTED
File Location:	

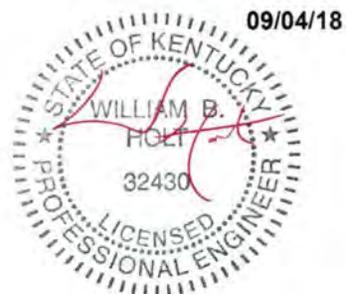
**APPALACHIAN
WIRELESS
YADEN TOWER SITE
WHITLEY COUNTY KENTUCKY**



World Tower
COMPANY, INC.

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

300' MODEL WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: YADEN
WHITLEY COUNTY, KY
DESIGN PACKAGE



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

GENERAL NOTES

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

09/04/18



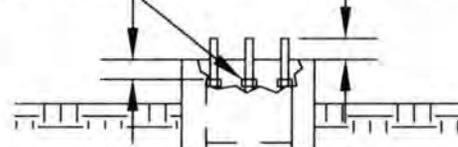
WORLD TOWER

TITLE: 300' MODEL WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: YADEN
WHITLEY COUNTY, KY

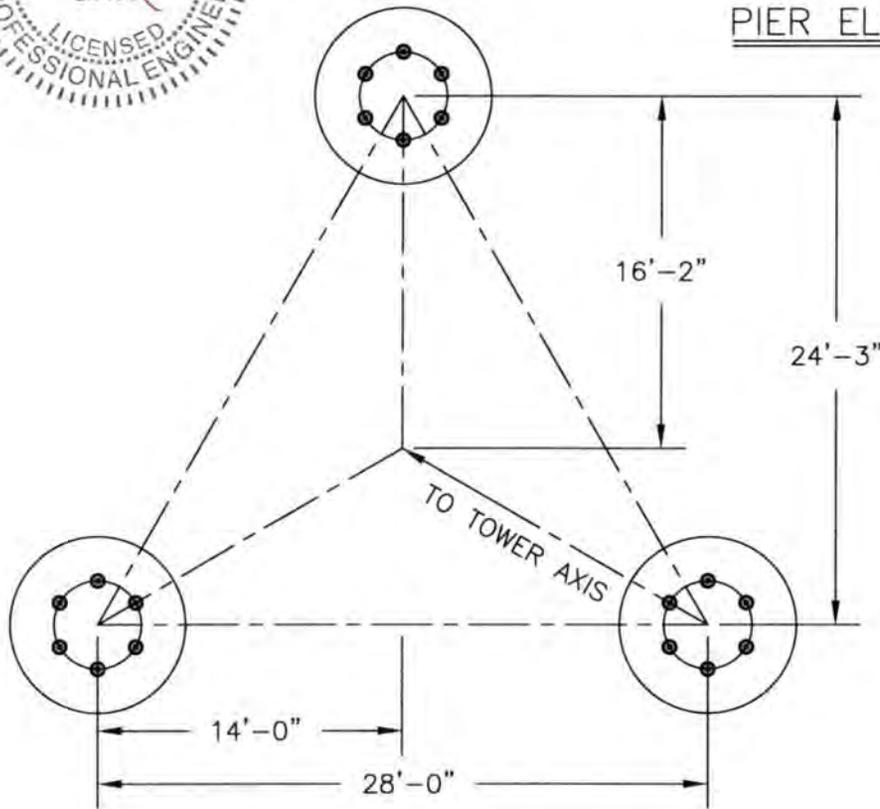
SCALE	DWN. LKG	CKD.	DATE 8-23-18
FILE	DWG. NO. Q18762N		



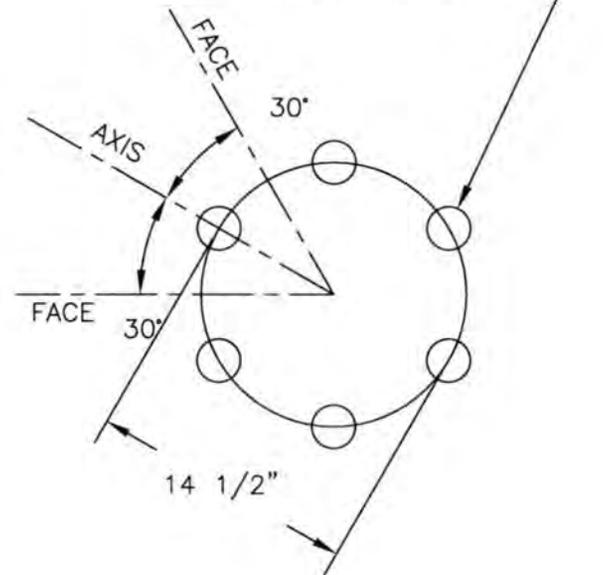
GALVANIZED NUT TYP. 3" MIN. 10" PROJ.



PIER ELEVATION



ANCHOR BOLTS
 (6) 2"Ø X 78"
 ASTM F1554-105
 EQUALLY SPACED WITH
 TOP TEMPLATE AND
 EMBEDDED PLATE

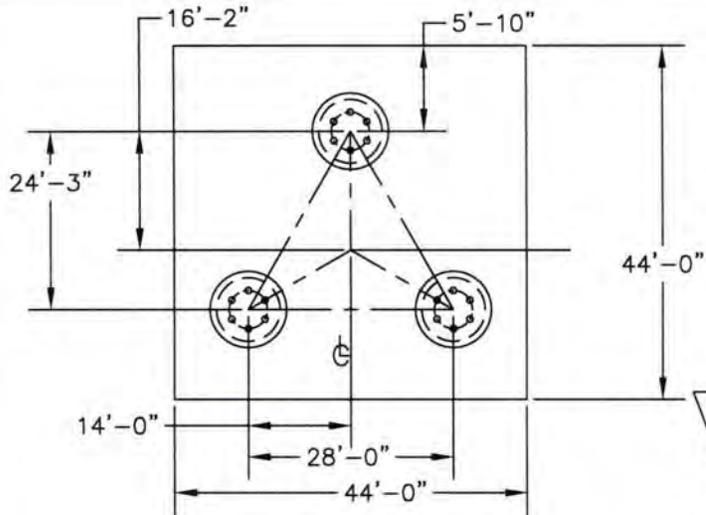


TITLE:

