

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

RECEIVED

JUN 04 2015

PUBLIC SERVICE
COMMISSION

In the matter of:

THE APPLICATION OF EAST KENTUCKY NETWORK)
LIMITED LIABILITY COMPANY FOR THE ISSUANCE)
OF A CERTIFICATE OF PUBLIC CONVENIENCE AND) CASE No 2015-00163
NECESSITY TO 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 # 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, East Kentucky Network, LLC pursuant to KRS 278.020 Subsection 1 and 807 KAR 5:001 Section 9 is seeking the Commission's approval to construct a 300 foot self-supporting tower on a tract of land located on Cherokee Hills Road, Hazard, Perry County, Kentucky (37°15'46.10"N 83°12'14.20"W). A map and detailed directions to the site can be found in Exhibit 7.

Exhibit 2 is a list of all Property owners or residents according to the property valuation administrator's record who reside or own property within 500 feet of the proposed tower in accordance with the Public Valuation Administrator. No other properties are contiguous with East Kentucky Network's property.

Pursuant to 807 KAR 5:063 Section 1 (1)(L) and Section 1(1)(n)(1) all affected property owners according to the property valuation administrator's record who reside or own property

within 500 feet of the proposed Tower 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 Limited Liability Company's proposal and informed of their right to intervene. They were given the docket number under which this application is filed. Enclosed in Exhibit 3 is a copy of that notification.

Notice of the location of the proposed construction was published in the The Hazard Herald, June 3, 2015, edition. Enclosed is a copy of that notice in Exhibit 3. The 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 approval and Kentucky Airport Zoning Commission application are included as Exhibit 6.

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

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

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

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

Two notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2), measuring at least two (2) feet in height and four (4) feet in width and containing all required language in letters of required height, have been posted, one at a visible location on the proposed site and one on the nearest public road. The two signs were posted on May 21, 2015, 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 very 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 11 contains a vertical sketch of the tower supplied by James W. Caudill, Kentucky registered professional engineer.

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

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

SUBMITTED BY: Lynn Haney DATE: 6-3-15
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W.A. Gillum DATE: 6-3-2015
W.A. Gillum, General Manager

ATTORNEY: Bethany Bowersock DATE: 6-3-2015
Hon. Bethany Bowersock, Staff 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

Bethany L. Bowersock, Attorney
Phone: (606) 477-2355, Ext. 1006
Email: bbowersock@ekn.com

Mailing Address:

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

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

ULS License

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

Call Sign	KNKN809	Radio Service	CL - Cellular
Status	Active	Auth Type	Regular
Market			
Market	CMA452 - Kentucky 10 - Powell	Channel Block	B
Submarket	0	Phase	2
Dates			
Grant	08/30/2011	Expiration	10/01/2021
Effective	08/30/2011	Cancellation	

Five Year Buildout Date

10/17/1996

Control Points

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

Licensee

FRN 0001786607 Type Limited Liability Company

Licensee

East Kentucky Network, LLC d/b/a Appalachian Wireless
101 Technology Trail
Ivel, KY 41642
ATTN Gerald Robinette, Manager
P:(606)477-2355
F:(606)874-7551

Contact

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

Ownership and Qualifications

Radio Service Mobile
Type

Regulatory Status Common Carrier Interconnected Yes

Alien Ownership

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

Basic Qualifications

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

EXHIBIT II: LIST OF PROPERTY OWNERS:

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

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

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

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

LIST OF PROPERTY OWNERS

G B Development Co., Inc.
717 KY Blvd.
Hazard, KY 41701

Norman Joe and Olivia Callahan
5180 KY Hwy 7
Viper, KY 41774

Commonwealth of Kentucky
Dept. of Highways
200 Mero Street
Frankfort, KY 40622



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

June 3, 2015

G B Development Co., Inc.
717 KY Blvd.
Hazard, KY 41701

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00163)

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 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land on Cherokee Hills Road, 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 or reside within a 500' radius of the proposed tower.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2015-00163 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". The signature is fluid and cursive.

Lynn Haney
Regulatory Compliance Director

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



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

June 3, 2015

Norman Joe and Olivia Callahan
5180 KY Hwy 7
Viper, KY 41774

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00163)

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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". The signature is fluid and cursive.

Lynn Haney
Regulatory Compliance Director



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

June 3, 2015

Commonwealth of Kentucky
Dept. of Highways
200 Mero Street
Frankfort, KY 40622

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00163)

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 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land on Cherokee Hills Road, 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 or reside within a 500' radius of the proposed tower.

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

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Sincerely,

Lynn Haney
Regulatory Compliance Director

Appalachian Wireless Location Map



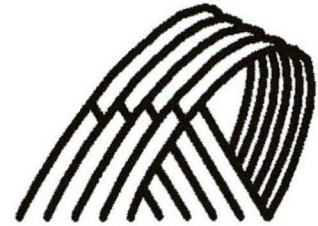
Site Name
Hazard By-Pass

Location
Cherokee Hills Rd. Hazard KY.

GPS Location
N 37 15 46.10
W 83 12 14.20

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

EAST KENTUCKY
NETWORK



To: The Hazard Herald
Attn: Classifieds

From: Raina Helton
Regulatory Compliance Assistant

Email: jjones@civitasmedia.com

Date: May 29, 2015

Re: PUBLIC NOTICE ADVERTISEMENT

Pages: 1

Please place the following Public Notice Advertisement in the Hazard Herald to be ran on June 3, 2015.

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2015-00163)

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 Cherokee Hills Road, Hazard, Perry County, Kentucky. The proposed tower will be a 300 foot self-supporting tower with attached antennas. If you would like to respond to this notice, please contact the Executive Director, Public Service Commission, 211 Sower Boulevard, PO Box 615, Frankfort, Kentucky 40602. Please refer to Case No. 2015-00163.

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.

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

EAST KENTUCKY
NETWORK



VIA: U.S. CERTIFIED MAIL

June 3, 2015

Scott Alexander, Judge Executive
P.O. Drawer 210
Hazard, KY 41701

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2015-00163)

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 Floyd County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land at Cherokee Hills, 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.

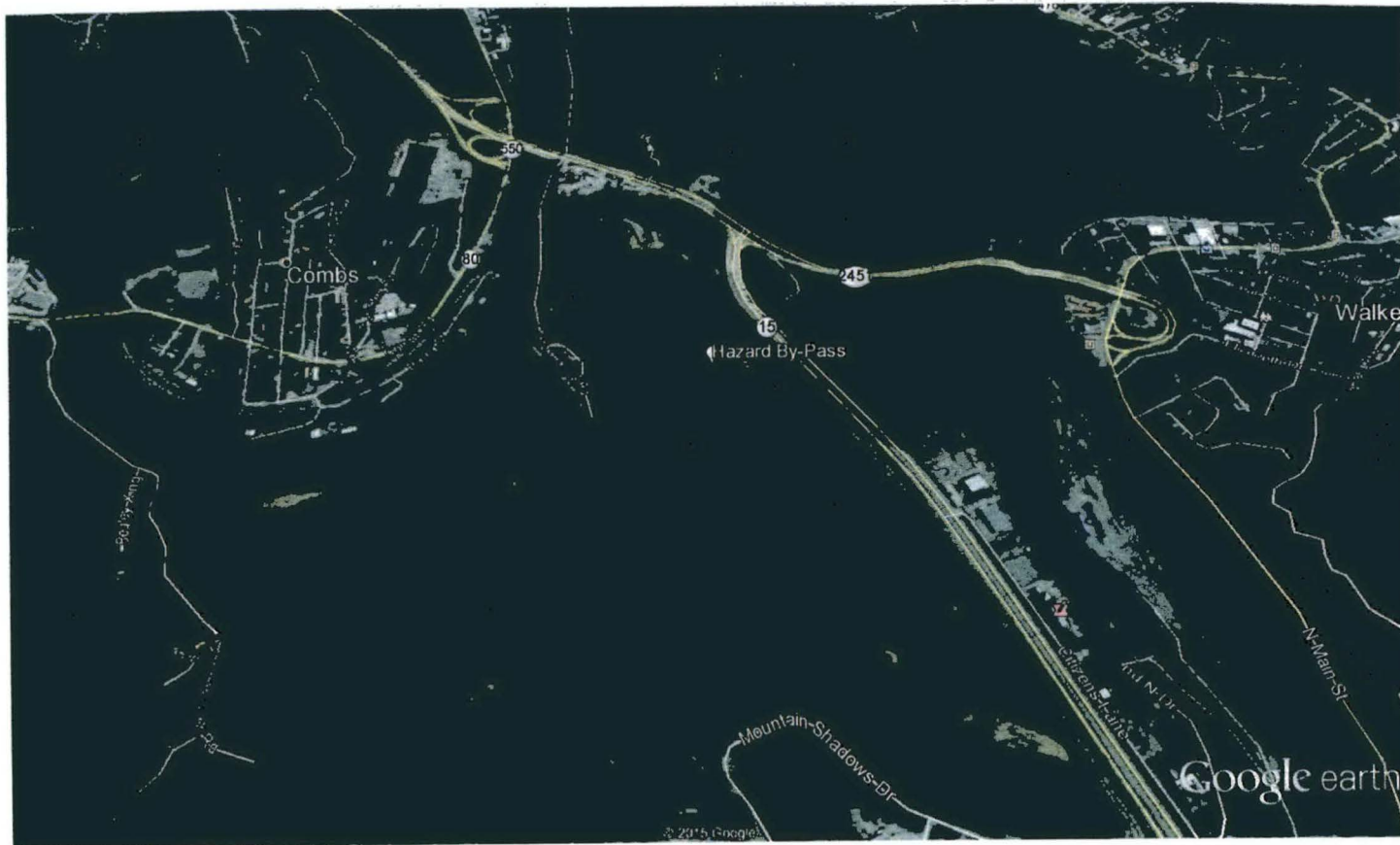
Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2015-00163 in your correspondence.

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

Sincerely,

Lynn Haney
Regulatory Compliance Director
Enclosure

Appalachian Wireless Location Map



Site Name
Hazard By-Pass

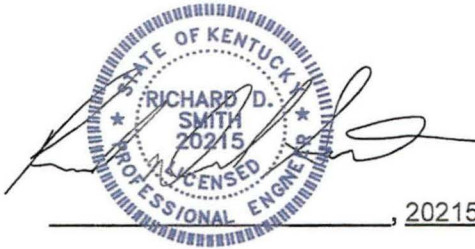
Location
Cherokee Hills Rd. Hazard KY.

GPS Location
N 37 15 46.10
W 83 12 14.20

APPALACHIAN WIRELESS
Geotechnical Investigation on the
Norman Callahan Property
Located Near Hazard in Perry County, Kentucky
ERMC² Project No. 165-000-0001

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

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



, ~~20215~~, December 12th, 2014



EXECUTIVE SUMMARY

- 1.0 INTRODUCTION**
- 2.0 PROJECT DESCRIPTION**
- 3.0 SITE DESCRIPTION AND HISTORICAL MINING**
- 4.0 FIELD EXPLORATION**
 - 4.1 SITE INFORMATION
 - 4.2 BORING DATA
 - 4.3 GROUNDWATER
 - 4.4 SEISMIC SITE CLASSIFICATION
- 5.0 DISCUSSION AND RECOMMENDATIONS**
 - 5.1 GENERAL
 - 5.2 FOUNDATIONS
 - 5.3 SUBSIDENCE
 - 5.4 ROCK EXCAVATION
 - 5.5 SITE PREPERATION
 - 5.6 BURIED UTILITIES
- 6.0 DISCUSSION AND RECOMMENDATIONS**
 - 6.1 SUBSURFACE INVESTIGATION
 - 6.2 LABORATORY AND FIELD TESTING
 - 6.3 ANALYSIS AND RECOMMENDATIONS
 - 6.4 CONSTRUCTION MONITORING
 - 6.5 GENERAL

SPECIFICATIONS

- I - GENERAL**
- II - GUIDELINES FOIR EXCAVATION AND TRENCHES**
- III - FOOTINGS**
- IV – GENERAL CONCRETE SPECIFICATIONS**

APPENDIX A – BORING DATA

APPENDIX B – HISTORIC MINING

APPENDIX C – SITE MAPS BOUNDARY MAPS & EARTHWORK



EXECUTIVE SUMMARY

A geotechnical investigation has been performed on the Callahan Property Located near the Kentucky Highway 15 and Kentucky Highway 15 Bypass's northern intersection. This site is accessible from Cherokee Hills road. A location map is shown in Figure 1 of this report. Five (5) borings were advanced to depths ranging from 31 ft. to 108 feet. The following geotechnical considerations were identified:

- Borings utilized for this study encountered a thin layer of topsoil and spoil, sandstone, coal and shale. No mine voids were encountered.
- The historically mined underlying coal seams are the Hazard No. 7 Seam, the Hazard No. 5A seam, the Hazard No. 4 Seams and the Amburgey Coal Seam. Mining activity in the general vicinity has occurred in the Hazard No. 7 Seam (contour surface mining and auger), Hazard 5A Seam (contour surface mining and auger) and the Hazard No. 4 Seam (room and pillar underground mining). No mining was noted in the Amburgey Seam.
- We recommend that spread footer foundation bear on shale rock below the Hazard 7 Coal Seam. The bearing capacity of this shale rock is 6.0 tsf.
- The 2006 International Building Code seismic site classification for this site is B.
- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We therefore recommend that ERMC² be retained to monitor this portion of the work.

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



1. INTRODUCTION

Environmental Resources Management Consultant Company (ERMC²) was retained by Mr. Marty Thacker of Appalachian Wireless to prepare a geotechnical engineering report for the proposed tower site located on the Callahan Property. This site is located near the Hazard Kentucky Highway 15 Bypass. A site location map is shown in Figure No. 1.

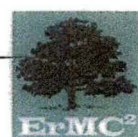
Five (5) borings were advanced to depths ranging from 31 ft. to 108 feet. Logs of the borings along with a boring location plan are included in Appendix A. The purpose of these services is to provide information and geotechnical engineering recommendations relative to subsurface conditions, groundwater, earthwork, seismic considerations, groundwater conditions and foundation design.

