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PUBLIC SERVICE
COMMISSION

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the matter of:

THE APPLICATION OF EAST KENTUCKY NETWORK,)
LLC FOR THE ISSUANCE OF A CERTIFICATE OF)
PUBLIC CONVENIENCE AND NECESSITY TO) CASE NO 2019-00264
CONSTRUCT A TOWER IN PERRY COUNTY,)
KENTUCKY)

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

In an effort to improve service in Perry 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 180-foot telecommunications tower on a tract of land located at 317 Jones Lane, Hazard, Perry County, Kentucky (37°19'1.4911"N 83°09'29.5378"W). A map and detailed directions to the site can be found in Exhibit 7.

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

Exhibit 2 is a list of all Property owners or residents according to the Property Valuation Administrator's record who reside or own property within 500 feet of the proposed tower and all

property owners who own property contiguous to the property upon which construction is proposed in accordance with the Public Valuation Administrator's records.

Pursuant to 807 KAR 5:063 Section 1(1)(L), Section 1(1)(m), and Section 2, all affected property owners according to the Property Valuation Administrator's record who reside or own property within 500 feet of the proposed Tower or who own property contiguous to the property upon which construction is proposed were notified by certified mail return receipt requested of East Kentucky Network, LLC's proposed construction and informed of their right to intervene. They were given the docket number under which this application is filed. Enclosed in Exhibit 2 is a copy of that notification.

Perry County has no formal local planning unit. In absence of this unit, the Perry County Judge Executive's office was notified by certified mail, return receipt requested of East Kentucky Network, LLC's proposal and informed of its right to intervene. The Perry 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 Hazard Herald, August 1, 2019 edition. Enclosed in Exhibit 3 is a copy of that notice. Hazard Herald is the newspaper with the largest circulation in Perry County.

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

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

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

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

No Federal Communications Commission approval is required prior to construction of this facility. Once service is established from this tower we must immediately notify the Federal Communications Commission of its operation. Prior approval is needed only if the proposed facility increases the size of the cellular geographic service area. This cell site will not expand the cellular geographic service area.

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

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

Two notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2), measuring at least two (2) feet in height and four (4) feet in width and containing all required language in letters of required height, have been posted, one at a visible location on the proposed site and one on the nearest public road. The two signs were posted on July 29, 2019, 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 Deed for the site location along with a lot description.

The proposed construction site is on a rugged 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, and 278.665 and all applicable rules and regulations of the PSC, respectfully requests that the PSC accept the foregoing Application for filing and grant a Certificate of Public Convenience and Necessity to construct and operate the proposed tower.

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

SUBMITTED BY: Lynn Haney DATE: 7/31/19
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W.A. Gillum DATE: 7/31/19
W.A. Gillum, General Manager

ATTORNEY: Krystal Branham DATE: 7/31/19
Hon. Krystal Branham, Attorney

CONTACT INFORMATION:

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

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

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

Mailing Address:

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

ULS License

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

Call Sign	KNKN809	Radio Service	CL - Cellular
Status	Active	Auth Type	Regular

Market

Market	CMA452 - Kentucky 10 - Powell	Channel Block	B
Submarket	0	Phase	2

Dates

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

Five Year Buildout Date

10/17/1996

Control Points

1 US Route 23, FLOYD, Harold, KY
P: (606)478-2355

Licensee

FRN	0001786607	Type	Limited Liability Company
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Licensee

East Kentucky Network, LLC d/b/a Appalachian Wireless
101 Technology Trail
Ivel, KY 41642
P:(606)477-2355

Contact

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

Ownership and Qualifications

Radio Service Type Mobile

Regulatory Status Common Carrier Interconnected Yes

Alien Ownership

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

Basic Qualifications

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

Demographics

Race

Ethnicity

Gender

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

Kentucky River Properties
P.O. Box 269
Hazard, KY 41702

Sam Godsey and Mollie Sue Roberts
Box 238
Bulan, KY 41722

Marcia Ann Jones Hoskins
Box 207
Bulan, KY 41722

Robert and Karlene Jones
P.O. Box 946
Bulan, KY 41722

VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

July 30, 2019

Marcia Ann Jones Hoskins
Box 207
Bulan, KY 41722

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00264)

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 Perry County. The facility will include a 180'-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land at 317 Jones Lane, Hazard, Perry County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2019-00264 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

July 30, 2019

Kentucky River Properties
P.O. Box 269
Hazard, KY 41702

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Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

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July 30, 2019

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Box 238
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Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

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July 30, 2019

Robert and Karlene Jones
P.O. Box 946
Bulan, KY 41722

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Sincerely,



Lynn Haney, CPA
Regulatory Compliance Director
Enclosure 1

Hiner

Location:

317 Jones Lane
Hazard, KY 41701

Coordinates:

37°19'01.4911"N
83°09'29.5378"W

Proposed Hiner Tower Site

Google Earth

© 2018 Google

2000 ft



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

EAST KENTUCKY NETWORK



To:	The Hazar Herald	From:	Raina Helton
	Attn: Classifieds		Regulatory Compliance Assistant
Email:	jones@hazard-herald.com	Date:	July 29, 2019
Re:	PUBLIC NOTICE ADVERTISEMENT	Pages:	1

Please place the following Public Notice Advertisement in The Hazard Herald to be ran on August 1, 2019.

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2019-00264)

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 317 Jones Lane, Hazard, Perry County, Kentucky. The proposed tower will be a 180 foot self-supporting tower with attached antennas. If you would like to respond to this notice, please contact the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to Case No. 2019-00264.

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

Thank you,

Raina Helton
Regulatory Compliance Assistant

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



VIA: U.S. CERTIFIED MAIL

July 31, 2019

Scott Alexander, Judge Executive
P.O. Drawer 210
Hazard, KY 41702

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2019-00264)

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 Perry County. The facility will include a 180-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land at 317 Jones Lane, Hazard, Perry County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you are the County Judge Executive of Perry County.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2019-00264 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,

A handwritten signature in blue ink that reads "Lynn Haney".

Lynn Haney
Regulatory Compliance Director
Enclosure



Hiner

Location:

317 Jones Lane
Hazard, KY 41701

Coordinates:

37°19'01.4911"N
83°09'29.5378"W





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

EAST KENTUCKY ENGINEERING, LLC.

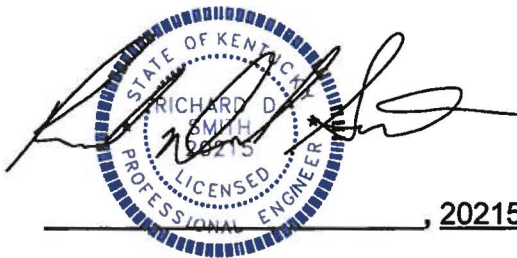
**APPALACHIAN WIRELESS
Geotechnical Investigation on the
Hiner Tower Site
Perry County, Kentucky
EKYENG Project No. 165-000-0080**

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, March 29th, 2019



EAST KENTUCKY ENGINEERING, LLC.

EXECUTIVE SUMMARY

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3.0 SITE DESCRIPTION

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3.3 UNDERGROUND MINING

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II – ENGINEERED FILL BENEATH STRUCTURES

III – GUIDELINES FOR EXCAVATIONS AND TRENCHING

IV – GENERAL CONCRETE SPECIFICATIONS

APPENDIX A – SEISMIC DATA

APPENDIX B – PHOTOGRAPHS

APPENDIX C – MAPS



EAST KENTUCKY ENGINEERING, LLC.

EXECUTIVE SUMMARY

A geotechnical investigation has been performed on the Hiner Tower Site, located in Perry County, Kentucky. This site is not readily accessible. A location map is shown in Figure 1 of this report. Trenching was conducted with the assistance of Wendell Gay Construction. The following geotechnical considerations were identified:

- Trenching utilized for this study encountered soils and sandstone.
- A preliminary site plan was provided by the client for the location of the proposed tower.
- The estimated base elevation of tower mat foundation is 1,541 to 1547 ft.
- This site is on a forested ridgeline.
- **The allowable bearing capacities of the underlying rock is estimated at 4 TSF.**
- The 2015 International Building Code seismic site classification for this site is "B."
- If during the foundation design it becomes necessary to change the base of the footer, alternate design recommendations can be provided.
- The Hazard No. 7 Seam has been historically mined beneath the tower site at an approximate elevation of 1200' feet. It is estimated that this mining occurred in the 1940s. No evidence of subsidence was found during the site investigation.
- 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.



EAST KENTUCKY ENGINEERING, LLC.

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 Hiner Property, in Perry County, Kentucky. A site location map is shown in Figure No. 1.

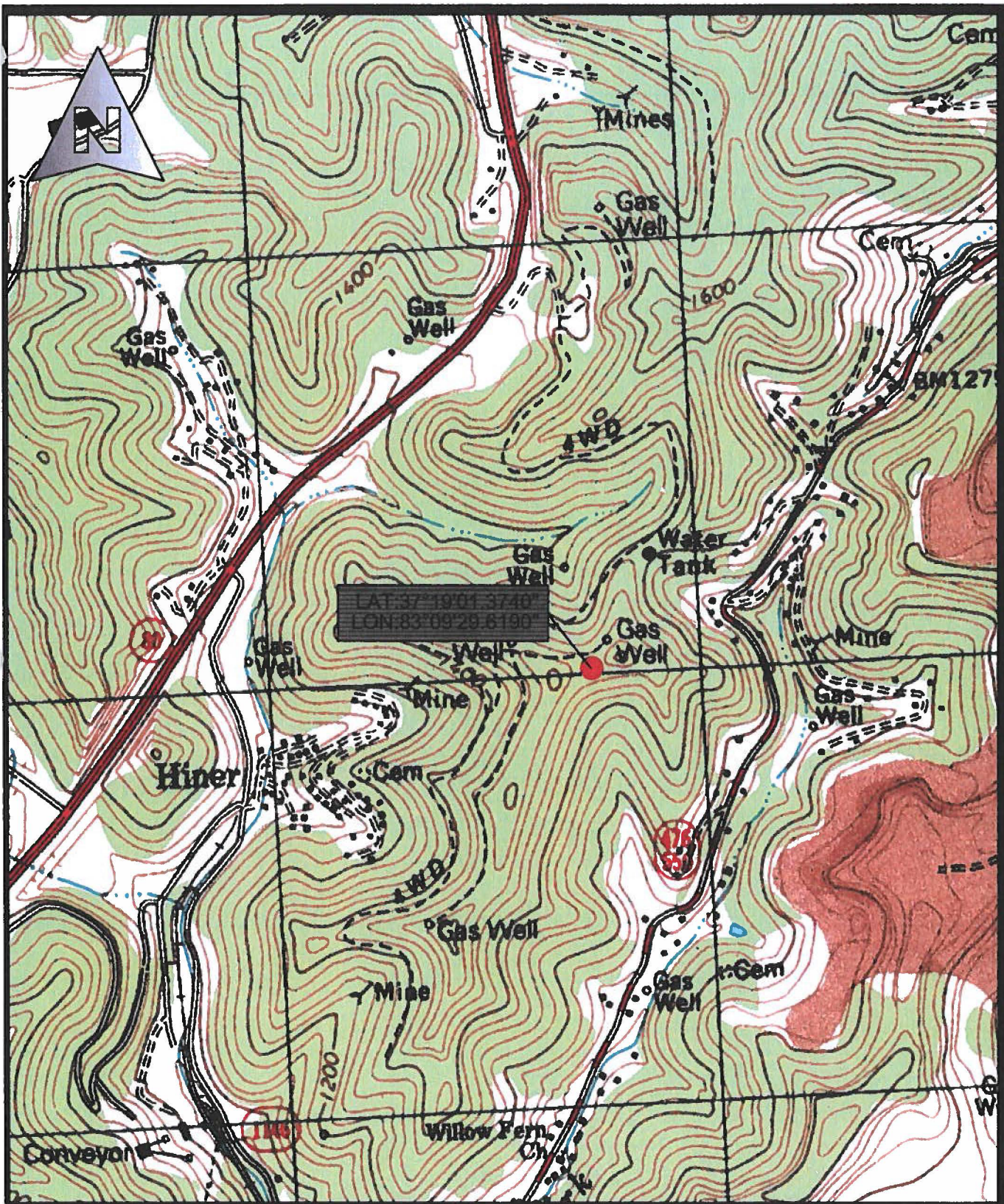
Trenching was conducted with assistance from Wendall Gay Construction. The purpose of these services is to provide information and geotechnical engineering recommendations about subsurface conditions, earthwork, seismic considerations, groundwater conditions, and foundation design.