300' MODEL WSST TOWER
 FOR: APPALACHIAN WIRELESS
 SITE: YADEN
 WHITLEY COUNTY, KY

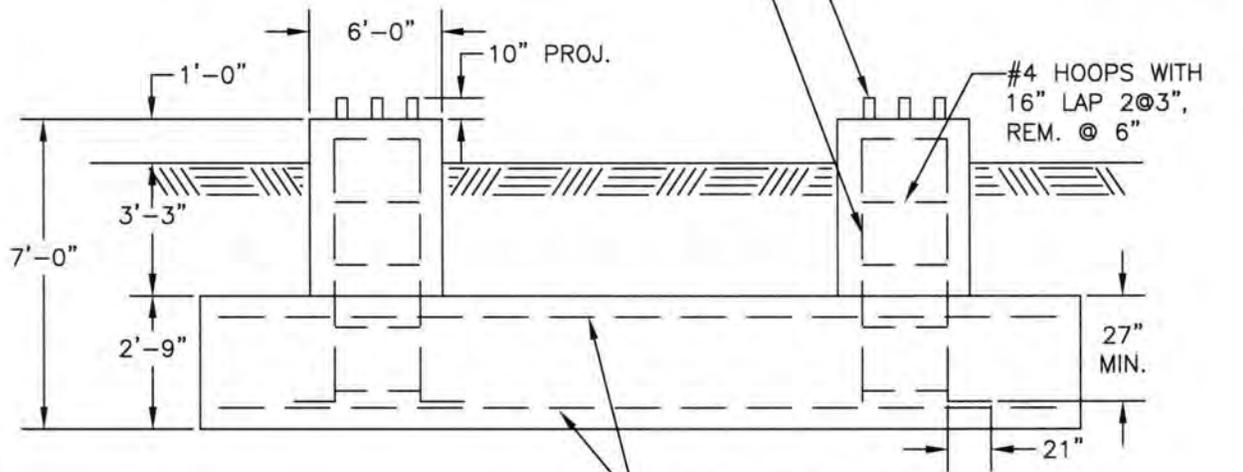
WORLD TOWER

SCALE NONE	DWN. LKG	CKD.	DATE 8-23-18
FILE	DWG. NO.		Q18762AB



210.6 CU. YDS.
CONCRETE REQ'D.

BASE REACTIONS	
OTM:	22626.0 FT. KIPS
COMP.	977.0 KIPS
UPLIFT	846.0 KIPS
SHEAR (3 LEGS)	148.0 KIPS
WT. NO ICE	132.0 KIPS
WT. 3/4" ICE	395.0 KIPS



26 #9 VERT. REBARS
WITH 90° A.C.I. BEND
AT BOTTOM

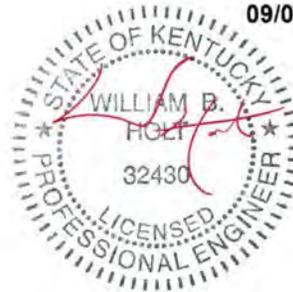
ANCHOR BOLTS
EMBEDDED PLATE AT BOTTOM

60-#11 REBARS
EACH WAY TOP AND BOTTOM
(240 TOTAL)

GENERAL NOTES

1. CONCRETE TO HAVE 4000 PSI MIN. COMPRESSIVE STRENGTH AFTER 28 DAYS.
2. ALL REINFORCEMENT STEEL IS DEFORMED AND MEETS THE STRENGTH REQUIREMENTS OF ASTM A615 GRADE 60.
3. EMBEDDED STEEL TO HAVE 3" MIN. CONCRETE COVER.
4. FOUNDATION DESIGN IS BASED ON CUSTOMER SUPPLIED SOIL DATA FROM EAST KENTUCKY ENGINEERING, LLC. PROJECT NUMBER 165-000-0072 DATED JULY 24, 2018.