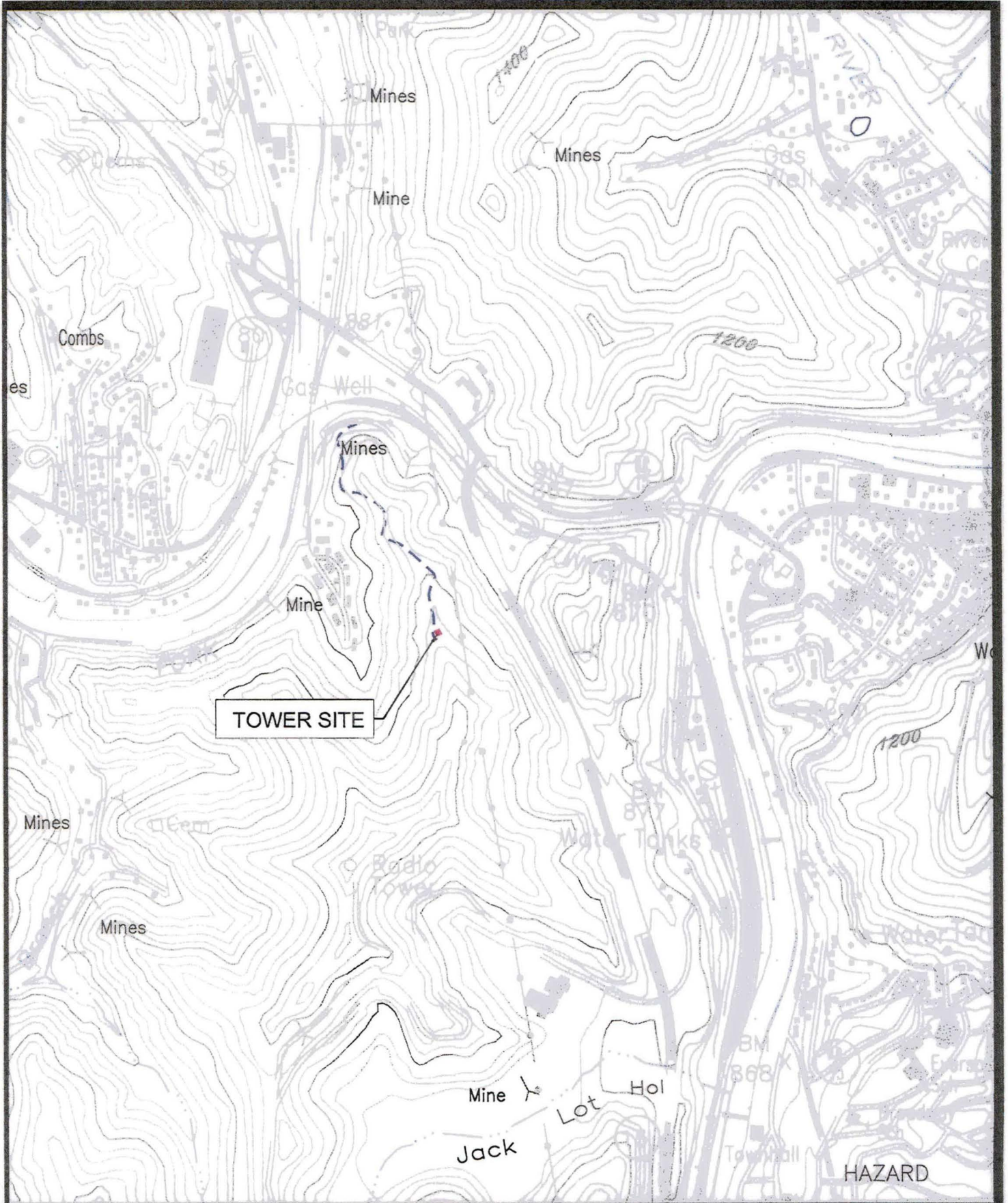
2.0 PROJECT DESCRIPTION

The proposed communication facility will consist of a self-supporting tower of undetermined height and ancillary support areas. The construction area will be approximately 100 ft. x 100 ft. and will require some earthwork to establish a flat workable area to support the proposed facilities. Based upon information provided the 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 are significantly different than these expected values, ERMC² should be notified to reevaluate these recommendations provided in this report.





Drawn:	Date: 12/15/14
Job:	Scale: 1"=1000'
Drawing: LOCATION MAP	

Appalachian Wireless
 Figure 1
 Location Map
 Callahan Tower Site



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

3.0 SITE DESCRIPTION & HISTORICAL MINING

The site location is in steep terrain at the end of a narrow ridge line. There is limited topsoil until rock is encountered. The elevations of the site range from 1280 ft. to 1315 ft. in elevation. Adjacent to the proposed site is an old contour strip mine on the Hazard No. 7 Coal Seam level at approximately elevation of 1275 ft. This bench varies from 20 ft. to approximately 50 ft. in width. Evidence of auger mining is visible in the weathered highwall but appears to be limited. There is also visible evidence of a small underground adit located south east of the proposed site. The extents of the adit's underground works are not known. ERMC² estimates this mining occurred during the late 1950's. Contour and auger mining has also occurred in the Hazard No. 5A seam at an elevations of approximately 1200 ft. No mine maps we found during our research for this mining. Underground mining has been conducted in the Hazard No. 4 Seam within the foot print of the proposed site. The mining maps found from our research are located in Appendix B of this report.

4.0 FIELD EXPLORATION

4.1 SITE INFORMATION

This site was topography surveyed and the lease areas corners were set in the field by ERMC² prior to this field investigation. The proposed lease area was established and tied to the existing boundary survey previously performed on the Norman Callahan Property. An estimated pad location was determined and boring locations were established at the proposed corners of proposed concrete pad for the towers support. An additional boring was placed above the pad to better determine the extents of underground and auger mining within the footprint of the proposed project.

4.2 BORING DATA

Five (5) borings "NX" size rock core were taken to confirm the presence of rock at the site and to determine its physical characteristics. The core was made with "NX" size diamond coring equipment. These borings range in depth from 31 ft. to 108 ft. The position at which the core was taken are indicated on the boring logs and shown on the boring location map in Appendix A.



These borings encountered minimal topsoil, sandstone shale and coal. Based upon Boring No. 5 the geology of the site is shown in Figure 2 below with the corresponding Rock Quality Data Ratings (RQD) is shown in Table No. 3. This boring demonstrates the full geologic column at the site.

TABLE No. 2
BORING B5 GEOLOGY

Depth Range	Rock Description	Base Elevation	Comments
0.0 - 4.0	Weathered Sandstone	1300.7	
4.0 – 19.1	Brown Weathered S. Stone	1285.6	
19.1 – 24.3	Coal Broken	1280.4	Hazard 7 Seam
24.3 – 84.1	Shale Soft Sandy Grey	1220.6	
84.1 – 89.9	Shale With Coal Streaks	1214.8	
89.9 – 94.7	Shale Soft Grey	1210.0	
94.7 – 96.0	Coal	1208.7	Hazard 5A Seam
96.0 -108.0	Shale Soft Grey	1196.7	

TABLE NO. 3
RQD RATING

Run Interval	RQD Values	Base Elevation	Description
4.0 – 9.0	17	1298.7	Very Poor
5.0 -9.0	24	1295.7	Poor
9.0 -13.0	36	1291.7	Poor
13.0 -18.0	50	1286.7	Fair
18.0 -28.0	40	1276.7	Poor
28.0 – 38.0	63	1266.7	Fair
38.0 – 48.0	87	1256.7	Good
48.0 – 58.0	54	1246.7	Fair
58.0 -68.0	62	1236.7	Fair
68.0 – 78.0	74	1226.7	Fair
78.0- 88-0	69	1216.7	Fair
88.0 – 98.0	65	1206.7	Fair
98.0 -108.0	74	1196.7	Fair



Boring B3 and B4 were taken near the top of the ridge line. Borings B1 and B2 were taken on the existing Hazard No. 7 Coal Bench. See the attached Location Map in Figure No. 1 Boring B4 & B5 encountered fractured weathered sandstone and shale with RQD Ratings ranging from 0.4 to 50. Borings B1 and B2 encountered mine spoil and weathered shale, soft shale and sandstone with interbedded shale streaks.

4.3 GROUNDWATER

Groundwater observations were made during the drilling operations (by noting the depth to water on the drilling tools) and in the open boreholes following withdrawal of the drilling augers. No groundwater levels were noted during drilling activities.

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 Kentucky Building Code. In addition, a S_{DS} coefficient of 0.187g was calculated, and a S_{D1} coefficient of 0.059 g was also calculated for design based on the aforementioned building code. A "Site Class B" suggests that the materials are rock with no more than 10 feet of soil. There is less than 10 feet of soil at this site. The National Building Code allows a "Site Class B" for sites where there is less than 10 feet of soil overlying the rock.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 GENERAL

The structure will be a self-supporting free standing tower with three legs connected by a lattice work of braces. Self-supporting towers can either use a single foundation to support all of the tower legs or individual foundations below each leg. 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 attempt to overturn and can act in any directions.



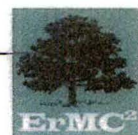
5.2 FOUNDATIONS

We recommend a single spread footer foundation on competent rock. The proposed location is in steep terrain at the end of a narrow ridge line that has less than 25 feet of cover over the Hazard No. 7 Coal seam. The upper rock strata are broken and weathered. Rock excavation will be required in order to obtain a sufficient footing for the foundation and construction area. If a minimal cut is taken the proposed footer elevation will be very close to the top of the Hazard No. 7 Seam. Coal has low bearing strength and a visual review the borings samples indicated the seam is fractured and weathered. There is also historical mining visible in this seam very near to the proposed site. We recommend that the footer foundation be placed at an elevation below this coal seam.

Below the coal is a stratum is relative hard shale with bearing capacity of 6.0 tsf. The shale below the coal seam is at an approximate elevation 1280 feet at boring B5. There will be cuts in the area from 2 feet to as much as 27 feet. Care must be exercised to ensure that the foundation is bearing on rock. The elevation of the shale under the coal seam may vary. If this occurs, the coal or other unsuitable material should be removed and backfilled with 4000 psi. concrete. The base of the foundation will need to be extended to a depth of 30 inches below final surrounding grade to be below the frost line for Perry County, Kentucky.

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

Support structure for this tower can be placed on the mine bench areas if needed. It is recommended that test pits are preformed to insure that any of these structures are on the mine bench and on mine soil pushover that is common near the out slopes of the existing old bench. 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 as illustrated in Figure 7 in Section III. 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 insure 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.

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 foot 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 have a tendency to pond water within their interstices

5.3 SUBSIDENCE

Based upon our research there has been known historical mining in the Hazard No. 4 Seam approximately 360 ft. under the foot print of the site. There has also historical mining in the Hazard 5A seam in the area at approximately 75 ft. below the proposed foundations area. During a visual site investigation and reviewing the data



obtained from the boring, no subsidence issues have been noted. Prior to construction of the foundations it is recommended that a visual inspection be conducted of the subgrade by the owners engineer to insure no subsidence is visible. If significant subsidence features are encountered the geotechnical engineer should be contacted so that field conditions can be examined and recommendations revised if necessary. If minor cracking is noted they should be filled with 4000 psi. concrete.

5.4 ROCK EXCAVATION

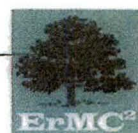
The shale with interbedded sandstone bedrock revealed within exploratory test borings can generally not be excavated using conventional excavating equipment. Some of the softer shale can be excavated; however, it should be anticipated that blasting or rock hammer excavations may be necessary to remove most material. However, the excavation technique must be confirmed in the field by the Contractor at the time of construction activities. Rock hammers attached to larger excavators can be used to break the rock overburden to meet the site grade requirements. Due to the proximity to industrial and residential areas this type of excavations practice may be more suitable. This would eliminate a significant cost associated with pre-blast surveys which are recommended prior to conducting any blasting associated with this project.

5.5 SITE PREPERATION

All areas that will support slabs-on-grade should be properly prepared. After rough grade has been established in cut areas and prior to placement of fill in all fill areas, the exposed subgrade should be carefully inspected by probing and testing as needed. Any topsoil or other organic material still in place, frozen, wet, soft or loose soil, and other undesirable materials should be removed.

5.6 BURIED UTILITES

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 foot 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 have a tendency 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 ERMC² are a valuable and integral part of the design and construction teams, we do not warrant, guarantee, or insure the quality or completeness of services provided by other members of those teams, the quality, completeness, or satisfactory performance of construction plans and specifications which we have not prepared, nor the ultimate performance of building site materials.

6.1 SUBSURFACE EXPLORATION

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

The boring log includes sampling information, description of the materials recovered, approximate depth of boundaries between soil and rock strata and groundwater data. The boring log represents conditions specifically at the location and time the boring was made. The boundaries between different soil strata are indicated at specific depths; however, these depths are in fact approximate and are somewhat dependent upon the frequency of sampling (The transition between soil strata is



often gradual). Free groundwater level readings are made at the times and under conditions stated on the boring logs (Groundwater levels change with time and season). The borehole does not always remain open sufficiently long for the measured water level to coincide with the groundwater table.

6.2 LABORATORY AND FIELD TESTS

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

6.3 ANALYSIS AND RECOMMENDATIONS

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

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

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



6.4 CONSTRUCTION MONITORING

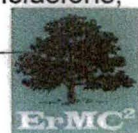
Construction monitoring is a vital element of complete geotechnical services. The field engineer/inspector is the owner's "representative" observing the work of the contractor, performing tests as required in the specifications, and reporting data developed from such tests and observations. The field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

6.5 GENERAL

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

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

This report has been prepared for the exclusive use of Appalachian Wireless, for specific application to the proposed cellular tower located on the Callahan 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 own conclusions regarding specific construction techniques and methods chosen. ERMC² is not responsible for the independent conclusions,



opinions or recommendations made by others based on the field exploratory and laboratory test data presented in this report.



SPECIFICATIONS

I – GENERAL

1.0 STANDARDS AND DEFINITIONS

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

- 1.1.1 ASTM D-698-70 (Method C) "Standard Test Methods for Moisture, Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.5 kg.) Rammer and 12-inch (305-mm) Drop".
- 1.1.2 ASTM D-2922 "Standard Test Method for Density of Soil and Soil Aggregate in Place by Nuclear methods (Shallow Depth)".
- 1.1.3 ASTM D-1556 "Standard Test Method for Density of Soil in place by the Sand-Cone Method".

