

**RECEIVED**

FEB 15 2017

PUBLIC SERVICE  
COMMISSION

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

In the matter of:

THE APPLICATION OF EAST KENTUCKY NETWORK, )  
LLC FOR THE ISSUANCE OF A CERTIFICATE OF )  
PUBLIC CONVENIENCE AND NECESSITY TO ) CASE No 2017-00062  
CONSTRUCT A TOWER IN POWELL COUNTY, )  
KENTUCKY )

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

In an effort to improve service in Powell County, pursuant to KRS 278.020 Subsection 1 and 807 KAR 5:001, East Kentucky Network, LLC is seeking the Commission's approval to construct a 300 foot telecommunications tower on a tract of land located near 10137 Campton Road, Stanton, Powell County, Kentucky (37°49'07.9031"N 83°43'45.6584"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 and all property owners who own property contiguous to the property upon which construction is proposed in accordance with the Public Valuation Administrator's records.

Pursuant to 807 KAR 5:063 Section 1(1)(L), Section 1(1)(m), and Section 2, all affected property owners according to the Property Valuation Administrator's record who reside or own

property within 500 feet of the proposed Tower or who own property contiguous to the property upon which construction is proposed were notified by certified mail return receipt requested of East Kentucky Network, LLC's proposed construction and informed of their right to intervene. They were given the docket number under which this application is filed. Enclosed in Exhibit 2 is a copy of that notification.

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

Notice of the location of the proposed construction was published in the The Clay City Times, February 16, 2017 edition. Enclosed in Exhibit 3 is a copy of that notice. The Clay City Times is the newspaper with the largest circulation in Powell County.

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

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

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

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

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

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

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

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

Two notice signs meeting the requirements prescribed by 807 KAR 5:063, Section 1(2), measuring at least two (2) feet in height and four (4) feet in width and containing all required language in letters of required height, have been posted, one at a visible location on the proposed site and one on the nearest public road. The two signs were posted on February 9, 2017, and will remain posted for at least two weeks after filing of this application as specified.

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

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

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

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

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

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

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

SUBMITTED BY: Lynn Haney DATE: 2/13/17  
Lynn Haney, Regulatory Compliance Director

APPROVED BY: W.A. Gillum DATE: 2/14/17  
W.A. Gillum, General Manager

ATTORNEY: Cindy D. McCarty DATE: 2/13/17  
Hon. Cindy D. McCarty, Attorney

**CONTACT INFORMATION:**

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

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

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

**Mailing Address:**

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

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

ULS License

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

Call Sign	KNKN809	Radio Service	CL - Cellular
Status	Active	Auth Type	Regular
<b>Market</b>			
Market	CMA452 - Kentucky 10 - Powell	Channel Block	B
Submarket	0	Phase	2
<b>Dates</b>			
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:pglist@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.

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

BLRT Properties, LLC  
159 Katie Lane  
Clay City, KY 40312

East Kentucky Mechanical  
P.O. Box 138  
Stanton, KY 40380

Faith Fellowship Church  
Gen Del  
Stanton, KY 40380

Gary King  
P.O. Box 40  
Zoe, KY 41397

Hinkle Contracting Corporation  
P.O. Box 200  
Paris, KY 40361



Vinson Crowe  
598 South Fork Road  
Stanton, KY 40380



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

February 17, 2017

BLRT Properties, LLC  
159 Katie Lane  
Clay City, KY 40312

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2017-00062)

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 Powell County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 10137 Campton Road, Stanton, Powell County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2016-00087 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 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

February 17, 2017

East Kentucky Mechanical  
P.O. Box 138  
Stanton, KY 40380

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2017-00062)

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 Powell County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 10137 Campton Road, Stanton, Powell County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2016-00087 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 1

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



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

February 17, 2017

Faith Fellowship Church  
Gen Del  
Stanton, KY 40380

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2017-00062)

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 Powell County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 10137 Campton Road, Stanton, Powell County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2016-00087 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 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

February 17, 2017

Gary King  
P.O. Box 40  
Zoe, KY 41397

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2017-00062)

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 Powell County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 10137 Campton Road, Stanton, Powell County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2016-00087 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 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

February 17, 2017

Hinkle Contracting Corporation  
P.O. Box 200  
Paris, KY 40361

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2017-00062)

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 Powell County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 10137 Campton Road, Stanton, Powell County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2016-00087 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 1



VIA: U.S. CERTIFIED MAIL

PUBLIC NOTICE

February 17, 2017

Vinson Crowe  
598 South Fork Road  
Stanton, KY 40380

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2017-00062)

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 Powell County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 10137 Campton Road, Stanton, Powell County, Kentucky. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you may own property within a 500' radius of the proposed tower or own property contiguous to the property upon which construction is proposed.

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

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to Case No. 2016-00087 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 1

# Appalachian Wireless Location Map



Site Name
NadaSite

Location
10137 Campton Rd. Stanton KY,40380

GPS Location
--------------

N 37 49 07,9031
W 83 43 45,6584



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

EAST KENTUCKY  
NETWORK



---

**To:** The Clay City Times  
Attn: Classifieds

**From:** Raina Helton  
Regulatory Compliance Assistant

---

**Email:** cctads@windstream.net

**Date:** February 16, 2017

---

**Re:** PUBLIC NOTICE ADVERTISEMENT

**Pages:** 1

---

**Please place the following Public Notice Advertisement in The Clay City Times to be ran on February 16, 2017.**

PUBLIC NOTICE:

RE: Public Service Commission of Kentucky (CASE NO. 2017-00062)

Public Notice is hereby given that East Kentucky Network, LLC, dba Appalachian Wireless has applied to the Kentucky Public Service Commission to construct a cellular telecommunications tower on a tract of land located near 10137 Campton Road, Stanton, Powell 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. 2017-00062.

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  
PH: (606) 874-7550  
FAX: (606) 874-7551



VIA: U.S. CERTIFIED MAIL

February 16, 2017

James D. Anderson, Judge Executive  
P.O. Box 506  
Stanton, KY 40380

RE: Public Notice-Public Service Commission of Kentucky (Case No. 2017-00062)

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 Powell County. The facility will include a 300-foot self-supporting tower with attached antennas extending upwards, and an equipment shelter located on a tract of land near 10137 Campton Road, Stanton, Powell 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 Powell 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. 2016-00087 in your correspondence.

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

Sincerely,

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

Lynn Haney  
Regulatory Compliance Director  
Enclosure

# Appalachian Wireless Location Map



Site Name

NadaSite

Location

10137 Campton Rd. Stanton KY.40380

GPS Location

N 37 49 07.9031

W 83 43 45.6584

**APPALACHIAN WIRELESS**  
**Geotechnical Investigation on the**  
**NadaTower Site**  
**Powell County, Kentucky**  
**ErMC<sup>2</sup> Project No. 165-000-0031**

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



\_\_\_\_\_, 2015, December 13th, 2016



**EXECUTIVE SUMMARY**

**1.0 INTRODUCTION**

**2.0 PROJECT DESCRIPTION**

**3.0 SITE DESCRIPTION**

3.1 GENERAL INFORMATION

3.2 SURFACE MINING

3.3 UNDERGROUND MINING

**4.0 FIELD EXPLORATION**

4.1 SITE INFORMATION

4.2 TRENCHING AND FIELD OBSERVATIONS

4.3 GROUNDWATER

4.4 SEISMIC SITE CLASSIFICATION

**5.0 DISCUSSION AND RECOMMENDATIONS**

5.1 GENERAL

5.2 FOUNDATIONS

5.3 SHALLOW FOUNDATIONS

**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 – ENGINEERED FILL BENEATH STRUCTURES**

**III – GUIDELINES FOR EXCAVATIONS AND TRENCHING**

**IV – GENERAL CONCRETE SPECIFICATIONS**

**APPENDIX A – SEISMIC**

**APPENDIX B – PHOTOGRAPHS**

**APPENDIX C – MAPS**



## EXECUTIVE SUMMARY

A geotechnical investigation was performed on the Nada Site, located near Slade in Powell County, Kentucky. This site is readily accessible. A preliminary base elevation of the proposed tower footer was provided at 1113 ft. A location map is shown in Figure 1 of this report. One trench was evaluated and visual inspections were used to determine the lithology and type of materials immediately above and below the proposed tower site. The following geotechnical considerations were identified:

- This area is forested. The site has not been previously disturbed. Soils, shale, coal and sandstone were encountered on the site during the trenching. The soils varied from 3 feet to 5 feet in thickness. We are recommending that the base of the foundation be placed in the lower sandstone unit that is at an elevation of approximately 1113.0 ft. **The minimum bearing capacity of this sandstone unit is predicted to be 8 tsf.** To insure the foundation is bearing on competent rock found in our investigation, we recommend placing the foundation base at a minimum elevation of 1109.0 ft.
- The 2015 International Building Code seismic site classification for this site is "A".
- Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We therefore recommend that ErMC<sup>2</sup> be retained to monitor this portion of the work.

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



**1. INTRODUCTION**

Environmental Resources Management Consulting Company (ErMC<sup>2</sup>) was retained by Mr. Marty Thacker of Appalachian Wireless to prepare a geotechnical engineering report for the proposed tower site located near Nada, in Powell County Kentucky. A site location map is shown in Figure No. 1.

Trenching and test pits were excavated with assistance from Wendall Gay Construction using a track excavator. Visual inspections and surveyed elevations were used to determine the lithology and type of materials immediately below the proposed tower site. A vertical datum was based up the property pins found and the base contour mapping provided. The purpose of these services is to provide information and geotechnical engineering recommendations relative to subsurface conditions, earthwork, seismic considerations, groundwater conditions and foundation design.

**2.0 PROJECT DESCRIPTION**

The proposed communication facility will consist of a self-supporting tower of undetermined height and ancillary support areas. Based upon information provided the foundation dimensions are to be approximately 40.5 ft. x 40.5 ft. We estimate the structural loads will be similar to the following conditions:

TABLE NO. 1

CONDITION	LOAD
Total Shear	40 Kips
Axial Load	50 Kips

It is expected that overturning will govern the structural design. If the loadings are significantly different than these expected values, ErMC<sup>2</sup> should be notified to re-evaluate the recommendations provided in this report.