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 approximately 27 ft x 27 ft with an estimated base of the tower footer elevation at 1541.0 ft to 1547.0 ft. Based upon information provided; we estimate the structural loads will be similar to 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: 4/4/2019

Job: 165-080 Scale: 1"=1000'

APPALACHIAN WIRELESS
EXCERPT FROM USGS QUAD
LOCATION MAP
HINER
FIGURE NO 1

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



EAST KENTUCKY ENGINEERING, LLC.

3.0 SITE DESCRIPTION

3.1 GENERAL INFORMATION

The site location is on a ridgeline. EKYENG reviewed available historical mine maps from the Kentucky Division of Mine Safety, Kentucky Mine Mapping Information System ("KMMIS"). Aerial satellite imagery and lidar mapping also were reviewed to determine the extents of mining near the proposed tower site.

3.2 SURFACE MINING

No surface mining was found during our site investigation and research that would impact this proposed tower.

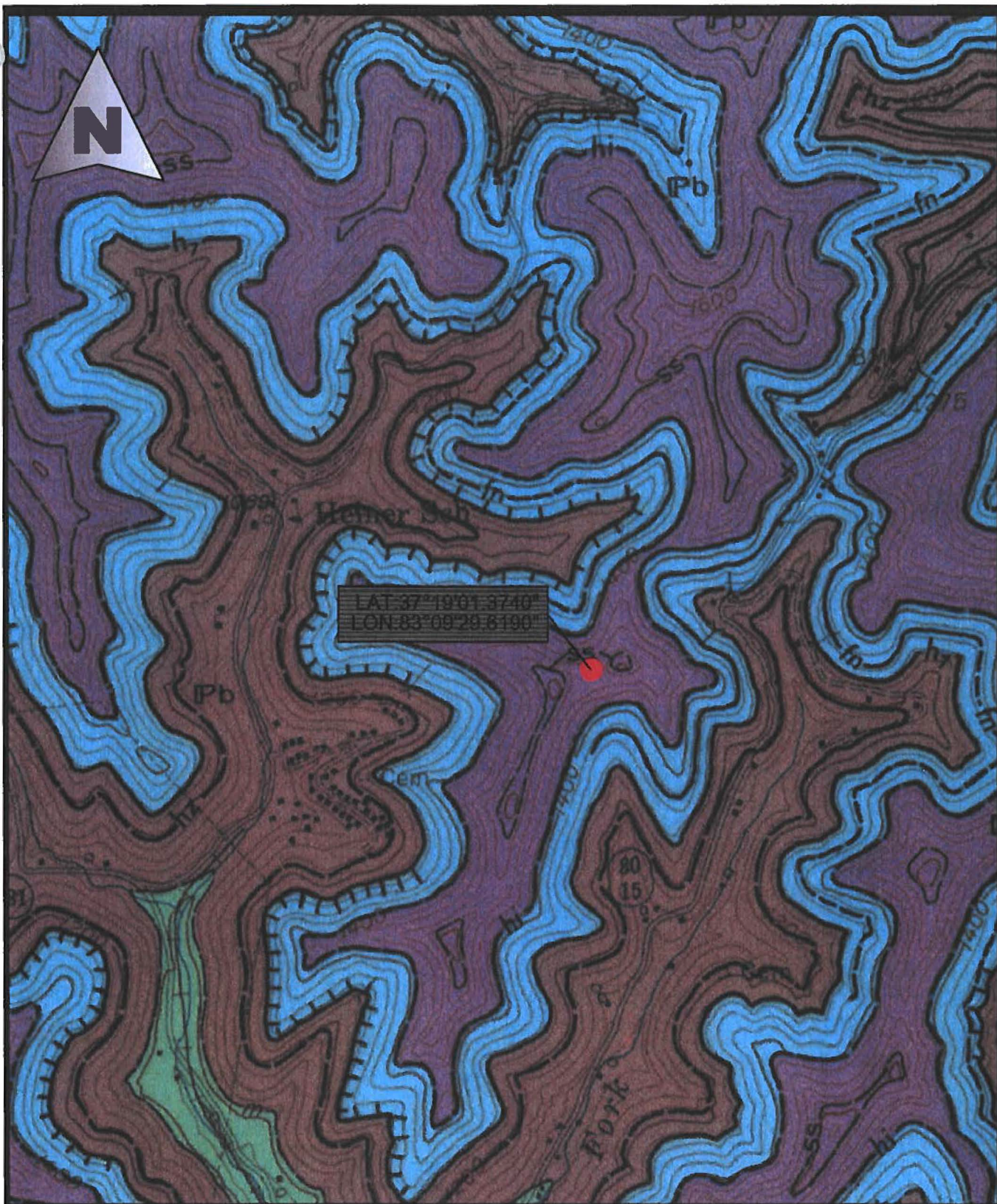
3.3 UNDERGROUND MINING

Our research found underground mining below the proposed site. It is estimated that mining was conducted in the 1940s by Harvey Coal company in the Hazard No. 7 at an approximate elevation of 1200 ft, 245 feet below the proposed tower base. During our site investigation, no evidence of subsidence was visible. If subsidence has occurred, there should be evidence present at the site. Based upon the depth to the mining and the site investigation the potential for subsidence or impacts from mining at this site is unlikely.

4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

A proposed tower pin location was placed on the Hiner property and provided to EKYENG. The proposed tower location was established and tied to the existing boundary. An estimated footer location was determined, and trenching was conducted through the slope at the proposed tower site.



Drawn: RDS Date: 4/4/2019

Job: 165-080 Scale: 1"=1000'

**APPALACHIAN WIRELESS
EXCERPT FROM GEOLOGIC QUAD
LOCATION MAP
HINER
FIGURE NO 2**

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



EAST KENTUCKY ENGINEERING, LLC.

4.2 TRENCHING

This investigation was conducted with trenching with an excavator. The combinations of trenching and visual inspections were used to evaluate the site lithology and type of materials immediately below the proposed tower site. The following soils and rock properties were found.

TABLE NO. 2

Depth (Ft.)	Base Elevation (Ft.)	Strata
0.0	1551	Surface
0.0 – 1.5	1549.5	Topsoil / Clays
1.5 – 16.0	1535.0	Sandstone

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 are not common, especially in higher elevations such as where this tower site is proposed. Therefore, groundwater should not be a concern in this area. During the site investigation, no groundwater resources were observed.

4.4 SEISMIC SITE CLASSIFICATION

Based on the encountered soil conditions at the project site, the site classification was determined to be "Site Class B" per the 2015 Kentucky Building Code. In addition, an S_{Ds} coefficient of 0.139 g was calculated, and an S_{D1} coefficient of 0.06 g was also calculated for design based on the aforementioned building code.



EAST KENTUCKY ENGINEERING, LLC.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 GENERAL

The structure will be a self-supporting freestanding 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 FOUNDATIONS

This report demonstrates the different expected bearing capacities based upon the type of material encountered from the trenching and visible observations at the site. The approximate elevation of the surface of the site is 1551.6 ft with an expected base of the footer between 1541.0 ft and 1547.0 ft in elevation. A two-foot granular base has been added to assist in ensuring that the tower can be placed at a higher elevation if needed to accommodate limited excavations. This granular base can be placed up to 2 feet thick. This base will be a well-graded stone and compacted to 95% of a standard proctor. A 6-inch schedule 40 PVC pipe should be placed outside the footer area if the granular fill is utilized.

5.3 SHALLOW FOUNDATIONS

Based upon the laboratory and field testing, visual inspection of the materials, and practical experience we have estimated that the **allowable bearing capacity of the sandstone to be a minimum of 4 tsf**, between the elevations of 1541.0 ft and 1547.0 ft. The upper limit is determined by the topography of the site to ensure that the entire footer is above the sandstone strata.

It is furthermore recommended that the slabs-on-grade be supported on 4 to 6-inch layer of relatively clean granular material such as sand and gravel or crushed stone is used if placed directly on the sandstone surface. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab.



EAST KENTUCKY ENGINEERING, LLC.

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 (k_{30}) of 100 lbs./cu. in. can be used for design of the slabs.

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



EAST KENTUCKY ENGINEERING, LLC.

5.4 BURIED UTILITIES

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

6.0 WARRANTY

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

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

6.1 SUBSURFACE EXPLORATION

Subsurface exploration is normally accomplished by test borings, although test pits are sometimes employed. The method of determining the boring location and the surface elevation at the boring is noted in the report and is presented on the Boring Location Plan or on the boring log. The location and elevation of the



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boring should be considered accurate only to the degree inherent with the method used.

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

6.2 LABORATORY AND FIELD TESTS

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

6.3 ANALYSIS AND RECOMMENDATIONS

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

Our engineering report recommendations are based primarily on data from test borings made at the locations shown in a boring location drawing included. Soil variations may exist between borings, and these variations may not become evident until construction. If significant variations are then noted, the geotechnical



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engineer should be contacted so that field conditions can be examined and recommendations revised if necessary.