1.2 DEFINITIONS

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

2.0 GENERAL CONDITIONS

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



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

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

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

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

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



II GUIDELINES FOR EXCAVATIONS AND TRENCHES

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

1. Check with the following utilities prior to breaking ground:

- Sewer
- Telephone
- Fuel
- Electric
- Water
- Gas
- Cable

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

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

2. Access and egress ramps must be designed by a "competent person" and structural ramps used for equipment must be designed by a "competent person" with qualified knowledge in structural design. In addition:

- Ramps must be secured to prevent displacement;
- Ramps used in lieu of steps must have cleats to prevent slipping; and
- Trenching excavations four feet or greater in depth must have a stairway, ladder, ramps or other safe means to egress with lateral travel no more than 25 feet.

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

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

5. Mobile equipment, operating adjacent to an open excavation or approaching the edge of an excavation, must have one of the following when the operator's view is obstructed:

- Warning System
- Mechanical Signals
- Barricades
- Stop Logs
- Hand Signals



6. The contractor must check the atmosphere for hazardous gases and oxygen deficiencies when excavating four feet or greater around landfills, or when hazardous substances are stored nearby, and when the contractor expects there could be any exposure to the workers.
7. When hazardous atmospheric conditions exist, or when conditions could change, the contractor must make emergency rescue equipment readily available including breathing apparatus, safety harnesses with life lines and a basket stretcher.
8. When workers enter bell-bottom pier holes or other deep and confined excavations, the worker must wear (at all times while performing work in the confined space) a separate life line attached to a harness. The line must be attended by someone above while work is being performed. The worker must check for hazardous atmospheric conditions prior to entry.
9. The contractor must ensure that water does not accumulate in open excavations and must inspect the excavation prior to allowing workers to re-enter after heavy rains.
10. Adjacent structures (buildings, walls, etc.) must be supported or secured to prevent worker exposure to unsafe conditions and damage to existing structures.
11. A registered professional engineer must approve operations when a contractor underpins existing structures to ensure worker safety and prevent damage to existing structures.
12. Workers must not be exposed to loose soil and rock or materials in and around excavations. Materials, such as removed soil and rock, must not be stored closer than two feet from the edge of the excavation.
13. Daily inspections of the excavation, the adjacent areas and protective systems must be made by a "competent person" for evidence of possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions. The "competent person" must stop work immediately and remove workers from the excavation when conditions change and pose a threat to their safety.
14. Workers must not be exposed to fall hazards associated with excavations. Protective walkways or bridges with standard guard rails must be provided.
15. All wells, pits, shafts etc. must be barricaded or covered. After completion of work, all wells, pits, shafts etc. must be backfilled.



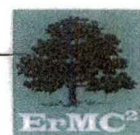
II – FOOTINGS

1.0 EXCAVATION FOR FOOTINGS

- 1.1 Footing excavation shall consist of the removal of all material, of whatever nature, necessary for the construction of foundations.
- 1.2 It shall be the responsibility of the Contractor to identify and relocate all existing utilities which conflict with the proposed footing locations shown on the plan. The Contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities, and coordinate removal and installation of all utilities with the respective utility company.
- 1.3 The side of all excavations shall be cut to prevent sliding or caving of the material above the footings.
- 1.4 Excavated material shall be disposed in accordance with the plan established by the Engineer.
- 1.5 The footings are designed for a bearing capacity of 4000 psf, and this shall be verified in the field before construction.

2.0 CONCRETE FOOTING DIMENSIONS

The footings shall be reinforced in accordance with the construction drawings.



IV - GENERAL CONCRETE SPECIFICATIONS

1.0 GENERAL

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

2.0 SCOPE

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

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

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

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

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

3.0 MATERIALS

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

A. Fine and Coarse Aggregates: Coarse and fine aggregates shall conform to ASTM Specification C33. The maximum size of aggregate shall not be larger than one-fifth (1/5) of the narrowest dimensions between forms, or larger than three fourths (3/4) of the minimum clear spacing between reinforcement.

1. Fine Aggregate: Sand shall be composed essentially of clean, hard, strong, durable grains free of structurally weak grains,



organic matter, loam, clay, silt, salt, mica or other fine materials that may effect bonding of the cement paste.

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

4.0 FORM

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

5.0 INSERTS, ETC.

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

6.0 REINFORCEMENT



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

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

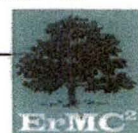
The reinforcement of foundations, footings and other principal structural members in which the concrete is deposited against the ground shall not have less than three (3) inches of concrete between it and the ground contact surface. If concrete surfaces after removal of the forms are to be exposed to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

7.0 CONCRETE

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

8.0 DEPOSITING CONCRETE

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



accompanied by a time slip issued at the batching plant, bearing the time of charging of the mixer drum with the cement and aggregates.

- C. Transporting of Concrete from Mixer to Place of Final Deposit: Transportation shall be done as rapidly as practical by means which shall prevent the separation or loss of the ingredients. If chutes are used, they shall be at a slope not flatter than one vertical to two horizontal. Buggies or carts shall be equipped with pneumatic rubber tires or surfaces of runways shall be sufficiently smooth or both so as not to cause separation or segregation of concrete ingredients. Concrete shall not be allowed to drop freely more than 4 feet. Where greater drops are required, canvas "elephant trunks" or galvanized iron chutes equipped with suitable hopper heads shall be employed and a sufficient number placed to insure that the concrete may be effectively compacted into horizontal layers not exceeding 12 inches in thickness with minimum lateral movements.
- D. Depositing of Concrete: Depositing of concrete shall:
1. Proceed continuously after once starting until reaching the end of a section of construction joint location shown on the drawings, or as approved by the Owner. The operations shall be conducted so that no concrete is deposited on concrete sufficiently hardened to cause formation of seams, and planes of weakness.
 2. Be as near as practical to its final position in the forms.
 3. Proceed so as to maintain constantly a top surface which is approximately level.
 4. Be placed before initial set has occurred, and in no event after it has contained its water content for more than 90 minutes.
 5. Be thoroughly worked and compacted by means of suitable tools to provide impermeability, durability and strength and shall be thoroughly worked around reinforcements and embedded items and into corners of forms and so as to be free from voids, pockets or honeycombing. Particular care shall be taken to provide impermeability.
- E. Vibration Equipment: Vibration equipment shall be of the appropriate type and shall, at all times, be adequate in number of units and power of each unit to properly consolidate all concrete.
- F. Monolithic Pours: Proper delivery of concrete shall be the Contractor's responsibility in order to make a mono-lithic pour without delays and changes of cold joints.



9.0 CURING

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

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

10.0 CONCRETE FINISHES

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

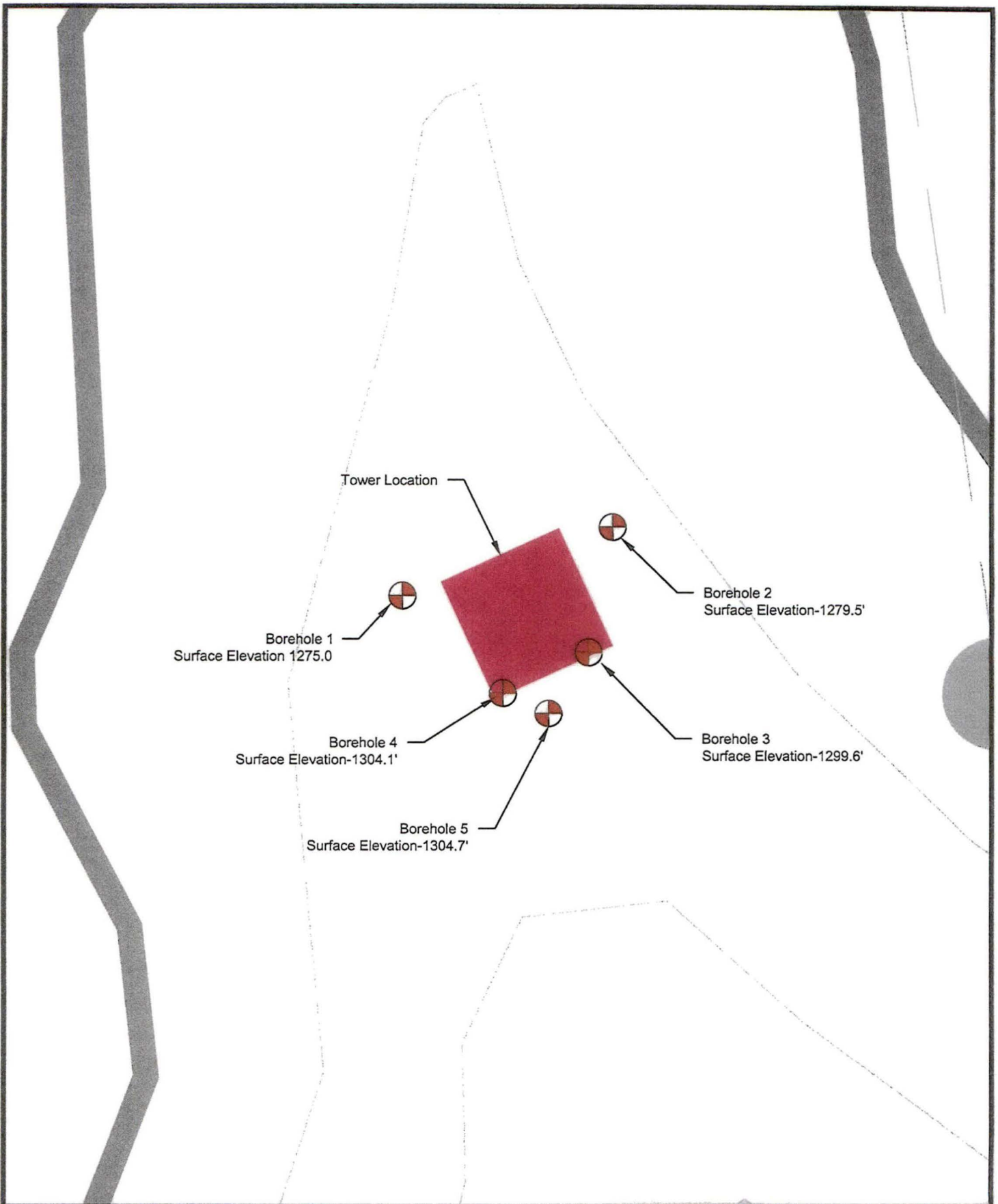
Finished work shall be level and plumb, true to lines, and dimensions. Finished plane surfaces shall be smooth, and as nearly perfect as practical; however deviations from a true plane shall not exceed 1/8 inch when measured from a 6-foot straight edge placed against the surface to any point on the surface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