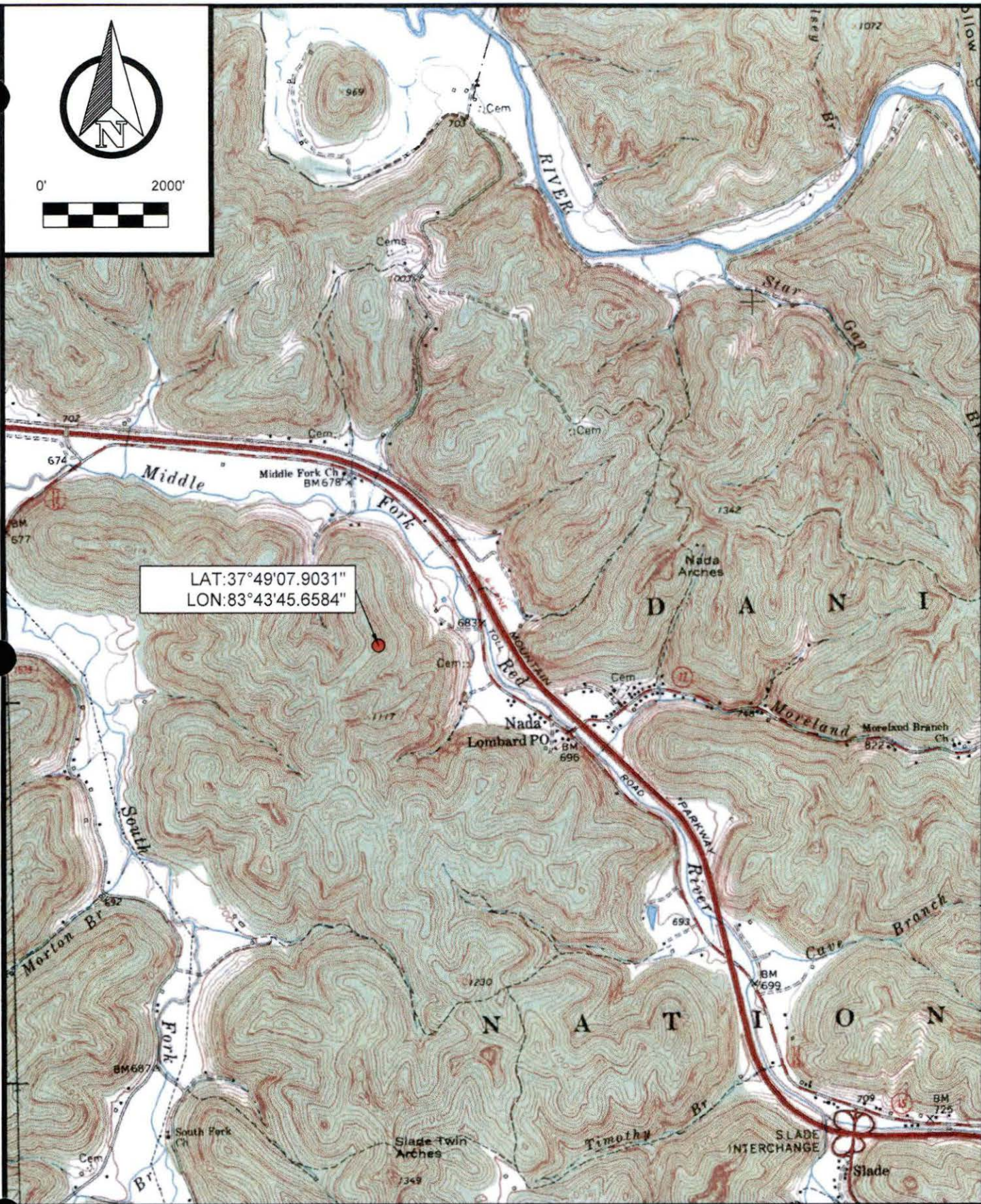




0' 2000'



LAT: 37°49'07.9031"  
LON: 83°43'45.6584"



Drawn: Date: 12/7/16

Job: Scale: 1"=2000'

Drawing: USGS QUAD SITE LOCATION MAP

NADA TOWER SITE  
APPALACHIAN WIRELESS  
USGS QUAD SITE LOCATION MAP



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



## **3.0 SITE DESCRIPTION & HISTORICAL MINING**

### **3.1 GENERAL INFORMATION**

The site location is on an undisturbed ridge in Powell County, Kentucky. The current surface elevation is approximately 1123.2 ft. Research on the historical mining was conducted by obtaining previous mine license maps from the "Kentucky Mine Mapping Information System" (KMMIS). Other sources, photographs, were also used to try to evaluate historic mining.

### **3.2 SURFACE MINING**

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

### **3.3 UNDERGROUND MINING**

ErMC<sup>2</sup> reviewed available historical mine maps from the Kentucky Division of Mine Safety, Kentucky Mine Mapping Information System ("KMMIS"). No existing or proposed mines were found in the vicinity during our review of the historical mine maps at KMMIS. Our research found no underground mining activity.

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

## **4.0 FIELD EXPLORATION**

### **4.1 SITE INFORMATION**

The proposed site is located on an undisturbed point in Powell County, Kentucky. The site lies within the Slade Quad and is located Northwest of Nada. The site is in a wooded area and is readily accessible by conventional exploratory equipment. An estimated pad location was determined based upon the information provided. A survey stake was found on this site for the tower location. Foundation dimensions were estimated to be 40.5 ft. x 40.5 ft. footer for the purpose of this report.



## 4.2 TRENCHING AND FIELD OBSERVATIONS

This investigation was conducted with assistance from Wendall Gay Construction with a track excavator. One trench was evaluated at this site which was used to determine the lithology and type of materials immediately below the proposed tower site. A trench approximately 110 ft. in length was taken through the property at the proposed tower site. The following soils and rock properties were found.

TABLE NO. 2

Depth	Base Elevation	Strata
3.2	1120	Soils
3.8	1119.5	Shale
16.4	1106.8	Sandstone
17.1	1106.1	Shale
17.1+	-	Sandstone

\*Surface elevation is 1123.2

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

## 4.3 GROUNDWATER

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

## 4.4 SEISMIC SITE CLASSIFICATION

Based on the encountered soil conditions at the project site, the site classification was determined to be "Site Class "A" Rock" per the 2015 Kentucky Building Code. In addition, a  $S_{DS}$  coefficient of 0.107g was calculated, and a  $S_{D1}$  coefficient of 0.047g was also calculated for design based on the aforementioned building code.

## 5.0 DISCUSSION AND RECOMMENDATIONS

### 5.1 GENERAL

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

### 5.2 FOUNDATIONS

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

The surface elevation of the proposed tower site has been estimated to be approximately 1123 ft. Approximately 3.2 ft. of sandy soil and soft clays are present at this site. Below this is a shale formation is a thin shale strata. Underlying this, is a competent sandstone unit, with a minimum thickness of 9.4 ft.

### 5.3 SHALLOW FOUNDATIONS

We recommend a single spread footer foundation on competent rock. Based upon the field investigation, the base of the tower foundation should be placed into the brown sandstone at an elevation of approximately 1113.0 ft. **This will provide a minimum bearing capacity of 8 tsf.** The drawing provided did not have a base of footer elevation noted. It is furthermore recommended that the slabs-on-grade be supported on 4 to 6-inch layer of relatively clean granular material such as sand and gravel or crushed stone. This is to help distribute concentrated loads and equalize moisture conditions beneath the slab. Proper drainage must be incorporated into this granular layer to preclude future wet areas in the finished slab-on-grade. However, all topsoil and/or other deleterious materials encountered during site preparation must be removed and replaced with 2000 psi concrete. Provided that a minimum of 4 inches of granular material is placed below the new slab-on-grade, a modulus of subgrade reaction (k30) of 100 lbs./cu. in. can be used for design of the slabs.



## 6.0 WARRANTY

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

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

### 6.1 SUBSURFACE EXPLORATION

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

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



## 6.2 LABORATORY AND FIELD TESTS

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

## 6.3 ANALYSIS AND RECOMMENDATIONS

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

Our engineering report recommendations are based primarily on data from tests made at the locations shown on a site drawing included. Soil variations may exist in adjacent areas and 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 Nada Site in Powell County, Kentucky. Specific design and construction recommendations have been provided in the various sections of the report. The report shall, therefore, be used in its entirety. This report is not a bidding document and shall not be used for that purpose. Anyone reviewing this report must interpret and draw their own conclusions regarding specific construction techniques and methods chosen. ErMC<sup>2</sup> is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploratory and laboratory test data presented in this report.



# SPECIFICATIONS

## I – GENERAL

### 1.0 STANDARDS AND DEFINITIONS

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

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

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

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

### 1.2 DEFINITIONS

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

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

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

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

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

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



## 2.0 GENERAL CONDITIONS

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

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

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

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

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

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





## II - ENGINEERED FILL BENEATH STRUCTURES CLEARING AND GRADING SPECIFICATIONS

### 1.0 GENERAL CONDITIONS

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

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

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

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

### 2.0 SUBSURFACE CONDITIONS

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

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

### 3.0 SITE PREPARATION

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

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



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

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

#### **4.0 FORMATION OF FILL AREAS**

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

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

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

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

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



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

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

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

#### **5.0 SLOPE RATIO AND STORM WATER RUN-OFF**

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

#### **6.0 GRADING**

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

#### **7.0 COMPACTING**

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

#### **8.0 TESTING AND INSPECTION SERVICES**

Testing and inspection services will be provided by the Owner.



### III GUIDELINES FOR EXCAVATIONS AND TRENCHES

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

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

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

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

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

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

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

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

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



5. Mobile equipment, operating adjacent to an open excavation or approaching the edge of an excavation, must have one of the following when the operator's view is obstructed:
  - Warning System
  - Mechanical Signals
  - Barricades
  - Stop Logs
  - Hand Signals
6. The contractor must check the atmosphere for hazardous gases and oxygen deficiencies when excavating four feet or greater around landfills, or when hazardous substances are stored nearby, and when the contractor expects there could be any exposure to the workers.
7. When hazardous atmospheric conditions exist, or when conditions could change, the contractor must make emergency rescue equipment readily available including breathing apparatus, safety harnesses with life lines and a basket stretcher.
8. When workers enter bell-bottom pier holes or other deep and confined excavations, the worker must wear (at all times while performing work in the confined space) a separate life line attached to a harness. The line must be attended by someone above while work is being performed. The worker must check for hazardous atmospheric conditions prior to entry.
9. The contractor must ensure that water does not accumulate in open excavations and must inspect the excavation prior to allowing workers to re-enter after heavy rains.
10. Adjacent structures (buildings, walls, etc.) must be supported or secured to prevent worker exposure to unsafe conditions and damage to existing structures.
11. A registered professional engineer must approve operations when a contractor underpins existing structures to ensure worker safety and prevent damage to existing structures.
12. Workers must not be exposed to loose soil and rock or materials in and around excavations. Materials, such as removed soil and rock, must not be stored closer than two feet from the edge of the excavation.
13. Daily inspections of the excavation, the adjacent areas and protective systems must be made by a "competent person" for evidence of possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions. The "competent person" must stop work immediately



and remove workers from the excavation when conditions change and pose a threat to their safety.