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

6.4 CONSTRUCTION MONITORING

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

6.5 GENERAL

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



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



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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.



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- 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.



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- 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



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

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

3.0 SITE PREPARATION

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

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

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

4.0 FORMATION OF FILL AREAS

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



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

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

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



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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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III GUIDELINES FOR EXCAVATIONS AND TRENCHES

The following represents some general guidelines relative to the design and construction of excavations and trenches. It must be emphasized that these guidelines are not intended to represent a "safety plan," but rather are presented herein to provide general guidance 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 life lines and a basket stretcher.
 8. When workers enter bell-bottom pier holes or other deep and confined excavations, the worker must wear (always while performing work in the confined space) a separate life line attached to a harness. The line must



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be attended by someone above while work is being performed. The worker must check for hazardous atmospheric conditions prior to entry.

9. The contractor must ensure that water does not accumulate in open excavations and must inspect the excavation prior to allowing workers to re-enter after heavy rains.
10. Adjacent structures (buildings, walls, etc.) must be supported or secured to prevent worker exposure to unsafe conditions and damage to existing structures.
11. A registered professional engineer must approve operations when a contractor underpins existing structures to ensure worker safety and prevent damage to existing structures.
12. Workers must not be exposed to loose soil and rock or materials in and around excavations. Materials, such as removed soil and rock, must not be stored closer than two feet from the edge of the excavation.
13. Daily inspections of the excavation, the adjacent areas and protective systems must be made by a "competent person" for evidence of possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions. The "competent person" must stop work immediately and remove workers from the excavation when conditions change and pose a threat to their safety workers must not be exposed to fall hazards associated with excavations.
14. Protective walkways or bridges with standard guardrails must be provided. 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 the purpose of sampling and inspection.

2.0 SCOPE

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

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

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

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

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



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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 provided that they are not intermixed during any one batch. Type II Portland Cement shall not be used unless indicated on the plans.

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



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- 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.
- 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.



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6.0 REINFORCEMENT

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

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

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

7.0 CONCRETE

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

8.0 DEPOSITING CONCRETE

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

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



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2. Provide diversion, satisfactory to Owner, of any flow of water to an excavation to avoid washing the freshly deposited concrete.
 3. Coat the forms prior to placing of reinforcing steel as required in formwork.
 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



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horizontal layers not exceeding 12 inches in thickness with minimum lateral movements.

D. Depositing of Concrete: Depositing of concrete shall:

1. Proceed continuously after once starting until reaching the end of a section of construction joint location shown on the drawings, or as approved by the Owner. The operations shall be conducted so that no concrete is deposited on concrete sufficiently hardened to cause formation of seams, and planes of weakness.
2. Be as near as practical to its final position in the forms.
3. Proceed to maintain constantly a top surface which is approximately level.
4. Be placed before initial set has occurred, and in no event after it has contained its water content for more than 90 minutes.
5. Be thoroughly worked and compacted by means of suitable tools to provide impermeability, durability and strength and shall be thoroughly worked around reinforcements and embedded items and into corners of forms and to be free from voids, pockets or honeycombing. Care shall be taken to provide impermeability.

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



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

9.0 CURING

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

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



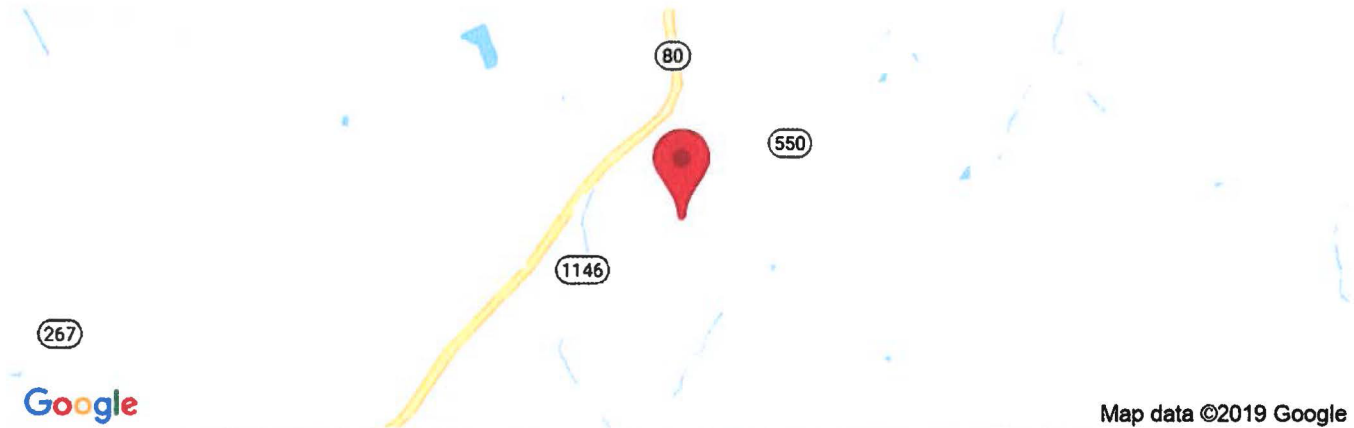
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APPENDIX A SEISMIC DATA



Hiner Tower Site

Latitude, Longitude: 37.317561, -83.159252

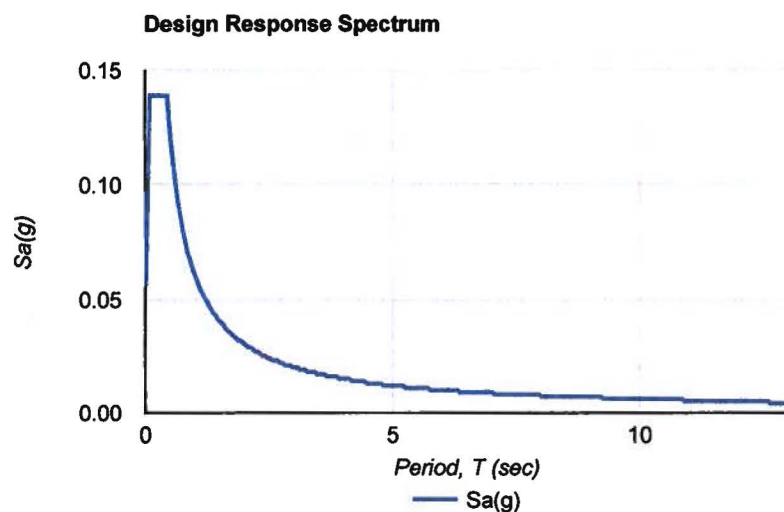
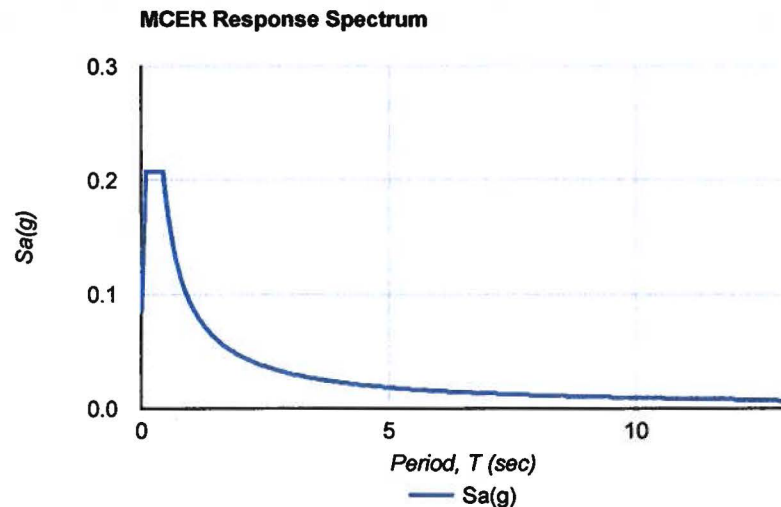


Map data ©2019 Google

Date	4/9/2019, 11:26:13 AM
Design Code Reference Document	ASCE7-10
Risk Category	IV
Site Class	B - Rock

Type	Value	Description
S_S	0.208	MCE_R ground motion. (for 0.2 second period)
S_1	0.09	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.208	Site-modified spectral acceleration value
S_{M1}	0.09	Site-modified spectral acceleration value
S_{DS}	0.139	Numeric seismic design value at 0.2 second SA
S_{D1}	0.06	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	A	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1	Site amplification factor at 1.0 second
PGA	0.101	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.101	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
S_{sRT}	0.208	Probabilistic risk-targeted ground motion. (0.2 second)
S_{sUH}	0.226	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
S_{sD}	1.5	Factored deterministic acceleration value. (0.2 second)
S_{1RT}	0.09	Probabilistic risk-targeted ground motion. (1.0 second)
S_{1UH}	0.099	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S_{1D}	0.6	Factored deterministic acceleration value. (1.0 second)
PGA_d	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.921	Mapped value of the risk coefficient at short periods
C_{R1}	0.907	Mapped value of the risk coefficient at a period of 1 s