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



APPENDIX A BORING DATA



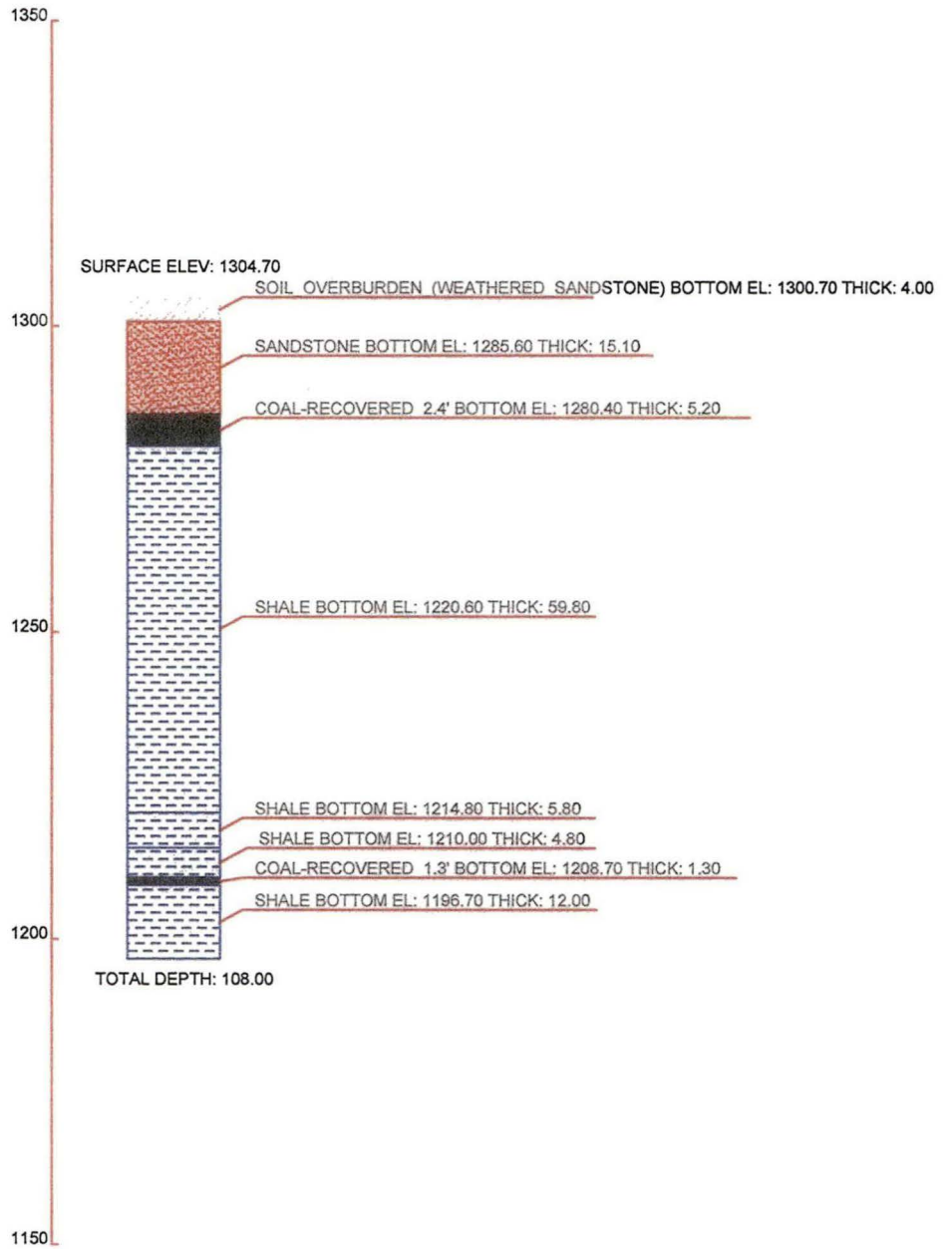


Drawn: KM	Date: 12/15/14
Job: 165-001	Scale: 1"=50'
Drawing: BORE LOCATIONS	

Appalachian Wireless
 Callahan Tower Site
 Boring Locations Map



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



Drawn: KM	Date: 12/15/14
Job: 165-000-0001	Scale: As Shown
Drawing: GEO COLUMNS	

Appalachian Wireless
 Callahan Tower
 Geologic Column Borehole 5



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

APPENDIX B HISTORIC MINING





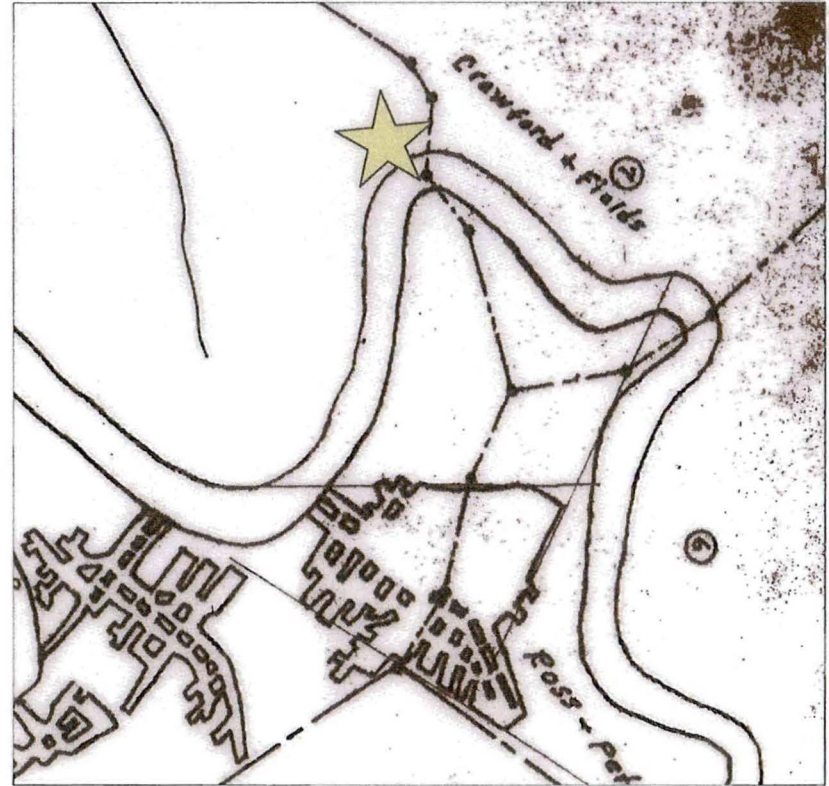
APPROXIMATE LOCATION OF TOWER



Hazard 4 Previous Workings

Approximate Elevation- 920'

Scale: 1"=400'



Hazard 7 Previous Workings

Approximate Elevation- 1200'

Scale: 1"=400'

Drawn: KM Date: 12/16/14

Job: 165-001 Scale: 1"=400'

Drawing:

PREVIOUS MINE WORKINGS

0' 400'



Appalachian Wireless
Callahan Property
Previous Mine Workings



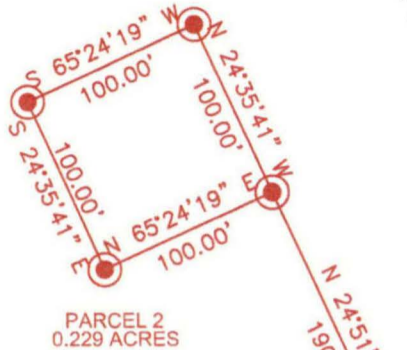
230 Swartz Drive
Hazard, KY 41701
(859)436-1111
e ring@ermc2.us

APPENDIX C SITE MAPS, BOUNDARIES & EARTHWORK



EXHIBIT A

PARCEL 1
CALLAHAN PROPERTY
DEED BOOK 377 PG. 579
35.860 ACRES REMAINING



PARCEL 2
0.229 ACRES

402.53'
N 89°41'41" W

G. B. DEVELOPMENT COMPANY, INC.
D.B. 304 PG. 47
PRESENT OR FORMERLY

NOTES:

1. ALL IRON PINS SET ARE 1/2 INCH REBAR WITH PLASTIC CAP STAMPED PLS 3633.
2. ALL BEARINGS SHOWN REFLECT TRUE NORTH
3. THE DATE OF THE FIELD SURVEY WAS 10/17/2014
4. THE SOURCE OF TITLE FOR THIS SURVEY IS D.B. 377 PG 579
6. THIS PLAT IS SUBJECT TO ALL CURRENT AND FUTURE RECORDED EASEMENTS

LEGEND

- PROPERTY LINE
- REFERENCE I.P SET 1/2" REBAR WITH CAP MARKED R D SMITH PLS 3633
- ROW MARKER FOUND
- CORNER POINT
- PROPOSED EASEMENT LINE
- PK SET

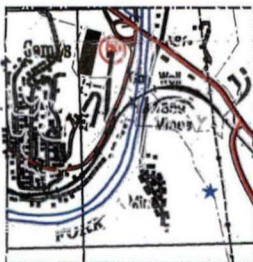
X ON ROCK FOUND

8" CHESTNUT OAK FOUND

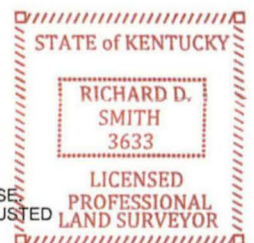
GREG WELLS
PRESENT OR FORMERLY

NOTE: PARCEL 2 IS BEING EXCEPTED FROM PARCEL 1

LOCATION MAP



I HEREBY CERTIFY THAT THIS PLAT DEPICTS A SURVEY, MADE BY ME, OR UNDER MY DIRECTION, BY THE METHOD OF RANDOM TRAVERSE. THE BEARING AND DISTANCES SHOWN HEREON HAVE NOT BEEN ADJUSTED FOR CLOSURE. THIS SURVEY AND PLAT MEETS OR EXCEEDS THE MINIMUM STANDARDS OF GOVERNING AUTHORITIES.



NAME: REG. NO. 3633 DATE 10/17/2014

Drawn: .RDS	Date: 10/17/14
Job:	Scale: 1"=50'
Drawing:	

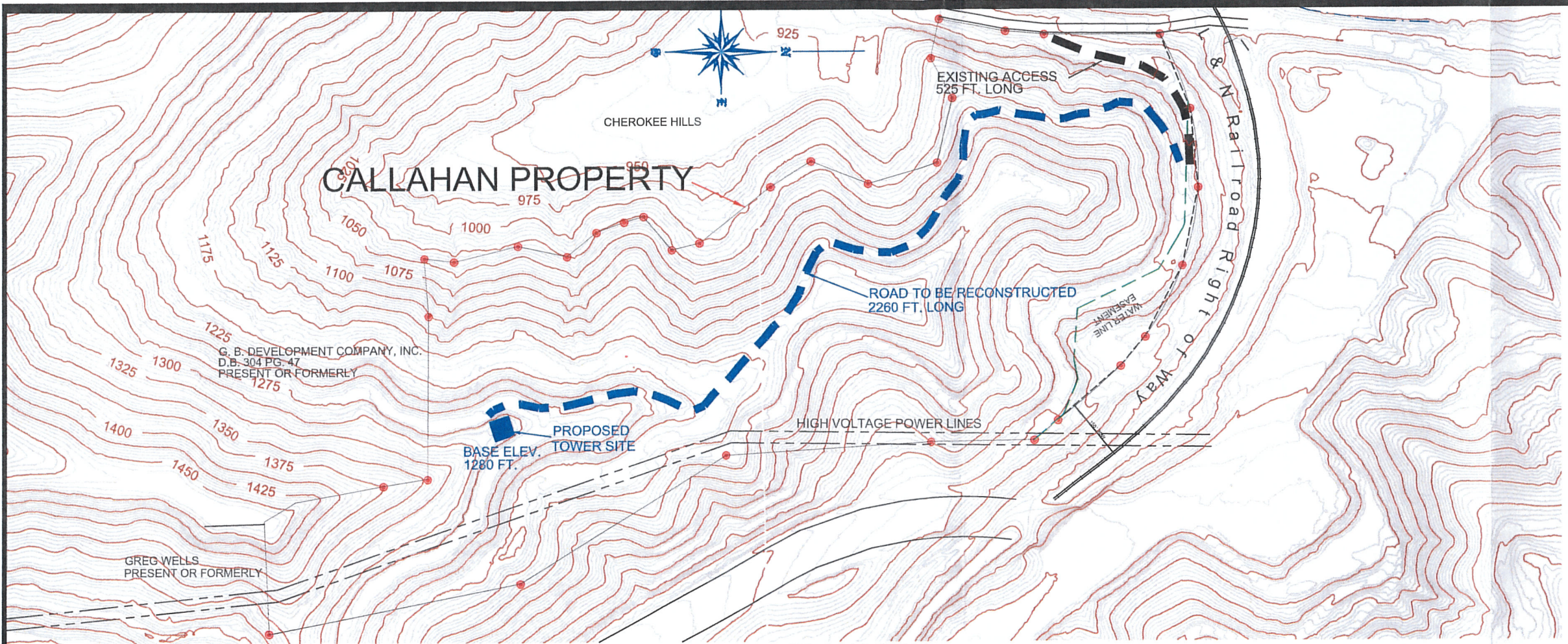
APPALACHIAN WIRELESS
PARCEL 2
LOCATED NEAR HWY 15 BYPASS
HAZARD, KY 41701



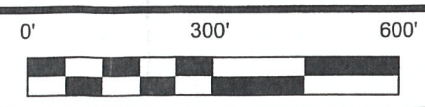
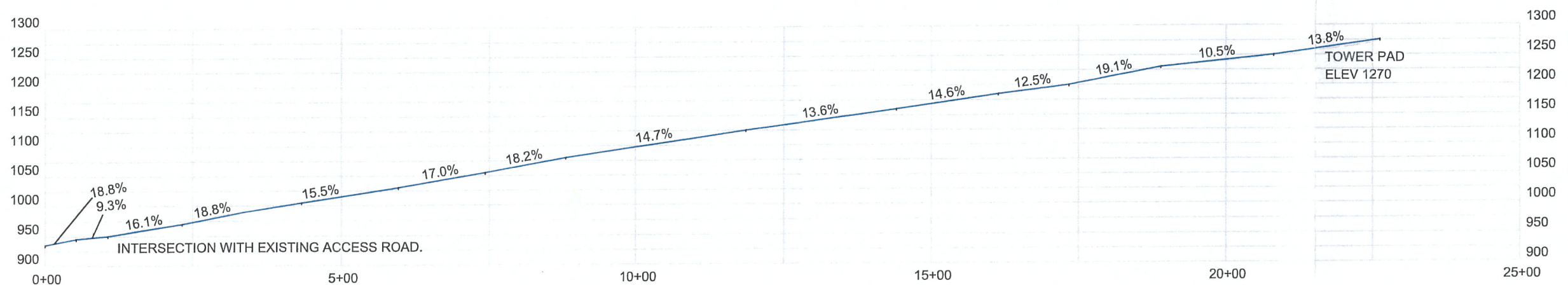
230 Swartz Drive
Hazard, KY 41701
(859)436-1111
engineering@ermc2.us



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



PLAN VIEW
1" = 300'