14. Workers must not be exposed to fall hazards associated with excavations. Protective walkways or bridges with standard guard rails must be provided.
15. All wells, pits, shafts etc. must be barricaded or covered. After completion of work, all wells, pits, shafts etc. must be backfilled.



## IV - GENERAL CONCRETE SPECIFICATIONS

### 1.0 GENERAL

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

### 2.0 SCOPE

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

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

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

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

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

### 3.0 MATERIALS

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

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

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



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

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

#### 4.0 FORMS

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

#### 5.0 INSERTS, ETC.

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





## 6.0 REINFORCEMENT

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

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

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

## 7.0 CONCRETE

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

## 8.0 DEPOSITING CONCRETE

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

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



# USGS Design Maps Summary Report

## User-Specified Input

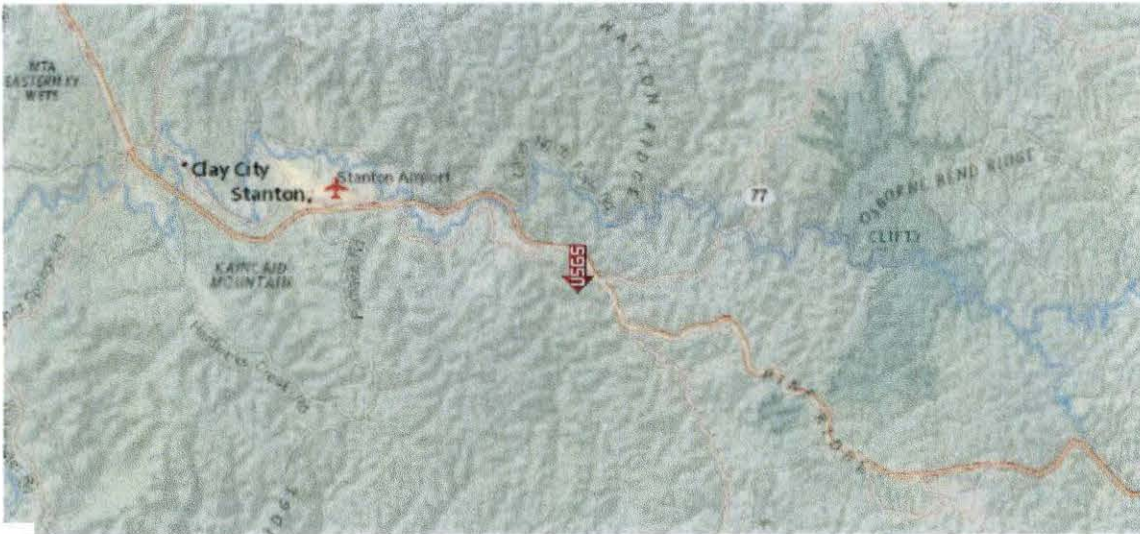
Report Title Nada Tower Site  
 Fri December 9, 2016 19:25:05 UTC

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

Site Coordinates 37.81887°N, 83.72941°W

Site Soil Classification Site Class A – "Hard Rock"

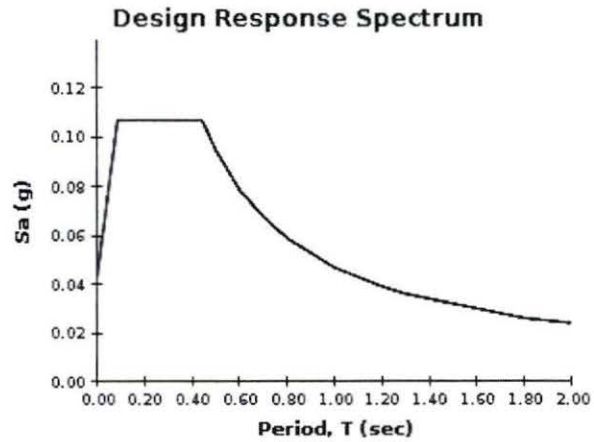
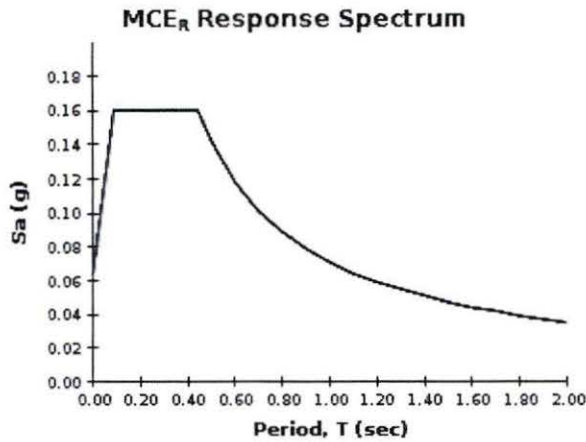
Risk Category IV (e.g. essential facilities)



## USGS-Provided Output

$S_s = 0.200 \text{ g}$	$S_{M5} = 0.160 \text{ g}$	$S_{D5} = 0.107 \text{ g}$
$S_1 = 0.089 \text{ g}$	$S_{M1} = 0.071 \text{ g}$	$S_{D1} = 0.047 \text{ g}$

For information on how the  $S_s$  and  $S_1$  values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.



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

APPENDIX B PHOTOGRAPHS





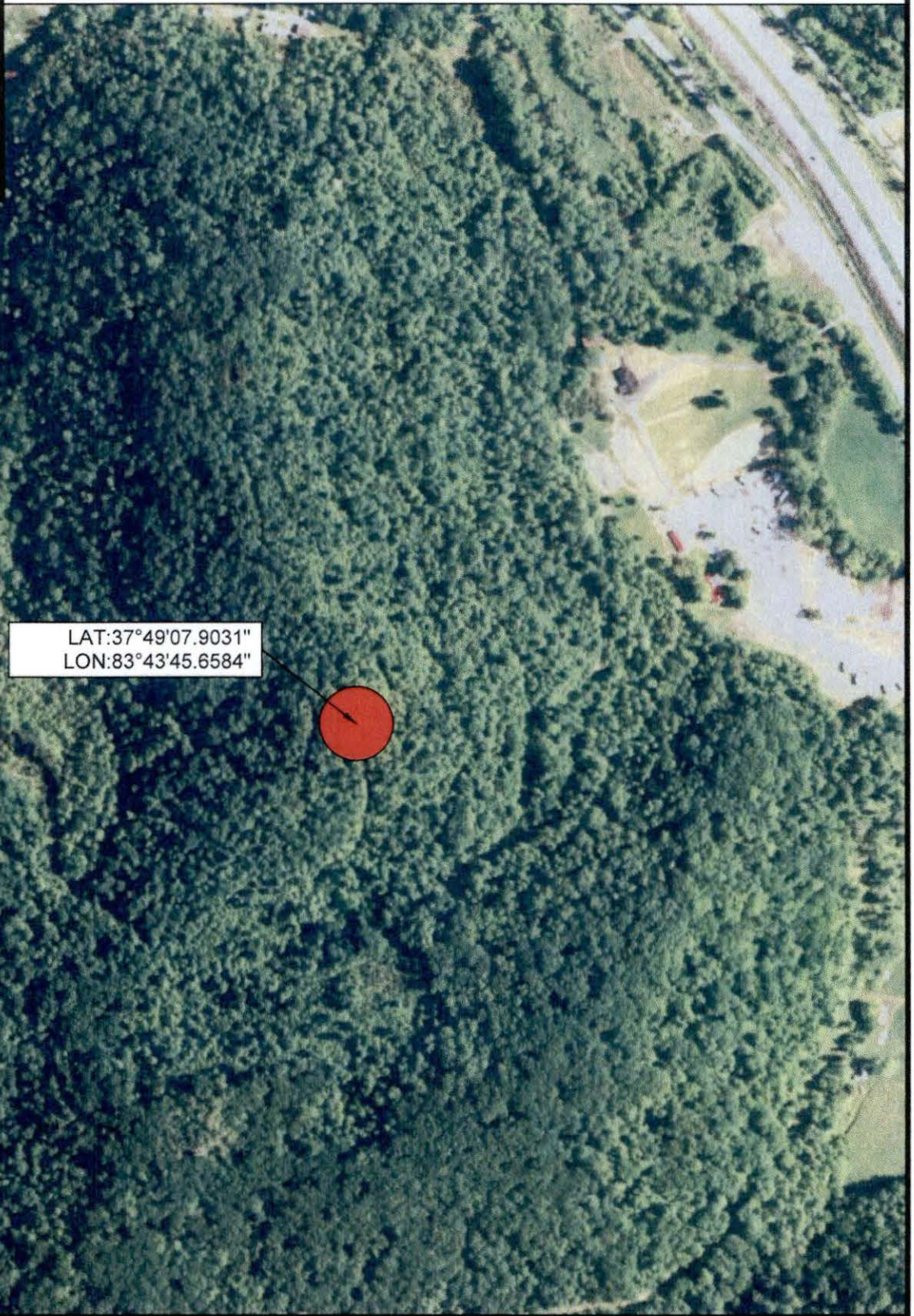
**APPENDIX C MAPS**







0' 400'



LAT:37°49'07.9031"  
LON:83°43'45.6584"

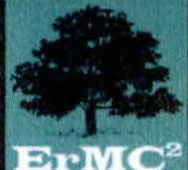


Drawn: Date: 12/7/16

Job: Scale: 1"=400'

Drawing:  
2016 AERIAL IMAGE SITE LOCATION  
MAP

NADA TOWER SITE  
APPALACHIAN WIRELESS  
2016 AERIAL IMAGE SITE LOCATION MAP



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



0' 400'



LAT:37°49'07.9031"  
LON:83°43'45.6584"



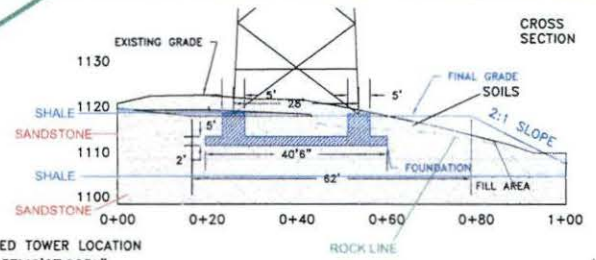
Drawn:	Date: 12/13/16
Job:	Scale: 1"=400'
Drawing: GQ QUAD SITE LOCATION MAP	