09/04/18

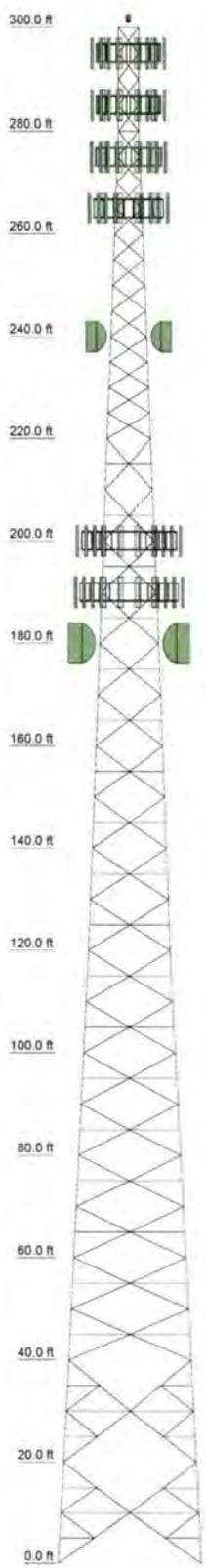


TITLE: FOUNDATION DETAIL
300' WSST TOWER
FOR: APPALACHIAN WIRELESS
SITE: YADEN
WHITLEY COUNTY, KY

WORLD TOWER

SCALE	NONE	DWN.	LKG	CKD.	DATE	8-23-18
FILE				DWG. NO.	Q18762F	

Section	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	T21	T22	T23	T24	T25	T26	T27	T28	T29	T30	T31	T32	T33	T34	T35	T36	T37	T38	T39	T40	T41	T42	T43	T44	T45	T46	T47	T48	T49	T50	T51	T52	T53	T54	T55	T56	T57	T58	T59	T60	T61	T62	T63	T64	T65	T66	T67	T68	T69	T70	T71	T72	T73	T74	T75	T76	T77	T78	T79	T80	T81	T82	T83	T84	T85	T86	T87	T88	T89	T90	T91	T92	T93	T94	T95	T96	T97	T98	T99	T100	T101	T102	T103	T104	T105	T106	T107	T108	T109	T110	T111	T112	T113	T114	T115	T116	T117	T118	T119	T120	T121	T122	T123	T124	T125	T126	T127	T128	T129	T130	T131	T132	T133	T134	T135	T136	T137	T138	T139	T140	T141	T142	T143	T144	T145	T146	T147	T148	T149	T150	T151	T152	T153	T154	T155	T156	T157	T158	T159	T160	T161	T162	T163	T164	T165	T166	T167	T168	T169	T170	T171	T172	T173	T174	T175	T176	T177	T178	T179	T180	T181	T182	T183	T184	T185	T186	T187	T188	T189	T190	T191	T192	T193	T194	T195	T196	T197	T198	T199	T200	T201	T202	T203	T204	T205	T206	T207	T208	T209	T210	T211	T212	T213	T214	T215	T216	T217	T218	T219	T220	T221	T222	T223	T224	T225	T226	T227	T228	T229	T230	T231	T232	T233	T234	T235	T236	T237	T238	T239	T240	T241	T242	T243	T244	T245	T246	T247	T248	T249	T250	T251	T252	T253	T254	T255	T256	T257	T258	T259	T260	T261	T262	T263	T264	T265	T266	T267	T268	T269	T270	T271	T272	T273	T274	T275	T276	T277	T278	T279	T280	T281	T282	T283	T284	T285	T286	T287	T288	T289	T290	T291	T292	T293	T294	T295	T296	T297	T298	T299	T300	T301	T302	T303	T304	T305	T306	T307	T308	T309	T310	T311	T312	T313	T314	T315	T316	T317	T318	T319	T320	T321	T322	T323	T324	T325	T326	T327	T328	T329	T330	T331	T332	T333	T334	T335	T336	T337	T338	T339	T340	T341	T342	T343	T344	T345	T346	T347	T348	T349	T350	T351	T352	T353	T354	T355	T356	T357	T358	T359	T360	T361	T362	T363	T364	T365	T366	T367	T368	T369	T370	T371	T372	T373	T374	T375	T376	T377	T378	T379	T380	T381	T382	T383	T384	T385	T386	T387	T388	T389	T390	T391	T392	T393	T394	T395	T396	T397	T398	T399	T400	T401	T402	T403	T404	T405	T406	T407	T408	T409	T410	T411	T412	T413	T414	T415	T416	T417	T418	T419	T420	T421	T422	T423	T424	T425	T426	T427	T428	T429	T430	T431	T432	T433	T434	T435	T436	T437	T438	T439	T440	T441	T442	T443	T444	T445	T446	T447	T448	T449	T450	T451	T452	T453	T454	T455	T456	T457	T458	T459	T460	T461	T462	T463	T464	T465	T466	T467	T468	T469	T470	T471	T472	T473	T474	T475	T476	T477	T478	T479	T480	T481	T482	T483	T484	T485	T486	T487	T488	T489	T490	T491	T492	T493	T494	T495	T496	T497	T498	T499	T500	T501	T502	T503	T504	T505	T506	T507	T508	T509	T510	T511	T512	T513	T514	T515	T516	T517	T518	T519	T520	T521	T522	T523	T524	T525	T526	T527	T528	T529	T530	T531	T532	T533	T534	T535	T536	T537	T538	T539	T540	T541	T542	T543	T544	T545	T546	T547	T548	T549	T550	T551	T552	T553	T554	T555	T556	T557	T558	T559	T560	T561	T562	T563	T564	T565	T566	T567	T568	T569	T570	T571	T572	T573	T574	T575	T576	T577	T578	T579	T580	T581	T582	T583	T584	T585	T586	T587	T588	T589	T590	T591	T592	T593	T594	T595	T596	T597	T598	T599	T600	T601	T602	T603	T604	T605	T606	T607	T608	T609	T610	T611	T612	T613	T614	T615	T616	T617	T618	T619	T620	T621	T622	T623	T624	T625	T626	T627	T628	T629	T630	T631	T632	T633	T634	T635	T636	T637	T638	T639	T640	T641	T642	T643	T644	T645	T646	T647	T648	T649	T650	T651	T652	T653	T654	T655	T656	T657	T658	T659	T660	T661	T662	T663	T664	T665	T666	T667	T668	T669	T670	T671	T672	T673	T674	T675	T676	T677	T678	T679	T680	T681	T682	T683	T684	T685	T686	T687	T688	T689	T690	T691	T692	T693	T694	T695	T696	T697	T698	T699	T700	T701	T702	T703	T704	T705	T706	T707	T708	T709	T710	T711	T712	T713	T714	T715	T716	T717	T718	T719	T720	T721	T722	T723	T724	T725	T726	T727	T728	T729	T730	T731	T732	T733	T734	T735	T736	T737	T738	T739	T740	T741	T742	T743	T744	T745	T746	T747	T748	T749	T750	T751	T752	T753	T754	T755	T756	T757	T758	T759	T760	T761	T762	T763	T764	T765	T766	T767	T768	T769	T770	T771	T772	T773	T774	T775	T776	T777	T778	T779	T780	T781	T782	T783	T784	T785	T786	T787	T788	T789	T790	T791	T792	T793	T794	T795	T796	T797	T798	T799	T800	T801	T802	T803	T804	T805	T806	T807	T808	T809	T810	T811	T812	T813	T814	T815	T816	T817	T818	T819	T820	T821	T822	T823	T824	T825	T826	T827	T828	T829	T830	T831	T832	T833	T834	T835	T836	T837	T838	T839	T840	T841	T842	T843	T844	T845	T846	T847	T848	T849	T850	T851	T852	T853	T854	T855	T856	T857	T858	T859	T860	T861	T862	T863	T864	T865	T866	T867	T868	T869	T870	T871	T872	T873	T874	T875	T876	T877	T878	T879	T880	T881	T882	T883	T884	T885	T886	T887	T888	T889	T890	T891	T892	T893	T894	T895	T896	T897	T898	T899	T900	T901	T902	T903	T904	T905	T906	T907	T908	T909	T910	T911	T912	T913	T914	T915	T916	T917	T918	T919	T920	T921	T922	T923	T924	T925	T926	T927	T928	T929	T930	T931	T932	T933	T934	T935	T936	T937	T938	T939	T940	T941	T942	T943	T944	T945	T946	T947	T948	T949	T950	T951	T952	T953	T954	T955	T956	T957	T958	T959	T960	T961	T962	T963	T964	T965	T966	T967	T968	T969	T970	T971	T972	T973	T974	T975	T976	T977	T978	T979	T980	T981	T982	T983	T984	T985	T986	T987	T988	T989	T990	T991	T992	T993	T994	T995	T996	T997	T998	T999	T1000
Legs	SR 5 3/4	SR 5 1/2	SR 5 1/2	SR 5 1/4	SR 5 1/4	SR 5 1/4	SR 5 1/4	SR 4 3/4	SR 4 3/4	SR 4 3/4	SR 4 1/2	SR 4 1/2	SR 4 1/4	SR 4 1/4	SR 3 3/4	SR 3 3/4	SR 3 1/2	SR 3 1/2	SR 3 1/2	SR 3 1/4	SR 3 1/4	SR 3 1/2	SR 3	SR 2 1/2	SR 2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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Weight (K)	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						