Drawn by: RDS Date: 12/15/2014

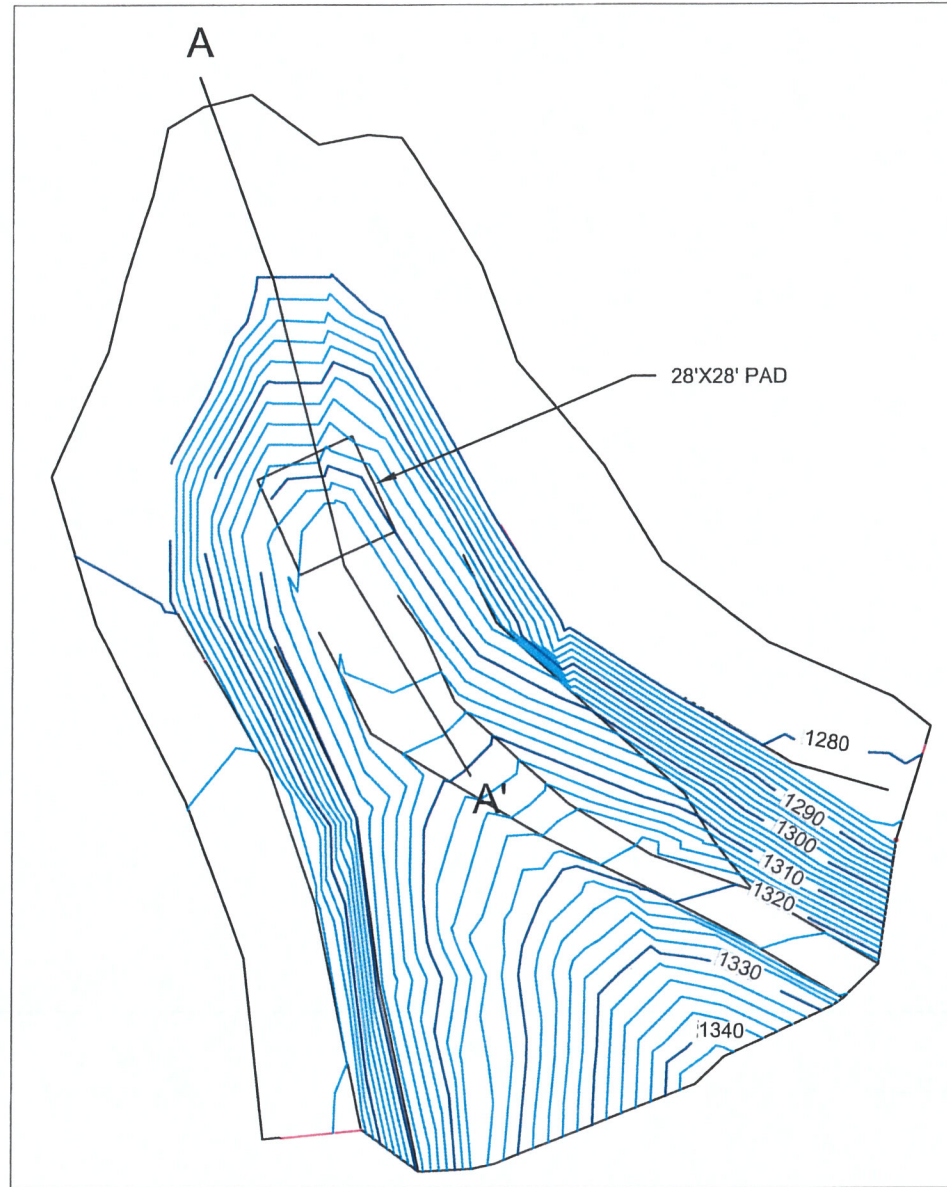
Job #: Proposal Scale: As Noted

File Location:
 Y:\1152 Hopper Property\Construction Layout\Cell Tower Callahan

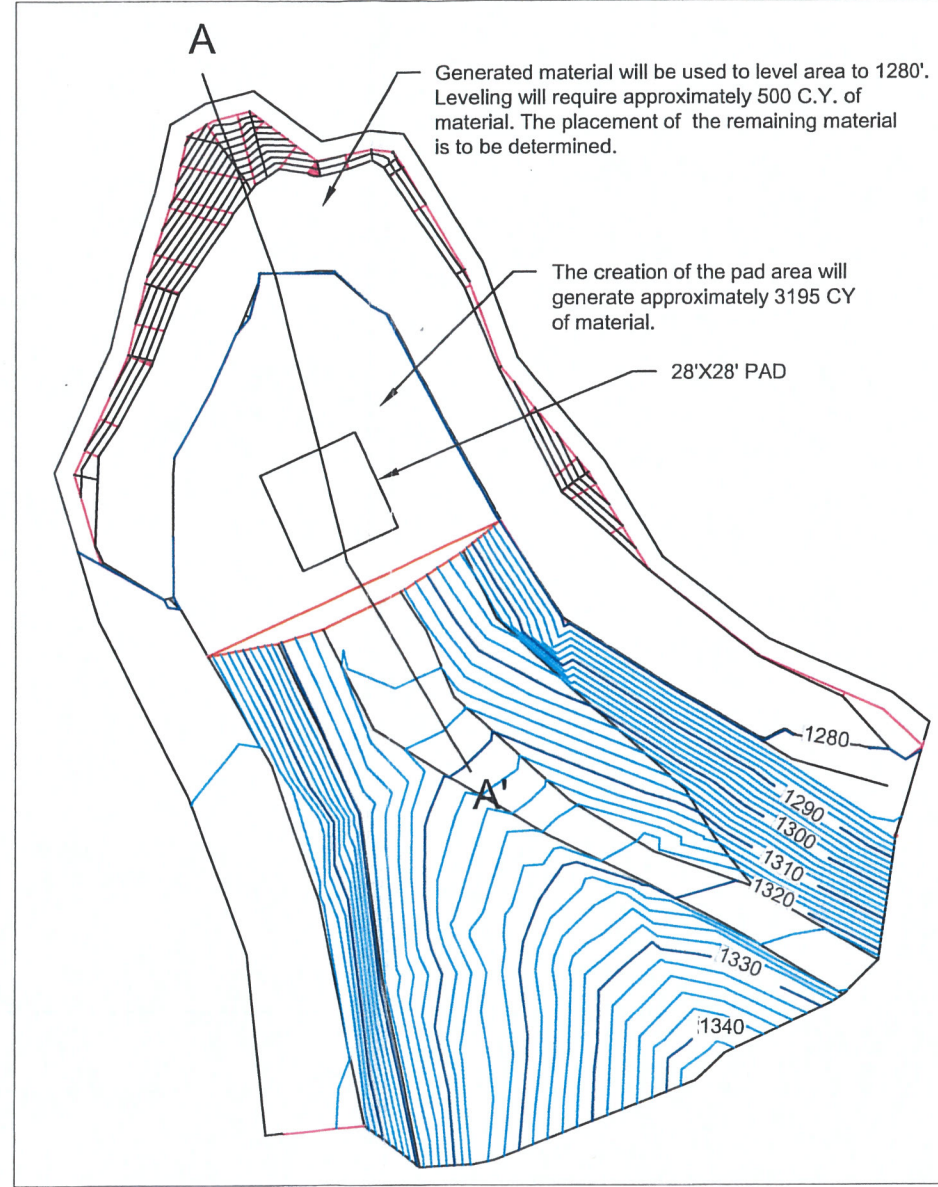
Appalachian Wireless
 Proposed Road and Tower Site
CALLAHAN PROPERTY



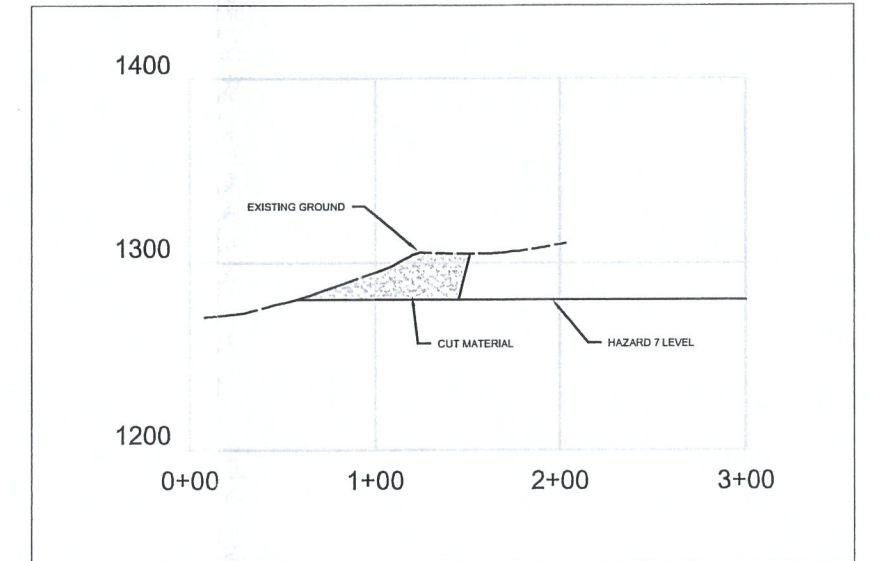
230 Swartz Drive
 Hazard, KY 41701
 (859)436-1111
 engineering@ermc2.us



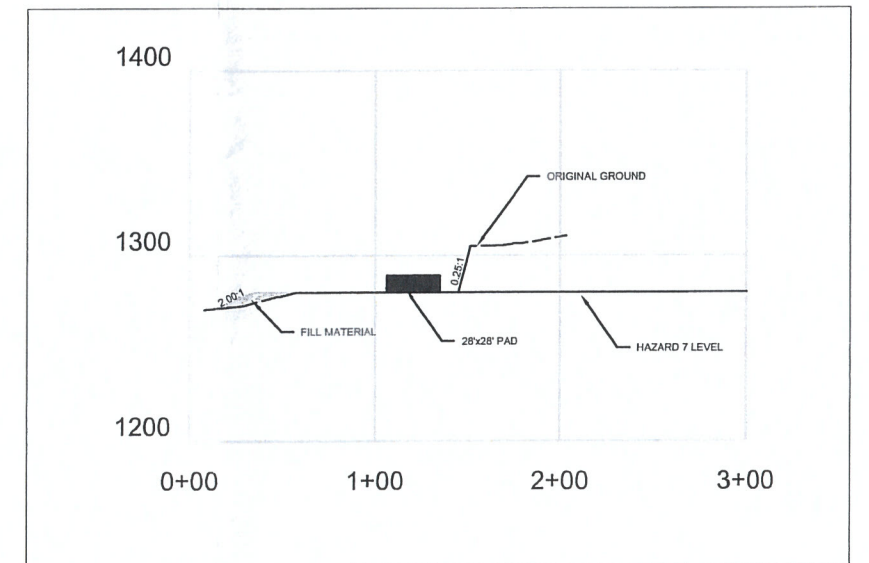
Existing Ground Configuration
 Scale: 1"=50'



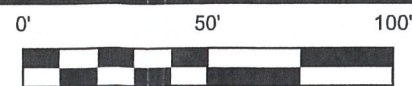
Configuration Post-Tower Construction
 Scale: 1"=50'



Existing Configuration A-A'
 Scale: 1"=100'



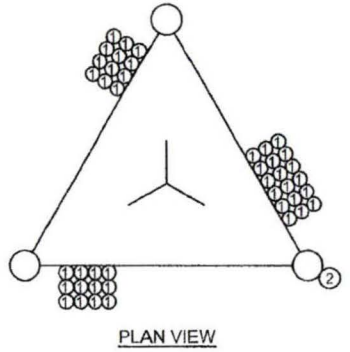
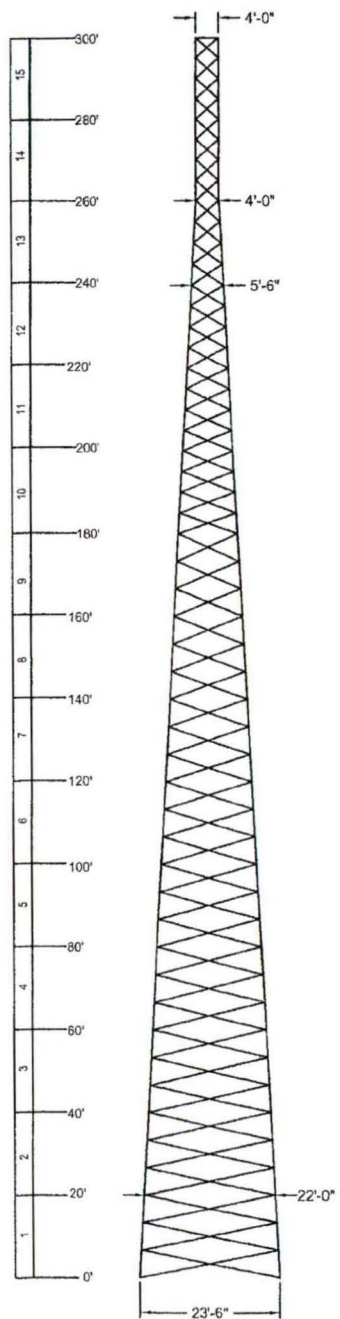
Post-Tower A-A'
 Scale: 1"=100'



Drawn by: KM Date: 9/25/2014
 Job #: 165-001 Scale: 1"= 50'
 File Location:

Y:\165 Appalachian Wireless\001 Callahan Tower\CAD\IPAD WORK VOLUMES

APPALACHIAN WIRELESS
 PLAN SITE MAP
 CALLAHAN TOWER



PLAN VIEW REF:
 1) 1 5/8" FEED LINES
 2) STEP BOLTS

BASE REACTIONS:(FACTORED)
 TOTAL SHEAR = 76 KIPS
 AXIAL LOAD = 260 KIPS
 UPLIFT / LEG = 546 KIPS
 COMP. / LEG = 631 KIPS
 O.T. MOMENT = 12180 FT-K

MEMBER INFORMATION

SECTION	ELEVATION	FACE SIZE	LEG DIA.	DIAGONALS	GIRTS	# OF BAYS
1	0' - 20'	23'-6"	Ø5"	L 4" x 1/4"	N/A	3 - X
2	20' - 40'	22'-0"	Ø5"	L 4" x 1/4"	N/A	3 - X
3	40' - 60'	20'-6"	Ø4 3/4"	L 4" x 1/4"	N/A	3 - X
4	60' - 80'	19'-0"	Ø4 3/4"	L 3 1/2" x 1/4"	N/A	3 - X
5	80' - 100'	17'-6"	Ø4 1/2"	L 3 1/2" x 1/4"	N/A	3 - X
6	100' - 120'	16'-0"	Ø4 1/4"	L 3" x 1/4"	N/A	3 - X
7	120' - 140'	14'-6"	Ø4 1/4"	L 3" x 3/16"	N/A	3 - X
8	140' - 160'	13'-0"	Ø4"	L 3" x 3/16"	N/A	3 - X
9	160' - 180'	11'-6"	Ø4"	L 2 1/2" x 3/16"	N/A	3 - X
10	180' - 200'	10'-0"	Ø3 1/2"	L 2 1/2" x 3/16"	N/A	4 - X
11	200' - 220'	8'-6"	Ø3 1/4"	L 2" x 3/16"	N/A	4 - X
12	220' - 240'	7'-0"	Ø3"	L 1 1/2" x 3/16"	N/A	4 - X
13	240' - 260'	5'-6"	Ø2 3/4"	L 1 1/2" x 3/16"	N/A	4 - X
14	260' - 280'	4'-0"	Ø2 1/2"	L 1 3/4" x 3/16"	N/A	4 - X
15	280' - 300'	4'-0"	Ø1 3/4"	L 1 1/2" x 3/16"	L 1 1/2" x 3/16"	4 - X

ANTENNA INFORMATION

ELEVATION	ANTENNA	LINE
80'	(1) 6' DISH W/O RADOME	(1) 1 5/8"
100'	(1) 6' DISH W/O RADOME	(1) 1 5/8"
120'	(1) 4' DISH W/O RADOME	(1) 1 5/8"
180'	(1) 6' DISH W/O RADOME	(1) 1 5/8"
200'	(1) 8' DISH W/O RADOME	(1) 1 5/8"
220'	(1) 8' DISH W/O RADOME	(1) 1 5/8"
260'	(6) WPA-800102/4CF	(6) 1 5/8"
280'	(12) KATHREIN_SCALA 840 21240	(12) 1 5/8"
292'	(12) KATHREIN_SCALA 840 21240	(12) 1 5/8"
300'	(6) WPA-800102/4CF	(6) 1 5/8"

DESIGN NOTES:

- TOWER LEGS ARE CONSTRUCTED OF SOLID ROUND BAR MATERIAL.
- SOLID ROUND 0.75" AND LARGER ASTM A-572 GRADE : 50 KSI MIN.
- SOLID ROUND 0.625" AND SMALLER IS ASTM A-36 GRADE : 36 KSI MIN.
- ALL ANGLE MATERIAL IS ASTM A-529 : 50 KSI MIN.
- ALL BRACE AND FLANGE BOLTS ARE A325-X
- THIS TOWER IS DESIGNED FOR STEP BOLTS UP ONE LEG FOR CLIMBING WITH SAFETY CLIMB DEVICE.
- (6) Ø1 3/4" x 7'-6" LONG (F1554-GR.105) ANCHOR BOLTS PER LEG.
- THIS TOWER IS DESIGNED FOR A 90 M.P.H. WIND SPEED WITH NO ICE AND A 30 M.P.H. WIND SPEED WITH 1.00" IN ICE IN ACCORDANCE WITH THE TIA/EIA-222-G STANDARD.
- STRUCTURE CLASS II; TOPO CAT. 1; EXPOSURE C.