NADA TOWER SITE  
APPALACHIAN WIRELESS  
GQ QUAD SITE LOCATION MAP

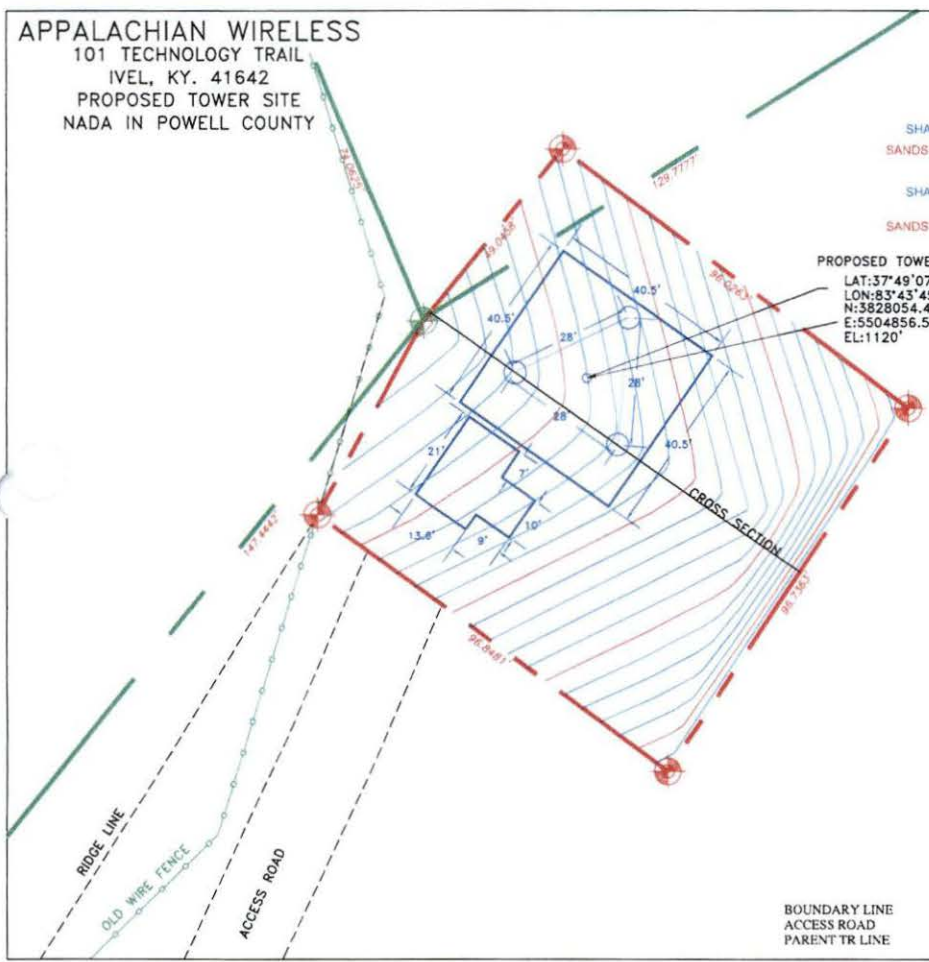


921 Beasley Street, Suite 145  
Lexington, KY 40509  
(859)381-1000  
engineering@ermc2.us

APPALACHIAN WIRELESS  
 101 TECHNOLOGY TRAIL  
 IVEL, KY. 41642  
 PROPOSED TOWER SITE  
 NADA IN POWELL COUNTY



PROPOSED TOWER LOCATION  
 LAT: 37°49'07.9031"  
 LON: 83°43'45.6584"  
 N: 3828054.49  
 E: 5504856.55  
 EL: 1120'



DRAWING PROVIDED BY  
 APPALACHIAN WIRELESS



BOUNDARY LINE  
 ACCESS ROAD  
 PARENT TR LINE

PROPOSED SITE PLAN AND STRUCTURE LOCATION MIDDLE FORK OF RED RIVER NEAR NADA		
DRAWN	DATE	NADA TOWER
APPROVED	DATE	BLRT PROPERTIES, LLC OFF STATE HWY 15 IN POWELL COUNTY
SCALE	SHEET	PROJECT NO.
1" = 20'		NADA\NADA20_2C



World Tower  
COMPANY, INC.

---

1213 Compressor Drive  
P.O. Box 508  
Mayfield, KY 42066  
270-247-3642  
FAX: 270-247-0909  
E-mail: [worldtower@worldtower.com](mailto:worldtower@worldtower.com)  
Web: [www.worldtower.com](http://www.worldtower.com)

---

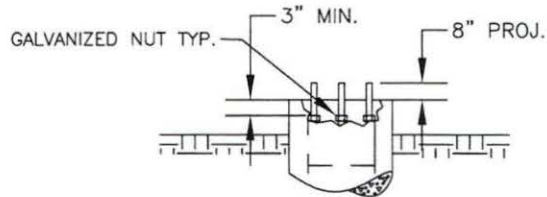
**300' MODEL WSST TOWER  
FOR: APPALACHIAN WIRELESS  
SITE: NADA  
POWELL COUNTY, KY  
DESIGN PACKAGE**

## GENERAL NOTES

1. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISION OF THE AMERICAN WELDING SOCIETY AWS. D 1.1.
2. TOWER AND ALL FABRICATED ACCESSORIES ARE HOT-DIP GALVANIZED.
3. ALL BOLTS SHALL BE GALVANIZED ACCORDING TO THE STANDARD SPECIFICATION FOR ZINC COATING OF IRON AND STEEL HARDWARE ASTM A153.
4. LEG STEEL IS 50 KSI MIN YIELD SOLID ROUND OR PIPE AND BRACING STEEL IS 36 KSI MIN YIELD SOLID ROUND OR STRUCTURAL ANGLE.
5. ALL STRUCTURAL BOLTS ARE ASTM A325.
6. TOWER SHOULD BE INSPECTED IN ACCORDANCE WITH TIA-222-G EVERY 5 YEARS.
7. TOWER INSPECTION SHOULD ONLY BE PERFORMED BY EXPERIENCED QUALIFIED PERSONNEL. FOR ASSISTANCE IN PROPER MAINTENANCE OF YOUR TOWER, CALL WORLD TOWER AT 270-247-3642.

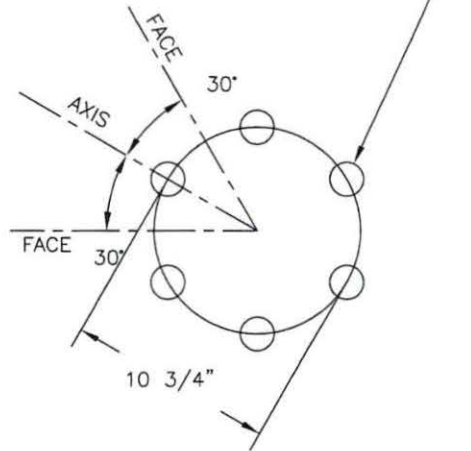
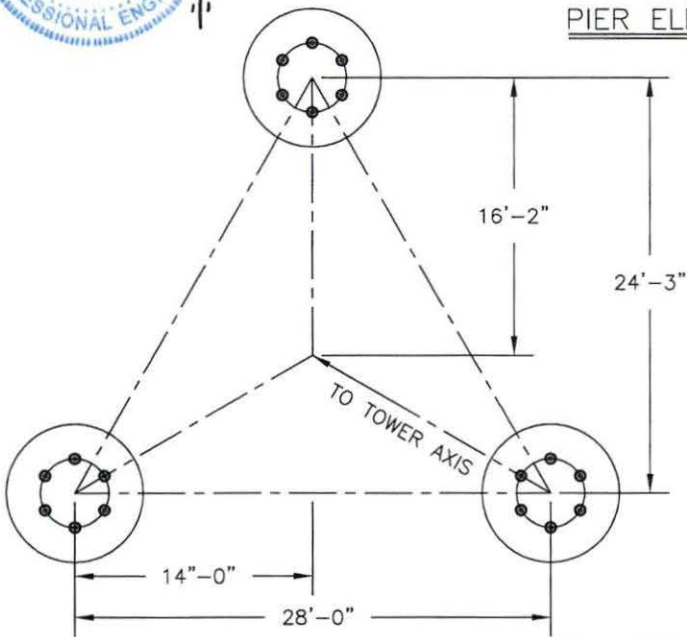


<b>WORLD TOWER</b>			
TITLE:			
300' MODEL WSST TOWER FOR: APPALACHIAN WIRELESS SITE: NADA POWELL COUNTY, KY			
SCALE	DWN.	LKG	CKD.
FILE	DWG. NO.		DATE 1-10-17
			Q16779N



**PIER ELEVATION**

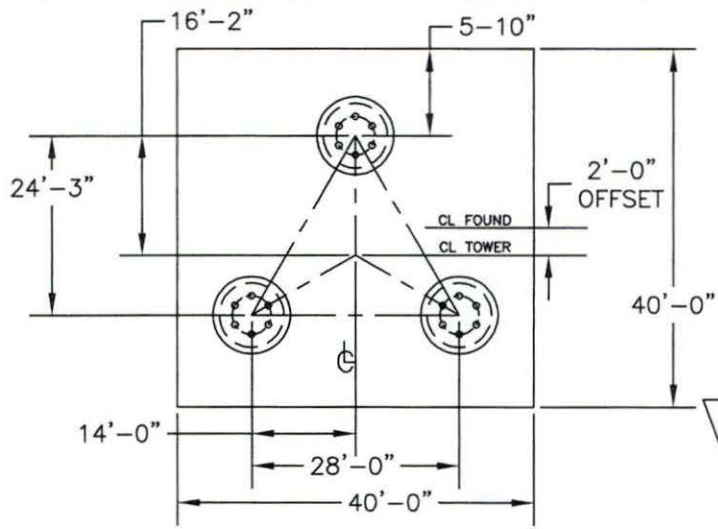
ANCHOR BOLTS  
 (6) 1 1/2"  $\phi$  X 84"  
 (ASTM A354 GR. BC)  
 EQUALLY SPACED WITH  
 TOP TEMPLATE AND  
 EMBEDDED PLATE



**TITLE:**  
 300' MODEL WSST TOWER  
 FOR: APPALACHIAN WIRELESS  
 SITE: NADA  
 POWELL COUNTY, KY

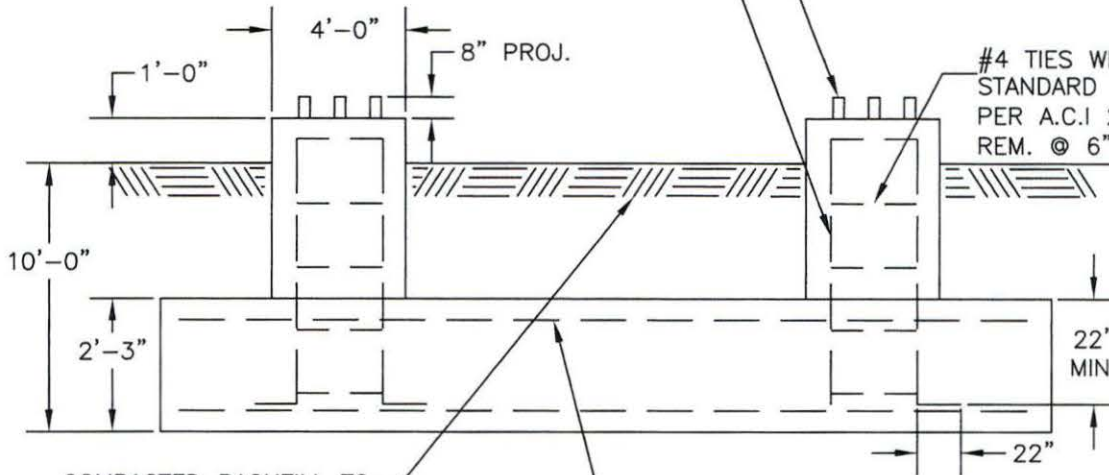
**WORLD TOWER**

SCALE	NONE	DWN.	LKG	CKD.	DATE	1-10-17
FILE			DWG. NO.	Q16779AB		



145.6 CU. YDS.  
CONCRETE REQ'D.

BASE REACTIONS	
OTM:	16345.0 FT. KIPS
COMP.	712.0 KIPS
UPLIFT	617.0 KIPS
SHEAR (3 LEGS)	97.0 KIPS
WT. NO ICE	116.0 KIPS
WT. 3/4" ICE	357.0 KIPS