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APPENDIX B PHOTOGRAPHS



Trench



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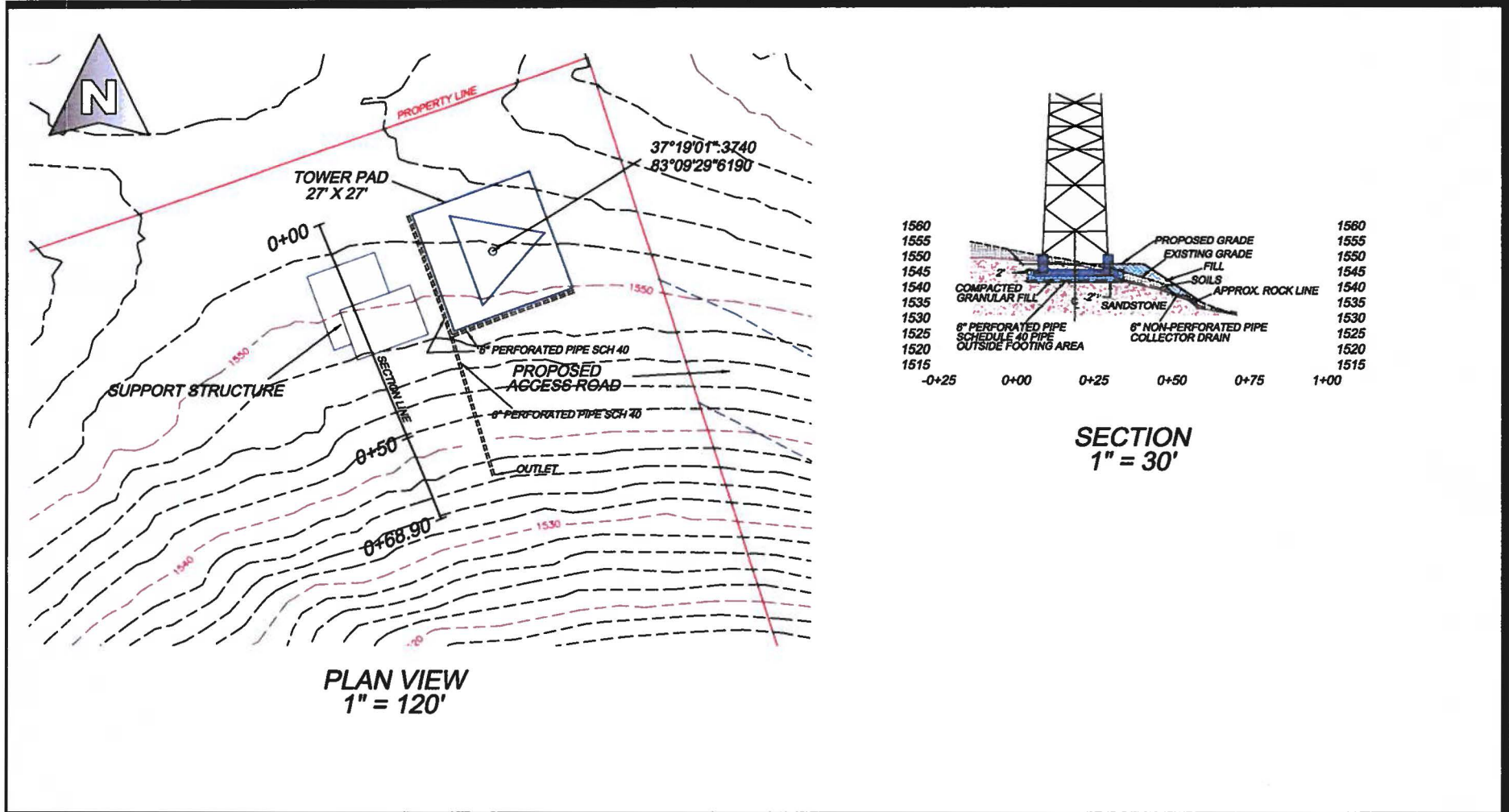


Sandstone Bottom of Trench



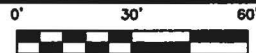
EAST KENTUCKY ENGINEERING, LLC.

APPENDIX C MAPS



East Kentucky Engineering, LLC

230 Swartz
Hazard, KY 41701
(808) 551-1050
Email: ekyeng@ekyeng.net



Drawn by: RDS Date: 03/25/19
Job #: 165-0080 Scale: 1" = 30'
File Location:

**APPALACHIAN
WIRELESS
HINER SITE
PERRY COUNTY, KENTUCKY**

MEMBER INFORMATION

SECTION	ELEVATION	FACE SIZE	LEG DIA.	DIAGONALS	GIRTS	# OF BAYS
1	0' - 20'	18'-6"	Ø4"	L 3" x 1/4"	N/A	3 - X
2	20' - 40'	16'-8"	Ø4"	L 3" x 1/4"	N/A	3 - X
3	40' - 60'	15'-0"	Ø3 3/4"	L 3" x 3/16"	N/A	3 - X
4	60' - 80'	13'-3"	Ø3 3/4"	L 3" x 3/16"	N/A	3 - X
5	80' - 100'	11'-6"	Ø3 1/2"	L 2 1/2" x 3/16"	N/A	3 - X
6	100' - 120'	9'-9"	Ø3"	L 2 1/2" x 3/16"	N/A	4 - X
7	120' - 140'	8'-0"	Ø2 3/4"	L 2" x 3/16"	N/A	4 - X
8	140' - 160'	6'-3"	Ø2 1/4"	L 2" x 1/8"	N/A	4 - X
9	160' - 180'	4'-6"	Ø1 3/4"	L 1 1/2" x 1/8"	L 1 1/2" x 1/8"	4 - X

ANTENNA INFORMATION

ELEVATION	ANTENNA	LINE
175'	(4) NN-85A-M_	(8) 1 5/8" HELIAX + (4) 7/8" HYBRID
175'	(8) NN-85A-M_	N/A
175'	(12) ERICSSON - 2212_ BEHIND ANTENNA	N/A
165'	(4) NN-85A-M_	(8) 1 5/8" HELIAX + (4) 7/8" HYBRID
165'	(8) NN-85A-M_	N/A
165'	(12) ERICSSON - 2212_ BEHIND ANTENNA	N/A
155'	(4) NN-85A-M_	(4) 7/8" HYBRID
155'	(8) NN-85A-M_	N/A
155'	(12) ERICSSON - 2212_ BEHIND ANTENNA	N/A
145'	(2) 8" HP DISH	(2) EW63
145'	(2) LEG MOUNTED 8" DISH MOUNT ASSEMBLY	N/A
135'	(4) NN-85A-M_	(4) 7/8" HYBRID
135'	(8) NN-85A-M_	N/A
135'	(12) ERICSSON - 2212_ BEHIND ANTENNA	N/A
125'	(4) NN-85A-M_	(4) 7/8" HYBRID
125'	(8) NN-85A-M_	N/A
125'	(12) ERICSSON - 2212_ BEHIND ANTENNA	N/A
105'	(4) NN-85A-M_	(4) 7/8" HYBRID
105'	(8) NN-85A-M_	N/A
105'	(12) ERICSSON - 2212_ BEHIND ANTENNA	N/A
90'	(3) L-SIDE LIGHT/ OBSTRUCTION LIGHT	N/A

DESIGN NOTES:

- 1) TOWER LEGS ARE CONSTRUCTED OF SOLID ROUND BAR MATERIAL.
- 2) SOLID ROUND 0.75" AND LARGER ASTM A-572 GRADE : 50 KSI MIN.
- 3) SOLID ROUND 0.825" AND SMALLER IS ASTM A-36 GRADE : 36 KSI MIN.
- 4) ALL ANGLE MATERIAL IS ASTM A-529 : 50 KSI MIN.
- 5) ALL BRACE AND FLANGE BOLTS ARE A325-X
- 6) THIS TOWER IS DESIGNED FOR STEP BOLTS UP ONE LEG FOR CLIMBING WITH SAFETY CLIMB DEVICE.
- 7) (8) Ø1 1/2" x 6'-0" LONG (F1554-GR.105) ANCHOR BOLTS PER LEG.
- 8) THIS TOWER IS DESIGNED FOR A 90 M.P.H. WIND SPEED WITH NO ICE AND A 30 M.P.H. WIND SPEED WITH 0.75" IN ICE IN ACCORDANCE WITH THE TIA/EIA-222-G STANDARD. ICE IS CONSIDERED TO INCREASE IN THICKNESS WITH HEIGHT.
- 9) DEFLECTIONS BASED ON A 60 M.P.H. WIND.
- 10) TOWER DESIGNED TO EXPOSURE C; STRUCTURE CLASS II; TOPO. CAT 1.

APPROX. WEIGHT : 8.45 KIPS

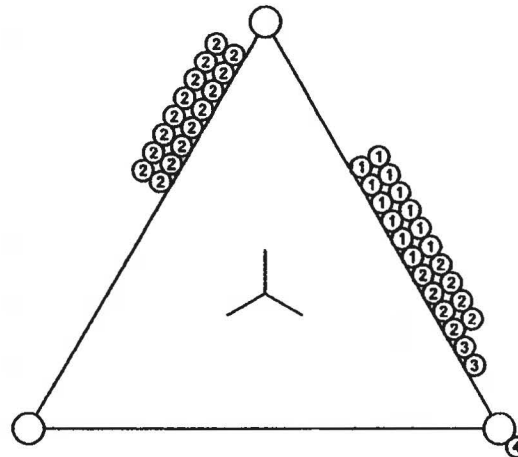
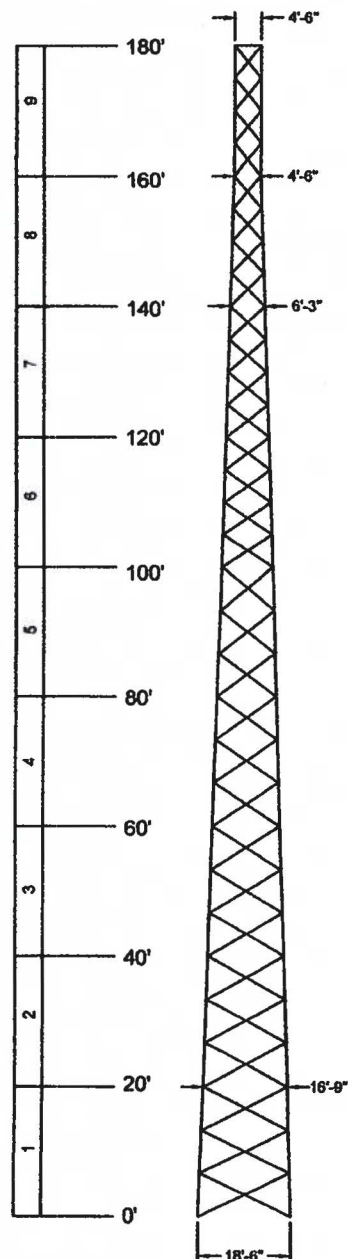
PROPRIETARY STATEMENT: THIS DRAWING IS THE PROPERTY OF ALLSTATE TOWER INC. IT IS NOT TO BE REPRODUCED OR COPIED IN ANYWAY WITHOUT PRIOR WRITTEN CONSENT OF ALLSTATE TOWER INC.