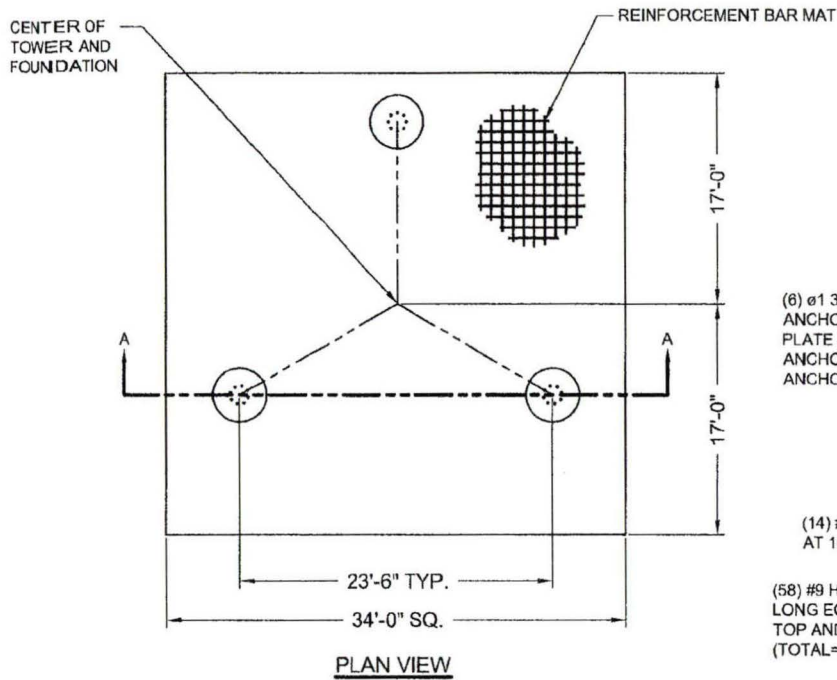
Keith M. Eaton
 3-31-2015

APPROX. WEIGHT
 64.84 KIPS

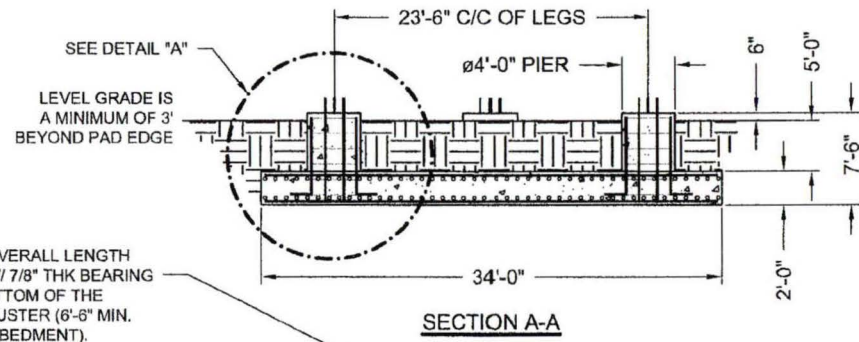
PROPRIETARY STATEMENT: THIS DRAWING IS THE PROPERTY OF ALLSTATE TOWER INC. IT IS NOT TO BE REPRODUCED OR COPIED IN ANYWAY WITHOUT PRIOR WRITTEN CONSENT OF ALLSTATE TOWER INC.

ALLSTATE TOWER INC.
 P.O. BOX 25
 HENDERSON, KY 42419
 PHONE: (270) 830-8512
 FAX: (270) 830-8476
 WWW.ALLSTATETOWER.COM

REV #	DESCRIPTION	DATE	BY	UNLESS OTHERWISE NOTED DIMENSIONS ARE IN:	DESCRIPTION:
				INCHES	TOWER OVERVIEW
				TOLERANCE BANDS: X +.032"/-0 ANGLES +/- .2" XX +.032"/-0 XXX +.1167/-0 HOLES +/- 1/16"/-0	APPALACHIAN WIRELESS
				DRAWN BY: R. DUPONT	300' SELF SUPPORT TOWER
				DATE: 10/10/2014	HAZARD, PERRY CO., KY
				SCALE: NTS	FILE NAME: 53582FT - SD
					SHEET: A



TOTAL VOLUME OF CONCRETE = 93.3 YD³

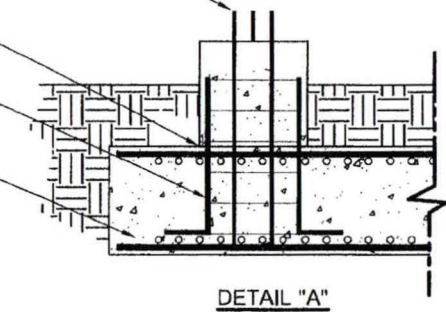


(6) Ø1 3/4" X 7'-6" OVERALL LENGTH ANCHOR BOLTS W/ 7/8" THK BEARING PLATE AT THE BOTTOM OF THE ANCHOR BOLT CLUSTER (6'-6" MIN. ANCHOR BOLT EMBEDMENT).

USE EPOXY BONDING AGENT WHEN POURED SEPERATELY

(14) #9 VERTICAL BARS w/ #5 TIES AT 16" O.C.

(58) #9 HORIZONTAL BARS X 33'-6" LONG EQUALLY SPACED EACH WAY AT TOP AND BOTTOM OF MAT. (TOTAL=232)



REINFORCEMENT BAR SPLICING:

1. ALL LAP SPLICES 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	58"
11	71"



Keith M. Eaton
3-31-2015

FOUNDATION INSTALLATION/DESIGN NOTES:

1. THIS FOUNDATION IS DESIGNED TO MEET ALL STANDARDS SET FORTH BY ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ANSI/TIA/EIA 222-G: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. THIS FOUNDATION IS DESIGNED UTILIZING THE GEOTECHNICAL REPORT PERFORMED BY HORN & ASSOC.; DATED 11-12-14. 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".
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.

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:
1	REVISED PIER REBAR	2/3/15	WM	INCHES
				TOLERANCE BANDS:
				.X +3/32" / -0 ANGLES +/- 2"
				.XX +3/32" / -0
				.XXX +1/16" / -0 HOLES +Ø1/16" / -0
SCALE:	NTS			DATE: 03/21/2015

DESCRIPTION:	FILE NAME:	SHEET
PAD & PIER FOUNDATION DESIGN APPALACHIAN WIRELESS HAZARD, PERRY CO., KY	53582FT - B	B

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



Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 2601 Meacham Boulevard
 Fort Worth, TX 76193

Aeronautical Study No.
 2015-ASO-3040-OE

Issued Date: 04/24/2015

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

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

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

Structure: Antenna - Top Mount Hazard By Pass
 Location: Hazard, KY
 Latitude: 37-15-46.11N NAD 83
 Longitude: 83-12-14.27W
 Heights: 1280 feet site elevation (SE)
 310 feet above ground level (AGL)
 1590 feet above mean sea level (AMSL)

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

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, a med-dual system - Chapters 4,8(M-Dual),&12.

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

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

This determination expires on 10/24/2016 unless:

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (718) 553-2611. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ASO-3040-OE.

Signature Control No: 244950837-250043014

(DNE)

Angelique Eersteling
Technician

Attachment(s)
Frequency Data

cc: FCC

Frequency Data for ASN 2015-ASO-3040-OE

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

Kentucky Transportation Cabinet, Kentucky Airport Zoning Commission, 200 Mero Street, Frankfort, KY 40622

Kentucky Aeronautical Study Number

APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE

INSTRUCTIONS INCLUDED

1. APPLICANT -- Name, Address, Telephone, Fax, etc.
East Kentucky Network, LLC
c/o Lukas, Nace, Gutierrez & Sachs, Chtd
8300 Greensboro Drive, Suite 1200
McLean, VA 22102
T: 703-584-8667 F: 703-584-8692

9. Latitude: 37 ° 15 ' 46 . 1 "

10. Longitude: 82 ° 12 ' 14 . 2 "

11. Datum: [X] NAD83 [] NAD27 [] Other

12. Nearest Kentucky City: Hazard County Perry

13. Nearest Kentucky public use or Military airport:
Wendell H Ford

14. Distance from #13 to Structure: 9.2 miles

15. Direction from #13 to Structure: NNW

16. Site Elevation (AMSL): 1,280.00 Feet

17. Total Structure Height (AGL): 310.00 Feet

18. Overall Height (#16 + #17) (AMSL): 1,590.00 Feet

19. Previous FAA and/or Kentucky Aeronautical Study Number(s):

20. Description of Location: (Attach USGS 7.5 minute Quadrangle Map or an Airport layout Drawing with the precise site marked and any certified survey)

Site is located approx. 1.1 miles NNW of Hazard (Perry), KY

2. Representative of Applicant -- Name, Address, Telephone, Fax
Ali Kuzehkanani
Lukas, Nace, Gutierrez & Sachs, Chtd
8300 Greensboro Drive, Suite 1200
McLean, VA 22102
T: 703-584-8667 F: 703-584-8692

3. Application for: [X] New Construction [] Alteration [] Existing

4. Duration: [X] Permanent [] Temporary (Months Days)

5. Work Schedule: Start 3/20/2015 End 3/25/2015

6. Type: [X] Antenna Tower [] Crane [] Building [] Power Line
Landfill [] Water Tank [] Other

7. Marking/Painting and/or Lighting Preferred:
[] Red Lights and Paint [X] Dual - Red & Medium Intensity White
[] White - Medium Intensity [] Dual - Red & High Intensity White
[] White - High Intensity [] Other None

8. FAA Aeronautical Study Number

21. Description of Proposal:
The structure will include a 300' tower with top-mounted antennas (overall height of 310' AGL). The ERP will be 500 watts.

22. Has a "NOTICE OF CONSTRUCTION OR ALTERATION" (FAA Form 7460-1) been filed with the Federal Aviation Administration?
[] No [X] Yes, When March 06, 2015

CERTIFICATION: I hereby certify that all the above statements made by me are true, complete and correct to the best of my knowledge and belief.

Ali Kuzehkanani/ Dir of Engineering
Printed Name and Title

Signature

3/16/2015
Date

PENALTIES: Persons failing to comply with Kentucky Revised Statutes (KRS 183.861 through 183.990) and Kentucky Administrative Regulations (602 KAR 050:Series) are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Non-compliance with Federal Aviation Administration Regulations may result in further penalties.

Commission Action: [] Chairman, KAZC [] Administrator, KAZC

[] Approved
[] Disapproved

Date

Directions to Hazard By-Pass Site

Beginning at the Perry County Courthouse, in Hazard Ky.

Take Main Street 150' to Lovern St.

Turn left onto Lovern St. and continue for 200' to Jct. of Lovern and High St.

Turn left onto High St. and continue .2 miles to North Main St.

Turn onto North Main and continue for .8 miles to Hwy 15.

Turn Right onto Hwy 15 and continue for .9 miles to Cherokee Hills

Important Note: No Left Turn into Cherokee Hills So turn Right into Perry Park Rd.

Find a place to turn and come back to the intersection this time crossing it to Cherokee Hills.

Continue on Cherokee Hills for .2 miles to a Gravel road on your left. (Sign Posted)

Continue on Gravel Rd. .1 miles to new dirt road on right leading to site. (Sign is posted)

GPS N37-15-46.10 x W83-12-14.20

Directions were done by

Marty Thacker

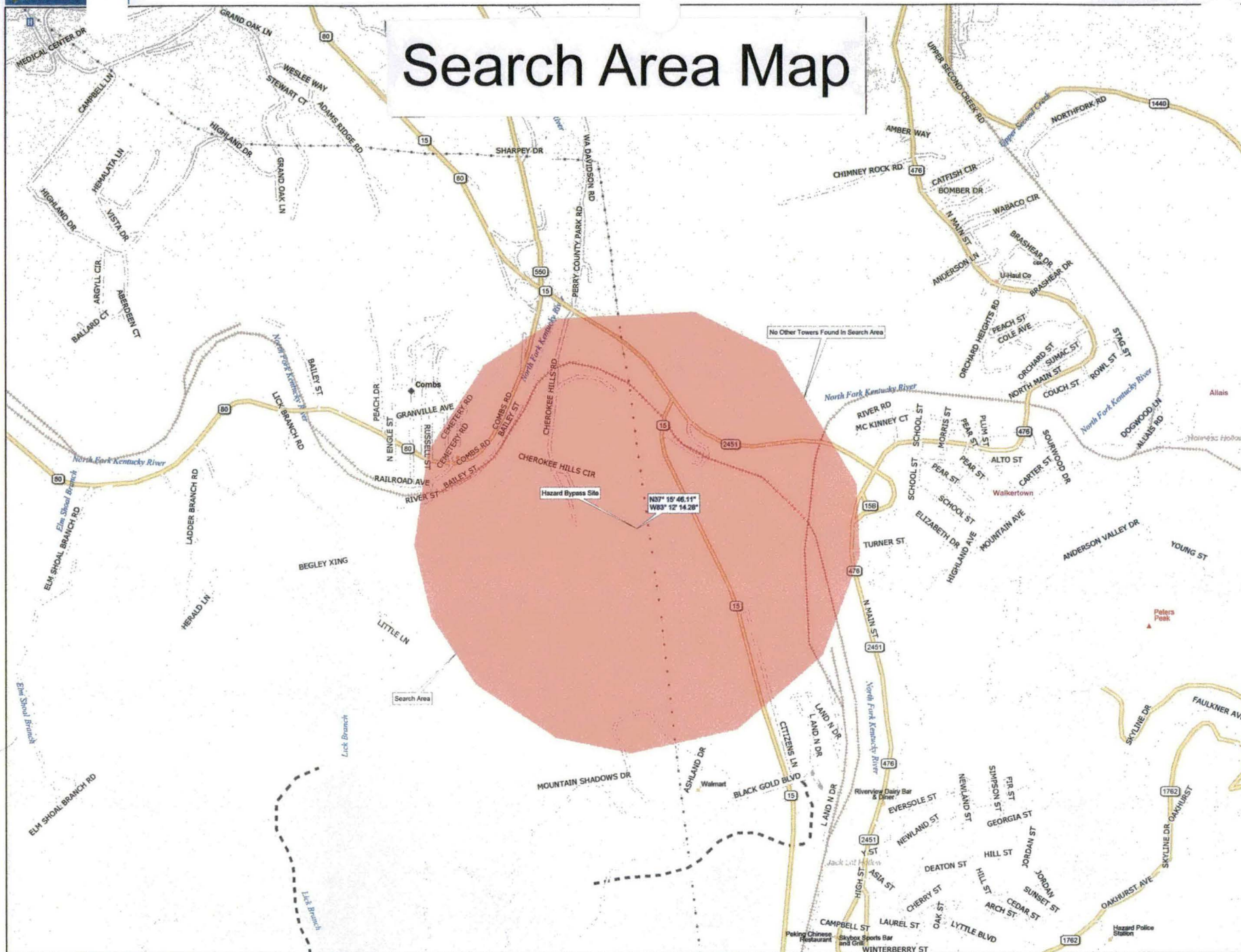
Appalachian Wireless

606-477-0016 Cell phone

800-438-2355 Ext. 1007 Office

m.thacker@tgtel.com E-mail

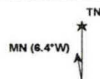
Search Area Map



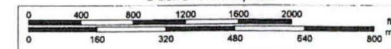
Data use subject to license.