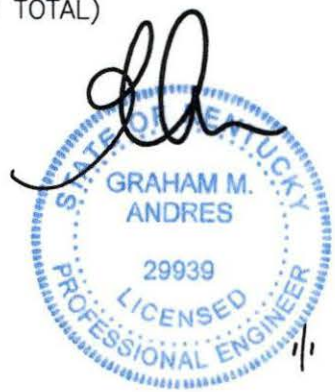
16-#10 VERT. REBARS  
WITH 90° A.C.I. BEND  
AT BOTTOM

ANCHOR BOLTS  
EMBEDDED PLATE AT BOTTOM

#4 TIES WITH  
STANDARD HOOKS  
PER A.C.I. 2@3",  
REM. @ 6"

GENERAL NOTES

1. CONCRETE TO HAVE 4000 PSI MIN. COMPRESSIVE STRENGTH AFTER 28 DAYS.
2. ALL REINFORCEMENT STEEL IS DEFORMED AND MEETS THE STRENGTH REQUIREMENTS OF ASTM A615 GRADE 60.
3. EMBEDDED STEEL TO HAVE 3" MIN. CONCRETE COVER.
4. FOUNDATION DESIGN IS BASED ON CUSTOMER SUPPLIED SOIL DATA FROM ERM2. PROJECT NUMBER 165-000-0031 DATED DECEMBER 13, 2016.

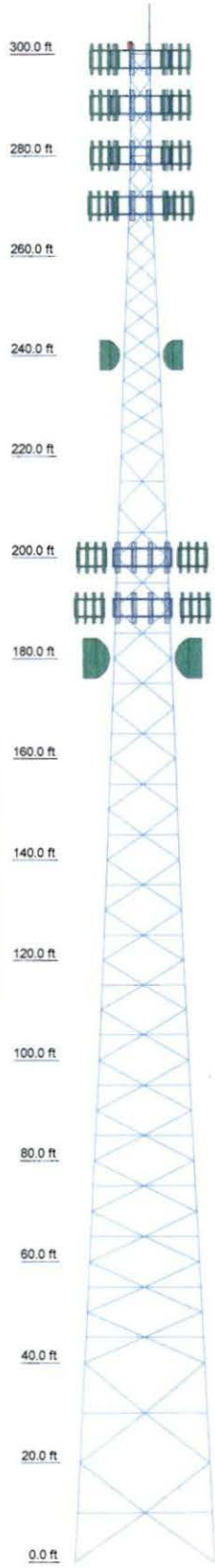


TITLE: FOUNDATION DETAIL  
300' WSST TOWER  
FOR: APPALACHIAN WIRELESS  
SITE: NADA  
POWELL COUNTY, KY

**WORLD TOWER**

SCALE NONE	DWN.	LKG	CKD.	DATE 1-10-17
FILE	DWG. NO.			Q16779F

Section nos	Grade	Diagonal Grade	Top Girts	Horizontal	Red. Horizontals	Red. Diagonals	Inner Bracing	Face Width (ft)	# Panels @ (ft)	Weight (K)
T1	HR.2		L2x2x1/8	N.A.						1.1
T2	SR 2 1/2		L2x2x3/16							1.5
T3	SR 3									2.0
T4	SR 3 1/4		L2 1/2x2 1/2x1/4							7
T5	SR 3 1/2		L2 1/2x2 1/2x1/4							8.5
T6	SR 3 3/4		L3x3x1/4							10
T7	SR 4	A572-50	L3 1/2x3 1/2x1/4	L2 1/2x2 1/2x3/16	N.A.					11.5
T8		A36	L3x3x3/8	L3 1/2x3 1/2x1/4	N.A.					52 @ 5
T9			L4x4x1/4	L3x3x3/16	N.A.					13
T10	SR 4 1/2		L3 1/2x3 1/2x3/8	L3x3x1/4						14.5
T11			L3 1/2x3 1/2x3/8	L3x3x1/4						16
T12			L4x4x1/4	L3x3x3/8						20
T13	SR 4 3/4		L4x4x3/8	L3 1/2x3 1/2x3/8						22
T14			L4x4x1/4	L4x4x1/4						24
T15	SR 5		L4x4x3/8	L3x3x3/16						26
T16			L4x4x3/8	L3x3x1/4						4 @ 10
T17										74
T18										67.1



**DESIGNED APPURTENANCE LOADING**

TYPE	ELEVATION	TYPE	ELEVATION
5/8" x 10' LROD	300	(4) RRUS 11	270
12" x 24" Beacon	300	(4) RRUS 11	270
(4) BXA-70063-6CF w/ Mount Pipe	299	(4) RRUS 11	270
(4) BXA-70063-6CF w/ Mount Pipe	299	WD13X53 Antenna Mounting Frame	270
(4) BXA-70063-6CF w/ Mount Pipe	299	WD13X53 Antenna Mounting Frame	270
(4) RRUS 11	299	WD13X53 Antenna Mounting Frame	270
(4) RRUS 11	299	Pipe Mount [PM 601-1]	240
(4) RRUS 11	299	Pipe Mount [PM 601-1]	240
WD13X53 Antenna Mounting Frame	299	6 FT DISH	240
WD13X53 Antenna Mounting Frame	299	6 FT DISH	240
WD13X53 Antenna Mounting Frame	299	(4) RRUS 11	200
(4) BXA-70063-6CF w/ Mount Pipe	290	(4) RRUS 11	200
(4) BXA-70063-6CF w/ Mount Pipe	290	WD13X53 Antenna Mounting Frame	200
(4) BXA-70063-6CF w/ Mount Pipe	290	WD13X53 Antenna Mounting Frame	200
(4) RRUS 11	290	WD13X53 Antenna Mounting Frame	200
(4) RRUS 11	290	(4) BXA-70063-6CF w/ Mount Pipe	200
(4) RRUS 11	290	(4) BXA-70063-6CF w/ Mount Pipe	200
WD13X53 Antenna Mounting Frame	290	(4) RRUS 11	190
WD13X53 Antenna Mounting Frame	290	(4) RRUS 11	190
WD13X53 Antenna Mounting Frame	290	(4) RRUS 11	190
(4) BXA-70063-6CF w/ Mount Pipe	280	(4) RRUS 11	190
(4) BXA-70063-6CF w/ Mount Pipe	280	WD13X53 Antenna Mounting Frame	190
(4) BXA-70063-6CF w/ Mount Pipe	280	WD13X53 Antenna Mounting Frame	190
(4) RRUS 11	280	WD13X53 Antenna Mounting Frame	190
(4) RRUS 11	280	(4) BXA-70063-6CF w/ Mount Pipe	190
(4) RRUS 11	280	(4) BXA-70063-6CF w/ Mount Pipe	190
WD13X53 Antenna Mounting Frame	280	(4) BXA-70063-6CF w/ Mount Pipe	190
WD13X53 Antenna Mounting Frame	280	(4) RRUS 11	190
WD13X53 Antenna Mounting Frame	280	(4) RRUS 11	190
(4) BXA-70063-6CF w/ Mount Pipe	270	Pipe Mount [PM 601-1]	180
(4) BXA-70063-6CF w/ Mount Pipe	270	Pipe Mount [PM 601-1]	180
(4) BXA-70063-6CF w/ Mount Pipe	270	8 FT DISH	180
(4) BXA-70063-6CF w/ Mount Pipe	270	8 FT DISH	180

**MATERIAL STRENGTH**

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

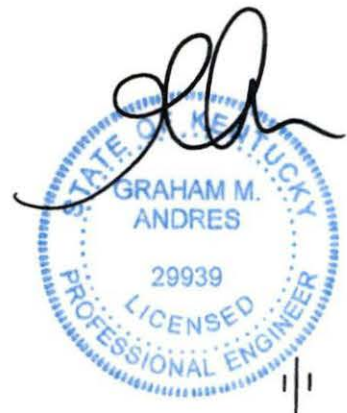
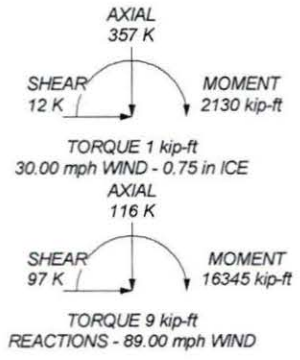
**TOWER DESIGN NOTES**

1. Tower is located in Powell County, Kentucky.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 89.00 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 30.00 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60.00 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft.
8. TOWER RATING: 99.6%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:  
DOWN: 712 K  
SHEAR: 61 K

UPLIFT: -617 K  
SHEAR: 54 K



<b>World Tower Company, Inc.</b>		Job: <b>300' Model WSST / Run T1701-091</b>	
1213 Compressor Drive Mayfield, KY 42066 Phone: (270) 247-3642 FAX: (270) 247-0909		Project: <b>Nada, KY</b>	Drawn by: <b>SJJ</b>
Client: <b>Appalachian Wireless</b>	Date: <b>01/09/17</b>	App'd:	Scale: <b>NTS</b>
Code: <b>TIA-222-G</b>	Path:	Dwg No: <b>E-1</b>	





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

Aeronautical Study No.  
2016-ASO-27789-OE

Issued Date: 11/17/2016

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

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

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

Structure: Antenna Tower Slade (Nada) Tower  
Location: Slade, KY  
Latitude: 37-49-07.90N NAD 83  
Longitude: 83-43-45.65W  
Heights: 1120 feet site elevation (SE)  
310 feet above ground level (AGL)  
1430 feet above mean sea level (AMSL)

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

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

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 05/17/2018 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 2016-ASO-27789-OE.