SYMBOL LIST

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



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

Aeronautical Study No.
 2018-ASO-11750-OE

Issued Date: 09/04/2018

Ali Kuzehkanani
 East Kentucky Network, LLC
 8300 Greensboro Drive, Suite 1200
 Tysons, 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 Yaden
 Location: Yaden, KY
 Latitude: 36-42-57.75N NAD 83
 Longitude: 84-05-04.86W
 Heights: 1411 feet site elevation (SE)
 310 feet above ground level (AGL)
 1721 feet above mean sea level (AMSL)

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

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

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

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

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

This determination expires on 03/04/2020 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

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

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

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

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

If we can be of further assistance, please contact our office at (907) 271-5863, or robert.van.haastert@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-ASO-11750-OE.

Signature Control No: 367341224-384166845

(DNE)

Robert van Haastert
Specialist

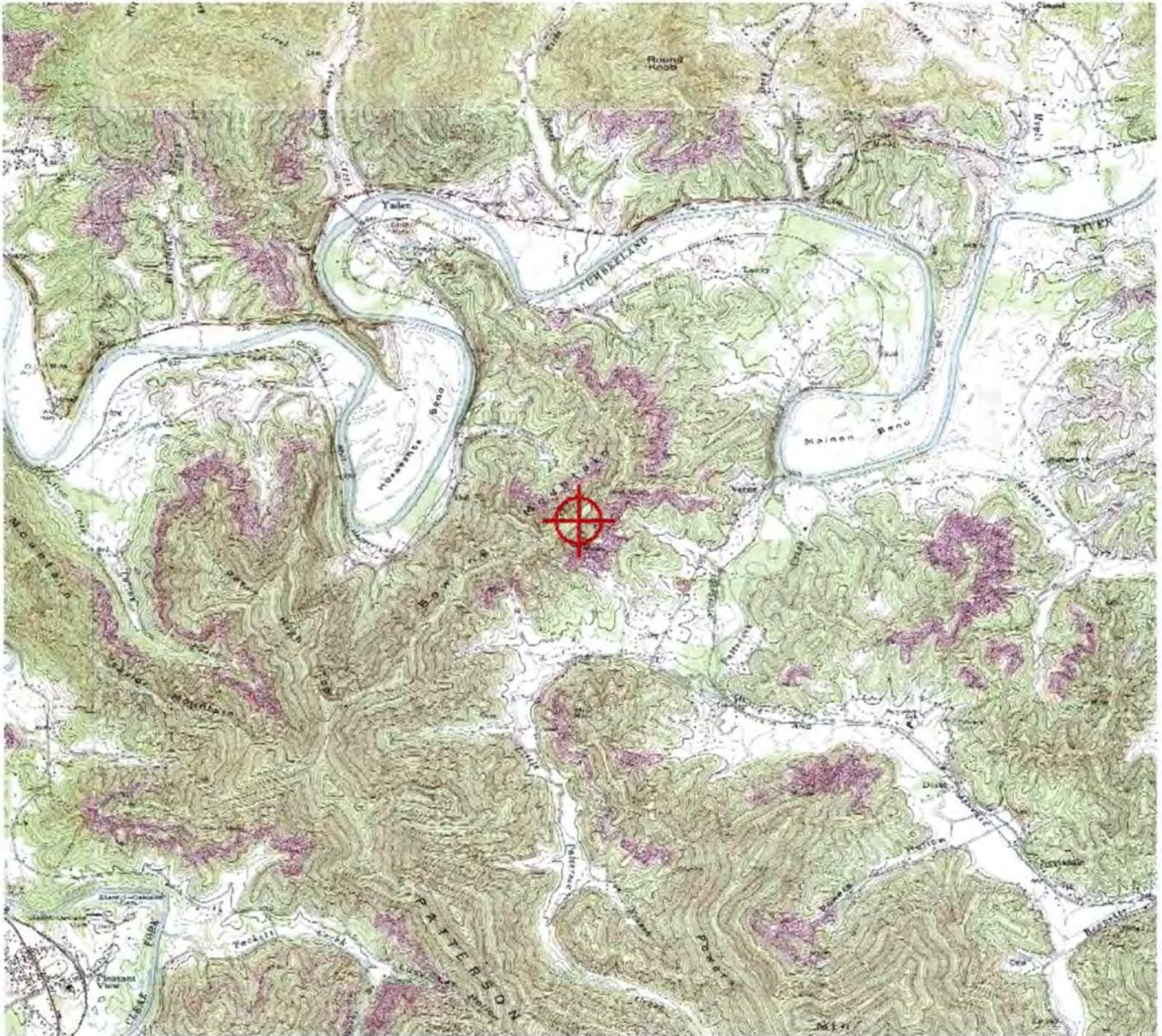
Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2018-ASO-11750-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