REV #	DESCRIPTION	DATE	BY	UNLESS OTHERWISE NOTED DIMENSIONS ARE IN: INCHES	DESCRIPTION
				TOLERANCE BANDS: X +.032/-0 ANGLES ±.2° XXX ±.125/0 HOLES ±.015/0	
				DRAWN BY: RC	FILE NAME: FT079489A - A
				SCALE: NTS	DESIGN: FT079489
					SHEET: A

**ALLSTATE
TOWER**

ALLSTATE TOWER INC.
P.O. BOX 25
HENDERSON, KY 42410
PHONE: (270) 830-6512
FAX: (270) 830-6475
WWW.PTTO.COM

TOWER OVERVIEW
APPALACHIAN WIRELESS
180' SELF SUPPORT TOWER
"HINER" HAZARD, PERRY CO., KY



PLAN VIEW

PLAN VIEW REF:
1) 1 5/8" HELIAX
2) 7/8" HYBRID
3) EW63
4) STEP BOLTS



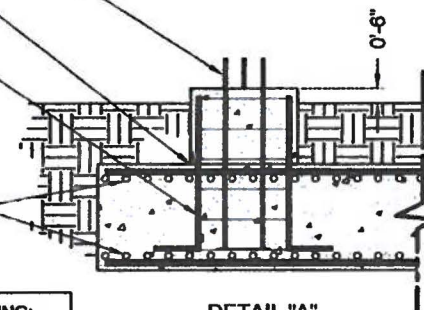
Keith M. Eaton
5-10-2019

BASE REACTIONS (FACTORED)

TOTAL SHEAR = 47 KIPS
AXIAL LOAD = 134 KIPS
UPLIFT / LEG = 288 KIPS
COMP. / LEG = 340 KIPS
O.T. MOMENT = 5151 FT-K



(16) #8 VERTICAL BARS w/ 6" HOOK
WITH (4) #5 TIES SPACED 16" ON CENTER



DETAIL "A"

1. ALL LAP SPICES SHALL CONFORM TO ACI 318 REQUIREMENTS.
2. REFER TO CHART BELOW WHEN REINFORCEMENT BAR SPlicing IS NECESSARY.

REINFORCING BAR SIZE	LAP SPLICE LENGTH
3	15"
4	17"
5	21"
6	26"
7	30"
8	36"
9	46"
10	56"
11	71"




Keith M. Eaton
5-10-2019

1. THIS FOUNDATION IS DESIGNED TO MEET ALL STANDARDS SET FORTH BY ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ANSI/TIA/EIA 222-G: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. THIS FOUNDATION IS DESIGNED UTILIZING THE GEOTECHNICAL REPORT PERFORMED BY EAST KENTUCKY ENGINEERING, LLC; DATED 3-29-2019; EKYENG PROJECT NO. 185-000-0080. THE FOUNDATION CONTRACTOR SHALL INSTALL THE FOUNDATIONS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
3. ALL WORK PERFORMED FROM THESE DRAWINGS SHOULD BE BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER FOUNDATION CONSTRUCTION.
4. ALL FOOTING EXCAVATIONS SHALL BE MANUALLY CLEANED PRIOR TO PLACING CONCRETE. COMPACT THE EXPOSED SOIL SURFACE AND ANY GRANULAR FILL UNDER THE FOUNDATION TO 90% OF THE MODIFIED PROCTOR DENSITY.
5. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS. COPIES OF THE CONCRETE CYLINDER TEST REPORTS SHALL BE SENT TO THE RESIDENT ENGINEER / INSPECTOR.
6. MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE 3". ALL REINFORCING BARS SHALL BE GRADE 60 REBAR (MIN YIELD = 60KSI).
7. FIELD BENDING OR WELDING OF REINFORCEMENT BARS IS NOT PERMITTED.
8. PROVIDE CHAMFERS AT ALL EXPOSED CORNERS OF CONCRETE.
9. BACKFILL NEAR AND AROUND THE FOUNDATIONS SHALL BE A WELL GRADED FILL MATERIAL PLACED IN 8" THICK LAYERS THAT HAS BEEN COMPACTED TO 90% OF THE MODIFIED PROCTOR DENSITY PER ASTM D1557.
10. SOME DETAIL HAS BEEN PURPOSELY OMITTED TO CLARIFY ILLUSTRATION.



ALLSTATE TOWER INC.
P.O. BOX 75
HENDERSON, KY 42418
PHONE: (270) 830-8512
FAX: (270) 830-8475
WWW.PTTO.COM

PROPOSED EASY STATEMENT: THIS DRAWING IS THE PROPERTY OF ALLSTATE TOWER INC. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT PRIOR WRITTEN CONSENT OF ALLSTATE TOWER INC.				 PHONE: 207-688-1234 FAX: 207-688-5678 WWW.PFTO.COM	
REV#	DESCRIPTION	DATE	BY	UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES TOLERANCE BANDS X +.032/-0 ANGLES ±.2 Y +.032/-0 Z .000 +.116/-0 HOLES ±.016/-0	PAD & PIER FOUNDATION DESIGN APPALACHIAN WIRELESS 180' SELF SUPPORT TOWER "HINER" HAZARD, PERRY CO., KY
SCALE: NTS				DRAWN BY: RC DATE: 5/09/2019	FILE NAME: FT079488A - B DESIGN: FT0794889
					SHEET B



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

Aeronautical Study No.
2019-ASO-14474-OE

Issued Date: 07/25/2019

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

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

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

Structure:	Antenna Tower Hiner
Location:	Hiner, KY
Latitude:	37-19-01.49N NAD 83
Longitude:	83-09-29.54W
Heights:	1551 feet site elevation (SE) 190 feet above ground level (AGL) 1741 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:

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)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 01/25/2021 unless:

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (718) 553-2611, or angelique.eersteling@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASO-14474-OE.

Signature Control No: 403463548-412426473

(DNE)

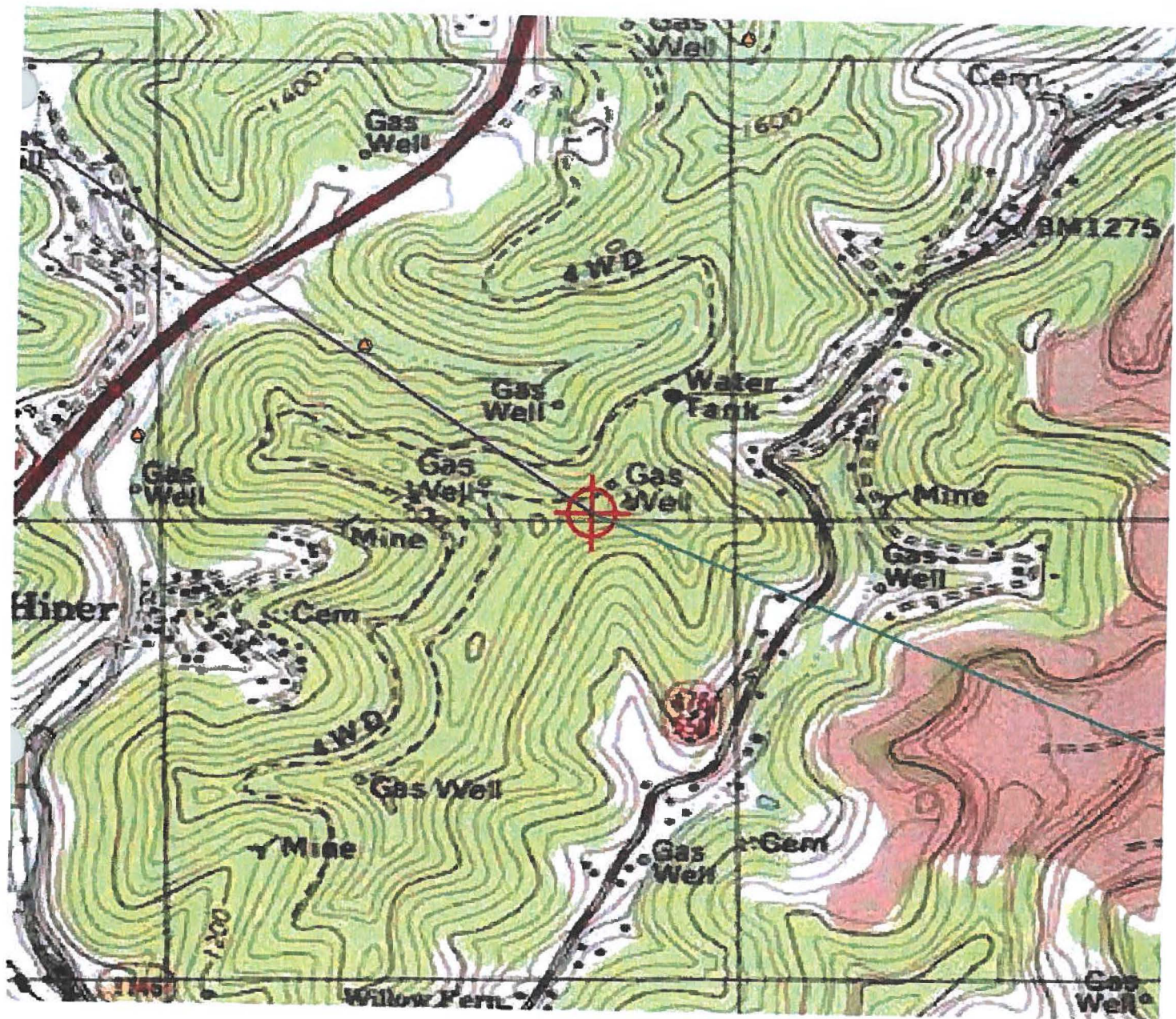
Angelique Eersteling
Technician

Attachment(s)
Frequency Data
Map(s)