**Signature Control No: 308521498-310445491**  
Angelique Eersteling  
Technician

( DNE )

Attachment(s)  
Frequency Data

cc: FCC

Frequency Data for ASN 2016-ASO-27789-OE

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



## KENTUCKY AIRPORT ZONING COMMISSION

MATTHEW BEVIN  
Governor

200 Mero Street 4th Floor  
Frankfort, KY 40622  
[www.transportation.ky.gov](http://www.transportation.ky.gov)  
502-782-4044

December 16, 2016

### APPROVAL OF APPLICATION

#### APPLICANT:

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

SUBJECT: AS-099-150-2016-082

STRUCTURE: Antenna Tower  
LOCATION: Slade, KY  
COORDINATES: 37° 49' 7.90" N / 83° 43' 45.65" W  
HEIGHT: 310' AGL/1430' AMSL

The Kentucky Airport Zoning Commission has approved your application for a permit to construct 310' AGL/ 1430' AMSL Antenna Tower near Slade, KY 37° 49' 7.90" N / 83° 43' 45.65" W.

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

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

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

  
John Houlihan  
Administrator



An Equal Opportunity Employer M/F/D



MATTHEW BEVIN  
Governor

**KENTUCKY AIRPORT ZONING COMMISSION**

200 Mero Street 4th Floor  
Frankfort, KY 40622  
www.transportation.ky.gov  
502-782-4044

**CONSTRUCTION/ALTERATION STATUS REPORT**

December 16, 2016

AERONAUTICAL STUDY NUMBER: AS-099-150-2016-082

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

This concerns the permit which was issued to you by the Kentucky Airport Zoning Commission on December 16, 2016. This permit is valid for a period of 18 Month(s) from its date of issuance. If construction is not completed within the said 18-Month period, this permit shall lapse and be void, and no work shall be performed without the issuance of a new permit. When appropriate, please indicate the status of the project in the place below and return this letter to John Houlihan, Administrator, Kentucky Airport Zoning Commission, 200 Mero Street 4th Floor Office of Audits, Frankfort, KY, 40622. 502-782-4044.

STRUCTURE: Antenna Tower  
LOCATION: Slade, KY  
COORDINATES: 37° 49' 7.90" N / 83° 43' 45.65" W  
HEIGHT: 310' AGL /1430' AMSL

**CONSTRUCTION/ALTERATION STATUS**

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

2. Construction status is as follows:

Structure reached its greatest height of \_\_\_\_\_ ft. AGL  
\_\_\_\_\_ ft. AMSL on \_\_\_\_\_ (date).

Date construction was completed. \_\_\_\_\_

Type of obstruction marking/painting. \_\_\_\_\_

Type of obstruction lighting. \_\_\_\_\_

As built coordinates. \_\_\_\_\_

Miscellaneous Information. \_\_\_\_\_

DATE \_\_\_\_\_

SIGNATURE/TITLE \_\_\_\_\_



An Equal Opportunity Employer M/F/D



KENTUCKY TRANSPORTATION CABINET  
KENTUCKY AIRPORT ZONING COMMISSION

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

**APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE**

<b>APPLICANT (name)</b> East Kentucky Network, LLC c/o LNGS		<b>PHONE</b> 703-584-8667	<b>FAX</b> 703-584-8692	<b>KY AERONAUTICAL STUDY #</b> AS-099-150-2016-087
<b>ADDRESS (street)</b> 8300 Greensboro Dr, #1200		<b>CITY</b> McLean		<b>STATE</b> VA
				<b>ZIP</b> 22102
<b>APPLICANT'S REPRESENTATIVE (name)</b> Ali Kuzehkanani		<b>PHONE</b> 703-584-8667	<b>FAX</b> 703-584-8692	
<b>ADDRESS (street)</b> 8300 Greensboro Dr, #1200		<b>CITY</b> McLean		<b>STATE</b> VA
				<b>ZIP</b> 22102
<b>APPLICATION FOR</b> <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing				<b>WORK SCHEDULE</b>
<b>DURATION</b> <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (months days )				Start 12/1/16 End 12/15/16
<b>TYPE</b> <input type="checkbox"/> Crane <input type="checkbox"/> Building		<b>MARKING/PAINTING/LIGHTING PREFERRED</b>		
<input checked="" type="checkbox"/> Antenna Tower		<input type="checkbox"/> Red Lights & Paint <input type="checkbox"/> White- medium intensity <input type="checkbox"/> White- high intensity		
<input type="checkbox"/> Power Line <input type="checkbox"/> Water Tank		<input checked="" type="checkbox"/> Dual- red & medium intensity white <input type="checkbox"/> Dual- red & high intensity white		
<input type="checkbox"/> Landfill <input type="checkbox"/> Other		<input type="checkbox"/> Other		
<b>LATITUDE</b> 37°49'07.90"		<b>LONGITUDE</b> 83°43'45.65"		<b>DATUM</b> <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> NAD27
				<input type="checkbox"/> Other
<b>NEAREST KENTUCKY</b> City Slade County Powell		<b>NEAREST KENTUCKY PUBLIC USE OR MILITARY AIRPORT</b> Stanton Airport		
<b>SITE ELEVATION (AMSL, feet)</b> 1120		<b>TOTAL STRUCTURE HEIGHT (AGL, feet)</b> 310		<b>CURRENT (FAA aeronautical study #)</b>
<b>OVERALL HEIGHT (site elevation plus total structure height, feet)</b> 1430				<b>PREVIOUS (FAA aeronautical study #)</b>
<b>DISTANCE (from nearest Kentucky public use or Military airport to structure)</b> 6.7 mi				<b>PREVIOUS (KY aeronautical study #)</b>
<b>DIRECTION (from nearest Kentucky public use or Military airport to structure)</b> WNW				
<b>DESCRIPTION OF LOCATION (Attach USGS 7.5 minute quadrangle map or an airport layout drawing with the precise site marked and any certified survey.)</b> Nada, approx. 2.2 miles NW of Slade (Powell), KY				
<b>DESCRIPTION OF PROPOSAL</b> A new 300' tower with top-mounted antennas (overall height of 310' AGL)				
<b>FAA Form 7460-1 (Has the "Notice of Construction or Alteration" been filed with the Federal Aviation Administration?)</b> <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, when? 10/26/16				
<b>CERTIFICATION (I hereby certify that all the above entries, made by me, are true, complete, and correct to the best of my knowledge and belief.)</b>				
<b>PENALTIES (Persons failing to comply with KRS 183.861 to 183.990 and 602 KAR 050 are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Noncompliance with FAA regulations may result in further penalties.)</b>				
<b>NAME</b> Ali Kuzehkanani	<b>TITLE</b> Dir of Engineering	<b>SIGNATURE</b> 		<b>DATE</b> 10/26/16
<b>COMMISSION ACTION</b>				
<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved				
<b>SIGNATURE</b> 		<b>DATE</b> 12-16-16		

## Driving Directions for Nada

Beginning on Court Street beside the Powell County Courthouse in Stanton, Kentucky go one tenth of a mile and turn right on 213. Drive four tenths of a mile and turn left onto 15. Go ten miles and turn right at the Four Guys RV Park. Site access road will be one-tenth of a mile (signs will be posted at gate). Follow the road to the top of the hill (signs will be posted).

Prepared By:

Daryl Bartley

Cell Site Compliance Agent

East Kentucky Network, LLC

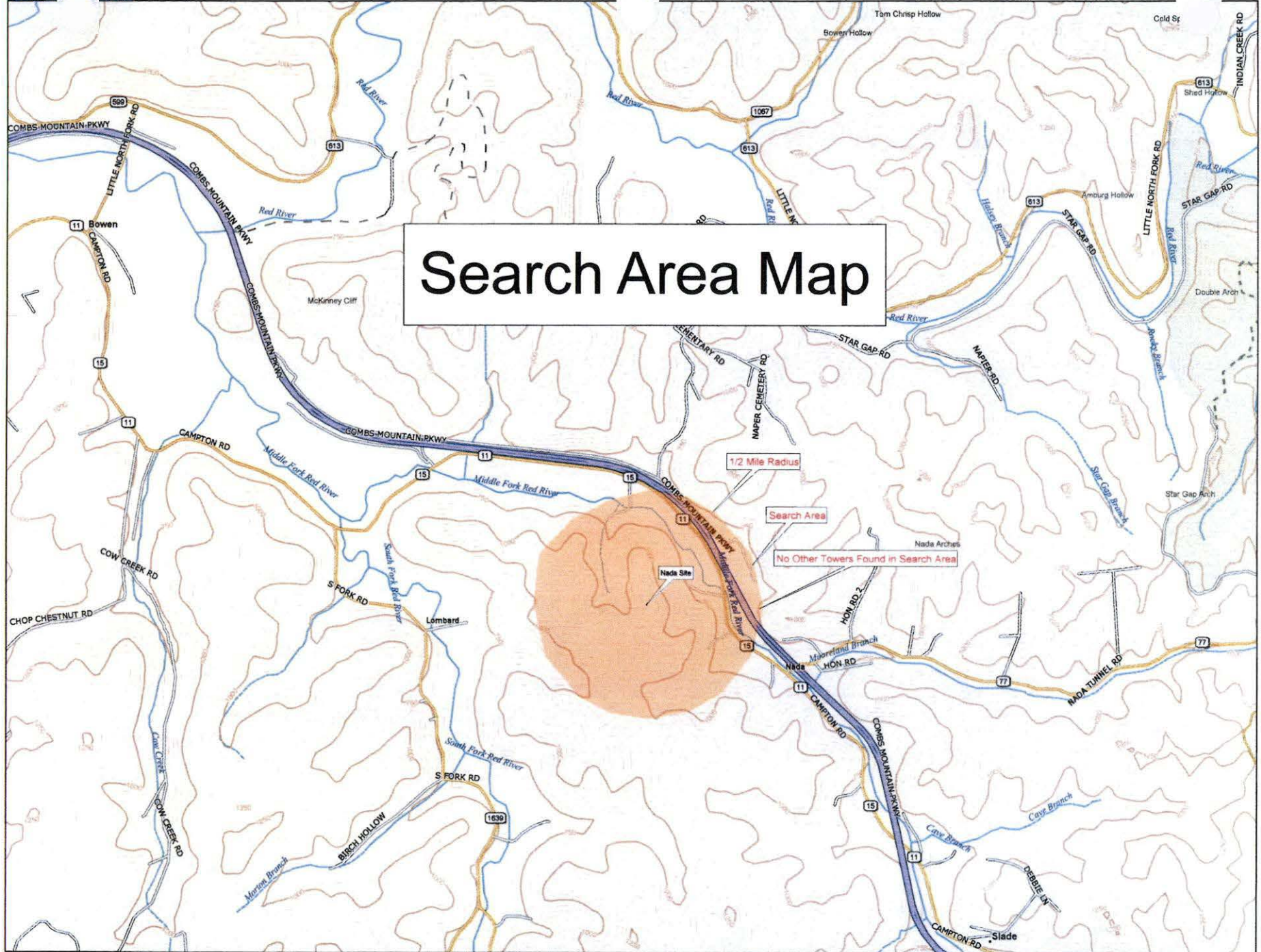
d/b/a Appalachian Wireless

(606) 791-0310 (cell)

(606) 339-1369 (fax)

[dbartley@ekn.com](mailto:dbartley@ekn.com)

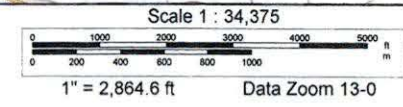
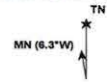
# Search Area Map



Data use subject to license.