TOPO Map for ASN 2018-ASO-11750-OE





KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN
Governor

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

September 5, 2018

APPROVAL OF APPLICATION

APPLICANT:

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

SUBJECT: AS-118-BYL-2018-061

STRUCTURE: Antenna Tower
LOCATION: Yaden, KY
COORDINATES: 36° 42' 57.75" N / 84° 5' 4.86" W
HEIGHT: 310' AGL/1721' AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 310' AGL/ 1721' AMSL Antenna Tower near Yaden, KY 36° 42' 57.75" N / 84° 5' 4.86" W.

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

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

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



John Houlihan
Administrator



An Equal Opportunity Employer M/F/D



KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN
Governor

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

CONSTRUCTION/ALTERATION STATUS REPORT

September 5, 2018

AERONAUTICAL STUDY NUMBER: AS-118-BYL-2018-061

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 September 5, 2018. This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within the said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit. When appropriate, please indicate the status of the project in the place below and return this letter to John Houlihan, Administrator, Kentucky Airport Zoning Commission, 421 Buttermilk Pike, Covington, KY, 41017. 859-341-2700.

STRUCTURE: Antenna Tower
LOCATION: Yaden, KY
COORDINATES: 36° 42' 57.75" N / 84° 5' 4.86" W
HEIGHT: 310' AGL / 1721' 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 _____



An Equal Opportunity Employer M/F/D

2018-061



KENTUCKY TRANSPORTATION CABINET

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

KENTUCKY AIRPORT ZONING COMMISSION

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

APPLICANT (name) East Kentucky Network, LLC c/o LLGS		PHONE 703-584-8667	FAX 703-584-8692	KY AERONAUTICAL STUDY # AS-118-BVL-2018-061
ADDRESS (street) 8300 Greensboro Dr, #1200		CITY Tysons		STATE VA
APPLICANT'S REPRESENTATIVE (name) Ali Kuzehkanani		PHONE 703-584-8667	FAX 703-584-8692	ZIP 22102
ADDRESS (street) 8300 Greensboro Dr, #1200		CITY Tysons		STATE VA
APPLICATION FOR <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing		WORK SCHEDULE Start 07/25/18 End 07/30/18		
DURATION <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (months days)				
TYPE <input type="checkbox"/> Crane <input type="checkbox"/> Building <input checked="" type="checkbox"/> Antenna Tower <input type="checkbox"/> Power Line <input type="checkbox"/> Water Tank <input type="checkbox"/> Landfill <input type="checkbox"/> Other		MARKING/PAINTING/LIGHTING PREFERRED <input type="checkbox"/> Red Lights & Paint <input checked="" type="checkbox"/> White- medium intensity <input type="checkbox"/> White- high intensity <input type="checkbox"/> Dual- red & medium intensity white <input type="checkbox"/> Dual- red & high intensity white <input type="checkbox"/> Other		
LATITUDE 36°42'57.75"		LONGITUDE 84°05'04.86"		DATUM <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> NAD27 <input type="checkbox"/> Other
NEAREST KENTUCKY City Yaden County Whitley		NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT Williamsburg-Whitley County Airport		
SITE ELEVATION (AMSL, feet) 1411		TOTAL STRUCTURE HEIGHT (AGL, feet) 310		CURRENT (FAA aeronautical study #)
OVERALL HEIGHT (site elevation plus total structure height, feet) 1721		PREVIOUS (FAA aeronautical study #)		
DISTANCE (from nearest Kentucky public use or Military airport to structure) 8.4 mi		PREVIOUS (KY aeronautical study #)		
DIRECTION (from nearest Kentucky public use or Military airport to structure) SE				
DESCRIPTION OF LOCATION (Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.) Approximately 1.9 miles SSE of Yaden (Whitley), 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?) <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, when? 06/11/8				
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.)				
PENALTIES (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 Ali Kuzehkanani	TITLE Dir of Engineering	SIGNATURE 	DATE 06/11/18	
COMMISSION ACTION <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved		SIGNATURE 		DATE 9-5-18

Driving Directions for Yaden

Beginning in Williamsburg, Kentucky beside the Whitley County Courthouse at the intersection of North 2nd St. & Main St. drive through the traffic light to the intersection of KY 296 East and Cumberland Ave. Turn left onto Cumberland Avenue and drive .1 mile to the intersection of Cumberland Ave. & 25W. Turn right onto 25W, drive .8 miles to the intersection of 25W and Hwy 92. Turn left onto Hwy 92 E. Drive 5.2 miles to the intersection of Hwy 92 E and Hwy 904. Turn right onto Hwy 904 E and drive 4.1 miles (sign will be posted). Turn right onto the gravel road and drive .3 miles. A survey ribbon will be to your right. Follow the ribbon to the top of the hill (sign will be posted).

Prepared by:

Daryl Bartley

CELL SITE COMPLIANCE AGENT

East Kentucky Network, LLC

D/b/a Appalachian Wireless

(606) 791-0310 (cell)

dbartley@ekn.com

Yaden

Location:
4067 Hwy 904E
Williamsburg, KY 40769

Coordinates:
36°42'57.75"N
84° 5'4.86"W

Legend
 1/2 Mile Search Area

 Proposed Yaden Site

Dal Rd

Baker Cemetary Rd



2000 ft

RECORDED IN THE OFFICE OF
KAY SCHWARTZ
WHITLEY COUNTY CLERK

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MEMORANDUM OF LEASE

BY KS
232782
2018 SEP 10 PM 12:08

THIS MEMORANDUM OF LEASE is made and entered into on this 10th day of September, 2018, with a commencement date of September 1, 2018 (the "Commencement Date"), by and between **ROGER DAVID SASKO** and **STACEY L. SASKO**, with an address of 4065 Highway 904 East, Williamsburg, Kentucky 40769, hereinafter referred to as "Lessors", and **EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS**, a Kentucky limited liability company, with a mailing address of 101 Technology Trail, Ivel, Kentucky, 41642, hereinafter referred to as "Lessee."