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www.delorme.com



Scale 1 : 17,600



1" = 1,466.7 ft

Data Zoom 14-1

GENERAL WARRANTY DEED

THIS GENERAL WARRANTY DEED entered into this 5th day of February, 20 15, between Norman Joe Callahan and Olivia Callahan, husband and wife, GRANTORS, and East Kentucky Network LLC d/b/a Appalachian Wireless, of 101 Technology Trail, Ivel, KY, 41642, GRANTEE.

WITNESSETH:

That said Grantors for and in consideration of the sum of Fifty Thousand Dollars (\$50,000.00), the receipt and sufficiency of which is hereby acknowledged, do hereby grant, sell and convey to the Grantee, its successors and assigns, the following described property, to-wit:

A reference point being a "X" on a rock located on the Callahan property boundary located at the center of the ridge line adjacent to KY Hwy 15 bypass; thence N 10°13'26" W a distance of 221.87' to an iron pin on the Callahan property boundary; thence N 09°14'41" W a distance of 110.61' to an iron pin on the Callahan property boundary; thence leaving the Callahan property boundary N 24°51'40" W a distance of 190.58' to the point of beginning of Parcel 2; thence N 24°35'41" W a distance of 100.00' to an iron pin; thence S 65°24'19" W a distance of 100.00' to an iron pin; thence S 24°35'41" E a distance of 100.00' to an iron pin; thence N 65°24'19" E a distance of 100.00' to the point of beginning containing 0.229 acres. (Plat of Survey attached as Exhibit A)

BEING a portion of the property described in the Deed dated May 23, 2014, and recorded in Deed Book 377, Page 578 in the Perry County Clerk's Office.

Grantors grant and convey unto Grantee, its successors and assigns, a permanent easement and right of way for a roadway of sufficient width for ingress and egress with men, vehicles, equipment and machinery over and across Grantors' retained surface property to the tract or parcel of land granted and conveyed herein to Grantee, its

RECEIVED
PERRY COUNTY CLERK
2015 FEB 23 AM 9:10

successors and assigns together with the right to reconstruct or use any existing roadways over Grantors' retained surface for such purposes.

Grantors grant and convey unto Grantee, its successors or assigns, an easement and right of way to construct and maintain any and all power lines, telephone lines, coaxial lines or any other utilities or related facilities needed and/or necessary for use by Grantee, its successors or assigns, over and across Grantors' retained surface property to the tract or parcel of land granted and conveyed herein to Grantee, its successors and assigns.

Grantors further grant and convey unto Grantee, its successors and assigns the right to remove any trees, tree limbs, undergrowth or obstructions upon Grantors' retained surface property that might interfere with or damage any towers or structures that Grantee, its successors or assigns, may place upon the above described tract of land, or with the easements and rights of way granted herein.

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

AFFIDAVIT OF VALUE

We, the undersigned, do hereby certify and swear pursuant to KRS Chapter 382, that the full and complete consideration paid for the transfer of the hereinabove described property was Fifty Thousand Dollars (\$50,000.00). All property taxes from this date forward shall be sent to East Kentucky Network, LLC d/b/a Appalachian Wireless at the address in the preamble of this Deed.

IN TESTIMONY WHEREOF, the parties have hereunto subscribed their names, this day and year aforesaid.

GRANTORS:

Norman J. Callahan
Norman Joe Callahan

Olivia Callahan
Olivia Callahan

STATE OF Kentucky
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 5th day of February, 2015, by Norman Joe Callahan and Olivia Callahan, Grantors.

Leslie Hines
Notary Public

My Commission Expires July 14, 2015

GRANTEE:

**EAST KENTUCKY NETWORK, LLC
d/b/a APPALACHIAN WIRELESS**

BY: W A Gillum

ITS: CEO / Gm

COMMONWEALTH OF KENTUCKY
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 4th day of February, 2015, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC, d/b/a Appalachian Wireless.

Raina J Bradley
Notary Public

My Commission Expires February 3, 2016

This instrument was prepared by:

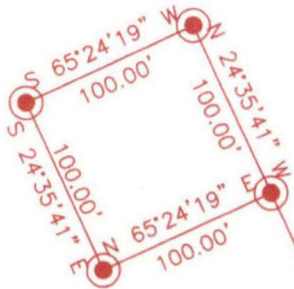
Bethany L. Bowersock

Bethany L. Bowersock, Attorney at Law
101 Technology Trail
Ivel, KY 41642

*Need for
\$50,000*

EXHIBIT A

PARCEL 1
CALLAHAN PROPERTY
DEED BOOK 377 PG. 579
35.860 ACRES REMAINING



PARCEL 2
0.229 ACRES

402.53'
N 89°41'41" W

G. B. DEVELOPMENT COMPANY, INC.
D.B. 304 PG. 47
PRESENT OR FORMERLY

NOTES:

1. ALL IRON PINS SET ARE 1/2 INCH REBAR WITH PLASTIC CAP STAMPED PLS 3633.
2. ALL BEARINGS SHOWN REFLECT TRUE NORTH
3. THE DATE OF THE FIELD SURVEY WAS 10/17/2014
4. THE SOURCE OF TITLE FOR THIS SURVEY IS D.B. 377 PG 579
6. THIS PLAT IS SUBJECT TO ALL CURRENT AND FUTURE RECORDED EASEMENTS

LEGEND

- PROPERTY LINE
- REFERENCE I.P SET 1/2" REBAR WITH CAP MARKED R D SMITH PLS 3633
- ROW MARKER FOUND
- CORNER POINT
- PROPOSED EASEMENT LINE
- PK SET

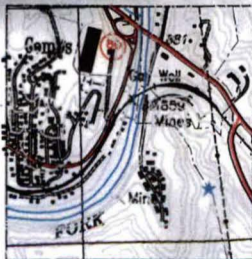
X ON ROCK FOUND

8" CHESTNUT OAK FOUND

GREG WELLS
PRESENT OR FORMERLY

NOTE: PARCEL 2 IS BEING EXCEPTED FROM PARCEL 1

LOCATION MAP



I HEREBY CERTIFY THAT THIS PLAT DEPICTS A SURVEY, MADE BY ME, OR UNDER MY DIRECTION, BY THE METHOD OF RANDOM TRAVERSE. THE BEARING AND DISTANCES SHOWN HEREON HAVE NOT BEEN ADJUSTED FOR CLOSURE. THIS SURVEY AND PLAT MEETS OR EXCEEDS THE MINIMUM STANDARDS OF GOVERNING AUTHORITIES.



[Signature]
NAME _____ REG. NO. 3633

10/17/2014
DATE

Drawn: .RDS	Date: 10/17/14
Job: .	Scale: 1"=50'
Drawing: .	

APPALACHIAN WIRELESS
PARCEL 2
LOCATED NEAR HWY 15 BYPASS
HAZARD, KY 41701



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

STATE OF KENTUCKY
COUNTY OF PERRY

I, HAVEN KING, CLERK OF THE STATE AND COUNTY AFORESAID DO CERTIFY THAT
THE FOREGOING INSTRUMENT WAS LODGED FOR RECORD IN MY OFFICE AND IT THE FOREGOING
CERTIFICATE HAVEN BEEN DULY RECORDED IN deed BOOK NO. 381
PAGE 333.

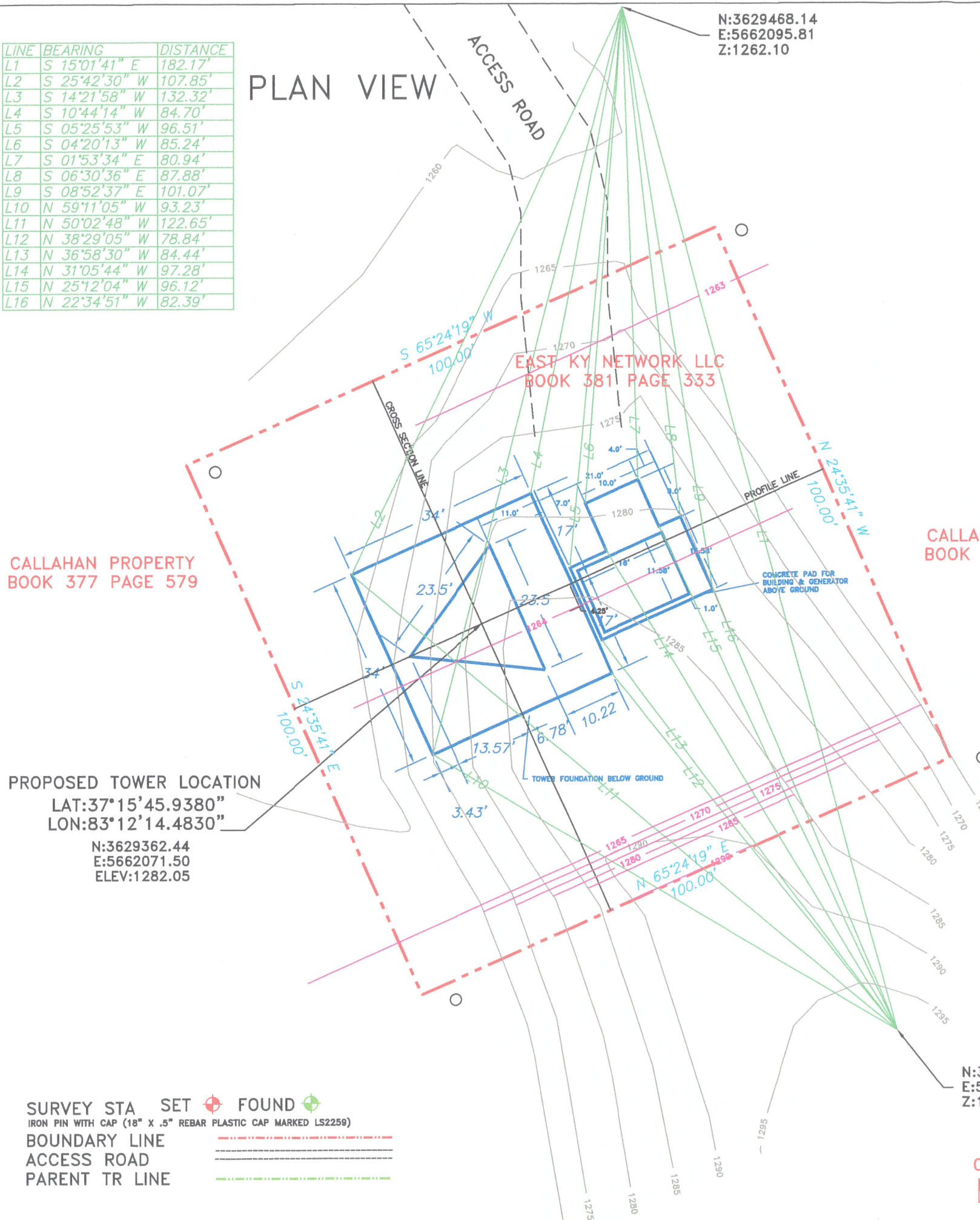
WITNESS BY MY HAND THIS 23rd DAY OF February 2015.

HAVEN KING, CLERK OF
PERRY COUNTY

BY Barbara Sue Franks D.C.