© DeLorme. Topo North America™ 9.

www.delorme.com





**MEMORANDUM OF LEASE**

THIS MEMORANDUM OF LEASE is made and entered into on this 30<sup>th</sup> day of September, 2016, with a commencement date of October 1, 2016, by and between **BLRT PROPERTIES LLC**, a Kentucky limited liability company, by and through all of its members, namely Willard Drake, Robert Little, Brian Marcum, and Rodney Mays, with a mailing address of 159 Katie Lane, Clay City, Kentucky 40312, hereinafter referred to as "Lessor", and **EAST KENTUCKY NETWORK, LLC D/B/A APPALACHIAN WIRELESS**, a Kentucky limited liability company, with a mailing address of 101 Technology Trail, Ivel, Kentucky, 41642, hereinafter referred to as "Lessee."

**WITNESSETH**

1. **Demised Premises.** For good and valuable consideration, Lessor has leased to Lessee, and Lessee has leased from Lessor that certain tract of real estate located in Powell County, Kentucky, and being a portion of the same land conveyed to Lessor by Deed dated August 6, 2015, and recorded on August 7, 2015, in Deed Book 187, Page 460, in the Powell County Clerk's Office. Said property is more particularly described in the description attached hereto and made a part hereof as **Exhibit A** and the plat attached hereto and made a part hereof as **Exhibit B**, prepared by James W. Caudill, Licensed Professional Land Surveyor (hereinafter referred to as the "Premises"). The Lessor has also granted unto Lessee full and complete rights of ingress, egress and regress to and from the Premises over property owned by Lessor, including without limitation the property described in Deed Book 187, Page 460, and the property described in Deed Book 188, Page 414, and other associated rights for installation of utilities and for maintenance.

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

3. **Renewals.** The Lease shall automatically renew for an additional six (6) terms of five (5) years each, unless Lessee provides sixty (60) days notice that it does not wish to renew.

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

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

IN WITNESS WHEREOF, Lessor and Lessee have caused their names to be signed hereto, as of the day and year first above written.

**LESSOR:  
BLRT PROPERTIES LLC**

  
\_\_\_\_\_  
WILLARD DRAKE, MEMBER

  
\_\_\_\_\_  
ROBERT LITTLE, MEMBER

  
\_\_\_\_\_  
BRIAN MARCUM, MEMBER

  
\_\_\_\_\_  
RODNEY MAYS, MEMBER

COMMONWEALTH OF KENTUCKY  
COUNTY OF Powell

The foregoing instrument was acknowledged before me on this 30<sup>th</sup> day of September, 2016, by Willard Drake, Member of BLRT Properties LLC, Lessor.

Cindy McCarty  
Notary Public

My Commission Expires 9-2-2020

COMMONWEALTH OF KENTUCKY  
COUNTY OF Powell

The foregoing instrument was acknowledged before me on this 30<sup>th</sup> day of September, 2016, by Robert Little, Member of BLRT Properties LLC, Lessor.

Cindy McCarty  
Notary Public

My Commission Expires 9-2-2020

COMMONWEALTH OF KENTUCKY  
COUNTY OF Powell

The foregoing instrument was acknowledged before me on this 30<sup>th</sup> day of September, 2016, by Brian Marcum, Member of BLRT Properties LLC, Lessor.

Cindy McCarty  
Notary Public

My Commission Expires 9-2-2020

COMMONWEALTH OF KENTUCKY  
COUNTY OF Powell

The foregoing instrument was acknowledged before me on this 30<sup>th</sup> day of September, 2016, by Rodney Mays, Member of BLRT Properties LLC, Lessor.

Cindy McCartney  
Notary Public

My Commission Expires 9-2-2020

LESSEE:

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

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

COMMONWEALTH OF KENTUCKY  
COUNTY OF Floyd

The foregoing instrument was acknowledged before me on this 3<sup>rd</sup> day of October, 2016, by W.A. Gillum, CEO/General Manager of East Kentucky Network, LLC d/b/a Appalachian Wireless.

Cindy McCartney  
Notary Public

My Commission Expires 9-2-2020

This instrument was prepared by:

Cindy D. McCartney  
Cindy D. McCarty, Attorney  
101 Technology Trail  
Ivel, Kentucky 41642  
(606) 339-1006

**LOT DESCRIPTION**  
Property of  
**BLRT PROPERTIES LLC**  
159 KATIE LANE  
CLAY CITY, KY 40312  
Middle Fork of Red River, Powell Co  
August 3, 2016

A portion of the property lying south of the Mountain Parkway in Powell County of Kentucky, on ridge between two forks of Middle Fork of Red River. Being a part of the same land conveyed by deed dated August 6, 2015 from Rosemarie A. Staton to BLRT Properties LLC by and through Brian Marcum, member, Rodney Thomas Mays, member, Willard Larry Drake, member, and Robert Little, member whose address is 159 Katie Lane, Clay City, KY 40312 and recorded in Deed Book 187 Page 460 and plat cabinet 3 Slide 149 of the Powell County Court Clerk.

Unless stated otherwise, any monument referred to herein as "set iron pin with cap" is a set 1/2" diameter rebar, at least eighteen (18") in length, with a plastic cap stamped "LS-2259". All bearings stated herein are referred to NAD83, KY single zone of the Kentucky state plane system. This survey preformed by James W. Caudill, LS2259, on August 3, 2016.

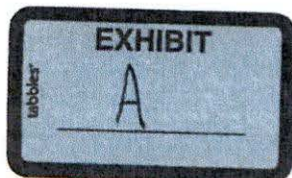
Lot 1A

Beginning on a found iron pin with cap marked ls3535 at a point on top of the ridge on a knob, said point being a point at the corner between the property of Hinkle Contracting Corp (Deed Book 105 Page 85) and Parcel 1 and Parcel 2 of the survey preformed 03/01/12 by Kevin N Davis recorded in Plat Cabinet 3 Slide 149 (Deed Book 187 Page 460); thence leaving the Hinkle line and severing both parcel 1 and parcel 2 of the BLRT Property by running over the hill North 39 deg 12 min 25 sec East, 49.05 feet to a set iron pin with cap marked ls2259 on the hillside, thence running around the hill South 53 deg 22 min 35 sec East, 96.03 feet to a set iron pin with cap marked ls2259 near point of ridge; thence across the point South 33 deg 34 min 23 sec West, 96.74 feet to a set iron pin with cap marked ls2259 in old logging road; thence up the hill North 53 deg 56 min 53 sec West, 96.85 feet to a set iron pin with cap marked ls2259 on the ridge in line of old wire fence; thence with the ridge North 28 deg 57 min 09 sec East, 49.01 feet to the beginning. Containing a calculated area of 9578 sq ft or 0.22 acres.

Also included is an access road right of way from highway 15 to the lot described above. About 3600' of existing road will be upgraded and used and an additional 500' of proposed access road will be constructed. The roadway alignment, grade and width is to be adequate for the proper utilization of the property in lot 1A.

This survey was performed on August 03, 2016 by James W. Caudill, a Kentucky Licensed Professional Land Surveyor No. 2259.

*James W. Caudill* 8-3-16  
James W. Caudill, PLS #2259



Beginning at a found ipc#3535 to top of knob at corner of BLRT parcess 1 & 2;  
 thence N 39°12'25" E a distance of 49.05' to a set ipc#2259 on hillside;  
 thence S 53°22'35" E a distance of 96.03' to a set ipc#2259 near point of ridge;  
 thence S 33°34'23" W a distance of 96.74' to a set ipc#2259 on old logging road;  
 thence N 53°56'53" W a distance of 96.85' to a set ipc#2259 on ridge at line of fence';  
 thence N 28°57'09" E a distance of 49.01' to found ipc#3535 top of knob;  
 which is the point of beginning,  
 having an area of 9578 square feet, 0.22 acres

BLRT PROPERTIES, LLC  
 159 KATIE LANE  
 CLAY CITY, KY 40312  
 DB 187 PAGE 460  
 PARCEL 1

HINKLE CONTRACTING CORP  
 P.O. BOX 280  
 PARIS, KY 40361  
 DB 105 PAGE 85

FOUND IRON PIN WITH CAP  
 MARKED LS3535 TOP OF KNOB

SET IRON PIN WITH CAP  
 MARKED LS2259 ON RIDGE  
 IN LINE OF OLD FENCE

SET IRON PIN WITH CAP  
 MARKED LS2259 ON HILLSIDE

SET IRON PIN WITH CAP  
 MARKED LS2259 NEAR POINT OF RIDGE

LOT 1A  
 9578 Sq. Feet  
 0.22 Acres

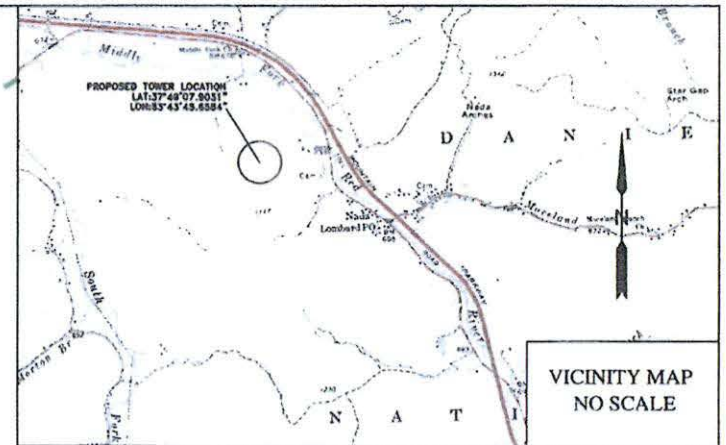
SET IRON PIN WITH CAP  
 MARKED LS2259 IN  
 OLD LOGGING ROAD