WITNESSETH

1. **Demised Premises.** For good and valuable consideration, Lessors leased to Lessee, and Lessee has leased from Lessors that certain tract of real estate located in Whitley County, Kentucky, and being a portion of the same land conveyed to Lessors by Deed dated January 4, 2013, and recorded on January 8, 2013, in Deed Book 512, Page 328 of record in the Whitley County Clerk's Office. Said property is more particularly described in the description **attached** hereto and made a part hereof as **Exhibit A** and the plat **attached** hereto and made a part hereof as **Exhibit B**, prepared by James W. Caudill, Licensed Professional Land Surveyor (hereinafter referred to as the "Premises"). The Lessors have also granted unto Lessee full and complete rights of ingress, egress and regress to and from the Premises over any property owned by Lessors and other associated rights for installation of utilities, maintenance, and other purposes.

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

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

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

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

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

LESSORS:



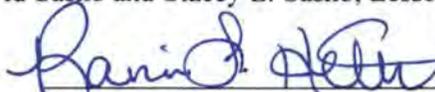
ROGER DAVID SASKO



STACEY L. SASKO

COMMONWEALTH OF KENTUCKY,
COUNTY OF Whitley, TO WIT;

The foregoing instrument was acknowledged before me on this 10th day of September, 2018, by Roger David Sasko and Stacey L. Sasko, Lessors.



Notary Public

My Commission Expires Feb 6, 2020

LESSEE:

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

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

COMMONWEALTH OF KENTUCKY
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 5th day of September, 2018, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC d/b/a Appalachian Wireless, Lessee.

Raice Helton
Notary Public

My Commission Expires Feb 6, 2020

This instrument was prepared by:

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

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LOT DESCRIPTION
 Property of
 Roger David Sasko and
 Stacey Sasko
 4065 Highway 904
 Williamsburg, KY 40769
 Off State Highway 904 Near Yaden
 in Whitley County, KY.
 May 16, 2018



A certain tract or parcel of land lying in Whitley County, Kentucky, on the waters of Cumberland River and being a portion of the same tract of land conveyed to Roger David Sasko and wife, Stacey Sasko, by deed from Vanessa Sasko Sizemore and husband, Mark Sizemore, and Roger David Sasko and wife, Stacey Sasko, dated January 4, 2013, which is duly record in Deed Book 512, Page 328, Whitley County Court Clerk's Office. And being more particularly described and bounded as follows:

Lot 1A

Beginning on a found iron pin with cap (no Land Surveyor number visible) on top of the ridge of Bowling Mountain, and being a corner to Roger David Sasko (Deed Book 512, Page 328), Ronnie and Janet K. Baker (Deed Book 453, Page 381), and Mt. Wachtel LTD (Deed Book 310, Page 536); thence following along the ridge and with the line of Mt. Wachtel LTD North 42 deg 46 min 58 sec East, a distance of 198.93 feet to a set iron pin with cap marked LS#2259 on the top of the ridge; thence continuing with the ridge and line of Mt. Wachtel LTD North 48 deg 02 min 36 sec East, a distance of 129.04 feet to a set iron pin with cap marked LS#2259 on top of the ridge; thence leaving the ridge and line of Mt. Wachtel LTD South 28 deg 49 min 56 sec East, a distance of 133.56 feet, down the hill and severing the property of Roger David Sasko, to a set spike in the root of a 12" maple on side of hill; thence around the side of the hill South 50 deg 30 min 12 sec West, a distance of 141.91 feet to a set spike in a rock ledge on side of hill; thence continuing around the hill South 37 deg 08 min 13 sec West, a distance of 192.12 feet to a set iron pin with cap marked LS#2259 on the existing property line dividing Roger David Sasko and Ronnie and Janet K. Baker; thence traveling back up the hill and with the property line of Ronnie and Janet K. Baker North 28 deg 38 min 36 sec West, a distance of 146.02 feet to the point of beginning. Containing a calculated area of 41991.4 Sq. Feet, or 0.96 Acres.

Also to be included is an access road from the public road to Lot 1A.

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

Unless stated otherwise, any monument referred to herein as "set iron pin with cap" is a set 1/2" diameter rebar, at least eighteen (18") in length, with a plastic cap stamped "LS 2259". All bearings stated herein are referred to a prior survey by R. Reece Surveying on 11/7/12.

This survey was performed on May 16, 2018 by James W. Caudill, a Kentucky Licensed Professional Land Surveyor No. 2259.



James W. Caudill
 James W. Caudill, PLS #2259

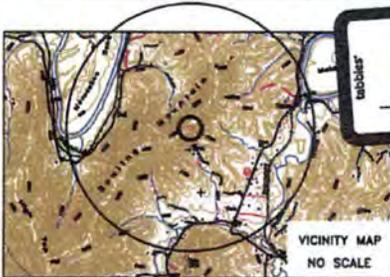
EXHIBIT

B

MT. WACHTEL, LTD.
DB 310 PG 536

MARY L. BROWN
DB 416 PG 142

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VICINITY MAP
NO SCALE

APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE
OFF HWY 904 NEAR YADEN
IN WHITLEY COUNTY, KY.