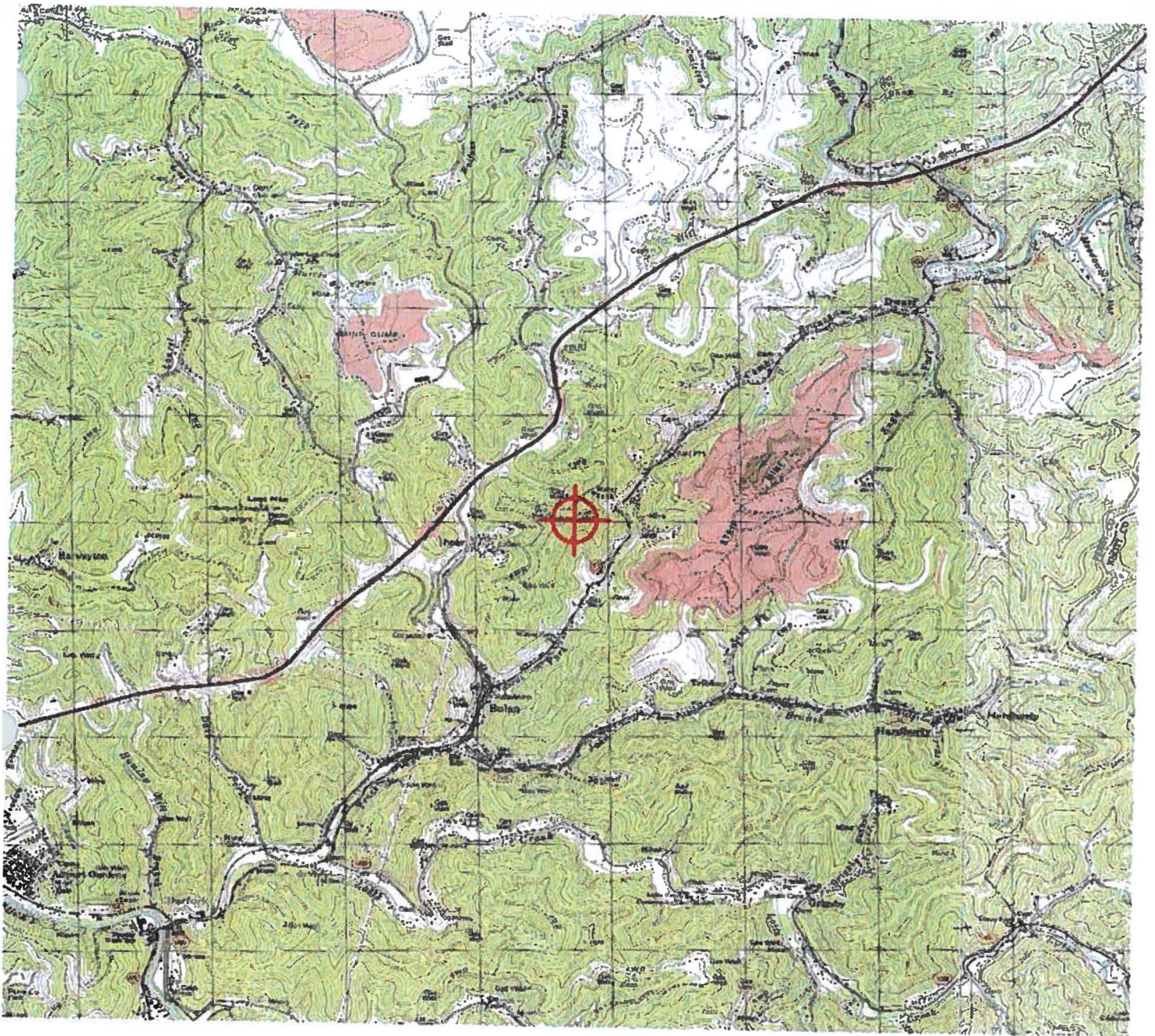
cc: FCC

Frequency Data for ASN 2019-ASO-14474-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 2019-ASO-14474-OE



From: Cindy McCarty cmccarty@ekn.com
Subject: Fwd: Application for Construction- Hiner (Perry County, KY)
Date: April 23, 2019 at 11:03 AM
To: Compliance compliance@ekn.com



Begin forwarded message:

From: "Houlihan, John F (KYTC)" <John.Houlihan@ky.gov>
Subject: RE: Application for Construction- Hiner (Perry County, KY)
Date: April 23, 2019 at 10:46:16 AM EDT
To: Cindy McCarty <cmccarty@ekn.com>

No Permit is required from the KAZC. Thank you.

Kentucky Airport Zoning Commission (KAZC)

John Houlihan, Administrator

Department of Highways, District Six

421 Buttermilk Pike

Covington, KY 41017

Office 859-341-2700, Office 1-800-928-2700, Desk 859-341-2707 Ext. 277, Cell 502-330-3955

KAZC webpage: <https://transportation.ky.gov/Aviation/Pages/airportzoning.aspx>

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From: Cindy McCarty <cmccarty@ekn.com>
Sent: Tuesday, April 23, 2019 10:33 AM
To: Houlihan, John F (KYTC) <John.Houlihan@ky.gov>
Cc: Compliance <compliance@ekn.com>
Subject: Application for Construction- Hiner (Perry County, KY)

****CAUTION** PDF attachments may contain links to malicious sites. To verify the destination of the hyperlink in an attachment, hover your mouse over the link and verify the link address. If you are unfamiliar with the address or the address looks suspicious, do not click on the link and delete the email immediately. Please contact the COT Service Desk ServiceCorrespondence@ky.gov for any assistance.**

John,

Please find attached the Application for Permit to Construct or Alter a Structure (TC 55-2) relating to the construction of a new 180' structure with top-mounted antennas (overall AGL of 190').

Also attached is the FAA Form 7460-1 (2019-ASO-549-OE). A copy of the FAA determination will be forwarded upon receipt.

The topo map is included with the FAA Form 7460-1.

Should you need any additional information, please let me know.

Thanks for your assistance.

Cindy

Cindy D. McCarty
In-House Counsel
East Kentucky Network, LLC
d/b/a Appalachian Wireless

(606) 339-1006
(606) 339-1363 (fax)
cmccarty@ekn.com

CAUTION: This email originated from outside of East Kentucky Network. Do not follow instructions, click links, or open attachments unless you recognize the sender and know the content is safe.

Driving Directions for Hiner

1. Beginning at 481 Main Street, Hazard, KY, head southwest on Main Street toward Lovern Street and travel approximately 0.1 miles.
2. Turn left to stay on Main Street and continue onto Memorial Drive approximately 0.5 miles.
3. Continue onto N Main Street approximately 0.6 miles.
4. Turn right onto KY-15 BUS N/KY-2451 and continue approximately 0.4 to KY-15N
5. Keep left to continue on KY-15 N/ KY-80 E and continue approximately 1.4 miles.
6. Turn right to merge onto KY-80 E and travel approximately 3.9 miles.
7. Turn right onto KY-1146 S and travel 1.3 miles.
8. Turn left onto KY-476 N/KY-550 E and travel approximately 1.3 miles to Jones Lane.
9. Continue on Jones Lane for approximately one mile. Signs will be posted at the proposed site.

Prepared By:

Daryl Bartley

Cell Site Compliance Agent

East Kentucky Network, LLC

dba Appalachian Wireless

606-791-0310

dbartley@ekn.com

Hiner

Location:

317 Jones Lane
Hazard, KY 41701

Coordinates:

37°19'01.4911"N
83°09'29.5378"W

Legend

 1/2 Mile Search Area

Proposed Hiner Tower Site

Sand St

Hiner Rd

Deaton Dr

Middle Branch

Church Ave

Keith Ln

Asbury
Hollow Rd

Google Earth

© 2018 Google

2000 ft



RECEIVED
PERRY COUNTY CLERK

DEED

2019 FEB 27 AM 10: 43

THIS DEED OF CONVEYANCE is made and entered into this 27th day of February, 2019, by and between **ROBERT JONES** and **KARLENE JONES**, a married couple, whose mailing address is P.O. Box 946, Bulan, Kentucky 41722 (hereinafter referred to as "**Grantors**"), and **EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS**, a Kentucky limited liability company (hereinafter referred to as "**Grantee**"), whose address is 101 Technology Trail, Ivel, Kentucky 41642, which is also the "in care of" address to which the property tax bill for 2018 should be sent.

W I T N E S S E T H

That for and in consideration of the sum of Fifty-Five Thousand and 00/100 Dollars (\$55,000.00), cash in hand paid, the receipt and sufficiency of which are hereby acknowledged, Grantors do hereby GRANT, SELL, and CONVEY to the Grantee, its successors and assigns, that certain real property located off State Highways 476 and 550 in Bulan, Perry County, Kentucky, which is more particularly described in the Lot Description **attached** hereto and made a part herein as **Exhibit A** and depicted on the plat **attached** hereto and made a part herein as **Exhibit B**, prepared by James W. Caudill, Licensed Professional Land Surveyor (hereinafter referred to as the "Property").

The Grantors further grant unto Grantee full and complete rights of ingress, egress and regress over roads located upon any property owned or controlled by Grantors to and from the Property, including the non-exclusive right to use the existing road described on Exhibit A and depicted on Exhibit B (hereinafter, the "Existing Road"). The Grantors further grant Grantee permission to construct and maintain a new road across any property of Grantors to be used exclusively by Grantee (hereinafter, the "Alternate Roads"). Grantors also grant to the Grantee a

right of way and easement to construct, maintain and operate telephone, fiber, and/or power transmission lines and poles over any of Grantors' property, said lines and poles to be located where feasible along the Existing Road or any Alternate Road(s) (hereinafter, the "Utility Easement"). Grantor shall execute instruments granting any easements requested by any utility company to provide utility services to the Property. Grantee shall have the right, but not the obligation, to trim or remove trees, limbs or underbrush which may interfere with its roads or power/telephone/fiber lines, wherever such roads and lines are located. The Existing Road, Alternate Road, and Utility Easement are referred to herein collectively as the "Easements."

The Property being a portion of the same property conveyed to Grantors by Jesse L. Young, by Deed dated June 14, 2006, and recorded in Deed Book 324, Page 306. The Easements being located on portions of the same property conveyed to Grantors by Jesse L. Young, by Deed dated June 14, 2006, and recorded in Deed Book 324, Page 306; the property conveyed to Grantors by Jesse Young by Deed dated March 21, 2006, and recorded in Deed Book 322, Page 225; and the property conveyed to Grantors by Sam Wendell Godsey and Patricia Charlene Godsey, his wife, by Deed dated May 4, 1979, and recorded in Deed Book 178, Page 610, all in the Perry County Clerk's Office.


TO HAVE AND TO HOLD the same with all appurtenances and privileges thereunto belonging unto the Grantee, its successors and assigns forever, with covenant of GENERAL WARRANTY.

CONSIDERATION CERTIFICATE

The parties to this deed certify that the consideration reflected in this deed is the full consideration paid for the property and understand that falsification of the stated consideration is a class D felony, subject to one to five years imprisonment and fines up to \$10,000.00.

IN TESTIMONY WHEREOF, the parties have hereunto subscribed their names as of the date set forth herein.


GRANTORS:


ROBERT JONES

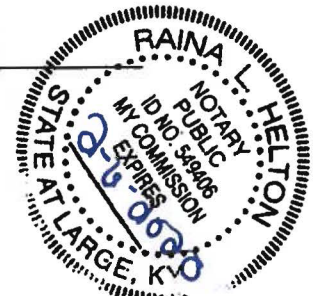

KARLENE JONES

COMMONWEALTH OF KENTUCKY
COUNTY OF Perry


The foregoing instrument was acknowledged before me on this 27th day of February, 2019, by Robert Jones and Karlene Jones, Grantors.


Notary Public

My Commission Expires Feb 6, 2020



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


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

COMMONWEALTH OF KENTUCKY
COUNTY OF Floyd

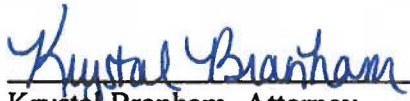
The foregoing instrument was acknowledged before me on this 26th day of February, 2019, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC d/b/a Appalachian Wireless, Grantee.