LINE	BEARING	DISTANCE
L1	S 15°01'41" E	182.17'
L2	S 25°42'30" W	107.85'
L3	S 14°21'58" W	132.32'
L4	S 10°44'14" W	84.70'
L5	S 05°25'53" W	96.51'
L6	S 04°20'13" W	85.24'
L7	S 01°53'34" E	80.94'
L8	S 06°30'36" E	87.88'
L9	S 08°52'37" E	101.07'
L10	N 59°11'05" W	93.23'
L11	N 50°02'48" W	122.65'
L12	N 38°29'05" W	78.84'
L13	N 36°58'30" W	84.44'
L14	N 31°05'44" W	97.28'
L15	N 25°12'04" W	96.12'
L16	N 22°34'51" W	82.39'

PLAN VIEW



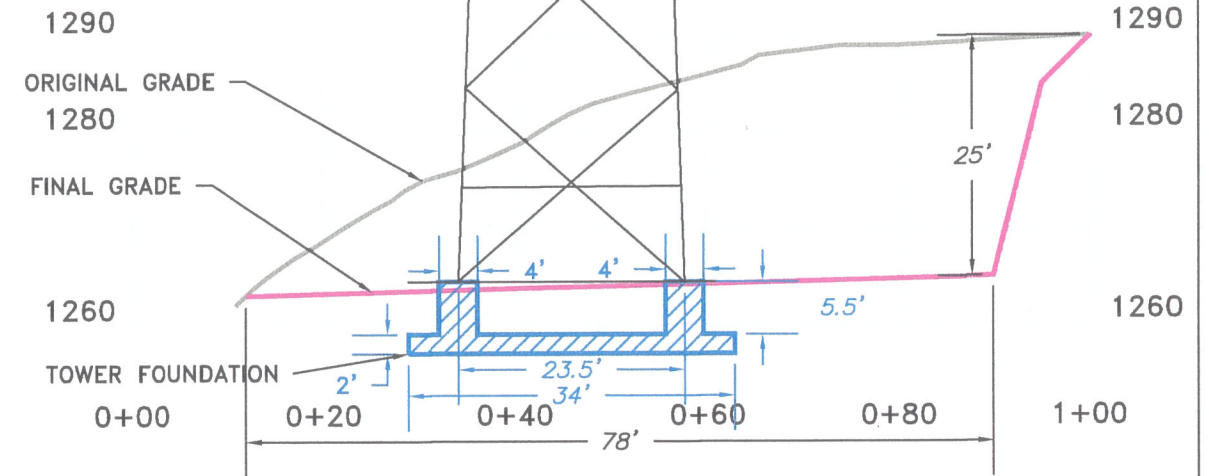
N:3629468.14
E:5662095.81
Z:1262.10

APPALACHIAN WIRELESS

101 TECHNOLOGY TRAIL
IVEL, KY. 41642

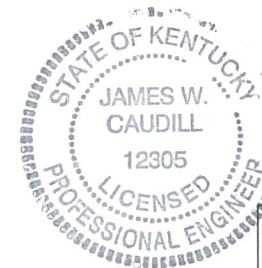
PROPOSED TOWER SITE
NEAR HAZARD IN PERRY COUNTY

CROSS SECTION



NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS

- THE PROPOSED TOWER HAS BEEN LOCATED USING DUAL FREQUENCY GPS UNIT PROCESSED BY "OPUS"
- STATE PLANE COORDINATES NAD 83 KY SINGLE ZONE N3629362.44 E5662071.50 EL 1282.0' EXISTING GRD PLAN- FOUNDATION EL1264.5'-TOP TOWER EL 1564.5'
- PRECISION: HORIZONTAL=0.30' VERTICAL=0.50'
- THIS SURVEY MEETS OBSTACLE ACCURACY CODE 2C.
- PROPERTY LINE INFORMATION TAKEN FROM DEEDS AND VERIFIED IN THE FIELD.



I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECTION.

James W. Caudill 12305 5-4-15
JAMES W. CAUDILL PE# DATE

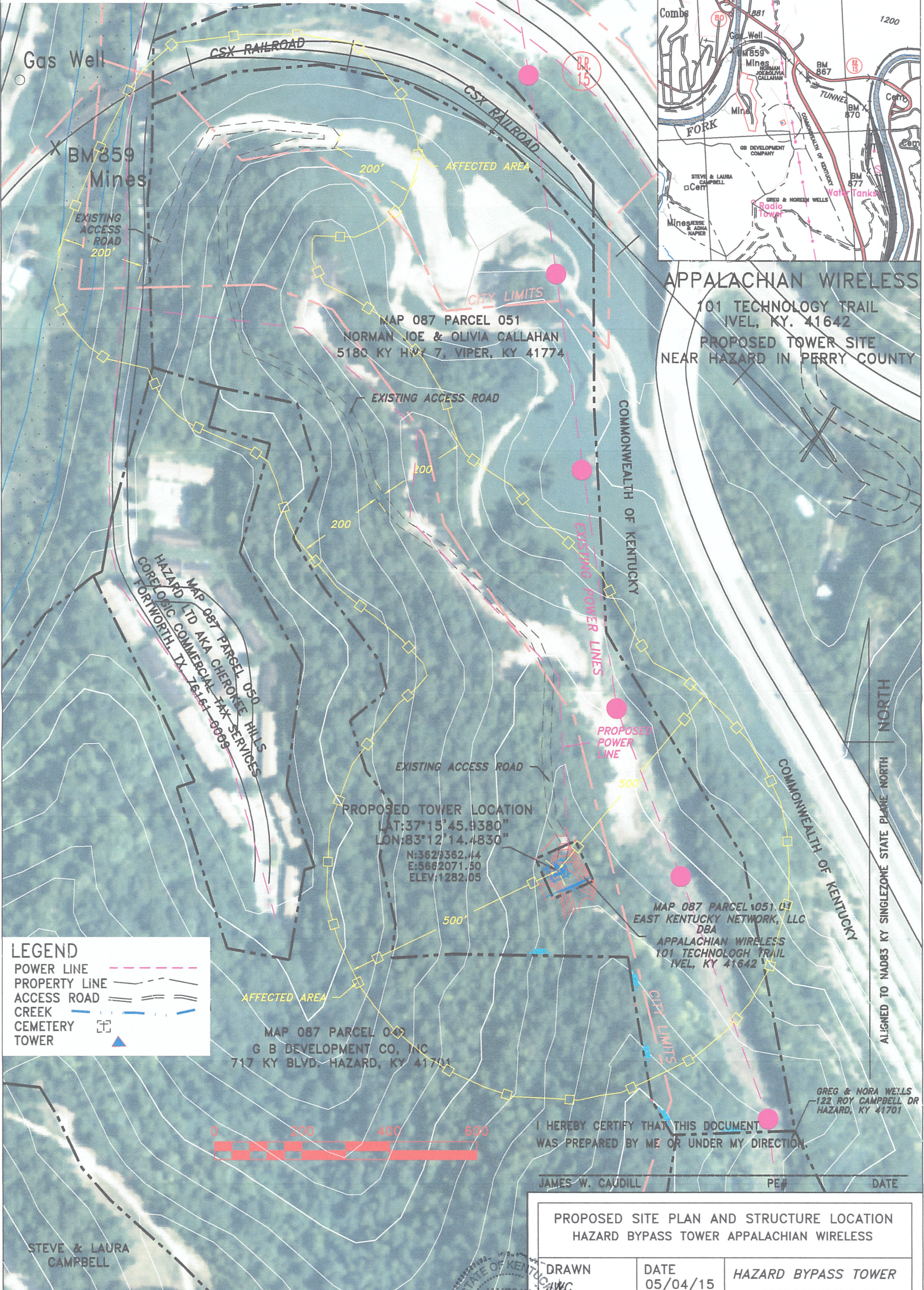
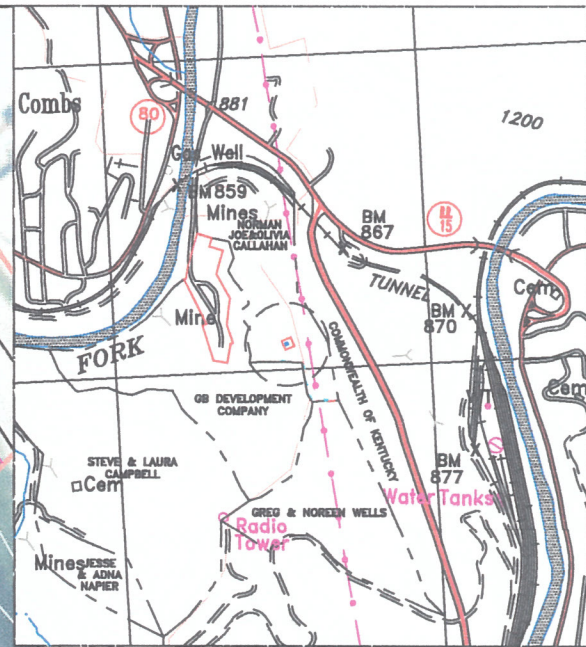
PROPOSED SITE PLAN AND STRUCTURE LOCATION HAZARD BYPASS TOWER APPALACHIAN WIRELESS

DRAWN JWC	DATE 05/04/15	HAZARD BYPASS TOWER OFF HIGHWAY 15 CALLAHAN TRACT PERRY COUNTY OF KY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 2 OF 3	PROJECT NO. HAZARDBYPASS/HBP20

N:3629292.20
E:5662143.05
Z:1296.51



HAZARD NORTH 7.5' TOPOQUAD



APPALACHIAN WIRELESS
 101 TECHNOLOGY TRAIL
 IVEL, KY. 41642
PROPOSED TOWER SITE
 NEAR HAZARD IN PERRY COUNTY

MAP 087 PARCEL 051
 NORMAN JOE & OLIVIA CALLAHAN
 5180 KY HWY 7, VIPER, KY 41774

MAP 087 PARCEL 050
 HAZARD LTD AKA CHEROKEE HILLS
 CORELOBIK COMMERCIAL TAX SERVICES
 FORTWORTH, TX 76164-8889

PROPOSED TOWER LOCATION
 LAT: 37° 15' 45.9380"
 LON: 83° 12' 14.4830"
 N: 3623362.44
 E: 5662071.50
 ELEV: 1282.05

MAP 087 PARCEL 051.01
 EAST KENTUCKY NETWORK, LLC
 DBA
 APPALACHIAN WIRELESS
 101 TECHNOLOGY TRAIL
 IVEL, KY 41642

MAP 087 PARCEL 043
 G B DEVELOPMENT CO, INC
 717 KY BLVD. HAZARD, KY 41701

GREG & NORA WELLS
 122 ROY CAMPBELL DR
 HAZARD, KY 41701

LEGEND

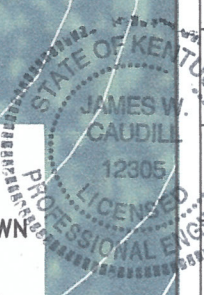
- POWER LINE
- PROPERTY LINE
- ACCESS ROAD
- CREEK
- CEMETERY
- TOWER



I HEREBY CERTIFY THAT THIS DOCUMENT
 WAS PREPARED BY ME OR UNDER MY DIRECTION.
 JAMES W. CAUDILL PE# _____ DATE _____

PROPOSED SITE PLAN AND STRUCTURE LOCATION HAZARD BYPASS TOWER APPALACHIAN WIRELESS		
DRAWN JWC	DATE 05/04/15	HAZARD BYPASS TOWER OFF HIGHWAY 15 CALLAHAN TRACT PERRY COUNTY OF KY
APPROVED	DATE	
SCALE 1" = 200'	SHEET 1 OF 3	PROJECT NO. HAZARDBYPASS/HBP200

J W CAUDILL ENGINEERING
 9283 HWY 15 STE. C, ISOM, KY 41824
 ENGINEER'S CERTIFICATE: I HEREBY CERTIFY THAT THE INFORMATION SHOWN
 REFLECTS THE INFORMATION OBTAINED AND PROVIDED BY THE PERRY COUNTY
 PROPERTY VALUATION ADMINISTRATION OFFICE IN HAZARD, KY.
James W. Caudill 12305 5-4-15
 JAMES W. CAUDILL P.E.# DATE



APPALACHIAN WIRELESS
 101 TECHNOLOGY TRAIL
 IVEL, KY. 41642
 PROPOSED TOWER SITE
 HAZARD BYPASS IN PERRY COUNTY

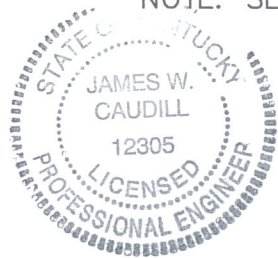
300'

PROFILE WITH TOWER

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

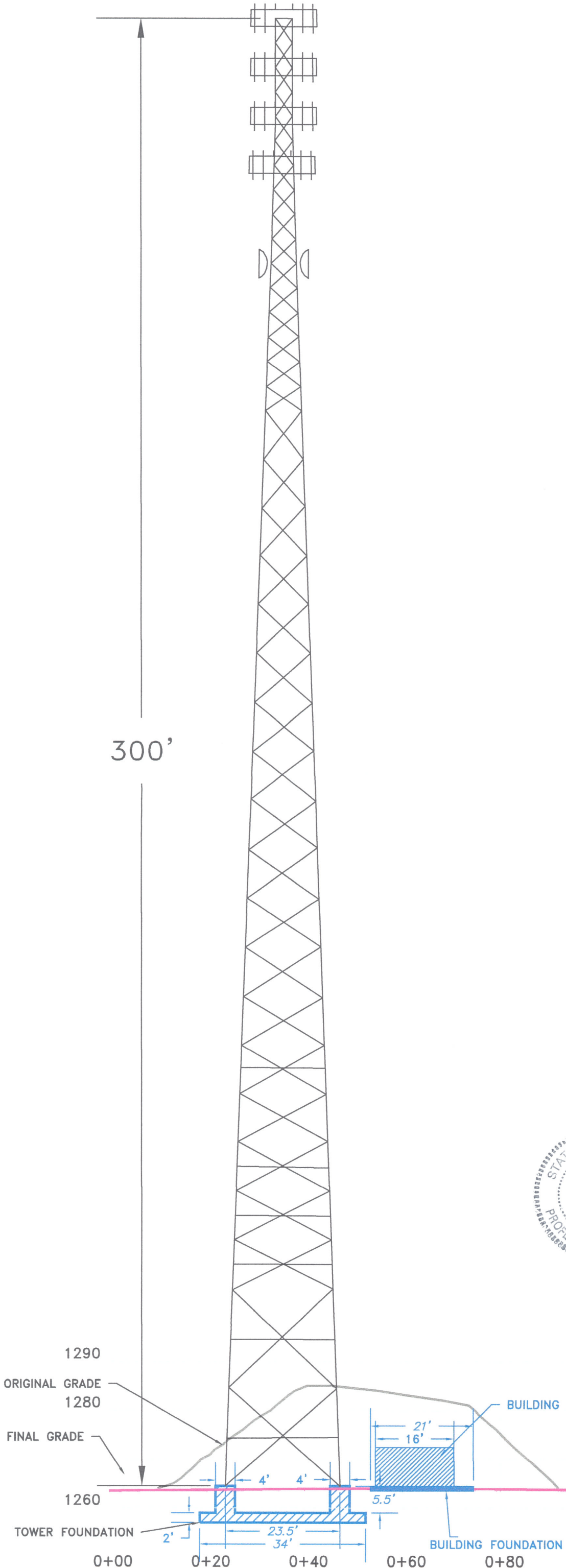
James W. Caudill 12305 5-4-15
 JAMES W. CAUDILL PE #. DATE

NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS



05/04/15

SCALE 1" = 20'



PROPOSED SITE PLAN AND STRUCTURE LOCATION
 HAZARD BYPASS TOWER APPALACHIAN WIRELESS

DRAWN JWC	DATE 05/04/15	HAZARD BYPASS TOWER OFF HIGHWAY 15 CALLAHAN TRACT PERRY COUNTY OF KY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 3 OF 3	PROJECT NO. HAZARDBYPASS/HBP20