MT. WACHTEL, LTD.
DB 310 PG 536

RONNIE AND
JANET K. BAKER
DB 453 PG 381

STACIE DANELLE LEE ET AL
DB 395 PG 178

DAVID SASKO
TRACT 4
44.92 ACRES
DB 512 PG 328

PROPOSED NEW SECTION OF ACCESS ROAD
700' @ 2X-5% GRADE

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

BEGIN - AT FOUND IRON PIN W/ CAP ON TOP OF RIDGE.
THENCE ALONG THE TOP OF RIDGE N 42°46'58" E, A DISTANCE OF 198.93' TO A SET IPC W/ CAP ON TOP OF
RIDGE;
THENCE WITH TOP OF RIDGE N 48°02'58" E, A DISTANCE OF 129.04' TO A SET IRON PIN W/ CAP ON TOP OF
RIDGE;
THENCE LEAVING THE RIDGE S 28°48'56" E, A DISTANCE OF 133.56' TO A SET SPIKE IN ROOT OF 12" MAPLE;
THENCE WITH SIDE OF HILL S 50°30'12" W, A DISTANCE OF 141.91' TO A SET SPIKE IN ROCK LEDGE;
THENCE CONTINUING WITH SIDE OF HILL S 37°08'13" W, A DISTANCE OF 192.12' TO A SET IRON PIN W/ CAP;
THENCE BACK UP THE HILL N 28°28'34" W, A DISTANCE OF 146.02' TO THE POINT OF BEGINNING.

ALL BEARINGS ARE BASED ON A PRIOR SURVEY BY
R. REECE LAND SURVEYING LS3358 ON 11/7/2012

PEGGY SILER
DB 396 PG 200



SURVEY STA
IRON-PIN WITH CAP (18" X .5" REBAR PLASTIC CAP MARKED LS2259)
BOUNDARY LINE
ACCESS ROAD
PARENT TR LINE

URBAN CLASS SURVEY
I HEREBY CERTIFY THAT THIS PLAT DEPICTS A SURVEY MADE
BY ME, BY THE METHOD OF RANDOM TRAVERSE. THE
BEARINGS SHOWN HEREON HAVE NOT BEEN ADJUSTED FOR
CLOSURE. THIS SURVEY AND PLAT MEETS OR EXCEEDS
THE MINIMUM STANDARDS OF GOVERNING AUTHORITIES.
THE UNADJUSTED ERROR OF CLOSURE WAS > 1 IN 10000.

James W. Caudill LS 2259 5-16-18
NAME PLS# DATE

PLAT OF SURVEY

DRAWN
JWC

DATE
05/16/18

RETRACEMENT OF THE
PROPERTY OF
DAVID SASKO
TRACT 4
DEED BOOK 512
PAGE 328

APPROVED
DATE
05/16/18

SCALE
1" = 200'

SHEET
1 OF 1

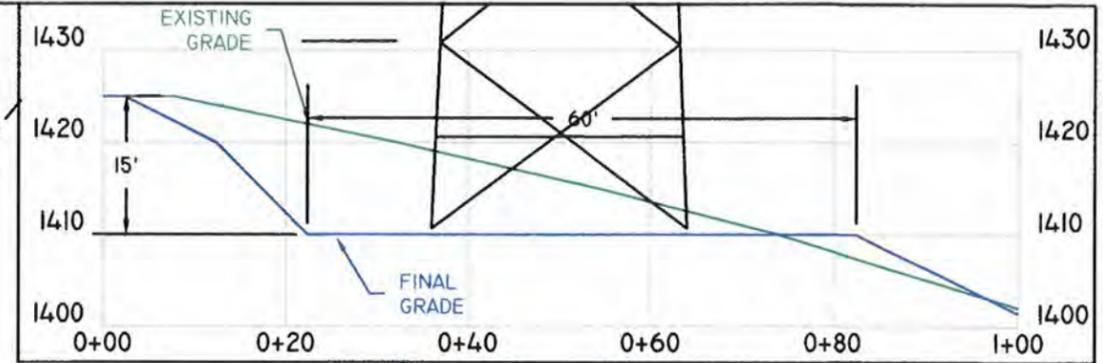
SURVEYED BY JAMES W. CAUDILL LS2259
2999 PERKINS/MADDEN ROAD
AMBURGEY, KY 41775
PHONE 606-642-3217

STATE OF KENTUCKY, COUNTY OF WHITLEY, SCT.
I, Kay Schwartz, Clerk of Whitley County do certify that the
foregoing instrument along with this recording certificate
have been lodged in my office for record on this 10 day
of Sept., 2018, at 12:08P M.
in Lab Book 93 at Page 27-32
Given under my hand this 10 day of Sept
2018
KAY SCHWARTZ, CLERK, BY: Jawana Cato D.C

APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE
YADEN IN WHITLEY COUNTY

PROPERTY OWNER
 MT. WACHTEL LTD.
 DB 310 PG 536

PROPOSED TOWER CENTER
 LAT: 36°42'57.7488"
 LON: 84°05'04.8607"
 N: 3424546.89
 E: 5409405.81
 PAD EL: 1411'



CROSS SECTION

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

"I CERTIFY THAT THE LATITUDE 36° 42' 57.7488"N AND LONGITUDE 84° 05' 04.8607"W ARE WITHIN +/- 50 FEET HORIZONTALLY; AND THE SITE ELEVATION 1411.0 FT. MSL, IS WITHIN +/- 20 FEET VERTICALLY. WITH A STRUCTURE HEIGHT OF 300 FT AGL, THE OVERALL HEIGHT IS 1711 FT, AMSL. THE HORIZONTAL DATUM (COORDINATES) IS IN TERMS OF THE NORTH AMERICAN DATUM OF 1983 (NAD 83). THE VERTICAL DATUM HEIGHTS ARE IN TERMS OF THE NORTH AMERICAN VERTICAL DATUM OF 1988, AND ARE DETERMINED TO THE NEAREST FOOT."