Notary Public

My Commission Expires Feb 6, 2020



This is to certify that this
instrument was prepared by:



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

LOT DESCRIPTION

Property of
Robert and
Karlene Jones
PO Box 946
Bulan, KY 41722
Off State Highways 476 and 550
Near Hiner in Perry County, KY
June 29, 2018



A certain tract or parcel of land lying in Perry County, Kentucky, and being a portion of the same tract of land conveyed to Robert Jones, and wife Karlene Jones, by deed from Jesse L. Young, dated June 14, 2006, which is duly record in Deed Book 324, Page 306, Perry County Court Clerk's Office. And being more particularly described and bounded as follows:

Lot 1A

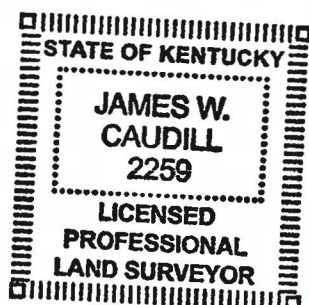
Beginning on a set iron pin with cap marked LS#2259 on top of the ridge near an existing wire fence on the property line between Robert Jones (Deed Book 324 Page 306) and Kentucky River Properties, LLC (Deed Book 25 Page 1); thence continuing with the line of Kentucky River Properties, LLC, the ridge, and the existing fence North 70 deg 50 min 06 sec East, a distance of 185.71 feet to a set iron pin with cap marked LS#2259 near said fence; thence leaving the line of Kentucky River Properties, LLC and severing the property of Robert Jones South 17 deg 52 min 44 sec East, a distance of 178.55 feet to a set iron pin with cap marked LS#2259 on the hillside; thence around the hillside South 72 deg 28 min 46 sec West, a distance of 179.61 feet to a set iron pin with cap on the hillside; thence back up the hill North 19 deg 52 min 44 sec West, a distance of 173.36 feet to the point of the beginning. Containing a calculated area of 32130.9 square feet or .74 acres.

Also to be included is an access road from the public road to Lot 1A. This road will cross property of Robert & Karlene Jones contained in deeds from Deed Book 324 Page 306, Deed Book 322 Page 225, Deed Book 178 Page 610 and Deed Book 198 Page 695.

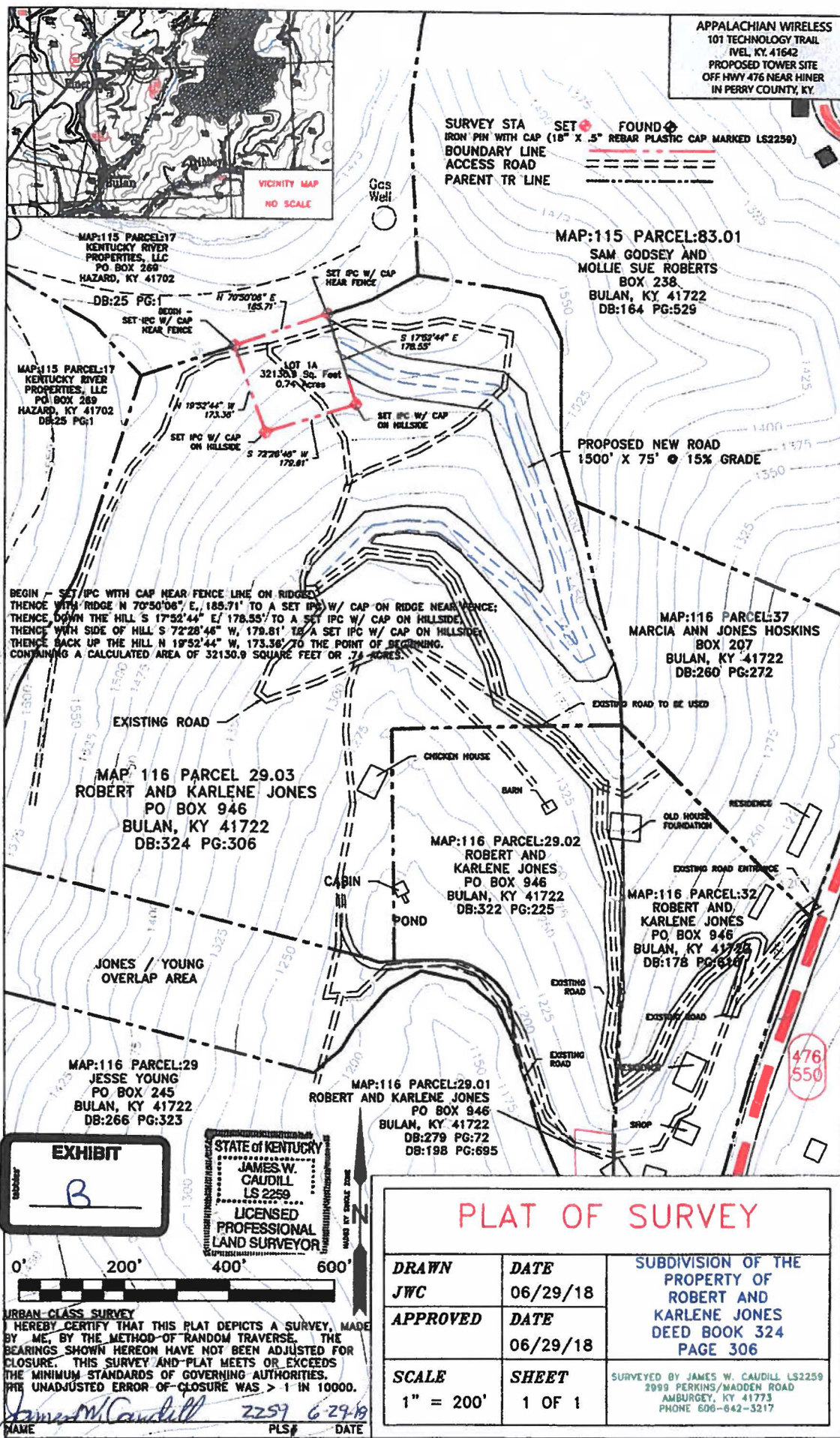
Also to be included is a right to install fiber and utility lines in or along said access road and/or such other location to be agreed upon by the parties.

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 NAD83, KY single zone of the Kentucky state plane system.

This survey was performed on June 29, 2018 by James W. Caudill, a Kentucky Licensed Professional Land Surveyor No. 2259.



James W. Caudill
James W. Caudill, PLS #2259
6-29-18



STATE OF KENTUCKY

COUNTY OF PERRY

I, WAYNE NAPIER, CLERK OF THE STATE AND COUNTY AFORESAID DO CERTIFY
THAT THE FOREGOING INSTRUMENT WAS LODGED FOR RECORD IN MY OFFICE
AND THE FOREGOING CERTIFICATE HAS BEEN RECORDED

IN Deed BOOK NO. 402 PAGE 698.

WITNESS BY MY HAND THIS 27 DAY OF February 2019

Deed Tax
\$ 55.00

WAYNE NAPIER PERRY COUNTY CLERK

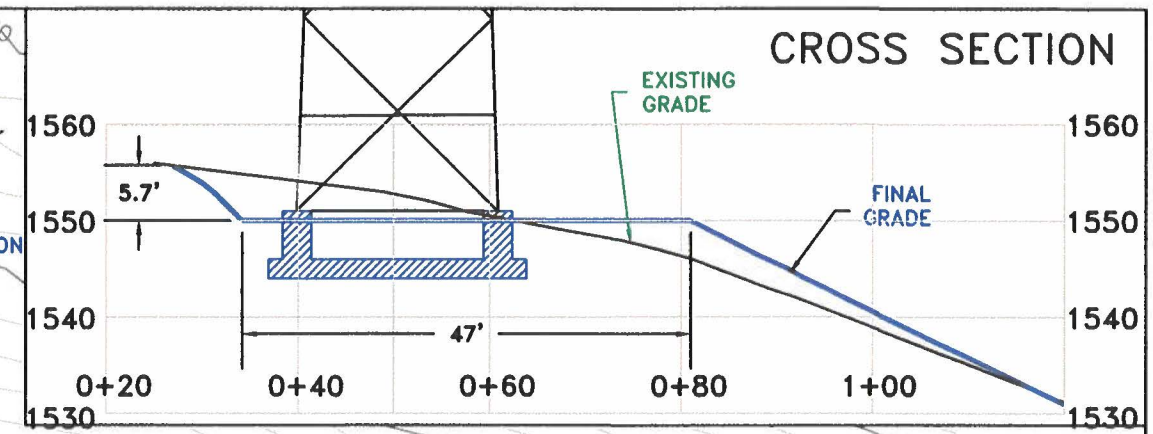
BY *Karen J. Smith* D.C.

APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE
OFF HWY 476/550 NEAR HINER
IN PERRY COUNTY, KY.

MAP:115 PARCEL:17
KENTUCKY RIVER
PROPERTIES, LLC
PO BOX 269
HAZARD, KY 41702

LAT:37°19'01.4911"
LON:83°09'29.5378"
N:3649499.90
E:5674850.91
EL:1550'

185.70'
N 70°50'37" E
L1



MAP:116 PARCEL 29.03
ROBERT AND KARLENE JONES
P.O. BOX 946
BULAN, KY 41722
DB:324 PG:306

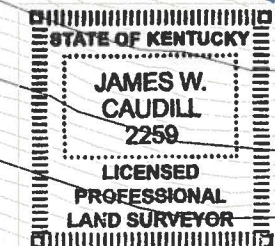
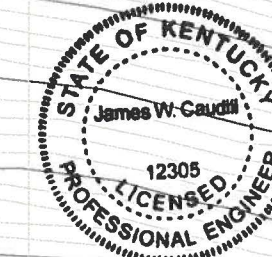
LINE	BEARING	DISTANCE
L1	N 70°50'06" E	185.71'
L2	N 73°56'28" E	176.09'
L3	N 74°39'42" E	149.17'
L4	N 78°59'07" E	164.16'
L5	N 82°32'54" E	179.97'
L6	N 84°44'07" E	153.73'
L7	S 55°45'27" W	38.19'
L8	N 25°29'02" E	51.91'
L9	S 04°36'51" E	37.75'

"I certify that the latitude 37° 19' 01.4911"N and longitude 83° 09' 29.5378"N are within +/- 50 feet horizontally; and the site elevation 1551.0 ft. MSL, is within +/- 20 feet vertically. With a structure height of 180 ft AGL, the overall height is 1731 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 4/11/19

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:3649499.90, E:5674850.91, EL 1550' PROPOSED GRD TOP OF PROPOSED FOUNDATION EL1551'-TOP TOWER EL1731'
- PRECISION: HORIZONTAL=0.30' VERTICAL=0.50'
- THIS SURVEY MEETS OBSTACLE ACCURACY CODE 2C.
- PROPERTY LINE INFORMATION TAKEN FROM DEEDS