BLRT PROPERTIES, LLC  
 159 KATIE LANE  
 CLAY CITY, KY 40312  
 DB 187 PAGE 460  
 PARCEL 2

RURAL CLASS SURVEY  
 I HEREBY CERTIFY THAT THIS PLAT DEPICTS A SURVEY, MADE  
 BY ME, BY THE METHOD OF RANDOM TRAVERSE. THE  
 BEARINGS SHOWN HEREON HAVE NOT BEEN ADJUSTED FOR  
 CLOSURE. THIS SURVEY AND PLAT MEETS OR EXCEEDS  
 THE MINIMUM STANDARDS OF GOVERNING AUTHORITIES.  
 THE UNADJUSTED ERROR OF CLOSURE WAS 1 IN 12992

James W. Caudill 2259 8-3-14  
 NAME PLS# DATE

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

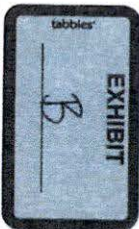


SURVEY STA SET FOUND  
 IRON PIN WITH CAP (18" X .5" REBAR PLASTIC CAP MARKED LS2259)  
 BOUNDARY LINE  
 ACCESS ROAD  
 PARENT TR LINE



### PLAT OF SURVEY

<b>DRAWN BY</b> JWC	<b>SURVEY DATE</b> 08/03/16	SUBDIVISION OF THE PROPERTY OF BLRT PROPERTIES LLC 159 KATIE LANE CLAY CITY, KY 40312 MIDDLE FORK OF RED RIVER DEED BOOK 187 PAGE 460 PLAT CABINET 3, SLIDE 149
<b>APPROVED BY</b>	<b>DRAWING DATE</b> 08/03/16	
<b>SCALE</b> 1" = 50'	<b>SHEET</b> 1 OF 1	SURVEYED BY JAMES W. CAUDILL LS 2259 2909 PERKINS/MADSEN ROAD AMBURGEE, KY 41773 PHONE 606-642-1217



NAD83 KY SINGLE ZONE

# APPALACHIAN WIRELESS

101 TECHNOLOGY TRAIL  
IVEL, KY. 41642  
PROPOSED TOWER SITE  
NADA IN POWELL COUNTY

BLRT PROPERTIES, LLC  
159 KATIE LANE  
CLAY CITY, KY 40312  
DB 187 PAGE 460  
PARCEL 1

SET IRON PIN WITH CAP  
MARKED LS2259 ON HILLSIDE

FOUND IRON PIN WITH CAP  
MARKED LS3535 TOP OF KNOB

HINKLE CONTRACTING CORP  
P.O. BOX 280  
PARIS, KY 40361  
DB 105 PAGE 85

SET IRON PIN WITH CAP  
MARKED LS2259 ON RIDGE  
IN LINE OF OLD FENCE

LINE	BEARING	DISTANCE
L1	S 83°20'55" E	43.05'
L2	S 84°35'52" E	33.24'
L3	N 86°11'51" E	48.58'
L4	N 78°03'17" E	22.41'
L5	N 57°10'54" E	40.36'
L6	N 51°42'11" E	40.50'
L7	N 43°16'05" E	80.13'
L8	N 65°40'50" W	84.36'
L9	N 75°06'00" W	45.15'
L10	N 84°36'09" W	71.96'
L11	S 83°49'27" W	87.29'
L12	S 76°15'19" W	85.78'
L13	S 72°02'46" W	70.18'

N 39°03'33" E  
147.4442'

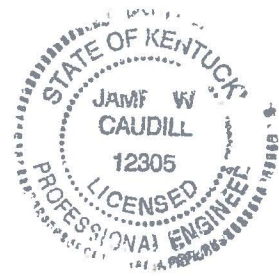
PROPOSED TOWER LOCATION

LAT:37°49'07.9031"  
LON:83°43'45.6584"  
N:3828054.49  
E:5504856.55  
EL:1120'

SET IRON PIN WITH CAP  
MARKED LS2259 NEAR POINT OF RIDGE

BLRT PROPERTIES, LLC  
159 KATIE LANE  
CLAY CITY, KY 40312  
DB 187 PAGE 460  
PARCEL 2

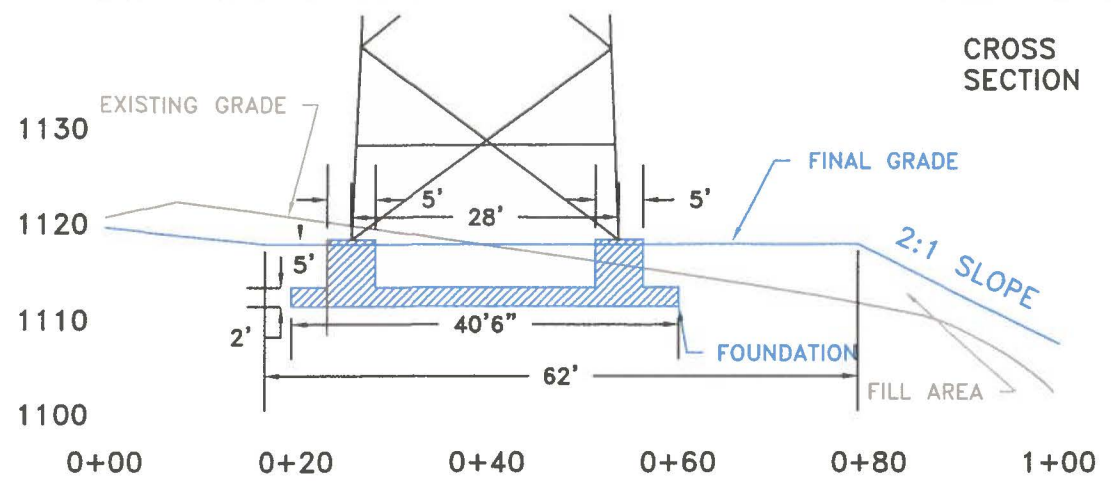
SET IRON PIN WITH CAP  
MARKED LS2259  
OLD LOGGING ROAD



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

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

BOUNDARY LINE  
ACCESS ROAD  
PARENT TR LINE



-THE PROPOSED TOWER HAS BEEN LOCATED USING  
DUAL FREQUENCY GPS UNIT PROCESSED BY "OPUS"  
-STATE PLANE COORDINATES NAD 83 KY SINGLE ZONE  
N:3828054.49 E:5504856.55 EL:1119' EXISTING GR  
PLAN- FOUNDATION EL1120.0'-TOP TOWER EL 1420.0'  
-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 10-18-16  
JAMES W. CAUDILL PE# DATE



PROPOSED SITE PLAN AND STRUCTURE LOCATION MIDDLE FORK OF RED RIVER NEAR NADA		
DRAWN JWC	DATE 10/18/2016	NADA TOWER BLRT PROPERTIES, LLC OFF STATE HWY 15 IN POWELL COUNTY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 2 OF 3	PROJECT NO. NADA\NADA20_2C

NAD83 KY SINGLE ZONE



Application  
CONTAINS  
LARGE OR OVERSIZED  
MAP(S)

RECEIVED ON:  
02/15/2017



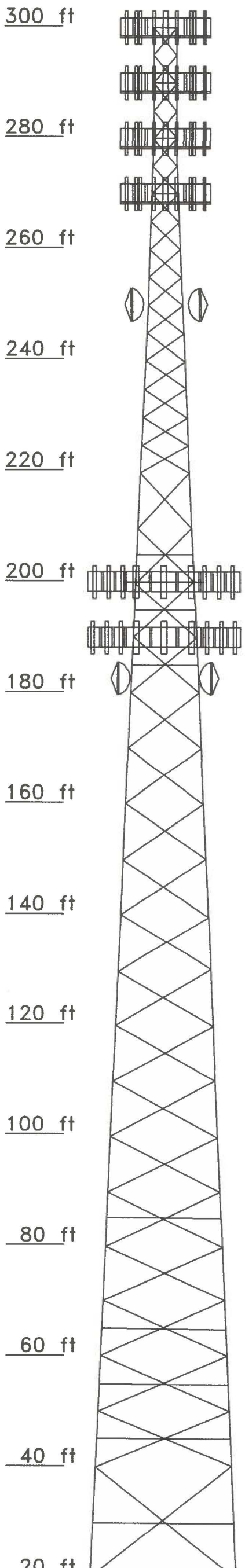
# APPALACHIAN WIRELESS

101 TECHNOLOGY TRAIL

IVEL, KY. 41642

PROPOSED TOWER SITE

NADA IN POWELL COUNTY

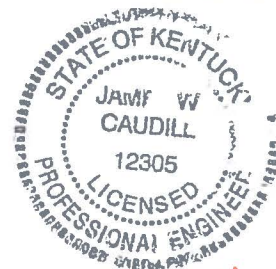


## PROFILE WITH TOWER

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 10-18-16  
 JAMES W. CAUDILL PE #. DATE

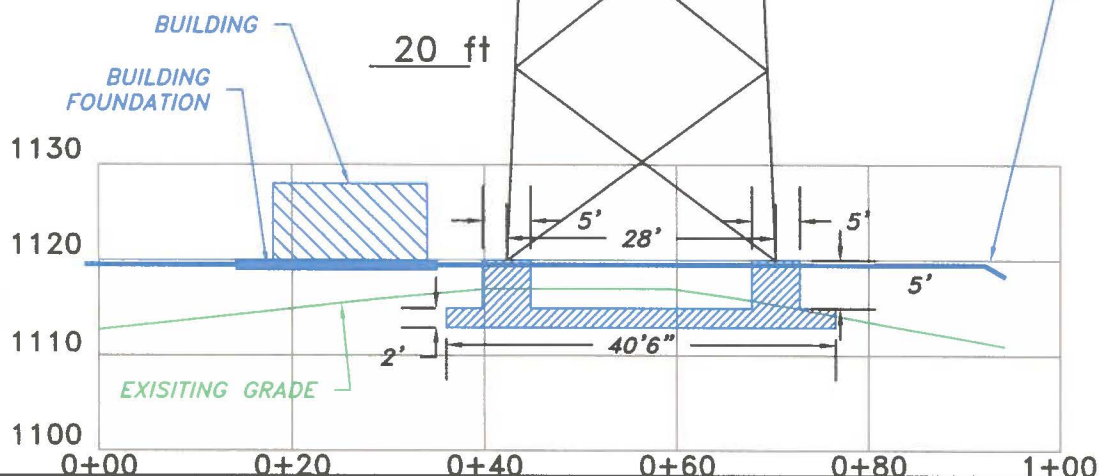
NOTE: SEE FOUNDATION DRAWINGS FOR DETAILS



10/16/2016  
 SCALE 1" = 20'



FINAL GRADE



PROPOSED SITE PLAN AND STRUCTURE LOCATION MIDDLE FORK OF RED RIVER NEAR NADA		
DRAWN JWC	DATE 10/18/2016	NADA TOWER BLRT PROPERTIES, LLC OFF STATE HWY 15 IN POWELL COUNTY
APPROVED	DATE	
SCALE 1" = 20'	SHEET 3 OF 3	PROJECT NO. NADA\NADAPRO20