SIGNED *James W. Caudill* PE 12305 LS 2259 5-8-18

PRINTED: JAMES W. CAUDILL PE #12305 & LS #2259

- THE PROPOSED TOWER HAS BEEN LOCATED USING DUAL FREQUENCY GPS UNIT PROCESSED BY "OPUS"
- STATE PLANE COORDINATES NAD 83 KY SINGLE ZONE N:3424546.89, E:5409405.81, EL 1411' TOP OF FOUNDATION TOP OF PROPOSED TOWER ELEV. 1711'
- THIS SURVEY MEETS OBSTACLE ACCURACY CODE 2C.
- PROPERTY LINE INFORMATION TAKEN FROM DEEDS



LINE	BEARING	DISTANCE
L1	N 58°55'48" E	95.32'
L2	N 64°07'05" E	76.62'
L3	N 65°19'11" E	101.57'
L4	N 72°17'45" E	83.78'
L5	N 73°24'18" E	67.22'
L6	N 86°26'09" E	71.11'
L7	N 88°12'57" E	87.10'
L8	S 81°55'49" E	62.26'
L9	S 36°01'55" E	82.09'
L10	N 10°40'33" E	87.09'
L11	N 12°50'58" E	59.22'
L12	N 17°46'03" E	74.35'
L13	N 22°01'23" E	117.36'
L14	N 29°17'37" E	79.23'

PROPERTY OWNER
 RONNIE BAKER
 DB 453 PG 381

N: 3424476.09
 E: 5409383.12
 EL: 1417.17

SEE FOUNDATION DRAWINGS FOR DETAILS.



SURVEY STA FOUND SET
 IRON PIN WITH CAP (18" X .5" REBAR PLASTIC CAP MARKED LS2259)

BOUNDARY LINE - - - - -
ACCESS ROAD - - - - -
ADJACENT TR LINE - - - - -
FENCE □ - - - - □

PROPOSED SITE PLAN AND STRUCTURE LOCATION YADEN TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 05/08/18	YADEN TOWER SITE OFF HIGHWAY 904 NEAR CUMBERLAND RIVER NEAR YADEN IN WHITLEY COUNTY, KY
APPROVED	DATE	
SCALE 1" = 200'	SHEET 1 OF 3	PROJECT NO. YADEN/YADENSITE3_2C20

NAD83 KY SINGLE ZONE

Filing

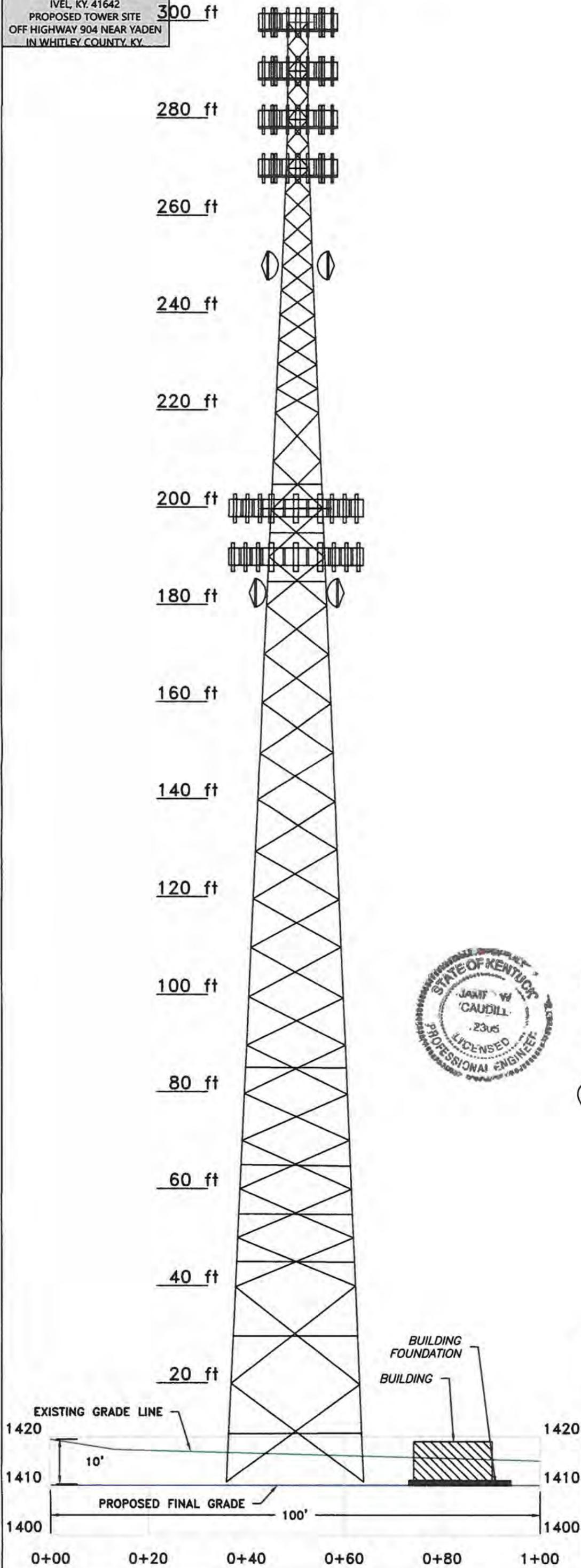
CONTAINS

LARGE OR OVERSIZED

MAP(S)

**RECEIVED ON:
(09/14/2018)**

APPALACHIAN WIRELESS
 101 TECHNOLOGY TRAIL
 IVEL, KY. 41642
 PROPOSED TOWER SITE
 OFF HIGHWAY 904 NEAR YADEN
 IN WHITLEY COUNTY, KY.



PROFILE WITH TOWER



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

James W. Caudill 12305 5-8-18
 JAMES W. CAUDILL PE #. DATE

NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS

05/08/18
 SCALE 1" = 20'



PROPOSED SITE PLAN AND STRUCTURE LOCATION YADEN TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 06/05/18	DAVID SASKO TR. OFF OF HWY 904 NEAR CUMBERLAND RIVER NEAR YADEN IN WHITLEY COUNTY, KY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 3 OF 3	PROJECT NO. YADEN/YADEN3PRO20

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

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