MAP:116 PARCEL 29.03
ROBERT AND KARLENE JONES
P.O. BOX 946
BULAN, KY 41722
DB:324 PG:306

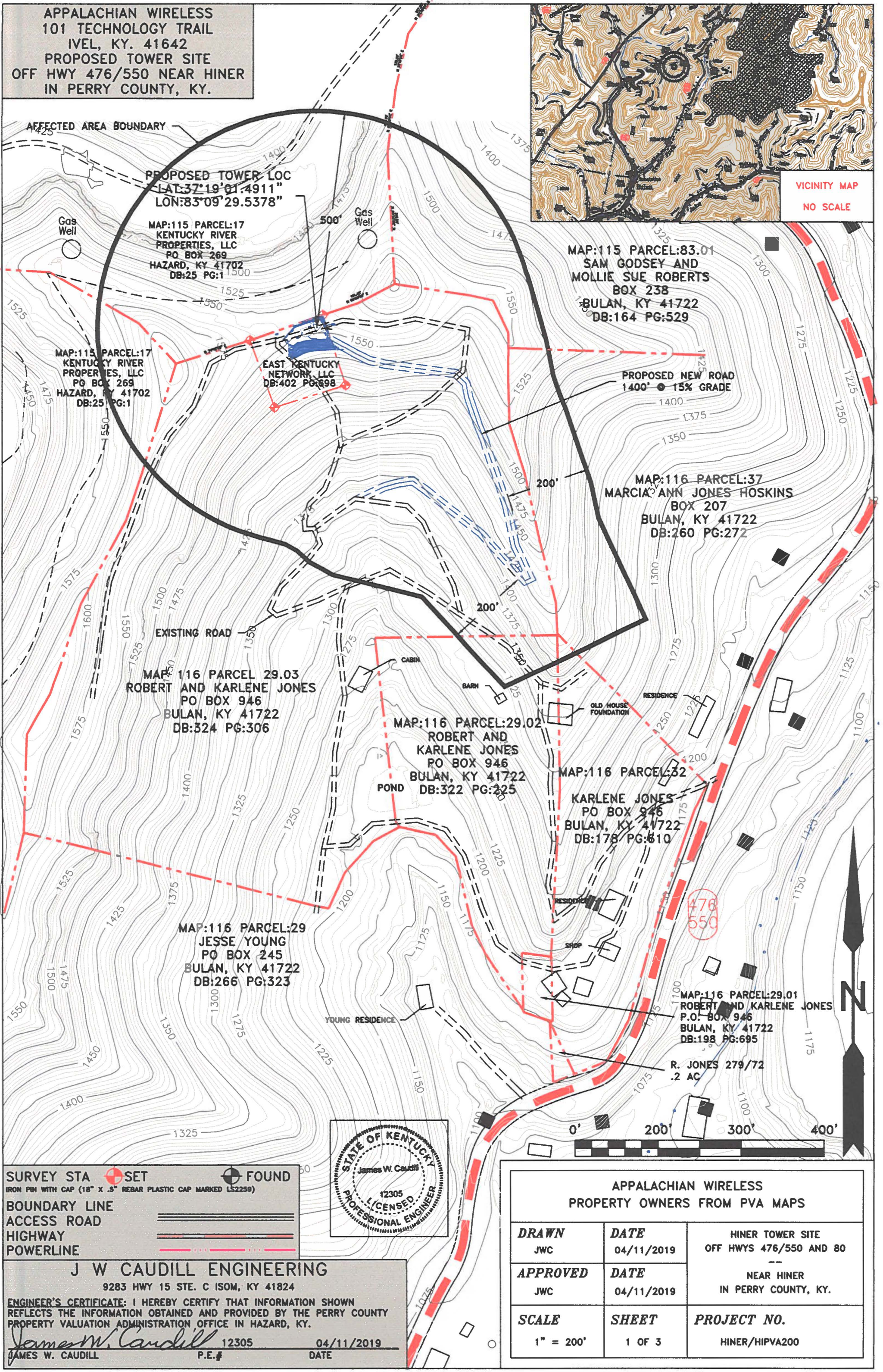
LOT 1A
32130.9 Sq. Feet
0.7 Acres






LEGEND
SURVEY STA SET FOUND
IRON PIN WITH CAP (1/8" X .5" REBAR PLASTIC CAP MARKED LS2259)
BOUNDARY LINE
ACCESS ROAD
PROPOSED ACCESS RD

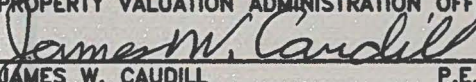
PROPOSED SITE PLAN AND STRUCTURE LOCATION
HINER TOWER APPALACHIAN WIRELESS

DRAWN JWC	DATE 04/11/19	ROBERT AND KARLENE JONES TRACT NR HWYS 476/550 NEAR HINER IN PERRY CO., KY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 2 OF 3	PROJECT NO. HINER/HI2C_20

APPALACHIAN WIRELESS
101 TECHNOLOGY TRAIL
IVEL, KY. 41642
PROPOSED TOWER SITE
OFF HWY 476/550 NEAR HINER
IN PERRY COUNTY, KY.

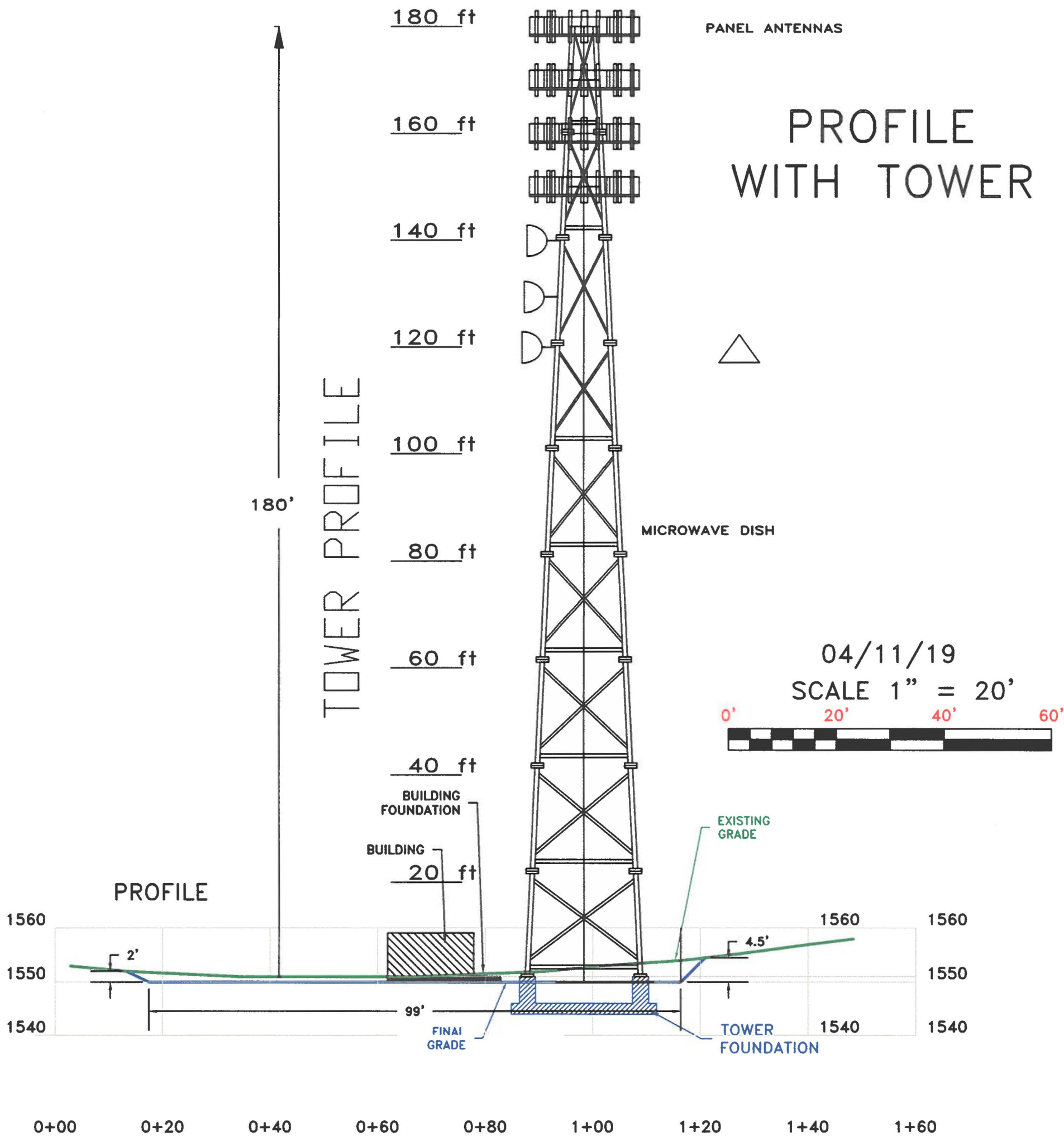


SURVEY STA  **SET**
IRON PIN WITH CAP (18" X .5" REBAR PLASTIC CAP MARKED L52259)
BOUNDARY LINE 
ACCESS ROAD 
HIGHWAY 
POWERLINE 

J W CAUDILL ENGINEERING
9283 HWY 15 STE. C ISOM, KY 41824
ENGINEER'S CERTIFICATE: I HEREBY CERTIFY THAT INFORMATION SHOWN
REFLECTS THE INFORMATION OBTAINED AND PROVIDED BY THE PERRY COUNTY
PROPERTY VALUATION ADMINISTRATION OFFICE IN HAZARD, KY.

JAMES W. CAUDILL P.E.# 12305 04/11/2019 DATE



APPALACHIAN WIRELESS PROPERTY OWNERS FROM PVA MAPS		
DRAWN JWC	DATE 04/11/2019	HINER TOWER SITE OFF HWYS 476/550 AND 80 -- NEAR HINER IN PERRY COUNTY, KY.
APPROVED JWC	DATE 04/11/2019	
SCALE 1" = 200'	SHEET 1 OF 3	PROJECT NO. HINER/HIPVA200



PRELIMINARY DESIGN
NOTE: FOUNDATION AND TOWER DIMENSIONS
ARE ESTIMATED FOR PLANNING PURPOSES.
DRAWING WILL BE REVISED WHEN DESIGNS ARE
FINALIZED.
NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS



James W. Caudill PE#12305 04/11/19
JAMES W. CAUDILL PE #. DATE

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.

PROPOSED SITE PLAN AND STRUCTURE LOCATION HINER TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 04/11/19	ROBERT AND CARLENE JONES TRACT NR HWYS 476/550 NEAR HINER IN PERRY CO., KY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 3 of 3	PROJECT NO. HINER/HIpro20

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